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This work is copyrighted by OTRS AG (https://otrs.com), Zimmersmühlenweg 11, 61440 Oberursel, Germany.
This manual is intended for use by OTRS administrators. The chapters describe the administration of the OTRS software. The administrator interface is available in the Admin menu item of the main menu, when you logged in as an administrator. Administrators are users, who are member of the admin group.

The administrator interface contains several modules collected into groups. Use the filter box in the left sidebar to find a particular module by just typing the name to filter.

This manual shows you the configuration possibilities needed to solve common problems. The chapters:

1. Identify a typical use-case for the administrator, to aid in orientation, and explain what OTRS does to provide a solution (warranty).

2. Direct you how to configure OTRS to fit your use-case (utility).

The chapters are the same as the modules in the administrator interface. The order of the chapters are also the same as they are displayed alphabetically in the (English) administrator interface. However, the steps to do to configure a fresh new OTRS installation is different from this order. We recommend to configure OTRS to do the steps as explained below.
1.1 Getting Started

Note: OTRS is installed by the Customer Solutions Team. Please contact us via support@otrs.com or in the OTRS Portal.

A fresh new OTRS installation contains only the default settings. You need to customize your system to work properly and meet your needs.

First, you need to check some System Configuration and modify the values, if needed. FQDN, SystemID and SendmailModule::Host are the most important. Defining the TimeWorkingHours setting for working hours and the TimeVacationDays setting for public holidays are also needed to calculate the escalation times correctly in OTRS.

Then, open the PostMaster Mail Accounts module to add email addresses used by the system. For sending email, you can add more Email Addresses.

To improve the security, PGP Keys or S/MIME Certificates can be used for encryption of emails.

Let’s continue with users, but you might need to add some Groups and/or Roles to the system first. It is recommended to create new groups for each main queues. There are some groups in your OTRS, but no roles are defined by default. You can add roles, if needed, and you can set the Roles Groups relations.

The next step is to add Agents to the system and set the Agents Groups and/or Agents Roles relations.

Now you can add Customers and Customer Users. Customers are companies and customer users are the employees of the company.

Note: Both agents and customer users can log in using Active Directory or LDAP for authentication. In these cases doesn’t need to add users manually.

Like for agents, customers users can also assign to groups using the Customer Users Groups management screen. Similarly, Customer Users Customers relations can also be set.

Your OTRS installation already contains a standard salutation and a standard signature, but you might need to edit them or create new Salutations and Signatures. Queues can not be created without salutations and signatures, and only one salutation and signature can be assigned to a queue.

After system addresses, salutations, signatures, groups are set, you can continue the setup with Queues. Each queue has to assign to a group, and only the group members can see the tickets in the assigned queue.

Now you can add Auto Responses and assign them to queues using the Queues Auto Responses management screen. Your OTRS installation already contains some automatic responses, you can use or edit them instead of create new ones.

To reduce the time needed for answering the tickets, Templates or SMS Templates can be created.

Normal templates can contain Attachments, and you can assign the uploaded attachments to templates using the Templates Attachments management screen.

When templates are created, you can set the templates to use in queues in the Templates Queues or SMS Templates Queues management screens.

You need to review the default Priorities, States and Types, and add new elements, if needed.

The customer requests can be categorize into services. If you would like to use this possibility, then create some Services and set the Customer Users Services relations. Furthermore, Service Level Agreements can be assign to the services.
Now you can add some notifications to be received by agents, if particular events occur. You can do this in the Ticket Notifications screen.

To help agents to organize appointments, you can setup the Calendars and the Appointment Notifications. Tickets, articles and other objects in OTRS can be extended with Dynamic Fields or can be reduced with Access Control Lists (ACL).

Without doing everything manually, the number of failure can be reduced. Automatize some process in OTRS using Generic Agent jobs or creating processes with Process Management. The incoming emails can be pre-processed and dispatched automatically by defining some Postmaster Filters.

If external systems need to integrate with OTRS, Web Services will be very useful for this. However OTRS has many features by default, you can extend the functionality by installing packages with the Package Manager.

If your system is ready for productive work, don’t forget to register it by using the System Registration procedure.

Finally, you can set the Home Page, the Custom Pages and the Layout of the external interface, as well as you can define a Customer Service Catalogue displayed in the external interface.

### 1.2 Become OTRS Expert

The next chapters of this manual describe the features and configuration settings of OTRS more detailed. There is a separated manual for Configuration Options References, that gives you a good overview of System Configuration, that can be modify the behavior of OTRS.
A ticket is similar to a medical report created for a hospital patient. When a patient first visits the hospital, a medical report is created to hold all necessary personal and medical information on him. Over multiple visits, as he is attended to by the same or additional doctors, the attending doctor updates the report by adding new information on the patient’s health and the ongoing treatment. This allows any other doctors or the nursing staff to get a complete picture on the case at hand. When the patient recovers and leaves the hospital, all information from the medical report is archived and the report is closed.

Ticket systems such as OTRS handle tickets like normal emails. The messages are saved in the system. When a customer sends a request, a new ticket is generated by the system which is comparable to a new medical report being created. The response to this new ticket is comparable to a doctor’s entry in the medical report. A ticket is closed if an answer is sent back to the customer, or if the ticket is separately closed by the system. If a customer responds again on an already closed ticket, the ticket is reopened with the new information added.

Every ticket is stored and archived with complete information. Since tickets are handled like normal emails, attachments and contextual annotations will also be stored with each email. In addition, information on relevant dates, employees involved, working time needed for ticket resolution, etc. are also saved. At any later stage, tickets can be sorted, and it is possible to search through and analyze all information using different filtering mechanisms.

2.1 Attachments

For any size of organization it is often required to send a service agreement, the terms of service or a privacy statement out when a customer signs a contract.

OTRS can handle an infinite number of attachments (PDF, image, etc.) and can bundle them into templates. Your agents don’t need to maintain the attachments on their own, nor don’t they need to upload them again and again - they can just use the predefined templates.

Use this screen to add attachments for use in templates. A fresh OTRS installation doesn’t contain any attachments by default. The attachment management screen is available in the Attachments module of the Ticket Settings group.
2.1.1 Manage Attachments

To add an attachment:

1. Click on the Add Attachments button in the left sidebar.
2. Fill in the required fields.
3. Click on the Save button.

To edit an attachment:

1. Click on an attachment in the list of attachments.
2. Modify the fields.
3. Click on the Save or Save and finish button.

To delete an attachment:

1. Click on the trash icon in the last column of the overview table.
2. Click on the Confirm button.

Note: If several attachments are added to the system, use the filter box to find a particular attachment by just typing the name to filter.
2.1.2 Attachment Settings

The following settings are available when adding or editing this resource. The fields marked with an asterisk are mandatory.

**Name** *

The name of this resource. Any type of characters can be entered to this field including uppercase letters and spaces. The name will be displayed in the overview table.

**Attachment** *

Open the file dialog to add a file from the file system. This field is mandatory in the attachment add screen, but optional in the attachment edit screen. Adding a new file in the edit screen will overwrite the existing attachment.

**Validity** *

Set the validity of this resource. Each resource can be used in OTRS only, if this field is set to valid. Setting this field to invalid or invalid-temporarily will disable the use of the resource.

**Comment**

Add additional information to this resource. It is recommended to always fill this field as a description of the resource with a full sentence for better clarity, because the comment will be also displayed in the overview table.
2.2 Auto Responses

Quick and transparent service is vital to maintaining a good working relationship with your customer. Email, fax, social media and other non-real-time communication are patient, but you want to engage your customer immediately upon receipt of a request.

OTRS allows you to respond to a customer immediately upon receipt of a request giving the customers instantaneous feedback assuring them that their request is in processing, establishing expectation.

Automatic responses can be sent to customers based on the occurrence of certain events, such as the creation of a ticket in a specific queue, the receipt of a follow-up message in regards to a closed or rejected ticket, etc.

Use this screen to add automatic responses for use in queues. A fresh OTRS installation contains some automatic responses by default. The automatic response management screen is available in the Auto Responses module of the Ticket Settings group.

<table>
<thead>
<tr>
<th>NAME</th>
<th>TYPE</th>
<th>COMMENT</th>
<th>VALIDITY</th>
<th>CHANGED</th>
<th>CREATED</th>
</tr>
</thead>
<tbody>
<tr>
<td>default follow-up (after a ticket follow-up has been added)</td>
<td>auto follow up</td>
<td></td>
<td>valid</td>
<td>09/28/2018 15:17</td>
<td>09/18/2018 15:47</td>
</tr>
<tr>
<td>default reject (after follow-up and rejected of a closed ticket)</td>
<td>auto reject</td>
<td></td>
<td>valid</td>
<td>09/28/2018 15:17</td>
<td>09/18/2018 15:47</td>
</tr>
<tr>
<td>default reject/new ticket created (after closed follow-up with new ticket creation)</td>
<td>auto reply/new ticket</td>
<td></td>
<td>valid</td>
<td>09/28/2018 15:17</td>
<td>09/18/2018 15:47</td>
</tr>
<tr>
<td>default reply (after new ticket has been created)</td>
<td>auto reply</td>
<td></td>
<td>valid</td>
<td>09/28/2018 15:17</td>
<td>09/18/2018 15:47</td>
</tr>
</tbody>
</table>

Fig. 5: Auto Response Management Screen

2.2.1 Manage Auto Responses

Note: Adding automatic responses requires a valid system address. Create system addresses in the Email Addresses screen.

To add an automatic response:

1. Click on the Add Auto Response button in the left sidebar.
2. Fill in the required fields.
3. Click on the Save button.

Warning: Auto responses can not be deleted from the system. They can only be deactivated by setting the Validity option to invalid or invalid-temporarily.

To edit an automatic response:

1. Click on an automatic response in the list of automatic responses.
Fig. 6: Add Auto Response Screen
2. Modify the fields.

3. Click on the *Save* or *Save and finish* button.

---

**Fig. 7: Edit Auto Response Screen**

*Name:* default reply (after new ticket has been created

*Subject:* RE: &lt;OTRS_CUSTOMER_SUBJECT[24]&gt;

Response:

This is a demo text which is send to every inquiry. It could contain something like:

Thanks for your email. A new ticket has been created.

You wrote:

&lt;OTRS_CUSTOMER_EMAIL[9]&gt;

Your email will be answered by a human ASAP.

Have fun with OTRS! :)

Your OTRS Team

---

*Type:* auto reply

*Auto response from:* vo5162@virtual.otrs.com

*Validity:* valid

*Comment:* 

---

**Note:** If several automatic responses are added to the system, use the filter box to find a particular automatic response by just typing the name to filter.
2.2.2 Auto Response Settings

The following settings are available when adding or editing this resource. The fields marked with an asterisk are mandatory.

Name *
   The name of this resource. Any type of characters can be entered to this field including uppercase letters and spaces. The name will be displayed in the overview table.

Subject *
   The subject of the email sent to the users.

Response
   The body of the email sent to the users.

Type *
   The event type that triggers the sending of this automatic response. Only one automatic response can be sent automatically. The following event types are available:
   auto follow up
      Confirms receipt of the follow-up.
   auto reject
      The message rejects a customer follow-up.
   auto remove
      Deletion of a ticket, done by the system.
   auto reply
      A newly raised ticket will trigger this auto response.
   auto reply/new ticket
      This message informs the customer of the new ticket number.

Auto response from *
   The sender email address, from which the automatic response will be sent.

Validity *
   Set the validity of this resource. Each resource can be used in OTRS only, if this field is set to valid. Setting this field to invalid or invalid-temporarily will disable the use of the resource.

Comment
   Add additional information to this resource. It is recommended to always fill this field as a description of the resource with a full sentence for better clarity, because the comment will be also displayed in the overview table.

2.2.3 Auto Response Variables

Using variables in the text makes it possible to personalize messages. Variables, known as OTRS tags, are replaced by OTRS when generating the message. Find a list of available tags stems for this resource at the bottom of both add and edit screens.

For example, the variable <OTRS_TICKET_TicketNumber> expands to the ticket number allowing a template to include something like the following.

```
ticket#<OTRS_TICKET_TicketNumber>
```

This tag expands, for example to:
Reference

You can use the following tags:

- `<OTRS_CUSTOMER_SUBJECT[20]>`  
  To get the first 20 characters of the subject.

- `<OTRS_CUSTOMER_EMAIL[5]>`  
  To get the first 5 lines of the email.

- `<OTRS_CUSTOMER_REALNAME>`  
  To get the name of the ticket's customer user (if given).

- `<OTRS_CUSTOMER_*>`  
  To get the article attribute (e.g., `<OTRS_CUSTOMER_From>`, `<OTRS_CUSTOMER_To>`, `<OTRS_CUSTOMER_Cc>`, `<OTRS_CUSTOMER_Sender>`, `<OTRS_CUSTOMER_Body>`).

- `<OTRS_CUSTOMER_DATA_*>`  
  Options of the current customer user data (e.g., `<OTRS_CUSTOMER_DATA_UserFirstname>`).

- `<OTRS_OWNER_*>`  
  Ticket owner options (e.g., `<OTRS_OWNER_UserFirstname>`).

- `<OTRS_RESPONSIBLE_*>`  
  Ticket responsible options (e.g., `<OTRS_RESPONSIBLE_UserFirstname>`).

- `<OTRS_CURRENT_*>`  
  Options of the current user who requested this action (e.g., `<OTRS_CURRENT_UserFirstname>`).

- `<OTRS_TICKET_*>`  
  Options of the ticket data (e.g., `<OTRS_TICKET_TicketNumber>`, `<OTRS_TICKET_TicketID>`, `<OTRS_TICKET_Email>`, `<OTRS_TICKETState>`).

- `<OTRS_TICKET_DynamicField_*>`  
  Options of ticket dynamic fields internal key values (e.g., `<OTRS_TICKET_DynamicField_DynamicFieldID>`, `<OTRS_TICKET_DynamicField_DynamicField_Name>`, `<OTRS_TICKET_DynamicField_DynamicField_Value>`, `<OTRS_TICKET_DynamicField_DynamicField_Visible>`, `<OTRS_TICKET_DynamicField_DynamicField_TicketFreeText1_Value>`).

- `<OTRS_TICKET_DynamicField_*_Value>`  
  Options of ticket dynamic fields display values, useful for DropDown and Multiselect fields (e.g., `<OTRS_TICKET_DynamicField_DynamicFieldDisplayValue>`, `<OTRS_TICKET_DynamicField_DynamicField_TicketFreeText1_Value>`, `<OTRS_TICKET_DynamicField_DynamicField_Visible>`, `<OTRS_TICKET_DynamicField_DynamicField_TicketFreeText1_Value>`).

- `<OTRS_CONFIG_*>`  
  Config options (e.g., `<OTRS_CONFIG_HttpType>`).

Example response:

Thanks for your email.

You wrote:

<snip>

<OTRS_CUSTOMER_EMAIL[5]>

Fig. 8: Auto Response Variables
The values of the following variables are translated based on the chosen language of the customer user.

- `<OTRS_TICKET_Type>`
- `<OTRS_TICKET_State>`
- `<OTRS_TICKET_StateType>`
- `<OTRS_TICKET_Lock>`
- `<OTRS_TICKET_Priority>`

If the language is not supported the default language is applied.

### 2.3 Priorities

Sometimes tickets are not equally created. One ticket may need more focus than another. A customer may be given a higher priority by the service desk to help raise customer satisfaction in a pinch or to ensure that a long-running request receives special attention. Keeping track of these higher priority requests is important, as well as handling them quickly.

Use this screen to add priorities to the system. A fresh OTRS installation contains five default priority levels. The priority management screen is available in the Priorities module of the Ticket Settings group.

![Priority Management Screen](image)

**Fig. 9: Priority Management Screen**

### 2.3.1 Manage Priorities

**Note:** When creating a customized list of priorities, please keep in mind that they are sorted alphabetically in the priority selection box in the user interface.

To add a priority:

1. Click on the *Add Priority* button in the left sidebar.
2. Fill in the required fields.
3. Click on the *Save* button.
Warning: Priorities can not be deleted from the system. They can only be deactivated by setting the Validity option to invalid or invalid-temporarily.

Note: It’s recommended to limit your system to 5 priorities or less and reuse the current 5 to keep the use of the traffic light system.

To edit a priority:
1. Click on a priority in the list of priorities.
2. Modify the fields.
3. Click on the Save or Save and finish button.

Note: If several priorities are added to the system, use the filter box to find a particular priority by just typing the name to filter.
This priority is used in the following config settings:

- AgentFrontend::Ticket::BulkFeature::Attributes###PriorityDefault
- ExternalFrontend::TicketCreate###PriorityDefault
- ExternalFrontend::TicketDetailView###PriorityDefault
- FAQ::ApprovalTicketPriority
- PostmasterDefaultPriority
- Process::DefaultPriority

You can either have the affected settings updated automatically to reflect the changes you just made or do it on your own by pressing 'update manually'.

If you change the name of a priority which is used in the system configuration, a validation check will warn you and give you the following options:

**Save and update automatically**
Apply the change and also update the affected settings.

**Don’t save, update manually**
Apply the change, but don’t update the affected settings. The updates need to be done manually.

**Cancel**
Cancel the action.

**Warning:** Changing the name of this object should be done with care, the check only provides verification for certain settings and ignores things where the name can’t be verified. Some examples are dashboard filters, access control lists (AOLs), and processes (sequence flow actions) to name a few. Documentation of your setup is key to surviving a name change.

### 2.3.2 Priority Settings

The following settings are available when adding or editing this resource. The fields marked with an asterisk are mandatory.

**Name** *
The name of this resource. Any type of characters can be entered to this field including uppercase letters and spaces. The name will be displayed in the overview table.

**Validity** *
Set the validity of this resource. Each resource can be used in OTRS only, if this field is set to *valid*. 
Setting this field to invalid or invalid-temporarily will disable the use of the resource.

**Text Color** *
This setting defines the text color for this priority level.

**Background Color** *
This setting defines the background color for this priority level.

## 2.4 Queues

Teams need a workspace and the ability to dispatch work based on skill level, security level, department or responsibility just to name a few. Other teams may also need to view or react in these requests as well.

OTRS uses queues to provide your teams with structure. Queues provide a powerful way to divide and disperse the work to the responsible group of people.

Use this screen to add queues to the system. In a fresh OTRS installation there are 4 default queues: Raw, Junk, Misc and Postmaster. All incoming messages will be stored in the Raw queue if no filter rules are defined. The Junk queue can be used to store spam messages. The queue management screen is available in the Queues module of the Ticket Settings group.

### 2.4.1 Manage Queues

To add a queue:

1. Click on the Add Queue button in the left sidebar.
2. Fill in the required fields.
3. Click on the Save button.

**Warning:** Queues can not be deleted from the system. They can only be deactivated by setting the Validity option to invalid or invalid-temporarily.

**Warning:** The maximum number of 200 valid queues should not be exceeded. Exceeding this limit may affect the system performance.

To edit a queue:

1. Click on a queue in the list of queues.
## 2.4. Queues

### Fig. 14: Add Queue Screen

- **Name:**
- **Sub-queue of:**
- **Group:** admin
- **Unlock timeout minutes:**

  - 0 = no unlock - 24 hours = 1440 minutes - Only business hours are counted.
  - If an agent locks a ticket and does not close it before the unlock timeout has passed, the ticket will unlock and will become available for other agents.

- **Escalation - first response time (minutes):**

  - 0 = no escalation - 24 hours = 1440 minutes - Only business hours are counted.
  - If there is not added a customer contact, either email-external or phone, to a new ticket before the time defined here expires, the ticket is escalated.

- **Escalation - update time (minutes):**

  - 0 = no escalation - 24 hours = 1440 minutes - Only business hours are counted.
  - If there is an article added, such as a follow up via email or the customer portal, the escalation update time is reset. If there is no customer contact, either email-external or phone, added to a ticket before the time defined here expires, the ticket is escalated.

- **Escalation - solution time (minutes):**

  - 0 = no escalation - 24 hours = 1440 minutes - Only business hours are counted.
  - If the ticket is not set to closed before the time defined here expires, the ticket is escalated.

- **Follow up Option:** possible

  - Specifies if follow up to closed tickets would re-open the ticket, be rejected or lead to a new ticket.

- **Ticket lock after a follow up:** No

  - If a ticket is closed and the customer sends a follow up the ticket will be locked to the old owner.

- **System address:**

  - Will be the sender address of this queue for email answers.

- **Default sign key ():**

- **Salutation:** system standard salutation (en)

  - The salutation for email answers.

- **Signature:** system standard signature (en)

  - The signature for email answers.

- **Calendar:**

- **Validity:** valid

  - Comment:

- **Chat Channel:**

  - Chat channel that will be used for communication related to the tickets in this queue.

- **Save** or **Cancel**
2. Modify the fields.
3. Click on the *Save* or *Save and finish* button.

**Note:** If several queues are added to the system, use the filter box to find a particular queue by just typing the name to filter.

If you change the name of a queue which is used in the system configuration, a validation check will warn you and give you the following options:

**Save and update automatically**
- Apply the change and also update the affected settings.

**Don’t save, update manually**
- Apply the change, but don’t update the affected settings. The updates need to be done manually.

**Cancel**
- Cancel the action.

**Warning:** Changing the name of this object should be done with care, the check only provides verification for certain settings and ignores things where the name can’t be verified. Some examples are dashboard filters, access control lists (ACLs), and processes (sequence flow actions) to name a few. Documentation of your setup is key to surviving a name change.

### 2.4.2 Queue Settings

The following settings are available when adding or editing this resource. The fields marked with an asterisk are mandatory.

**Name**
- The name of this resource. Any type of characters can be entered to this field including uppercase letters and spaces. The name will be displayed in the overview table.

**Note:** The names of queues cannot be translated, even using a custom language file. *Salutations* and *Signatures* have to be assigned to queues, which depend on a specific language, so translating the name makes no sense.

**Sub-queue of**
- It is possible to add the new queue under an existing one as sub-queue. This will be displayed as *Parent Queue::Child Queue*.

**Group**
- It is possible to limit access to the selected group. The group creates a permission link between the queue and an agent or a customer user.

**Unlock timeout minutes**
- Any ticket on open, which is locked, in this queue will automatically unlock after the set amount of minutes. The value 0 (default) means tickets in this queue remain locked.

**Escalation - first response time (minutes)**
- Defines the time span for this queue within the defined business hours, in which an agent has to send the first reply to the customer as a visible article to a ticket created by a customer. The escalation time for the first response is cancelled as soon as the agent sends an article that is visible to the customer.
Edit Queue

- **Name:** DevOPS

- **Group:** users

- **Unlock timeout minutes:**
  
  0 = no unlock - 24 hours = 1440 minutes - Only business hours are counted.

  If an agent locks a ticket and does not close it before the unlock timeout has passed, the ticket will unlock and will become available for other agents.

- **Escalation - first response time (minutes):**

  0 = no escalation - 24 hours = 1440 minutes - Only business hours are counted.

  If there is not added a customer contact, either email-external or phone, to a new ticket before the time defined here expires, the ticket is escalated.

- **Escalation - update time (minutes):**

  0 = no escalation - 24 hours = 1440 minutes - Only business hours are counted.

  If there is an article added, such as a follow-up via email or the customer portal, the escalation update time is reset. If there is no customer contact, either email-external or phone, added to a ticket before the time defined here expires, the ticket is escalated.

- **Escalation - solution time (minutes):**

  0 = no escalation - 24 hours = 1440 minutes - Only business hours are counted.

  If the ticket is not set to closed before the time defined here expires, the ticket is escalated.

- **Follow up Option:**

  Possible

  Specifies if follow up to closed tickets would re-open the ticket, be rejected or lead to a new ticket.

- **Ticket lock after a follow up:**

  No

  If a ticket is closed and the customer sends a follow up the ticket will be locked to the old owner.

- **System address:** va5162@virtual.ots.com

  Will be the sender address of this queue for email answers.

- **Valid:**

  Valid

  Comment: Internal operations queue.

  Chat Channel: 

  Chat channel that will be used for communication related to the tickets in this queue.

Fig. 15: Edit Queue Screen
The first response time is triggered if a ticket has been created by an agent.

Once a ticket has been escalated because of exceeding the defined time span then this ticket stays in the status \textit{escalated}.

The first response time escalation notification will be sent to all agents who have selected the specific queue as preferred queue in the \textit{My Queues} setting and the ticket escalation notification is enabled.

**Escalation - update time (minutes)**

Defines the time span for this queue within the defined business hours, after which the ticket will be escalated if no further articles are written. This escalation update time is reset whenever an agent writes an article that is visible to the customer user. The escalation update time is also reset when a customer user responds to an agent article for the first time. Additional articles written by the customer user do not affect the escalation update time.

The escalation notification will be sent to all agents who have selected the specific queue as preferred queue in the \textit{My Queues} setting and the ticket escalation notification is enabled.

**Escalation - solution time (minutes)**

Sets the time span for this queue, within the defined business hours, within the ticket has to be solved. Solved means that the ticket is set to the status \textit{closed}. If the ticket is not set to solved until the time span defined here is reached, the ticket escalates.

The escalation notification will be sent to all agents who have selected the specific queue as preferred queue in the \textit{My Queues} setting and the ticket escalation notification is enabled.

Once resolution time escalation has been triggered for a ticket, the ticket remains escalated.

The solution time will not reset if the ticket is reopened.

**Note:** The escalation settings of \textit{Service Level Agreements} will overwrite the escalation settings of queues.

**Follow up Option** *

Specify the handling of a follow up on closed tickets. Possible values:

- **new ticket**
  
  The follow up will create a new ticket.
possible
   The follow up will reopen the already closed ticket.

reject
   The follow up will be rejected.

See also:
   See Auto Responses chapter for more information.

Ticket lock after a follow up *
   Only applicable if the Follow up Option is set to possible. Locks the previously closed ticket, upon reopening, to the last owner. This ensures that a follow up for a ticket is processed by the agent that has previously handled that ticket.

   Warning: This does not take out-of-office into account. Use this setting with care to ensure or in combination with Unlock timeout minutes.

System address *
   Select one of the Email Addresses as the sender identity for this queue.

   Note: This is an ID in the database. Making changes to the Email Addresses can have adverse effects here.

Default sign key
   This is only active if PGP Keys or S/MIME Certificates is enabled in the System Configuration. Choose the key to sign emails per default.

Salutation *
   Select one of the defined Salutations.

Signature *
   Select one of the defined Signatures.

Calendar
   Select the calendar which defines working hours for this queue. Calendars are defined in the System Configuration.

Validity *
   Set the validity of this resource. Each resource can be used in OTRS only, if this field is set to valid. Setting this field to invalid or invalid-temporarily will disable the use of the resource.

Comment
   Add additional information to this resource. It is recommended to always fill this field as a description of the resource with a full sentence for better clarity, because the comment will be also displayed in the overview table.

Chat Channel
   Chat channel that will be used for communication related to the tickets in this queue.
2.5 Queues  Auto Responses

Communicating a change in, for example, service times, service levels or other information which would be good for a customer to know when opening a ticket can be a tedious and error-ridden task. Attempting to make sure all departments have the correct information and transmitting this to their customers poses a challenge.

OTRS gives you the power to quickly assign the appropriate automatic responses to any queue, containing pertinent service information, ensuring this information reaches your customers before expectations aren’t reached.

Use this screen to add one or more automatic responses to one or more queues. The management screen is available in the Queues  Auto Responses module of the Ticket Settings group.

2.5.1 Manage Queues  Auto Responses Relations

To assign an automatic response to a queue:

1. Click on a queue in the Queues column.
2. Select the automatic responses you would like to add the queue to.
3. Click on the Save or Save and finish button.
Note: It is not possible to assign multiple queues to an automatic response by clicking on the automatic response name. A click on the automatic response will open to the Auto Responses screen.

Note: If several automatic responses or queues are added to the system, use the filter box to find a particular automatic response or queue by just typing the name to filter.

2.5.2 Queues Auto Responses Settings

The following settings are available when assigning some automatic responses to a queue.

auto reply
This automatic response will be sent to users, when they send a message to the queue, and the message is not a follow-up message of a ticket.

auto reject
This automatic response will be sent to users, when they send a message to the queue and reject is set as Follow up Option in the queue settings.

auto follow up
This automatic response will be sent to users, when they send a message to the queue and possible is set as Follow up Option in the queue settings.

auto reply/new ticket
This automatic response will be sent to users, when they send a message to the queue and new ticket is set as Follow up Option in the queue settings.

auto remove
This automatic response will be sent to users, when the remove option is enabled.

Note: Auto reply, auto reject and auto reply/new ticket mutually cancel each other based on the Queues settings. Only one will take effect per queue.

2.6 Salutations

Addressing customers must be done in a standardized way. Your customers may not always be external customers requiring a less formal greeting.

OTRS provides you with the tools needed to create a standardized communication form for any one of your queues. As defined in the Queue Settings: Salutations, Templates, and Signatures are combined to ensure a well formed standardized email communication.

Salutations can be linked to one or more Queues. A salutation is used only in email answers to tickets.

Use this screen to add salutations to the system. A fresh OTRS installation already contains a standard salutation. The salutation management screen is available in the Salutations module of the Ticket Settings group.
2.6.1 Manage Salutations

To add a salutation:

1. Click on the *Add Salutation* button in the left sidebar.
2. Fill in the required fields.
3. Click on the *Save* button.

**Warning:** Salutations cannot be deleted from the system. They can only be deactivated by setting the *Validity* option to *invalid* or *invalid-temporarily*.

To edit a salutation:

1. Click on a salutation in the list of salutations.
2. Modify the fields.
3. Click on the *Save* or *Save and finish* button.

**Note:** If several salutations are added to the system, use the filter box to find a particular salutation by just typing the name to filter.

**Warning:** Before invalidating this object, please go to the *Queues* module of the *Ticket Settings* group and make sure all queues using this setting are using a valid object.

2.6.2 Salutation Settings

The following settings are available when adding or editing this resource. The fields marked with an asterisk are mandatory.

**Name** *

The name of this resource. Any type of characters can be entered to this field including uppercase letters and spaces. The name will be displayed in the overview table.

**Salutation**

The text that will be placed to the beginning of new emails.
Fig. 20: Add Salutation Screen
Edit Salutation

Name: system standard salutation (en)

Salutation:

Dear <OTRS_CUSTOMER_REALNAME>,

Thank you for your request.

Validity: valid

Comment: Standard Salutation.

Save or Save and finish or Cancel

Fig. 21: Edit Salutation Screen
Validity *
Set the validity of this resource. Each resource can be used in OTRS only, if this field is set to valid. Setting this field to invalid or invalid-temporarily will disable the use of the resource.

Comment
Add additional information to this resource. It is recommended to always fill this field as a description of the resource with a full sentence for better clarity, because the comment will be also displayed in the overview table.

2.6.3 Salutation Variables
Using variables in the text makes it possible to personalize messages. Variables, known as OTRS tags, are replaced by OTRS when generating the message. Find a list of available tags stems for this resource at the bottom of both add and edit screens.

Hint
You can use the following tags:

<OTRS_OWNER_*>
Ticket owner options (e.g. <OTRS_OWNER_UserFirstname>).

<OTRS_RESPONSIBLE_*>
Ticket responsible options (e.g. <OTRS_RESPONSIBLE_UserFirstname>).

<OTRS_CURRENT_*>
Options of the current user who requested this action (e.g. <OTRS_CURRENT_UserFirstname>).

<OTRS_TICKET_*>
Options of the ticket data (e.g. <OTRS_TICKET_TicketNumber>, <OTRS_TICKET_TicketID>, <OTRS_TICKET_Queue>, <OTRS_TICKET_State>).

<OTRS_CUSTOMER_DATA_*>
Options of the current customer user data (e.g. <OTRS_CUSTOMER_DATA_UserFirstname>).

<OTRS_CONFIG_*>
Config options (e.g. <OTRS_CONFIG_HttpType>).

Example salutation:

Dear <OTRS_CUSTOMER_REALNAME>,
Thank you for your request.

Fig. 22: Salutation Variables

For example, the variable <OTRS_CUSTOMER_DATA_UserLastname> expands to the customer’s last name to be included in something like the following.

Dear <OTRS_CUSTOMER_DATA_UserFirstname> <OTRS_CUSTOMER_DATA_UserLastname>,

This tag expands, for example to:

Dear Lisa Wagner,

The values of the following variables are translated based on the chosen language of the customer user.
If the language is not supported the default language is applied.

2.7 Service Level Agreements

Your organization must meet the time demands of your customers. Timely service matters. Response to questions, updates on issues, and solutions must be provided in an agreed amount of time. The agent must receive notification of possible breaches, to prevent ticket escalation.

OTRS scales well with your needs and offers management of service level agreements (SLAs). OTRS provides you with the possibility to create numerous service level agreements covering all of your service and customer need. Each SLA can cover multiple services and define the availability of service and escalation periods.

Use this screen to add service level agreements to the system. A fresh OTRS installation doesn’t contain any service level agreements by default. The service level agreement management screen is available in the Service Level Agreements module of the Ticket Settings group.

Fig. 23: Service Level Agreement Management Screen

See also:

To use this feature, Ticket::Service must be activated in the System Configuration under the Administration group to be selectable in the ticket screens. You may click on the link in the warning message of the notification bar to directly jump to the configuration setting.

To use this feature on external interface, ExternalFrontend::TicketCreate###SLA must be activated.
2.7.1 Manage Service Level Agreements

**Note:** Adding service level agreements requires, that at least one service is added to the system. Create services in the *Services* screen.

To add a service level agreement:

1. Click on the *Add SLA* button in the left sidebar.
2. Fill in the required fields.
3. Click on the *Save* button.

![Add SLA](image)

**Warning:** Service level agreements can not be deleted from the system. They can only be deactivated by setting the *Validity* option to *invalid* or *invalid-temporarily*.
Warning: The maximum number of 50 valid service level agreements should not be exceeded. Exceeding this limit may affect the system performance.

To edit a service level agreement:

1. Click on a service level agreement in the list of service level agreements.
2. Modify the fields.
3. Click on the Save or Save and finish button.

Edit SLA: VIP customers

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SLA</strong>: VIP customers</td>
<td></td>
</tr>
<tr>
<td>Service</td>
<td></td>
</tr>
<tr>
<td>Calendar</td>
<td></td>
</tr>
<tr>
<td>Escalation - first response time (minutes):</td>
<td>0 (Notify by)</td>
</tr>
<tr>
<td>Escalation - update time (minutes):</td>
<td>0 (Notify by)</td>
</tr>
<tr>
<td>Escalation - solution time (minutes):</td>
<td>0 (Notify by)</td>
</tr>
<tr>
<td>Validity: valid</td>
<td></td>
</tr>
<tr>
<td>Comment: This SLA is for VIP customers.</td>
<td></td>
</tr>
<tr>
<td>Dialog message:</td>
<td></td>
</tr>
</tbody>
</table>

Save or Save and finish or Cancel

Fig. 25: Edit Service Level Agreement Screen

Note: If several service level agreements are added to the system, use the filter box to find a particular service level agreement by just typing the name to filter.
2.7.2 Service Level Agreement Settings

The following settings are available when adding or editing this resource. The fields marked with an asterisk are mandatory.

**SLA** *

The name of this resource. Any type of characters can be entered to this field including uppercase letters and spaces. The name will be displayed in the overview table.

---

**Note:** The names of service level agreements cannot be translated, even using a custom language file. Service level agreements can use calendars, that depend on time zones. Because of this, different service level agreements have to be created for each time zone and translating their names makes no sense.

---

**Service**

Select one or more of the *Services* to be assigned to this SLA.

**Calendar**

Select the calendar which defines working hours for this queue.

Calendars are defined in the *System Configuration* under the navigation path *Core → Time*. You can define up to 10 calendars, a default one and 9 additional calendars for different working days, working hours and public holidays. By default, all calendars contain the same working days, working hours and public holidays.

**Escalation - first response time (minutes)**

Defines the time span for this SLA within the defined business hours, in which an agent has to send the first reply to the customer as a visible article to a ticket created by a customer. The escalation time for the first response is cancelled as soon as the agent sends an article that is visible to the customer.

The first response time is not triggered if a ticket has been created by an agent.

Once a ticket has been escalated because of exceeding the defined time span then this ticket stays in the status *escalated*.

The first response time escalation notification will be sent to all agents who have selected the specific queue as preferred queue in the *My Queues* setting and the ticket escalation notification is enabled.

**Escalation - update time (minutes)**

Defines the time span for this SLA within the defined business hours, after which the ticket will be escalated if no further articles are written. This escalation update time is reset whenever an agent writes an article that is visible to the customer user. The escalation update time is also reset when a customer user responds to an agent article for the first time. Additional articles written by the customer user do not affect the escalation update time.

The escalation notification will be sent to all agents who have selected the specific queue as preferred queue in the *My Queues* setting and the ticket escalation notification is enabled.

**Escalation - solution time (minutes)**

Sets the time span for this SLA within the defined business hours, within the ticket has to be solved. Solved means that the ticket is set to the status *closed*. If the ticket is not set to solved until the time span defined here is reached, the ticket escalates.

The escalation notification will be sent to all agents who have selected the specific queue as preferred queue in the *My Queues* setting and the ticket escalation notification is enabled.

Once resolution time escalation has been triggered for a ticket, the ticket remains escalated.

The solution time will not reset if the ticket is reopened.
**Note:** The escalation settings of service level agreements will overwrite the escalation settings of Queues.

**Validity** *
Set the validity of this resource. Each resource can be used in OTRS only, if this field is set to valid. Setting this field to invalid or invalid-temporarily will disable the use of the resource.

**Comment**
Add additional information to this resource. It is recommended to always fill this field as a description of the resource with a full sentence for better clarity, because the comment will be also displayed in the overview table.

**Dialog message**
Is being displayed if a customer chooses this SLA on ticket creation (only in the external interface).

### 2.8 Services

Requests to your service desk should be categorized based on affected service to correctly reach a team of experts to deal with the issue. Because not all your agents can deal with specific problems. Lack of experience or access to resources to fix an issue requires defining the service affected in a ticket helps to categorize the issue and target the correct teams.

OTRS allows adding all services offered to your customers. These services may be later bound to Service Level Agreements to ensure a timely solution based on customer-specific agreements.

Use this screen to add services to the system. A fresh OTRS installation doesn’t contain any services by default. The service management screen is available in the Services module of the Ticket Settings group.

![Service Management Screen](image)

**Fig. 26: Service Management Screen**

**See also:**
To use this feature, Ticket::Service must be activated in the System Configuration under the Administration group to be selectable in the ticket screens. You may click on the link in the warning message of the notification bar to directly jump to the configuration setting.

To use this feature on external interface, ExternalFrontend::TicketCreate###Service must be activated.
2.8.1 Manage Services

To add a service:
1. Click on the Add Service button in the left sidebar.
2. Fill in the required fields.
3. Click on the Save button.

![Add Service Screen](fig.png)

**Fig. 27: Add Service Screen**

**Warning:** Services can not be deleted from the system. They can only be deactivated by setting the Validity option to invalid or invalid-temporarily.

**Warning:** The maximum number of 500 valid services should not be exceeded. Exceeding this limit may affect the system performance.

To edit a service:
1. Click on a service in the list of services.
2. Modify the fields.
3. Click on the Save or Save and finish button.

**Note:** If several services are added to the system, use the filter box to find a particular service by just typing the name to filter.

**Warning:** Changing the name of this object should be done with care, the check only provides verification for certain settings and ignores things where the name can’t be verified. Some examples are dashboard filters, access control lists (ACLs), and processes (sequence flow actions) to name a few. Documentation of your setup is key to surviving a name change.
2.8.2 Service Settings

The following settings are available when adding or editing this resource. The fields marked with an asterisk are mandatory.

**Service** *

The name of this resource. Any type of characters can be entered to this field including uppercase letters and spaces. The name will be displayed in the overview table.

**Sub-service of**

It is possible to add the new service under an existing one as sub-service. This will be displayed as `Parent Service::Child Service`.

**Validity** *

Set the validity of this resource. Each resource can be used in OTRS only, if this field is set to `valid`. Setting this field to `invalid` or `invalid-temporarily` will disable the use of the resource.

**Comment**

Add additional information to this resource. It is recommended to always fill this field as a description of the resource with a full sentence for better clarity, because the comment will be also displayed in the overview table.

**Note:** A service can only be selectable in the ticket screens, if the service is assigned to the customer user of the ticket or it is set as default service for all customer users in the `Customer Users Services` screen.

2.9 Signatures

Corporate identity and team information are essential in each communication. The name of the employee writing and other vital details like disclaimers are some examples of necessary information to include in the communication with the customer.

OTRS provides you with the same tools here, as with `Salutations`, to create a standardized communication form for any one of your queues. As defined in the `Queue Settings: Salutations, Templates, and Signatures` are combined to ensure a well formed standardized email communication.

Signatures can be linked to one or more `Queues`. A signature is used only in email answers to tickets.
Use this screen to add signatures to the system. A fresh OTRS installation already contains a standard signature. The signature management screen is available in the **Signatures** module of the **Ticket Settings** group.

Fig. 29: Signature Management Screen

### 2.9.1 Manage Signatures

To add a signature:

1. Click on the *Add Signature* button in the left sidebar.
2. Fill in the required fields.
3. Click on the *Save* button.

**Warning:** Signatures can not be deleted from the system. They can only be deactivated by setting the **Validity** option to *invalid* or *invalid-temporarily*.

To edit a signature:

1. Click on a signature in the list of signatures.
2. Modify the fields.
3. Click on the *Save* or *Save and finish* button.

**Note:** If several signatures are added to the system, use the filter box to find a particular signature by just typing the name to filter.

**Warning:** Before invalidating this object, please go to the **Queues** module of the **Ticket Settings** group and make sure all queues using this setting are using a valid object.
Add Signature

Name:

Signature:

Format  ▼  Font  ▼  Size  ▼  A  ▼  Source  ▼

Validity: valid

Comment:

Save or Cancel

Fig. 30: Add Signature Screen
Edit Signature

**Name:** system standard signature (en)

**Signature:**

- **Format**
- **Font**
- **Size**

Your Ticket-Team

<OTRS_Agent_UserFirstname> <OTRS_Agent_UserLastname>

--

Super Support · Waterford Business Park
5201 Blue Lagoon Drive · 9th Floor & 9th Floor · Miami, 33126 USA
Email: hot@example.com · Web: http://www.example.com

--

**Validity:** valid

**Comment:** Standard Signature.

Save or Save and finish or Cancel

Fig. 31: Edit Signature Screen
2.9.2 Signature Settings

The following settings are available when adding or editing this resource. The fields marked with an asterisk are mandatory.

**Name** *
The name of this resource. Any type of characters can be entered to this field including uppercase letters and spaces. The name will be displayed in the overview table.

**Signature**
The text that will be placed to the end of new emails.

**Validity** *
Set the validity of this resource. Each resource can be used in OTRS only, if this field is set to `valid`. Setting this field to `invalid` or `invalid-temporarily` will disable the use of the resource.

**Comment**
Add additional information to this resource. It is recommended to always fill this field as a description of the resource with a full sentence for better clarity, because the comment will be also displayed in the overview table.

2.9.3 Signature Variables

Using variables in the text makes it possible to personalize messages. Variables, known as OTRS tags, are replaced by OTRS when generating the message. Find a list of available tags stems for this resource at the bottom of both add and edit screens.

**Hint**
You can use the following tags:

- `<OTRS_OWNER_*>` Ticket owner options (e.g. `<OTRS_OWNER_UserFirstname>`).
- `<OTRS_RESPONSIBLE_*>` Ticket responsible options (e.g. `<OTRS_RESPONSIBLE_UserFirstname>`).
- `<OTRS_CURRENT_*>` Options of the current user who requested this action (e.g. `<OTRS_CURRENT_UserFirstname>`).
- `<OTRS_TICKET_*>` Options of the ticket data (e.g. `<OTRS_TICKET_TicketNumber>`, `<OTRS_TICKET_TicketID>`, `<OTRS_TICKET_Queue>`, `<OTRS_TICKET_State>`).
- `<OTRS_CUSTOMER_DATA_*>` Options of the current customer user data (e.g. `<OTRS_CUSTOMER_DATA_UserFirstname>`).
- `<OTRS_CONFIG_*>` Config options (e.g. `<OTRS_CONFIG_HTTPType>`).

**Example signature:**

```
Your OTRS-Team
<OTRS_CURRENT_UserFirstname> <OTRS_CURRENT_UserLastname>
```

Fig. 32: Signature Variables

For example, the variable `<OTRS_CURRENT_UserFirstname> <OTRS_CURRENT_UserLastname>` expands to the agent’s first and last name allowing a template to include something like the following.
2.10 SMS Templates

An on-call duty should be alarmed about incidents on an email servers, therefore cannot get an email from OTRS. Additionally, in the case where customers have no internet access, it’s imperative to ensure good contact.

OTRS provides SMS as a cloud service and allows, as with email, management of this communication via templates.

An SMS template is a default text which helps your agents to write faster tickets or answers.

Use this screen to add SMS templates for use in communications. A fresh OTRS installation doesn’t contain any SMS templates by default. The SMS template management screen is available in the SMS Templates module of the Ticket Settings group.

Fig. 33: SMS Template Management Screen
2.10.1 Manage SMS Templates

**Note:** To be able to use SMS cloud service in OTRS, you have to activate it first in *Cloud Services* module.

---

### Notice

**SMS Cloud Service inactive**
To be able to use SMS cloud service in OTRS, you have to activate it first.

[Activate SMS Cloud Service]

---

Fig. 34: Activate SMS Cloud Service

---

To add an SMS template:

1. Click on the *Add SMS Template* button in the left sidebar.
2. Fill in the required fields.
3. Click on the *Save* button.

![Add Template Form]

---

Fig. 35: Add SMS Template Screen

---

To edit an SMS template:
1. Click on an SMS template in the list of SMS templates.
2. Modify the fields.
3. Click on the Save or Save and finish button.

![Edit SMS Template Screen](image)

**Fig. 36: Edit SMS Template Screen**

To delete an SMS template:

1. Click on the trash icon in the list of SMS templates.
2. Click on the Confirm button.

![Delete SMS Template Screen](image)

**Fig. 37: Delete SMS Template Screen**

**Note:** If several SMS templates are added to the system, a filter box is useful to find a particular SMS template by just typing to filter.
2.10.2 SMS Template Settings

The following settings are available when adding or editing this resource. The fields marked with an asterisk are mandatory.

**Type**

There are different kind of SMS templates that are used for different purposes. A template can be:

**Answer**
To be used as a ticket response with *Reply via SMS* article action of the ticket detail view.

**Create**
To be used for a new SMS ticket.

**SMSOutbound**
To be used for sending a new SMS to a customer user from within the ticket detail view.

**Name**

The name of this resource. Any type of characters can be entered to this field including uppercase letters and spaces. The name will be displayed in the overview table.

**Template**

The body of the email sent to the users.

---

**Warning:** The maximum length of text message that you can send is 918 characters. However, if you send more than 160 characters then your message will be broken down into chunks of 153 characters before being sent to the recipient’s handset. We recommend keeping the messages to less than 160 characters.

**Flash message**

Show message directly without user interaction and do not store it automatically (support may vary by device and provider).

**Validity**

Set the validity of this resource. Each resource can be used in OTRS only, if this field is set to *valid*. Setting this field to *invalid* or *invalid-temporarily* will disable the use of the resource.

**Comment**

Add additional information to this resource. It is recommended to always fill this field as a description of the resource with a full sentence for better clarity, because the comment will be also displayed in the overview table.

2.10.3 SMS Template Variables

Using variables in the text makes it possible to personalize messages. Variables, known as OTRS tags, are replaced by OTRS when generating the message. Find a list of available tags stems for this resource at the bottom of both add and edit screens.

For example, the variable `<OTRS_TICKET_TicketNumber>` expands to the ticket number allowing an SMS template to include something like the following:

```
Ticket#<OTRS_TICKET_TicketNumber> has been raised in <OTRS_Ticket_Queue>.
```

This tag expands, for example to:

```
Ticket#2018101042000012 has been raised in Postmaster.
```
Reference

You can use the following tags:

`<OTRS_OWNER_*>`
Ticket owner options (e.g. `<OTRS_OWNER_UserFirstname>`).

`<OTRS_RESPONSIBLE_*>`
Ticket responsible options (e.g. `<OTRS_RESPONSIBLE_UserFirstname>`).

`<OTRS_CURRENT_*>`
Options of the current user who requested this action (e.g. `<OTRS_CURRENT_UserFirstname>`).

`<OTRS_TICKET_*>`
Options of the ticket data (e.g. `<OTRS_TICKET_TicketNumber>`, `<OTRS_TICKET_TicketID>`, `<OTRS_TICKET_Queue>`, `<OTRS_TICKET_State>`).

`<OTRS_TICKET_DynamicField_*>`
Options of ticket dynamic fields internal key values (e.g. `<OTRS_TICKET_DynamicField_TestField>`, `<OTRS_TICKET_DynamicField_TextFreeText1>`).

`<OTRS_TICKET_DynamicField_*Value>`
Options of ticket dynamic fields display values, useful for Dropdown and Multiselect fields (e.g. `<OTRS_TICKET_DynamicField_Testfield_Value>`, `<OTRS_TICKET_DynamicField_TextFreeText1_Value>`).

`<OTRS_CUSTOMER_DATA_*>`
Options of the current customer user data (e.g. `<OTRS_CUSTOMER_DATA_UserFirstname>`).

`<OTRS_CONFIG_*>`
Config options (e.g. `<OTRS_CONFIG_HTTPType>`).

Note: Create type templates only supports this smart tags: `<OTRS_CURRENT_*>` and `<OTRS_CONFIG_*>`

Example template:

```
The current ticket state is: "<OTRS_TICKET_State>"
Your mobile phone is: "<OTRS_CUSTOMER_UserMobile>"
```

Fig. 38: SMS Template Variables
The values of the following variables are translated based on the chosen language of the customer user.

```
<OTRS_TICKET_Type>
<OTRS_TICKET_State>
<OTRS_TICKET_StateType>
<OTRS_TICKET_Lock>
<OTRS_TICKET_Priority>
```

If the language is not supported the default language is applied.

## 2.11 SMS Templates Queues

Communicating a change to a template, or distribution of a new communication requirement, can be tedious and error-ridden because it requires that all teams pull the information and publish it appropriately.

OTRS gives you the power to quickly assign the appropriate SMS templates to any queue, containing pertinent ticket information, ensuring this information reaches your customers and agents.

Use this screen to add one or more SMS templates to one or more queues. The management screen is available in the SMS Templates Queues module of the Ticket Settings group.

![Fig. 39: Manage SMS Template-Queue Relations](image)

### 2.11.1 Manage SMS Templates Queues Relations

To assign an SMS template to one or more queues:

1. Click on an SMS template in the SMS Templates column.
2. Select the queues you would like to add the SMS template to.
3. Click on the Save or Save and finish button.

To assign a queue to one or more SMS templates:

1. Click on a queue in the Queues column.
2. Select the SMS templates you would like to add the queue to.
3. Click on the Save or Save and finish button.

**Note:** If several SMS templates or queues are added to the system, use the filter box to find a particular SMS template or queue by just typing the name to filter.
Multiple SMS templates or queues can be assigned in both screens at the same time. Additionally clicking on an SMS template or clicking on a queue in the relations screen will open the Edit SMS Template screen or the Edit Queue screen accordingly.

**Warning:** Accessing a queue or an SMS template provides no back link to the relations screen.

### 2.12 States

Active tracking of tickets leads to a better sense of workload and provides metrics as a key performance indicator. Sorting tasks and setting appointments can help to level-off the workload and keep your service desk running.

OTRS uses ticket states to ensure that your agents always know which tickets are being attended to and which not. Additionally, detailed reports on the states of your tickets can be provided by ticket search or reports and personalized sorting is possible using dashboards and queue and service overviews.

Nine states are pre-defined. More states can be added, but the default states are enough to get you going and mostly enough for any situation.

The default states are the following:

**closed successful**
A ticket is complete. The customer received a solution which worked.

**closed unsuccessful**
A ticket is complete. The customer received no solution or the solution was not appropriate.

**merged**
The ticket content is found in a different ticket.
new
The ticket is created by the customer without contact with an agent.

open
The ticket is currently in progress. Customer and agent are in contact with each another.

pending auto close+
The ticket will be set as closed successful upon reaching the pending time.

pending auto close-
The ticket will be set as closed unsuccessful upon reaching the pending time.

pending reminder
The ticket should be worked on again upon reaching the pending time.

removed
The ticket has been removed from the system.

Note: Pending jobs are checked per default every two hours and forty-five minutes. This time is a static time, which means the times are 02:45, 04:45, 06:45 and so on. The job can be run more often or seldom and are configured in the System Configuration module of the Administration group.

Use this screen to add states to the system. A fresh OTRS installation contains several states by default. The state management screen is available in the States module of the Ticket Settings group.

Fig. 42: State Management Screen

2.12.1 Manage States

To add a state:
1. Click on the Add State button in the left sidebar.
2. Fill in the required fields.
3. Click on the Save button.

Warning: States can not be deleted from the system. They can only be deactivated by setting the Validity option to invalid or invalid-temporarily.
Warning: The maximum number of 20 valid states should not be exceeded. Exceeding this limit may affect the system performance.

To edit a state:

1. Click on a state in the list of states.
2. Modify the fields.
3. Click on the Save or Save and finish button.

Note: If several states are added to the system, use the filter box to find a particular state by just typing the name to filter.

If you change the name of a state which is used in the system configuration, a validation check will warn you and give you the following options:

**Save and update automatically**
- Apply the change and also update the affected settings.

**Don’t save, update manually**
- Apply the change, but don’t update the affected settings. The updates need to be done manually.

**Cancel**
- Cancel the action.
Warning: Changing the name of this object should be done with care, the check only provides verification for certain settings and ignores things where the name can’t be verified. Some examples are dashboard filters, access control lists (ACLs), and processes (sequence flow actions) to name a few. Documentation of your setup is key to surviving a name change.

2.12.2 State Settings

The following settings are available when adding or editing this resource. The fields marked with an asterisk are mandatory.

Name *

The name of this resource. Any type of characters can be entered to this field including uppercase letters and spaces. The name will be displayed in the overview table.

State type *

Every state is linked to a type, which needs to be specified if a new state is created or an existing one is edited. The following types are available:

- closed
- merged
- new
- open
- pending auto
- pending reminder
- removed
Note: State types are predefined and cannot be changed in the software due to their special mechanics. When adding new states for pending auto and pending reminder state types you must make further configurations in the System Configuration module of the Administration group.

Validity *
Set the validity of this resource. Each resource can be used in OTRS only, if this field is set to valid. Setting this field to invalid or invalid-temporarily will disable the use of the resource.

Comment
Add additional information to this resource. It is recommended to always fill this field as a description of the resource with a full sentence for better clarity, because the comment will be also displayed in the overview table.

See also:
The following configuration options are relevant and noteworthy when managing states:

- Daemon::SchedulerCronTaskManager::Task###TicketPendingCheck
- Ticket::StateAfterPending

2.13 Templates

Providing the correct and consistent answer all the time regardless of employee or knowledge-level is important to maintain a professional appearance to your customers. Additionally, speed in sending standard answers is key to wading through the masses of requests in growing service desks.

OTRS templates offer you a variety of ways to deal with standardizing communications and help to pre-define texts so that the customer always receives the same level and quality of service from all agents.

Use this screen to add templates for use in communications. A fresh OTRS installation already contains a template by default. The template management screen is available in the Templates module of the Ticket Settings group.

Fig. 46: Template Management Screen
2.13.1 Manage Templates

**Note:** To add attachments to a template, it needs to create the attachment first in the *Attachments* screen.

To add a template:
1. Click on the *Add Template* button in the left sidebar.
2. Fill in the required fields.
3. Click on the *Save* button.

To edit a template:
1. Click on a template in the list of templates.
2. Modify the fields.
3. Click on the *Save* or *Save and finish* button.

To delete a template:
1. Click on the trash icon in the list of templates.
2. Click on the *Confirm* button.

**Note:** If several templates are added to the system, a filter box is useful to find a particular template by just typing to filter.

2.13.2 Template Settings

The following settings are available when adding or editing this resource. The fields marked with an asterisk are mandatory.

**Type** *
---
There are different kind of templates that are used for different purposes. A template can be:

- **Answer**
  To be used as a ticket response or reply.

- **Create**
  To be used for new phone or email ticket.

- **Email**
  To be used for writing an email to a customer user or to someone else.

- **Forward**
  To be used to forward an article to someone else.

- **Note**
  To be used to create notes.

- **Phone call**
  To be used for inbound and outbound phone calls.

- **Process dialog**
  To be used in process management to pre-fill text of articles in user task activity dialogs.
Add Template

- Type: Answer
- Name: 
- Subject: 
- Subject method: 
  Specify if the current article subject should be Combined, Kept or Overwritten with the subject from the template.

Template:

Format - Font - Size - | A | A - T x | Source | Ω |

Attachments:

- Validity: valid
- Comment: 

Save or Cancel

Fig. 47: Add Template Screen

2.13. Templates
Edit Template

Fig. 48: Edit Template Screen

List

<table>
<thead>
<tr>
<th>TYPE</th>
<th>NAME</th>
<th>ATTACHMENTS</th>
<th>COMMENT</th>
<th>VALIDITY</th>
<th>CHANGED</th>
<th>CREATED</th>
<th>DELETE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Answer</td>
<td>empty answer</td>
<td>0</td>
<td></td>
<td>valid</td>
<td>09/18/2018 15:17</td>
<td>09/18/2018 15:17</td>
<td></td>
</tr>
</tbody>
</table>

Fig. 49: Delete Template Screen
Name *
The name of this resource. Any type of characters can be entered to this field including uppercase letters and spaces. The name will be displayed in the overview table.

Subject
The subject of the article added by the template.

Subject method
Specify how the current article subject should be dealt with. The following methods are available:

Combine
The template subject will be added after the current article subject.

Keep
The current article subject will be kept.

Overwrite
The current article subject will be replaced with the template subject.

Template
The body of the article added by the template.

Attachments
It is possible to add one or more attachments to this template. Attachments can be added in the Attachments screen.

Validity *
Set the validity of this resource. Each resource can be used in OTRS only, if this field is set to valid. Setting this field to invalid or invalid-temporarily will disable the use of the resource.

Comment
Add additional information to this resource. It is recommended to always fill this field as a description of the resource with a full sentence for better clarity, because the comment will be also displayed in the overview table.

2.13.3 Template Variables

Using variables in the text makes it possible to personalize messages. Variables, known as OTRS tags, are replaced by OTRS when generating the message. Find a list of available tags stems for this resource at the bottom of both add and edit screens.

For example, the variable `<OTRS_TICKET_TicketNumber>` expands to the ticket number allowing a template to include something like the following.

```
Ticket#<OTRS_TICKET_TicketNumber>
```

This tag expands, for example to:

```
Ticket#2018101042000012
```

The values of the following variables are translated based on the chosen language of the customer user.

```
<OTRS_TICKET_Type>
<OTRS_TICKET_State>
<OTRS_TICKET_StateType>
<OTRS_TICKET_Lock>
<OTRS_TICKET_Priority>
```

If the language is not supported the default language is applied.
Reference

You can use the following tags:

 `<OTRS_OWNER_*>`
  Ticket owner options (e.g. `<OTRS_OWNER_UserFirstname>`).

 `<OTRS_RESPONSIBLE_*>`
  Ticket responsible options (e.g. `<OTRS_RESPONSIBLE_UserFirstname>`).

 `<OTRS_CURRENT_*>`
  Options of the current user who requested this action (e.g. `<OTRS_CURRENT_UserFirstname>`).

 `<OTRS_TICKET_*>`
  Options of the ticket data (e.g. `<OTRS_TICKET_TicketNumber>`, `<OTRS_TICKET_TicketID>`, `<OTRS_TICKET_Queue>`, `<OTRS_TICKET_State>`).

 `<OTRS_TICKET_DynamicField_*>`
  Options of ticket dynamic fields internal key values (e.g. `<OTRS_TICKET_DynamicField_TestField>`, `<OTRS_TICKET_DynamicField_TicketFreeText1>`).

 `<OTRS_TICKET_DynamicField_*_Value>`
  Options of ticket dynamic fields display values, useful for Dropdown and Multiselect fields (e.g. `<OTRS_TICKET_DynamicField_TestField_Value>`, `<OTRS_TICKET_DynamicField_TicketFreeText1_Value>`).

 `<OTRS_CUSTOMER_DATA_*>`
  Options of the current customer user data (e.g. `<OTRS_CUSTOMER_DATA_UserFirstname>`).

 `<OTRS_CONFIG_*>`
  Config options (e.g. `<OTRS_CONFIG_HttpType>`).

**Note:** Create type templates only supports this smart tags: `<OTRS_CURRENT_*>` and `<OTRS_CONFIG_*>`

Example template:

```
The current ticket state is: "<OTRS_TICKET_State>"
Your email address is: "<OTRS_CUSTOMER_UserEmail>"
```

Fig. 50: Template Variables
2.14 Templates Attachments

Making changes to standard attachments is sometimes overwhelming. The question is, “Where were the attachments used?” or “How to quickly update them across the board?” It’s also important to know who are using which attachments, before updating them. A new attachment can have multiple uses within your organization.

OTRS empowers you to manage this providing you an overview to manage the 1:n relationships and quickly identify the templates using your attachments.

Use this screen to add one or more attachments to one or more templates. To use this function, at least one attachment and one template need to have been added to the system. The management screen is available in the Templates Attachments module of the Ticket Settings group.

![Manage Template-Attachment Relations](image)

**Fig. 51: Manage Template-Attachment Relations**

2.14.1 Manage Templates Attachments Relations

To add some attachments to a template:

1. Click on a template in the Templates column.
2. Select the attachments you would like to add to the template.
3. Click on the Save or Save and finish button.

![Change Attachment Relations for Template](image)

**Fig. 52: Change Attachment Relations for Template**

To assign an attachment to some templates:

1. Click on an attachment in the Attachments column.
2. Select the templates you would like to assign the attachment to.
3. Click on the Save or Save and finish button.
If several templates or attachments are added to the system, use the filter box to find a particular template or attachment by just typing the name to filter.

Multiple templates or attachments can be assigned in both screens at the same time. Additionally clicking on a template or clicking on an attachment in the relations screen will open the Edit Template screen or the Edit Attachment screen accordingly.

**Warning:** Accessing a template or an attachment provides no back link to the relations screen.

### 2.15 Templates Queues

Sharing, distributing and making changes to standard text modules and information for sharing with customers or communication between teams can be an impossible mission.

OTRS can quickly aid you in ensuring that all of your teams have the correct templates available for use by assignment based on the queue.

Use this screen to add one or more templates to one or more queues. To use this function, at least one template and one queue need to have been added to the system. The management screen is available in the Templates Queues module of the Ticket Settings group.
### 2.15.1 Manage Templates Queues Relations

To assign a template to a queue:
1. Click on a template in the *Templates* column.
2. Select the queues you would like to add the template to.
3. Click on the *Save* or *Save and finish* button.

![Fig. 55: Change Queue Relations for Template](image)

To assign a queue to a template:
1. Click on a queue in the *Queues* column.
2. Select the templates you would like to assign the queue to.
3. Click on the *Save* or *Save and finish* button.

![Fig. 56: Change Template Relations for Queue](image)

**Note:** If several templates or queues are added to the system, use the filter box to find a particular template or queue by just typing the name to filter.

Multiple templates or queues can be assigned in both screens at the same time. Additionally clicking on a template or clicking on a queue in the relations screen will open the *Edit Template* screen or the *Edit Queue* screen accordingly.

**Warning:** Accessing a queue or a template provides no back link to the relations screen.
2.16 Types

Good KPIs require knowing the type of work your organization performs. Not all tasks take the same amount of effort even when performed by the same team. Creating a queue structure for this purpose can be overpowered due to the amount of configuration required to create and manage a queue.

OTRS provisions for KPIs with minimal overhead using ticket types. Typical types used in IT service desks are unclassified, incident and problem. You can quickly define new types with ease.

Use this screen to add types to the system. A fresh OTRS installation contains an unclassified type by default. The type management screen is available in the Types module of the Ticket Settings group.

**Warning:** Services must first be activated via System Configuration under the Administration group to be selectable in the ticket screens. You may click on the link in the warning message to directly jump to the configuration setting.

2.16.1 Manage Types

To add a type:

1. Click on the Add Ticket Type button in the left sidebar.
2. Fill in the required fields.
3. Click on the Save button.

Fig. 57: Type Management Screen

Warning: Services must first be activated via System Configuration under the Administration group to be selectable in the ticket screens. You may click on the link in the warning message to directly jump to the configuration setting.

Fig. 58: Type Activation Warning

Fig. 59: Add Type Screen
**Warning:** Types can not be deleted from the system. They can only be deactivated by setting the Validity option to *invalid* or *invalid-temporarily*.

**Warning:** The maximum number of 10 *valid* types should not be exceeded. Exceeding this limit may affect the system performance.

To edit a type:
1. Click on a type in the list of types.
2. Modify the fields.
3. Click on the *Save* or *Save and finish* button.

![Edit Type Screen](Fig. 60: Edit Type Screen)

**Note:** If several types are added to the system, use the filter box to find a particular type by just typing the name to filter.

### 2.16.2 Type Settings

The following settings are available when adding or editing this resource. The fields marked with an asterisk are mandatory.

**Name** *

The name of this resource. Any type of characters can be entered to this field including uppercase letters and spaces. The name will be displayed in the overview table.

**Validity** *

Set the validity of this resource. Each resource can be used in OTRS only, if this field is set to *valid*. Setting this field to *invalid* or *invalid-temporarily* will disable the use of the resource.
Clear, complete, and transparent communication is key to ensuring that your organization offers outstanding service to your customers. Your organization would like to give your customers the most consistent service and ensure that your service is highly recognizable, every time. Your teams want to have an identity which instills a specific sense of security and familiarity.

OTRS provides you with the tools to build teams, trust and security to better and uniformly serve your customer. With system addresses you can assign your inbound mails to certain teams and allow them all to use the same address without causing confusion by using team mailboxes via a mail client. Templates, automatic answers, and attachment management let you leverage central management of the most important communications. Many other tools are also available and covered in the sections below.

### 3.1 Admin Notification

Corporations may need to make general announcements to everyone or publish news to several groups of agents or individuals. Also, OTRS administrator may need to contact with specific agents regarding an event.

OTRS gives the administration the tool Admin Notification making sending announcements and news to the masses of users accurate and timely, to target group of people, simple. Administrators can send notifications based on a specific list of recipients, or a group of users inside OTRS, with powerful text editor enhanced content.

Use this screen to send administrative messages to specific agents, group or role members. The message compose screen is available in the Admin Notification module of the Communication & Notifications group.

#### 3.1.1 Administrative Message Settings

The following settings are available when composing an administrative message. The fields marked with an asterisk are mandatory.

**From** *

This email address will be added into the From field of the message.

**Send message to users**

One or more Agents can be selected in this field, to whom the message will be sent.

**Send message to group members**

One or more Groups can be selected in this field, to whose members the message will be sent.
Fig. 1: Create Administrative Message Screen
Group members need to have permission
With these radio buttons can be selected, if a group member need read-only or read-write permissions to receive the message.

Also send to customers in groups
Select this checkbox to send the message also for customers in groups.

Note: This option is available only, if the CustomerGroupSupport setting is enabled.

Subject *
The subject of the messages.

Body *
The body text of the message.

3.2 Appointment Notifications

Missing appointments can damage your image with a customer. Once there is an appointment assigned in the calendar, it’s normal to receive notification:
- Upon a new or changed event
- Upon cancellation of an event
- Before the event, as a reminder

Notification relieves the agent the stress of mentally tracking appointments.

OTRS appointment notifications satisfies this need. Here an administrator can easily set notifications with general rules, including trigger events and filters. Afterward, appointments fitting the bill notify the correct users at the correct time.

Use this screen to add appointment notifications to the system. In a fresh OTRS installation an appointment reminder notification is already added by default. The appointment notification management screen is available in the Appointment Notifications module of the Communication & Notifications group.

3.2.1 Manage Appointment Notifications

To add an appointment notification:
1. Click on the Add Notification button in the left sidebar.
2. Fill in the required fields as explained in Appointment Notification Settings.
3. Click on the Save button.

To edit an appointment notification:
1. Click on an appointment notification in the list of appointment notifications.
2. Modify the fields as explained in Appointment Notification Settings.
3. Click on the Save or Save and finish button.

To delete an appointment notification:
1. Click on the trash icon in the list of appointment notifications.
Fig. 2: Appointment Notification Management Screen

<table>
<thead>
<tr>
<th>Name</th>
<th>Comment</th>
<th>Validity</th>
<th>Changed</th>
<th>Created</th>
<th>Export</th>
<th>Copy</th>
<th>Delete</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appointment reminder notification</td>
<td></td>
<td>valid</td>
<td>09/18/2018 15:17</td>
<td>09/18/2018 15:17</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Fig. 3: Delete Appointment Notification Screen
To export all appointment notifications:
1. Click on the Export Notifications button in the left sidebar.
2. Choose a location in your computer to save the Export_Notification.yml file.

To import appointment notifications:
1. Click on the Browse button in the left sidebar.
2. Select a previously exported .yml file.
3. Click on the Overwrite existing notifications? checkbox, if you would like to overwrite the existing notifications.
4. Click on the Import Notification configuration button.

### 3.2.2 Appointment Notification Settings

The following settings are available when adding or editing this resource. The fields marked with an asterisk are mandatory.

**See also:**
For an example, see the default appointment reminder notification which is included in a fresh OTRS installation.

**Basic Appointment Notification Settings**

**Name** *

The name of this resource. Any type of characters can be entered to this field including uppercase letters and spaces. The name will be displayed in the overview table.
Comment
Add additional information to this resource. It is recommended to always fill this field as a description of the resource with a full sentence for better clarity, because the comment will be also displayed in the overview table.

Show in agent preferences
Define how the notification should be displayed in agent preferences. The following options are available:

No
The notification won’t be displayed in agent preferences. The notification is sent to all appropriate agents by the defined method.

Yes
The notification will be displayed in agent preferences for selection. The agents may opt-in or opt-out.

Yes, but require at least one active notification method.
The notification will be displayed in agent preferences, but require at least one active notification method. This is annotated by an asterisk next to the name.

<table>
<thead>
<tr>
<th>Appointment Notifications</th>
<th>all/none</th>
</tr>
</thead>
<tbody>
<tr>
<td>* Appointment reminder notification</td>
<td></td>
</tr>
</tbody>
</table>

* To activate this notification, at least one transport method must be activated.

Fig. 5: Personal Appointment Notification Settings

Available for agent in groups
The notification will only appear to agents that belong to the selected groups. If no group is selected, it is available for all agents.

Agent preferences tooltip
This message will be shown on the agent preferences screen as a tooltip for this notification.

Validity *
Set the validity of this resource. Each resource can be used in OTRS only, if this field is set to valid. Setting this field to invalid or invalid-temporarily will disable the use of the resource.

Appointment Events

Fig. 6: Appointment Notification Settings - Events
Event
Here you can choose which events will trigger this notification. An additional appointment filter can be applied below to only send for appointments with certain criteria.

Possible events are:

**AppointmentCreate**
Executed after an appointment has been created.

**AppointmentUpdate**
Executed after an appointment has been updated.

**AppointmentDelete**
Executed after an appointment has been deleted.

**AppointmentNotification**
This is a special appointment event that will be executed by the OTRS daemon in time. If an appointment contains a date/time value for notifications, as already described in this documentation, and such a notification date is reached, the OTRS daemon will execute this kind of event for every related appointment separately.

**CalendarCreate**
Executed after a calendar has been created.

**CalendarUpdate**
Executed after a calendar has been updated.

Appointment Filter

![Appointment Filter](image)

This widget can optionally be used to narrow the list of appointments by matching configured values:

**Calendar**
Select which calendar the related appointment needs to be part of.

**Title**
Filter for a part or complete title of the appointment.

**Location**
Filter for a part or complete location of the appointment.

**Resource**
Choose from a list of teams or resources assigned to the appointments.
Appointment Notification Recipients

![Fig. 8: Appointment Notification Settings - Recipients](image)

**Send to**
Select which agents should receive the notifications. Possible values are:

- Agent (resources), who are selected within the appointment
- All agents with (at least) read permission for the appointment (calendar)
- All agents with write permission for the appointment (calendar)

**Send to these agents**
One or more agents can be selected who should receive the notifications.

**Send to all group members (agents only)**
One or more groups can be selected whom agents should receive the notifications.

**Send to all role members**
One or more roles can be selected whom agents should receive the notifications.

**Send on out of office**
If this option is checked, the notification will be sent even if the agent is currently out of office.

**Once per day**
Notify users just once per day about a single appointment using a selected transport. If this is the first notification about an appointment, then the notification will be sent. If a notification was already sent before and this option is checked, the OTRS daemon will check the time the last notification was sent. If there was no notification sent in the last 24 hours, the notification will be sent again.

**Note:** The notifications respect the permissions of the agent. Notifications are sent to agents only if the agent has at least read permissions for the appointment in that moment in time when the notification is triggered.
Appointment Notification Methods

Enable this notification method
Enable or disable this notification method. A notification method can be email, web view with browser notification support or SMS.

Enable browser notification
This option is available for web view only. If checked, the system sends a browser notification, too. Web view notifications will be displayed in the notifications area of the agent interface while a browser notification is a native browser notification which needs to be enabled in the web browser at first time.

Note: To use the SMS notification method, Cloud Services need to be enabled.

Active by default in agent preferences
This is the default value for assigned recipient agents who didn’t make a choice for this notification in their preferences yet. If the box is enabled, the notification will be sent to such agents.

Note: This field is displayed only if Yes is selected in the Show in agent preferences setting above.

Additional recipient email addresses
Additional recipients can be added here. Use comma or semicolon to separate the email addresses.

Article visible to customer
An article will be created if the notification is sent to the customer or an additional email address.

Email template
Select which email template should be used for the notification.

Note: Additional email templates can be added by placing a .tt file into the folder <OTRS_Home>/Kernel/Output/HTML/Templates/Standard/NotificationEvent/Email/. See the existing email templates for an example.

Send signed and/or encrypted email
Checking this option will encrypt the notification email.

Note: To use this feature, PGP Keys or S/MIME Certificates need to be enabled.

Email security level
If Enable email security is checked, then this setting is activated. The following options are available:

PGP sign only
Sign only the notification email with PGP key. If no PGP keys have been added to the system, this option is not visible.

PGP encrypt only
Encrypt only the notification email with PGP key. If no PGP keys have been added to the system, this option is not visible.

PGP sign and encrypt
Sign and encrypt the notification email with PGP key. If no PGP keys have been added to the system, this option is not visible.
### Notification Methods

These are the possible methods that can be used to send this notification to each of the recipients. Please select at least one method below.

#### Email

- Enable this notification method: [ ]

  - Active by default in agent preferences: [ ]

  This is the default value for assigned recipient agents who didn’t make a choice for this notification in their preferences yet. If the box is enabled, the notification will be sent to such agents.

  Additional recipient email addresses:

  An article will be created if the notification is sent to the customer or an additional email address.

  Email template: [Alert]

  Use this template to generate the complete email (only for HTML emails).

  Send signed and/or encrypted email: [ ]

  Email security level:

  If signing key/certificate is missing: [Skip notification delivery]

  If encryption key/certificate is missing: [Skip notification delivery]

#### Web View

- Enable this notification method: [ ]

  Active by default in agent preferences: [ ]

  This is the default value for assigned recipient agents who didn’t make a choice for this notification in their preferences yet. If the box is enabled, the notification will be sent to such agents.

  Enable browser notification: [ ]

  Send as a browser notification too.

#### SMS (Short Message Service)

[Please activate this transport in order to use it.]
S/MIME sign only
Sign only the notification email with S/MIME certificate. If no S/MIME certificates have been added to the system, this option is not visible.

S/MIME encrypt only
Encrypt only the notification email with S/MIME certificate. If no S/MIME certificates have been added to the system, this option is not visible.

S/MIME sign and encrypt
Sign and encrypt the notification email with S/MIME certificate. If no S/MIME certificates have been added to the system, this option is not visible.

Note: To use this feature, PGP Keys or S/MIME Certificates need to be enabled.

If signing key/certificate is missing
Select the method, that should be used if signing key or certificate is missing.

If encryption key/certificate is missing:
Select the method, that should be used if encryption key or certificate is missing.

Appointment Notification Text
The main content of a notification can be added for each languages with localized subject and body text. It is also possible to define static text content mixed with OTRS smart tags.

Subject *
The localized subject for a specific language.

Text *
The localized body text for a specific language.

Add new notification language
Select which languages should be added to create localized notifications. The language of the customer or agent will be used as found in the customer and agent preferences. Secondarily, the system default language will be chosen. The fall back will always be English.

Warning: Deleting a language from the DefaultUsedLanguages setting that already has a notification text here will make the notification text unusable. If a language is not present or enabled on the system, the corresponding notification text could be deleted if it is not needed anymore.

3.2.3 Appointment Notification Variables
Using variables in the text makes it possible to personalize messages. Variables, known as OTRS tags, are replaced by OTRS when generating the message. Find a list of available tags stems for this resource at the bottom of both add and edit screens.

For example, the variable <OTRS_APPOINTMENT_TITLE[20]> expands to the first 20 characters of the title allowing a template to include something like the following.

Title: <OTRS_APPOINTMENT_TITLE[20]>

This tag expands, for example to:
Fig. 10: Appointment Notification Settings - Notification Text
Tag Reference

Notifications are sent to an agent.
You can use the following tags:

```xml
<OTRS_APPOINTMENT_TITLE[20]>
  To get the first 20 character of the appointment title.
</OTRS_APPOINTMENT_Title>

<OTRS_APPOINTMENT_*>
  To get the appointment attribute (e.g. <OTRS_APPOINTMENT_APPOINTMENTID>,
  <OTRS_APPOINTMENT_STARTTIME>, <OTRS_APPOINTMENT_DESCRIPTION>).
</OTRS_APPOINTMENT_*>

<OTRS_CALEDAR_*>
  To get the calendar attribute (e.g. <OTRS_CALEDAR_CALEDARID>, <OTRS_CALEDAR_CALEDARNAME>,
  <OTRS_CALEDAR_COLOR>).
</OTRS_CALEDAR_*>

<OTRS_*> or <OTRS_NOTIFICATION_RECIPIENT_*>
  Attributes of the recipient user for the notification (e.g. <OTRS_UserFullname> or
  <OTRS_NOTIFICATION_RECIPIENT_UserFullname>).
</OTRS_*> or <OTRS_NOTIFICATION_RECIPIENT_*>

<OTRS_CONFIG_*>
  Config options (e.g. <OTRS_CONFIG_HTTPType>).
</OTRS_CONFIG_*>
```

Example notification:

Subject: Reminder: <OTRS_APPOINTMENT_TITLE>

Text:

Hi <OTRS_NOTIFICATION_RECIPIENT_UserFirstname>,

appointment "<OTRS_APPOINTMENT_TITLE>" has reached its notification
time.

Description: <OTRS_APPOINTMENT_DESCRIPTION>
Location: <OTRS_APPOINTMENT_LOCATION>
Calendar: <OTRS_CALEDAR_CALEDARNAME>
Start date: <OTRS_APPOINTMENT_STARTTIME>
End date: <OTRS_APPOINTMENT_ENDTIME>
All-day: <OTRS_APPOINTMENT_ALLDAY>
Repeat: <OTRS_APPOINTMENT_RECURRING>

Fig. 11: Appointment Notification Variables
Title: Daily meeting in the...

The values of the following variables are translated based on the chosen language of the customer user.

<OTRS_TICKET_Type>
<OTRS_TICKET_State>
<OTRS_TICKET_StateType>
<OTRS_TICKET_Lock>
<OTRS_TICKET_Priority>

If the language is not supported the default language is applied.

### 3.3 Communication Log

Managers, leaders, team leads, and system administrators may need to track past communication to follow up specific messages. In some cases, issues arise, and a target recipient did not receive a message. Without access to the mail server logs, tracking the communication is difficult.

OTRS introduces the *Communication Log* module. It’s designed to track the communication: building and spooling the mail and the connection between client and server.

Use this screen to inspect the internal logs about communication handling. The communication log overview screen is available in the *Communication Log* module of the *Communication & Notifications* group.

---

**Fig. 12: Communication Log Overview Screen**
3.3.1 Communication Log Overview

The communication log overview page is a dashboard-like screen with several metrics indicating the overall health of the system, depending on filtered communications. 

### Account status
This widget will signal if you have any issues with configured accounts used for fetching or sending messages.

### Communication status
This widget will notify you if there are any errors with either account connections or message processing.

### Communication state
This widget will display if there are any active communications currently in the system.

### Average processing time
This is a cumulative time statistic that is needed to complete a communication.

You can select the time range in the left sidebar in order to filter communications depending on their creation time. In addition to this, you can also dynamically filter for any keywords, state of the communication, and you can sort the overview table by all columns.

If you click on a communication row in any table, you will be presented with a detailed view screen.

Every communication can contain one or more logs, which can be of **Connection** or **Message** type.
Connection
This type of logs will contain any log messages coming from the modules responsible for connecting to your accounts and fetching/receiving messages.

Message
This type of logs will contain any log messages related to specific message processing. Any module working on message themselves can log their actions in this log, giving you a clear overview of what’s going on.

You can filter log entries based on their priority, by choosing desired priority in the left sidebar. Log level rules apply: by selecting a specific priority, you will get log entries that have that priority set and higher, with Error being the highest.

3.4 Credentials

Use this screen to manage credentials in the system. The credential management screen is available in the Credentials module of the Communication & Notifications group.

<table>
<thead>
<tr>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>BasicAuth</td>
</tr>
<tr>
<td>Add new credential of type Certificate</td>
</tr>
<tr>
<td>Certificate</td>
</tr>
<tr>
<td>Add new credential of type OAuth2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>List</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAME</td>
</tr>
<tr>
<td>CertificateLogin</td>
</tr>
<tr>
<td>LegacyLogin</td>
</tr>
<tr>
<td>MailLogin</td>
</tr>
</tbody>
</table>

Fig. 15: Credential Management Screen

3.4.1 Manage Credentials

To add a new credential:
1. Choose a method in the left sidebar and select a type from its drop-down.
2. Fill in the required fields.
3. Click on the Save button.

To edit a credential:
1. Click on a credential in the list of credentials.
2. Modify the fields.
3. Click on the Save or Save and finish button.

To delete a credential:
1. Click on the trash icon in the second last column of the overview table.
2. Click on the Confirm button.
### General

<table>
<thead>
<tr>
<th>★ Name:</th>
<th>Validity:</th>
<th>Type:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>BasicAuth</td>
</tr>
</tbody>
</table>

Must be unique and only accept alphabetic and numeric characters.

### Credential Settings

<table>
<thead>
<tr>
<th>★ Username:</th>
<th>★ Password:</th>
</tr>
</thead>
</table>

**Save** or **Cancel**

**Fig. 16: Add BasicAuth Credential Screen**

### General

<table>
<thead>
<tr>
<th>★ Name:</th>
<th>Validity:</th>
<th>Type:</th>
</tr>
</thead>
<tbody>
<tr>
<td>LegacyLogin</td>
<td></td>
<td>BasicAuth</td>
</tr>
</tbody>
</table>

Must be unique and only accept alphabetic and numeric characters.

### Credential Settings

<table>
<thead>
<tr>
<th>★ Username:</th>
<th>★ Password:</th>
</tr>
</thead>
</table>

**Save** or **Save and finish** or **Cancel**

**Fig. 17: Edit BasicAuth Credential Screen**

### List

<table>
<thead>
<tr>
<th>ATE NEEDED</th>
<th>VALID UNTIL</th>
<th>CHANGED</th>
<th>CHANGED BY</th>
<th>CREATED</th>
<th>CREATED BY</th>
<th>DELETE</th>
<th>AUTHORIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>05/27/2022 13:13 (Europe/Budapest)</td>
<td>Admin OTRS</td>
<td>05/27/2022 13:13 (Europe/Budapest)</td>
<td>Admin OTRS</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>N/A</td>
<td>05/27/2022 13:13 (Europe/Budapest)</td>
<td>Admin OTRS</td>
<td>05/27/2022 08:43 (Europe/Budapest)</td>
<td>Admin OTRS</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>N/A</td>
<td>05/27/2022 13:14 (Europe/Budapest)</td>
<td>Admin OTRS</td>
<td>05/27/2022 13:14 (Europe/Budapest)</td>
<td>Admin OTRS</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

**Fig. 18: Delete Credential Screen**
Note: If several credentials are added to the system, use the filter box to find a particular credential by just typing the name to filter.

Note: If the emails cannot be fetched and yes is displayed in the Update Needed column, click the shield icon to authorize the credentials manually. If this happens regularly, please contact the Customer Solutions Team for further analysis.

3.4.2 Credential Settings

The following settings are available when adding or editing this resource. The fields marked with an asterisk are mandatory.

General Credential Settings

These settings are the same for all types of credentials.

![Fig. 19: Credential General Screen](image)

**Name** *

The name of this resource. Must be unique and only accept alphabetic and numeric characters. The name will be displayed in the overview table.

**Validity**

Set the validity of this resource. Each resource can be used in OTRS only, if this field is set to valid. Setting this field to invalid or invalid-temporarily will disable the use of the resource.

**Type**

This type have been selected in the previous page and can not be changed here anymore. This is a read-only field.

BasicAuth Credential Settings

The following settings are available if BasicAuth was selected in the credential management screen. The fields marked with an asterisk are mandatory.

**Username** *

The username for the credential.

**Password** *

The password for the credential.
Certificate Credential Settings

The following settings are available if Certificate was selected in the credential management screen. The fields marked with an asterisk are mandatory.

- **Certificate** *
  The certificate itself as a string. A certificate should look like this:

  ```
  -----BEGIN CERTIFICATE-----
  bjJ4b05tcXZkZnZ1EUF5S0lw21JUTUIYYdGa014OfHc0xPbU93Ukh2TGFpc3BE
  NDJEUUM0NFpJZFRuUFdubGJ6UUJiYmNh32VRiS0G0zUVhvVXVvDxZzRaREN0
  ...
  ZW9NeWpsRXo2Z1VLTk9pT0RoVmJ0VE5TbTFGTA2TXRSvW16dWxvUWloWERNaTQy
  UVNTdkhQN01HVjNJ2bNWxq012HMFVjSwxXOGRxUW9ySHhwVn51bQo=
  -----END CERTIFICATE-----
  ```

- **Certificate Key**
  The private key of the certificate. A private key should look like this:

3.4. Credentials
Certificate Key Password
If the certificate key has a password, you can enter it here.

Authorization Code Flow Credential Settings
The following settings are available if Authorization Code Flow was selected in the credential management screen. The fields marked with an asterisk are mandatory.

<table>
<thead>
<tr>
<th>Credential Settings</th>
</tr>
</thead>
<tbody>
<tr>
<td>✯ Client ID:</td>
</tr>
<tr>
<td>✯ Client Secret:</td>
</tr>
<tr>
<td>✯ Authorization URL:</td>
</tr>
<tr>
<td>✯ Token URL:</td>
</tr>
<tr>
<td>✯ Scope:</td>
</tr>
</tbody>
</table>

*Use the value of client secret (you can only copy it during creation of the secret) not the secret ID.*

Fig. 22: Authorization Code Flow Credential Settings Screen

Client ID *
The client ID for the application.

Client Secret *
The client secret for the application. Use the value of client secret (you can only copy it during creation of the secret) not the secret ID.

Authentication URL *
The authentication URL for the application.

Token URL *
The token URL for the application.

Scope *
The scope for the application.
Microsoft Graph App Credential Settings

The following settings are available if Microsoft Graph App was selected in the credential management screen. The fields marked with an asterisk are mandatory.

<table>
<thead>
<tr>
<th>Credential Settings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tenant: *</td>
</tr>
<tr>
<td>The tenant for the application.</td>
</tr>
<tr>
<td>Client ID: *</td>
</tr>
<tr>
<td>The client ID for the application.</td>
</tr>
<tr>
<td>Client Secret: *</td>
</tr>
<tr>
<td>The client secret for the application. Use the value of client secret (you can only copy it during creation of the secret) not the secret ID.</td>
</tr>
<tr>
<td>Scope: *</td>
</tr>
<tr>
<td>The scope for the application.</td>
</tr>
</tbody>
</table>

Fig. 23: Microsoft Graph App Credential Settings Screen

Resource Owner Password Basic (Cisco) Credential Settings

The following settings are available if Resource Owner Password Basic (Cisco) was selected in the credential management screen. The fields marked with an asterisk are mandatory.

<table>
<thead>
<tr>
<th>Credential Settings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Client ID: *</td>
</tr>
<tr>
<td>The client ID for the application.</td>
</tr>
<tr>
<td>Client Secret: *</td>
</tr>
<tr>
<td>The client secret for the application. Use the value of client secret not the secret ID.</td>
</tr>
<tr>
<td>Authentication URL:</td>
</tr>
</tbody>
</table>

Fig. 24: Resource Owner Password Basic (Cisco) Credential Settings Screen

Client ID *
The client ID for the application.

Client Secret *
The client secret for the application. Use the value of client secret not the secret ID.
Authentication URL *
The authentication URL for the application.

Resource Owner Password Flow Credential Settings

The following settings are available if Resource Owner Password Flow was selected in the credential management screen. The fields marked with an asterisk are mandatory.

<table>
<thead>
<tr>
<th>Credential Settings</th>
</tr>
</thead>
<tbody>
<tr>
<td>★ Username:</td>
</tr>
<tr>
<td>★ Password:</td>
</tr>
<tr>
<td>★ Authentication URL:</td>
</tr>
<tr>
<td>★ Audience:</td>
</tr>
<tr>
<td>★ Scope:</td>
</tr>
<tr>
<td>★ Client ID:</td>
</tr>
<tr>
<td>★ Client Secret:</td>
</tr>
</tbody>
</table>

Use the value of client secret (you can only copy it during creation of the secret) not the secret ID.

Fig. 25: Resource Owner Password Flow Credential Settings Screen

Username *
The username for the application.

Password *
The password for the application.

Authentication URL *
The authentication URL for the application.

Audience *
The audience for the application.

Scope *
The scope for the application.

Client ID *
The client ID for the application.

Client Secret *
The client secret for the application. Use the value of client secret (you can only copy it during creation of the secret) not the secret ID.
3.5 Email Addresses

The main channel of communication with the customers is often email. An organization consists of multiple department or teams. Email addresses differ for each group which is servicing your customer. You may have the following:

support@example.org
hr@exapmle.org
sales@example.org

These addresses are just some examples, and you may have many more. You use these channels to receive and send messages, and in mail clients, one can often send with the wrong address.

OTRS manages as many email addresses for your teams as needed. All your email addresses, whether for sending or receiving, are kept and configured nicely in one place. In the Queue Settings, the correct address is always chosen preventing that someone working in multiple roles sends an email out with the wrong account.

To enable OTRS to send emails, you need a valid email address to be used by the system. OTRS is capable of working with multiple email addresses, since many support installations need to use more than one. A queue can be linked to many email addresses, and vice versa. The address used for outgoing messages from a queue can be set when the queue is created.

Use this screen to add system email addresses to the system. An email address is already added to the system at installation time of OTRS. The email address management screen is available in the Email Addresses module of the Communication & Notifications group.

![Email Address Management Screen](image)

**Fig. 26: Email Address Management Screen**
3.5.1 Manage Email Addresses

To add an email address:

1. Click on the Add System Address button in the left sidebar.
2. Fill in the required fields.
3. Click on the Save button.

![Add System Email Address](image)

**Fig. 27: Email Address Add Screen**

**Warning:** Email addresses can not be deleted from the system. They can only be deactivated by setting the **Validity** option to **invalid** or **invalid-temporarily**.

**Note:** Once an email address is added and set to valid, OTRS cannot send an email to this address. This prevents loopbacks which could crash your system. If you need to transfer information between departments please use the split article action. This will allow you to create a new ticket to another team for assigning a task, for example.

To edit an email address:

1. Click on an email address in the list of email addresses.
2. Modify the fields.
3. Click on the Save or Save and finish button.

**Note:** If several email addresses are added to the system, use the filter box to find a particular email address by just typing the name to filter.
3.5.2 Email Address Settings

The following settings are available when adding or editing this resource. The fields marked with an asterisk are mandatory.

**Email address** *
   The email address to be added.

**Display name** *
   The name of this resource. Any type of characters can be entered to this field including uppercase letters and spaces. The name will be displayed in the sender information of the article.

**Queue** *
   The queue, to which the email address will be added as default email address.

**Validity** *
   Set the validity of this resource. Each resource can be used in OTRS only, if this field is set to valid. Setting this field to invalid or invalid-temporarily will disable the use of the resource.

---

**Note:** This setting will apply if the email is distributed via the recipient address. This setting can be overridden by *Postmaster Filters* or in the *Mail Account Settings* when *Dispatching by selected Queue* is chosen.

**Note:** An email address can only be set to invalid or invalid-temporarily, if it is not assigned to any queue.

---

**Comment**
   Add additional information to this resource. It is recommended to always fill this field as a description.

---

Fig. 28: Email Address Edit Screen

Fig. 29: Sender Information
of the resource with a full sentence for better clarity, because the comment will be also displayed in the overview table.

### 3.5.3 Setting up Outgoing Emails

For outgoing emails, OTRS can be configured in a variety of ways. The best option to do this might depend on your specific circumstances.

#### Sending Mails via Local MTA

Using a local mail transfer agent (MTA) to send mails directly or relay mails to a smart host is the recommended option. It provides local mail queuing in the case of network connectivity issues and provides you with the capability to authenticate against multiple outgoing mail accounts or accounts using other than basic authentication methods.

A default setup could use the *Sendmail* binary and *Postfix*.

 Sending emails via SMTP (Simple Mail Transfer Protocol) relay via a smart host can be used in case you are using another mail server in your network, or on the internet. Your local MTA must be configured with the credentials for authentication and the target MTA must allow the user to send mails as other users of the domain.

 Sending emails in the name of another domain requires either a sender policy framework (SPF) record, allowing the local server to send as the user, or in the case that the local mail server should act as the mail server for a target domain, mail exchange resource record (MX) and domain name service (DNS) C-name records for the local server are required. The MTA must, in both cases, be correctly configured to send as the target domain.

**Note:** An SPF record is not necessarily required. However, if the sender domain has an SPF record set, the MTA’s IP address must be listed in it, otherwise the SPF check will fail. Alternatively, you can send outbound mails to a relay host, and in that case the relay’s IP address must be listed in the SPF record of the sender domain. If the sender domain has no SPF record, there is nothing wrong with the OTRS MTA delivering outbound mails directly.

#### Sending Mails via External Email Provider

Alternatively, it is also possible to use an external email provider for outgoing emails.

**Note:** This feature is only available to On-Premise customers. If you are a Managed customer, this feature is taken care of by the Customer Solutions Team in OTRS. Please contact us via support@otrs.com or in the OTRS Portal.

**Warning:** Using Smarthost (sender relay host) is deprecated for new Managed customers since September 1, 2022. All existing instances will be modified until July 1, 2023.

To setup the system to use *Office 365* as email provider:
1. Read the POP, IMAP, and SMTP settings for Outlook.com and Add your Outlook.com account to another mail app or smart device chapters in the official documentation.

2. Copy the one-time application password shown in the administrator area of Office 365.

3. Go to the System Configuration screen of OTRS and add the following settings:
   - SendmailModule → Kernel::System::Email::SMTPTLS
   - SendmailModule::AuthPassword → the application password from Office 365
   - SendmailModule::AuthUser → email-address@company.tld
   - SendmailModule::Host → SMTP.office365.com
   - SendmailModule::Port → 587

To setup the system to use Gmail as email provider:

1. Read the Send email from a printer, scanner, or app chapter in the official Help Center.

2. Go to the System Configuration screen of OTRS and add the following settings:
   - SendmailModule → Kernel::System::Email::SMTPTLS
   - SendmailModule::AuthPassword → your email password
   - SendmailModule::AuthUser → email-address@company.tld
   - SendmailModule::Host → smtp-relay.gmail.com
   - SendmailModule::Port → 587

To setup the system to use another external email provider:

1. Read the official documentation of the external provider.

2. Go to the System Configuration screen of OTRS and add the following settings:
   - SendmailModule → Kernel::System::Email::SMTPTLS
   - SendmailModule::AuthPassword → your email password
   - SendmailModule::AuthUser → your email address or username
   - SendmailModule::Host → the SMTP address of the external provider
   - SendmailModule::Port → the port for the SMTP server

See also:

You can find detailed instructions in the PostMaster Mail Accounts chapter about how to configure incoming emails.

### 3.6 PGP Keys

Secure communications protect your customers and you. In the GDPR encryption is explicitly mentioned as one of the security and personal data protection measures in a few articles. Although under the GDPR encryption is not mandatory, it is indeed essential in some areas.

OTRS empowers you to encrypt communications where needed by means of S/MIME Certificates or PGP Keys.
Note: Setup of services and software required for encryption are not covered here because of independence to this software.

Use this screen to add PGP keys to the system. The PGP management screen is available in the PGP Keys module of the Communication & Notifications group.

![Fig. 30: PGP Management Screen](image)

### 3.6.1 Manage PGP Keys

Note: To be able to use PGP keys in OTRS, you have to activate its setting first.

![Fig. 31: Enable PGP Support](image)

To add a PGP key:
1. Click on the *Add PGP Key* button in the left sidebar.
2. Click on *Browse* button to open the file dialog.
3. Select a PGP key from the file system.
4. Click on the *Add* button.

To delete a PGP key:
1. Click on the trash icon in the list of PGP keys.
2. Click on the *Confirm* button.
To adjust the PGP settings of the system:

1. Go to System Configuration screen.
2. Navigate to Core → Crypt → PGP in the navigation tree.
3. Review the settings.

### 3.7 Postmaster Filters

Pre-sorting standard mail done in a mail room takes care that not every piece of mail sent to the office goes to the same group of people. After a second look at the envelope, rerouting occurs where needed.

OTRS uses so-called postmaster filters to read the email’s envelope and take further action. Depending upon, for example, a subject or sender, an email bound for the service desk could land in a sub-queue or be redirected to a completely different team to create transparency and give your customer the fastest service possible.

Use this screen to add postmaster filters to the system. The postmaster filter management screen is available in the PostMaster Filters module of the Communication & Notifications group.
3.7.1 Manage Postmaster Filters

**Note:** When adding or editing a postmaster filter, please keep in mind that they are evaluated in *ASCII* order by name.

To add a postmaster filter:
1. Click on the *Add PostMaster Filter* button in the left sidebar.
2. Fill in the required fields.
3. Click on the *Save* button.

To edit a postmaster filter:
1. Click on a postmaster filter in the list of postmaster filters.
2. Modify the fields.
3. Click on the *Save* or *Save and finish* button.

To delete a postmaster filter:
1. Click on the trash icon in the list of postmaster filters.
2. Click on the *Confirm* button.

<table>
<thead>
<tr>
<th>List</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAME</td>
</tr>
<tr>
<td>SPAM filter</td>
</tr>
</tbody>
</table>

Fig. 35: Delete Postmaster Filter Screen

**Note:** If several postmaster filters are added to the system, a filter box is useful to find a particular postmaster filter by just typing to filter.

**Warning:** The maximum number of 50 postmaster filters should not be exceeded. Exceeding this limit may affect the system performance.

3.7.2 Postmaster Filter Settings

The following settings are available when adding or editing this resource. The fields marked with an asterisk are mandatory.
Basic Postmaster Filter Settings

Name *

The name of this resource. Any type of characters can be entered to this field including uppercase letters and spaces. The name will be displayed in the overview table.

Note: When adding or editing one of the postmaster filters, remember multiple filters may apply to a single mail. Rules are executed and sorted by the ASCII value of the names. Based on the sorted order in the overview, they are applied from top to bottom. Look at the ASCII table to see how to sort your names based on the ASCII order.

Stop after match *

Postmaster filters are evaluated in ASCllphabetical order. This setting defines the evaluation of the subsequent postmaster filters.

No

All postmaster filters are executed.

Yes

The current postmaster filter is still evaluated, but evaluation of the remaining filters is canceled.

Filter Condition

A postmaster filter consists of one or more conditions that must be met in order for the defined actions to be executed on the email. Filter conditions can be defined for specific mail header entries or for strings in the mail body.

Search header field ... for value

Select a mail header or an X-OTRS header from the first drop-down list, and enter a value as search term for the selected mail header to the second field. Even regular expressions can be used for extended pattern matching.

A list of mail header entries can be found in RFC5322. It is also possible to define X-OTRS headers as filter condition. The different X-OTRS headers and their meaning are the following:
<table>
<thead>
<tr>
<th>Search header field</th>
<th>for value</th>
<th>Negative</th>
<th>Search header field</th>
<th>for value</th>
<th>Negative</th>
</tr>
</thead>
</table>

Fig. 38: Postmaster Filter Settings - Filter Condition

**X-OTRS-AttachmentCount**
- This contains as value the number of attachments which are contained in the email (e.g. 0 for mails without attachments).

**X-OTRS-AttachmentExists**
- Depending on whether attachments are included in the email this X-OTRS header is set to yes, or it has a no value if no attachments are included.

**X-OTRS-BodyDecrypted**
- If the incoming mail was encrypted, it is possible to add a search term to look for the body of the incoming encrypted mail.

**X-OTRS-CustomerNo**
- Set the customer ID for the ticket.

**X-OTRS-CustomerUser**
- Set the customer user for the ticket.

**X-OTRS-DynamicField-<DynamicFieldName>**
- Saves an additional information value for the ticket on <DynamicFieldName> dynamic field. The possible values depend on dynamic field configuration (e.g. text: Notebook, date: 2010-11-20 00:00:00, integer: 1).

**X-OTRS-FollowUp-***
- These headers are the same as the ones without the FollowUp prefix, but these headers are applied only for follow-up mails.

**X-OTRS-FollowUp-State-Keep**
- If set to 1, the incoming follow-up message will not change the ticket state. For this purpose the header can be customized in the system configuration using option KeepStateHeader.

**X-OTRS-Ignore**
- If set to Yes or True, the incoming message will completely be ignored and never delivered to the system.

**X-OTRS-IsVisibleForCustomer**
- Controls if the article is shown to customer users. Possible values are 0 or 1.

**X-OTRS-Lock**
- Set the lock state of a ticket. Possible values are lock or unlock.

**X-OTRS-Loop**
- If set to Yes or True, no auto answer is delivered to the sender of the message (mail loop protection).

**X-OTRS-Owner**
- Set the agent as owner for the ticket.
X-OTRS-OwnerID
Set the agent ID as owner for the ticket.

X-OTRS-Priority
Set the priority for the ticket.

X-OTRS-Queue
Defines the queue in which the ticket should be sorted. If a queue is set with this header, this setting has priority over all other filter rules that refer to queues. If you use a sub-queue, specify it as Parent::Sub.

X-OTRS-Responsible
Set the agent as responsible for the ticket.

X-OTRS-ResponsibleID
Set the agent ID as responsible for the ticket.

X-OTRS-SenderType
Set the sender type for the ticket. Possible values are agent, system or customer.

X-OTRS-Service
Set the service for the ticket. If you use a sub-service, specify it as Parent::Sub.

X-OTRS-SLA
Set the service level agreement for the ticket.

X-OTRS-State
Set the state for the ticket.

X-OTRS-State-PendingTime
Set the pending time for the ticket (you should sent a pending state via X-OTRS-State). You can specify absolute dates like 2010-11-20 00:00:00 or relative dates, based on the arrival time of the email. Use the form + $Number $Unit, where $Unit can be s (seconds), m (minutes), h (hours) or d (days). Only one unit can be specified. Examples of valid settings: +50s (pending in 50 seconds), +30m (30 minutes), +12d (12 days).

Note: Settings like +1d 12h are not possible. You can specify +36h instead.

X-OTRS-Title
Set the title for the ticket.

X-OTRS-Type
Set the type for the ticket.

Warning: These headers must be manually injected into the mail by means not provided for by OTRS. OTRS only accepts X-OTRS headers from trusted sources.

See also:
The Mail Account Settings defines the trust level.

Negate
If checked, the condition will use the negate search term.
Set Email Headers

![Set Email Headers](image)

Fig. 39: Postmaster Filter Settings - Set Email Headers

In this section you can choose the actions that are triggered if the filter rules match.

**Set email header** with value

Select an X-OTRS header from the first drop-down list, and add a value to the second field that should be set as value of the selected X-OTRS header.

**See also:**

The X-OTRS headers are already described above.

### 3.7.3 Filter Modules

OTRS provides a set of postmaster filter modules, that processes incoming email messages before they result in ticket articles and might perform actions during the communication flow. The filter modules are located in `Kernel/System/PostMaster/Filter/` and can be configured with system configuration options in most of the cases.

**See also:**

The majority of the configuration settings are below the name space `PostMaster::PreFilterModule`. Please see the configuration reference documentation for more information.

**Follow-up Article Visibility Check**

The postmaster filter module `FollowUpArticleVisibilityCheck` (located in `Kernel/System/PostMaster/Filter/FollowUpArticleVisibilityCheck.pm`) checks, if arrived emails should be marked as internal messages. If the email matches certain criteria, the filter module is able to set email headers about IsVisibleForCustomer status (X-OTRS-IsVisibleForCustomer) and SenderType (X-OTRS-SenderType) for further processing.

To give an overview about how OTRS detects and handles the visibility of incoming emails to related ticket customers, enclosed a summary, that describes how such messages are processed.

If an email message arrives at the OTRS system, the following circumstances will lead to an article, that is visible to the ticket customer user:

- The message cannot be detected as a follow-up and will lead to a new ticket.
- The SenderType was set to another value, than customer (maybe through a postmaster filter using header X-OTRS-FollowUp-SenderType, or the sender type is system because of notifications).
- The customer visibility was explicitly set to a positive value, with an email header X-OTRS-FollowUp-IsVisibleForCustomer.
• The ticket customer itself is the sender of the message.
• The sender is external and its SenderType is detected as customer, but did not have any correspondence yet (no email reference in any article of the particular ticket). This happens, when the From field is an unknown email address, that was not a recipient address before (i.e. used within a previous outbound email).

### 3.8 PostMaster Mail Accounts

Just as a company doesn’t just have one department which receives traditional mail, your service desk will also serve multiple teams. Each team can have its physical email mailbox.

OTRS eases setup for email mailboxes. OTRS manages polling one or multiple email mailboxes of any internet standard type.

Use this screen to add mail accounts to the system. The mail account management screen is available in the PostMaster Mail Accounts module of the Communication & Notifications group.

#### Warning:
When fetching mail, OTRS deletes the mail from the POP or IMAP server. There is no option to also keep a copy on the server. If you want to retain a copy on the server, you should create forwarding rules on your mail server. Please consult your mail server documentation for details.

#### Note:
If you choose IMAP, you can specify a folder for collection. Selective dispatching of mails is then possible.

All data for the mail accounts are saved in the OTRS database. The bin/otrs.Console.pl Maint::PostMaster::MailAccountFetch command uses the settings in the database and fetches the mail. You can execute it manually to check if all your mail settings are working properly.

On a default installation, the mail is fetched every 10 minutes when the OTRS daemon is running.
3.8.1 Manage Mail Accounts

To add a mail account:

1. Click on the Add Mail Account button in the left sidebar.
2. Fill in the required fields.
3. Click on the Save button.

To edit a mail account:

1. Click on a mail account in the list of mail accounts.
2. Modify the fields.
3. Click on the Save or Save and finish button.

To delete a mail account:

1. Click on the trash icon in the list of mail accounts.
2. Click on the Confirm button.

Note: If several mail accounts are added to the system, a filter box is useful to find a particular mail account by just typing to filter.

Warning: The maximum number of 10 valid mail accounts should not be exceeded. Exceeding this limit may affect the system performance.
3.8. PostMaster Mail Accounts

**Edit Mail Account**

<table>
<thead>
<tr>
<th><strong>Type</strong></th>
<th>IMAP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Credential</strong></td>
<td>LegacyLogin</td>
</tr>
<tr>
<td><strong>Host</strong></td>
<td>mail.example.com</td>
</tr>
<tr>
<td><strong>IMAP Folder</strong></td>
<td>INBOX</td>
</tr>
<tr>
<td><strong>Trusted</strong></td>
<td>No</td>
</tr>
<tr>
<td><strong>Dispatching</strong></td>
<td>Dispatching by email To: field,</td>
</tr>
<tr>
<td><strong>Validity</strong></td>
<td>valid</td>
</tr>
<tr>
<td><strong>Comment</strong></td>
<td>This is a legacy mail account.</td>
</tr>
</tbody>
</table>

Fig. 42: Edit Mail Account Screen

**List**

<table>
<thead>
<tr>
<th>HOST/USERNAME</th>
<th>TYPE</th>
<th>COMMENT</th>
<th>VALIDITY</th>
<th>CHANGED</th>
<th>CREATED</th>
<th>DELETE</th>
<th>RUN NOW!</th>
</tr>
</thead>
<tbody>
<tr>
<td>mail.example.com / test</td>
<td>IMAP</td>
<td>This is a mail acc...</td>
<td>valid</td>
<td>10/19/2018 10:54</td>
<td>10/18/2018 10:54</td>
<td></td>
<td>Fetch mail</td>
</tr>
</tbody>
</table>

Fig. 43: Delete Mail Account Screen
3.8.2 Mail Account Settings

The following settings are available when adding or editing this resource. The fields marked with an asterisk are mandatory.

**Type**

There are different kinds of protocols that are used for fetching mail. The following protocols are supported:

- IMAP
- IMAPS
- IMAPTLS
- Outlook365
- POP3
- POP3S
- POP3TLS

**Credential**

Select a credential that has been added in the **Credentials** screen. Click on the **Add credential** button to open the credential management screen.

**E-mail Address**

The mail address of the mail account.

This setting is only available if **Outlook365** is selected in the **Type** field.

**Host**

The host name of the mail account.

This setting is only available if **IMAP** or **POP3** is selected in the **Type** field.

**Folder**

The folder in the mail account to be fetched. Other folders remain untouched. If you use a sub-folder, specify it as **Parent/Sub**.

This setting is only available if **IMAP** or **Outlook365** is selected in the **Type** field.

**SSL Verify**

If **yes** is selected, OTRS checks if the server certificate is valid. If **no** is selected OTRS does not check for a valid server certificate.

This setting is only available if **IMAPS**, **IMAPTLS**, **POP3S** or **POP3TLS** is selected in the **Type** field.

**SSL Fingerprint**

In cases where a self-signed certificate or a certificate issued by an unknown CA needs to be accepted without disabling the verification at all you can specify the fingerprint of the certificate as **algo$hex_fingerprint**, where **algo** is a fingerprint algorithm supported by OpenSSL, e.g. **sha1**, **sha256** etc. and **hex_fingerprint** is the hexadecimal representation of the binary fingerprint. Any colons inside the hex string will be ignored.

At the moment we only support one fingerprint.

This setting is only available if **IMAPS**, **IMAPTLS**, **POP3S** or **POP3TLS** is selected in the **Type** field.

**SSL VerifyCN Name**

In cases where the common name of the certificate is different from the configured host name you can specify the different CN name here.

This setting is only available if **IMAPS**, **IMAPTLS**, **POP3S** or **POP3TLS** is selected in the **Type** field.
See also:
The SSL settings are passed through IO::Socket::SSL. For detailed information read its official documentation.

**Trusted** *
If Yes is selected, any X-OTRS headers attached to an incoming message are evaluated and executed. Because the X-OTRS header can execute some actions in the ticket system, you should set this option to Yes only for known senders.

See also:
The X-OTRS headers are explained in the filter conditions of Postmaster Filters.

**Dispatching** *
The distribution of incoming messages can be controlled if they need to be sorted by queue or by the content of the **To** field.

**Dispatching by email To: field**
The system checks if a queue is linked with the address in the **To**: field of the incoming mail. You can link an address to a queue in the Email Addresses screen. If the address in the **To**: field is linked with a queue, the new message will be sorted into the linked queue. If no link is found between the address in the **To**: field and any queue, then the message flows into the Raw queue in the system, which is the postmaster default queue after a default installation.

See also:
The postmaster default queue can be changed in system configuration setting PostmasterDefaultQueue.

**Dispatching by selected Queue**
All incoming messages will be sorted into the specified queue. The address where the mail was sent to is disregarded in this case.

**Validity** *
Set the validity of this resource. Each resource can be used in OTRS only, if this field is set to valid. Setting this field to invalid or invalid-temporarily will disable the use of the resource.

**Comment**
Add additional information to this resource. It is recommended to always fill this field as a description of the resource with a full sentence for better clarity, because the comment will be also displayed in the overview table.

**3.8.3 Setting up Incoming Emails**

For incoming emails, OTRS can be configured in a variety of ways. The best option to do this might depend on your specific circumstances.
Receiving Mails via Local MDA

Using a local mail transfer agent (MTA) to receive mails directly is the recommended option. It provides near to real time mail delivery and the setup is more stable than when you poll your mails via IMAP(S) or POP(S). Authentication is also no longer an issue.

Redirecting mails to another address

Your current mail server must relay the emails to the local MTA.

SMTP Transport

An alternative router is setup on the receiving MTA to deliver mails from specific users to an external SMTP server.

In both cases, the use of Procmail is required as the mail delivery agent (MDA), as well as the proper $HOME setup for the user otrs on your system. An example file .procmailrc.dist can be used directly without modification. Just remove the .dist ending. Mails sent to the local otrs user are then piped to the console command for processing.

Warning: Please note that all “push” mail transferred directly to the otrs user (i.e. via the console command) is always trusted. This means X-OTRS headers in emails can and will affect the distribution of mails and setting of ticket properties. This includes the X-OTRS-FollowUp headers.

For more information, please read the Postmaster Filters chapter.

Note: Errors will send the mail to the directory var/spool/problem-email.

Read the Postfix documentation or the Exim4 documentation for more information on the setup.

Note: This feature is only available to On-Premise customers. If you are a Managed customer, this feature is taken care of by the Customer Solutions Team in OTRS. Please contact us via support@otrs.com or in the OTRS Portal.

Receiving Mails via External Email Provider

Alternatively, it is also possible to use an external email provider for incoming emails.

To setup the system to use Office 365 as email provider:

1. Read the POP and IMAP email settings for Outlook chapter in the official documentation.
2. Fill the form with the following data:
   - Type: select the desired protocol
   - Credential: your credential
   - Host: outlook.office365.com

Warning: On October 1st, 2022 Microsoft will stop supporting and retired basic authentication for POP3 and IMAP. Only OAuth2 can be used for authentication. For more information, please read the original blog post.
To setup the system to use Gmail as email provider:

1. Read the Check Gmail through other email platforms chapter in the official documentation.
2. Fill the form with the following data:
   - Type: select the desired protocol
   - Credential: your credential
   - Host: imap.gmail.com

To setup the system to use another external email provider:

1. Read the official documentation of the external provider.
2. Fill the form with the following data:
   - Type: select the desired protocol
   - Credential: your credential
   - Host: the POP3 or IMAP address of the external provider

See also:

You can find detailed instructions in the Email Addresses chapter about how to configure outgoing emails.

## 3.9 S/MIME Certificates

Faculty and staff have key roles safeguarding critical information by implementing information security policies, standards, and controls. Safe email communication is a vital part of protecting this communication.

OTRS empowers you to encrypt communications where needed by means of S/MIME Certificates or PGP Keys.

**Note:** Setup of services and software required for encryption are not covered here because of independence to this software.

Use this screen to add S/MIME certificates to the system. The S/MIME management screen is available in the S/MIME Certificates module of the Communication & Notifications group.

Fig. 44: S/MIME Management Screen
3.9.1 Manage S/MIME Certificates

**Note:** To be able to use S/MIME certificates in OTRS, you have to activate its setting first.

![Notice]

**Notice**

SMIME support is disabled
To be able to use SMIME in OTRS, you have to enable it first.

Enable SMIME support

![Fig. 45: Enable S/MIME Support](image)

To add an S/MIME certificate:

1. Click on the *Add Certificate* button in the left sidebar.
2. Click on *Browse* button to open the file dialog.
3. Select an S/MIME certificate from the file system.
4. Click on the *Add* button.

![Add Certificate](image)

**Fig. 46: Add S/MIME Certificate Screen**

**Note:** Only non binary keys contain ASCII (Base64) armored data started with a `----- BEGIN CERTIFICATE -----` line can be uploaded which are most commonly `key.pem` or `root.crt`. Conversion of other formats like `cert.p7b` must be done using OpenSSL.

To add a private key:

1. Click on the *Add Private Key* button in the left sidebar.
2. Click on *Browse* button to open the file dialog.
3. Select a private key from the file system.
4. Click on the *Submit* button.

To delete an S/MIME certificate:

1. Click on the trash icon in the list of S/MIME certificates.
2. Click on the *Confirm* button.
To adjust the S/MIME certificate settings of the system:

1. Go to System Configuration screen.
2. Navigate to Core → Crypt → SMIME in the navigation tree.
3. Review the settings.

### 3.10 Social Media Profiles

**Note:** This feature is available only for managed customers. A special contract is needed to use this feature.

Social media profile integration makes it possible to connect OTRS with social media channels. This allows agents to send and receive messages and communicate with social media users like with customer users. This feature stores the messages in the tickets as articles.

Use this screen to add social media profiles to the system. The social media profile management screen is available in the Social Media Profiles module of the Communication & Notifications group.
3.10.1 Manage Twitter Profiles

To add a Twitter profile:

1. Select Twitter from the Actions widget in the left sidebar.
2. Fill in the required fields in the General widget.

3. Click on the Save button and follow the instruction steps. You have to save the entered data between all steps.
4. Read the instructions and create the necessary Twitter resources.

5. Add the Twitter app name.
   
   **Twitter App Name** *

   Enter a Twitter app name.

6. Add the consumer API keys.
Consumer Key *
Copy and paste your consumer key from the consumer API key section of the Twitter app.

Consumer Secret *
Copy and paste your consumer secret from the consumer API key section of the Twitter app.

7. Add the access token.

Access Token *
Copy and paste your access token from the Twitter app.

Access Token Secret *
Copy and paste your access token secret from the Twitter app.

8. Click on the Verify Credentials button to test the configuration.

10. Select a target queue and add automatic response for the messages from Twitter.

   Target Queue *
   Select the queue used for incoming entities.

   Auto Response
   Add an automatic response used for incoming direct messages. Click on the checkbox to enable it.

12. Click on the Save and Finish button.

**Warning:** Social media profiles can not be deleted from the system. They can only be deactivated by setting the Validity option to invalid or invalid-temporarily.
Fig. 55: Step 5: Credentials Verification

Fig. 56: Step 6: Incoming Settings
To edit a Twitter profile:

1. Click on a Twitter profile in the list of social media profiles.
2. Modify the fields. Use the Previous Step and the Next Step buttons to navigate between the steps.
3. Click on the Save or Save and finish button.

**Note:** If several social media profiles are added to the system, use the filter box to find a particular social media profile by just typing the name to filter.

### 3.10.2 Limit User Access to Profiles

In case you would like to limit the user access to a certain social media profile, you can use the Access Control Lists (ACL).

In the following example, we restrict the access of members of the group twitter to a Twitter profile with relevant views. This guide assumes that you have already created this group and assigned users with rw permissions to it.

To identify the profile ID:

1. Go to the Social Media Profiles module in the administrator interface.
2. Select the target profile in the list you would like to limit the access to.
3. Identify the ID of the current profile in the URL of the current page. In our case, the ID is 1.

   ...;ProfileType=Twitter;ID=1

To create an ACL:

1. Copy the exported ACL below and paste it into a text editor.

```plaintext
---
- ChangeBy: root@localhost
  ChangeTime: 2020-11-05 10:57:35
  Comment: Twitter access restriction
  ConfigChange:
    PossibleNot:
    Ticket:
      TwitterProfileID:
        - '1'
  ConfigMatch:
    Properties:
      User:
        Group_rw:
          - '[Not]twitter'
  CreateBy: root@localhost
  CreateTime: 2020-11-05 10:55:15
  Description: Restrict the access of members of the group “twitter” to a Twitter profile.
  ID: 2
  Name: Limit Access to Twitter Profile
  StopAfterMatch: 0
  ValidID: 1
```
2. Change the value of `TwitterProfileID` in line 9 to the ID identified in the URL and save the file as `TwitterAccessRestriction.yml`.

3. Go to the Access Control Lists (ACL) module in the administrator interface.

4. Import the ACL from the `TwitterAccessRestriction.yml` file.

5. Click on the Deploy ACLs button in the left sidebar.

From now on, a user who is not member of the group `twitter` will no longer have access to the page profile with the ID 1 in the Twitter app field on the corresponding screens.

### 3.10.3 Ticket Follow-up with Social Media Channels

When a new entity (e.g. a new comment, a new direct message) is received, the system performs a ticket search with state types (new, open, closed) to look for an existing ticket for this entity.

Depending on the follow-up setting for the Queues where social media tickets are assigned, the system has the following behavior:

- If the ticket is not closed, the ticket is used to store the received entity.
- If the follow-up option is set to new ticket for the queue and the ticket is closed, the system will create a new ticket.
- If the follow-up option is set to possible for the queue and the ticket is closed, the ticket will be re-opened and locked, depending on the queue settings.
- If the follow-up option is set to reject for the queue and the ticket is closed, no social media update will be performed.

### 3.11 Ticket Notifications

Streamlining communication can save hours of labor and prevent mistakes. Sending certain messages at pre-defined stages of communication not only keeps the customer and agents informed about specific events, but it can also aid your agents by programmatically doing automated updates to the customer.

The flexible OTRS is an industry leader in email communication and offers you complete control of notifications based on any event in your system.

Use this screen to add ticket notifications to the system. In a fresh OTRS installation several ticket notifications are already added by default. The ticket notification management screen is available in the Ticket Notifications module of the Communication & Notifications group.

#### 3.11.1 Manage Ticket Notifications

To add a ticket notification:

1. Click on the Add Notification button in the left sidebar.
2. Fill in the required fields as explained in Ticket Notification Settings.
3. Click on the Save button.

To edit a ticket notification:

1. Click on a ticket notification in the list of ticket notifications.
Fig. 57: Ticket Notification Management Screen
2. Modify the fields as explained in *Ticket Notification Settings*.

3. Click on the *Save or Save and finish* button.

To delete a ticket notification:

1. Click on the trash icon in the list of ticket notifications.
2. Click on the *Confirm* button.

<table>
<thead>
<tr>
<th>Name</th>
<th>Comment</th>
<th>Validity</th>
<th>Changed</th>
<th>Created</th>
<th>Export</th>
<th>Copy</th>
<th>Delete</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ticket create notification</td>
<td>Valid</td>
<td>09/18/2018 15:17</td>
<td>09/18/2018 15:17</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ticket email delivery failure notification</td>
<td>Valid</td>
<td>09/18/2018 15:17</td>
<td>09/18/2018 15:17</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Fig. 58: Delete Ticket Notification Screen

To export all ticket notifications:

1. Click on the *Export Notifications* button in the left sidebar.
2. Choose a location in your computer to save the `Export_Notification.yml` file.

**Warning:** Certain settings are exported as numeric IDs and will break when importing to a system where these settings do not appear or reference other named items.

To import ticket notifications:

1. Click on the *Browse* button in the left sidebar.
2. Select a previously exported `.yml` file.
3. Click on the *Overwrite existing notifications?* checkbox, if you would like to overwrite the existing notifications.
4. Click on the *Import Notification configuration* button.

### 3.11.2 Ticket Notification Settings

The following settings are available when adding or editing this resource. The fields marked with an asterisk are mandatory.

**See also:**

For an example, see a default ticket notification which is included in a fresh OTRS installation.
Basic Ticket Notification Settings

![Add Notification](image)

**Name** *
The name of this resource. Any type of characters can be entered to this field including uppercase letters and spaces. The name will be displayed in the overview table.

**Comment**
Add additional information to this resource. It is recommended to always fill this field as a description of the resource with a full sentence for better clarity, because the comment will be also displayed in the overview table.

**Show in agent preferences**
Define how the notification should be displayed in agent preferences. The following options are available:

- **No**
  The notification won’t be displayed in agent preferences. The notification is sent to all appropriate agents by the defined method.

- **Yes**
  The notification will be displayed in agent preferences for selection. The agents may opt-in or opt-out.

- **Yes, but require at least one active notification method.**
  The notification will be displayed in agent preferences, but require at least one active notification method. This is annotated by an asterisk next to the name.

**Available for agent in groups**
The notification will only appear to agents that belong to the selected groups. If no group is selected, it’s available for all agents.

**Agent preferences tooltip**
This message will be shown on the agent preferences screen as a tooltip for this notification.

**Validity** *
Set the validity of this resource. Each resource can be used in OTRS only, if this field is set to *valid*. Setting this field to *invalid* or *invalid-temporarily* will disable the use of the resource.
Events

Here you can choose which events will trigger this notification. An additional ticket filter can be applied below to only send for tickets with certain criteria.

Ticket Filter

This widget can optionally be used to narrow the list of tickets by matching configured values:

Note: The values in this list can grow as your system grows. The more Dynamic Fields are and features you have in your system, the longer the list will be.

Type

Filter for a type of the ticket.

Note: This field is displayed only if the Ticket::Type system configuration setting is enabled and Types are added.

1 Use of regular expressions as a filter do not work here.
3.11. Ticket Notifications

Fig. 62: Ticket Notification Settings - Ticket Filter
State
Filter for a state of the ticket.

Priority
Filter for a priority of the ticket.

Queue
Filter for a queue in which the ticket is located.

Lock
Filter for a lock state of the ticket.

Service
Filter for a service of the ticket.

Note: This field is displayed only if the `Ticket::Service` system configuration setting is enabled and `Services` are added.

SLA
Filter for a SLA of the ticket.

Note: This field is displayed only if the `Ticket::Service` system configuration setting is enabled and `Service Level Agreements` are added.

Customer ID
Filter for a customer ID of the ticket.

Customer User ID
Filter for a customer user ID of the ticket.

Dynamic Fields
Filter for some dynamic fields added to the system. For the complete list of dynamic fields see the `Dynamic Fields` chapter.

Article Filter

Note: This widget works only if `ArticleCreate` or `ArticleSend` is selected in the `Events` widget.

`ArticleSend` is the default for `Email` communication channel and `ArticleCreate` is the default for all other channels. While `ArticleCreate` can be specified for all communication channels, `ArticleSend` is only allowed for `Email` communication channel and only if all sender or recipient fields are invalid.

Article sender type
Filter for the sender type of the ticket. Possible values are `agent`, `system` or `customer`.

Customer visibility
Filter for the customer visibility. Possible values are `Invisible to customer` or `Visible to customer`.

Communication channel
Filter for the communication channel. Possible values are `Chat`, `Email`, `OTRS`, `Phone` or `SMS`.

Include attachments to notification
If `Yes` is selected, attachments will be included to notification. Selecting `No` will not use this feature.
### Article Filter (Only for ArticleCreate and ArticleSend event)

- **Article sender type:**
- **Customer visibility:**
- **Communication channel:**
- **Include attachments to notification:** No
- **Article Chat Participant:**
- **Article Chat Message Text:**
- **Article Attachment Name:**
- **Article Email Message Bcc:**
- **Article Note or Email Message Text:**
- **Article Email MessageCc:**
- **Article Note or Email Message From:**
- **Article Note or Email Message Subject:**
- **Article Note or Email Message To:**
- **Article SMS Message Phone Number:**
- **Article SMS Message Text:**
- **Article SMS Message Transaction Number:**

*Fig. 63: Ticket Notification Settings - Article Filter*
**Article Chat Participant**
Filter for chat participants.

**Article Chat Message Text**
Filter for chat message text.

**Article Attachment Name**
Filter for attachment name.

**Article Email Message Bcc**
Filter for blind carbon copy field.

**Article Note or Email Message Text**
Filter for body text.

**Article Email Message Cc**
Filter for carbon copy field.

**Article Note or Email Message From**
Filter for the sender field.

**Article Note or Email Message Subject**
Filter for the subject field.

**Article Note or Email Message To**
Filter for the main recipients field.

**Article SMS Message Phone Number**
Filter for an SMS phone number.

**Article SMS Message Text**
Filter for the SMS text.

**Article SMS Message Transaction Number**
Filter for an SMS transaction number.

**Ticket Notification Recipients**

![Recipient Table](image)

Fig. 64: Ticket Notification Settings - Recipients

**Send to**
Select which agents should receive the notifications. Possible values are:

- Agent who created the ticket
• Agent who is responsible for the ticket
• Agent who owns the ticket
• All agents subscribed to both the ticket’s queue and service
• All agents subscribed to the ticket’s queue
• All agents subscribed to the ticket’s service
• All agents watching the ticket
• All agents with write permission for the ticket
• All recipients of the first article
• All recipients of the last article
• Customer user of the ticket

Send to these agents
One or more agents can be selected who should receive the notifications.

Send to all group members (agents only)
One or more groups can be selected whom agents should receive the notifications.

Send to all role members
One or more roles can be selected whom agents should receive the notifications.

Send on out of office
If this option is checked, the notification will be sent even if the agent is currently out of office.

Once per day
Notify users just once per day about a single ticket using a selected transport. If this is the first notification about a ticket, then the notification will be sent. If a notification was already sent before and this option is checked, the OTRS daemon will check the time the last notification was sent. If there was no notification sent in the last 24 hours, the notification will be sent again.

Note: The notifications respect the permissions of the agent. Notifications are sent to agents only if the agent has at least read permissions for the ticket in that moment in time when the notification is triggered.

Ticket Notification Methods

Enable this notification method
Enable or disable this notification method. A notification method can be email, web view with browser notification support or SMS.

Enable browser notification
This option is available for web view only. If checked, the system sends a browser notification, too. Web view notifications will be displayed in the notifications area of the agent interface while a browser notification is a native browser notification which needs to be enabled in the web browser at first time.

Note: To use the SMS notification method, Cloud Services need to be enabled.

Active by default in agent preferences
This is the default value for assigned recipient agents who didn’t make a choice for this notification in their preferences yet. If the box is enabled, the notification will be sent to such agents.
Fig. 65: Ticket Notification Settings - Notification Methods

### Notification Methods

These are the possible methods that can be used to send this notification to each of the recipients. Please select at least one method below.

#### Email

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enable this notification method</td>
<td>This setting enables or disables the notification method.</td>
</tr>
<tr>
<td>Active by default in agent preferences</td>
<td>This setting determines whether the notification is active by default.</td>
</tr>
<tr>
<td>Additional recipient email addresses</td>
<td>Use comma or semicolon to separate email addresses. You can use OTRS-tags like <code>&lt;OTRS_TICKET_DynamicField...&gt;</code> to insert values from the current ticket.</td>
</tr>
<tr>
<td>Article visible to customer</td>
<td>An article will be created if the notification is sent to the customer or an additional email address.</td>
</tr>
<tr>
<td>Create multiple articles</td>
<td>An article will be created for each additional recipient address of the notification.</td>
</tr>
<tr>
<td>Separator for recipients</td>
<td>This setting defines a separator symbol (e.g., <code>;</code> or <code>:</code>). This symbol is used as a separator for the addresses in the additional recipient addresses field.</td>
</tr>
<tr>
<td>Email template</td>
<td>Use this template to generate the complete email (only for HTML emails).</td>
</tr>
<tr>
<td>Send signed and/or encrypted email</td>
<td>This setting determines whether the email is signed and encrypted.</td>
</tr>
<tr>
<td>Email security level</td>
<td>Use this setting to define the email security level.</td>
</tr>
<tr>
<td>If signing key/certificate is missing</td>
<td>This setting skips notification delivery if the signing key/certificate is missing.</td>
</tr>
<tr>
<td>If encryption key/certificate is missing</td>
<td>This setting skips notification delivery if the encryption key/certificate is missing.</td>
</tr>
</tbody>
</table>

#### Web View

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enable this notification method</td>
<td>This setting enables or disables the notification method.</td>
</tr>
<tr>
<td>Active by default in agent preferences</td>
<td>This setting determines whether the notification is active by default.</td>
</tr>
<tr>
<td>Enable browser notification</td>
<td>Send as a browser notification too.</td>
</tr>
</tbody>
</table>

#### SMS (Short Message Service)

Please activate this transport in order to use it.
Note: This field is displayed only if Yes is selected in the Show in agent preferences setting above.

**Additional recipient email addresses**
Additional recipients can be added here. Use comma or semicolon to separate the email addresses.

**Article visible to customer**
An article will be created if the notification is sent to the customer or an additional email address.

**Create multiple articles**
An article will be created for each additional recipient address of the notification.

**Separator for recipients**
This symbol is used as a separator for the addresses in the additional recipient addresses field.

**Email template**
Select which email template should be used for the notification.

Note: Additional email templates can be added by placing a .tt file into the folder <OTRS_Home>/Kernel/Output/HTML/Templates/Standard/NotificationEvent/Email/. See the existing email templates for an example.

**Send signed and/or encrypted email**
Checking this option will encrypt the notification email.

Note: To use this feature, PGP Keys or S/MIME Certificates need to be enabled.

**Email security level**
If Enable email security is checked, then this setting is activated. The following options are available:

- **PGP sign only**
  Sign only the notification email with PGP key. If no PGP keys have been added to the system, this option is not visible.

- **PGP encrypt only**
  Encrypt only the notification email with PGP key. If no PGP keys have been added to the system, this option is not visible.

- **PGP sign and encrypt**
  Sign and encrypt the notification email with PGP key. If no PGP keys have been added to the system, this option is not visible.

- **S/MIME sign only**
  Sign only the notification email with S/MIME certificate. If no S/MIME certificates have been added to the system, this option is not visible.

- **S/MIME encrypt only**
  Encrypt only the notification email with S/MIME certificate. If no S/MIME certificates have been added to the system, this option is not visible.

- **S/MIME sign and encrypt**
  Sign and encrypt the notification email with S/MIME certificate. If no S/MIME certificates have been added to the system, this option is not visible.

Note: To use this feature, PGP Keys or S/MIME Certificates need to be enabled.
If signing key/certificate is missing
Select the method, that should be used if signing key or certificate is missing.

If encryption key/certificate is missing:
Select the method, that should be used if encryption key or certificate is missing.

**Notification Text**

Add new notification language:

The main content of a notification can be added for each languages with localized subject and body text. It is also possible to define static text content mixed with OTRS smart tags.

**Subject** *
The localized subject for a specific language.

**Text** *
The localized body text for a specific language.

Add new notification language
Select which languages should be added to create localized notifications. The language of the customer or agent will be used as found in the customer and agent preferences. Secondarily, the system default language will be chosen. The fall back will always be English.

**Warning:** Deleting a language from the `DefaultUsedLanguages` setting that already has a notification text here will make the notification text unusable. If a language is not present or enabled on the system, the corresponding notification text could be deleted if it is not needed anymore.

### 3.11.3 Ticket Notification Variables

Using variables in the text makes it possible to personalize messages. Variables, known as OTRS tags, are replaced by OTRS when generating the message. Find a list of available tags stems for this resource at the bottom of both add and edit screens.

For example, the variable `<OTRS_TICKET_TicketNumber>` expands to the ticket number allowing a template to include something like the following.

```
Ticket#<OTRS_TICKET_TicketNumber>
```

This tag expands, for example to:

```
Ticket#2018101042000012
```

The values of the following variables are translated based on the chosen language of the customer user.

- `<OTRS_TICKET_Type>`
- `<OTRS_TICKET_State>`
- `<OTRS_TICKET_StateType>`
- `<OTRS_TICKET_Lock>`
- `<OTRS_TICKET_Priority>`

If the language is not supported the default language is applied.
Notifications are sent to an agent or a customer. You can use the following tags:

- `<OTRS_AGENT_SUBJECT[20]>` To get the first 20 character of the subject (of the latest agent article).
- `<OTRS_AGENT_BODY[5]>` To get the first 5 lines of the body (of the latest agent article).
- `<OTRS_AGENT_*>` To get the article attribute (e.g., `<OTRS_AGENT_From>`, `<OTRS_AGENT_To>`, `<OTRS_AGENT_CC>`).
- `<OTRS_CUSTOMER_SUBJECT[20]>` To get the first 20 character of the subject (of the latest customer article).
- `<OTRS_CUSTOMER_BODY[5]>` To get the first 5 lines of the body (of the latest customer article).
- `<OTRS_CUSTOMER_REALNAME>` To get the name of the ticket's customer user (if given).
- `<OTRS_CUSTOMER_*>` To get the article attribute (e.g., `<OTRS_CUSTOMER_From>`, `<OTRS_CUSTOMER_To>`, `<OTRS_CUSTOMER_CC>`).
- `<OTRS_CUSTOMER_DATA_*>` Attributes of the current customer user data (e.g., `<OTRS_CUSTOMER_DATA_Fullname>`).
- `<OTRS_OWNER_*>` or `<OTRS_TICKET_OWNER_*>` Attributes of the current ticket owner user data (e.g., `<OTRS_OWNER_Fullname>` or `<OTRS_TICKET_OWNER_Fullname>`).
- `<OTRS_RESPONSIBLE_*>` or `<OTRS_TICKET_RESPONSIBLE_*>` Attributes of the current ticket responsible user data (e.g., `<OTRS_RESPONSIBLE_Fullname>` or `<OTRS_TICKET_RESPONSIBLE_Fullname>`).
- `<OTRS_CURRENT_*>` Attributes of the current agent user who requested this action (e.g., `<OTRS_CURRENT_Fullname>`).
- `<OTRS_*>` or `<OTRS_NOTIFICATION_RECIPIENT_*>` Attributes of the recipient user for the notification (e.g., `<OTRS_Fullname>` or `<OTRS_NOTIFICATION_RECIPIENT_Fullname>`).
- `<OTRS_TICKET_*>` Attributes of the ticket data (e.g., `<OTRS_TICKET_TicketNumber>`, `<OTRS_TICKET_TicketID>`, `<OTRS_TICKET_Queued>`, `<OTRS_TICKET_State>`).
- `<OTRS_TICKET_DynamicField_*>` Ticket dynamic fields internal key values (e.g., `<OTRS_TICKET_DynamicField_TestField>`, `<OTRS_TICKET_DynamicField_TicketFreeText1>`).
- `<OTRS_TICKET_DynamicField_*_Value>` Ticket dynamic fields display values, useful for Dropdown and Multiselect fields (e.g., `<OTRS_TICKET_DynamicField_TestField_Value>`, `<OTRS_TICKET_DynamicField_TicketFreeText1_Value>`).
- `<OTRS_CONFIG_*>` Configuration options (e.g., `<OTRS_CONFIG_HttpType>`).
- `<OTRS_QUEUE_SIGNATURE>` To get the signature of the ticket's queue.

Example notification:

```
Subject: Ticket Created: <OTRS_TICKET_TicketID>
Text:
Hi <OTRS_NOTIFICATION_RECIPIENT_Fullname>,

Ticket [<OTRS_CONFIG_TicketHook>/OTRS_TICKET_TicketNumber] has been created in queue <OTRS_TICKET_Queued>.

<OTRS_CUSTOMER_REALNAME> wrote:
<OTRS_CUSTOMER_BODY[30]>

<OTRS_CONFIG_HTTPType>::/<OTRS_CONFIG_FQDN>/agent/ticket/
/<OTRS_TICKET_TicketID>

--- <OTRS_CONFIG_NotificationSenderName>
```

Fig. 67: Ticket Notification Variables
Simple and complex organizations need a flexible way to control access to their service desk. Access, resources, and permissions must be orchestrated so that the users and customers have access to the resources they need and their data is protected as needed by the system.

OTRS provides powerful tools for this purpose and their use is described in the following chapter.

4.1 Agents

Agent and access management for your service desk should be easy. Flexibility in adding, editing, invalidating access and a quick overview of which permissions a user has will help you maintain a clean permissions system and record of your setup in OTRS.

OTRS aids you giving you the power to manage agents within OTRS across multiple back ends. OTRS can use up-to ten back end sources, even marking some as read-only. Managing user settings centrally, an administrator can quickly invalidate a compromised account or set an account to out-of-office in case of an unexpected illness.

Use this screen to add agents to the system. A fresh OTRS installation contains an agent with administrator privileges by default. The agent management screen is available in the Agents module of the Users, Groups & Roles group.

Warning: The superuser account username is root@localhost. Don’t use the superuser account to work with OTRS! Create new agents and work with these accounts instead. One of the adverse effects is that Access Control Lists (ACL) will not have an effect on this user.
4.1.1 Manage Agents

Note: Adding or editing an agent is possible only by using database back end. Using explicitly external directory services like LDAP and, based on configuration, some databases are read-only. Personal preferences like out-of-office can still be set.

To add an agent:
1. Click on the Add Agent button in the left sidebar.
2. Fill in the required fields.
3. Click on the Save button.

![Add Agent Screen](AddAgent.png)

**Fig. 2: Add Agent Screen**

Warning: Agents can not be deleted from the system. They can only be deactivated by setting the Validity option to invalid or invalid-temporarily.

To edit an agent:
1. Click on an agent in the list of agents.
2. Modify the fields.
3. Click on the Save or Save and finish button.

It is also possible to edit the agent personal preferences. To do this, click on the Edit personal preferences for this agent button in the left sidebar of the Edit Agent screen.

To find an agent:
1. Enter a search term to the search box in the left sidebar.
2. Click on the magnifying glass icon in the right part of the field or hit an Enter.
Note: If several agents are added to the system, use the search box to find a particular agent. Only the first 1000 agents are listed by default.

The agent permissions can be controlled by adding an agent to Groups or Roles. This can result a complex matrix of permissions. The effective permissions for an agent can be checked in the bottom of the Edit Agent screen. If roles (recommended) are used, this screen will reflect the combined permissions as dictated by the roles.

Note: These are the default fields available for the internal database table.

Title or salutation
Some name prefix can be added here like Mr., Dr., Jr., etc.

Firstname *
The first name of the agent.
Lastname *
   The last name of the agent.

See also:
   The agent display name can be set via the system configuration setting $\text{FirstnameLastnameOrder}$. 

Username *
   The username of the agent to login to the system.

Password
   The password of the agent. This will be auto-generated if left empty.

Email *
   The email address of the agent.

   Note: The email syntax and validity of an available MX record could prevent you from submitting this form. For some systems it may be acceptable to turn off these checks.

Mobile
   The mobile phone number of the agent.

Validity *
   Set the validity of this resource. Each resource can be used in OTRS only, if this field is set to valid.
   Setting this field to invalid or invalid-temporarily will disable the use of the resource.

4.1.3 Alternate Login for Agents

It is possible to create an alternate user login for agents. This feature is turned off by default.

To activate the feature:
   1. Go to the System Configuration screen.
   2. Search for the setting $\text{AgentPersonalPreference###AnonymousLogin}$.
   3. Enable the setting and set the Active field to 1.
   4. Deploy the modified system configuration.

To set an alternate user for an agent:
   1. Go to the Agents module of the administrator interface.
   2. Click on an agent in the list of agents.
   3. Click on the Edit personal preferences for this agent button in the left sidebar.
   4. Click on the User Profile in the Preferences widget.
   5. Enter the username of the alternate user in the Alternate User section.

An agent for which an alternate login exists can now log in with his personal credentials and after logging into the system he will be automatically switched to the alternate login account.

Warning: Use this function with care! Enabling the feature may have undesirable side effects on auditing and compliance, especially on the traceability of actions in the system. If you are not sure, do not use this feature or ask the Customer Solutions Team before using it.
4.1.4 Agent Back Ends

Agents can be read and synchronized from an Active Directory® or LDAP server. The administrator interface does not support the configuration of external back ends. Administrators need to edit the file `Kernel/Config.pm` by copying and pasting code snippets from `Kernel/Config/Defaults.pm` manually in case of using On-Premise system.

If you already have agent back end (e.g. SAP), it is possible to write a module that uses it.

**Warning:** Do not modify the file `Kernel/Config/Defaults.pm`, it will be overwritten after upgrading the system! Copy and paste the code snippets into `Kernel/Config.pm` instead.

**Note:** This feature is only available to On-Premise customers. If you are a Managed customer, this feature is taken care of by the Customer Solutions Team in OTRS. Please contact us via support@otrs.com or in the OTRS Portal.

Agent Back End - Database

The default user authentication back end for agents is the OTRS database. With this back end, all agent data can be edited via the administrator interface.

```perl
# This is the auth. module against the otrs db
$self->{AuthModule} = 'Kernel::System::Auth::DB';

# defines AuthSyncBackend (AuthSyncModule) for AuthModule
# if this key exists and is empty, there won't be a sync.
# example values: AuthSyncBackend, AuthSyncBackend2
# $Self->{AuthModule::UseSyncBackend} = '';

# password crypt type (bcrypt|sha2|sha1|md5|apr1|crypt|plain)
# $Self->{AuthModule::DB::CryptType} = 'sha2';

# If "bcrypt" was selected for CryptType, use cost specified here for bcrypt hashing.
# Currently max. supported cost value is 31.
# $Self->{AuthModule::DB::bcryptCost} = 12;
```

Agent Back End - LDAP

If you have an LDAP directory with all your agent data, you can use the LDAP module to authenticate your agents. Because this module has only read-access to the LDAP back end, it is not possible to edit the agent data via the administrator interface.

```perl
# This is an example configuration for an LDAP auth. backend.
# (take care that Net::LDAP is installed!)
# $Self->{AuthModule} = 'Kernel::System::Auth::LDAP';
# $Self->{AuthModule::LDAP::Host} = 'ldap.example.com';
# $Self->{AuthModule::LDAP::BaseDN} = 'dc=example,dc=com';
# $Self->{AuthModule::LDAP::UID} = 'uid';
```

(continues on next page)
The minimum required to connect to a directory server is:

```perl
$self->{AuthModule} = 'Kernel::System::Auth::LDAP';
$self->{AuthModule::LDAP::Host} = 'ldap.example.com';
$self->{AuthModule::LDAP::BaseDN} = 'dc=example,dc=com';
$self->{AuthModule::LDAP::UID} = 'uid';
```

**Host**
The DNS name or IP of your directory server.

**BaseDN**
The starting point in your directory tree.

**UID**
The attribute used for login and identification.

**Note:** This is `sAMAccountName` for an Active Directory.

It is possible to connect to an LDAP via secure connection. In this case the `ldaps://` protocol has to be added to the host parameter and the port has to be changed.

```perl
$self->{AuthModule::LDAP::Host} = 'ldaps://secure.example.com';
$self->{AuthModule::LDAP::Params}->{port} = 636;
```

To use multiple back ends, add an additional section of the example code to the `Config.pm`. Please make sure to add a numeric value [1-9] to all settings to indicate which settings belong to which back end.

```perl
### Backend One
$self->{AuthModule} = 'Kernel::System::Auth::LDAP';
$self->{AuthModule::LDAP::Host} = 'ldap.example.com';
$self->{AuthModule::LDAP::BaseDN} = 'dc=example,dc=com';
$self->{AuthModule::LDAP::UID} = 'uid';

### Backend Two
$self->{AuthModule1} = 'Kernel::System::Auth::LDAP';
$self->{AuthModule::LDAP::Host1} = 'ldap.example.com';
$self->{AuthModule::LDAP::BaseDN1} = 'dc=example,dc=com';
$self->{AuthModule::LDAP::UID1} = 'uid';
```

**Warning:** All back ends will are used in succession. The UID must be unique to all back ends, otherwise some side effects may occur.

If an LDAP server is not available another one should be used as fallback. Since there is only one host setting in each back end configuration, the servers have to be added in an array.

```perl
$self->{AuthModule::LDAP::Host} = ['ldaps://ldapserver_one.com', 'ldaps://ldapserver_two.com'];
$self->{AuthModule::LDAP::Die} = 0;
```

Please note that there is no real fallback functionality but this workaround should work in most cases. The system will always try the first LDAP server first and after a timeout the second one. The recommended way is to configure a fallback or redundant LDAP at server side.

To synchronize with a specific directory server, you must add the appropriate setting to your agent authentication back end. To achieve this copy the following block from the `Defaults.pm` and paste it into the `Config.pm`.

```perl
$self->{AuthModule::UseSyncBackend} = 'AuthSyncBackend';
```

To use multiple back ends, add an additional section of the example code to the `Config.pm`. Please make sure to add a numeric value [1-9] to all settings to indicate which settings belong to which back end.
Reuse of an agent synchronization back end is also possible.

It is advisable to synchronize the agent data so that agents need not be manually added to the users table prior to authorization. Additionally, groups and roles can be added automatically using security objects of the directory server.

**Note:** Multiple agent synchronization back end blocks can be used. Please make sure to add a numeric value [1-9] to all settings to indicate which settings belong to which back end. Each AuthSyncModule must be explicitly used in an agent authentication back end.

Syncing user data upon login. To achieve this copy the following block from the Defaults.pm and paste it into the Config.pm.

```perl
# This is an example configuration for an LDAP auth sync. backend.
# (take care that Net::LDAP is installed!) $Self->{AuthSyncModule} = 'Kernel::System::Auth::Sync::LDAP'; $Self->{AuthSyncModule::LDAP::Host} = 'ldap.example.com'; $Self->{AuthSyncModule::LDAP::BaseDN} = 'dc=example,dc=com'; $Self->{AuthSyncModule::LDAP::UID} = 'uid';

# The following is valid but would only be necessary if the # anonymous user do NOT have permission to read from the LDAP tree $Self->{AuthSyncModule::LDAP::SearchUserDN} = ''; $Self->{AuthSyncModule::LDAP::SearchUserPw} = '';

# in case you want to add always one filter to each ldap query, use # this option. e. g. AlwaysFilter => '(mail=*)' or AlwaysFilter => '(objectclass=user)' # or if you want to filter with a logical OR-Expression, like AlwaysFilter => # '(|(mail=*abc.com)(mail=*xyz.com))' $Self->{AuthSyncModule::LDAP::AlwaysFilter} = '';

# AuthSyncModule::LDAP::UserSyncMap # (map if agent should create/synced from LDAP to DB after successful login) # you may specify LDAP-Fields as either # * list, which will check each field. first existing will be picked ( ["givenName", ","cn","_empty"] ) # * name of an LDAP-Field (may return empty strings) ("givenName") # * fixed strings, prefixed with an underscore: ",_test", which will always return this fixed string $Self->{AuthSyncModule::LDAP::UserSyncMap'} = {
  # DB -> LDAP
  UserFirstname => 'givenName',
  UserLastname => 'sn',
  UserEmail => 'mail',
};

# In case you need to use OTRS in iso-charset, you can define this # by using this option (converts utf-8 data from LDAP to iso). $Self->{AuthSyncModule::LDAP::Charset} = 'iso-8859-1';
```
# Net::LDAP new params (if needed - for more info see perldoc Net::LDAP)
$self->{'AuthSyncModule::LDAP::Params'} = {
    port => 389,
    timeout => 120,
    async => 0,
    version => 3,
};

# Die if backend can't work, e. g. can't connect to server.
$self->{'AuthSyncModule::LDAP::Die'} = 1;

# Attributes needed for group syncs
# (attribute name for group value key)
$self->{'AuthSyncModule::LDAP::AccessAttr'} = 'memberUid';
# (attribute for type of group content UID/DN for full ldap name)
$self->{'AuthSyncModule::LDAP::UserAttr'} = 'UID';
$self->{'AuthSyncModule::LDAP::UserAttr'} = 'DN';

# AuthSyncModule::LDAP::UserSyncInitialGroups
# (sync following group with rw permission after initial create of first agent
# login)
$self->{'AuthSyncModule::LDAP::UserSyncInitialGroups'} = [
    'users',
];

# AuthSyncModule::LDAP::UserSyncGroupsDefinition
# (If "LDAP" was selected for AuthModule and you want to sync LDAP
# groups to otrs groups, define the following.)
$self->{'AuthSyncModule::LDAP::UserSyncGroupsDefinition'} = {
    # ldap group
    'cn=agent,o=otrs' => {
        # otrs group
        'admin' => {
            # permission
            rw => 1,
            ro => 1,
        },
        'faq' => {
            rw => 0,
            ro => 1,
        },
    },
    'cn=agent2,o=otrs' => {
        'users' => {
            rw => 1,
            ro => 1,
        },
    },
};

# AuthSyncModule::LDAP::UserSyncRolesDefinition
# (If "LDAP" was selected for AuthModule and you want to sync LDAP
# groups to otrs roles, define the following.)
$self->{'AuthSyncModule::LDAP::UserSyncRolesDefinition'} = {
    # ldap group
    'cn=agent,o=otrs' => {
        # otrs group
        'admin' => {
            # permission
            rw => 1,
            ro => 1,
        },
    },
};

(continues on next page)
# otrs role
'role1' => 1,
'role2' => 0,
},
'cn=agent2,o=otrs' => {
  'role3' => 1,
}
};

# AuthSyncModule::LDAP::UserSyncAttributeGroupsDefinition
# (If "LDAP" was selected for AuthModule and you want to sync LDAP
# attributes to otrs groups, define the following.)
$Self->{'AuthSyncModule::LDAP::UserSyncAttributeGroupsDefinition'} = {
  # ldap attribute
  'LDAPAttribute' => {
    # ldap attribute value
    'LDAPAttributeValue1' => {
      # otrs group
      'admin' => {
        # permission
        rw => 1,
        ro => 1,
      },
      'faq' => {
        rw => 0,
        ro => 1,
      },
    },
    'LDAPAttributeValue2' => {
      'LDAPAttributeValue1' => {
        'users' => {
          rw => 1,
          ro => 1,
        },
      },
    },
  },
  'LDAPAttribute2' => {
    'LDAPAttributeValue1' => {
      'role1' => 1,
      'role2' => 1,
    },
    'LDAPAttributeValue2' => {
      'LDAPAttributeValue1' => {
        'role3' => 1,
      },
    },
  },
};

# AuthSyncModule::LDAP::UserSyncAttributeRolesDefinition
# (If "LDAP" was selected for AuthModule and you want to sync LDAP
# attributes to otrs roles, define the following.)
$Self->{'AuthSyncModule::LDAP::UserSyncAttributeRolesDefinition'} = {
  # ldap attribute
  'LDAPAttribute' => {
    # ldap attribute value
    'LDAPAttributeValue1' => {
      # otrs role
      'role1' => 1,
      'role2' => 1,
    },
    'LDAPAttributeValue2' => {
      'LDAPAttributeValue1' => {
        'role3' => 1,
      },
    },
  },
  'LDAPAttribute2' => {
    'LDAPAttributeValue1' => {
      'role1' => 1,
      'role2' => 1,
    },
    'LDAPAttributeValue2' => {
      'LDAPAttributeValue1' => {
        'role3' => 1,
      },
    },
  },
}
The minimum required to connect to a directory server is:

```perl
$Self->{AuthSyncModule} = 'Kernel::System::Auth::Sync::LDAP';
$Self->{AuthSyncModule::LDAP::Host} = 'ldap.example.com';
$Self->{AuthSyncModule::LDAP::BaseDN} = 'dc=example,dc=com';
$Self->{AuthSyncModule::LDAP::UID} = 'uid';
```

**Host**

The DNS name or IP of your directory server.

**BaseDN**

The starting point in your directory tree.

**UID**

The attribute used for login and identification.

**Note:** This is *sAMAccountName* for an Active Directory.

---

**Agent Back End - HTTPBasicAuth**

If you want to implement a single sign on solution for all your agents, you can use HTTPBasic authentication (for all your systems) and use the HTTPBasicAuth module with OTRS. No login is needed with OTRS any more.

```perl
# This is an example configuration for an apache ($ENV{REMOTE_USER})
# auth. backend. Use it if you want to have a single login through
# apache http-basic-auth.
# In case there is a leading domain in the REMOTE_USER, you can
# replace it by the next config option.
$Self->{AuthModule} = 'Kernel::System::Auth::HTTPBasicAuth';
$Self->{AuthModule::HTTPBasicAuth::Replace} = 'example_domain\';
$Self->{AuthModule::HTTPBasicAuth::ReplaceRegExp} = '^(.+.?)@.*$';
$Self->{AuthModule::HTTPBasicAuth::RequiredLoginHeader} = 'RequiredHeader';
$Self->{AuthModule::HTTPBasicAuth::RequiredLoginHeaderValue} = ^RequiredHeaderRegExp$;
# Note:
# If you use this module, you should use as fallback the following
# config settings if user isn't login through apache ($ENV{REMOTE_USER}).
$Self->{LoginURL} = 'http://host.example.com/not-authorised-for-otrs.html';
$Self->{LogoutURL} = 'http://host.example.com/thanks-for-using-otrs.html';
```
The configuration parameters shown in the example below can be used to synchronize the user data from the HTTP headers into the local OTRS database. To achieve this copy the following block from the `Defaults.pm` and paste it into the `Config.pm`.

```perl
$self->{AuthSyncModule} = 'Kernel::System::Auth::Sync::HTTPHeader';
$self->{AuthSyncModule::HTTPHeader::UserSyncMap} = {
    # DB -> Header
    UserFirstname => 'givenName',
    UserLastname => 'lastName',
    UserEmail => 'mail',
};

$self->{AuthSyncModule::HTTPHeader::UserSyncInitialGroups} = [
    'users',
];

$self->{AuthSyncModule::HTTPHeader::UserSyncGroupsDefinition} = {
    # header name
    'IsAgent' => {
        # otrs group
        'admin' => {
            # permission
            rw => 1,
            ro => 1,
        },
        'stats' => {
            rw => 1,
            ro => 1,
        },
    },
};

$self->{AuthSyncModule::HTTPHeader::UserSyncAttributeGroupsDefinition} = {
    # header name
    'HTTPHeaderAttribute1' => {
        # header attribute
        'HTTPHeaderAttribute1Value1' => {
            # otrs group
            'admin' => {
                # permission
                rw => 1,
                ro => 1,
            },
            'stats' => {
                rw => 1,
                ro => 1,
            },
        },
    },
};
```
'HTTPHeaderAttribute2' => {  
    'HTTPHeaderAttribute1Value2' => {  
        'users' => {  
            'rw' => 1,  
            'ro' => 1,  
        },  
    },  
},  
},

# AuthSyncModule::HTTPHeader::UserSyncRolesDefinition  
# Sync roles based on headers (no value check, just existence of header is checked).  
$Self->{AuthSyncModule::HTTPHeader::UserSyncRolesDefinition} = {  
    # header name  
    'IsAgent' => {  
        # otrs role  
        'role1' => 1,  
        'role2' => 0,  
    },  
};

# AuthSyncModule::HTTPHeader::UserSyncAttributeRolesDefinition  
# Sync roles based on header values.  
# Multiple values per header are possible if separated by ',' or ';' (e.g. 'OTRS_  
# Roles: 1st_level, 2nd_level, admin').  
$Self->{AuthSyncModule::HTTPHeader::UserSyncAttributeRolesDefinition} = {  
    # header name  
    'HTTPHeaderAttribute1' => {  
        # header value  
        'HTTPHeaderAttribute1Value1' => {  
            # otrs role  
            'role1' => 1,  
            'role2' => 1,  
        },  
    },  
    'HTTPHeaderAttribute2' => {  
        'HTTPHeaderAttribute1Value2' => {  
            'role3' => 1,  
        },  
    },  
};

Note: The synchronization relies on the existence of the specified HTTP headers. The configuration of  
those headers is outside the scope of this documentation.
Agent Back End - Radius

The settings shown in example below can be used to authenticate your agents against a Radius server.

```
# This is example configuration to auth. agents against a radius server.
# $Self->{'AuthModule'} = 'Kernel::System::Auth::Radius';
# $Self->{'AuthModule::Radius::Host'} = 'radiushost';
# $Self->{'AuthModule::Radius::Password'} = 'radiussecret';
# Die if backend can't work, e. g. can't connect to server.
# $Self->{'AuthModule::Radius::Die'} = 1;
```

4.2 Agents  Groups

Efficient and straightforward management of permissions is essential in a growing business. Easy assignment of a particular user to a group for quick access, or to remove access, to resources is a must in every case.

The OTRS interface provides you both with the possibility to manage an agent’s access to one or more particular groups. As well, you can change multiple users access to any one group, efficiently and elegantly.

Use this screen to add one or more agents to one or more groups. To use this function, at least one agent and one group need to have been added to the system. The management screen is available in the Agents Groups module of the Users, Groups & Roles group.

**Fig. 5: Manage Agent-Group Relations**

<table>
<thead>
<tr>
<th>Filter for Agents</th>
<th>Filter for Groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>Just start typing to filter...</td>
<td>Just start typing to filter...</td>
</tr>
</tbody>
</table>

4.2.1 Manage Agents  Groups Relations

To assign some groups to an agent:

1. Click on an agent in the Agents column.
2. Select the permissions you would like to connect the agent to groups with.
3. Click on the Save or Save and finish button.

To assign some agents to a group:
1. Click on a group in the **Groups** column.
2. Select the permissions you would like to connect the group to agents with.
3. Click on the **Save** or **Save and finish** button.

**Fig. 7: Change Agent Relations for Group**

---

**Note:** If several agents or groups are added to the system, use the filter box to find a particular agent or group by just typing the name to filter.

Multiple agents or groups can be assigned in both screens at the same time. Additionally clicking on an agent or clicking on a group in the relations screen will open the **Edit Agent** screen or the **Edit Group** screen accordingly.

**Warning:** Accessing an agent or a group provides no back link to the relations screen.
4.2.2 Agents Groups Relations Reference

When assigning an agent to a group or vice versa, several permissions can be set as connection between an agent and a group. The following permissions are available by default:

- **ro**
  - Read-only access to tickets in this group/queue.

- **move_into**
  - Permission to move tickets in this group/queue and move existing tickets into this group/queue.

- **create**
  - Permission to create tickets in this group/queue.

- **note**
  - Permission to add notes to tickets and inform agents in this group/queue.

- **owner**
  - Permission to set the owner of new tickets or change the owner of existing tickets in this group/queue.

- **priority**
  - Permission to change the ticket priority in this group/queue.

- **chat_observer**
  - Users with this permission type will only be able to observe chats in a channel after they have been invited.

- **chat_participant**
  - Users with this permission type will be able to take part in a chat, but only after they get invited to it.

- **chat_owner**
  - Users with this permission type will be able to accept chat customer/public requests and do all kinds of observer and participant actions on a chat.

- **rw**
  - Full read and write access to the tickets in this group/queue.

See also:

Not all available permissions are shown by default. See `System::Permission` setting for permissions that can be added. These additional permissions can be added:

- **bounce**
  - Permission to redirect an email.

- **close**
  - Permission to close a ticket.

- **compose**
  - Permission to compose an answer for a ticket.

- **customer**
  - Permission to change the customer of a ticket.

- **forward**
  - Permission to forward an article.

- **pending**
  - Permission to set a ticket to pending.

- **phone**
  - Permission to add a phone call to a ticket.
responsible
Permission to set the responsible agent of new tickets or change the responsible agent of existing tickets in this group/queue.

Note: By setting a checkbox in the header of a column will set all the checkboxes in the selected column. By setting the checkbox in the last rw column will set all the checkboxes in the selected row.

4.3 Agents Roles

As an organization grows, groups cannot be the denominator used for processing access rights. Roles become more and more a need because a role has a special set of permissions assigned. One mustn’t give individual permissions, but the role carries the permissions built-in.

OTRS allows easy access to a predefined set of permissions via one or more roles defined. These roles are assigned easily to one or more agents, or one or more agent to a role.

Use this screen to add one or more agents to one or more roles. To use this function, at least one agent and one role need to have been added to the system. The management screen is available in the Agents Roles module of the Users, Groups & Roles group.

4.3.1 Manage Agents Roles Relations

To assign some roles to an agent:
1. Click on an agent in the Agents column.
2. Select the roles you would like to the agent belongs to.
3. Click on the Save or Save and finish button.

To assign some agents to a role:
1. Click on a role in the Roles column.
2. Select the agents you would like to add to the role.
3. Click on the *Save* or *Save and finish* button.

**Note:** If several agents or roles are added to the system, use the filter box to find a particular agent or role by just typing the name to filter.

Multiple agents or roles can be assigned in both screens at the same time. Additionally clicking on an agent or clicking on a role in the relations screen will open the *Edit Agent screen* or the *Edit Role screen* accordingly.

**Warning:** Accessing an agent or a role provides no back link to the relations screen.

**Note:** By setting the checkbox in the header of the column *Active* will set all the checkboxes in the column.

### 4.4 Customers

Use this screen to add customer companies to the system. A fresh OTRS installation contains no customers by default. The customer management screen is available in the *Customers* module of the *Users, Groups & Roles* group.
4.4.1 Manage Customers

**Note:** Adding or editing a customer is possible only by using database back end. Using external directory services like LDAP will disable the customer management functionality.

To add a customer:

1. Click on the *Add Customer* button in the left sidebar.
2. Fill in the required fields.
3. Click on the *Save* button.

**Warning:** Customers can not be deleted from the system. They can only be deactivated by setting the *Validity* option to *invalid* or *invalid-temporarily*. 

---

**Figure 11:** Customer Management Screen

**Figure 12:** Add Customer Screen
To edit a customer:

1. Click on a customer in the list of customers.
2. Modify the fields.
3. Click on the *Save* or *Save and finish* button.

<table>
<thead>
<tr>
<th>Edit Customer</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CustomerID:</strong> acme.co</td>
</tr>
<tr>
<td><strong>Customer:</strong> Acme Inc.</td>
</tr>
<tr>
<td><strong>Street:</strong> 123 Anywhere St.</td>
</tr>
<tr>
<td><strong>Zip:</strong> 12346</td>
</tr>
<tr>
<td><strong>City:</strong> Somewhereville</td>
</tr>
<tr>
<td><strong>Country:</strong> United States of America</td>
</tr>
<tr>
<td><strong>URL:</strong> <a href="https://acme.expmle.com">https://acme.expmle.com</a></td>
</tr>
<tr>
<td><strong>Comment:</strong> A great company.</td>
</tr>
<tr>
<td><strong>Valid:</strong> valid</td>
</tr>
</tbody>
</table>

![Fig. 13: Edit Customer Screen](image)

To find a customer:

1. Enter a search term to the search box in the left sidebar.
2. Click on the magnifying glass icon in the right part of the field or hit an *Enter*.

**Note:** If several customers are added to the system, use the search box to find a particular customer. Only the first 1000 customers are listed by default.

### 4.4.2 Customer Settings

The following settings are available when adding or editing this resource. The fields marked with an asterisk are mandatory.

**Customer ID** *
- The internal name of the customer. Should contain only letters, numbers and some special characters.

**Customer** *
- The name of this resource. Any type of characters can be entered to this field including uppercase letters and spaces. The name will be displayed in the overview table.

**Street**
- The street name of the customer.
Zip
The zip code of the customer.

City
The headquarter city of the customer.

Country
The country of the customer. Choose a country from the list.

URL
The web page or other URL of the customer.

Comment
Add additional information to this resource. It is recommended to always fill this field as a description of the resource with a full sentence for better clarity, because the comment will be also displayed in the overview table.

Validity *
Set the validity of this resource. Each resource can be used in OTRS only, if this field is set to valid. Setting this field to invalid or invalid-temporarily will disable the use of the resource.

4.4.3 Customer Back Ends

The system works with many customer data attributes such as customer ID, customer name, location information etc. These attributes are displayed in the agent interface and can be displayed in the external interface.

Customer data used or displayed within the system is highly customizable. The customer ID is always needed.

The administrator interface does not support the configuration of external back ends. Administrators need to edit the file Kernel/Config.pm by copying and pasting code snippets from Kernel/Config/Defaults.pm manually in case of using On-Premise system.

If you already have another customer back end (e.g. SAP), it is possible to write a module that uses it.

Warning: Do not modify the file Kernel/Config/Defaults.pm, it will be overwritten after upgrading the system! Copy and paste the code snippets into Kernel/Config.pm instead.

Note: This feature is only available to On-Premise customers. If you are a Managed customer, this feature is taken care of by the Customer Solutions Team in OTRS. Please contact us via support@otrs.com or in the OTRS Portal.
Customer Back End - Database

The default back end for customers is the OTRS database. With this back end, all customer data can be edited via the administrator interface.

```perl
$self->{CustomerCompany} = {
    Name => Translatable('Database Backend'),
    Module => 'Kernel::System::CustomerCompany::DB',
    Params => {
        # if you want to use an external database, add the
        # required settings
        # DSN => 'DBI:odbc:yourdsn',
        # Type => 'mssql', # only for ODBC connections
        # DSN => 'DBI:mysql:database=customerdb;host=customerdbhost',
        # User => '',
        # Password => '',
        Table => 'customer_company',
        # ForeignDB => 0, # set this to 1 if your table does not have create_
        # time, create_by, change_time and change_by fields
        # CaseSensitive defines if the data storage of your DBMS is case-sensitive
        # and will be preconfigured within the database driver by default.
        # If the collation of your data storage differs from the default settings,
        # you can set the current behavior (either 1 = CaseSensitive or 0 =
        # CaseINSensitive )
        # to fit your environment.
        #
        # CaseSensitive => 0,
        #
        # SearchCaseSensitive will control if the searches within the data_
        # storage are performed
        # case sensitively (if possible) or not. Change this option to 1, if you_
        # want to search case sensitive.
        # This can improve the performance dramatically on large databases.
        SearchCaseSensitive => 0,
    },
    # company unique id
    CustomerCompanyKey => 'customer_id',
    CustomerCompanyValid => 'valid_id',
    CustomerCompanyListFields => [ 'customer_id', 'name' ],
    CustomerCompanySearchFields => [ 'customer_id', 'name' ],
    CustomerCompanySearchPrefix => '*',
    CustomerCompanySearchSuffix => '*',
    CustomerCompanySearchListLimit => 250,
    CacheTTL => 60 * 60 * 24, # use 0 to turn off cache

    Map => [
        # Info about dynamic fields:
        #
        # Dynamic Fields of type CustomerCompany can be used within the mapping_
        # (see example below).
        # The given storage (third column) then can also be used within the_
        # following configurations (see above):
        # CustomerCompanySearchFields, CustomerCompanyListFields
        # Note that the columns 'frontend' and 'readonly' will be ignored for_
    ]
};
```

(Continues on next page)
If you want to customize the customer data, change the columns or add new ones to the `customer_company` table in the database.

For example, to add a new field for VAT number:

1. Add a new column `vat` to table `customer_company`.
   - MySQL or MariaDB:
     ```
     root> mysql -u root -p -e 'ALTER TABLE otrs.customer_company ADD vat VARCHAR (50)'
     ```
   - PostgreSQL (from the `/opt/otrs` directory):
     ```
     otrs> psql -c 'ALTER TABLE customer_company ADD COLUMN vat varchar(50)'
     ```

2. Copy the `$Self->{CustomerCompany}` section from `Kernel/Config/Defaults.pm` into `Kernel/Config.pm`.

3. Add the new column to the `Map` array.
   ```
   [ 'VATNumber', 'VAT Number', 'vat', 0, 1, 'var', ' ', 0 ],
   ```

**Note:** It is recommended to always use English words for names.

**See also:**

Names can be translated into other languages with custom language files. For more information, see the `Custom Language File` chapter.
4.5 Customers Groups

Your organization grows, and it’s not practical at some point to assign permissions to individual users, you need to assign the permissions to all customer users of a customer.

OTRS allows you to assign group permissions to a customer. Access works just the same as for agents, preventing a customer from modifying and viewing a request. Thus allowing the customer to focus on the results of the original communication and funneling the discussion through one ticket.

See also:

Assign a single customer user to a group using Customer Users Groups.

Use this screen to add one or more customers to one or more groups. To use this function, at least one customer and one group need to have been added to the system. The management screen is available in the Customers Groups module of the Users, Groups & Roles group.

Fig. 14: Manage Customer-Group Relations

Customer group support needs to be enabled in at least one customer user back end to use this function. For the default OTRS back end, this can be enabled in the system configuration by clicking on the Enable it here! button.

Fig. 15: Enable Customer Group Feature

Note: To enable this feature in systems using a directory server or multiple non-default back
ends, a custom configuration file needs to be placed in `Kernel/Config/Files` (for example named `ZZZ_CustomerBackend.pm`). Once activated, all customer users from this back end will require group assignment.

**Warning:** After making changes to the back end, the server cache will be deleted, which may cause a temporary drop in performance.

### 4.5.1 Manage Customers Groups Relations

**Note:** To be able to use this feature, you have to activate the `CustomerGroupSupport` setting.

![Notice]

This feature is disabled!
Just use this feature if you want to define group permissions for customers.

Enable it here!

Fig. 16: Enable Customer-Group Support

To assign some groups to a customer:
1. Click on a customer in the `Customers` column.
2. Select the permissions you would like to connect the customer to groups with.
3. Click on the `Save` or `Save and finish` button.

To assign some customers to a group:
1. Click on a group in the `Groups` column.
2. Select the permissions you would like to connect the group to customers with.
3. Click on the `Save` or `Save and finish` button.

To change customer default groups:
1. Click on the `Edit Customer Default Groups` button in the left sidebar.
2. Add or modify groups in setting `CustomerGroupCompanyAlwaysGroups`.
3. Deploy the modified system configurations.

These groups are automatically assigned to all customers.
Change Group Relations for Customer *Acme Inc.*

<table>
<thead>
<tr>
<th>GROUP</th>
<th>SAVE CUSTOMER</th>
</tr>
</thead>
<tbody>
<tr>
<td>admin</td>
<td></td>
</tr>
<tr>
<td>faq</td>
<td></td>
</tr>
<tr>
<td>faq_admin</td>
<td></td>
</tr>
<tr>
<td>faq_approval</td>
<td></td>
</tr>
<tr>
<td>stars</td>
<td></td>
</tr>
</tbody>
</table>

Save or Save and finish or Cancel

Fig. 17: Change Group Relations for Customer

Change Customer Relations for Group *admin*

<table>
<thead>
<tr>
<th>CUSTOMER (1)</th>
<th>SAME CUSTOMER</th>
</tr>
</thead>
<tbody>
<tr>
<td>acme.co Acme Inc.</td>
<td></td>
</tr>
</tbody>
</table>

Save or Save and finish or Cancel

Fig. 18: Change Customer Relations for Group

CustomerGroupCompanyAlwaysGroups

| users | Defines the groups every customer will be in (if CustomerGroupSupport is enabled and you don't want to manage every customer for these groups) |

Fig. 19: CustomerGroupCompanyAlwaysGroups System Configuration Screen
Note: If several customers or groups are added to the system, use the search box to find a particular customer or use the filter box to find a particular group by just typing the name to filter.

Multiple customers or groups can be assigned in both screens at the same time. Additionally clicking on a customer or clicking on a group in the relations will open the Edit Customer screen or the Edit Group screen accordingly.

Warning: Accessing a customer or a group provides no back link to the relations screen.

4.5.2 Customers Groups Relations Reference

When assigning a customer to a group or vice versa, several permissions can be set as connection between a customer and a group. Group permissions will be inherited by all customer users of the customer. Different contexts of permission assignment are available, which will determine how the permissions are inherited by customer users.

The following contexts are available:

Same Customer

Gives customer users group based access to tickets from customer users of the same customer (ticket CustomerID is a CustomerID of the customer user).

Note: This feature is enabled by default. You can disable it via the CustomerGroupPermissionContext###001-CustomerID-same setting.

Other Customers

Provides customer users access to tickets even if the tickets are not assigned to a customer user of the same customer ID(s), based on permission groups.

Note: To be able to use this feature, you have to activate the CustomerGroupPermissionContext###100-CustomerID-other setting.

The following permissions are available by default:

ro

Read only access to the resource.

rw

Full read and write access to the resource.

See also:

Not all available permissions are shown by default. See System::Customer::Permission setting for permissions that can be added. This additional permission can be added:

create

Permission to create a ticket.

Note: By setting a checkbox in the header of a column will set all the checkboxes in the selected column. By setting the checkbox in the last rw column will set all the checkboxes in the selected row.
4.5.3 Permission Functionality Example

Access to tickets on the external interface with enabled group support is mostly evaluated by a combination of group and individual (customer/customer user based) permission. Only if both criteria are met, specific access is granted.

If the resulting access is \textit{rw}, a customer user can view and modify a ticket. If the access is \textit{ro} only viewing is possible.

For ticket creation only the group permissions are used and a customer user can create tickets for all queues with \textit{rw} permissions.

Group permissions are additive (meaning that only one method needs to grant permissions) and the following possibilities are taken into account:

- Customer user default groups via system configuration setting.
- Groups assigned to the customer user via the \textit{Customer Users Groups} screen.
- Customer default groups via system configuration setting.
- Groups assigned to the customer via the \textit{Customers Groups} screen.

For the methods above, all customers related to a customer user are used. This includes the primary customer (selected in the \textit{Customer Users} screen), additional customers (added in \textit{Customer Users Customers} screen) and other customer that might exist in the back end.

Individual permission checks require one of the following conditions to be met:

- Ticket is assigned to the customer user.
- Ticket is assigned to a customer that the customer user is related to (as explained above).
- Ticket is assigned to a customer with group permissions for the ticket queue while a customer related to the customer user has \textit{Other Customers} permission to the same group.

An example for the last item to clarify the functionality:

- Ticket is assigned to customer user \textit{Arvid Karlsson} with related customer \textit{Ericsson AB}.
- Ticket is located in queue \textit{Support Sweden}.
- Queue \textit{Support Sweden} is in group \textit{support-se}.
- Customer \textit{Ericsson AB} has \textit{Same Customer} context with \textit{rw} permission to group \textit{support-se}.
- Logged in customer user is \textit{Barry Smith} which is related to customer \textit{Farmers Inc}.
- Customer \textit{Farmers Inc} has \textit{Same Customer} context with \textit{ro} permission to group \textit{support-se}.
- Now, if customer \textit{Farmers Inc} is given \textit{Other Customers} context with \textit{ro} permission to group \textit{support-se}, \textit{Barry Smith} will be able to view the ticket.
- In order for \textit{Barry} to modify the ticket, \textit{rw} permission is required for both \textit{Same Customer} and \textit{Other Customers} contexts.
4.5.4 Multi-tier Customer Relationship

In this example we will create a multi-tier customer structure with resulting ticket permissions. To get the same results you will need a relatively clean system without many customizations.

1. Create the following customers in the Customers screen:

<table>
<thead>
<tr>
<th>Customer ID</th>
<th>Customer</th>
</tr>
</thead>
<tbody>
<tr>
<td>de</td>
<td>Graubrot AG</td>
</tr>
<tr>
<td>mx</td>
<td>Hernandez SA</td>
</tr>
<tr>
<td>se</td>
<td>Ericsson AB</td>
</tr>
<tr>
<td>us</td>
<td>Farmers Inc.</td>
</tr>
</tbody>
</table>

2. Create the following customer users in the Customer Users screen and assign them to the already created customers. Use any valid email address for the email field.

<table>
<thead>
<tr>
<th>Firstname</th>
<th>Lastname</th>
<th>Username</th>
<th>Customer ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arvid</td>
<td>Karlsson</td>
<td>ak</td>
<td>Ericsson AB</td>
</tr>
<tr>
<td>Barry</td>
<td>Smith</td>
<td>bs</td>
<td>Farmers Inc.</td>
</tr>
<tr>
<td>Christian</td>
<td>Müller</td>
<td>cm</td>
<td>Graubrot AG</td>
</tr>
<tr>
<td>Diego</td>
<td>Garcia</td>
<td>dg</td>
<td>Hernandez SA</td>
</tr>
</tbody>
</table>

3. Create the following groups in the Groups screen:

- faq-amer
- faq-emea
- support-de
- support-mx
- support-se
- support-us

4. Go to the Queues screen and add corresponding queues which will use the previously created groups. In the System address field you can use any available address.

<table>
<thead>
<tr>
<th>Name</th>
<th>Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>FAQ Germany</td>
<td>faq-emea</td>
</tr>
<tr>
<td>FAQ Mexico</td>
<td>faq-amer</td>
</tr>
<tr>
<td>FAQ Sweden</td>
<td>faq-emea</td>
</tr>
<tr>
<td>FAQ USA</td>
<td>faq-amer</td>
</tr>
<tr>
<td>Support Germany</td>
<td>support-de</td>
</tr>
<tr>
<td>Support Mexico</td>
<td>support-mx</td>
</tr>
<tr>
<td>Support Sweden</td>
<td>support-se</td>
</tr>
<tr>
<td>Support USA</td>
<td>support-us</td>
</tr>
</tbody>
</table>

5. Go to the Customer Users Customers screen and assign the select customer users to other customers.
6. Go to the **Customer Users Groups** screen and assign a single customer user direct access to a group.

<table>
<thead>
<tr>
<th>Customer User</th>
<th>Customers</th>
<th>Active</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arvid Karlsson</td>
<td>de Graubrot AG</td>
<td>yes (1)</td>
</tr>
<tr>
<td>Diego Garcia</td>
<td>se Ericsson AB, us Farmers Inc.</td>
<td>yes (2)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Customer User</th>
<th>Group</th>
<th>Permission</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diego Garcia</td>
<td>faq-emea</td>
<td>rw (3)</td>
</tr>
</tbody>
</table>

7. Go to the **Customers Groups** screen and assign customers to groups according to the matrix below. Be sure to select proper permission level for each group and company.

<table>
<thead>
<tr>
<th>Customer</th>
<th>Same Customer</th>
<th>Other Customers</th>
</tr>
</thead>
<tbody>
<tr>
<td>de Graubrot AG</td>
<td>faq-amer → ro (4)</td>
<td>faq-emea → ro</td>
</tr>
<tr>
<td></td>
<td>support-de → rw</td>
<td>support-mx → ro</td>
</tr>
<tr>
<td>mx Hernandex SA</td>
<td>faq-amer → ro (5)</td>
<td>faq-emea → ro</td>
</tr>
<tr>
<td></td>
<td>support-de → ro</td>
<td>support-mx → rw</td>
</tr>
<tr>
<td>se Ericsson AB</td>
<td>faq-amer → ro (7)</td>
<td>faq-emea → ro</td>
</tr>
<tr>
<td></td>
<td>support-se → rw</td>
<td>support-us → rw</td>
</tr>
<tr>
<td>us Farmers Inc.</td>
<td>faq-amer → ro (8)</td>
<td>faq-amer → ro (9)</td>
</tr>
<tr>
<td></td>
<td>faq-emea → ro</td>
<td>faq-emea → ro</td>
</tr>
</tbody>
</table>

The (6) is intentional to demonstrate limitation to base permissions.

For reference, please consult the image below where all relationships are drawn as lines:

8. Create some tickets. Go to **New Phone Ticket** screen and create tickets, one each per customer user and queue (32 in total). By the way, this is possible in the agent interface as the customer group restrictions are only active on the external interface.

For checking resulting access to the tickets, you can easily switch between the customer users by activating **SwitchToCustomer** option in the system configuration. Then just go to the **Customer Users** and click on
Fig. 20: Multi-tier Customer Relationship
You will be immediately logged in as that customer user and you can visit the Company Tickets screen using the Ticket menu item for checking the ticket access. It should conform to the matrix below. Click on a ticket to check if corresponding permission level is honored: for ro permission level you should not see the Reply button.

This is the expected result for each customer user. The marker {N} refers to the location above where the corresponding setting was taken (this shows why the access is granted).

Resulting access for customer user Arvid Karlsson:

• Queue FAQ Germany: ro (via {7}) + Christian’s tickets ro (via {1})
• Queue FAQ Mexico: ro (via {7}) + Christian’s tickets ro (via {1})
• Queue FAQ Sweden: ro (via {7}) + Christian’s tickets ro (via {1})
• Queue FAQ USA: ro (via {7}) + Christian’s tickets ro (via {1})
• Queue Support Germany: rw (via {1 → 6}) + Christian’s tickets rw (via {1})
• Queue Support Mexico: -
• Queue Support Sweden: rw (via {7}) + Christian’s tickets rw (via {1})
• Queue Support USA: -

Resulting access for customer user Barry Smith:

• Queue FAQ Germany: ro (via {8})
• Queue FAQ Mexico: ro (via {8}) + Arvid’s, Christian’s, Diego’s tickets ro (via {9})
• Queue FAQ Sweden: ro (via {8})
• Queue FAQ USA: ro (via {8}) + Arvid’s, Christian’s, Diego’s tickets ro (via {9})
• Queue Support Germany: -
• Queue Support Mexico: -
• Queue Support Sweden: -
• Queue Support USA: rw (via {8})

Resulting access for customer user Christian Müller:

• Queue FAQ Germany: ro (via {4})
• Queue FAQ Mexico: ro (via {4})
• Queue FAQ Sweden: ro (via {4})
• Queue FAQ USA: ro (via {4})
• Queue Support Germany: rw (via {4})
• Queue Support Mexico: ro (via {4})
• Queue Support Sweden: -
• Queue Support USA: -

Resulting access for customer user Diego Garcia:

• Queue FAQ Germany: rw (via {3}) + Arvid’s, Barry’s tickets rw (via {2})
• Queue FAQ Mexico: ro (via {5}) + Arvid’s, Barry’s tickets ro (via {2}) + Christian’s tickets ro (via {2 → 9})
• Queue FAQ Sweden: rw (via {3}) + Arvid’s, Barry’s tickets rw (via {2})
• Queue FAQ USA: ro (via {5}) + Arvid’s, Barry’s tickets ro (via {2}) + Christian’s tickets ro (via {2 → 9})
• Queue Support Germany: ro (via {5}) + Arvid’s, Barry’s tickets ro (via {2}) + Christian’s tickets ro (via {6})
• Queue Support Mexico: rw (via {5}) + Arvid’s, Barry’s tickets rw (via {2}) + Christian’s tickets rw (via {6})
• Queue Support Sweden: rw (via {2 → 4}) + Arvid’s, Barry’s tickets rw (via {2})
• Queue Support USA: rw (via {2 → 5}) + Arvid’s, Barry’s tickets rw (via {2})

4.6 Customer Users

A record of who your company deals with requires more information about that individual: physical location for shipping and billing purposes, as well as contact information for email and phone contact.

OTRS offers a great way to save individual information about contacts within organizations which your company serves. You can add as many personal connections into OTRS as needed.

Use this screen to add a customer user to the system. A fresh OTRS installation contains no customer users by default. The customer user management screen is available in the Customer Users module of the Users, Groups & Roles group.

4.6.1 Manage Customer Users

Warning: A customer user can only be added to the system when at least one customer exists. Create one or more Customers first.

Note: Adding or editing a customer user is possible only by using database back end. Using external directory services like LDAP will disable the customer user management functionality.
To add a customer user:

1. Click on the *Add Customer User* button in the left sidebar.
2. Fill in the required fields.
3. Click on the *Save* button.

![Add Customer User Screen](image)

**Fig. 22: Add Customer User Screen**

**Warning:** Customer users can not be deleted from the system. They can only be deactivated by setting the *Validity* option to *invalid* or *invalid-temporarily*.

To edit a customer user:

1. Click on a customer user in the list of customer users.
2. Modify the fields.
3. Click on the *Save* or *Save and finish* button.

To find a customer user:

1. Enter a search term to the search box in the left sidebar.
### Edit Customer User

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title or salutation</td>
<td></td>
</tr>
<tr>
<td>* Firstname</td>
<td>Wyle</td>
</tr>
<tr>
<td>* Lastname</td>
<td>Coyote</td>
</tr>
<tr>
<td>* Username</td>
<td>we</td>
</tr>
<tr>
<td>Password</td>
<td></td>
</tr>
<tr>
<td>* Email</td>
<td><a href="mailto:wo@example.com">wo@example.com</a></td>
</tr>
<tr>
<td>* CustomerID</td>
<td>acme.co Acme Inc. X</td>
</tr>
<tr>
<td>Phone</td>
<td></td>
</tr>
<tr>
<td>Fax</td>
<td></td>
</tr>
<tr>
<td>Mobile</td>
<td></td>
</tr>
<tr>
<td>Street</td>
<td></td>
</tr>
<tr>
<td>Zip</td>
<td></td>
</tr>
<tr>
<td>Cty</td>
<td></td>
</tr>
<tr>
<td>Country</td>
<td></td>
</tr>
<tr>
<td>Comment</td>
<td></td>
</tr>
<tr>
<td>* Valid</td>
<td>valid</td>
</tr>
</tbody>
</table>

Save or Save and finish or Cancel

---

Fig. 23: Edit Customer User Screen

### 4.6. Customer Users
2. Click on the magnifying glass icon in the right part of the field or hit an Enter.

**Note:** If several customer users are added to the system, use the search box to find a particular customer user. Only the first 1000 customer users are listed by default.

The customer user permissions can be controlled by adding a customer or a customer user to *Groups*. This can result in a complex matrix of permissions. The effective permissions for a customer user can be checked in the bottom of the *Edit Customer User* screen.

---

### Effective Permissions for Customer User

<table>
<thead>
<tr>
<th>Group Permissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>GROUP users RO RW</td>
</tr>
</tbody>
</table>

Table above shows effective group permissions for the customer user. The matrix takes into account all inherited permissions (e.g., via customer groups). Note: The table does not consider changes made to this form without submitting it.

### Customer Access

<table>
<thead>
<tr>
<th>CUSTOMER</th>
<th>DIRECT</th>
</tr>
</thead>
<tbody>
<tr>
<td>acme.co Acme Inc.</td>
<td></td>
</tr>
</tbody>
</table>

Table above shows granted customer access for the customer user by permission context. The matrix takes into account all inherited access (e.g., via customer groups). Note: The table does not consider changes made to this form without submitting it.

---

**Fig. 24: Effective Permissions for Customer User Widget**

**See also:**

*Customer Users*  *Groups* needs to be enabled to use this feature.

### 4.6.2 Customer User Settings

The following settings are available when adding or editing this resource. The fields marked with an asterisk are mandatory.

**Note:** These are the default fields available for the internal database table.

#### Title or salutation

Some name prefix can be added here like *Mr.*, *Dr.*, *Jr.*, etc.

#### Firstname *

The first name of the customer user.

#### Lastname *

The last name of the customer user.

#### Username *

The username of the customer user to login to the system.

#### Password

The password of the customer user. This will be auto-generated if left empty.
Email *
The email address of the customer user.

Customer *
The customer company the customer user belongs to. Select a customer from the list of Customers.

Phone
The phone number of the customer user.

Fax
The fax number of the customer user.

Mobile
The cellphone number of the customer user.

Street
The street name of the customer.

Zip
The zip code of the customer.

City
The headquarter city of the customer.

Country
The country of the customer user.

Comment
Add additional information to this resource. It is recommended to always fill this field as a description of the resource with a full sentence for better clarity, because the comment will be also displayed in the overview table.

Validity *
Set the validity of this resource. Each resource can be used in OTRS only, if this field is set to valid. Setting this field to invalid or invalid-temporarily will disable the use of the resource.

See also:
It is possible to assign multiple customers to customer users via the Customer Users Customers screen.

4.6.3 Customer User Back Ends

The system works with many customer user data attributes such as username, email address, phone number, etc. These attributes are displayed in both the agent and the external interface, and also used for the authentication of customer users.

Customer data used or displayed within the system is highly customizable. The user login and the email address are always needed for customer authentication.

The administrator interface does not support the configuration of external back ends. Administrators need to edit the file Kernel/Config.pm by copying and pasting code snippets from Kernel/Config/Defaults.pm manually in case of using On-Premise system.

If you already have another customer back end (e.g. SAP), it is possible to write a module that uses it.

**Warning:** Do not modify the file Kernel/Config/Defaults.pm, it will be overwritten after upgrading the system! Copy and paste the code snippets into Kernel/Config.pm instead.
Note: This feature is only available to On-Premise customers. If you are a Managed customer, this feature is taken care of by the Customer Solutions Team in OTRS. Please contact us via support@otrs.com or in the OTRS Portal.

Customer User Back End - Database

The default user authentication back end for customer users is the OTRS database. With this back end, all customer user data can be edited via the administrator interface.

```
# This is the auth. module for the otrs db
# you can also configure it using a remote database
$Self->{'Customer::AuthModule'} =
  'Kernel::System::CustomerAuth::DB';
$Self->{'Customer::AuthModule::DB::Table'} = 'customer_user';
$Self->{'Customer::AuthModule::DB::CustomerKey'} = 'login';
$Self->{'Customer::AuthModule::DB::CustomerPassword'} = 'pw';

# if you use odbc or you want to define a database type (without autodetection)
# $Self->{'Customer::AuthModule::DB::Type'} = 'mysql';
# password crypt type (bcrypt|sha2|sha1|md5|apr1|crypt|plain)
# $Self->{'Customer::AuthModule::DB::CryptType'} = 'sha2';
```

The example below shows the configuration of a database customer back end, which uses customer user data stored in the database table customer_user.

```
# CustomerUser
# (customer user database backend and settings)
$Self->{CustomerUser} = {
  Name => Translatable('Database Backend'),
  Module => 'Kernel::System::CustomerUser::DB',
  Params => {
    # if you want to use an external database, add the
    # required settings
    # DSN => 'DBI:odbc:yourdsn',
    # Type => 'mssql', # only for ODBC connections
    # DSN => 'DBI:mysql:database=customerdb;host=customerdbhost',
    # User => '',
    # Password => '',
    Table => 'customer_user',
    # ForeignDB => 0, # set this to 1 if your table does not have create_<
    # time, create_by, change_time and change_by fields
    # CaseSensitive defines if the data storage of your DBMS is case
    # sensitive and will be
    # preconfigured within the database driver by default.
    # If the collation of your data storage differs from the default settings,
    # you can set the current behavior ( either 1 = CaseSensitive or 0 =
```

(continues on next page)
CaseINSensitive )
    # to fit your environment.
    #
    CaseSensitive => 0,
    # SearchCaseSensitive will control if the searches within the data storage are performed
    # case sensitively (if possible) or not. Change this option to 1, if you want to search case sensitive.
    # This can improve the performance dramatically on large databases.
    SearchCaseSensitive => 0,
},

# customer unique id
CustomerKey => 'login',

# customer #
CustomerID => 'customer_id',
CustomerValid => 'valid_id',

# The last field must always be the email address so that a valid email address like "John Doe" <john.doe@domain.com> can be constructed from the fields.
CustomerUserListFields => [ 'first_name', 'last_name', 'email' ],

# CustomerUserListFields => ['login', 'first_name', 'last_name', 'customer_id', 'email'],
CustomerUserSearchFields => [ 'login', 'first_name', 'last_name',
   'customer_id' ],
CustomerUserSearchPrefix => '*',
CustomerUserSearchSuffix => '*',
CustomerUserSearchListLimit => 250,
CustomerUserPostMasterSearchFields => [ 'email' ],
CustomerUserNameFields => [ 'title', 'first_name', 'last_name' ],
CustomerUserEmailUniqCheck => 1,

# # Configures the character for joining customer user name parts. Join single space if it is not defined.
# # CustomerUserNameFieldsJoin => '',
# # show now own tickets in customer panel, CompanyTickets
# CustomerUserExcludePrimaryCustomerID => 0,
# # generate auto logins
# AutoLoginCreation => 0,
# # generate auto login prefix
# AutoLoginCreationPrefix => 'auto',
# # admin can change customer preferences
# AdminSetPreferences => 1,
# # use customer company support (reference to company, See CustomerCompany settings)
# CustomerCompanySupport => 1,
# # cache time to live in sec. - cache any database queries
CacheTTL => 60 * 60 * 24,
# # Consider this source read only.
ReadOnly => 1,
Map => [ (continues on next page)
# Info about dynamic fields:

# Dynamic Fields of type CustomerUser can be used within the mapping (see example below).
# The given storage (third column) then can also be used within the following configurations (see above):
# CustomerUserSearchFields, CustomerUserPostMasterSearchFields,
# CustomerUserListFields, CustomerUserNameFields

# Note that the columns 'frontend' and 'readonly' will be ignored for dynamic fields.

# note: Login, Email and CustomerID needed!
# var, frontend, storage, shown (1=always,2=lite), required, storage-type, http-link, readonly, http-link-target, link class(es)
[
    'UserTitle', Translatable('Title or salutation'), 'title', 1, 0, 'var', 'frontend', 'storage', 'shown', required, 'storage-type', http-link, 'readonly', http-link-target, 'link class(es)
    'UserFirstname', Translatable('Firstname'), 'first_name', 1, 1, 'var', 'frontend', 'storage', 'shown', required, 'storage-type', http-link, 'readonly', http-link-target, 'link class(es)
    'UserLastname', Translatable('Lastname'), 'last_name', 1, 1, 'var', 'frontend', 'storage', 'shown', required, 'storage-type', http-link, 'readonly', http-link-target, 'link class(es)
    'UserLogin', Translatable('Username'), 'login', 1, 1, 'var', 'frontend', 'storage', 'shown', required, 'storage-type', http-link, 'readonly', http-link-target, 'link class(es)
    'UserPassword', Translatable('Password'), 'pw', 0, 0, 'var', 'frontend', 'storage', 'shown', required, 'storage-type', http-link, 'readonly', http-link-target, 'link class(es)
    'UserEmail', Translatable('Email'), 'email', 1, 1, 'var', 'frontend', 'storage', 'shown', required, 'storage-type', http-link, 'readonly', http-link-target, 'link class(es)
#    'UserCustomerID', Translatable('CustomerID'), 'customer_id', 1, 0, 'var', 'frontend', 'storage', 'shown', required, 'storage-type', http-link, 'readonly', http-link-target, 'link class(es)
#    'UserCustomerIDs', Translatable('CustomerIDs'), 'customer_ids', 1, 0, 'var', 'frontend', 'storage', 'shown', required, 'storage-type', http-link, 'readonly', http-link-target, 'link class(es)
    'UserPhone', Translatable('Phone'), 'phone', 1, 0, 'var', 'frontend', 'storage', 'shown', required, 'storage-type', http-link, 'readonly', http-link-target, 'link class(es)
    'UserFax', Translatable('Fax'), 'fax', 1, 0, 'var', 'frontend', 'storage', 'shown', required, 'storage-type', http-link, 'readonly', http-link-target, 'link class(es)
    'UserMobile', Translatable('Mobile'), 'mobile', 1, 0, 'var', 'frontend', 'storage', 'shown', required, 'storage-type', http-link, 'readonly', http-link-target, 'link class(es)
    'UserStreet', Translatable('Street'), 'street', 1, 0, 'var', 'frontend', 'storage', 'shown', required, 'storage-type', http-link, 'readonly', http-link-target, 'link class(es)
    'UserZip', Translatable('Zip'), 'zip', 1, 0, 'var', 'frontend', 'storage', 'shown', required, 'storage-type', http-link, 'readonly', http-link-target, 'link class(es)
    'UserCity', Translatable('City'), 'city', 1, 0, 'var', 'frontend', 'storage', 'shown', required, 'storage-type', http-link, 'readonly', http-link-target, 'link class(es)
    'UserCountry', Translatable('Country'), 'country', 1, 0, 'var', 'frontend', 'storage', 'shown', required, 'storage-type', http-link, 'readonly', http-link-target, 'link class(es)
    'UserComment', Translatable('Comment'), 'comments', 1, 0, 'var', 'frontend', 'storage', 'shown', required, 'storage-type', http-link, 'readonly', http-link-target, 'link class(es)
    'ValidID', Translatable('Valid'), 'valid_id', 0, 1, 'int', 'frontend', 'storage', 'shown', required, 'storage-type', http-link, 'readonly', http-link-target, 'link class(es)
]

# Dynamic field example

(continues on next page)
If you want to customize the customer user data, change the columns or add new ones to the `customer_user` table in the database.

For example, to add a new field for room number:

1. Add a new column `room` to table `customer_user`.
   
   **MySQL or MariaDB:**
   
   ```bash
   root> mysql -u root -p -e 'ALTER TABLE otrs.customer_user ADD room VARCHAR (250)'
   ```

   **PostgreSQL (from the /opt/otrs directory):**
   
   ```bash
   otrs> psql -c 'ALTER TABLE customer_user ADD COLUMN room varchar(250)'
   ```

2. Copy the `$Self->{CustomerUser}` section from `Kernel/Config/Defaults.pm` into `Kernel/Config.pm`.

3. Add the new column to the Map array.

   ```perl
   [ 'UserRoom', 'Room', 'room', 0, 1, 'var', '', 0, undef, undef ],
   ```

   You can set the HTTP link target and link class (the last two keys) to `undef` in map array elements, if they are not to be used. These keys add `target=""` and `class=""` attributes to the HTTP link element, respectively. They are ignored if HTTP link is not set (it is `' ' in this example).

   **Note:** It is recommended to always use English words for names.

   **See also:**

   Names can be translated into other languages with custom language files. For more information, see the `Custom Language File` chapter.
Customer User Back End - LDAP

If you have an LDAP directory with all your customer user data, you can use the LDAP module to authenticate your customer users. Because this module has only read-access to the LDAP back end, it is not possible to edit the customer user data via the administrator interface.

```perl
# This is an example configuration for an LDAP auth. backend.
# (take care that Net::LDAP is installed!
# $Self->{Customer::AuthModule} = 'Kernel::System::CustomerAuth::LDAP';
# $Self->{Customer::AuthModule::LDAP::Host} = 'ldap.example.com';
# $Self->{Customer::AuthModule::LDAP::BaseDN} = 'dc=example,dc=com';
# $Self->{Customer::AuthModule::LDAP::UID} = 'uid';

# Check if the user is allowed to auth in a posixGroup
# (e. g. user needs to be in a group xyz to use otrs)
# $Self->{Customer::AuthModule::LDAP::GroupDN} = 'cn=otrsallow,ou=posixGroups,' dh=example,dc=com';
# $Self->{Customer::AuthModule::LDAP::AccessAttr} = 'memberUid';
# for ldap posixGroups objectclass (just uid)
# $Self->{Customer::AuthModule::LDAP::UserAttr} = 'UID';
# for non ldap posixGroups objectclass (full user dn)
# $Self->{Customer::AuthModule::LDAP::UserAttr} = 'DN';

# The following is valid but would only be necessary if the
# anonymous user do NOT have permission to read from the LDAP tree
# $Self->{Customer::AuthModule::LDAP::SearchUserDN} = '';
# $Self->{Customer::AuthModule::LDAP::SearchUserPw} = '';
# in case you want to add always one filter to each ldap query, use
# this option. e. g. AlwaysFilter => '(mail=*)' or AlwaysFilter => '(objectclass=user)'
# $Self->{Customer::AuthModule::LDAP::AlwaysFilter} = '';
# in case you want to add a suffix to each customer login name, then
# you can use this option. e. g. user just want to use user but
# in your ldap directory exists user@domain.
# $Self->{Customer::AuthModule::LDAP::UserSuffix} = '@domain.com';

# Net::LDAP new params (if needed - for more info see perldoc Net::LDAP)
# $Self->{Customer::AuthModule::LDAP::Params} = {
#   port => 389,
#   timeout => 120,
#   async => 0,
#   version => 3,
# };

# Die if backend can't work, e. g. can't connect to server.
# $Self->{Customer::AuthModule::LDAP::Die} = 1;

The example below shows the configuration of a LDAP customer user back end.

```perl
# CustomerUser
# (customer user ldap backend and settings)
$Self->{CustomerUser} = {
   Name => 'LDAP Backend',
   Module => 'Kernel::System::CustomerUser::LDAP',
   Params => {
# (continues on next page)```
# ldap host
Host => 'bay.csuhayward.edu',
# ldap base dn
BaseDN => 'ou=seas,o=csuh',
# search scope (one|sub)
SCOPE => 'sub',
# The following is valid but would only be necessary if the
# anonymous user does NOT have permission to read from the LDAP tree
UserDN => '',
UserPw => '',
# in case you want to add always one filter to each ldap query, use
# this option. e.g. AlwaysFilter => '(mail=*)' or AlwaysFilter =>

  → '(objectclass=user)'  
  AlwaysFilter => '',
# if the charset of your ldap server is iso-8859-1, use this:
#  SourceCharset => 'iso-8859-1',
# die if backend can't work, e.g. can't connect to server
Die => 0,
# Net::LDAP new params (if needed - for more info see perldoc Net::LDAP)
Params => {
  port => 389,
  timeout => 120,
  async => 0,
  version => 3,
},
# customer unique id
CustomerKey => 'uid',
# customer #
CustomerID => 'mail',
CustomerUserListFields => ['cn', 'mail'],
CustomerUserSearchFields => ['uid', 'cn', 'mail'],
CustomerUserSearchPrefix => '',
CustomerUserSearchSuffix => '*',
CustomerUserSearchListLimit => 250,
CustomerUserPostMasterSearchFields => ['mail'],
CustomerUserNameFields => ['givenname', 'sn'],
# Configures the character for joining customer user name parts. Join single
# space if it is not defined.
CustomerUserNameFieldsJoin => '',
# show customer user and customer tickets in the external interface
CustomerUserExcludePrimaryCustomerID => 0,
# add a ldap filter for valid users (expert setting)
#  CustomerUserValidFilter => '(!(description=gesperrt))',
# admin can't change customer preferences
AdminSetPreferences => 0,
# cache time to live in sec. - cache any ldap queries
CacheTTL => 0,
Map => [  
  # note: Login, Email and CustomerID needed!  
  # var, frontend, storage, shown (1=always,2-lite), required, storage-type,  
  → http-link, readonly, http-link-target, link class(es)  
  [ 'UserTitle', Translatable('Title or salutation'), 'title',   
    → 1, 0, 'var', '', 1, undef, undef ],
  [ 'UserFirstname', Translatable('Firstname'), 'givenname',  
    → 1, 1, 'var', '', 1, undef, undef ],
  (continues on next page)
To activate and configure the LDAP back end:

1. Copy the $Self->{CustomerUser} section from Kernel/Config/Defaults.pm into Kernel/Config.pm.

2. Remove the comments (# characters) from the beginning of the lines.

If additional customer user attributes are stored in your LDAP directory, such as a manager name, a mobile phone number, or a department, this information can be displayed in OTRS.

To display additional customer user attributes from LDAP directory:

1. Expand the Map array in Kernel/Config.pm with the entries for these attributes.

```perl
[ 'UserMobilePhone', 'Mobile Phone', 'mobilephone', 1, 0, 'var', '', 1, undef, undef ],
```

**Note:** It is recommended to always use English words for names.

**See also:**
Names can be translated into other languages with custom language files. For more information, see the Custom Language File chapter.
Customer User Back End - HTTPBasicAuth

If you want to implement a single sign on solution for all your customer users, you can use HTTPBasic authentication (for all your systems) and use the HTTPBasicAuth module with OTRS. No login is needed with OTRS any more.

```
# This is an example configuration for an apache ($ENV{REMOTE_USER})
# auth. backend. Use it if you want to have a single login through
# apache http-basic-auth
# $Self->{'Customer::AuthModule'} = 'Kernel::System::CustomerAuth::HTTPBasicAuth';
#
# In case there is a leading domain in the REMOTE_USER, you can
# replace it by the next config option.
# $Self->{Customer::AuthModule::HTTPBasicAuth::Replace'} = 'example_domain\';
# Note:
# In case you need to replace some part of the REMOTE_USER, you can
# use the following RegExp ($1 will be new login).
# $Self->{Customer::AuthModule::HTTPBasicAuth::ReplaceRegExp'} = '^(.+?)$';
# Defines a header name, that has to be present for customers to authenticate.
# $Self->{Customer::AuthModule::HTTPBasicAuth::RequiredLoginHeader'} =
#   'RequiredHeader';
# Defines a header value, that has to be present in the required header for customers to authenticate.
# $Self->{Customer::AuthModule::HTTPBasicAuth::RequiredLoginHeaderValue'} =
#   'RequiredHeaderValue';
# Defines a header value regular expression, that has to be present in the required header for customers to authenticate.
# $Self->{Customer::AuthModule::HTTPBasicAuth::RequiredLoginHeaderValueRegExp'} =
#   '^RequiredHeaderRegExp$';
# If you use this module, you should use as fallback the following
# config settings if user isn't login through apache ($ENV{REMOTE_USER})
# $Self->{CustomerPanelLoginURL'} = 'http://host.example.com/not-authorised-for-otrs.html';
# $Self->{CustomerPanellogoutURL'} = 'http://host.example.com/thanks-for-using-otrs.html';
```

Customer User Back End - Radius

The settings shown in example below can be used to authenticate your customer users against a Radius server.

```
# This is example configuration to auth. agents against a radius server
# $Self->{Customer::AuthModule'} = 'Kernel::System::Auth::Radius';
# $Self->{Customer::AuthModule::Radius::Host'} = 'radiushost';
# $Self->{Customer::AuthModule::Radius::Password'} = 'radiussecret';
```
4.6.4 Multiple Customer User Back Ends

If you want to use more than one customer user data source, the CustomerUser configuration parameter should be expanded with a number, like CustomerUser1 and CustomerUser2.

The following configuration example shows usage of both a database and an LDAP customer user back end.

```
# Data source 1: customer user database back end and settings.
$Self->{CustomerUser1} = {
    Name => 'Database Backend',
    Module => 'Kernel::System::CustomerUser::DB',
    Params => {
        DSN => 'DBI:odbc:yourdsn',
        DSN => 'DBI:mysql:database=customerdb;host=customerdbhost',
        User => '',
        Password => '',
        Table => 'customer_user',
    },
    # Other setting here.
};

# Data source 2: customer user LDAP back end and settings.
$Self->{CustomerUser2} = {
    Name => 'LDAP Backend',
    Module => 'Kernel::System::CustomerUser::LDAP',
    Params => {
        Host => 'bay.csuhayward.edu',
        BaseDN => 'ou=seas,o=csuh',
        SCOPE => 'sub',
        UserDN => '',
        UserPw => '',
        AlwaysFilter => '',
        Die => 0,
        Params => {
            port => 389,
            timeout => 120,
            async => 0,
            version => 3,
        },
    },
    # Other setting here.
};
```

It is possible to integrate up to 10 different customer back ends. Use the Customer Users screen to view or edit (assuming write access is enabled) all customer user data.
4.6.5 Customer User Data in Dynamic Fields

Sometimes it can be useful to also store customer user data directly in dynamic fields of a ticket, for example to include this data in special statistics later.

The dynamic field values will be set when a ticket is created or when the customer user of a ticket is changed. The values of the dynamic fields are taken from the customer user data. This works for all back ends, but is especially useful for LDAP back ends.

To activate this optional feature:

1. Activate the setting `Ticket::EventModulePost###4100-DynamicFieldFromCustomerUser`.
2. Activate the setting `DynamicFieldFromCustomerUser::Mapping`, and modify its value. This setting should contain the map between customer user field names and names of dynamic fields which will inherit their values.
3. Create the dynamic fields, if the dynamic fields are not present in the system yet.
4. Enable display of the dynamic fields in the Properties widget, so you can check their current values easily. You can do this via following instructions.

**Note:** The dynamic fields in question must not be enabled in the following action forms:

- `Forms###AgentFrontend::TicketCreate::Email::CreateProperties`
- `Forms###AgentFrontend::TicketCreate::Phone::CreateProperties`
- `Forms###AgentFrontend::TicketCreate::SMS::CreateProperties`
- `Forms###AgentFrontend::Ticket::Action::Customer`

If they were, the field values from the screen would have precedence over the automatically set values.

4.7 Customer Users  Customers

In an organization, for example, which views its customers as it’s departments and teams, a customer user may have to have access to multiple customers tickets for controlling purposes. Maybe you have partners who represent several different companies, or a corporation wants to have a look at all the requests of their subsidiaries.

For all situations, OTRS provides the means. Aside from a primary customer, your customer users can gain access to multiple customer tickets as defined by you.

Use this screen to add one or more customer users to one or more customers. To use this function, at least one customer user and one customer need to have been added to the system. The management screen is available in the Customer Users  Customers module of the Users, Groups & Roles group.

**Fig. 25: Manage Customer User-Customer Relations**
4.7.1 Manage Customer Users  Customers Relations

Note: This module is for assigning a customer user to additional customer records. The primary customer is assigned via the Customer User Settings.

To assign some customers to a customer user:
1. Click on a customer user in the Customer Users column.
2. Select the customers you would like to assign to the customer user.
3. Click on the Save or Save and finish button.

![Fig. 26: Change Customer Relations for Customer User](image)

To assign some customer users to a customer:
1. Click on a customer in the Customers column.
2. Select the customer users you would like to assign to the customer.
3. Click on the Save or Save and finish button.

![Fig. 27: Change Customer User Relations for Customer](image)

In the previous versions of OTRS it was only possible to enable or disable access to company tickets for customer users for every customer user back end via CustomerUserExcludePrimaryCustomerID parameter. It was not possible to select the primary customer ID, because it was assumed to be always there anyways, and for the same reason it is still not possible if CustomerUserExcludePrimaryCustomerID is disabled for that customer user back end.

In order to allow privilege separation for customer users of a common company, it should be possible to remove access to tickets of the same company and then individually reassign access to specific customer users. Then these customer users have company ticket access while all others do not.

To allow privilege separation for the customer users of the same company:
1. Go to the System Configuration screen.
2. Search for the setting CustomerDisableCompanyTicketAccess and enable it to make sure not all customer users get access to company tickets until the configuration is finished.
3. Copy the \$Self->{CustomerUser} section from Kernel/Config/Defaults.pm into Kernel/Config.pm.

4. Remove the comment (# character) from the beginning of the line contained CustomerUserExcludePrimaryCustomerID and set the value to 1.

```
CustomerUserExcludePrimaryCustomerID => 1,
```

5. Set Customer Users Customers relations for customer users who need to have access to company tickets.

6. Go to the System Configuration screen.

7. Search for the setting CustomerDisableCompanyTicketAccess and disable it to allow access to company tickets only for customer users configured in step 5.

**Note:** If several customer users or customers are added to the system, use the search box to find a particular customer user or customer. Only the first 1000 customer users and customers are listed by default.

Multiple customer users or customers can be assigned in both screens at the same time. Additionally clicking on a customer user or clicking on a customer in the relations screen will open the Edit Customer User screen or the Edit Customer screen accordingly.

**Warning:** Accessing a customer user or a customer provides no back link to the relations screen.

**Note:** By setting a checkbox in the header of a column will set all the checkboxes in the selected column.

## 4.8 Customer Users Groups

Customer users shouldn`t need to be bothered with the internal workings of your service desk. A single point of contact request can trigger several processes within your organization, all of which having the customer user information attached and are visible to the customer.

OTRS allows you to assign group permissions to customer users. Access works just the same as for agents, preventing a customer from modifying and viewing a request. Thus allowing the customer to focus on the results of the original communication and funneling the discussion through one ticket.

**See also:**

Assign a group to an entire customer using Customers Groups.

Use this screen to add one or more customer users to one or more groups. To use this function, at least one customer user and one group need to have been added to the system. The management screen is available in the Customers Users Groups module of the Users, Groups & Roles group.

Customer group support needs to be enabled in at least one customer user back end to use this function. For the default OTRS back end, this can be enabled in the system configuration by clicking on the Enable it here! button.

**Note:** To enable this feature in systems using a directory server or multiple non-default back ends, a custom configuration file needs to be placed in Kernel/Config/Files (for example named
Fig. 28: Manage Customer User-Group Relations

Fig. 29: Enable Customer Group Feature
Once activated, all customer users from this back end will require group assignment.

**Warning:** After making changes to the back end, the server cache will be deleted, which may cause a temporary drop in performance.

### 4.8.1 Manage Customer Users Groups Relations

To assign some groups to a customer user:

1. Click on a customer user in the *Customer Users* column.
2. Select the permissions you would like to connect the customer user to groups with.
3. Click on the *Save* or *Save and finish* button.

![Fig. 30: Change Group Relations for Customer User](image)

To assign some customer users to a group:

1. Click on a group in the *Groups* column.
2. Select the permissions you would like to connect the group to customer users with.
3. Click on the *Save* or *Save and finish* button.

![Fig. 31: Change Customer User Relations for Group](image)

To change customer user default groups:

1. Click on the *Edit Customer User Default Groups* button in the left sidebar.
2. Add or modify groups in setting `CustomerGroupAlwaysGroups`.
3. Deploy the modified system configurations.

![CustomerGroupAlwaysGroups System Configuration Screen](image)

These groups are automatically assigned to all customer users.

**Note:** If several customer users or groups are added to the system, use the search box to find a particular customer user or use the filter box to find a particular group by just typing the name to filter.

Multiple customer users or groups can be assigned in both screens at the same time. Additionally clicking on a customer user or clicking on a group in the relations screen will open the `Edit Customer User` screen or the `Edit Group` screen accordingly.

**Warning:** Accessing a customer user or a group provides no back link to the relations screen.

### 4.8.2 Customer Users Groups Relations Reference

When assigning a customer user to a group or vice versa, several permissions can be set as connection between a customer user and a group. The following permissions are available by default:

- **ro**
  - Read only access to the resource.

- **rw**
  - Full read and write access to the resource.

**See also:**

Not all available permissions are shown by default. See `System::Customer::Permission` setting for permissions that can be added. This additional permission can be added:

- **create**
  - Permission to create a ticket.

**Note:** By setting a checkbox in the header of a column will set all the checkboxes in the selected column. By setting the checkbox in the last `rw` column will set all the checkboxes in the selected row.
4.9 Customer Users  Services

Use this screen to add one or more customer users to one or more services. To use this function, at least one customer user and one service need to have been added to the system. The management screen is available in the Customers Users  Services module of the Users, Groups & Roles group.

Fig. 33: Manage Customer User-Service Relations

4.9.1 Manage Customers Users  Services Relations

To allocate some services to a customer user:

1. Click on a customer user in the Customer Users column.
2. Select the services you would like to allocate to the customer user.
3. Click on the Save or Save and finish button.

Fig. 34: Change Service Relations for Customer User

To allocate some customer users to a service:

1. Click on a service in the Services column.
2. Select the customer users you would like to allocate to the service.
3. Click on the Save or Save and finish button.

Note: If several customer users or services are added to the system, use the search box to find a particular customer user or use the filter box to find a particular service by just typing the name to filter.
Fig. 35: Change Customer User Relations for Service

Multiple customer users or services can be assigned in both screens at the same time. Additionally clicking on a customer user or clicking on a service in the relations screen will open the Edit Customer User screen or the Edit Service screen accordingly.

**Warning:** Accessing a customer user or a service provides no back link to the relations screen.

**Note:** By setting a checkbox in the header of a column will set all the checkboxes in the selected column.

### 4.9.2 Manage Default Services

It is possible to add default services, so that all customer users may access them. This prevents having to add each service to each customer user.

To edit the default services:

1. Click on the *Edit default services* button in the left sidebar.
2. Select the services which should be selectable for all customer users.
3. Click on the *Save* or *Save and finish* button.

**Warning:** Mixing default services and customer specific services can be confusing. If a customer user has specific services assigned, then the default services will be not applied.

### 4.10 Groups

Use this screen to add groups to the system. A fresh OTRS installation contains some default groups. The group management screen is available in the Groups module of the Users, Groups & Roles group.
4.10. Groups

Fig. 36: Allocate Services to Customer User Screen

Fig. 37: Group Management Screen
4.10.1 Manage Groups

To add a group:

1. Click on the Add Group button in the left sidebar.
2. Fill in the required fields.
3. Click on the Save button.

![Add Group Screen](image)

**Warning:** Groups can not be deleted from the system. They can only be deactivated by setting the Validity option to invalid or invalid-temporarily.

To edit a group:

1. Click on a group in the list of groups.
2. Modify the fields.
3. Click on the Save or Save and finish button.

![Edit Group Screen](image)

**Note:** If several groups are added to the system, use the filter box to find a particular group by just typing the name to filter.
4.10.2 Group Settings

The following settings are available when adding or editing this resource. The fields marked with an asterisk are mandatory.

**Name** *

The name of this resource. Any type of characters can be entered to this field including uppercase letters and spaces. The name will be displayed in the overview table.

**Note:** Renaming a group does not affect permissions previously given. When *group1* is now called *group2*, then all the permissions are the same for the users which used to be assigned to *group1*. This result is because OTRS uses IDs for the relationship, and not the name.

**Validity** *

Set the validity of this resource. Each resource can be used in OTRS only, if this field is set to *valid*. Setting this field to *invalid* or *invalid-temporarily* will disable the use of the resource.

**Note:** Invalidating a group does not remove the permissions from the user, but only makes them invalid. If you reactivate this group, even with a new name, the permissions take effect.

**Comment**

Add additional information to this resource. It is recommended to always fill this field as a description of the resource with a full sentence for better clarity, because the comment will be also displayed in the overview table.

4.10.3 Default Groups

Every agent’s account should belong to at least one group or role. In a fresh installation, there are some pre-defined groups available:

**admin**

Allowed to perform administrative tasks in the system.

**stats**

Qualified to access the stats module of OTRS and generate statistics.

**users**

Agents should belong to this group, with read and write permissions. They can then access all functions of the ticket system.

4.11 Roles

Use this screen to add roles to the system. A fresh OTRS installation contains no roles by default. The role management screen is available in the *Roles* module of the *Users, Groups & Roles* group.
4.11.1 Manage Roles

To add a role:

1. Click on the Add Role button in the left sidebar.
2. Fill in the required fields.
3. Click on the Save button.

![Add Role Screen](image)

**Warning:** Roles can not be deleted from the system. They can only be deactivated by setting the Validity option to invalid or invalid-temporarily.

To edit a role:

1. Click on a role in the list of roles.
2. Modify the fields.
3. Click on the Save or Save and finish button.

**Note:** If several roles are added to the system, use the filter box to find a particular role by just typing the name to filter.
4.11.2 Role Settings

The following settings are available when adding or editing this resource. The fields marked with an asterisk are mandatory.

**Name** *

The name of this resource. Any type of characters can be entered to this field including uppercase letters and spaces. The name will be displayed in the overview table.

**Validity** *

Set the validity of this resource. Each resource can be used in OTRS only, if this field is set to *valid*. Setting this field to *invalid* or *invalid-temporarily* will disable the use of the resource.

**Comment**

Add additional information to this resource. It is recommended to always fill this field as a description of the resource with a full sentence for better clarity, because the comment will be also displayed in the overview table.

4.12 Roles Groups

Use this screen to add one or more roles to one or more groups. To use this function, at least one role and one group need to have been added to the system. The management screen is available in the Roles Groups module of the Users, Groups & Roles group.
4.12.1 Manage Roles Groups Relations

To assign some groups to a role:

1. Click on a role in the Roles column.
2. Select the permissions you would like to connect the role to groups with.
3. Click on the Save or Save and finish button.

![Fig. 44: Change Group Relations for Role](image)

To assign some roles to a group:

1. Click on a group in the Groups column.
2. Select the permissions you would like to connect the group to roles with.
3. Click on the Save or Save and finish button.

![Fig. 45: Change Role Relations for Group](image)

**Note:** If several roles or groups are added to the system, use the filter box to find a particular role or group by just typing the name to filter.

Multiple roles or groups can be assigned in both screens at the same time. Additionally clicking on a role or clicking on a group in the relations screen will open the Edit Role screen or the Edit Group screen accordingly.

**Warning:** Accessing a role or a group provides no back link to the relations screen.
4.12.2 Roles  Groups Relations Reference

When assigning a role to a group or vice versa, several permissions can be set as connection between a role and a group. The following permissions are available by default:

- **ro**
  Read-only access to tickets in this group/queue.

- **move_into**
  Permission to move tickets in this group/queue and move existing tickets into this group/queue.

- **create**
  Permission to create tickets in this group/queue.

- **note**
  Permission to add notes to tickets and inform agents in this group/queue.

- **owner**
  Permission to set the owner of new tickets or change the owner of existing tickets in this group/queue.

- **priority**
  Permission to change the ticket priority in this group/queue.

- **chat_observer**
  Users with this permission type will only be able to observe chats in a channel after they have been invited.

- **chat_participant**
  Users with this permission type will be able to take part in a chat, but only after they get invited to it.

- **chat_owner**
  Users with this permission type will be able to accept chat customer/public requests and do all kinds of observer and participant actions on a chat.

- **rw**
  Full read and write access to the tickets in this group/queue.

See also:

Not all available permissions are shown by default. See `System::Permission` setting for permissions that can be added. These additional permissions can be added:

- **bounce**
  Permission to redirect an email.

- **close**
  Permission to close a ticket.

- **compose**
  Permission to compose an answer for a ticket.

- **customer**
  Permission to change the customer of a ticket.

- **forward**
  Permission to forward an article.

- **pending**
  Permission to set a ticket to pending.

- **phone**
  Permission to add a phone call to a ticket.
responsible

Permission to set the responsible agent of new tickets or change the responsible agent of existing tickets in this group/queue.

**Note:** By setting a checkbox in the header of a column will set all the checkboxes in the selected column. By setting the checkbox in the last *rw* column will set all the checkboxes in the selected row.
Working effectively with tickets requires more than just the possibility to manually change their state, add information, communicate with other persons and finally close the tickets.

Automation frees agents from reoccurring and time-consuming tasks and allows them to focus on activities, where their interaction is required.

Process management guides customer users and agents through ticket creation to closure ensuring that tickets take defined workflows at any time.

OTRS offers many options to automate tasks based on events, time, external systems and defined processes. OTRS also includes the possibility to add individual information types to tickets and help agents to lower their error rate when working with tickets by allowing only defined activities for tickets in specific states.

5.1 Access Control Lists (ACL)

Working with tickets can become a bewildering task. Many options are given to process, or close tickets, even if they are not needed in the current state of a ticket or due to the role of the current agent. Hiding unneeded entries cleans up the menu bar and gets it easier to work with, hiding values from dynamic fields or next queues lowers chance of human error.

OTRS uses access control lists (ACL) to restrict agents and customer users on ticket options, allowing only correct and meaningful activities with a ticket. OTRS administrators can easily generate ACLs in the graphical interface to prevent ticket closure until meeting specific requirements, prevent tickets from being moved to queues before adding the defined information and much more.

Use this screen to manage access control lists in the system. A fresh OTRS installation contains no access control lists by default. The access control lists management screen is available in the Access Control Lists (ACL) module of the Processes & Automation group.

5.1.1 Manage Access Control Lists

**Note:** When creating some access control lists, please keep in mind that they are executed alphabetically as displayed in the access control lists overview.

**Warning:** ACL restrictions will be ignored for the superuser account (UserID 1).

To create a new ACL:
1. Click on the **Create New ACL** button in the left sidebar.
2. Fill in the required fields.
3. Click on the **Save** button.
4. You will be redirected to **Edit ACL** screen to edit the ACL structure.

To edit an ACL:

1. Click on an ACL in the list of ACLs or you are already redirected here from **Create New ACL** screen.
2. Modify the fields and the ACL structure.
3. Click on the **Save** or **Save and finish** button.
4. Deploy all ACLs.

To delete an ACL:

1. Click on an ACL in the list of ACLs.
2. Set the **Validity** option to **invalid** or **invalid-temporarily**.
3. Click on the **Save** button. A new **Delete Invalid ACL** button will appear in the left sidebar.
Fig. 3: Edit ACL Structure Screen
4. Click on the *Delete Invalid ACL* button.
5. Click on the *Delete* button in the confirmation screen.
6. Deploy all ACLs.

**Warning:** ACLs are written into `ZZZACL.pm` file in Perl format. Without deploying, all ACLs are still in this cache file even if they are deleted or the *Validity* option is set to *invalid* or *invalid-temporarily*. Don’t forget to deploy all ACLs after modifications!

To deploy all ACLs:

1. Click on the *Deploy ACLs* button in the left sidebar.

**Note:** New or modified ACLs have to deploy in order to make affect the behavior of the system. Setting the *Validity* option to *valid* just indicates, which ACLs should be deployed.

To export all ACLs:

1. Click on the *Export ACLs* button in the left sidebar.
2. Choose a location in your computer to save the `Export_ACL.yml` file.

To import ACLs:

1. Click on the *Browse* button in the left sidebar.
2. Select a previously exported `.yml` file.
3. Click on the *Overwrite existing ACLs?* checkbox, if you would like to overwrite the existing ACLs.
4. Click on the *Import ACL configuration(s)* button.
5. Deploy the imported ACLs with *Deploy ACLs* button.

**Note:** If several ACLs are added to the system, use the filter box to find a particular ACL by just typing the name to filter.

**Warning:** The maximum number of 80 *valid* ACLs should not be exceeded. Exceeding this limit may affect the system performance.

**Warning:** Changing the name of this object should be done with care, the check only provides verification for certain settings and ignores things where the name can’t be verified. Some examples are dashboard filters, access control lists (ACLs), and processes (sequence flow actions) to name a few. Documentation of your setup is key to surviving a name change.
5.1.2 Possible Data Loss

**Warning:** If a drop-down field has a value that is forbidden by ACL, the stored value in a ticket will be changed or removed after the form is submitted. This can cause possible data loss!

Here is an example to explain the possible problems:

A drop-down dynamic field is created with four possible values: **BRONZE**, **SILVER**, **GOLD** and **VIP**. Empty value also allowed. The agent can select **BRONZE**, **SILVER** and **GOLD** only. The **VIP** value can be set only by the generic agent. This is restricted by an ACL. The dynamic field is added to some ticket screens. In a screen the field is set as mandatory but in another screen the field is not mandatory and empty value is allowed.

1. The agent creates a new ticket. The agent can select only the allowed values, the **VIP** value is not displayed. **SILVER** is selected and the ticket is created.
2. The generic agent changes the value to **VIP**.
3. The agent opens a ticket action where the field is added as mandatory. Since the field is mandatory the agent has to select an other value instead of **VIP** which is not visible to the agent due to an ACL rule. The form is submitted and the dynamic field value is changed. This can be an **unintended change**.
4. The generic agent changes the value to **VIP** again.
5. The agent opens a ticket action where the field is added as optional. The field shows an empty value because the current **VIP** value is not visible to the agent. Since the field is not mandatory the agent does not change the value and leaves it empty. The form is submitted and the dynamic field value is changed to empty value. This can be a **possible data loss**.

Be careful of unintended data change! The same situation can happen with dynamic fields, priorities, queues, states, types and any other drop-down fields that are forbidden by ACLs.

5.1.3 ACL Settings

The following settings are available when adding or editing this resource. The fields marked with an asterisk are mandatory.

**Name** *

The name of this resource. Any type of characters can be entered to this field including uppercase letters and spaces. The name will be displayed in the overview table.

**Comment**

Add additional information to this resource. It is recommended to always fill this field as a description of the resource with a full sentence for better clarity, because the comment will be also displayed in the overview table.

**Description**

Like comment, but longer text can be added here.

**Stop after match**

ACLs are evaluated in alphabetical order. This setting disables the evaluation of the subsequent ACLs.

**Validity** *

Set the validity of this resource. Each resource can be used in OTRS only, if this field is set to **valid**. Setting this field to **invalid** or **invalid-temporarily** will disable the use of the resource.
5.1.4 Edit ACL Structure

The ACL definition can be split into two big parts, Match settings and Change settings.

Match Settings

In the match settings the ACLs contain attributes that has to be met in order to use the ACL. If an ACL contains more than one attribute then all attributes have to be met. If the attributes defined in the ACL do not match with the attributes that are sent, then the ACL does not take any affect, but any other match ACL will.

Properties

This section contains matching options that can be changed on the fly. For example on a ticket creation time the data of the ticket changes dynamically as the agent sets the information. If an ACL is set to match a ticket attribute then only when the matching attribute is selected the ACL will be active and might reduce other ticket attributes, but as soon as another value is selected the ACL will not take any affect.

PropertiesDatabase

This section is similar to Properties but does not take changes in ticket attributes that are not saved into the database, this means that changing an attribute without submit will not make any effect. This section is not used for ticket creation screens (as tickets are not yet created in the database).

Change Settings

The change settings contain the rules to reduce the possible options for a ticket.

Possible

This section is used to reset the data to be reduce to only the elements that are set in this section.

PossibleAdd

This section is used to add missing elements that were reduced in other ACLs. This section is only used in together with other ACLs that have Possible or PossibleNot sections.

PossibleNot

This section is used to remove specific elements from the current data. It could be used stand alone or together with other ACLs with a Possible or PossibleAdd sections.

Modifiers

In order to make the development of ACLs easier and more powerful there is a set of so called modifiers for the attributes on each section. This modifiers are explained below:

[Not]

This modifier is used to negate a value, for example [Not]2 low. Talking about priorities will be the same as to have: 1 very low, 3 normal, 4 high, 5 very high.

[RegExp]

It is used to define a regular expression for matching several values, for example [RegExp]low. In this case talking about priorities is the same as 1 very low, 2 low.

[regexp]

It is very similar to [RegExp] but it is case insensitive.
Negated regular expressions, for example \[NotRegExp\]low. Talking about priorities is the same as 3 normal, 4 high, 5 very high.

It is very similar to \[NotRegExp\] but it is case insensitive.

## 5.1.5 ACL Examples

**Limit available queues based on current queue and priority**

This example shows how to restrict the available queues to the Alert queue if the ticket is currently in the queue Raw and has the priority 5 very high.

In this example PropertiesDatabase is used. This means that the ticket must already be in the queue Raw and must have the priority 5 very high in order to apply this ACL.

This ACL is not applied if a user only selects the queue Raw and the priority 5 very high in a dialog. To achieve this, Properties has to be used.

Using this ACL, tickets that are in the Raw queue and have the priority 5 very high can only be moved to the Alert queue.

---

- **Comment**: Limit available queues based on current queue and priority
- **ConfigChange**: Possible:
  - Ticket:
    - Queue:
      - Alert
- **ConfigMatch**:
  - PropertiesDatabase:
    - Ticket:
      - Priority:
        - 5 very high
      - Queue:
        - Raw

**Description**: Restrict the available queues to the “Alert” queue if the ticket is currently in the queue “Raw” and has the priority “5 very high”.

Name: 010 Example ACL

**Make certain ticket type not selectable**

This example shows how to make the ticket type Unclassified not selectable for users.

In this example, the match settings are empty. This means that the ACL is always applied because the filter is empty.

---

- **Comment**: Make certain ticket type not selectable
- **ConfigChange**: Possible:
  - Ticket:
    - Type:
      - Unclassified
- **ConfigMatch**: 

**Description**: Make the ticket type “Unclassified” not selectable.

Name: 020 Example ACL
### Edit ACL Structure

**Match settings**

- **PropertiesDatabase**
  - **Ticket**
    - Priority: 5 very high
    - Queue: Raw

**Change settings**

- **Possible**
  - **Ticket**
    - Queue: Alert

---

**Fig. 4:** Limit available queues based on current queue and priority
Note that you still may find tickets with the ticket type *Unclassified*. This is for example the case of incoming emails which are converted into tickets.

**Ticket closing not possible for certain ticket type**

This example shows how to prevent tickets with the ticket type *Unclassified* from being closed.

```
---
- Comment: Ticket closing not possible for certain ticket type
  ConfigChange:
  PossibleNot:
    Endpoint:
      - AgentFrontend::Ticket::Action::Close
  Ticket:
    State:
      - '[RegExp]close'
  ConfigMatch:
    PropertiesDatabase:
      Ticket:
        Type:
          - Unclassified
        Description:
          Prevent tickets with the ticket type "Unclassified" from being closed.
  Name: 030 Example ACL
```

This example ACL can be used in combination with the previously described example ACL.

**Note:** Pay attention to the order of the ACLs. The previously described example ACL must be executed before the ACL described here.

**Using regular expressions**

This example shows how to use regular expressions for matching tickets and for filtering the available selection options.
Fig. 6: Ticket closing not possible for certain ticket type
With this ACL, only services that contain `Hardware` in their name are displayed in agent interface (and if configured as well in the external interface) if the ticket is stored in a queue whose name starts with `HW`, or if a queue whose name starts with `HW` is selected in a user dialog.

Fig. 7: Using regular expressions

---

**Comment**: Using regular expressions

**ConfigChange**:
- Possible:
  - Ticket:
  - Service:
    - `^[RegExp]Hardware`

**ConfigMatch**:
- Properties:
  - Ticket:
    - Queue:
      - `^[RegExp]^HW`

**Description**: Use regular expressions for matching tickets and for filtering the available selection options.

**Name**: 040 Example ACL

---

**Restrict one dynamic field based on another dynamic field**

This example shows how to restrict the selectable values of the dynamic field `CarModel` to `Polo`, `Golf` and `Passat`, if a user has selected the value `VW` in the dynamic field `CarManufacturer` in the same user dialog.
Make sure that you use the name of the dynamic field in format `DynamicField_Name` and make sure that you use the data keys of the possible values and not the data values shown to the user. Both is specified in the definition of the dynamic field.

Fig. 8: Restrict one dynamic field based on another dynamic field

---

Comment: Restrict one dynamic field based on another dynamic field

ConfigChange:
  Possible:
    Ticket:
      DynamicField_CarModel:
        - Polo
        - Passat
        - Golf

ConfigMatch:
  Properties:
    DynamicField:
      DynamicField_CarManufacturer:
        - VW

Description: Restrict the selectable values of the dynamic field “CarModel” to “Polo”, “Golf” and “Passat”, if a user has selected the value “VW” in the dynamic field “CarManufacturer” in the same user dialog.

(continues on next page)
In the **Match settings** the **Ticket** object can be used as an alternative to the **DynamicField** object.

---

**Comment**: Restrict one dynamic field based on another dynamic field

**ConfigChange**:

**Possible**:

- **Ticket**:
  - **DynamicField_CarManufacturer**:
    - **VW**

**ConfigMatch**:

**Properties**:

- **Ticket**:
  - **DynamicField_CarModel**:
    - Polo
    - Passat
    - Golf

**Description**: Restrict the selectable values of the dynamic field “CarModel” to “Polo”, “Golf” and “Passat”, if a user has selected the value “VW” in the dynamic field.
Restrict one dynamic field based on another dynamic field in an action

The previous example can be extended by the restriction that it should only apply to the ticket action *Change Free Fields*. For this purpose, the condition that the *FreeText* endpoint must be affected, has to be added in the *Match settings*.

---

- **Comment**: Restrict one dynamic field based on another dynamic field in an action
- **ConfigChange**:
  - **Possible**:
  - **Ticket**:
    - DynamicField_CarManufacturer:
    - *VW*
    - -
      - Polo

(continues on next page)
### ConfigMatch:

#### Properties:

- **Frontend:**
  - Endpoint:
    - AgentFrontend::Ticket::Action::FreeText

- **Ticket:**
  - DynamicField_CarManufacturer:
    - VW

#### Description:
Restrict the selectable values of the dynamic field “CarModel” to “Polo”, “Golf” and “Passat”, if a user has selected the value “VW” in the dynamic field “CarManufacturer” in the “Free Fields” action.

#### Name:
052 Example ACL

---

Disallow a process for a customer ID

This ACL prevents the usage of a certain process for all customer users assigned to a certain customer ID (otrs.com in this example).

Since customer users only use the external interface, the ACL is applied there.

#### Fig. 11: Disallow a process for a customer ID

![ACL Structure](image)

- **Comment:** Disallow a process for a customer ID

---

5.1. **Access Control Lists (ACL)**
Disallow the ticket actions close and move for a certain process

This ACL example shows how to stop the ticket actions *Move Ticket* and *Close Ticket* from displaying when a specific process is selected.

![Edit ACL Structure](Image)

- **Comment**: Disallow the ticket actions close and move for a certain process
- **ConfigChange**:
  - **PossibleNot**:
    - **Endpoint**:
      - AgentFrontend::Ticket::Action::Move
      - AgentFrontend::Ticket::Action::Close
Hide user task activity dialogs in a process based on the agent role

Let’s assume that a process contains a user task activity that has two user task activity dialogs assigned to it and that these user task activity dialogs shall be executed only by agents who have a specific role.

The goal is to display the correct user task activity dialogs only to the agents who have the correct role.

<table>
<thead>
<tr>
<th>User task activity dialog</th>
<th>Agent role</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approval from Sales</td>
<td>Head of Sales</td>
</tr>
<tr>
<td>Approval from Marketing</td>
<td>Head of Marketing</td>
</tr>
</tbody>
</table>

For this purpose three ACLs are required.

**Note:** Process and user task activity dialogs are referenced by ID.

The first ACL prevents the display of all user task activity dialogs within this user task activity.

By means of the next ACL it is achieved that all agents who have the role Head of Sales get the user task activity dialog Approval from Sales displayed.

5.1. Access Control Lists (ACL)
Fig. 13: Hide user task activity dialogs in a process based on the agent role
### Edit ACL Structure

<table>
<thead>
<tr>
<th>Match settings</th>
</tr>
</thead>
<tbody>
<tr>
<td>PropertiesDatabase</td>
</tr>
<tr>
<td>User</td>
</tr>
<tr>
<td>Role:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Change settings</th>
</tr>
</thead>
<tbody>
<tr>
<td>PossibleAdd</td>
</tr>
<tr>
<td>ActivityDialog</td>
</tr>
</tbody>
</table>

![ACL Configuration Interface](attachment:image)

Fig. 14: Hide user task activity dialogs in a process based on the agent role
By means of the last ACL it is achieved that all agents who have the role *Head of Marketing* get the user task activity dialog *Approval from Marketing* displayed.

---

**ConfigChange:**
- **PossibleAdd:**
  - **ActivityDialog:** ActivityDialog-18d1bce51750be6e3adec3b5d59a94d7

**ConfigMatch:**
- **PropertiesDatabase:**
  - User:
    - Role:
      - Head of Marketing
  - Description: All agents who have the role "Head of Marketing" get the user task activity dialog "Approval from Marketing" displayed.
- **Name:** 082 Example ACL

---

**Comment:** Hide user task activity dialogs in a process based on the agent role

**Fig. 15:** Hide user task activity dialogs in a process based on the agent role
**Note:** Pay attention to the order of the ACLs. The ACL described first in this example must be executed before the last two ACLs.

**Pitfalls using properties**

If ticket attributes are used in both *Match settings* and *Change settings* at the same time, a logical problem occurs when using *Properties*, which may prevent ticket actions from being used in a proper way.

In this example you can see in the *Match settings* the queue *Raw* and the priority *5 very high* and in the *Change settings* the queue *Alert* is possible.

---

**Comment:** Pitfalls Using Properties

**ConfigChange:**

**Possible:**

**Ticket:**

**Queue:**

- *Alert*

**ConfigMatch:**

**Properties:**

**Ticket:**

---

(continues on next page)
Queue:
- Raw

Description: If ticket attributes are used in both Match settings and Change settings at the same time, a logical problem occurs.

Name: 090 Pitfalls

If you deploy this ACL and then run the Move Ticket ticket action in a ticket, you will see that you cannot click the Send button if you select the Raw queue because the change setting will be applied immediately (due to Properties) and this will result in your selection being deleted because the Raw queue is no longer a valid selection.

Typically this logical problem can be avoided by using PropertiesDatabase instead of Properties. Please compare with the very first given example.

5.1.6 ACL Reference

Properties, keys and values that can be used in ACLs are highly depend on the OTRS installation. For example the possibilities can be extended by installing extension modules, as well as it can be depend on the customer user mapping set in Config.pm. Therefore it is not possible to provide a full ACL reference, that contains all settings.

For properties, keys and values that can be used in ACLs, see the following example ACL in YAML format.

```yaml
---
- ChangeBy: root@localhost
  Comment: ACL Reference.
  ConfigMatch:
    Properties:
      # Match properties (current values from the form).
      CustomerUser:
        UserLogin:
          - some login
        UserCustomerID:
          - some customer ID
        Group_rw:
          - some group
    DynamicField:
      # Names must be in DynamicField_<field_name> format.
      # Values for dynamic fields must always be the untranslated internal data keys specified in the dynamic field definition and not the data values shown to the user.
      # Using the key is also mandatory for dynamic field of type database and dynamic field of type web service.
      DynamicField_Field1:
        - some value
      DynamicField_OtherField:
        - some value
      DynamicField_TicketFreeText2:
        - some value
      # more dynamic fields
    Frontend:
      Endpoint:
        - AgentFrontend::PersonalPreferences
```

(continues on next page)
5.1. Access Control Lists (ACL)
- ExternalFrontend::PersonalPreferences
- ExternalFrontend::ProcessTicketCreate
- ExternalFrontend::ProcessTicketNextStep
- ExternalFrontend::Ticket::ExportList  # used for technical purpose, not → for ACLs
- ExternalFrontend::Ticket::List  # used for technical purpose, not → for ACLs
- ExternalFrontend::Ticket::Print
- ExternalFrontend::TicketCreate
- ExternalFrontend::TicketDetailView
- ...

**Owner:**
- **UserLogin:**
  - some login
- **Group_rw:**
  - some group
- **Role:**
  - admin
  # more owner attributes

**Priority:**
- **ID:**
  - some ID
- **Name:**
  - some name
  # more priority attributes

**Process:**
- **ProcessEntityID:**
  # the process that the current ticket is part of
  - Process-9c378d7cc59f0f0e4cee7bb9995ee3eb
- **ActivityEntityID:**
  # the current activity of the ticket
  - Activity-f8b2fdebe54eb7b147a5f8e1da5e35c
- **ActivityDialogEntityID:**
  # the current activity dialog that the agent/customer is using
  - ActivityDialog-aff0ae05fe6803f38de8fff6cf33b7ce

**Queue:**
- **Name:**
  - Raw
- **QueueID:**
  - some ID
- **GroupID:**
  - some ID
- **Email:**
  - some email
- **RealName:**
  - OTRS System
  # more queue attributes

**Responsible:**
- **UserLogin:**
  - some login
- **Group_rw:**
  - some group
- **Role:**
  - admin
  # more responsible attributes
OTRS Administration Manual, Release 2024.1.2

ServiceID:
- some ID
Name:
- some name
ParentID:
- some ID
  # more service attributes

SLA:
SLAID:
- some ID
Name:
- some name
Calendar:
- some calendar
  # more SLA attributes
State:
ID:
- some ID
Name:
- some name
TypeName:
- some state type name
TypeID:
- some state type ID
  # more state attributes

Ticket:
Queue:
- Raw
State:
- new
- open
Priority:
- some priority
Lock:
- lock
CustomerID:
- some ID
CustomerUserID:
- some ID
Owner:
- some owner
DynamicField_Field1:
- some value
DynamicField_MyField:
- some value
  # more ticket attributes
Type:
ID:
- some ID
Name:
- some name
  # more type attributes
User:
UserLogin:
- some_login
Group_rw:

5.1. Access Control Lists (ACL)
- some group
  
  **Role:**
  - admin

  **PropertiesDatabase:**
  
  # Match properties (existing values from the database).
  # Please note that Frontend is not in the database, but in the framework.
  # See section "Properties", the same configuration can be used here.

  **ConfigChange:**
  
  Possible:
  
  # Reset possible options (white list).
  
  **Action:**
  
  # Possible action options (white list).
  - ...

  **ActivityDialog:**
  
  # Limit the number of possible activity dialogs the agent/customer can use in a process ticket.

  - ActivityDialog-aff0ae05fe6803f38de8ff6cf33b7ce
  - ActivityDialog-429d61180a593414789a8087cc4b3c6f
  - ...

  **Endpoint:**
  
  # Limit the functions on agent interface.

  - AgentFrontend::PersonalPreferences
  - AgentFrontend::ProcessTicketNextStep
  - AgentFrontend::Ticket::Action::Close
  - AgentFrontend::Ticket::Action::Customer
  - AgentFrontend::Ticket::Action::EmailOutbound
  - AgentFrontend::Ticket::Action::FreeText
  - AgentFrontend::Ticket::Action::Link
  - AgentFrontend::Ticket::Action::Lock
  - AgentFrontend::Ticket::Action::Merge
  - AgentFrontend::Ticket::Action::Move
  - AgentFrontend::Ticket::Action::Note
  - AgentFrontend::Ticket::Action::Owner
  - AgentFrontend::Ticket::Action::Pending
  - AgentFrontend::Ticket::Action::PhoneCallInbound
  - AgentFrontend::Ticket::Action::PhoneCallOutbound
  - AgentFrontend::Ticket::Action::Print
  - AgentFrontend::Ticket::Action::Priority
  - AgentFrontend::Ticket::Action::Process
  - AgentFrontend::Ticket::Action::Redirect
  - AgentFrontend::Ticket::Action::Responsible
  - AgentFrontend::Ticket::Action::SmsOutbound
  - AgentFrontend::Ticket::Action::TicketHistory
  - AgentFrontend::Ticket::Action::Unlock
  - AgentFrontend::Ticket::Action::Unwatch
  - AgentFrontend::Ticket::Action::Watch
  - AgentFrontend::Ticket::InlineEditing::Property::CustomerUserID
  - AgentFrontend::Ticket::InlineEditing::Property::Lock
  - AgentFrontend::Ticket::InlineEditing::Property::Owner
  - AgentFrontend::Ticket::InlineEditing::Property::Priority
  - AgentFrontend::Ticket::InlineEditing::Property::Queue
  - AgentFrontend::Ticket::InlineEditing::Property::Responsible
  - AgentFrontend::Ticket::InlineEditing::Property::Service
  - AgentFrontend::Ticket::InlineEditing::Property::State
  - AgentFrontend::Ticket::InlineEditing::Property::Type
  - AgentFrontend::Ticket::InlineEditing::Property::Watch
- AgentFrontend::TicketArticle::Action::CopyLink
- AgentFrontend::TicketArticle::Action::Forward
- AgentFrontend::TicketArticle::Action::MarkAsImportant
- AgentFrontend::TicketArticle::Action::MessageLog
- AgentFrontend::TicketArticle::Action::Plain
- AgentFrontend::TicketArticle::Action::Print
- AgentFrontend::TicketArticle::Action::Redirect
- AgentFrontend::TicketArticle::Action::Reply
- AgentFrontend::TicketArticle::Action::ReplyAll
- AgentFrontend::TicketArticle::Action::ReplyToNote
- AgentFrontend::TicketArticle::Action::ReplyViaSms
- AgentFrontend::TicketArticle::Action::Split
- AgentFrontend::TicketArticle::Action::UnmarkAsImportant
- AgentFrontend::TicketCreate::Email
- AgentFrontend::TicketCreate::Phone
- AgentFrontend::TicketCreate::Process
- AgentFrontend::TicketCreate::SMS
- AgentFrontend::TicketDetailView
- AgentFrontend::TicketDetailView::Property
- AgentFrontend::TicketList::Bulk
- AgentFrontend::TicketList::Filters
- ...

# Limit the functions on external interface.
- ExternalFrontend::PersonalPreferences
- ExternalFrontend::ProcessTicketCreate
- ExternalFrontend::ProcessTicketNextStep
- ExternalFrontend::Ticket::ExportList  # used for technical purpose, not for ACLs
- ExternalFrontend::Ticket::List  # used for technical purpose, not for ACLs
- ...

Process:
# Limit the number of possible processes that can be started.
- Process-9c378d7cc59f0fce4ee7bb9995ee3eb
- Process-12345678901234567890123456789012
- ...

Ticket:
# Possible ticket options (white list).
  DynamicField_Field1:
    - some value
  DynamicField_MyField:
    - some value
  # more dynamic fields
  NewOwner:
    # For ticket action screens, where the Owner is already set.
    - some owner
  OldOwner:
    # For ticket action screens, where the Owner is already set.
    - some owner
  Owner:
    # For ticket create screens, because Owner is not set yet.
    - some owner
  Priority:

(continues on next page)
5.2 Dynamic Fields

Beside general information that required for all tickets, organizations have individual needs to add specific details to tickets. This needed information takes various formats like texts, integers, date-time and more.

OTRS supports adding a so-called dynamic field to handle texts, integers, drop-down lists, multi-select fields, date-time, checkboxes and more. OTRS administrators can define where those fields should be visible or editable, and of course, the dynamic fields are also available in statistics and reports.

Use this screen to manage dynamic fields in the system. A fresh OTRS installation contains three dynamic fields by default. The dynamic field management screen is available in the Dynamic Fields module of the Processes & Automation group.
5.2.1 Manage Dynamic Fields

To create a new dynamic field:

1. Choose an object in the left sidebar and select a dynamic field type from its drop-down.
2. Fill in the required fields.
3. Click on the Save button.

To edit a dynamic field:

1. Click on a dynamic field in the list of dynamic fields.
2. Modify the fields.
3. Click on the Save or Save and finish button.
To delete a dynamic field:

1. Click on the trash icon in the last column of the overview table.
2. Click on the Confirm button.

Note: If several dynamic fields are added to the system, use the filter box to find a particular dynamic field by just typing the name to filter.
Warning: The maximum number of 300 valid dynamic fields should not be exceeded. Exceeding this limit may affect the system performance.

5.2.2 Dynamic Field Settings

The following settings are available when adding or editing this resource. The fields marked with an asterisk are mandatory.

General Dynamic Field Settings

These settings are the same for all types of dynamic fields.

Fig. 21: Dynamic Field General Screen

Name *

The name of this resource. Any type of characters can be entered to this field including uppercase letters and spaces. The name will be displayed in the overview table.

Label *

This is the name to be shown on the screens where the field is active.

See also:

It is possible to add translations for a dynamic field label. Label translations have to be added manually to language translation files.

Field order *

This is the order in which the field is displayed on the screens where it is active.

Note: The configured value for the field order is considered in the following screens:

- all screens in the administrator interface
- all screens in the external interface
- Business Process Information widget in the agent interface
In other screens the order can be configured in other ways, e.g. via a specific order of fields in the form configuration.

Validity *
Set the validity of this resource. Each resource can be used in OTRS only, if this field is set to valid. Setting this field to invalid or invalid-temporarily will disable the use of the resource.

Field type
This type have been selected in the previous page and can not be changed here anymore. This is a read-only field.

Object type
This type have been selected in the previous page and can not be changed here anymore. This is a read-only field.

Note: The object type determines where the dynamic field can be used. For example dynamic field with object type Ticket can be used only in tickets, and can not be used in articles.

The following settings are relevant only for the particular type of dynamic fields.

Checkbox Dynamic Field Settings

Checkbox dynamic field is used to store true or false value.

Fig. 22: Checkbox Dynamic Field Settings

Default value *
The default value for the checkbox.

Checked
The checkbox is checked by default.

Unchecked
The checkbox is unchecked by default.

Contact With Data Dynamic Field Settings

This dynamic field allows to add contacts with data to tickets.

Name Field *
The attribute Name is always mandatory and it is not automatically added, so for each new data source this attribute must be added manually. Within the data source definition (or dynamic field configuration) this must be represented by the key Name and the value could be Name for example.

ValidID Field *
The attribute ValidID is always mandatory and it is not automatically added, so for each new data
source this attribute must be added manually. Within the data source definition (or dynamic field configuration) this must be represented by the key `ValidID` and the value could be `Validity` for example.

**Other Fields**
These are the possible data attributes for contacts. Clicking on the button of the `Add Fields` will add two new fields, where a `Key` (internal value) and a `Value` (displayed value) can be set. With the button you can add multiple key-value pairs.

**Warning:** The keys `Name` and `ValidID` are already used by `Name Field` and `ValidID Field`. Do not use these keys again!

**Add Fields**
Use this button to add more fields to dynamic field.

**Mandatory fields**
Comma separated list of mandatory keys.

**Note:** Keys `Name` and `ValidID` are always mandatory and doesn’t have to be listed here.

**Sorted fields**
Comma separated list of keys in sort order. Keys listed here come first, all remaining fields afterwards and sorted alphabetically.

**Searchable fields**
Comma separated list of searchable keys.
When the dynamic field was saved, click on the name of the newly created dynamic field in the overview table. The Edit Dynamic Field screen will open. There is a button Add or edit contacts, that points to Tickets → Edit contacts with data to add some data.

![Add Contact With Data Screen](image)

**Fig. 24: Contact With Data Management Screen**

To add a new contact with data:

1. Select a dynamic field from the drop-down list in Actions widget of the left sidebar.
2. Click on the Add contact with data button in the left sidebar.
3. Fill in the required fields.
4. Click on the Save button.

![Add Contact With Data Screen](image)

**Fig. 25: Add Contact With Data Screen**

To edit a contact with data:

1. Click on a contact with data in the list of contact with data entries.
2. Modify the fields.
3. Click on the Save or Save and finish button.

The usage of this type of dynamic field is more complex than the others. An exemplary usage of contacts with data is as follows:

1. Create a new dynamic field of type contact with data.
2. Set the possible contact attributes (possible values).
   - Type Name into Name Field.
• Type Validity into ValidID Field.
• Add any other attribute with Add Fields button such as Telephone attribute (key: Telephone, value: Phone).

3. Add the list of mandatory attribute keys comma separated (Name and ValidID are not needed).
4. Set the attribute key order list comma separated as: Name, Telephone, ValidID.
5. Add the list of searchable attribute keys comma separated (Name is not needed).
6. Populate the data source by adding at least one contact in the newly created data source by using Manage Contacts with Data screen from the main menu of the agent interface.

7. Add the new dynamic field to the screen’s configuration where it should be shown. For example in New Phone Ticket screen by updating the system configuration setting Forms###AgentFrontend::TicketCreate::Phone::CreateProperties and do the same for AgentFrontend::TicketDetailView::WidgetType###Properties.

See also:
See Display Dynamic Fields on Screens for more information.

8. Go to New Phone Ticket screen, and notice that the new field is there. Add all needed information to the ticket.
9. Select an existing contact using autocomplete and choosing a contact.
10. Click on the Create button to create the ticket and go to the ticket detail view.
11. Open the widget configuration of the Properties widget in the ticket detail view, and enable the dynamic field in the Hide/Show Properties list.
12. The assigned contact and its attributes will be shown in the ticket detail view.
13. It is possible to update the attributes of the contact by clicking the Edit contact button that appears in the right side of dynamic field property card (if the current user is a member of the groups defined in system configuration setting Frontend::Module###AdminDynamicFieldContactWithData).
14. If is necessary to change the contact for this ticket, it can be done via any other ticket action where the dynamic field is configured for display.

5.2. Dynamic Fields
Date Dynamic Field Settings

Date dynamic field is used to store a date value.

Fig. 27: Date Dynamic Field Settings

**Default date difference**

The difference from **now** (in seconds) to calculate the field default value (e.g. 3600 or -60).

**Define years period**

Activate this feature to define a fixed range of years (in the future and in the past) to be displayed on the year part of the field. If set to **Yes** the following options will be available:

- **Years in the past**
  
  Define the number of years in the past from the current day to display in the year selection for this dynamic field in edit screens.

- **Years in the future**
  
  Define the number of years in the future from the current day to display in the year selection for this dynamic field in edit screens.

**Note:** If no years period is specified, the system uses the default value for the period: 10 years (5 years in the past and 5 years in the future).

**Show link**

Here you can specify an optional HTTP link for the field value displayed in overviews and detail views. Examples:

- The value of dynamic field named `Field1` is part of the link:
The value of dynamic field named Field1 is the complete link with and without protocol:

```
[% Data.Field1 | uri %]
https://[% Data.Field1 | uri %]
```

The value of dynamic field named 100Field needs special handling, because the name of the dynamic field starts with a number:

```
https://some.example.com/handle?query=[% Data.item("100Field") | uri %]
```

The value of dynamic field named Field1 contains the link, the value of dynamic field named Field2 contains an important value for a parameter:

```
https://[% Data.Field1 | uri %]?query=[% Data.DynamicField_Field2 | →uri %]
```

If special characters (&, @, ;, /, etc.) should not be encoded, use `url` instead of `uri` filter.

Link for preview

If filled in, this URL will be used for a preview which is shown when this link is hovered in ticket detail view. Please note that for this to work, the regular URL field above needs to be filled in, too.

See also:

The URL has to be added to the allowed origins. Read the External Link Previews chapter for more information.

Restrict entering of dates

Here you can restrict the entering of dates of tickets.

Prevent entry of dates in the future

Selecting this option will prevent entering a date that is after the current date.

Prevent entry of dates in the past

Selecting this option will prevent entering a date that is before the current date.

Date / Time Dynamic Field Settings

Date / time dynamic field is used to store a date time value.

The settings for this type of dynamic field is the same as for date dynamic field.

Dropdown Dynamic Field Settings

Drop-down dynamic field is used to store a single value, from a closed list.

Possible values

These are the possible data attributes for contacts. Clicking on the button will add two new fields, where a key (internal value) and a value (displayed value) can be set. With the button you can add multiple key-value pairs.

Warning: The maximum number of 100 values should not be exceeded. Exceeding this limit may affect the system performance.
Default value
This is the default value for this field and this will be shown on the edit screens.

Add empty value
If this option is activated an extra value is defined to show as a - in the list of possible values. This special value is empty internally.

Tree View
Activate this option to display values as a tree. If you use a sub-value, specify it as Parent::Sub.

Translatable values
If you activate this option the values will be translated to the user defined language.

Note: You need to add the translations manually into the language translation files.

Show link
Here you can specify an optional HTTP link for the field value displayed in overviews and detail views. Examples:

• The value of dynamic field named Field1 is part of the link:

```
https://some.example.com//handle?query=[% Data.Field1 | uri %]
```

• The value of dynamic field named Field1 is the complete link with and without protocol:

```
[% Data.Field1 | uri %]
https://[% Data.Field1 | uri %]
```
### Dropdown Field Settings

**Possible values:**

**Add value:** [ ]

**Default value:** [ ]

This is the default value for this field.

**Add empty value:** [ ]

Activate this option to create an empty selectable value.

**Tree View:** [ ]

Activate this option to display values as a tree.

**Translatable values:** [ ]

If you activate this option the values will be translated to the user defined language.

**Note:** You need to add the translations manually into the language translation files.

**Show link:**

Here you can specify an optional HTTP link for the field value displayed in overviews and detail views.

If special characters (&, @, :, /, etc.) should not be encoded, use 'url' instead of 'uri' filter.

Example: http://some.example.com/handle?query=%Data.Field1 | uri %

**Link for preview:**

If filled in, this URL will be used for a preview which is shown when this link is hovered in ticket detail view. Please note that for this to work, the regular URL field above needs to be filled in, too.

---

Fig. 29: Dropdown Dynamic Field Settings
• The value of dynamic field named `100Field` needs special handling, because the name of the dynamic field starts with a number:

```text
https://some.example.com/handle?query=[% Data.item("100Field") | uri %]
```

• The value of dynamic field named `Field1` contains the link, the value of dynamic field named `Field2` contains an important value for a parameter:

```text
https://[% Data.Field1 | uri %]?query=[% Data.DynamicField_Field2 | uri %]
```

If special characters (&, @, ;, /, etc.) should not be encoded, use `url` instead of `uri` filter.

**Link for preview**

If filled in, this URL will be used for a preview which is shown when this link is hovered in ticket detail view. Please note that for this to work, the regular URL field above needs to be filled in, too.

**See also:**

The URL has to be added to the allowed origins. Read the *External Link Previews* chapter for more information.

**Multiselect Dynamic Field Settings**

![Multiselect Field Settings](image)

**Possible values**

These are the possible data attributes for contacts. Clicking on the button will add two new fields, where a key (internal value) and a value (displayed value) can be set. With the button you can add multiple key-value pairs.
**Warning:** The maximum number of 100 values should not be exceeded. Exceeding this limit may affect the system performance.

**Default value**
This is the default value for this field and this will be shown on the edit screens.

**Add empty value**
If this option is activated an extra value is defined to show as a `-` in the list of possible values. This special value is empty internally.

**Tree View**
Activate this option to display values as a tree. If you use a sub-value, specify it as `Parent::Sub`.

**Translatable values**
If you activate this option the values will be translated to the user defined language.

**Note:** You need to add the translations manually into the language translation files.

---

**Number Dynamic Field Settings**

Dynamic fields of type number are used to store integers and floating point numbers (float).

<table>
<thead>
<tr>
<th>Number Field Settings</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type:</strong> Float</td>
</tr>
<tr>
<td>Determines if the value is integer or float.</td>
</tr>
<tr>
<td><strong>Decimal places:</strong></td>
</tr>
<tr>
<td>Determines the amount of digits to be shown after the decimal point.</td>
</tr>
<tr>
<td><strong>Step by:</strong> 1</td>
</tr>
<tr>
<td>Determines the step value which is used in increase/decrease.</td>
</tr>
<tr>
<td><strong>Default value:</strong></td>
</tr>
<tr>
<td>This is the default value for this field.</td>
</tr>
<tr>
<td><strong>Show link:</strong></td>
</tr>
<tr>
<td>Here you can specify an optional HTTP link for the field value displayed in overviews and detail views.</td>
</tr>
<tr>
<td>If special characters (&amp;, @, :, /, etc.) should not be encoded, use 'uri' instead of 'url' filter.</td>
</tr>
<tr>
<td>Example: <a href="http://some.example.com/handle?query=%5B%Data.Field1">http://some.example.com/handle?query=[%Data.Field1</a></td>
</tr>
<tr>
<td><strong>Link for preview:</strong></td>
</tr>
<tr>
<td>If filled in, this URL will be used for a preview which is shown when this link is hovered in ticket detail view. Please note that for this to work, the regular URL field above needs to be filled in, too.</td>
</tr>
</tbody>
</table>

Fig. 31: Number Dynamic Field Settings
Type
Select the type of the number. Possible values: Float or Integer.

Decimal places
Determines the amount of digits to be shown after the decimal separator.
This setting is only available if Float is selected in the Type field.

Step by *
Determines the step value which is used in increase or decrease.

Default value
This is the default value for this field and this will be shown on the edit screens.

Show link
Here you can specify an optional HTTP link for the field value displayed in overviews and detail views.
Examples:

- The value of dynamic field named Field1 is part of the link:
  
  https://some.example.com/handle?query=
  [% Data.Field1 | uri %]

- The value of dynamic field named Field1 is the complete link with and without protocol:
  
  [% Data.Field1 | uri %]
  https://[% Data.Field1 | uri %]

- The value of dynamic field named 100Field needs special handling, because the name of the dynamic field starts with a number:
  
  https://some.example.com/handle?query=
  [% Data.item("100Field") | uri %]

- The value of dynamic field named Field1 contains the link, the value of dynamic field named Field2 contains an important value for a parameter:
  
  https://[% Data.Field1 | uri %]?query=
  [% Data.DynamicField_Field2 | uri %]

If special characters (&, @, :, /, etc.) should not be encoded, use url instead of uri filter.

Link for preview
If filled in, this URL will be used for a preview which is shown when this link is hovered in ticket detail view. Please note that for this to work, the regular URL field above needs to be filled in, too.

See also:
The URL has to be added to the allowed origins. Read the External Link Previews chapter for more information.

Text Dynamic Field Settings

Text dynamic field is used to store a single line string.

Default value
This is the default value for this field and this will be shown on the edit screens.

Show link
Here you can specify an optional HTTP link for the field value displayed in overviews and detail views.
Examples:
The value of dynamic field named `Field1` is part of the link:

```
https://some.example.com/handle?query=[% Data.Field1 | uri %]
```

The value of dynamic field named `Field1` is the complete link with and without protocol:

```
[% Data.Field1 | uri %]
https://[% Data.Field1 | uri %]
```

The value of dynamic field named `100Field` needs special handling, because the name of the dynamic field starts with a number:

```
https://some.example.com/handle?query=[% Data.item("100Field") | uri %]
```

The value of dynamic field named `Field1` contains the link, the value of dynamic field named `Field2` contains an important value for a parameter:

```
https://[% Data.Field1 | uri %]?query=[% Data.DynamicField_Field2 | uri %]
```

If special characters (`&`, `@`, `;`, `/`, etc.) should not be encoded, use `url` instead of `uri` filter.

**Link for preview**

If filled in, this URL will be used for a preview which is shown when this link is hovered in ticket detail view. Please note that for this to work, the regular URL field above needs to be filled in, too.

**See also:**

The URL has to be added to the allowed origins. Read the *External Link Previews* chapter for more information.
Check RegEx
Here you can specify a regular expression to check the value. The regex will be executed with the modifiers xms. Example:

\^[0-9]\$

Add RegEx
Clicking on the button will add two new fields, where a regular expression and an error message can be added.

Textarea Dynamic Field Settings

Textarea dynamic field is used to store a multiple line string.

![Textarea Dynamic Field Settings](image)

Fig. 33: Textarea Dynamic Field Settings

**Number of rows**
The height (in lines) for this field in the edit mode.

**Number of cols**
The width (in characters) for this field in the edit mode.

**Default value**
This is the default value for this field and this will be shown on the edit screens.

**Check RegEx**
Here you can specify a regular expression to check the value. The regex will be executed with the modifiers xms. Example:
Add RegEx

Clicking on the button will add two new fields, where a regular expression and an error message can be added.

Database Dynamic Field

**Note:** To use this type of dynamic field, an OTRS service package is needed. Please contact at sales@otrs.com for an upgrade.

Web Service Dynamic Field

**Note:** To use this type of dynamic field, an OTRS service package is needed. Please contact at sales@otrs.com for an upgrade.

5.2.3 Display Dynamic Fields on Screens

The following sections describe how to add a dynamic field to certain screens. The following examples use a dynamic field named Test1. Please make sure that you replace it with the actual name of your dynamic field.

**Note:** Make sure that the Validity of the dynamic field is set to valid.

Dynamic Field in Business Object Detail View

Dynamic fields can be added to any widget of the business object detail view. The following examples show the possibilities.

To add a ticket dynamic field to the Properties widget:

1. Go to the System Configuration screen.
2. Search for the setting AgentFrontend::TicketDetailView::WidgetType###Properties.
3. Add the ticket dynamic field to the Properties section of the YAML configuration.

```
Properties:
    Name: DynamicField_Test1
    IsVisible: 1
```

**See also:**

Detailed information about the configuration of the property card and possible keys can be found under the reference.

4. Deploy the modified system configuration.
5. Go to the ticket detail view screen in the agent interface.

6. Find the Properties widget and open its configuration via the gear icon. Identify the Test1 dynamic field property in the Hide/Show Properties list. Activate it by clicking on the checkbox. Click on the Save button to apply the change and close the widget configuration.

If defined, the ticket dynamic field value will then be displayed as a separate property card.

To add an article dynamic field to the Communication Stream widget:

1. Go to the System Configuration screen.

2. Search for the setting AgentFrontend::TicketDetailView::WidgetType###CommunicationStream.

3. Add the article dynamic field name to the ArticleDynamicFields array of the YAML configuration.

   ```yaml
   ArticleDynamicFields:
   - Test1
   ```

4. Deploy the modified system configuration.

If defined, the article dynamic field value will then be displayed as a separate line in the article header in the Communication Stream widget. If not visible, make sure the header is expanded by clicking on it.

To add a ticket dynamic field to the Business Process Information widget:

1. Go to the System Configuration screen.

2. Search for the setting AgentFrontend::TicketDetailView::Widget::BusinessProcessInformation###DynamicField.

3. Add the dynamic field to the list and enabled it.

4. Deploy the modified system configuration.

If defined, the ticket dynamic field value will then be displayed as a separate property card in the Business Process Information widget of a process ticket.

See also:

If you want to group the dynamic fields into groups, please check the setting AgentFrontend::TicketDetailView::Widget::BusinessProcessInformation###DynamicFieldGroups.
5.2. Dynamic Fields

Fig. 35: Enable Dynamic Field Property Card in Properties Widget

Fig. 36: Display Dynamic Field Property Card in Properties Widget
Chapter 5. Processes & Automation
Dynamic Field in Ticket and Article Action

The following example shows how to add a dynamic field to the Close Ticket action. The steps are identical for other actions, only the system configuration keys are different for each form.

See also:
For the names and explanations of other forms, please consult the Form Fields chapter.

To add a ticket or an article dynamic field to the Close Ticket form:

1. Go to the System Configuration screen.
2. Search for the setting `Forms###AgentFrontend::Ticket::Action::Close`.
3. Add the dynamic field to the Fields section of the YAML configuration.

   ```yaml
   Fields:
   - Name: DynamicField_Test1
   ```

4. Deploy the modified system configuration.

   The ticket dynamic field will be displayed in the relevant ticket or article action as a form field.

   **Note:** Article dynamic fields are only displayed if article related fields such as Subject and Body are present. If these fields do not exist, no article is created and no value is set for the dynamic field when the action is executed.

Dynamic Field in Business Object List

The following examples show how to add a dynamic field as a column or as a filter to the organizer item type Ticket List. This affects all organizer items of the type Ticket List. If only a specific organizer item needs to be affected, then please modify the system configuration key of the relevant organizer item.

See also:
For the names and explanations for other organizer items please read the chapter Business Object Lists.

To add a ticket dynamic field as a list column:

1. Go to the System Configuration screen.
2. Search for the setting `Agent::Organizer::ItemType###TicketList`.

3. Add the ticket dynamic field to the `Columns` section of the YAML configuration.

```yaml
Columns:
  DynamicField_Test1:
    IsVisible: 2
```

See also:
For detailed information about the column configuration and possible keys, please check the reference.

4. Deploy the modified system configuration.

If defined, the ticket dynamic field value will then be displayed in a column cell, for any of the organizer items of the ticket list type.

To add a ticket dynamic field as a list filter:

1. Go to the `System Configuration` screen.

2. Search for the setting `Agent::Organizer::ItemType###TicketList`.

3. Add the ticket dynamic field name to the `AvailableDynamicFieldFilters` array of the YAML configuration.

```yaml
AvailableDynamicFieldFilters:
  - Test1
```

4. Deploy the modified system configuration.

The ticket dynamic field can now be used as a filter in the business object list.
5.2. Dynamic Fields
Dynamic Field in Ticket Create Screen

To add a ticket or an article dynamic field to New Email Ticket screen:

1. Go to the System Configuration screen.
2. Search for the setting `Forms###AgentFrontend::TicketCreate::Email::CreateProperties`.
3. Add the ticket dynamic field to the Fields section of the YAML configuration.

```
Fields:
- Name: DynamicField_Test1
```

4. Deploy the modified system configuration.

The ticket or article dynamic field can now be used as part of the New Email Ticket screen.

See also:

For more information about form fields and groups, please consult the Forms chapter.
Fig. 48: Display Dynamic Field in New Email Ticket Screen

**Dynamic Field in Ticket Bulk Action**

To add a **ticket** or an **article** dynamic field to a ticket bulk action:

1. Go to the **System Configuration** screen.
2. Search for the setting `AgentFrontend::Ticket::BulkFeature::Attributes###DynamicField`.  
3. Add the dynamic field to the list and enabled it.
4. Deploy the modified system configuration.

   The ticket or article dynamic field is now displayed in the **Properties** section in the action form of the bulk action.

**Dynamic Field in the Print Output**

To add a **ticket** or an **article** dynamic field to the print output:

1. Go to the **System Configuration** screen.
2. Search for the setting `AgentFrontend::Ticket::Print###DynamicField`.  
3. Add the dynamic field to the list and enabled it.
4. Deploy the modified system configuration.

   The ticket or article dynamic field is now displayed in the printed output of the ticket.
Fig. 50: Display Dynamic Field in Ticket Bulk Action

Fig. 51: Add Dynamic Field to Print Ticket Configuration
Dynamic Field in External Interface

To add a dynamic field to the external interface:

1. Go to System Configuration screen.
2. Navigate to Frontend → External → View in the navigation tree.
3. Select the screen where the dynamic field should be displayed.
4. Search for the dynamic field setting of the screen and click on the Edit this setting button.

The following settings are relevant to adding dynamic fields:

- ExternalFrontend::KnowledgeBaseDetailView###DynamicField
- ExternalFrontend::TicketCreate###DynamicField
- ExternalFrontend::TicketDetailView###DynamicField
- ExternalFrontend::TicketDetailView###FollowUpDynamicField
- ExternalFrontend::TicketOverview###DynamicField

5. Click on the + button to add the dynamic field. The key is the name of the dynamic field, the value is 1 - Enabled. This setting is used to display the content of dynamic field in the selected screen.
6. Search for setting ExternalFrontend::TicketDetail###FollowUpDynamicField and click on the Edit this setting button.
7. Click on the + button to add the dynamic field. The key is the name of the dynamic field, the value is 1 - Enabled. This setting is used to configure dynamic fields in the answer part of customers detail view.
8. Repeat the steps for other views, if needed.
9. Deploy the modified settings.

5.2.4 Add Dynamic Fields to Search Engine

By default, the content of the dynamic fields cannot be searched using the document search functionality. Each dynamic field has to be added manually.

To add a dynamic field to the document search functionality:

1. Go to System Configuration screen.
3. Search for the setting DocumentSearch::Agent::DynamicField and DocumentSearch::External::DynamicField respectively.
4. Click on the Edit this setting button.
5. Click on the + button to add the dynamic field.
6. Enter the name of the dynamic field to the text box and click on the tick button.
7. Select 0 - Disabled or 1 - Enabled.
8. Click on the tick button on the right to save the setting.
9. Deploy the modified system configuration.

5.2.5 Set Default Value via Ticket Event Module

A ticket event (e.g. TicketCreate) can trigger a value set for a certain field, if the field does not have a value yet.

1. Go to the System Configuration screen.
2. Navigate to Core → Event → Ticket and search for the setting Ticket::EventModulePost###9600-TicketDynamicFieldDefault.
3. Click on the Edit this setting button to activate the setting.
4. Click on the tick button on the right to save the setting.
5. Deploy the modified system configuration.

---

**Example: activate Field1 in TicketCreate event:**

1. Go to the System Configuration screen.
2. Navigate to Core → Ticket → DynamicFieldDefault and search for the setting Ticket::TicketDynamicFieldDefault###Element1.
3. Click on the Edit this setting button to activate the setting.
4. Click on the tick button on the right to save the setting.
5. Deploy the modified system configuration.
Note: This configuration can be set in any of the 16 Ticket::TicketDynamicFieldDefault###Element settings.

See also:

If more than 16 fields needs to be set up, a custom XML file must be placed in $OTRS_HOME/Kernel/Config/Files/XML directory to extend this feature.

5.2.6 Set Default Value via User Preferences

The dynamic field default value can be overwritten with a user defined value stored in the personal preferences.

1. Go to the System Configuration screen.
2. Navigate to Frontend → Agent → View → Preferences and search for the setting Preferences-Groups###DynamicField.
3. Click on the Edit this setting button to activate the setting.
4. Click on the tick button on the right to save the setting.
5. Deploy the modified system configuration.

![Fig. 55: Activate Dynamic Field in Personal Preferences](image)

Click on your avatar on the top left corner, and select Personal Preferences → Miscellaneous to add a default value for the dynamic field.

This setting is an example of how to create an entry in the user preferences screen to set an exclusive dynamic field Name_X default value for the selected user. The limitation of this setting is that it only permits the use of one dynamic field. If two or more fields will use this feature, it is necessary to create a custom XML configuration file to add more settings similar to this one.
Note: If more settings are added in a new XML each setting name needs to be unique in the system and different than PreferencesGroups###DynamicField. For example:

- PreferencesGroups###101-DynamicField-Field1
- PreferencesGroups###102-DynamicField-Field2
- PreferencesGroups###My-Field1
- PreferencesGroups###My-Field2

5.3 Generic Agent

Processing tickets require often a workflow. Let’s say “if-then” activities.

If specific conditions match like:

- A ticket is from one particular customer.
- A ticket is assigned to an appropriate queue.
- A ticket has a defined priority.
- A ticket contains defined keywords.

Outlined activities must be performed like changing the ticket priority, moving the ticket to another group, assigning a service to a ticket, and many more.

Also time-based activities can be required like cleaning up the spam-queue once a week.

OTRS supports this with the Generic Agent. Here, simple or compound time and event-based tasks are configurable in the OTRS front end without the requirement to learn a scripting language. Depending on search criteria, and time or event criteria, tickets will automatically be acted upon.

Use this screen to manage generic agent jobs in the system. A fresh OTRS installation contains no generic agent jobs by default. The generic agent job management screen is available in the Generic Agent module of the Processes & Automation group.
5.3.1 Manage Generic Agent Jobs

To create a new generic agent job:

1. Click on the *Add Job* button in the left sidebar.
2. Fill in the required fields.
3. Click on the *Save* button.

To edit a generic agent job:

1. Click on a generic agent job in the list of generic agent jobs.
2. Modify the fields.
3. Click on the *Save* or *Save and finish* button.

To delete a generic agent job:

1. Click on the trash icon in the fourth column of the overview table.
2. Click on the *Confirm* button.

**Note:** If several generic agent jobs are added to the system, use the filter box to find a particular generic agent job by just typing the name to filter.

**Warning:** The maximum number of 30 *valid* generic agent jobs should not be exceeded. Exceeding this limit may affect the system performance.
Fig. 58: Create New Generic Agent Job Screen
Fig. 59: Edit Generic Agent Job Screen

Fig. 60: Delete Generic Agent Job Screen
5.3.2 Generic Agent Job Settings

The following settings are available when adding or editing this resource. The fields marked with an asterisk are mandatory.

**General Job Settings**

![Job Settings - General](image)

**Job Name** *

The name of this resource. Any type of characters can be entered to this field including uppercase letters and spaces. The name will be displayed in the overview table.

**Validity**

Set the validity of this resource. This resource can be used in OTRS only, if this field is set to Yes. Setting this field to No will disable the use of the resource.

**Automatic Execution**

Fill in this section to set the times for automatic execution of the job.

![Automatic Execution (Multiple Tickets)](image)

**Schedule minutes**

Select the minutes in which the job has to be executed. For example if 10 is selected, the job will be executed in every hour in 00:10, 01:10, 02:10, etc.

**Warning:** The automatic execution should not be performed more than one per hour. Exceeding this limit may affect your system performance.

**Schedule hours**

Select the hours in which the job has to be executed. For example if 10 is selected for minutes and 03 is selected for hours, the job will be executed in every day in 03:10.
Schedule days
Select the days in which the job has to be executed. For example if 10 is selected for minutes, 03 is selected for hours and Fri is selected for days, the job will be executed in every week in Friday 03:10.

Note: Scheduled tasks are using the local system time provided by the operating system OTRS is running on.

Warning: Times scheduled during daylight saving time start and daylight saving time end can have unexpected effects. At daylight saving time start it can be skipped and at daylight saving time end it can be executed twice. It is highly not recommended to schedule times when the daylight saving time starts or ends according to the server timezone.

Event Based Execution

Fill in this section to set events that trigger the execution of the job.

Event Triggers
This is a list of already added events. If no events are added yet, the list contains no elements. Elements can be deleted by clicking on the trash icon in the last column.

Add Event Trigger
Select an object and a related event that will trigger the job.
Select Tickets

This section contains all the attributes, that you can use to select the affected tickets. Fields are self-explained, so there is no additional explanation here.

Update/Add Ticket Attributes

Fill in this section to update and/or add ticket attributes. Fields are self-explained, so there is no additional explanation here.

Add Note

Fill in this section to add a note to tickets that are affected by job execution.

![Add Note](image)

Fig. 64: Job Settings - Add Note

Execute Ticket Commands

Fill in this section, if you would like to make execute a custom command with the job.

Send agent/customer notifications on changes

If Yes is selected, a notification will be sent to agents and customers about ticket changes.

CMD

Enter a command here, that will be executed. ARG[0] will be the ticket number. ARG[1] the ticket ID. Use :: as directory separator, if the value contains a path.

See also:

Commands to be run by OTRS are blocked by default due to security reasons. You have to add the command to the allow list as described in Allow Program Safe to Run chapter.
Delete tickets
If Yes is selected, the generic agent job will delete the matched tickets.

**Warning:** All affected tickets will be removed from the database and cannot be restored!

Execute Custom Module

**Note:** This feature is only available to On-Premise customers. If you are a Managed customer, this feature is taken care of by the Customer Solutions Team in OTRS. Please contact us via support@otrs.com or in the OTRS Portal.

Fill in this section, if you would like to make execute a custom module with the job.
Module
This is the path for the module to be executed.

Note: Use :: as directory separator, if the value contains a path.

Param key
Enter the key of the parameter, that should be passed to the module.

Param value
Enter the value of the parameter, that should be passed to the module.

5.4 Process Management

Maximizing performance while minimizing human error is a requirement of organizations of all sizes. This need is covered by defined processes and workflows, for recurring tasks. Ensuring all required information is available in the right place, and contacts are informed about their responsibilities like adding information, approving requests, etc.

OTRS supports this requirement by process management. Process tickets help by using the required mandatory and optional fields (see Dynamic Fields) that information is not forgotten upon ticket creation or during later steps of the process. Process tickets are simple to handle for customer users and agents, so no intensive training is required.

Processes are designed completely and efficiently within the OTRS front end to fit the requirements of your organization.

Use this screen to manage processes in the system. The process management screen is available in the Process Management module of the Processes & Automation group.

5.4.1 Manage Processes

To create a new process:
1. Click on the Create New Process button in the left sidebar.
2. Fill in the required fields.
3. Click on the Save button.
4. Add activities, user task activity dialogs, sequence flows and sequence flow actions.
5. Set State to Active.
6. Deploy all processes.

To edit a process:
1. Click on a process in the list of processes.
2. Modify the fields and the process path.
3. Click on the Save or Save and finish button.
4. Deploy all processes.

To copy a process:
1. Click on the copy icon in the fifth column of list of processes.
2. Click on the newly created process to edit it.

To delete a process:

1. Click on a process in the list of processes.
2. Set the State option to Inactive.
3. Click on the Save button. A new Delete Inactive Process button will appear in the left sidebar.
4. Click on the Delete Inactive Process button.
5. Click on the Delete button in the confirmation screen.
6. Deploy all processes.

**Warning:** Processes are written into file in Perl format. Without deploying, all processes are still in this cache file even if they are deleted or the State option is set to Inactive or FadeAway. Don’t forget to deploy all processes after modifications!

Give some time for agents to complete the running process tickets before the process will be deleted. It is possible to mark a process for deletion, i.e. set the process as not to be selected anymore. Process states can be:

**Active**
- Processes can be used in new process tickets.

**FadeAway**
- Agents and customer users cannot select this process for new tickets and neither can they assign this process to an existing ticket, but tickets where this process was assigned to can still use the process. For automation, other processes can still create new tickets with this process or assign this process to existing tickets.

**Inactive**
- Processes are deactivated and cannot be used for new or existing tickets.

To deploy all processes:

1. Click on the Deploy All Processes button in the left sidebar.
Note: New or modified processes have to be deployed in order to affect the behavior of the system. Setting the State option to Active just indicates, which processes should be deployed.

To export a process:
1. Click on the export icon in the fourth column of list of processes.
2. Choose a location in your computer to save the Export_ProcessEntityID_xxx.yml file.

Warning: The exported file contains only the process itself, and doesn’t contain the Queues, Agents, Dynamic Fields, etc. needed for the process.

To import a process:
1. Click on the Browse… button of the Configuration Import widget in the left sidebar.
2. Select a previously exported .yml file.
3. Click on the Import process configuration button.
4. Deploy all processes.

Note: Before import a process, it is still necessary to create all Queues, Agents and Dynamic Fields, as well as to set System Configuration, that are needed by each process before the import. If the process requires the use of Access Control Lists (ACL) those are also needed to be set manually.

Note: If several processes are added to the system, use the filter box to find a particular process by just typing the name to filter.

Warning: The maximum number of 50 deployed processes should not be exceeded. Exceeding this limit may affect the system performance.

5.4.2 Process Elements

The element names of the process modeler have been adapted to the Business Process Model and Notation (BPMN) ISO naming convention.

Activities

The following task activities can be used as basic elements of the process.

Script task activity
Script task activity is executed by the process management module and it can set dynamic field values or manage tickets automatically.

The following settings are available when adding or editing this resource. The fields marked with an asterisk are mandatory.
Activity name *
The name of this resource. Any type of characters can be entered to this field including uppercase letters and spaces.

Activity type *
The following types of task activities can be used:
  - Script task activity (selected for now)
  - Service task activity
  - User task activity

Activity description
Add additional information to this resource. It is recommended to always fill this field as a description of the resource with a full sentence for better clarity.

Activity error code
Define a custom error code for script or service task activities. The custom error code must be a positive integer number.

Can start processes in
Defines, where can the processes be started by the agents or customer users. A process can be started in the following interfaces:
  - Agent Interface
  - Agent and External Interface
  - External Interface

Script *
In this drop-down can be selected which script should be triggered immediately if the activity is set. Click on the Configure button to add parameters (key-value pairs) for the script.

See also:
Each module has its own and different parameters. Please refer to the Process Modules section.

Fig. 68: Script Task Activity Window
to learn all required and optional parameters.

**Service task activity**

Service task activity uses a web service to complete the task.

The following settings are available when adding or editing this resource. The fields marked with an asterisk are mandatory.

**Activity name** *

The name of this resource. Any type of characters can be entered to this field including uppercase letters and spaces.

**Activity type** *

The following types of task activities can be used:

- Script task activity
- Service task activity (selected for now)
- User task activity

**Activity description**

Add additional information to this resource. It is recommended to always fill this field as a description of the resource with a full sentence for better clarity.

**Activity error code**

Define a custom error code for script or service task activities. The custom error code must be a positive integer number.

**Can start processes in**

Defines, where can the processes be started by the agents or customer users. A process can be started in the following interfaces:

- Agent Interface
- Agent and External Interface
- External Interface
Web Service *
Select one of the Web Services from the drop-down list.

Invoker *
Select an invoker for the web service. Click on the Configure button to add parameters for the invoker.

User task activity
User task activity can be used when the task is being done by an agent or a customer user.

The following settings are available when adding or editing this resource. The fields marked with an asterisk are mandatory.

Activity name *
The name of this resource. Any type of characters can be entered to this field including uppercase letters and spaces.

Activity type *
The following types of task activities can be used:
- Script task activity
- Service task activity
- User task activity (selected for now)

User Task Activity Dialogs
You can assign user task activity dialogs to this activity by dragging the elements with the mouse from the left list to the right list. Ordering the elements within the list is also possible by drag and drop.

Click on the Create New User Task Activity Dialog button to create new dialogs.

For each configured field in a user task activity dialog, the process modeler is able to choose the following options for the fields:
- Do not show Field
- Show Field

Fig. 70: User Task Activity Window
• Show Field As Mandatory

If you use Show Field for a select field the empty value needs to be added to the possible values. Otherwise without having an empty value available, this field will be always a mandatory field.

User Task Activity Dialogs

A user task activity dialog contains the actual user interaction of the process and consists of fields that can be displayed to the users in the ticket detail view or can be set automatically by them.

Click on the User Task Activity Dialogs item in the Available Process Elements widget in the left sidebar. This action will expand the User Task Activity Dialogs options and will collapse all others doing an accordion like effect.

Click on the Create New User Task Activity Dialog button.

The following settings are available when adding or editing this resource. The fields marked with an asterisk are mandatory.

Dialog Name *

The name of this resource. Any type of characters can be entered to this field including uppercase letters and spaces.

Available in

It determines in which interface the dialog appears.

Possible values are:

• Agent Interface
• External Interface
• Agent and External Interface

Description (short) *
The dialog can be explained briefly here. The description is displayed in the user task activity dialog in the ticket detail view.

Description (long)
The dialog can be explained in more detail here. The description is displayed in the user task activity dialog in the ticket detail view.

Permission
By means of this setting, the visibility of the process dialogs can be controlled, based on the user’s permissions on the queue in which the ticket is currently located. If a user does not have the here configured permissions on the group which is associated to the queue in which the ticket is currently located, the dialog will not be visible in the ticket detail view.

This permission setting does not affect the visibility of the first user task activity dialog while creating a new process ticket.

Required Lock
By means of this setting, it is achieved that the ticket is automatically locked to the executing agent or not once an agent opens the user task activity dialog in the ticket detail view.

Possible values are:
• yes: the ticket is locked to the executing agent while executing
• no: the ticket is not locked to the executing agent while executing

Submit Advice Text
This text will be shown above the submit button and may contain an advice for the user.

Submit Button Text
With this text the button label can be changed from Submit to the text entered here.

To assign fields to the user task activity dialog simple drag the required field from the Available Fields pool and drop into the Assigned Fields pool. The order in the Assigned Fields pool is the order as the fields will
have in the screen. To modify the order simply drag and drop the field within the pool to rearrange it in the correct place.

![Fig. 73: Add User Task Activity Dialog Fields](image)

**Available Fields**
All available fields of the system are shown here in an alphabetical order.

**Assigned Fields**
The fields assigned to the dialog are displayed here.

As soon as the fields are dropped into the **Assigned Fields** pool another popup screen is shown with some details about the field.

**Description (short)**
A short explanatory text for the field can be specified here. The description will be displayed underneath the field.

**Description (long)**
A more detailed explanatory text for the field can be specified here. The description will be displayed when hovering over the icon next to the label of the field.

**Default value**
Defines a default value for that field.

**Communication Channel**
Defines the communication channel.

**Is visible to customer**
If this is checked, the customer user will be able to see the article created by the process.

**Time units**
For each configured field in a user task activity dialog, the process modeler is able to choose the following options for the fields:

- Do not show Field
- Show Field
Fig. 74: Edit User Task Activity Dialog Fields
• Show Field As Mandatory

Display

For each configured field in a user task activity dialog, the process modeler is able to choose the following options for the fields:

• Do not show Field
• Show Field
• Show Field As Mandatory

The option *Do not show Field* offers the possibility to set a field automatically to a certain value configured as a *Default value*.

If you use *Show Field* for a select field the empty value needs to be added to the possible values. Otherwise without having an empty value available, this field will be always a mandatory field.

**Sequence Flows**

A sequence flow is used to connect objects of a process and to represent the flow. The sequence flow controls the sequence of activities by checking whether certain defined conditions are met.

Click on the *Sequence Flows* item in the *Available Process Elements* widget in the left sidebar. This action will expand the *Sequence Flows* options and will collapse all others doing an accordion like effect.

Click on the *Create New Sequence Flow* button.

![Available Process Elements](image)

Fig. 75: Sequence Flows
The following settings are available when adding or editing this resource. The fields marked with an asterisk are mandatory.

**Sequence Flow Name** *
The name of this resource. Any type of characters can be entered to this field including uppercase letters and spaces.

**Type of Linking between Condition Expressions**
A sequence flow consists of one or many condition expressions. If the sequence flow has more than one condition expressions you can select the type of linking between the condition expressions.

Possible logical operators:
- *and*: the output is true if all inputs are true.
- *or*: the output is true if one or many of its inputs are true.
- *xor*: the output is true only if exactly one of its inputs is true.

A new condition expression can be added by clicking on the *Add New Condition Expression* button.

**Type of Linking**
A condition expression can have one or many conditions. If your condition expression has more than one condition you can select the type of linking between them.

Possible logical operators:
- *and*: the output is true if all inputs are true.
- *or*: the output is true if one or many of its inputs are true.
- *xor*: the output is true only if exactly one of its inputs is true.

**Name**
The name field contains the name of the attribute which shall be checked.
In case of dynamic fields the prefix `DynamicField_` has to be used in front of its name. Make sure that the spelling of the attribute name is correct.

**Type**

Three types of condition checks can be selected here.

- *String*: checks for a fixed value.
- *Regular Expression*: checks for patterns using regular expressions.
- *Validation Module*: checks if a certain logic is met which is contained in the validation module. Validation modules are custom made.

**Value**

The value field can contain the following values:

- string,
- regular expression,
- *OTRS Tags*,
- a combination of the above.

By means of the + symbol on the right side, a new condition consisting of name, type and value can be added.

**Examples:**

Check if the ticket state is *open*.

- *Name*: `State`
- *Type*: `String`
- *Value*: `open`

![Fig. 77: Sequence Flow Example](image)

Check if the dynamic field named `NewField1` contains the string *full*.

- *Name*: `DynamicField_NewField1`
- *Type*: `String`
- *Value*: `full`

![Fig. 78: Sequence Flow Example](image)
Check if the dynamic field named NewField1 contains something.

- **Name:** DynamicField_NewField1
- **Type:** Regular expression
- **Value:** .+

Fig. 79: Sequence Flow Example

Check if the field customer ID has the same content as the dynamic field named DF1.

- **Name:** CustomerID
- **Type:** Smart Tag
- **Value:** <OTRS_TICKET_DynamicField_DF1>

Fig. 80: Sequence Flow Example

**Sequence Flows Actions**

With sequence flow actions ticket data can be changed or created, mails can be send from a ticket and data can be pushed from one OTRS object to the other.

Sequence flow actions need to be associated to a sequence flow. A sequence flow action is executed if the sequence flow is triggered and it gets executed after the following activity.

Click on the **Sequence Flow Actions** item in the **Available Process Elements** widget in the left sidebar. This action will expand the **Sequence Flow Actions** options and will collapse all others doing an accordion like effect.

Click on the **Create New Sequence Flow Action** button.

The following settings are available when adding or editing this resource. The fields marked with an asterisk are mandatory.

**Sequence Flow Action Name** *

- **The name of this resource. Any type of characters can be entered to this field including uppercase letters and spaces.**

**Sequence Flow Action Module** *

- **In this drop-down field it can be selected which action module shall be executed.**
Fig. 81: Sequence Flow Actions

Fig. 82: Add Sequence Flow Action
If both fields are filled in, click on the Save button. A new Configure button will appear next to the action module field. Click on the Configure button and add the needed configuration parameter keys and values.

![Config Parameters (Key/Value)](image)

Fig. 83: Sequence Flow Action Parameters

**See also:**

Each module has its own and different parameters. Please refer to the *Process Modules* section to learn all required and optional parameters.

### 5.4.3 Process Modules

Process management modules can be used in sequence flow actions and script task activities. The modules are scripts which can interact with other objects like tickets, knowledge base articles, configuration items or appointments. Using these modules makes it possible to change the attributes of the process ticket or other objects.

Some built-in modules are shipped with the framework.

**CustomerCompanyDataPull**

A module to pull data from customer company map into current ticket.

![CustomerCompanyDataPull](image)

Fig. 84: Process Management Module CustomerCompanyDataPull

**Possible search fields section**

This section is used to search for customer companies.

Filters can be added with key-value pairs. There is logical AND relation between the filters if more than one filter is added. Logical OR relation can be added by multiple values separated by , .

The key `Limit` limits the number of customer companies returned.
The possible search fields are defined in the CustomerCompanySearchFields array of Kernel/Config.pm. If no customer company search fields are defined here then Kernel/Config/Defaults.pm will be used.

**Desired behavior section**

If more than one customer companies are found in the section above, the desired behavior can be defined here.

Possible values:

- Copy attributes from customer company that was found first
- Copy attributes from customer company that was found last
- Ignore customer company data, do not copy anything

**Process ticket attributes section**

With this module the process ticket attributes can be updated. The key is the attribute of the process ticket. The value can be a pre-defined text, an attribute of the found customer company in form of an OTRS tag or a concatenation of both. The `<OTRS_CUSTOMERCOMPANY_DATA_*>` OTRS tag prefix can be used here.

Examples:

<table>
<thead>
<tr>
<th>Key</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Priority</td>
<td>5 very high</td>
</tr>
<tr>
<td>Dynamic-Field_Name</td>
<td><code>&lt;OTRS_CUSTOMERCOMPANY_DATA_CustomerCompanyName&gt;</code></td>
</tr>
<tr>
<td>Dynamic-Field_Search</td>
<td><a href="https://startpage.com/?q=">https://startpage.com/?q=</a>&lt;OTRS_CUSTOMERCOMPANY_DATA_CustomerCompanyName&gt;</td>
</tr>
</tbody>
</table>

**See also:**

See the CustomerCompanyDataPull and the CustomerCompanySearchDetail() API reference.

**CustomerUserDataPull**

A module to pull data from customer user map into current ticket.

**Possible search fields section**

This section is used to search for customer users.
Filters can be added with key-value pairs. There is logical AND relation between the filters if more than one filter is added. Logical OR relation can be added by multiple values separated by ,.

The key Limit limits the number of customer users returned.

The possible search fields are defined in the CustomerUserSearchFields array of Kernel/Config.pm. If no customer user search fields are defined here then Kernel/Config/Defaults.pm will be used.

**Desired behavior section**

If more than one customer users are found in the section above, the desired behavior can be defined here.

Possible values:

- Copy attributes from customer user that was found first
- Copy attributes from customer user that was found last
- Ignore customer user data, do not copy anything

**Process ticket attributes section**

With this module the process ticket attributes can be updated. The key is the attribute of the process ticket. The value can be a pre-defined text, an attribute of the found customer user in form of an OTRS tag or a concatenation of both. The `<OTRS_CUSTOMER_DATA_*>` OTRS tag prefix can be used here.

Examples:

<table>
<thead>
<tr>
<th>Key</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Priority</td>
<td>5 very high</td>
</tr>
<tr>
<td>DynamicField_Name</td>
<td><code>&lt;OTRS_CUSTOMER_DATA_UserFullname&gt;</code></td>
</tr>
<tr>
<td>DynamicField_Name</td>
<td><code>https://startpage.com/?q=&lt;OTRS_CUSTOMER_DATA_UserFullname&gt;</code></td>
</tr>
</tbody>
</table>

See also:

See the CustomerUserDataPull and the CustomerSearchDetail() API reference.

**DynamicFieldSet**

A module to set the dynamic field values of a ticket.

<table>
<thead>
<tr>
<th>Config Parameters (Key/Value)</th>
<th>Set the dynamic field values of a ticket.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key</td>
<td>Value</td>
</tr>
</tbody>
</table>

Fig. 86: Process Management Module DynamicFieldSet

**Configuration parameters section**

The dynamic field values of the process ticket can be set here. The key is the attribute of the process ticket. The value can be a pre-defined text, an attribute from the process ticket in form of an OTRS tag or a concatenation of both. The `<OTRS_TICKET_*>` OTRS tag prefix can be used here.

Examples:
KBADataPull

A module to fetch data from a linked knowledge base article.

- **Linked KBA condition section**
  This section is used to search for knowledge base articles.
  Filters can be added with key-value pairs. There is logical AND relation between the filters if more than one filter is added. Logical OR relation can be added by multiple values separated by ,.

- **Desired behavior section**
  If more than one knowledge base articles are found in the section above, the desired behavior can be defined here.
  Possible values:
  - Copy attributes from the KBA that was found first
  - Copy attributes from the KBA that was found last
  - Ignore KBA, do not copy anything

- **Process ticket attributes section**
  With this module the process ticket attributes can be updated. The key is the attribute of the process ticket. The value can be a pre-defined text, an attribute from the linked knowledge base article in form of an OTRS tag or a concatenation of both. The `<OTRS_KBA_*>` OTRS tag prefix can be used here.

Examples:

<table>
<thead>
<tr>
<th>Key</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Priority</td>
<td>5 very high</td>
</tr>
<tr>
<td>DynamicField_Solution</td>
<td><code>&lt;OTRS_KBA_Field3&gt;</code></td>
</tr>
<tr>
<td>Title</td>
<td>Category: <code>&lt;OTRS_KBA_Field3&gt;</code></td>
</tr>
</tbody>
</table>
See also:
See the KBADataPull and the FAQSearch() API reference.

**KBADataPush**

A module to insert data to the linked knowledge base articles.

<table>
<thead>
<tr>
<th>Key</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>DynamicField_Name</td>
<td>&lt;OTRS_TICKET_DynamicField_Name&gt;</td>
</tr>
<tr>
<td>DynamicField_Text</td>
<td>Title: &lt;OTRS_TICKET_Title&gt;</td>
</tr>
<tr>
<td>UserID</td>
<td>1</td>
</tr>
</tbody>
</table>

**Linked KBA condition section**

This section is used to search in the linked knowledge base articles.

Filters can be added with key-value pairs. There is logical AND relation between the filters if more than one filter is added. Logical OR relation can be added by multiple values separated by ,.

**Linked KBA attributes section**

Here can be set the linked knowledge base article attributes to be updated. The key is an attribute of the linked knowledge base article. The value can be a pre-defined text, an attribute from the process ticket in form of an OTRS tag or a concatenation of both. The <OTRS_TICKET_*> OTRS tag prefix can be used here.

Examples:

<table>
<thead>
<tr>
<th>Key</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>DynamicField_Name</td>
<td>&lt;OTRS_TICKET_DynamicField_Name&gt;</td>
</tr>
<tr>
<td>DynamicField_Text</td>
<td>Title: &lt;OTRS_TICKET_Title&gt;</td>
</tr>
<tr>
<td>UserID</td>
<td>1</td>
</tr>
</tbody>
</table>

See also:
See the KBADataPush and the FAQSearch() API reference.

**LinkWithKBA**

A module to link knowledge base articles.

**Knowledge base article matching section**

This section is used to search for knowledge base articles.

Filters can be added with key-value pairs. There is logical AND relation between the filters if more than one filter is added. Logical OR relation can be added by multiple values separated by ,.

The key Limit limits the number of knowledge base articles returned. This field is mandatory.
Link type section
Here can be defined the link type for found knowledge base articles. Possible values are Normal, Parent or Child.

See also:
See the LinkWithKBA and the FAQSearch() API reference.

LinkWithTicket
A module to link other tickets.

Ticket matching section
This section is used to search for tickets.
Filters can be added with key-value pairs. There is logical AND relation between the filters if more than one filter is added. Logical OR relation can be added by multiple values separated by , .
The key Limit limits the number of tickets returned. This field is mandatory.

Link type section
Here can be defined the link type for found tickets. Possible values are Normal, Parent or Child.

See also:
See the LinkWithTicket and the TicketSearch() API reference.
TicketArticleCreate

A module to create an article for a ticket.

<table>
<thead>
<tr>
<th>Key</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body</td>
<td><code>&lt;table cellspacing=&quot;2&quot; cellpadding=&quot;2&quot; border=&quot;1&quot;&gt;</code>&lt;thead&gt;&lt;tr&gt;&lt;th&gt;Field&lt;/th&gt;&lt;th&gt;Content&lt;/th&gt;&lt;/tr&gt;&lt;/thead&gt;&lt;tbody&gt;&lt;tr&gt;&lt;td&gt;Book Title&lt;/td&gt;&lt;td&gt;&lt;OTRS_TICKET_DynamicField_Title&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;Book Author&lt;/td&gt;&lt;td&gt;&lt;OTRS_TICKET_DynamicField_Author&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;ISBN&lt;/td&gt;&lt;td&gt;&lt;OTRS_TICKET_DynamicField_ISBN&gt;&lt;/td&gt;&lt;/tr&gt;&lt;/tbody&gt;&lt;/table&gt;`</td>
</tr>
<tr>
<td>CommunicationChannel</td>
<td>Internal</td>
</tr>
<tr>
<td>ContentType</td>
<td>text/html; charset=UTF-8</td>
</tr>
<tr>
<td>HistoryComment</td>
<td>Last man standing</td>
</tr>
<tr>
<td>HistoryType</td>
<td>AddNote</td>
</tr>
<tr>
<td>IsVisibleForCustomer</td>
<td>1</td>
</tr>
<tr>
<td>SenderType</td>
<td>agent</td>
</tr>
<tr>
<td>Subject</td>
<td>Summarization of Former Process Ticket Content: &lt;OTRS_TICKET_Title&gt;`</td>
</tr>
</tbody>
</table>

Fig. 91: Process Management Module TicketArticleCreate

Configuration parameters section

Here can be set the article attributes of a ticket. The key is the attribute of the article which will be created. The value can be a pre-defined text, an attribute from the process ticket in form of an OTRS tag or a concatenation of both. The `<OTRS_TICKET_*>` OTRS tag prefix can be used here.

Examples:
See also:

See the TicketArticleCreate and the ArticleCreate() API reference.

**TicketCreate**

A module to create a ticket.

---

<table>
<thead>
<tr>
<th>Key</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CustomerID</td>
<td>&lt;OTRS_TICKET_CustomerID&gt;</td>
</tr>
<tr>
<td>CustomerUser</td>
<td>&lt;OTRS_TICKET_CustomerUserID&gt;</td>
</tr>
<tr>
<td>DynamicField_ProcessManagementActivityID</td>
<td>Activity-1a1924ad9c1a6b23f70fc58a80961760</td>
</tr>
<tr>
<td>DynamicField_ProcessManagementProcessID</td>
<td>Process-95a06ad414cf371ebc4b82c8c2a3f389</td>
</tr>
<tr>
<td>LinkAs</td>
<td>Child</td>
</tr>
<tr>
<td>Lock</td>
<td>unlock</td>
</tr>
<tr>
<td>OwnerID</td>
<td>1</td>
</tr>
<tr>
<td>Priority</td>
<td>3 normal</td>
</tr>
<tr>
<td>Queue</td>
<td>Postmaster</td>
</tr>
<tr>
<td>State</td>
<td>open</td>
</tr>
<tr>
<td>Title</td>
<td>Subtask of: &lt;OTRS_TICKET_Title&gt;</td>
</tr>
</tbody>
</table>

See also:

See the TicketCreate and the TicketCreate() API reference.

**TicketCustomerSet**

A module to set the customer of a ticket.

---

<table>
<thead>
<tr>
<th>Key</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Set the customer of a ticket.</td>
<td></td>
</tr>
</tbody>
</table>

Fig. 92: Process Management Module TicketCreate

Fig. 93: Process Management Module TicketCustomerSet
Configuration parameters section
Here can be set the customer of the ticket. The key is the attribute of the process ticket. The value can be a pre-defined text, an attribute from the process ticket in form of an OTRS tag or a concatenation of both. The `<OTRS_TICKET_*>` OTRS tag prefix can be used here.

Examples:

<table>
<thead>
<tr>
<th>Key</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CustomerID</td>
<td>client123</td>
</tr>
<tr>
<td>CustomerUserID</td>
<td>client-user-123</td>
</tr>
</tbody>
</table>

See also:
See the TicketCustomerSet and the TicketCustomerSet() API reference.

TicketDataPull
A module to fetch data from a linked ticket.

Linked ticket condition section
This section is used to search for tickets.

Filters can be added with key-value pairs. There is logical AND relation between the filters if more than one filter is added. Logical OR relation can be added by multiple values separated by , .

Desired behavior section
If more than one tickets are found in the section above, the desired behavior can be defined here.

Possible values:
- Copy attributes from the ticket that was found first
- Copy attributes from the ticket that was found last
- Ignore ticket, do not copy anything

Process ticket attributes section
With this module the process ticket attributes can be updated. The key is the attribute of the process ticket. The value can be a pre-defined text, an attribute from the linked ticket in form of an OTRS tag or a concatenation of both. The `<OTRS_TICKET_*>` OTRS tag prefix can be used here.

Examples:
### TicketDataPush

A module to insert data to the linked tickets.

<table>
<thead>
<tr>
<th>Key</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Priority</td>
<td>5 very high</td>
</tr>
<tr>
<td>DynamicField_Priority</td>
<td>&lt;OTRS_TICKET_Priority&gt;</td>
</tr>
<tr>
<td>Title</td>
<td>From: &lt;OTRS_TICKET_DynamicField_Title&gt;</td>
</tr>
</tbody>
</table>

See also:

See the TicketDataPull and the TicketSearch() API reference.

### Linked ticket condition section

This section is used to search in the linked tickets.

Filters can be added with key-value pairs. There is logical AND relation between the filters if more than one filter is added. Logical OR relation can be added by multiple values separated by , .

### Linked ticket attributes section

Here can be set the linked ticket attributes to be updated. The key is the attribute of the linked ticket. The value can be a pre-defined text, an attribute from the process ticket in form of an OTRS tag or a concatenation of both. The <OTRS_TICKET_*> OTRS tag prefix can be used here.

Examples:

<table>
<thead>
<tr>
<th>Key</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>state</td>
<td>closed successful</td>
</tr>
<tr>
<td>Priority</td>
<td>&lt;OTRS_TICKET_Priority&gt;</td>
</tr>
</tbody>
</table>

See also:

See the TicketDataPush and the TicketSearch() API reference.
TicketLockSet

A module to set the lock status of a ticket.

<table>
<thead>
<tr>
<th>Key</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lock</td>
<td>locked</td>
</tr>
<tr>
<td>LockID</td>
<td>1</td>
</tr>
</tbody>
</table>

Fig. 96: Process Management Module TicketLockSet

**Configuration parameters section**

Here can be set the lock status of a ticket.

Examples:

<table>
<thead>
<tr>
<th>Key</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lock</td>
<td>locked</td>
</tr>
<tr>
<td>LockID</td>
<td>1</td>
</tr>
</tbody>
</table>

**See also:**

See the TicketLockSet and the TicketLockSet() API reference.

TicketOwnerSet

A module to set the owner of a ticket.

<table>
<thead>
<tr>
<th>Key</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner</td>
<td>root@localhost</td>
</tr>
<tr>
<td>OwnerID</td>
<td>1</td>
</tr>
</tbody>
</table>

Fig. 97: Process Management Module TicketOwnerSet

**Configuration parameters section**

Here can be set the owner of a ticket.

Examples:

<table>
<thead>
<tr>
<th>Key</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner</td>
<td>root@localhost</td>
</tr>
<tr>
<td>OwnerID</td>
<td>1</td>
</tr>
</tbody>
</table>

**See also:**

See the TicketOwnerSet and the TicketOwnerSet() API reference.
**TicketQueueSet**

A module to move a ticket to a new queue.

Move a ticket to a new queue.

<table>
<thead>
<tr>
<th>Key</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>QueueID</td>
<td>1</td>
</tr>
</tbody>
</table>

*Fig. 98: Process Management Module TicketQueueSet*

**Configuration parameters section**

Here can be set the queue of a ticket.

Examples:

<table>
<thead>
<tr>
<th>Key</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Queue</td>
<td>Misc</td>
</tr>
<tr>
<td>QueueID</td>
<td>1</td>
</tr>
</tbody>
</table>

*See also:*

See the `TicketQueueSet` and the `TicketQueueSet()` API reference.

**TicketResponsibleSet**

A module to set the responsible agent of a ticket.

Set the responsible agent of a ticket.

<table>
<thead>
<tr>
<th>Key</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Responsible</td>
<td>root@localhost</td>
</tr>
<tr>
<td>ResponsibleID</td>
<td>1</td>
</tr>
</tbody>
</table>

*Fig. 99: Process Management Module TicketResponsibleSet*

**Configuration parameters section**

Here can be set the responsible agent of a ticket.

Examples:

<table>
<thead>
<tr>
<th>Key</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Responsible</td>
<td>root@localhost</td>
</tr>
<tr>
<td>ResponsibleID</td>
<td>1</td>
</tr>
</tbody>
</table>

*See also:*

See the `TicketResponsibleSet` and the `TicketResponsibleSet()` API reference.
**TicketSendEmail**

A module to send an email from a ticket.

<table>
<thead>
<tr>
<th>Config Parameters (Recipients)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send to these agents:</td>
</tr>
<tr>
<td>Additional recipient email addresses:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Config Parameters (Article)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visible to customer: [ ]</td>
</tr>
<tr>
<td>An article will be created if the notification is sent to an additional email address.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Config Parameters (Multi Language RichText)</th>
</tr>
</thead>
<tbody>
<tr>
<td>English (United States)</td>
</tr>
<tr>
<td>Subject:</td>
</tr>
<tr>
<td>Text:</td>
</tr>
</tbody>
</table>

| Add new language: |

Fig. 100: Process Management Module TicketSendEmail

**Configuration parameters for recipients section**
Here can be set the recipients of the email.

**Send to these agents**
Select the agents who will receive the email.

**Additional recipient email addresses**
Additional email addresses can be added here.

**Configuration parameters for article section**
Here can be set if the article is visible to customer.

**Configuration parameters for email section**
Here can be set the subject and the body of the email. Multiple languages are supported.

**See also:**
See the TicketSendEmail API reference.
**TicketServiceSet**

A module to set the service of a ticket.

<table>
<thead>
<tr>
<th>Config Parameters (Key/Value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key:</td>
</tr>
</tbody>
</table>

Set the service of a ticket.

Fig. 101: Process Management Module TicketServiceSet

**Configuration parameters section**

Here can be set the service of a ticket.

Examples:

<table>
<thead>
<tr>
<th>Key</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service</td>
<td>MyService::Subservice</td>
</tr>
<tr>
<td>ServiceID</td>
<td>123</td>
</tr>
</tbody>
</table>

See also:

See the TicketServiceSet and the TicketServiceSet() API reference.

**TicketSLASet**

A module to set the SLA of a ticket.

<table>
<thead>
<tr>
<th>Config Parameters (Key/Value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key:</td>
</tr>
</tbody>
</table>

Set the SLA of a ticket.

Fig. 102: Process Management Module TicketSLASet

**Configuration parameters section**

Here can be set the service level agreement of a ticket.

Examples:

<table>
<thead>
<tr>
<th>Key</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>SLA</td>
<td>MySLA</td>
</tr>
<tr>
<td>SLAID</td>
<td>123</td>
</tr>
</tbody>
</table>

See also:

See the TicketSLASet and the TicketSLASet() API reference.
**TicketStateSet**

A module to set the state of a ticket.

Set the state of a ticket.

<table>
<thead>
<tr>
<th>Config Parameters (Key/Value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key</td>
</tr>
<tr>
<td>State</td>
</tr>
<tr>
<td>StateID</td>
</tr>
</tbody>
</table>

**Fig. 103: Process Management Module TicketStateSet**

**Configuration parameters section**

Here can be set the state of a ticket.

Examples:

<table>
<thead>
<tr>
<th>Key</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>State</td>
<td>open</td>
</tr>
<tr>
<td>StateID</td>
<td>1</td>
</tr>
</tbody>
</table>

**See also:**

See the TicketStateSet and the TicketStateSet() API reference.

**TicketTitleSet**

A module to set the title of a ticket.

Set the title of a ticket.

<table>
<thead>
<tr>
<th>Config Parameters (Key/Value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key</td>
</tr>
<tr>
<td>Title</td>
</tr>
</tbody>
</table>

**Fig. 104: Process Management Module TicketTitleSet**

**Configuration parameters section**

Here can be set the title of a ticket.

Examples:

<table>
<thead>
<tr>
<th>Key</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title</td>
<td>Some ticket title</td>
</tr>
</tbody>
</table>

**See also:**

See the TicketTitleSet and the TicketTitleUpdate() API reference.
TicketTypeSet

A module to set the type of a ticket.

<table>
<thead>
<tr>
<th>Key</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>Default</td>
</tr>
<tr>
<td>TypeID</td>
<td>1</td>
</tr>
</tbody>
</table>

Fig. 105: Process Management Module TicketTypeSet

**Configuration parameters section**

Here can be set the type of a ticket.

Examples:

See also:

See the TicketTypeSet and the TicketTypeSet() API reference.

### 5.4.4 Example process

Processes are more complex than other resources in OTRS. To create a process, you need to do several steps. The following chapters shows you, how to define a process from the specification and create the needed resources. Let’s see an example to make it more demonstrative. We will define a book order process.

**Process Specification**

The book order process has four states.

**Recording the demand**

Before an order will be placed, the demand for literature by an employee will be recorded. The following book is needed in our example:

Title: Prozessmanagement für Dummies
Autor: Thilo Knuppertz
ISBN: 3527703713

**Approval by manager**

The head of the employee’s department needs to decide on the order. In case of a denial, a reason should be recorded by the manager. In case of approval, the order is passed to the purchasing department.

**Processing by purchasing department**

Purchasing now has the task to find out where the book can be ordered with the best conditions. If it is out of stock, this can be recorded in the order. In case of a successful order purchasing will record the supplier, the price and the delivery date.
Processing by the mail room

The shipment will arrive at the company. The incoming goods department checks the shipment and records the date of receipt. Now the employee will be informed that their order has arrived and is ready to be collected.

Introduce The Process Elements

If we assume that a ticket acts in this workflow like an accompanying document that can receive change notes, we already have a clear picture of process tickets.

From the analysis of the example process we can identify the following necessary items:

• Possibility to record data, let’s call this user task activity dialog.
• Check which can react to changed data automatically, let’s call this sequence flow.
• Change which can be applied to a process ticket after successful transitions of a process ticket, let’s call this sequence flow action.
• A possibility to offer more than just one user task activity dialog to be available. In our example this is needed when the manager must have the choice between Approve and Deny. Let’s call this activity.

Now, with activities, user task activity dialogs, sequence flows and sequence flow actions we have the necessary tools to model the individual steps of our example. What is still missing is an area where for each workflow the order of the steps can be specified. Let’s call this process.

Create Necessary Resources

Before the creation of the process and its parts is necessary to prepare the system. We need to define some Queues, Agents and Dynamic Fields as well as set some System Configuration settings.

Create the following Queues:

• Management
• Employees
• Purchasing
• Post office

Create the following Agents:

• Manager
• Employee

Create the following Dynamic Fields:
<table>
<thead>
<tr>
<th>Object</th>
<th>Type</th>
<th>Name</th>
<th>Label</th>
<th>Possible values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ticket</td>
<td>Text</td>
<td>Title</td>
<td>Title</td>
<td></td>
</tr>
<tr>
<td>Ticket</td>
<td>Text</td>
<td>Author</td>
<td>Author</td>
<td></td>
</tr>
<tr>
<td>Ticket</td>
<td>Dropdown</td>
<td>Status</td>
<td>Status</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Approval</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Approval denied</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Approved</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Order denied</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Order placed</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Shipment received</td>
</tr>
<tr>
<td>Ticket</td>
<td>Text</td>
<td>Supplier</td>
<td>Supplier</td>
<td></td>
</tr>
<tr>
<td>Ticket</td>
<td>Text</td>
<td>Price</td>
<td>Price</td>
<td></td>
</tr>
<tr>
<td>Ticket</td>
<td>Date</td>
<td>DeliveryDate</td>
<td>Delivery date</td>
<td></td>
</tr>
<tr>
<td>Ticket</td>
<td>Date</td>
<td>DateOfReceipt</td>
<td>Date of receipt</td>
<td></td>
</tr>
</tbody>
</table>

Set the following *System Configuration* settings:

- **Ticket::Responsible**
  - Enabled
- **AgentFrontend::TicketDetailView::Widget::BusinessProcessInformation###DynamicField**
  - Author → 1 - Enabled
  - DeliveryDate → 1 - Enabled
  - ISBN → 1 - Enabled
  - Price → 1 - Enabled
  - Status → 1 - Enabled
  - Supplier → 1 - Enabled
  - Title → 1 - Enabled
- **AgentFrontend::TicketDetailView::Widget::BusinessProcessInformation###DynamicFieldGroups**
  - Book → Title, Author, ISBN
  - General → Status
  - Order → Price, Supplier, DeliveryDate
  - Shipment → DateOfReceipt

**Note:** Don’t forget to deploy the modified system configuration settings.

Now, go back to the *Process Management* screen and click on the *Create New Process*. Fill in the required fields.

The new process is created. You can add some process element now.
Create User Task Activity Dialogs

Click on the User Task Activity Dialogs item in the Available Process Elements widget in the left sidebar. This action will expand the User Task Activity Dialogs options and will collapse all others doing an accordion like effect. Click on the Create New User Task Activity Dialog button.

In the opened popup screen fill in the Dialog Name as well as the Description (short) fields. For this example we will leave all other fields as the default.

To assign fields to the user task activity dialog simple drag the required field from the Available Fields pool and drop into the Assigned Fields pool. The order in the Assigned Fields pool is the order as the fields will have in the screen. To modify the order simply drag and drop the field within the pool to rearrange it in the correct place.

In this example we will use:

- Article field for comments.
- DynamicField_Title, DynamicField_Author, DynamicField_ISBN fields for the data to be collected for the order.
- DynamicField_Status with the possibility to choose Approval.

Drag these fields from the Available Fields pool and drop into the Assigned Fields pool.

**Note:** In this screen all dynamic fields has the prefix DynamicField_ as in DynamicField_Title. Do not confuse with the field Title that is the ticket title.

As soon as the fields are dropped into the Assigned Fields pool another popup screen is shown with some details about the field. We will leave the default options and only for Article fields we should make sure that the Communication Channel field is set to OTRS and that the Is visible for customer is not checked.

After all fields are filled in, click on the Save and finish button to save the changes and go back to the project management screen.

Create the following user task activity dialogs with fields:

- Recording the demand (already created before)
  - Article field for comments.
Fig. 107: Book Ordering - User Task Activity Dialogs

Fig. 108: Book Ordering - Add User Task Activity Dialog
Fig. 109: Book Ordering - Add User Task Activity Dialog Fields

Fig. 110: Book Ordering - Edit User Task Activity Dialog Fields

5.4. Process Management
– DynamicField_Title, DynamicField_Author, DynamicField_ISBN fields for the data to be collected for the order.
– DynamicField_Status with the possibility to choose Approval.

• Approval denied
  – Article field for comments.
  – DynamicField_Status with the possibility to choose Approval denied.

• Approved
  – DynamicField_Status with the possibility to choose Approved.

• Order denied
  – Article field for comments.
  – DynamicField_Status with the possibility to choose Order denied.

• Order placed
  – DynamicField_Supplier, DynamicField_Price, DynamicField_DeliveryDate fields for purchasing.
  – DynamicField_Status with the possibility to choose Order placed.

• Shipment received
  – DynamicField_DateOfReceipt for the mail room.
  – DynamicField_Status with the possibility to choose Shipment received.

Create Sequence Flows

Click on the Sequence Flows item in the Available Process Elements widget in the left sidebar. This action will expand the Sequence Flows options and will collapse all others doing an accordion like effect. Click on the Create New Sequence Flow button.

In the opened popup screen fill in the Sequence Flow Name. For this example in the Condition Expressions we will use just one condition expression and just one field. For both we can leave the Type of Linking as and and we will use the filed match type value as String.

After all fields are filled in, click on the Save and finish button to save the changes and go back to the project management screen.

Create the following sequence flows:

• Approval (already created before)
  Check if the DynamicField_Status is set to Approval.

• Approval denied
  Check if the DynamicField_Status field is set to Approval denied.

• Approved
  Check if the DynamicField_Status field is set to Approved.

• Order denied
  Check if the DynamicField_Status field is set to Order denied.

• Order placed
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Fig. 111: Book Ordering - Sequence Flows

Fig. 112: Book Ordering - Add Sequence Flow
Check if the `DynamicField_Status` field is set to *Order placed*.

- *Shipment received*
  
  Check if the `DynamicField_Status` field is set to *Shipment received*.

### Create Sequence Flow Actions

Click on the *Sequence Flow Actions* item in the *Available Process Elements* widget in the left sidebar. This action will expand the *Sequence Flow Actions* options and will collapse all others doing an accordion like effect. Click on the *Create New Sequence Flow Action* button.

![Available Process Elements](image)

**Fig. 113: Book Ordering - Sequence Flow Actions**

In the opened popup screen fill in the *Sequence Flow Action Name* and the *Sequence Flow Action module* then click on the *Save* button. A new *Configure* button will appear next to the module field.

![Sequence Flow Action](image)

**Fig. 114: Book Ordering - Add Sequence Flow Action**
Click on the *Configure* button and add the needed configuration parameter keys and values.

**See also:**

Each module has its own and different parameters. Please refer to the *Process Modules* section to learn all required and optional parameters.

---

**Fig. 115: Book Ordering - Sequence Flow Action Parameters**

After all fields are filled in, click on the *Save and finish* button to save the changes and go back to the project management screen.

Create the following sequence flow actions:

- **Move the process ticket into the “Management” queue** (already created before)
  
  To be executed when the sequence flow *Approval* applied.

- **Change ticket responsible to “Manager”**
  
  To be executed when the sequence flow *Approval* applied.

- **Move process ticket into the “Employees” queue**
  
  To be executed when:
  
  - The sequence flow *Approval denied* applied.
  
  - The sequence flow *Order denied* applied.
  
  - The sequence flow *Shipment received* applied.

- **Change ticket responsible to “Employee”**
  
  To be executed when:
  
  - The sequence flow *Approval denied* applied.
  
  - The sequence flow *Order denied* applied.
  
  - The sequence flow *Shipment received* applied.

- **Move process ticket into the “Purchasing” queue**
  
  To be executed when the sequence flow *Approved* applied.

- **Move process ticket into the “Post office” queue**
  
  To be executed when the sequence flow *Order placed* applied.

- **Close ticket successfully**
  
  To be executed when the sequence flow *Shipment received* applied.

- **Close ticket unsuccessfully**
  
  To be executed when:
  
  - The sequence flow *Approval denied* applied.
The sequence flow *Order denied* applied.

There are places where the same sequence flow actions should be executed. Therefore it is reasonable to make it possible to link sequence flow actions freely with sequence flows to be able to reuse them.

**Create Activities**

Click on the *Activities* item in the *Available Process Elements* widget in the left sidebar. This action will expand the *Activities* options and will collapse all others doing an accordion like effect. Click on the *Create New Activity* button.

![Available Process Elements](image)

**Fig. 116: Book Ordering - Activities**

In the opened popup screen fill in the *Activity name* field and select *User task activity* from the *Activity type* drop-down.

![Activity](image)

**Fig. 117: Book Ordering - Add Activity**

To assign dialogs to the activity simple drag the required dialogs from the *Available User Task Activity Dialogs* pool and drop into the *Assigned User Task Activity Dialogs* pool. The order in the *Assigned User Task Activity Dialogs*
Dialogs pool is the order as the dialogs will be presented in the ticket detail view. To modify the order simply drag and drop the dialog within the pool to rearrange it in the correct place.

**Note:** This order is specially important in the first activity, since the first user task activity dialog for this activity is the only one that is presented when the process starts.

In this example we need to assign only the *Recording the demand* user task activity dialog. Drag this dialog from the *Available User Task Activity Dialogs* pool and drop into the *Assigned User Task Activity Dialogs* pool.

![User Task Activity Dialogs](image)

**Fig. 118: Book Ordering - Assign User Task Activity Dialog**

After all fields are filled in, click on the *Save and finish* button to save the changes and go back to the project management screen.

Create the following activities:

- *Recording the demand* (already created before)
  
  Assign the user task activity dialog *Recording the demand*.

- *Approval*
  
  Assign the user task activity dialogs *Approval denied* and *Approved*.

- *Order*
  
  Assign the user task activity dialogs *Order denied* and *Order placed*.

- *Incoming*
  
  Assign the user task activity dialog *Shipment received*.

- *Process complete*
  
  This is an activity without possible user task activity dialogs. It will be set after *Approval denied*, *Order denied* or *Shipment received* and represents the end of the process.

Now we can clearly see that activities are precisely defined states of a process ticket. After a successful sequence flow a process ticket moves from one activity to another.
Create Process Path

Let us conclude our example with the last missing piece in the puzzle, the process as the a flow describer. In our case this is the whole ordering workflow. Other processes could be office supply ordering or completely different processes.

The process has a starting point which consists of the start activity and the start user task activity dialog. For any new book order, the first user task activity dialog of the first activity is the first screen that is displayed. If this is completed and saved, the process ticket will be created and can follow the configured workflow.

The process also contains the directions for how the process ticket can move through the process. Let’s call this process path. It consists of the start activity, one or more sequence flows (possibly with sequence flow actions) and other activities.

Assuming that the activities has already assigned their user task activity dialogs, drag an activity from the accordion in the Available Process Elements widget in the left sidebar and drop it into the canvas area below the process information. Notice that an arrow from the process start (white circle) to the activity is placed automatically. This is the first activity and its first user task activity dialog is the first screen that will be shown when the process starts.

Fig. 119: Book Ordering - First Activity On Canvas

Next, drag another activity into the canvas too. Now we will have two activities in the canvas. The first one is connected to the start point and the second has no connections. You can hover the mouse over each activity to reveal their own activity dialogs.
Fig. 120: Book Ordering - Second Activity On Canvas
Then let’s create the process path (connection) between these two activities. For this we will use the sequence flows. Click on sequence flow in the accordion, drag a sequence flow and drop it inside the first activity. As soon as the sequence flow is dropped the end point of the sequence flow arrow will be placed next to the process start point. Drag the sequence flow arrow end point and drop it inside the other activity to create the connection between the activities.

![Diagram of process flow](image)

Fig. 121: Book Ordering - First Sequence Flow On Canvas

Now that the process path between the actions is defined, then we need to assign the sequence flow actions to the sequence flow. Double click the sequence flow label in the canvas to open a new popup window. After the sequence flow actions are assigned, click on the Save button to go back to the main process edit screen. Click on Save button below the canvas to save all other changes.

Complete the process path by adding the following activities, sequence flows and sequence flow actions:

- **Recording the demand** (already created before)

  Possible sequence flow: **Approval**

  Starting activity: **Recording the demand**

  Next activity: **Approval**

  If the condition of this activity is fulfilled, the ticket will move to activity **Approval**.

  Additionally, the following sequence flow actions are executed:
Fig. 122: Book Ordering - Assign First Sequence Flow Action
– Move the process ticket into the “Management” queue
– Change ticket responsible to “Manager”

The activity Recording the demand is a defined step of the process ticket, where there is the possibility for the sequence flow Approval. If this applies, the ticket will move to the next activity Approval, and the sequence flow actions Move the process ticket into the “Management” queue and Change ticket responsible to “Manager” are executed. In the activity Approval, the user task activity dialogs Approval denied and Approved are available.

• Approval

Possible sequence flow: Approval denied
Starting activity: Approval
Next activity: Process complete

If this matches, the process ticket will move to activity Process complete.
Additionally, the following sequence flow actions are executed:
– Move process ticket into the “Employees” queue
– Change ticket responsible to “Employee”
– Close ticket unsuccessfully

Possible sequence flow: Approved
Starting activity: Approval
Next activity: Order

If this matches, the process ticket will move to activity Order.
Additionally, the following sequence flow actions are executed:
– Move process ticket into the “Purchasing” queue

We can see that from the current activity, which defines a step of the process ticket, there are one or more possibilities for sequence flow which have exactly one target activity (and possibly one or more sequence flow actions).

• Order

Possible sequence flow: Order denied
Starting activity: Order
Next activity: Process complete

If this matches, the process ticket will move to activity Process complete.
Additionally, the following sequence flow actions are executed:
– Move process ticket into the “Employees” queue
– Change ticket responsible to “Employee”
– Close ticket unsuccessfully

Possible sequence flow: Order placed
Starting activity: Order
Next activity: Incoming

If this matches, the process ticket will move to activity Incoming.
Additionally, the following sequence flow actions are executed:

- Move process ticket into the “Post office” queue

**Incoming**

Possible sequence flow: Shipment received
Starting activity: Incoming
Next activity: Process complete
If this matches, the process ticket will move to activity Process complete.
Additionally, the following sequence flow actions are executed:
- Move process ticket into the “Employees” queue
- Change ticket responsible to “Employee”
- Close ticket successfully

The complete process path for the book ordering process will then look like this:

---

**Fig. 123: Book Ordering - Process Complete**

After you finish the process path, click on Save and finish button below the canvas to go back to the process management screen.
Click on the *Deploy All Processes* button in the left sidebar. This will gather all processes information form the database and create a cache file (in Perl language). This cache file is actually the processes configuration that the system will use to create or use process tickets.

**Note:** Any change that is made on the process will require to re-deploy the process in order to get the change reflected in the system.

### Create Access Control Lists

With the help of *Access Control Lists (ACL)*, the selectable values in process tickets can be limited. Some ACLs have to be defined for the book ordering process to operate correctly.

In this section, all necessary ACLs are defined. Each ACL is added here in YAML format, so you can copy them, save them as separate `.yml` files and import them in the ACL management screen.

**Warning:** The exported ACLs contain the activity dialog IDs from the system, where they were exported from. Do not forget to change the IDs based on your process. Otherwise the ACLs will not work.

**See also:**

Use the *Show EntityIDs* link in the header of the process canvas to see the entity IDs. For the activity dialogs, hover the mouse over the name in the list of activity dialogs in the left sidebar to see the ID.

**001-ACL-BookOrderingStatus**

This ACL enables only the *Approval* value for the *Status* dynamic field in the *Recording the demand* activity dialog.

```yaml
---
- ChangeBy: root@localhost
  ChangeTime: 2020-04-18 15:46:16
  Comment: Approval
  ConfigChange:
    Possible:
      Ticket:
        DynamicField_Status:
          - Approval
  ConfigMatch:
    Properties:
      Process:
        ActivityDialogEntityID:
          - ActivityDialog-bfa31751ee47f8d8ec3a15e4cf1de732
      CreateBy: root@localhost
      CreateTime: 2020-04-18 15:42:06
      Description: ''
      ID: 1
      Name: 001-ACL-BookOrderingStatus
      StopAfterMatch: 0
      ValidID: 1
```

**002-ACL-BookOrderingStatus**

This ACL enables only the *Approval denied* value for the *Status* dynamic field in the *Approval denied* activity dialog.
003-ACL-BookOrderingStatus
This ACL enables only the Approved value for the Status dynamic field in the Approved activity dialog.

004-ACL-BookOrderingStatus
This ACL enables only the Order denied value for the Status dynamic field in the Order denied activity dialog.

(continues on next page)
Ticket:  
 DynamicField_Status:  
 - Order denied

ConfigMatch:  
 Properties:  
 Process:  
 ActivityDialogEntityID:  
 - ActivityDialog-5b60db9960a9cd488f448e3308cc8b4f
CreateBy: root@localhost
CreateTime: 2020-04-18 15:47:07
Description: ''
ID: 4
Name: 004-ACL-BookOrderingStatus
StopAfterMatch: 0
ValidID: 1

005-ACL-BookOrderingStatus
This ACL enables only the Order placed value for the Status dynamic field in the Order placed activity dialog.

---  
ChangeBy: root@localhost
CreateTime: 2020-04-18 15:48:51
Comment: Order placed
ConfigChange:  
 Possible:  
 Ticket:  
 DynamicField_Status:  
 - Order placed
ConfigMatch:  
 Properties:  
 Process:  
 ActivityDialogEntityID:  
 - ActivityDialog-a756ccae6ae83f356faa8333549a87f0
CreateBy: root@localhost
Description: ''
ID: 5
Name: 005-ACL-BookOrderingStatus
StopAfterMatch: 0
ValidID: 1

006-ACL-BookOrderingStatus
This ACL enables only the Shipment received value for the Status dynamic field in the Shipment received activity dialog.

---  
ChangeBy: root@localhost
CreateTime: 2020-04-18 15:49:41
Comment: Shipment received
ConfigChange:  
 Possible:  
 Ticket:  
 DynamicField_Status:  
 - Shipment received
ConfigMatch:  
 (continues on next page)
Create Process Ticket

The book ordering process is ready to use. Go to the New Process Ticket screen in the agent interface, and find the book ordering process.

5.5 Web Services

In a connected world, a ticket system needs to be able to react to requests from other systems and also to send requests or information to other systems:

- CRM systems
- Project management systems
- Documentation management systems
- and many more

The ticket system must be reachable by other services without manual intervention by an agent.

OTRS supports this requirement by the Generic Interface. It empowers the administrator to create a web service for a specific task without scripting language knowledge. OTRS reacts on incoming REST or SOAP requests and create objects or provides object data to other systems transparently.

A web service is a communication method between two systems, in our case OTRS and a remote system. In its configuration, the operation or invoker determine the direction of communication, and the mapping and transport take care of how the data is received and interpreted.

In its configuration it can be defined what actions the web service can perform internally (operation), what actions the OTRS request can perform remote system (invokers), how data is converted from one system to the other (mapping), and over which protocol the communication will take place (transport).

The generic interface is the framework that makes it possible to create web services for OTRS in a predefined way, using already made building blocks that are independent from each other and interchangeable.
5.5.1 Generic Interface

The generic interface consists of a multiple layer framework that lets OTRS communicate with other systems via a web service. This communication could be bi-directional:

- OTRS as provider: OTRS acts as a server listening to requests from the external system, processing the information, performing the requested action, and answering the request.
- OTRS as requester: OTRS acts as a client collecting information, sending the request to the remote system, and waiting for the response.

Generic Interface Layers

The generic interface is built based on a layer model, to be flexible and easy to customize.

A layer is a set of files, which control how the generic interface performs different parts of a web service. Using the right configuration, one can build different web services for different external systems without creating new modules.

**Note:** If the remote system does not support the current bundled modules of the generic interface, special modules need to be developed for that specific web service.

Network Transport

This layer is responsible for the correct communication with the remote system. It receives requests and generates responses when acting as provider, and generates requests and receives responses when acting as requester.

Requester communication could be initiated during an event triggered by a generic interface module or any other OTRS module. This event is caught by the event handler and depending on the configuration the event will be processed directly by the requester object or delegated to the scheduler (a separated daemon designed to process tasks asynchronously).

Data Mapping

This layer is responsible for translating data structures between OTRS and the remote system (data internal and data external layers). Usually remote systems have different data structures than OTRS (including different values and names for those values), and here resides the importance of the layer to change the received information into something that OTRS can understand and on the opposite way send the information to each remote system using their data dictionaries.

Example: *Priority* (OTRS) might be called *Prio* in a remote system and it could be that value 1 very low (OTRS) should be mapped to *Information* in the remote system.

Controller

Controllers are collections of similar operations or invokers. For example, a ticket controller might contain several standard ticket operations. Custom controllers can be implemented, for example a *TicketExternalCompany* controller which may contain similar functions as the standard ticket controller, but with a different data interface, or function names (to adapt to the remote system function names) or complete different code.

One application for generic interface could be to synchronize information with one remote system that only can talk with another remote system of the same kind. In this case new controllers needs to be developed and the operations and invokers has to emulate the remote system behavior in such way that the interface that OTRS exposes is similar to the interface of the remote system.

Operation (OTRS as a provider)

An operation is a single action that can be performed within OTRS. All operations have the same
Fig. 124: Generic Interface Layers

5.5. Web Services
programming interface, they receive the data into one specific parameter, and return a data structure with a success status, potential error message and returning data.

Normally operations uses the already mapped data (internal) to call core modules and perform actions in OTRS like: create a ticket, update a user, invalidate a queue, send a notification, etc. An operation has full access to the OTRS API to perform the action.

**Invoker (OTRS as a requester)**
An invoker is an action that OTRS performs against a remote system. Invokers use the OTRS core modules to process and collect the needed information to create the request. When the information is ready it has to be mapped to the remote system format in order to be sent to the remote system, that will process the information, execute the action and send the response back, to either process the success or handle errors.

**Generic Interface Communication Flow**
The generic interface has a defined flow to perform actions as a provider and as a requester. These flows are described below:

**OTRS as Provider**

Remote Request:
1. HTTP request
   * OTRS receives HTTP request and passes it through the layers.
   * The provider module is in charge to execute and control these actions.
2. Network transport
   * The network transport module decodes the data payload and separates the operation name from the rest of the data.
   * The operation name and the operation data are returned to the provider.
3. Data external
   * Data as sent from the remote system (this is not a module based layer).
4. Mapping
   * The data is transformed from the external system format to the OTRS internal format as specified in the mapping configuration for this operation (mapping for incoming request data).
   * The already transformed data is returned to the provider.
5. Data internal
   * Data as transformed and prepared to be passed to the operation (This is not a module based layer).
6. Operation
   * Receives and validates data.
   * Performs user access control.
   * Executes the action.

OTRS Response:
1. Operation
   • Returns result data to the provider.

2. Data internal
   • Data as returned from operation.

3. Mapping
   • The data is transformed back to the remote system format as specified in the mapping configuration (mapping for outgoing response data).
   • The already transformed data is returned to the provider.

4. Data external
   • Data as transformed and prepared to be passed to network transport as response.

5. Network transport
   • Receives the data already in the remote system format.
   • Constructs a valid response for this network transport type.

6. HTTP response
   • The response is sent back to the web service client.
   • In the case of an error, an error response is sent to the remote system (e.g. SOAP fault, HTTP error, etc).

**OTRS as Requester**

**OTRS Request:**

1. Event trigger handler
   • Based on the web service configuration determines if the request will be synchronous or asynchronous.
     – Synchronous
       • A direct call to the requester is made in order to create a new request and to pass it through the layers.
     – Asynchronous
       • Create a new generic interface (requester) task for the OTRS daemon (by delegating the request execution to the scheduler daemon, the user experience could be highly improved, otherwise all the time needed to prepare the request and the remote execution will be added to the OTRS events that trigger those requests).
       • In its next cycle the OTRS daemon process reads the new task and creates a call to the requester that will create a new request and then passes it through the layers.

2. Invoker
   • Receives data from the event.
   • Validates received data (if needed).
   • Call core modules to complement the data (if needed).
   • Return the request data structure or send a stop communication signal to the requester, to gracefully cancel the request.
3. Data internal
   • Data as passed from the invoker (this is not a module based layer).

4. Mapping
   • The data is transformed to the remote system format as specified in the mapping configuration (mapping for outgoing response data).
   • The already transformed data is returned to the requester.

5. Data external
   • Data as transformed and prepared for sending to the remote system.

6. Network transport
   • Receives the remote operation name and the data already transformed to the remote system format from the requester.
   • Constructs a valid request for the network transport.
   • Sends the request to the remote system and waits for the response.

Remote Response:

1. Network transport
   • Receives the response and decodes the data payload.
   • Returns the data to the requester.

2. Data external
   • Data as received from the remote system.

3. Mapping
   • The data is transformed from the external system format to the OTRS internal format as specified in the mapping configuration for this operation (mapping for incoming response data).
   • The already transformed data is returned to the requester.

4. Data internal
   • Data as transformed and ready to be passed back to the requester.

5. Invoker
   • Receives return data.
   • Handles the data as needed specifically by each invoker (included error handling if any).
   • Return the Invoker result and data to the Requester.

6. Event handler or OTRS daemon
   • Receives the data from the requester. In the case of the OTRS daemon this data might contain information to create a task in the future.
5.5.2 Manage Web Services

A web service is a communication method between two systems, in our case OTRS and a remote system. The heart of the web service is its configuration, where it is defined what actions the web service can perform internally (operation), what actions the OTRS request can perform remote system (invokers), how data is converted from one system to the other (mapping), and over which protocol the communication will take place (transport).

The generic interface is the framework that makes it possible to create web services for OTRS in a predefined way, using already made building blocks that are independent from each other and interchangeable.

Use this screen to manage web services in the system. A fresh OTRS installation contains no web service by default. The web service management screen is available in the Web Services module of the Processes & Automation group.

Fig. 125: Web Service Management Screen

To create a web service:

1. Click on the Add Web Service button in the left sidebar.
2. Fill in the required fields.
3. Click on the Save button.

Fig. 126: Create New Web Service Screen

To edit a web service:

1. Click on a web service in the list of web services.
2. Modify the fields.
3. Click on the **Save or Save and finish** button.

![Edit Web Service Screen](image1.png)

**Fig. 127: Edit Web Service Screen**

To delete a web service:
1. Click on a web service in the list of web services.
2. Click on the **Delete Web Service** button in the left sidebar.
3. Click on the **Delete** button in the confirmation dialog.

![Delete Web Service](image2.png)

**Fig. 128: Delete Web Service Screen**

To clone a web service:
1. Click on a web service in the list of web services.
2. Click on the **Clone Web Service** button in the left sidebar.
3. Enter a new name for the web service.

To export a web service:
1. Click on a web service in the list of web services.
2. Click on the Export Web Service button in the left sidebar.
3. Choose a location in your computer to save the `Export_ACL.yml` file.

**Warning:** All stored passwords in the web service configuration will be exported in plain text format.

To see the configuration history of a web service:
1. Click on a web service in the list of web services.
2. Click on the Configuration History button in the left sidebar.

![Configuration History List](image)

Fig. 130: Web Service Configuration History Screen

To use the debugger for a web service:
1. Click on a web service in the list of web services.
2. Click on the Debugger button in the left sidebar.

To import a service:
1. Click on the Add Web Service button in the left sidebar.
2. Click on the Import Web Service button in the left sidebar.
3. Click on the Browse button in the dialog.
4. Select a previously exported .yml file.

5. Add a name for the imported web service (optional). Otherwise the name will be taken from the configuration file name.

6. Click on the Import button.

5.5.3 Web Service Settings

The web service configuration needs to be saved on each level. This means that if a setting is changed, links to other, deeper parts of the configuration will be disabled forcing you to save the current configuration level. After saving the disabled links will be re-enabled again allowing you to continue with the configuration.

The following settings are available when adding or editing this resource. The fields marked with an asterisk are mandatory.

General Web Service Settings

- **Name** *
  The name of this resource. Any type of characters can be entered to this field including uppercase letters and spaces. The name will be displayed in the overview table.
Description
   Like comment, but longer text can be added here.

Remote system
   This field can be used to add a description for the remote system.

Debug threshold
   The default value is Debug. When configured in this manner all communication logs are registered in
   the database. Each subsequent debug threshold value is more restrictive and discards communication
   logs of lower order than the one set in the system.

   Debug threshold levels (from lower to upper):
      - Debug
      - Info
      - Notice
      - Error

Validity
   Set the validity of this resource. Each resource can be used in OTRS only, if this field is set to valid.
   Setting this field to invalid or invalid-temporarily will disable the use of the resource.

Provider Web Service Settings

Fig. 133: Web Service Settings - OTRS as Provider

The following settings are available when adding or editing this resource. The fields marked with an asterisk
are mandatory.
Network transport
Select which network transport would you like to use with the web service. Possible values are HTTP::REST and HTTP::SOAP.

Note: After selecting the transport method, you have to save the configuration with clicking on the Save button. A Configuration button will be displayed next to this field.

Configuration
The Configure button is visible only, after a network transport was selected and saved. See the configuration for OTRS as Provider - HTTP::REST and OTRS as Provider - HTTP::SOAP below.

Add Operation
This option is visible only, after a network transport was selected and saved. Selecting an operation will open a new screen for its configuration.

<table>
<thead>
<tr>
<th>Operation Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Name:</strong></td>
</tr>
<tr>
<td>The name is typically used to call up this web service operation from a remote system.</td>
</tr>
<tr>
<td>Description:</td>
</tr>
<tr>
<td>Operation backend:</td>
</tr>
<tr>
<td>Ticket::TicketGet</td>
</tr>
<tr>
<td>This OTRS operation backend module will be called internally to process the request, generating data for the response.</td>
</tr>
<tr>
<td>Mapping for incoming request data:</td>
</tr>
<tr>
<td>The request data will be processed by this mapping, to transform it to the kind of data OTRS expects.</td>
</tr>
<tr>
<td>Mapping for outgoing response data:</td>
</tr>
<tr>
<td>The response data will be processed by this mapping, to transform it to the kind of data the remote system expects.</td>
</tr>
</tbody>
</table>

Fig. 134: Web Service Settings - OTRS as Provider - Operation

OTRS as Provider - HTTP::REST

The configuration might be a bit more complicated, as it grows dynamically for each configured operation by adding route mapping for each operation and valid request methods for each operation to the default transport settings.

The following settings are available when adding or editing this resource. The fields marked with an asterisk are mandatory.

Route mapping for Operation `<OperationName>` *
Define the route that should get mapped to this operation. Variables marked by a : will get mapped to the entered name and passed along with the others to the mapping (e.g. /Ticket/:TicketID).
### Network Transport

#### Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
<td>HTTP::REST</td>
</tr>
<tr>
<td><strong>Route mapping for Operation</strong></td>
<td>Define the route that should get mapped to this operation. Variables marked by a <code>:</code> will get mapped to the entered name and passed along with the others to the mapping. (e.g. <code>/Ticket/:TicketID</code>).</td>
</tr>
<tr>
<td><strong>Valid request methods for Operation</strong></td>
<td>Limit this Operation to specific request methods. If no method is selected all requests will be accepted.</td>
</tr>
<tr>
<td><strong>Maximum message length</strong></td>
<td>Here you can specify the maximum size (in bytes) of REST messages that OTRS will process.</td>
</tr>
<tr>
<td><strong>Send Keep-Alive</strong></td>
<td>This configuration defines if incoming connections should get closed or kept alive.</td>
</tr>
</tbody>
</table>

#### Additional response headers (all operations):

**Common headers**

These headers will be set in every response. Header value variables marked by a `:` will get replaced by the corresponding data value (e.g. `:TicketID` becomes `1`).

- **Add header**

#### Additional response headers (operation specific):

**Save** or **Save and finish** or **Cancel**

---

**Fig. 135: Web Service Settings - OTRS as Provider - HTTP::REST**
In this setting a resource path is set. This path must be defined according to the needs of the web service considering that the path in conjunction with the HTTP request method determines the generic interface operation to be executed.

Path can contain variables in the form of :<VariableName>. Each path string that fits on the position of the variable name will be added to the request payload using the variable name defined in this setting.

Examples:

Valid requests for /Resource route mapping:

Invalid requests for /Resource route mapping:

Valid requests for /Resource/:ID route mapping:
- https://localhost/otrs/nph-genericinterface.pl/Webservice/Test/Resource/1

In both cases ID = 1 will be sent to the operation as part of the payload. In the second case also Param1 = One will be added, depending on the HTTP request method other parameters will be added if they come as a JSON string in the request header.

Invalid requests for /Resource/:ID route mapping:
- https://localhost/otrs/nph-genericinterface.pl/Webservice/Test/Resource/1

Valid requests for /Resource/OtherResource/:ID/:Color route mapping:

In the first example ID = 1 and Color = Red, while in the second ID = 123 and Color = Blue.

Invalid requests for /Resource/OtherResource/:ID/:Color route mapping:

In the first example the part of the path /OtherResource is missing as well as the :Color variable. In the second example just the :Color variable is missing.

Valid request methods for Operation ‘<OperationName>’
Limit this operation to specific request methods. If no method is selected all requests will be accepted.
The HTTP request methods to determine the operation to use together with the route mapping, possible options: CONNECT, DELETE, GET, HEAD, OPTIONS, PATCH, POST, PUT and TRACE.

Totally different operations can share exactly the same mapping path, but the request method must be unique for each operation, in order to determine correctly the operation to use on each request.

**Maximum message length**
- Specifies the maximum size (in bytes) for REST messages that OTRS will process.

**Send Keep-Alive**
- This configuration defines if incoming connections should get closed or kept alive.

**Additional response headers (all operations)**
- Optionally, you may want to define additional response headers for all operations. These may be used to add static header values to every response. Just click on the Add header button and fill both header and value fields. There is no limit in number of additional header lines.

  Header value variables marked by a : will get replaced by the corresponding data value (e.g. :TicketID becomes 1).

**Additional response headers (operation specific)**
- These headers will be set in responses for the selected operation. The purpose of this setting is the same as above.

  Header value variables marked by a : will get replaced by the corresponding data value (e.g. :TicketID becomes 1).

**OTRS as Provider - HTTP::SOAP**

It is quite simple to configure the HTTP::SOAP protocol as provider.

The following settings are available when adding or editing this resource. The fields marked with an asterisk are mandatory.

**Check SOAPAction**
- Set to Yes in order to check the received SOAPAction header (if not empty). Set to No in order to ignore the received SOAPAction header.

**SOAPAction scheme**
- Select how SOAPAction should be constructed. Some web services send a specific construction.

**SOAPAction separator**
- Character to use as separator between name space and SOAP operation. Usually .Net web services use / as separator.

**Namespace**
- URI to give SOAP methods a context, reducing ambiguities.

**Request name scheme**
- Select how SOAP request function wrapper should be constructed. FunctionName is used as example for actual invoker or operation name. FreeText is used as example for actual configured value.

**Response name scheme**
- Select how SOAP response function wrapper should be constructed. FunctionName is used as example for actual invoker or operation name. FreeText is used as example for actual configured value.

**Maximum message length**
- Specifies the maximum size (in bytes) for SOAP messages that OTRS will process.
Network Transport

Properties

Type: HTTP::SOAP

✔ Check SOAPAction: Yes
Set to "Yes" in order to check the received SOAPAction header (if not empty).
Set to "No" in order to ignore the received SOAPAction header.

✔ SOAPAction scheme:
Select how SOAPAction should be constructed.
Some web services send a specific construction.

✔ SOAPAction separator:
Character to use as separator between name space and SOAP operation.
Usually .Net web services use "/" as separator.

★ Namespace:
URI to give SOAP methods a context, reducing ambiguities.
e.g. urn:otrs.com:soap:functions or http://www.otrs.com/GenericInterface/actions

★ Request name scheme:
Select how SOAP request function wrapper should be constructed.
'FunctionName' is used as example for actual invoker/operation name.
'FreeText' is used as example for actual configured value.

★ Response name scheme:
Select how SOAP response function wrapper should be constructed.
'FunctionName' is used as example for actual invoker/operation name.
'FreeText' is used as example for actual configured value.

★ Maximum message length:
Here you can specify the maximum size (in bytes) of SOAP messages that OTRS will process.

Additional response headers (all operations):

Common headers
These headers will be set in every response. Header value variables marked by * "* will get replaced by the corresponding data value (e.g. *"TicketID"* becomes "1")

Add header

Additional response headers
(operation specific):

Additional response SOAP namespaces (all operations):

Common namespaces
These namespaces will be used in every response.

Add namespace

Additional response SOAP namespaces
(operation specific):

Sort options:
Add new first level element: [ ] Add

Outbound sort order for xml fields (structure starting below function name wrapper) - see documentation for SOAP transport.

Save or Save and finish or Cancel
Additional response headers (all operations)
Optionally, you may want to define additional response headers for all operations. These may be used to add static header values to every response. Just click on the Add header button and fill both header and value fields. There is no limit in number of additional header lines.

Header value variables marked by \( \) will get replaced by the corresponding data value (e.g. \( \) becomes 1).

Additional response headers (operation specific)
These headers will be set in responses for the selected operation. The purpose of this setting is the same as above.

Header value variables marked by \( \) will get replaced by the corresponding data value (e.g. \( \) becomes 1).

Additional response SOAP namespaces (all operations)
These namespaces will be used in every response.

Additional response SOAP namespaces (operation specific)
These namespaces will be used in responses for this specific operation.

**Note:** Some headers are blocked for safety purposes. If needed, the list of blocked headers can be changed in the following system configuration using the settings:

- `GenericInterface::Invoker::OutboundHeaderBlacklist`
- `GenericInterface::Operation::OutboundHeaderBlacklist`

Sort options
Outbound sort order for XML fields (structure starting below function name wrapper) - see documentation for SOAP transport.

**Web Service Operation**

The actions that can be performed when you are using OTRS as a provider are called operations. Each operation belongs to a controller. Controllers are collections of operations or invokers, normally operations from the same controller need similar settings and share the same configuration dialog. But each operation can have independent configuration dialogs if needed.

The following settings are available when adding or editing this resource. The fields marked with an asterisk are mandatory.

**Name** *

The name of this resource. Any type of characters can be entered to this field including uppercase letters and spaces. The name will be displayed in the overview table.

**Description**

Add additional information to this resource. It is recommended to always fill this field as a description of the resource with a full sentence for better clarity, because the description will be also displayed in the overview table.

**Operation backend**

This OTRS operation back end module will be called internally to process the request, generating data for the response.

The operation back end is pre-populated and cannot be edited. You will see this parameter when you choose the operation on the web service edit screen. The field is only informative.
Mapping for incoming request data
The request data will be processed by this mapping, to transform it to the kind of data OTRS expects.

Mapping for outgoing response data
The response data will be processed by this mapping, to transform it to the kind of data the remote system expects.

Include Ticket Data
Whether to include ticket data in response or not.

Mappings are fields that normally appear on every operation, but other special fields can appear in non default configuration dialogs to fulfill specific needs of the operation.

Normally there are two mapping configuration sections for each operation, one for the incoming data and another one for the outgoing data. You can choose different mapping types (back ends) for each mapping direction, since their configuration is independent from each other and also independent from the operation back end. The normal and most common practice is that the operation uses the same mapping type in both cases (with inverted configuration). The complete mapping configuration is done in a separate screen which depends on the mapping type.

In the left part of the screen on the action column you have the options to go back to web service (discarding all changes since the last save) and delete. If you click on the last one, a dialog will open and ask you if you like to remove the operation. Click on the Delete button to confirm the removal of the operation and its configuration or click on the Cancel button to close the delete dialog.
Requester Web Service Settings

The network transport configuration for the requester is similar to the configuration for the provider.

Fig. 138: Web Service Settings - OTRS as Requester

The following settings are available when adding or editing this resource. The fields marked with an asterisk are mandatory.

**Network transport**
Select which network transport would you like to use with the web service. Possible values are **HTTP::REST** and **HTTP::SOAP**.

*Note:* After selecting the transport method, you have to save the configuration with clicking on the **Save** button. A **Configuration** button will be displayed next to this field.

**Configuration**
The **Configure** button is visible only, after a network transport was selected and saved. See the configuration for **OTRS as Requester - HTTP::REST** and **OTRS as Requester - HTTP::SOAP** below.

It is possible to use both object and array format as a JSON response of the remote system. However, in the case it is an array, system stores it as an object internally, where **ArrayData** is used as a key and a value is an array. Because of that, responded JSON array can be mapped efficiently, but has to be considered as an object described above (key is **ArrayData**, but * can also be used as wildcard).

**Add error handling module**
This option is visible only, after a network transport was selected and saved. Selecting an error handling module will open a new screen for its configuration.
### General options

- **Name:**
  
  The name can be used to distinguish different error handling configurations.

- **Description:**

- **Error handling module backend:** Request/Retry
  
  This OTRS error handling backend module will be called internally to process the error handling mechanism.

### Processing options

**Configure filters to control error handling module execution.**

Only requests matching all configured filters (if any) will trigger module execution.

- **Invoker filter:**
  
  Only execute error handling module for selected invokers.

- **Error message content filter:**
  
  Enter a regular expression to restrict which error messages should cause error handling module execution. Error message subject and data (as seen in the debugger error entry) will be considered for a match. Example: Enter "\^.*\$" to handle only authentication related errors.

- **Error stage filter:**
  
  Only execute error handling module on errors that occur during specific processing stages. Example: Handle only errors where mapping for outgoing data could not be applied.

- **Error code:**
  
  An error identifier for this error handling module. This identifier will be available in XSLT-Mapping and shown in debugger output.

- **Error message:**
  
  An error explanation for this error handling module. This message will be available in XSLT-Mapping and shown in debugger output.

- **Stop after match:**
  
  Define if processing should be stopped after module was executed, skipping all remaining modules or only those of the same backend. Default behavior is to resume, processing the next module.

### Request retry options

**Retry options are applied when requests cause error handling module execution (based on processing options).**

- **Schedule retry:** No
  
  Should requests causing an error be triggered again at a later time?

---

**Fig. 139: Web Service Settings - OTRS as Provider - Error Handling Module**

**Chapter 5. Processes & Automation**
The following settings are available when adding or editing this resource. The fields marked with an asterisk are mandatory.

**Name** *

The name of this resource. Any type of characters can be entered to this field including uppercase letters and spaces. The name will be displayed in the overview table.

**Description**

Add additional information to this resource. It is recommended to always fill this field as a description of the resource with a full sentence for better clarity, because the description will be also displayed in the overview table.

**Invoker filter**

Only execute error handling module for selected invokers.

**Error message content filter**

Enter a regular expression to restrict which error messages should cause error handling module execution. Error message subject and data (as seen in the debugger error entry) will be considered for a match.

Example: Enter `^.*401 Unauthorized.*$` to handle only authentication related errors.

**Error stage filter**

Only execute error handling module on errors that occur during specific processing stages.

Example: Handle only errors where mapping for outgoing data could not be applied.

**Error code**

An error identifier for this error handling module. This identifier will be available in XSLT mapping and shown in debugger output.

**Error message**

An error explanation for this error handling module. This message will be available in XSLT mapping and shown in debugger output.

**Stop after match**

Defines if processing should be stopped after module was executed, skipping all remaining modules or only those of the same back end. Default behavior is to resume, processing the next module.

**OTRS as Requester - HTTP::REST**

In the case of HTTP::REST, this configuration also grows dynamically depending on the configured invokers. Authentication and SSL options are similar to the ones in HTTP::SOAP.

The following settings are available when adding or editing this resource. The fields marked with an asterisk are mandatory.

**Endpoint** *

URI of the remote system to indicate specific location for accessing a web service.

**Timeout** *

Timeout value for requests.

**Authentication**

An optional authentication mechanism to access the remote system. Select an authentication mechanism from the list and additional fields will appear.

**Credential** *

Select a credential that has been added in the Credentials screen. Click on the Add credential button to open the credential management screen.
Network Transport

Properties

Type: HTTP::REST

* Endpoint:
  URI to indicate specific location for accessing a web service. e.g., https://www.otsr.com/19745/api/v1.0 (without trailing backslash)

* Timeout: 320
  Timeout value for requests.

Authentication: BasicAuth
  An optional authentication mechanism to access the remote system.

* Credential: [Add credential]
  The credentials used for authentication mechanism to access the remote system.

Certification Authority (CA) Certificate:
  The full path and name of the certification authority certificate file that validates SSL certificate. e.g., /opt/otsr/var/certificates/CA/CA.pem

Certification Authority (CA) Directory:
  The full path of the certification authority directory where the CA certificates are stored in the file system. e.g., /opt/otsr/var/certificates/CA

* Use Proxy Options: No
  Show or hide Proxy options to connect to the remote system.

* Controller mapping for Invoker:
  `TicketCreate`: The controller that the invoker should send requests to. Variables marked by a `:` will get replaced by the data value and passed along with the request (e.g., /Ticket/TicketID/Username=Username&Password=Password).

Valid request command for Invoker: `TicketCreate`
  A specific HTTP command to use for the requests with this invoker (optional).

* Controller mapping for Invoker:
  `TicketUpdate`: The controller that the invoker should send requests to. Variables marked by a `:` will get replaced by the data value and passed along with the request (e.g., /Ticket/TicketID/Username=Username&Password=Password).

Valid request command for Invoker: `TicketUpdate`
  A specific HTTP command to use for the requests with this invoker (optional).

Default command:
  `GET`
  The default HTTP command to use for the requests.

Additional request headers (all invokers):

**Common headers**

These headers will be set in every request. Header value variables marked by a `:` will get replaced by the corresponding data value (e.g., `TicketID` becomes `1`).

* Add header

Additional request headers (invoker specific):
Certification Authority (CA) Certificate
The full path and name of the certification authority certificate file that validates SSL certificate.

Certification Authority (CA) Directory
The full path of the certification authority directory where the CA certificates are stored in the file system.

Use Proxy Options *
Show or hide proxy options to connect to the remote system.

Controller mapping for Invoker `<InvokerName>` *
The controller that the invoker should send requests to.

Variables marked by a `: ` will get replaced by the data value and passed along with the request (e.g. `/Ticket/:TicketID?UserLogin=:UserLogin&Password=:Password`).

Valid request command for Invoker `<InvokerName>`
A specific HTTP command to use for the requests with this invoker (optional).

Default command
The default HTTP command to use for the requests. Possible options: CONNECT, DELETE, GET, HEAD, OPTIONS, PATCH, POST, PUT and TRACE. If no command is selected, Default command is used.

Additional request headers (all invokers)
Optionally, you may want to define additional request headers for all invokers. These may be used to add static header values to every request. Just click on the Add header button and fill both header and value fields. There is no limit in number of additional header lines.

Header value variables marked by a `:` will get replaced by the corresponding data value (e.g. `:TicketID` becomes 1).

Additional request headers (invoker specific)
These headers will be set in requests for the selected invoker. The purpose of this setting is the same as above.

Header value variables marked by a `:` will get replaced by the corresponding data value (e.g. `:TicketID` becomes 1).

Note: Some headers are blocked for safety purposes. If needed, the list of blocked headers can be changed in the following system configuration using the settings:

- `GenericInterface::Invoker::OutboundHeaderBlacklist`
- `GenericInterface::Operation::OutboundHeaderBlacklist`

OTRS as Requester - HTTP::SOAP
For the requester HTTP::SOAP network transport there are more fields to be set.

The following settings are available when adding or editing this resource. The fields marked with an asterisk are mandatory.

Endpoint *
URI of the remote system to indicate specific location for accessing a web service.

Timeout *
Timeout value for requests.
### Network Transport

**Properties**

- **Type**: HTTP::SOAP

- **Endpoint**: /api
  
  URI to indicate specific location for accessing a web service.  
  e.g. https://local.otrs.com:8000/Webservices/Example

- **Timeout**: 
  
  Timeout value for requests.

- **Set SOAPAction**: No
  
  Set to "yes" in order to send a filled SOAPAction header.  
  Set to "no" in order to send an empty SOAPAction header.

- **SOAPAction scheme**: 
  
  Select how SOAPAction should be constructed.  
  Some web services require a specific construction.

- **SOAPAction separator**: #
  
  Character to use as separator between name space and SOAP operation.  
  Usually, net web services use "#" as separator.

- **Namespace**: http://www.otrs.com/Classic/Interface/actions
  
  URI to give SOAP methods a context, reducing ambiguities.  
  e.g. urn:otrs-com-soap.functions or http://www.otrs.com/GeneralInterface/actions

- **Request name scheme**: 
  
  Select how SOAP request function wrapper should be constructed.  
  "FunctionName" is used as example for actual invoker/operation name.  
  "freeText" is used as example for actual configured value.

- **Response name scheme**: 
  
  Select how SOAP response function wrapper should be constructed.  
  "FunctionName" is used as example for actual invoker/operation name.  
  "freeText" is used as example for actual configured value.

- **Encoding**: 
  
  The character encoding for the SOAP message contents.  
  e.g. utf-8, latin1, iso-8859-1, cpl1250, etc.

- **Authentication**: 
  
  An optional authentication mechanism to access the remote system.

- **Credential**: 
  
  The credentials used for authentication mechanism to access the remote system.

- **Certification Authority (CA) Certificate**: 
  
  The full path and name of the certification authority certificate file that validates SSL certificates.  
  e.g. /opt/otrs/var/certificates/OTRS/CA/ca.pem

- **Certification Authority (CA) Directory**: 
  
  The full path of the certification authority directory where the CA certificates are stored in the file system.  
  e.g. /opt/otrs/var/certificates/OTRS/CA

- **Use Proxy Options**: 
  
  Show or hide Proxy options to connect to the remote system.

- **Additional request headers (all invokers) Common headers**: 
  
  These headers will be set in every request. Header value variables marked by a "%" will get replaced by the corresponding data value (e.g. "TicketID" becomes "1").

- **Additional request headers (invoker specific) Common namespaces**: 
  
  These namespaces will be used in every request.

- **Additional request SOAP namespaces (all invokers)**

- **Additional request SOAP namespaces (invoker specific)**

- **Sort options**: 
  
  Outbound sort order for xml fields (structure starting below function name wrapper) - see documentation for SOAP transport.

---

**Fig. 141: Web Service Settings - OTRS as Requester - HTTP::SOAP**

**Chapter 5. Processes & Automation**
Set SOAPAction *
Set to Yes in order to send a filled SOAPAction header. Set to No in order to send an empty SOAPAction header.

SOAPAction scheme *
Select how SOAPAction should be constructed. Some web services require a specific construction.

SOAPAction separator *
Character to use as separator between name space and SOAP operation. Usually .Net web services use / as separator.

Namespace *
URI to give SOAP methods a context, reducing ambiguities.

Request name scheme *
Select how SOAP request function wrapper should be constructed. FunctionName is used as example for actual invoker or operation name. FreeText is used as example for actual configured value.

Response name scheme *
Select how SOAP response function wrapper should be constructed. FunctionName is used as example for actual invoker or operation name. FreeText is used as example for actual configured value.

Encoding
The character encoding for the SOAP message contents.

Authentication
An optional authentication mechanism to access the remote system. Select an authentication mechanism from the list and additional fields will appear.

Credential *
Select a credential that has been added in the Credentials screen. Click on the Add credential button to open the credential management screen.

Certification Authority (CA) Certificate
The full path and name of the certification authority certificate file that validates SSL certificate.

Certification Authority (CA) Directory
The full path of the certification authority directory where the CA certificates are stored in the file system.

Use Proxy Options *
Show or hide proxy options to connect to the remote system.

Additional request headers (all invokers)
Optionally, you may want to define additional request headers for all invokers. These headers will be set in every request.

Header value variables marked by a : will get replaced by the corresponding data value (e.g. :TicketID becomes 1).

Additional request headers (invoker specific)
These headers will be set in requests for the selected invoker. The purpose of this setting is the same as above.

Header value variables marked by a : will get replaced by the corresponding data value (e.g. :TicketID becomes 1).

Additional request SOAP namespaces (all invokers)
These namespaces will be used in every request.

Additional request SOAP namespaces (invoker specific)
These namespaces will be used in requests for this specific invoker.
Web Service Mapping

There are cases where you need to transform the data from one format to another (map or change data structure), because normally a web service is used to interact with a remote system, that is highly probable that it is not another OTRS system and/or could not understand the OTRS data structures and values. In these cases some or all values have to be changed, and sometimes even the names of the values (keys) or even the complete structure, in order to match with the expected data on the other end. To accomplish this task the generic interface mapping layer exists.

Fig. 142: Simple Web Service Mapping

Each remote system has its own data structures and it is possible to create new mapping modules for each
case (e.g. there is a customized mapping module for SAP Solution Manager available as feature), but it is
not always necessary. The module Mapping::Simple should cover most of the mapping needs.

**Note:** When the Mapping::Simple does not cover all mapping needs for a web service, a new mapping
module should be created.

This module gives you the opportunity to set default values to map for each key or value for the whole
communication data.

At the beginning of the screen you will see a general section where you can set the default rules that will
apply for all the unmapped keys and values. There are three options available, these options are listed
below:

**Keep (leave unchanged)**
It does not touch the keys or values in any way.

**Ignore (drop key/value pair)**
When this is applied to the key it deletes the key and value, because when a key is deleted then in
consequence its associated value is deleted too. When this is applied to the value, only the value is
deleted, keeping the key, that now will be associated to an empty value.

**Map to (use provided value as default)**
All keys and/or values without a defined map rule will use this as default. When you select this option
a new text field will appear to set this default.

Clicking on the plus button for new key map will display a new box for a single mapping configuration. You
can add as many key mappings as needed. Just click on the plus button again and a new mapping box will
appear below the existing one. From this mapping boxes you can define a map for a single key, with the
next options:

**Exact value(s)**
The old key string will be changed to a new one if the old key matches exactly.

**Regular expression**
The key string will be replaced following a regular expression rule.

Pressing the new value map plus button will display a new row for a value map. Here it is also possible to
define rules for each value to be mapped with the same options as for the key map (exact value and regular
expression). You can add as many values to map as needed, and if you want to delete one of them, just
click on the minus button for each mapping value row.

Deleting the complete key mapping section (box) is possible, just push on the minus button located on the
up right corner of each box that you want to delete.

If you need to delete a complete mapping configuration, go back to the corresponding operation or invoker
screen, look for the mapping direction that you select before and set its value to -, and save the configuration
to apply the changes.

It is possible to define XSLT templates for mapping.
Fig. 143: XSLT Web Service Incoming Mapping
XSLT Mapping

XSLT stylesheet *

Here you can add or modify your XSLT mapping code.

The editing field allows you to use different functions like automatic formatting, window resize as well as tag- and bracket-completion.

Use key attribute

For incoming data this option defines if XML key attributes are converted into a Perl data structure or if they are ignored.

Example: Incoming XML data

```xml
<Article>
    <Subject>some subject</Subject>
    <Body>some body</Body>
    <ContentType>text/plain; charset=utf8</ContentType>
    <TimeUnit>1</TimeUnit>
</Article>
<Attachment>
    <Content>sometestdata</Content>
    <ContentType>text/plain</ContentType>
    <Filename>test1.txt</Filename>
</Attachment>
<Attachment Content="sometestdata" ContentType="text/plain" Filename="test2.txt"/>
```

Resulting Perl data with Use key attribute disabled:

```perl
$VAR1 = { 
    Article => { 
        Body => 'some body',
        ContentType => 'text/plain; charset=utf8',
        Subject => 'some subject',
        TimeUnit => '1',
    },
    Attachment => [ 
        { 
            Content => 'sometestdata',
            ContentType => 'text/plain',
            Filename => 'test1.txt',
        },
        {},
    ],
};
```

Resulting Perl data with Use key attribute enabled:

```perl
$VAR1 = { 
    Article => { 
        Body => 'some body',
        ContentType => 'text/plain; charset=utf8',
        Subject => 'some subject',
        TimeUnit => '1',
    },
    Attachment => [ 
        { 
(continues on next page)
Attribute options

This option must be used in order to use key attributes for outgoing elements. First level options define
the elements which should receive key attributes. Second level options define which sub elements
should be converted into attributes and attached to the surrounding element. Only two levels of options
are considered for key attributes. These will be used for any level of elements in the XML structure
(not only the first level).

Please note that sorting of elements in the attribute options is possible but will not affect how key
attributes are treated.

If every sub element of an element is converted into attributes and the element contains a specific
ContentKey sub element, the content of this sub element will be used as value of the surrounding
element. Please see the following example as illustration for these options.

Example: XSLT mapping

```xml
<?xml version="1.0" encoding="UTF-8"?>
  xmlns/exslt.org/dates-and-times" version="1.0" extension-element-prefixes="date">
  <xsl:template match="RootElement">
    <xsl:copy>
      <header>
        <messageID>someMessageID</messageID>
        <Attachment>
          <ContentKey>text1.txt</ContentKey>
          <Content>someValue</Content>
          <ContentType>text/plain</ContentType>
        </Attachment>
        <Attachment>
          <Filename>text2.txt</Filename>
          <Content>someValue</Content>
          <ContentType>text/plain</ContentType>
        </Attachment>
        <Attachment>
          <ContentKey>text3.txt</ContentKey>
          <Content>someValue</Content>
          <ContentType>text/plain</ContentType>
          <ContentDisposition>inline</ContentDisposition>
        </Attachment>
      </header>
      <ticketID>someTicketID</ticketID>
      <returnCode>0</returnCode>
    </xsl:copy>
  </xsl:template>
</xsl:transform>
```
### XSLT Mapping

**XSLT stylesheet:**

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Here you can add or modify your XSLT mapping code. The editing field allows you to use different functions like automatic formatting, window resize as well as tag- and bracket completion.

**Use key attribute:**

Use key attributes for XSLT mapping.

**Attribute options:**

<table>
<thead>
<tr>
<th>Attribute</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Attachment</td>
<td>X</td>
</tr>
<tr>
<td>ContentKey</td>
<td>X</td>
</tr>
<tr>
<td>Content</td>
<td>X</td>
</tr>
<tr>
<td>ContentType</td>
<td>X</td>
</tr>
</tbody>
</table>

**Add new element:**

Set values inside an element as attributes.

**Data includes:**

Select one or more sets of data that were created at earlier request/response stages to be included in mappable data. These sets will appear in the data structure at `/DataInclude/<DataSetName>` (see debugger output of actual requests for details).

---

**Fig. 144: XSLT Web Service Outgoing Mapping**
Data includes

Select one or more sets of data that were created at earlier request/response stages to be included in mappable data.

These sets will appear in the data structure at /DataInclude/<DataSetName> (see debugger output of actual requests for details).
CHAPTER SIX

AGENT INTERFACE

Completely new user interface has been developed for agents. This setting makes it possible to edit the agent styles that are selectable for all agents.

6.1 Styles

Use this screen to manage styles and choose style variants for use in agent interface. A fresh OTRS installation already contains some variants by default. The style management screen is available in the Styles module of the Agent Interface group.

The management screen consists of two widget. In the Edit Styles widget can be selected the styles for editing. The Defaults widget defines, which variant will be used as default for the agent interface. The agents can override this setting and they can select a different variant in they personal preferences, but they can not edit the styles.

6.1.1 Manage Styles

Styles are grouped into four categories: Bright, High Contrast Bright, Dark and High Contrast Dark.

To edit a style, select a category first. The edit screen will be opened for the selected category.

The Edit Layout section is the same for all categories.

The following settings are available when adding or editing this resource.

Enable
Select whether the style is available for agents.

Header Logo
The logo is a small image that is displayed in the header of all pages.

To change the logo, click on the Select image to upload button, and select a new logo image. Recommended file format is PNG.

Favicon
The favorite icon is an icon that is displayed in the URL bar of the web browser.

To change the favorite icon, click on the Select image to upload button, and select a new icon. This is usually a 16×16 pixel image in PNG or ICO format.

Some categories contain different variants. Each variant can be customize in the same manner.

The following settings are available when adding or editing this resource.
Fig. 1: Agent Style Management Screen
Enable
Select whether the variant is available for agents.

Name
The name of this resource. Any type of characters can be entered to this field including uppercase letters and spaces.

Primary Color
This color will be used as the background color of primary buttons and the color of textual links and hovered icons.

To change the primary color, just select a new color from the color palette. You can choose from the pre-selected colors or define other colors by choosing it from the color selector or typing the hexadecimal value. The new color will be displayed in the preview widget immediately.

Secondary Color
This color will be used as the background color of table rows and the color of icon links.

To change the secondary color, just select a new color from the color palette. You can choose from the pre-selected colors or define other colors by choosing it from the color selector or typing the hexadecimal value. The new color will be displayed in the preview widget immediately.

Prominent Color
This color will be used as the background color of the organizer sidebar.

To change the prominent color, just select a new color from the color palette. You can choose from the pre-selected colors or define other colors by choosing it from the color selector or typing the hexadecimal value. The new color will be displayed in the preview widget immediately.
Fig. 3: Agent Style Variant
The need to transport valuable information about service to users is a major one for a service desk. Not always is it possible or plausible to do this via a corporate internet. The customers of a service desk need a one-stop solution for all their service needs.

OTRS provides access to create and manage demands, as well as receive valuable information such as the service catalog and knowledge base.

The following chapter describes the administration tools needed to implement corporate identity and manage language-based content.

### 7.1 Customer Service Catalogue

Use this screen to add categories and items for use in external interface. A fresh OTRS installation doesn’t contain any categories or items by default. The catalogue management screen is available in the Customer Service Catalogue module of the External Interface group.

This module consists of two management screens: a category management screen and an item management screen.

![Customer Service Catalogue Management Screen](image)

Fig. 1: Customer Service Catalogue Management Screen
7.1.1 Manage Categories

Use this screen to add categories to collect the same items into groups. The *Category Management* screen is available via the *Go to category management* button or via the *Category Management* module.

![Category Management Screen](image)

**Fig. 2: Category Management Screen**

To add a category:

1. Click on the *Add Category* button in the left sidebar.
2. Fill in the required fields.
3. Click on the *Save* button.

![Add Category Screen](image)

**Fig. 3: Add Category Screen**

To edit a category:

1. Click on a category in the list of categories.
2. Modify the fields.
3. Click on the *Save* or *Save and finish* button.

To delete a category:

1. Click on the trash icon in the *Delete* column of the overview table.
2. Click on the *Confirm* button.

**Note:** If several categories are added to the system, use the filter box to find a particular category by just typing the name to filter.
Category Settings

The following settings are available when adding or editing this resource. The fields marked with an asterisk are mandatory.

**Title** *

The name of this resource. Any type of characters can be entered to this field including uppercase letters and spaces. The name will be displayed in the overview table.

**Sub-category of**

It is possible to add the new category under an existing one as sub-category. This will be displayed as Parent Category::Child Category.

**Language** *

Select a language from the available languages of the system.

**Validity** *

Set the validity of this resource. Each resource can be used in OTRS only, if this field is set to valid. Setting this field to invalid or invalid-temporarily will disable the use of the resource.

7.1.2 Manage Items

Use this screen to add items to the catalogue. Items can be collected into categories. The Item Management screen in available via the Go to item management button or via the Item Management module.

To add an item:

1. Click on the Add Item button in the left sidebar.
2. Fill in the required fields.
3. Click on the Save button.

To edit an item:

1. Click on an item in the list of items.
2. Modify the fields.
Fig. 6: Item Management Screen

Fig. 7: Add Item Screen
3. Click on the *Save or Save and finish* button.

![Edit Item Screen](image)

**Fig. 8: Edit Item Screen**

To delete an item:

1. Click on the trash icon in the *Delete* column of the overview table.
2. Click on the *Confirm* button.

![Delete Item Screen](image)

**Fig. 9: Delete Item Screen**

**Note:** If several items are added to the system, use the filter box to find a particular item by just typing the name to filter.

### Item Settings

The following settings are available when adding or editing this resource. The fields marked with an asterisk are mandatory.

**Internal Title** *

The name of this resource, that is only displayed in the administrator interface. Any type of characters can be entered to this field including uppercase letters and spaces. The name will be displayed in the overview table.

**Validity** *

Set the validity of this resource. Each resource can be used in OTRS only, if this field is set to *valid*. Setting this field to *invalid* or *invalid-temporarily* will disable the use of the resource.

**Item Content**

In this widget can be added some localized content for the item.

**Title** *

The name of this resource in the given language. Any type of characters can be entered to this field including uppercase letters and spaces.

**Text** *

The text for this item in the given language.

**Categories**

One ore more categories can be selected for the item in which the item should be visible.
Note: Only those categories can be selected, that have the same language as the selected language for this widget.

**Link** *
A link to an internal or an external URL.

**Add new item content**
Select which languages should be added to create localized item content. All added languages can hold its own localized content, that are explained above.

### 7.2 Custom Pages

Use this screen to add custom pages for use in external interface. A fresh OTRS installation already contains some custom pages by default. The custom page management screen is available in the Custom Pages module of the External Interface group.

![Custom Page Management Screen](image)

**Fig. 10: Custom Page Management Screen**

### 7.2.1 Manage Custom Pages

**Warning:** Make sure to save your changes when you finish. The new configuration will be immediately deployed.

To add a custom page:
1. Click on the *Add Custom Page* button in the left sidebar.
2. Fill in the required fields.
3. Click on the *Save* button.

To edit a custom page:
1. Click on a custom page in the list of custom pages.
Fig. 11: Add Custom Page Screen
2. Modify the fields.
3. Click on the Save or Save and finish button.

Fig. 12: Edit Custom Page Screen

To delete a custom page:

1. Click on the trash icon in the fourth column of the overview table.
2. Click on the Confirm button.

**Note:** If several custom pages are added to the system, use the filter box to find a particular custom page.
7.2.2 Custom Page Settings

The following settings are available when adding or editing this resource. The fields marked with an asterisk are mandatory.

**Internal Title** *

The name of this resource, that is only displayed in the administrator interface. Any type of characters can be entered to this field including uppercase letters and spaces. The name will be displayed in the overview table.

**Slug** *

This will be the URL of the custom page. Recommended characters are lowercase letters, numbers and minus sign.

**Validity** *

Set the validity of this resource. Each resource can be used in OTRS only, if this field is set to `valid`. Setting this field to `invalid` or `invalid-temporarily` will disable the use of the resource.

**Custom Page Content**

In this widget can be added some localized content for the item.

**Title** *

The name of this resource in the given language. Any type of characters can be entered to this field including uppercase letters and spaces.

**Content** *

The text for this item in the given language.

**Add new custom page content**

Select which languages should be added to create localized item content. All added languages can hold its own localized content, that are explained above.
7.3 Home Page

Use this screen to define home page configuration for different user languages, that are displayed in the external interface. The home page management screen is available in the Home Page module of the External Interface group.

This screen contains several widget for each languages, where localized content can be added.

**Warning:** Make sure to save your changes when you finish. The new configuration will be immediately deployed.

The following settings are available when adding or editing this resource. The fields marked with an asterisk are mandatory.

7.3.1 Hero Unit

This is the main widget of the external interface.

![Hero Unit Widget](image)

Fig. 14: Hero Unit Widget
Title
This is the most important sentence or motto of the home page.

Background Style
Define the behavior of background image and background color. The following options are available:
- Only use the background image
- Only use the background color
- Use the background image and overlay it with the selected color

Background Image
Select an image used as background image for the hero unit. To select an image, click on the Select image to upload button and chose an image from your file system.

Background Color
To change the background color, just select a new color from the color palette. You can chose from the pre-selected colors or define other colors by choosing it from the color selector or typing the hexadecimal value.

7.3.2 Ticket List
This widget is available only to logged in customer users. If the ticket list is enabled, the tickets of the customer users are displayed under the Hero Unit (search field). If the ticket list is disabled, the customer users can see the tickets only in the My Tickets screen.

![Ticket List](image.png)

Fig. 15: Ticket List Widget

Show a ticket list for logged in users
This setting defines if the ticket list should be visible for logged in users or not.

Row Title
This is an optional title for the row, that contains this widget in the external interface.
7.3.3 Image Teasers

The image teasers are displayed in a separate row in the external interface.

Row Title
This is an optional title for the row, that contains this widget in the external interface.

Row Background Color
To change the background color, just select a new color from the color palette. You can chose from the pre-selected colors or define other colors by choosing it from the color selector or typing the hexadecimal value.

You can add up to three image teasers by clicking on the Add button in the top right corner of the widget.

Image
Select an image to display it in the image teaser widget. To select an image, click on the Select image to upload button and chose an image from your file system.

Title *
The heading text that are displayed in this item.

Text *
The text for this item.

Link Target *
An URL that will be opened after clicking on this item in the external interface.

7.3.4 Link Lists

The link lists are displayed in a separate row in the external interface.

Row Title
This is an optional title for the row, that contains this widget in the external interface.

You can add up to four link lists by clicking on the Add button in the top right corner of the widget.

Title *
The heading text that are displayed in this item.
7.3. Home Page

Fig. 17: Image Teaser

Fig. 18: Link Lists Widget
Link Text
Add the text for the *show more* link.

Link Target
Add the URL for the *show more* link.

Link List Type *
Specifies the functionality how the item will be added.

Add the Items Manually
Clicking on the edit button a new widget will be visible to add the items.

Show the Results of a Search
Clicking on the edit button a new widget will be visible to add the items.
This configuration calls the document search. Therefore some tickets, knowledge base articles, service catalog contents are necessary for this function. If the system has public or external contents, this card can show the elements.

7.3.5 Content Cards

The link lists are displayed in a separate row in the external interface.

Row Title
This is an optional title for the row, that contains this widget in the external interface.

You can add up to three content cards by clicking on the *Add* button in the top right corner of the widget.

Title *
The heading text that are displayed in this item.
Fig. 20: Add the Items Manually

Fig. 21: Show the Results of a Search
Fig. 22: Content Cards Widget

Fig. 23: Content Card
7.4 Layout

Use this screen to edit the layout displayed in external interface. The layout management screen is available in the Layout module of the External Interface group.

![Edit Layout Screen](image-url)
A fresh OTRS installation already contains a default layout. In this screen all parameters can be changed.

**Warning:** Make sure to save your changes when you finish. The new configuration will be immediately deployed.

**Logo**

The logo is a small image that is displayed in the top left corner of the external pages.

To change the logo, click on the *Select image to upload* button, and select a new logo image. Recommended file format is PNG.

**Favicon**

The favorite icon is an icon that is displayed in the URL bar of the web browser.

To change the favorite icon, click on the *Select image to upload* button, and select a new icon. This is usually a 16×16 pixel image in PNG or ICO format.

**Primary Color**

Primary color is the most important color of the external pages (see the preview screen).

To change the primary color, just select a new color from the color palette. You can chose from the pre-selected colors or define other colors by choosing it from the color selector or typing the hexadecimal value. The new color will be displayed in the preview widget immediately.

**Highlight Color**

Highlight color is the second color of the external pages using for status badges, links, etc.

To change the highlight color, just select a new color from the color palette. You can chose from the pre-selected colors or define other colors by choosing it from the color selector or typing the hexadecimal value. The new color will be displayed in the preview widget immediately.

**Default Avatar**

Will be used as the default avatar for all outgoing communication.

To change the avatar, click on the *Select image to upload* button, and select a new avatar image.

**Custom CSS**

Use this text area to add custom CSS to be applied in the external interface.

---

**Fig. 25: Custom CSS Widget**

Add your custom CSS here to make changes which can’t be made using the configuration above. Please note that your custom CSS changes are not visible in the preview area above.
CHAPTER
EIGHT

OTRS GROUP SERVICES

A strong partner is good to have when dealing with mission-critical systems. Whether it be maintenance or for consuming cloud services, your partner should be tightly integrated.

The following chapter describes the tools you have available to integrate your system with the powerful cloud service offered by the OTRS Group.

8.1 Cloud Services

Use this screen to add cloud services to the system. A fresh OTRS installation doesn’t contain any configured cloud services by default. The cloud service management screen is available in the Cloud Services module of the OTRS Group Services group.

![Cloud Service Management Screen](image)

**Fig. 1: Cloud Service Management Screen**

8.1.1 Manage Cloud Services

**Activate SMS Cloud Service**

To be able to use SMS cloud service in OTRS, you have to activate it first. To activate the SMS cloud service:

1. Click on the *Activate SMS Cloud Service* button in the left sidebar.
2. Fill in the required fields.
3. Click on the *Save* button.
Configuration

Name: SMS

Phone field for agent: UserMobile
Agent data field from which the mobile phone number for sending messages via SMS should be taken.

Phone field for customer: UserMobile
Customer data field from which the mobile phone number for sending messages via SMS should be taken.

Sender string: Example Company
Will be shown as sender name of the SMS. (Not longer than 11 characters).

Allowed role members: 
If selected, only agents assigned to these roles will be able to receive notifications via SMS (optional).

Perform URL shortening: ✔
Perform URL shortening before sending the message.

Phone blacklist:
A blacklist of telephone numbers where it is forbidden to send SMS messages to. Phone numbers must be added in international format without spaces, e.g. +491791234567, one number per field.

Comment: 

Validity: valid

☐ In order to be able to use the SMS transmission feature of the OTRS AG, I hereby declare that I have read and understood the Data Protection Information.

Save or Cancel

Fig. 2: Add Cloud Service Screen
Configuration

The following settings are available when adding an SMS cloud service. The fields marked with an asterisk are mandatory.

**Phone field for agent** *
Agent data field from which the mobile phone number for sending messages via SMS should be taken.

**Phone field for customer** *
Customer data field from which the mobile phone number for sending messages via SMS should be taken.

**Sender string** *
Will be shown as sender name of the SMS (Not longer than 11 characters).

**Allowed role members**
If selected, only agents assigned to these roles will be able to receive notifications via SMS.

**Perform URL shortening**
Perform URL shortening before sending the message.

**Phone black list**
A blacklist of telephone numbers where it is forbidden to send SMS messages to. Phone numbers must be added in international format without spaces, e.g. +491791234567, one number per field.

**Comment**
Add additional information to this resource. It is recommended to always fill this field as a description of the resource with a full sentence for better clarity, because the comment will be also displayed in the overview table.

**Validity**
Set the validity of this resource. Each resource can be used in OTRS only, if this field is set to **valid**. Setting this field to **invalid** or **invalid-temporarily** will disable the use of the resource.

**Data Protection Information**
In order to be able to use the SMS transmission feature of the OTRS AG, the Data Protection Information needs to be read and understood.

8.2 Support Data Collector

Support data collector is used to collect some data and sent to OTRS Group on a regular basis, if the system is registered.

Use this screen to review the data to be sent to OTRS Group. The support data collector screen is available in the **Support Data Collector** module of the **OTRS Group Services** group.
8.2.1 Manage Support Data Collector

Support data collector is used to collect some data and sent to OTRS Group on a regular basis, if the system is registered. To register your system:

1. Click on the **System Registration** button in the left sidebar.
2. Follow the registration instructions.

To show what kind of data will be sent:

1. Click on the **Show transmitted data** button in the left sidebar.
2. Review the **System Registration Data and Support Data** in the newly opened screen.

To manually trigger the support data sending:

1. Click on the **Send Update** button in the left sidebar.

To generate a support bundle:

1. Click on the **Generate Support Bundle** button in the left sidebar.
2. Download the generated support bundle.
3. Open it with an archive manager and review the content.
Support Bundle

The Support Bundle has been Generated
Please choose one of the following options.

Send by Email

The support bundle is too large to send it by email, this option has been disabled.

Download File

[Download]

A file containing the support bundle will be downloaded to the local system. Please save the file and send it to the OTRS Group, using an alternate method.

Close this dialog

Fig. 4: Download Support Bundle Dialog
8.2.2 Collected Data

The screen contains several sections. Each section has some entries with a traffic light, that indicates the following:

- Gray LED means information, just displays a value.
- Green LED means OK, the entry has a good value.
- Yellow LED means notification, you have to check the value, but it is not an error.
- Red LED means error, you have to do something to solve the issue.

Cloud Services Section

This section displays information about OTRS cloud services.

Available SMS
This entry shows information about your available SMS messages. If they are getting low, the LED changes to red.

Database Section

This section displays information about the database used by OTRS.

Outdated Tables
Display the outdated database tables. Green LED means, there are no outdated tables.

Table Presence
Display whether all needed tables exist in the database or not.

Client Connection Charset
Display the character set for the client connection. It must be `utf8`.

Server Database Charset
Display the character set of the database server. It must be `utf8`.

Table Charset
Display the character set of the database table. It must be `utf8`.

InnoDB Log File Size
Display the log file size for InnoDB driver. It must be at least 512 MB.

Invalid Default Values
Display the invalid default values. Green LED means, there are no invalid default values.

Maximum Query Size
Display the maximum size of a database query. It must be at least 1024 MB.

Database Size
Display the size of database. This is just an information.

Default Storage Engine
Display the default storage engine of the database. It must be InnoDB.

Table Storage Engine
Display the storage engine of the database tables. It must be InnoDB.

Database Version
Display the database driver version. Green LED means, the version is high enough.
**Document Search Section**

This section displays information about document search and the used cluster.

**Cluster**

The name of the used cluster.

**Cluster Health Details**

Display some internal variables of the used cluster.

**Indices Health**

Display information about indices.

**Indices Size**

Display the size of each index.

**Node Health**

Display information about the used node.

**Operating System Section**

This section displays information about the running operating system and installed software components.

**Environment Dependencies**

Display information about environment dependencies.

**OTRS Disk Partition**

Display the disk partition to where OTRS is installed.

**Information Disk Partitions Usage**

Display the used space per disk partitions.

**Distribution**

Display the distribution name of the operating system.

**Kernel Version**

Display the kernel version of the operating system.

**System Load**

Display the system load of the operating system. The system load should be at maximum the number of CPUs the system has (e.g. a load of 8 or less on a system with 8 CPUs is OK).

**Perl Version**

Display the version of Perl.

**Free Swap Space (%)**

Display the free swap space as percentages. There should be more than 60% free swap space.

**Used Swap Space (MB)**

Display the used swap space in megabytes. There should be no more than 200 MB swap space used.
OTRS Section

This section displays information about the OTRS instance.

Article Search Index Status
Display information about indexed articles.

Articles Per Communication Channel
Display the number of articles per communication channels.

Communication Log
Display aggregated information about communications.

Communication Log Account Status (last 24 hours)
Display information about communication log account status in the last 24 hours.

Concurrent Users Details
Display information about the logged in users at the same time separated by hourly.

Concurrent Users
Display information about the number of maximum logged in users in the same time.

Config Settings
Display some important configuration settings from system configurations.

Daemon
Display whether the OTRS daemon is running or not.

Database Records
Display the main OTRS object and the related number of records in the database.

Default Admin Password
Green LED means, that the default administrator password was changed.

Email Sending Queue
Display the number of emails that are queued for sending.

FQDN (Domain Name)
Display the fully qualified domain name set in system configuration setting FQDN.

File System Writable
Display whether the file system is writable or not.

Legacy Configuration Backups
Green LED means, there are no legacy configuration backup files found.

Package Installation Status
Green LED means, that all packages are installed correctly.

Package Framework Version Status
Green LED means, that the OTRS framework version is suitable for the installed packages.

Package Verification Status
Green LED means, that all installed packages are verified by the OTRS Group.

Package List
Display the list of installed packages.

Push Events Status
Display the status of the push events per day.

Session Config Settings
Display the maximum allowed sessions per agents and customers.
**Spooled Emails**
Display the number of emails that are in the sending pool.

**SystemID**
Display the system identifier set in system configuration setting `SystemID`.

**Invalid Users with Locked Tickets**
Display the number of users, who are set to invalid, but have some ticket locked for him.

**Open Tickets**
Display the number of open tickets in the system. You will not have performance trouble until you have about 60,000 open tickets in your system.

**Ticket Search Index Module**
Display the ticket search index module set in system configuration setting `Ticket::SearchIndex::ForceUnfilteredStorage`.

**Time Settings**
Display timezone information for OTRS, for the calendars and for users.

**UI - Agent Skin Usage**
Display the used skins per agents.

**UI - Agent Theme Usage**
Display the used theme on the agent interface.

**UI - Special Statistics**
Display some statistics about personal modifications like using favorites, custom menu ordering, etc.

**OTRS Version**
Display the version number of OTRS.

**WebSocket Connection**
Display connection status for WebSocket connections.

---

**8.3 System Registration**

If the free trial or the registration period is expired, the system will lock itself. In these cases you have to register your system or you have to extend the registration.

Use this screen to register your system with the OTRS Group. The registration screen is available in the `System Registration` module of the `OTRS Group Services` group.

![Un-Registered System Screen](image)

Fig. 5: Un-Registered System Screen
8.3.1 Manage System Registration

To register your system:

1. Obtain an OTRS ID. You have to register in the OTRS Portal. After the registration you will get your OTRS ID.
2. Go to the System Registration module of the OTRS Group Services group, and enter your OTRS ID and your password.

![OTRS-ID Login](image)

Fig. 6: System Registration - Add OTRS ID

3. Click on the Next button.
4. Select the system type and enter a description.

![System Registration](image)

Fig. 7: System Registration - Select System Type

5. Click on the Register button.
6. Check your registration.

To edit the system registration:

1. Click on the Edit details button in the left sidebar.
2. Modify the system type and the description.
3. Click on the Update button.

To show the transmitted data:
1. Click on the *Show transmitted data* button in the left sidebar.
2. Review the data in JSON format.

**See also:**
Detailed explanation of the fields is available in the *Support Data Collector* chapter.

To overview the registered system:
1. Click on the *Overview of registered systems* button in the left sidebar.
2. Log in to the OTRS Portal.
3. Click on the OTRS Systems menu item.
4. Review the list of registered systems.

To deregister a system:
1. Click on the *Deregister system* button in the left sidebar.

**Note:** You can’t deregister your system if you’re using the *STORM powered by OTRS™* or having a valid service contract.
Overview of Transmitted Data

The following data is sent at minimum every 3 days from your system to cloud.otrs.com. The data will be transferred in JSON format via a secure https connection.

System Registration Data

```json
{
    'DatabaseVersion' => 'MariaDB 10.3.31',
    'FQDN' => 'yourhost.example.com',
    'OSType' => 'Linux',
    'OSVersion' => 'ubuntu 20.04',
    'OTRSVersion' => '8.0.1',
    'PerlVersion' => '5.30.0'
}
```

Support Data

```json
[
    {
        'DisplayPath' => 'Database',
        'Identifier' => 'Kernel::System::SupportDataCollector::Plugin::Database::DatabaseChecks::Kernel_System::DB::Check::OutdatedTables',
        'Label' => 'Outdated Tables',
        'ShortIdentifier' => 'Database::DatabaseChecks::Kernel_System::DB::Check::OutdatedTables',
        'State' => 'OK'
    }
]
```

Fig. 10: Overview of Transmitted Data Screen
The chat feature allows the agents to provide real-time communication with each other, with customer users or with public users. The chat feature is enabled by default.

9.1 Chat Channels

Being able to offer chat possibilities to customers is a must-have for many organizations. Depending on the amount of customer chat requests and the organization’s structure, it must be possible to group chat requests.

OTRS offers chat channels with different permissions per channel, so it is, e.g., possible to have different chat channels for registered contract customers and public prospects.

Use this screen to add chat channels to the system. A fresh OTRS installation already contains a chat channel by default. The chat channel management screen is available in the Chat Channels module of the Chat group.

Fig. 1: Chat Channel Management Screen
9.1.1 Manage Chat Channels

To add a chat channel:
1. Click on the Add Chat Channel button in the left sidebar.
2. Fill in the required fields.
3. Click on the Save button.

![Add Chat Channel Screen](image)

**Warning:** Chat channels can not be deleted from the system. They can only be deactivated by setting the Validity option to invalid or invalid-temporarily.

To edit a chat channel:
1. Click on a chat channel in the list of chat channels.
2. Modify the fields.
3. Click on the Save or Save and finish button.

9.1.2 Chat Channel Settings

The following settings are available when adding or editing this resource. The fields marked with an asterisk are mandatory.

**Name** *

The name of this resource. Any type of characters can be entered to this field including uppercase letters and spaces. The name will be displayed in the overview table.

**Group** *

Select which Groups can access the chat channel.

**Available to customer users**
Select the checkbox if you want to display the chat channel for customer users.

**Available to public users**
Select the checkbox if you want to display the chat channel for public users.
Validity *

Set the validity of this resource. Each resource can be used in OTRS only, if this field is set to valid. Setting this field to invalid or invalid-temporarily will disable the use of the resource.

Comment

Add additional information to this resource. It is recommended to always fill this field as a description of the resource with a full sentence for better clarity, because the comment will be also displayed in the overview table.

9.1.3 Manage Chat Support

Note: The chat feature is enabled by default.

To enable or disable the chat feature:

1. Go to System Configuration screen.
2. Navigate to Core → Chat in the navigation tree.
3. Enable or disable the setting `ChatEngine::Active`.

When the chat feature is enabled, the Default channel is automatically created if it does not exist.

To review all chat related settings:

1. Go to System Configuration screen.
2. Search for the term `ChatEngine` in the search box.
3. Review the settings.

See also:

Agents need to have at least ro permissions to the groups set up in the following settings:

- `ChatEngine::PermissionGroup::ChatReceivingAgents`
- `ChatEngine::PermissionGroup::ChatStartingAgents`
9.2 Chat Integration

You can easily integrate the public chat into a website. Just copy the code snippets from here. If you would like to make any adaptations, please modify the fields in the configuration widget. All changes are applied immediately to the snippet, so you can make your changes and copy the snippet to your clipboard afterwards. Please note that changes made on this page are not remembered.

Use this screen to generate the chat integration code. The chat integration configuration and snippet generator is available in the Chat Integration module of the Chat group.

To configure the chat and generate code snippet:

1. Select a pre-selected chat channel in the Pre-selected channel field.
2. Select a primary color for the chat design.
3. Customize the texts in the Texts section.

**Note:** All changes made in the Configuration tab will not be saved. Every time you open this dialog, all fields will be reset to default values.

4. You can check the result in the Preview widget.

**Note:** The preview uses the real chat module. Other agents have to be available for chatting to preview all features.

5. Copy the code snippet from the Integration Code widget and paste it into your website right before the </body> element.

If mixed content warning is displayed in the browser console, an administrator has to check that the system configuration setting HttpType is properly set. The website must run on the same protocol for chat widget to work.

For example, if the website is running OTRS on SSL, the system configuration option must be set to https.
### Configuration

#### General Settings

- **Pre-selected channel:**
- **Primary color of the chat design:**

#### Texts

- **Chat conversations title:** Conversations(s)
- **No chat conversations:** You are not participating in a chat at the moment.
- **New conversation link:** New conversation
- **Incoming chat requests title:** Incoming chat request(s)
- **Outgoing chat requests title:** Outgoing chat request(s)
- **Active chats title:** Active chat(s)
- **Closed chats title:** Closed chat(s)
- **Create chat title:** Do you have any questions? Chat with us!
- **No available agents message:** It looks like no one is available at the moment. Please try again!
- **User name field label:** Please enter your name.
- **User name field placeholder:** John Doe
- **Chat channels label:** Please select a channel.
- **Chat conversation title:** Chat Conversation
- **Chat removed message:** This chat has been removed.
- **Chat close link:** Click here to close the chat.
- **Chat closed message:** This chat is closed.
- **Next steps link:** Click here for next steps.
- **No answer message:** There are no chat agents available at the moment.
- **Pending request message:** Please bear with us until one of our agents is able to handle your request.
- **Try again message:** Please try again later.
- **Close chat modal title:** Close Chat
- **Close chat modal message:** Are you sure you want to close this chat?
- **Close chat confirm button:** Yes
- **Close chat cancel button:** No
- **Chat message placeholder:** Write a message.
- **Send email title:** Send me a summary of this conversation.
- **Send email field placeholder:** Enter email
- **Send email button:** Send

---

### 9.2. Chat Integration

Fig. 4: Chat Integration—Configuration
Please note that this preview uses the real chat module. If the chat widget doesn’t show up after the configured amount of time, there is probably no agent available for chatting and you have configured the chat shouldn’t show up in this case.

**Fig. 5: Chat Integration – Preview**

Integration Code

Integrate this into the bottom of your page:

```html
<script type="text/javascript" src="http://yourhost.example.com/dist/chatintegration/main.js"></script>
```

**Fig. 6: Chat Integration – Integration Code**
Any system requires configuration. Configuring a system should be an easy task and the tools for configuration fit-for-purpose.

OTRS offers several administration tools to configure, monitor, control and extend OTRS.

10.1 Calendars

When working with customers, resource planning and scheduling can be a complex task. Appointments enable you to meet your customers where and whenever needed.

OTRS supports this requirement with calendars. Calendars allow management of appointments and resources inside the ticket system. You can connect your tickets to scheduled tasks and make them available to all users to see. This feature adds transparency to show your teams workload and prevent users from promising resources which are not available.

Use this screen to manage calendars in the system. A fresh OTRS installation contains no calendars by default. The calendar management screen is available in the Calendars module of the Administration group.

![Calendar Management Screen](image)

Fig. 1: Calendar Management Screen

10.1.1 Manage Calendars

To add a new calendar:

1. Click on the Add Calendar button in the left sidebar.
2. Fill in the required fields.
3. Click on the Save button.
Warning: Calendars can not be deleted from the system. They can only be deactivated by setting the validity option to invalid or invalid-temporarily.

Warning: The maximum number of 50 valid calendars should not be exceeded. Exceeding this limit may affect the system performance.

To edit a calendar:
1. Click on a calendar in the list of calendars.
2. Modify the fields.
3. Click on the Save or Save and finish button.

To export a calendar:
1. Click on the export icon in the list of calendars.
2. Choose a location in your computer to save the Export_Calendar_CalendarName.yml file.

To import calendars:
1. Click on the Browse button in the left sidebar.
2. Select a previously exported .yml file.
3. Click on the Overwrite existing entities checkbox, if you would like to overwrite the existing calendars.
4. Click on the *Import Calendar* button.

**Note:** If several calendars are added to the system, use the filter box to find a particular calendar by just typing the name to filter.

### 10.1.2 Calendar Settings

The following settings are available when adding or editing this resource. The fields marked with an asterisk are mandatory.

#### General Calendar Settings

**Calendar name** *

The name of this resource. Any type of characters can be entered to this field including uppercase letters and spaces. The name will be displayed in the overview table.

**Color** *

The calendar color that will be displayed in the calendar overview screens.

To change the calendar color, just select a new color from the color palette. You can chose from the pre-selected colors or define other colors by choosing it from the color selector or typing the hexadecimal value.

**Permission group** *

Select which *Groups* can access the calendar.

Depending on the group field, the system will allow users the access to the calendar according to their permission level.

- **Read only:** users can see and export all appointments in the calendar.
- **Move into:** users can modify appointments in the calendar, but without changing the calendar selection.
- **Create:** users can create and delete appointments in the calendar.
- **Read/write:** users can manage the calendar itself.

**Validity** *

Set the validity of this resource. Each resource can be used in OTRS only, if this field is set to **valid**. Setting this field to **invalid** or **invalid-temporarily** will disable the use of the resource.

#### Calendar Ticket Appointments

Define rules for creating automatic appointments in this calendar based on ticket data. To add a new rule, click on the *Add Rule* button.

**Link ticket**

If set to **Yes**, a clickable link to the ticket will be displayed in the title of the appointment and the created appointment will be linked to the ticket. If set to **No**, the ticket number will be displayed as plain text in the title of the appointment and the appointment will not be linked to the ticket.

**Start date**

Select a start date for the ticket appointment.
Fig. 4: Calendar Settings - Ticket Appointments

End date  
Select the end date for the ticket appointment.

Queues *  
Select one or more queues to narrow down for which tickets appointments will be automatically created.

Search attributes  
Additional search attributes can be added for further filtering by selecting an attribute and clicking on the button.

By default, these events can trigger an update of a calendar appointment:

- TicketSLAUpdate
- TicketQueueUpdate
- TicketStateUpdate
- TicketCreate
- ArticleCreate
- TicketPendingTimeUpdate
- TicketDynamicFieldUpdate_.*
10.1.3 Import Appointments

If at least one calendar have been added to the system, it is possible to import some appointments into the calendar.

To import some appointments:

1. Click on the Import Appointments button in the left sidebar.
2. Upload an iCal file and select a calendar.
3. Click on the Import appointments button.

Fig. 5: Import Appointments Screen

Upload *
Click on the Browse... button, and select a valid iCal (.ics) file to upload.

Calendar *
Select an available calendar.

Note: If desired calendar is not listed here, please make sure that you have at least create permissions.

Update existing appointments?
If checked, all existing appointments in the calendar with same UniqueID will be overwritten.

10.2 FAQ Category

Use this screen to manage categories available in the knowledge base articles. A fresh OTRS installation already contains a category by default. The category management screen is available in the FAQ Category module of the Administration group.
10.2.1 Manage FAQ Categories

To add a category:

1. Click on the Add category button in the left sidebar.
2. Fill in the required fields.
3. Click on the Submit button.

To edit a category:

1. Click on a category in the list of categories.
2. Modify the fields.
3. Click on the Submit button.

To delete a category:

1. Click on the trash icon in the list of categories.
2. Click on the Yes button in the confirmation dialog.
10.2.2 FAQ Category Settings

The following settings are available when adding or editing this resource. The fields marked with an asterisk are mandatory.

Name *
   The name of this resource. Any type of characters can be entered to this field including uppercase letters and spaces. The name will be displayed in the overview table.

Subcategory of
   It is possible to add the new category under an existing one as sub-category. This will be displayed as Parent Category::Child Category.

Permission *
   Agent groups that can access articles in this category.

Validity
   Set the validity of this resource. Each resource can be used in OTRS only, if this field is set to valid. Setting this field to invalid or invalid-temporarily will disable the use of the resource.

Comment *
   Add additional information to this resource. It is recommended to always fill this field as a description of the resource with a full sentence for better clarity, because the comment will be also displayed in the overview table.
10.3 FAQ Language

Use this screen to manage languages available in the knowledge base articles. A fresh OTRS installation already contains some languages by default. The language management screen is available in the FAQ Language module of the Administration group.

10.3.1 Manage FAQ Languages

To add a language:

1. Click on the Add language button in the left sidebar.
2. Fill in the required field.
3. Click on the Submit button.

To edit a language:

1. Click on a language in the list of languages.
2. Modify the field.
3. Click on the Submit button.

To delete a language:
1. Click on the trash icon in the list of languages.
2. Click on the Yes button in the confirmation dialog.

![List](image)

Fig. 13: Delete Language Screen

### 10.3.2 FAQ Language Settings

The following setting is available when adding or editing this resource. The fields marked with an asterisk are mandatory.

**Name** *

The ISO 639-1 code of a language.

### 10.4 Package Manager

Modular systems can be extended by adding additional software packages to the framework. Administrators need an easy way to see which features are installed in which version and for sure to add, update and remove packages.

OTRS uses a package manager to perform all package-related activities as mentioned above in the graphical interface.

**Note:** This feature is only available to On-Premise customers. If you are a Managed customer, this feature is taken care of by the Customer Solutions Team in OTRS. Please contact us via support@otrs.com or in the OTRS Portal.

See also:

To see a list of installed modules, you may also see the Support Data Collector.

Use this screen to install and manage packages that extend the functionality of OTRS. The package manager screen is available in the Package Manager module of the Administration group.

### 10.4.1 Manage Packages

**Warning:** The installation of packages which are not verified by the OTRS Group is not possible by default.

See also:

You can activate the installation of not verified packages in the system configuration setting Package::AllowNotVerifiedPackages.
Install Packages

To install a package from online repository:

1. Select an online repository from the drop-down in the left sidebar.
2. Click on the *Update repository information* button to refresh the available package list.
3. Select a package from the *Online Repository* widget and click on the *Install* in the last column.
4. Follow the installation instructions.
5. After installation, the package is displayed in the *Local Repository* widget.

### Online Repository

<table>
<thead>
<tr>
<th>NAME</th>
<th>VERSION</th>
<th>VENDOR</th>
<th>DESCRIPTION</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>OTRSAdvancedEditor</td>
<td>7.0.1</td>
<td>OTRS</td>
<td>This package enables Template Toolkit code snippets such as ticket templates</td>
<td>Install</td>
</tr>
<tr>
<td>OTRSCustomSearch</td>
<td>7.0.1</td>
<td>OTRS</td>
<td>Adds an additional Config item search screen, where i...</td>
<td>Install</td>
</tr>
<tr>
<td>OTRSCReferences</td>
<td>7.0.1</td>
<td>OTRS</td>
<td>This package adds the possibility to add additional ...</td>
<td>Install</td>
</tr>
</tbody>
</table>

Fig. 14: Package Manager Screen

Fig. 15: Online Repository Widget

**See also:**
The repository list can be changed in system configuration setting `Package::RepositoryList`.

To install a package from file:
1. Click on the **Browse** button in the left sidebar.
2. Select an `.opm` file from your local file system.
3. Click on the **Install Package** button.
4. Follow the installation instructions.
5. After installation, the package is displayed in the *Local Repository* widget.

![Local Repository Widget](image)

**Fig. 16: Local Repository Widget**

### Update Packages

To update a package from online repository:

1. Check the available packages in the *Online Repository* widget if there is *Update* in the *Action* column.
2. Click on the *Update* link.
3. Follow the update instructions.
4. After updating, the package is displayed in the *Local Repository* widget.

To update a package from file:

1. Click on the **Browse** button in the left sidebar.
2. Select an `.opm` file which is newer than the installed package.
3. Click on the **Install Package** button.
4. Follow the update instructions.
5. After updating, the package is displayed in the *Local Repository* widget.

To update all packages:

1. Click on the *Update all installed packages* button in the left sidebar.
2. Follow the update instructions.
3. After updating, the package is displayed in the *Local Repository* widget.

This feature reads the information of all defined package repositories and determines if there is a new version for every installed package in the system and calculates the correct order to update the packages respecting all other package dependencies, even if new versions of existing packages require new packages not yet installed in the system.

**Note:** If there are packages installed that do not have a corresponding repository defined in the system, they cannot be updated by this feature and will be marked as failed (due to the missing on-line repository).
Reinstall Packages

If at least one of the package files are modified locally, the package manager marks the package as broken, and need to reinstall.

To reinstall a package:

1. Select the package from the Local Repository widget that are marked for reinstall.
2. Click on the Reinstall link in the Action column.
3. Follow the installation instructions.

Uninstall Packages

To uninstall a package:

1. Select the package from the Local Repository widget.
2. Click on the Uninstall link in the Action column.
3. Follow the uninstall instructions.

![Local Repository Widget](image)

Fig. 17: Local Repository Widget

10.5 Performance Log

Performance is always a crucial topic for web-based applications. Administrators need to have the possibility to see which activities use which time to execute over time to identify potential increases over time and take proper measures.

OTRS supports this requirement with the performance log. The performance log can, when it is activated, log activities and display various activity types and their min/max/average response time and a number of requests for different time frames.

Use this screen to view the performance log of OTRS. The log overview screen is available in the Performance Log module of the Administration group.

Note: To be able to see performance log in OTRS, you have to enabled its setting first.
If the performance log is enabled, OTRS collects all the information about requests and responses in an overview table. Clicking on an entry will show the details.

### 10.6 Session Management

Administrators of web-based applications need to have access to the information who’s connected to the system and, if required, delete unwanted sessions.

OTRS offers the session management to quickly get an overview of agent and customer sessions, unique agents and customers currently logged in and the ability to kill sessions with just a mouse click.

Use this screen to manage logged in user sessions in the system. The session management screen is available in the Session Management module of the Administration group.

The first widget lists sessions and tokens. Sessions are used for logins to the administrator interface, while logins to the agent interface, to the external interface or to the generic interface use tokens.

The widget List of tokens (one time only) shows special one time tokens used for the password recovery and two-factor setup. These tokens are short-lived and can be used for only a single action.

#### 10.6.1 Manage Sessions

To see a logged in user session:
1. Select a logged in user from the list of sessions.
2. Click on the token.
3. See the details.

To kill a session:
1. Select a logged in user from the list of sessions.
2. Click on the Kill this session link in the Kill column.
## Overview

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<th>MIN RESPONSE</th>
<th>MAX RESPONSE</th>
<th>AVERAGE RESPONSE</th>
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</thead>
<tbody>
<tr>
<td>Agent</td>
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<tr>
<td>Admin</td>
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<td>1s</td>
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<tr>
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### Range (last 30 m)

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<th>AVERAGE RESPONSE</th>
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</thead>
<tbody>
<tr>
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<td>1s</td>
<td>0.75s</td>
</tr>
<tr>
<td>Admin</td>
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<td>0s</td>
<td>1s</td>
<td>0.5s</td>
</tr>
<tr>
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<td>1s</td>
<td>1s</td>
<td>1s</td>
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<tr>
<td>AdminSystemConfiguration;ChallengeTok...</td>
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### Range (last 1 h 0 m)

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<th>MAX RESPONSE</th>
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</tr>
<tr>
<td>Admin</td>
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### Range (last 2 h 0 m)

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<td>4</td>
<td>0s</td>
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<td>0.75s</td>
</tr>
<tr>
<td>Admin</td>
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<td>0s</td>
<td>1s</td>
<td>0.5s</td>
</tr>
<tr>
<td>AdminSystemConfiguration&amp;AJAXNavigati...</td>
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<tr>
<td>AdminSystemConfiguration;ChallengeTok...</td>
<td>1</td>
<td>1s</td>
<td>1s</td>
<td>1s</td>
</tr>
</tbody>
</table>

### Range (last 1 d 0 h)

<table>
<thead>
<tr>
<th>INTERFACE</th>
<th>REQUESTS</th>
<th>MIN RESPONSE</th>
<th>MAX RESPONSE</th>
<th>AVERAGE RESPONSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agent</td>
<td>4</td>
<td>0s</td>
<td>1s</td>
<td>0.75s</td>
</tr>
<tr>
<td>Admin</td>
<td>2</td>
<td>0s</td>
<td>1s</td>
<td>0.5s</td>
</tr>
<tr>
<td>AdminSystemConfiguration&amp;AJAXNavigati...</td>
<td>1</td>
<td>1s</td>
<td>1s</td>
<td>1s</td>
</tr>
<tr>
<td>AdminSystemConfiguration;ChallengeTok...</td>
<td>1</td>
<td>1s</td>
<td>1s</td>
<td>1s</td>
</tr>
</tbody>
</table>

### Range (last 2 d 0 h)

<table>
<thead>
<tr>
<th>INTERFACE</th>
<th>REQUESTS</th>
<th>MIN RESPONSE</th>
<th>MAX RESPONSE</th>
<th>AVERAGE RESPONSE</th>
</tr>
</thead>
<tbody>
<tr>
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<td>4</td>
<td>0s</td>
<td>1s</td>
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</tr>
<tr>
<td>Admin</td>
<td>2</td>
<td>0s</td>
<td>1s</td>
<td>0.5s</td>
</tr>
<tr>
<td>AdminSystemConfiguration&amp;AJAXNavigati...</td>
<td>1</td>
<td>1s</td>
<td>1s</td>
<td>1s</td>
</tr>
<tr>
<td>AdminSystemConfiguration;ChallengeTok...</td>
<td>1</td>
<td>1s</td>
<td>1s</td>
<td>1s</td>
</tr>
</tbody>
</table>
10.6. Session Management

Fig. 20: Performance Log Details Screen

Fig. 21: Session Management Screen

Fig. 22: Session Management Details Screen
Note: The current administrator session is displayed with a darker gray row background. This allows you to identify your own session in the list easier.

Warning: Clicking the *Kill this session* link removes the session immediately without confirmation. The unsaved work of the user will be lost!

To kill all sessions:

1. Click on the *Kill all sessions* button in the left sidebar.

Warning: Clicking the *Kill all session* link removes all sessions or tokens immediately without confirmation. The unsaved work of the users will be lost!

Note: If several users are logged in to the system, use the filter box to find a particular session by just typing the name to filter.

### 10.7 SQL Box

Note: This feature is not enabled by default. Activate the system configuration setting `Frontend::Module###AdminSelectBox` to enable this feature.

Note: This feature is only available to *On-Premise* customers. If you are a *Managed* customer, this feature is taken care of by the *Customer Solutions Team* in OTRS. Please contact us via support@otrs.com or in the OTRS Portal.

In a ticket system, it is usually possible to have statistics that show a summarized view of ticket information when needed. Sometimes, it is however required to access the database directly to have even more individual reports, allow external statistic tools to query information from the system or perform in-depth analysis of a ticket behavior.

Direct access to the database requires access to the command line which an administrator may not have. In addition to the username and password for the command line access, which is not given by all organizations,
the username and password for the database are needed. These hurdles can prevent an administrator from using the database for more complex searches and operations.

OTRS offers application administrators the SQL Box in the graphical interface. It allows read access to the database. All results can be seen in the GUI or exported to CSV/Excel files.

Use this screen to query SQL statements in the system. The SQL box screen is available in the SQL Box module of the Administration group.

Fig. 24: SQL Box Screen

10.7.1 Query SQL statements

**Note:** The SQL statements entered here are sent directly to the application database. By default, it is not possible to change the content of the tables, only SELECT queries are allowed.

**Warning:** It is possible to modify the application database via SQL box. To do this, you have to enabled the system configuration setting `AdminSelectBox::AllowDatabaseModification`. Activate it to your own risk!

To execute an SQL statement:

1. Enter the SQL statement into the SQL box.
2. Select the result format.
3. Click on the *Run Query* button.

10.7.2 SQL Settings

The following settings are available when adding or editing this resource. The fields marked with an asterisk are mandatory.

**SQL **

The SQL statement to be queried.

**Limit**

Enter a number to limit the result to at most this number of rows. Leaving this field empty means there is no limit.
Note: Don’t use `LIMIT` inside the SQL statement. Always use this field to limit the number of results.

**Result format**
The format of the SQL statement result.

**HTML**
The results are visible below the SQL box in a new widget.

**CSV**
The results can be downloaded in comma separated plain text format.

**Excel**
The results can be downloaded as Microsoft Excel spreadsheet.

### 10.7.3 SQL Examples

To list some information about agents and output the results as HTML:

```sql
SELECT id, login, first_name, last_name, valid_id FROM users
```

![Fig. 26: SQL Box Result](image)

To list all tables, you need to leave empty the `Limit` field and run the following query:

```sql
SHOW TABLES
```

To show the structure of the `users` table, you need to limit the results to 1 and run the following query (see the table header for the columns):

```sql
SELECT * FROM users
```
10.8 System Configuration

Modern systems have many ways to configure their behavior. Some use configuration files edited on the command line, and some use a graphical interface (and save the information to configuration files in the background), yet others use a database. Maintaining changes and auditing can sometimes be an issue, as it is not always clear who made a change. Making bulk changes is not always possible, and rolling back changes a chore.

OTRS uses a comfortable graphical interface to configure the system. All changes to the default system configuration are stored in the database and can be audited (who changed a setting and when, what was the old and what is the new value) and rolled back to a previous state in case of misconfiguration.

Comfortable search allows finding the needed settings quickly and easily.

See also:

By using the System Configuration History package, you can easily roll back changes made by users. Contact sales@otrs.com to add this feature to your system.

Use this screen to manage the system configuration settings. OTRS brings about 1750 configuration settings. The system configuration management screen is available in the System Configuration module of the Administration group.

10.8.1 Manage System Configurations

Note: For security reasons, the configuration settings for the database connection cannot be changed in the graphical user interface of the system configuration. These have to be set manually in Kernel/Config.pm.

To modify a system configuration, you need to do several steps. The following example shows you, how to find, modify, deploy and reset the system configuration FirstnameLastnameOrder.

1. Find the system configuration by entering a search term lastname into to search box.

   With the full-text search, all configuration settings can be scanned for one or more keywords. The full-text search not only searches through the names of the configuration settings, but also the descriptions and values. This allows an element to be found easily even if its name is unknown.

2. Select the setting from the search results.

3. Click on the header of the widget to see the options.

4. Hover the mouse over the widget body to see the Edit this setting button.

5. Click on the Edit this setting button to activate the edit mode. In edit mode the widget gets an orange border on the left.

   Note: If a setting is currently edited by another administrator, it is not possible to get access to the edit mode for that setting until the other administrator finished their work.

6. Change the value of the setting. Editing can be cancelled by clicking the Cancel button on the right or hitting the Escape key on your keyboard. When editing is cancelled, all changes made during the current editing session are discarded.

7. Click on the Save button. If the modification is saved, the widget gets a green border on the left.
Navigate through the available settings by using the tree in the navigation box on the left side.

Find certain settings by using the search field below or from search icon from the top navigation.

Find out how to use the system configuration by reading the online administrator documentation.

Fig. 27: System Configuration - Search For Setting

FirstnameLastnameOrder

Firstname Lastname

Specifies the order in which the firstname and the lastname of agents will be displayed.

Fig. 28: System Configuration - Setting Found

FirstnameLastnameOrder

Firstname Lastname

Specifies the order in which the firstname and the lastname of agents will be displayed.

Default: 0

Fig. 29: System Configuration - Setting Expanded

FirstnameLastnameOrder

Firstname Lastname

Specifying the order in which the firstname and the lastname of agents will be displayed.

Fig. 30: System Configuration - Setting Hovered
Fig. 31: System Configuration - Setting Clicked

Fig. 32: System Configuration - Setting Modified

Fig. 33: System Configuration - Setting Saved
8. Go back and click on the Deployment button in the left sidebar. You are also notified in the notification bar, that you have undeployed settings.

![Changes Overview](image)

Fig. 34: System Configuration - Setting Changes

9. Review the changes.

10. You can click on the button in the top right corner to compare the changes side-by-side.

![Changes Overview](image)

Fig. 35: System Configuration - Setting Different

11. Click on the Deploy selected changes button. If several settings are changed, it is possible to deploy only the selected settings.

12. Add a deployment comment, that explain for other administrators, what is changed and why. Use full sentence here.

13. Go back and search again the term lastname to find the modified setting. The widget has a gray border on the left to indicate, this setting is modified.

14. To reset the setting, click on the header of the widget to see the options. Then click on the Reset setting button.

15. Click on the Confirm button.

16. Deploy the settings.
10.8. System Configuration

Fig. 36: System Configuration - Deploy Setting

Fig. 37: System Configuration - Setting Deployed

Fig. 38: System Configuration - Reset Setting
10.8.2 Using The Navigation Tree

Each configuration setting is classified by a category and a navigation group. Navigation groups are individual elements in the main navigation tree. By selecting one of these navigation entries, all settings assigned to the selected group will be shown. As long as no extensions are installed, the category selection is automatically hidden, but as soon as a package is installed which brings its own configuration settings (such as ITSM modules or Survey), the category selection will be revealed. Selecting a category makes the main navigation tree show only the navigation groups belonging to the selected category.

Fig. 39: System Configuration Navigation Tree

To expand an element, click on the arrow next to it. The number between the parentheses indicates how many settings belongs to this element. If an element has no number, this element is only a wrapper category. It doesn’t have settings, it has only sub-categories.

Using the navigation tree results the same as search for a setting. If you would like to see for a setting to which group belongs to, expand it by clicking on the header of the widget.

For example FirstnameLastnameOrder can be found in Frontend → Base.
10.8.3 Import And Export System Configurations

Click on the *Import & Export* button in the left sidebar to access the import-export screen.

To export the system configurations:

1. Click on the *Export current configuration* button in the *Export* widget.
2. Save the *Export_Current_System_Configuration.yml* file to your local file system.
3. Rename the file to a more descriptive name.

To import the system configurations:

1. Click on the *Browse* button in the *Import* widget.
2. Select a previously exported *.yml* file.
3. Click on the *Import system configuration* button.

**Note:** This feature is only available to *On-Premise* customers. If you are a *Managed* customer, this feature is taken care of by the *Customer Solutions Team* in OTRS. Please contact us via support@otrs.com or in the OTRS Portal.
10.8.4 Business Object Configuration

The following section contains a description of the business object configuration, including the business object lists, business object detail views, business cards and forms.

Business Object Lists

The business object lists provide a tabular view of items with support for configurable columns, sorting and filtering. These lists can be used in many contexts, including as stand-alone screens, widgets, actions, etc. The default configuration of business object lists can be defined in several places, depending on the screen or element where they are used.

AgentFrontend::<BusinessObjectListType>::<SlugName>###DefaultConfig

Standalone or static list screens which are usable via their own URL.

Fig. 42: An Example of the Unlocked Tickets Screen

The following system configuration settings are relevant:

- AgentFrontend::KnowledgeBaseArticleList::Static###DefaultConfig
- AgentFrontend::KnowledgeBaseArticleList::Added###DefaultConfig
- AgentFrontend::KnowledgeBaseArticleList::Updated###DefaultConfig
- AgentFrontend::KnowledgeBaseArticleList::Rated###DefaultConfig
- AgentFrontend::KnowledgeBaseArticleList::Custom1###DefaultConfig
- AgentFrontend::KnowledgeBaseArticleList::Custom2###DefaultConfig
- AgentFrontend::KnowledgeBaseArticleList::Custom3###DefaultConfig
- AgentFrontend::KnowledgeBaseArticleList::Custom4###DefaultConfig
- AgentFrontend::KnowledgeBaseArticleList::Custom5###DefaultConfig
- AgentFrontend::TicketList::Static###DefaultConfig
- AgentFrontend::TicketList::Unresolved###DefaultConfig
- AgentFrontend::TicketList::Unlocked###DefaultConfig
- AgentFrontend::TicketList::Reminders###DefaultConfig
- AgentFrontend::TicketList::Escalations###DefaultConfig
- AgentFrontend::TicketList::Created###DefaultConfig
- AgentFrontend::TicketList::Closed###DefaultConfig
- AgentFrontend::TicketList::Queues###DefaultConfig
• AgentFrontend::TicketList::LegacyService###DefaultConfig
• AgentFrontend::TicketList::LegacyStatus###DefaultConfig
• AgentFrontend::TicketList::LegacyEscalations###DefaultConfig
• AgentFrontend::TicketList::LegacyResponsible###DefaultConfig
• AgentFrontend::TicketList::LegacyWatcher###DefaultConfig
• AgentFrontend::TicketList::Custom1###DefaultConfig
• AgentFrontend::TicketList::Custom2###DefaultConfig
• AgentFrontend::TicketList::Custom3###DefaultConfig
• AgentFrontend::TicketList::Custom4###DefaultConfig
• AgentFrontend::TicketList::Custom5###DefaultConfig

**BusinessObjectListType**
Type of the business object list to use.

Possible values for the **BusinessObjectListType** key:

| TicketList    | KnowledgeBaseArticleList |

**SlugName**
Determines the search engine-friendly URL part via which the screen is available.

**Note:** Currently only single word search engine-friendly URL parts are supported. Also note that the first character of the search engine-friendly URL part will always be converted to lower case variant, for example:

| AgentFrontend::TicketList::Static => /agent/tickets/static |
| AgentFrontend::TicketList::Unresolved => agent/tickets/unresolved |
| AgentFrontend::TicketList::Reminders => agent/tickets/reminders |
| AgentFrontend::KnowledgeBaseArticleList::Added => agent/knowledge-base-articles/added |

**AgentFrontend::WebNotificationList###DefaultConfig**
The default configuration for the **Web Notifications** list.

Fig. 43: An Example of the **Web Notifications** List Screen

Link to the reference of the system configuration:

• AgentFrontend::WebNotificationList###DefaultConfig
AgentFrontend::Search###001-Framework
The default configuration for the Search Results list.

Fig. 44: An Example of the Search Results List Screen

Table: Search Results

<table>
<thead>
<tr>
<th>Type</th>
<th>Result</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Article</td>
<td>Ticket#2015071510123456: Welcome to OTRS!</td>
<td>Ticket List &gt; queue</td>
</tr>
<tr>
<td>Welcome to OTRS!</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Welcome to OTRS!</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Link to the reference of the system configuration:

- AgentFrontend::Search::Widget###AppointmentList
- AgentFrontend::Search::Widget###ArticleList
- AgentFrontend::Search::Widget###AttachmentList
- AgentFrontend::Search::Widget###KnowledgeBaseArticleList
- AgentFrontend::Search::Widget###TicketList

AgentFrontend::TicketList::ArticlePreview###DefaultConfig
The default configuration for the Article Preview in the Ticket list.

Link to the reference of the system configuration:

- AgentFrontend::TicketList::ArticlePreview###DefaultConfig

AgentFrontend::*###DefaultConfig
The default configuration for the inline business object lists. Inline list tables are shown as part of several actions like Merge Ticket, Link Objects or Append to Ticket.

The following system configuration settings are relevant:

- AgentFrontend::Merge::Ticket###DefaultConfig
- AgentFrontend::LinkObject::Ticket###DefaultConfig
- AgentFrontend::LinkObject::KnowledgeBaseArticle###DefaultConfig
- AgentFrontend::LinkObject::CalendarAppointment###DefaultConfig
- AgentFrontend::Chat::AppendToTicket###DefaultConfig
Add Links

* Link with

Ticket

Results (2 tickets)

<table>
<thead>
<tr>
<th>Number</th>
<th>Title</th>
<th>Priority</th>
<th>Created</th>
<th>State</th>
<th>Queue</th>
<th>Linked As</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015071510123456</td>
<td>Welcome to OTRS!</td>
<td>3 normal</td>
<td>22 days ago</td>
<td>now</td>
<td>queue</td>
<td></td>
</tr>
<tr>
<td>2020020254000078</td>
<td>2Test Ticket Title</td>
<td>3 normal</td>
<td>5 months ago</td>
<td>open</td>
<td>TestQueue: test9393303665200006</td>
<td></td>
</tr>
</tbody>
</table>

Fig. 45: An Example of the Article Preview in the Ticket List Screen

Fig. 46: An Example of the Link Objects Action in the Ticket Detail View
The default configuration for the Customer User and Customer address book screens. The address books allow contextual adding of customer and customer user records to target form fields.

The following system configuration settings are relevant:

- `AgentFrontend::CustomerUserAddressBookList::Email###DefaultConfig`
- `AgentFrontend::CustomerUserAddressBookList::SMS###DefaultConfig`
- `AgentFrontend::CustomerCompanyAddressBookList###DefaultConfig`

Each business object list setting has a `Config` key which contains its configuration.

**See also:**

The detailed explanation of the possible `Config` key values can be found in the Business Object List YAML Configuration chapter.

**YAML Configuration Basics**

Before we delve too deeply into the business object configuration, it is important to explain the YAML syntax which is heavily used for some of the setting values.

YAML (a recursive acronym for YAML Ain’t Markup Language) is a human-readable data-serialization language. It is commonly used for configuration files, but it can describe data structures of arbitrary complexity. Although YAML supports many of them, only a few data types are used in the context of OTRS configuration:

**Scalar**

This is the most basic data type; it could be a number, a string, or a boolean expression. Sometimes it is also referred to as a value.

```yaml
Number: 42
String1: Foo
String2: 'Foo bar'
String3: "Foo bar Xyzzy"
Boolean1: 1
Boolean2: 0
```
**List**

List contains an arbitrary number of items which can be of any data type. Sometimes it is also referred to as an array.

Each item in a list is divided from others by a separator in the form of a minus sign followed by a single space.

```
List1:
- Item1
- Item2
- Item3
```

It is recommended that list items are indented via a minus sign followed by a single space. This style is used throughout this guide and default configuration.

**Warning:** In YAML, the number of spaces is important. The number of spaces used for indentation must always be consistent, otherwise unexpected structures or syntax errors can occur.

**Note:** To define an empty list, you can use the square bracket syntax:

```
EmptyList: []
```

**Object**

Object is a data type consisting of key/value pairs, separated by the colon punctuation mark. Sometimes it is also referred to as a hash.

Object key is always on the left side of the colon punctuation mark, while the value is always on its right side (or indented below):

```
Object1:
  Key1: Value1
  Key2: Value2
  Key3: Value3
```

It is recommended that object key/value pairs are indented with two spaces. This style is used throughout this guide and default configuration.

**Warning:** In YAML, the number of spaces is important. The number of spaces used for indentation must always be consistent, otherwise unexpected structures or syntax errors can occur.

**Note:** To define an empty object, you can use the curly brackets syntax:

```
EmptyObject: {}
```

To signal that a text uses YAML syntax, it is recommended to add a document header to its first line that consists of three consecutive minus signs, followed by the line break. By doing this consistently, it becomes...
very easy to identify YAML structures when mixed with other configurations.

With the three basic data types explained above, it is possible to create more complex structures. For example, an array of hashes:

```yaml
---
Array:
- Key1: A
- Key2: B
- Key3: C
- Key1: I
- Key2: II
- Key3: III
```

**Note:** In a list that contains multiple object keys, only the first key must be prefixed with the minus sign followed by a space. Each subsequent key must be prefixed with two spaces.

The following example illustrates the usage of a hash of arrays:

```yaml
---
Hash:
  Key:
    Subkey1:
      - Item1
      - Item2
      - Item3
    Subkey2:
      - Item4
      - Item5
      - Item6
```

**Note:** If the object keys are separated by other structures, it is important to keep them on the same indentation level. Since they are all siblings, they must be prefixed by the same number of spaces.

It is also possible to mix the data types that result in more complex data structures:

```yaml
---
Key1:
- Subkey1: Value1
- Subkey2: Value2
Key2: Value3
Key3:
  Subkey3:
    - Value4
    - Value5
```

YAML supports comments in its code, so it is possible to include additional text that will be ignored during parsing. This is useful in case users need to describe certain parts of the structure, perhaps for future reference, or to quickly ignore part of the code without actually removing it.

Comments can be marked with `#`. Any following text will be ignored.
In the example above, the last line will be ignored too since it starts with `#`

If you actually want to use the pound sign as part of your string of values, simply enclose the complete string in quotes.

When you edit an OTRS system setting with the YAML value type, a suitable text editor will be displayed.

When saving the setting, the YAML structure will be checked for validity. In case of an error, it is possible to change and correct the structure.

It is important to understand that only the syntax of the structure is checked during validation. A deep validation will not occur. It is your responsibility as an administrator to ensure that the configuration you specify is correct.

10.8. System Configuration
Warning: The most common errors that occur are related to indentation. You have to ensure that your indentations are consistent, especially the indentations of the different data types. For example, the following two structures are considered different.

---
Object:
  Key:
    Subkey: Value
---
Object:
  Key:
    Subkey: Value

Since the Subkey in the second example is not aligned properly within its parent Key, it is considered to be its sibling part and not a child. In this case the actual value of the Key will be empty.

Business Object List YAML Configuration

A business object list YAML configuration can have many parameters. The following example shows how to construct a business object list in general.

Type: BusinessObject
BusinessObjectType: Ticket
ScreenTitle: <Some Screen Title>
Changeable: 1
FilterPresets:
  "<Displayed Filter Preset Name>":
    <FilterName1>:
      Value: <Value>
    <FilterName2>:
      Value:
        - <Value1>
        - <Value2>
    <FilterName3>:
      Value:
        <Parameter1>: <Value1>
        <Parameter2>: <Value2>
...
ActiveFilters:
  <FilterName1>:
    Value: <Value>
  <FilterName2>:
    Value:
      - <Value1>
      - <Value2>
  <FilterName3>:
    Value:
      <Parameter1>: <Value1>
      <Parameter2>: <Value2>
...
AllowGETConfig:
  - <ConfigurationName1>
  - <ConfigurationName2>

(continues on next page)
The following YAML keys and values can be used for business object lists.

**Type**
Defines the type of the setting. This is an internal value which is always set to `BusinessObject` and must not be changed.

**Warning**: Changing this value might result in a broken system configuration.

**BusinessObjectType**
Defines the business object type of the business object list. This is an internal value which is specific for the current list type and must not be changed.

**Warning**: Changing this value might result in a broken system configuration.

**ScreenTitle**
Defines the title of the business object list.

**Note**: In some places, you may notice `# translatable` comments that are displayed next to the text values. This marker is only used for the internal collection of translatable strings and has no effect in the changed settings. Adding this comment to modified values will not result in the actual text translation.

The visible text in the configuration can be translated into other languages with custom language files. For more information, see the *Custom Language File* chapter.

**Changeable**
Defines whether the business object list can be personalized by the user in the front end. If turned off,
the view configuration will not be available and also filter presets for the view cannot be saved. The value can be 1 (on) or 0 (off). The assumed default is off when the key is not used in the definition.

**FilterPresets**
Defines the pre-defined filters used for the business object list. Multiple filters can be defined here. The filter value can be a string, array or a hash. The following YAML snippet shows examples for all types.

```yaml
FilterPresets:
  Closed:
    StateType:
      Value: Closed
  Locked:
    LockIDs:
      Value:
        - 2
  "Reminder Reached":
    TicketPending_DateTimeRelative:
      Value:
        Format: minute
        Point: 1
        Start: Before
```

**See also:**
The list of possible filter names can be found in the *Filter Names* chapter.

**ActiveFilters**
Defines the filters that are active when displaying the business object list. Multiple filters can be added here; each is defined by the filter name. The filter value can be a string, array or a hash. The following YAML snippet shows examples for both.

```yaml
ActiveFilters:
  StateType:
    Value: Closed
  TicketClose_DateTimeRelative:
    Value:
      Start: Before
      Point: 1
      Format: minute
```

**See also:**
The list of possible filter names can be found in the *Filter Names* chapter.

**AllowGETConfig**
Defines what parameters can be changed via the URL with the `Config` URL query parameter:

```yaml
AllowGETConfig:
  - VisibleColumns
  - SortBy
  - ActiveFilters
  - FilterPresets
  - ItemsPerPage
  - FilterPresetSelected
```

The list should contain names of other configuration keys for which definition will be allowed when passed via the correct URL query parameter to the view.
See also:
For an example and more information, please see the section about Custom URL Support.

Columns
Defines the columns that are available for the business object list in the front end.

isVisible
Defines whether the column is not visible (0), not visible by default but the agent can make it visible (1) or visible by default (2).

IsInlineEditable
Defines whether the value in the column is inline editable (1) or not (0).

See also:
The list of possible column names can be found in the Column Names chapter.

DefaultColumnOrder
Defines the default column order in the business object list.

HideAvailableFilters
Defines the filters which are not available for the agents in the front end, either in the view configuration or in the filter presets.

ItemsPerPage
Defines the number of objects per page that are displayed by default and the number of new objects that are loaded when the agent scrolls down the list. If omitted, it takes the default value of 10. Although there is no upper limit, it is not advisable to set the value greater than 100 for performance reasons.

Limit
Defines the maximum amount of displayed objects in a business object list. Most of the list types in the system are limited to an upper boundary of 10,000 objects for performance reasons.

SortBy
Defines the sorting criteria and the sorting order of the objects in the business object list.

AvailableDynamicFieldFilters
Defines the list of dynamic fields by name which are available as filters.

Business Object Detail Views

The business object detail views can be organized into several families.
The following settings define the default column layout configuration for the detail view screens.
The following system configuration settings are relevant:

- AgentFrontend::CustomerCompanyDetailView###001-Framework
- AgentFrontend::CustomerUserDetailView###001-Framework
- AgentFrontend::KnowledgeBaseArticleDetailView###001-Framework
- AgentFrontend::TicketDetailView###001-Framework

The following settings define the default column layout configuration for the business object overview screens.
The following system configuration settings are relevant:

- AgentFrontend::CalendarOverview###001-Framework
- AgentFrontend::Dashboard###001-Framework
Fig. 50: An Example of the Ticket Detail View
![Dashboard Screen](image)

**Fig. 51: An Example of the Dashboard Screen**
The following settings define the default column layout configuration for the business object create screens.

Fig. 52: An Example of the Create Email Ticket Screen

The following system configuration settings are relevant:

- AgentFrontend::CustomerCompanyCreate###001-Framework
- AgentFrontend::CustomerUserCreate###001-Framework
- AgentFrontend::KnowledgeBaseArticleCreate###001-Framework
- AgentFrontend::StatisticCreateUpdateView###001-Framework
- AgentFrontend::StatisticReportCreateUpdateView###001-Framework
- AgentFrontend::TicketCreate::Email###001-Framework
- AgentFrontend::TicketCreate::Phone###001-Framework
- AgentFrontend::TicketCreate::Process###001-Framework
- AgentFrontend::TicketCreate::SMS###001-Framework

The following settings define the custom column layout configurations for adding additional widgets to a specific view. By default, these are empty settings. If additional widgets are added to them, they will be merged with the remaining settings for the corresponding view.
The following system configuration settings are relevant:

- AgentFrontend::CalendarOverview###100-Custom
- AgentFrontend::CustomerCompanyCreate###100-Custom
- AgentFrontend::CustomerCompanyDetailView###100-Custom
- AgentFrontend::CustomerUserCreate###100-Custom
- AgentFrontend::CustomerUserDetailView###100-Custom
- AgentFrontend::Dashboard###100-Custom
- AgentFrontend::KnowledgeBaseArticleCreate###100-Custom
- AgentFrontend::KnowledgeBaseArticleDetailView###100-Custom
- AgentFrontend::StatisticCreateUpdateView###100-Custom
- AgentFrontend::StatisticReportCreateUpdateView###100-Custom
- AgentFrontend::StatisticReportOverview###100-Custom
- AgentFrontend::TicketCreate::Email###100-Custom
- AgentFrontend::TicketCreate::Phone###100-Custom
- AgentFrontend::TicketCreate::Process###100-Custom
- AgentFrontend::TicketCreate::SMS###100-Custom
- AgentFrontend::TicketDetailView###100-Custom

Each of the above settings has the same key structure:

**Type**
Type of the business object screen.

Possible values for the **Type** key:

- BusinessObjectCreate
- BusinessObjectDetailView
- BusinessObjectOverview

**BusinessObjectType**
Business object type behind the screen.

Possible values for the **BusinessObjectType** key:

- CustomerCompany
- CustomerUser
- Dashboard
- KnowledgeBaseArticle
- Statistic
- StatisticReport
- Ticket

**ColumnLayout**
The YAML configuration for different column views.

**See also:**
The detailed explanation of the **ColumnLayout** key can be found in the *Business Object Detail View YAML Configuration* chapter.
Business Object Detail View YAML Configuration

The YAML structure defines the content for the one, two or three column views. The definition contains the information about which widgets are displayed per default in each view.

```yaml
OneColumn:
  1:
    - Name: <WidgetName1>
    - Name: <WidgetName2>
    ...

TwoColumns:
  1:
    - Name: <WidgetName1>
    - Name: <WidgetName2>
    ...
  2:
    - Name: <WidgetName3>
    - Name: <WidgetName4>
    ...

ThreeColumns:
  1:
    - Name: <WidgetName1>
    - Name: <WidgetName2>
    ...
  2:
    - Name: <WidgetName3>
    - Name: <WidgetName4>
    ...
  3:
    - Name: <WidgetName5>
    - Name: <WidgetName6>
    ...

StripeSidebar:
  - Name: StripePeople
  ...
```

**Note:** The sidebar is only available for business objects of type Ticket.

Available widget names depend on the specific business object screen.

**CalendarOverview**
Possible widget names for the *Calendar Overview* screen.

- AppointmentsToday
- AppointmentsThisWeek
- AppointmentsThisMonth

**CustomerCompanyCreate**
Possible widget names for the *Add Customer* screen.

- CreateProperties

**CustomerCompanyDetailView**
Possible widget names for the *Customer* detail view screen.
Possible widget names for the Add Customer User screen.

CreateProperties

Possible widget names for the Customer User detail view screen.

CustomerInformation
EscalatedTickets
OpenTickets
ReminderTickets
TicketList

Possible widget names for the Dashboard screen.

CalendarView
CustomerList
CustomerUserList
DashboardIframe
DashboardImage
DashboardPeople
EscalatedTickets
KnowledgeBaseArticleList
News
OpenTickets
QueueOverview
RecentlyUpdatedKnowledgeBaseArticles
ReminderTickets
TicketList
UnlockedTickets

Possible widget names for the Add Knowledge Base Article screen.

CreateProperties

Possible widget names for the Knowledge Base Article detail view screen.

KBAAttachments
KBAItemField1
KBAItemField2
KBAItemField3
KBAItemField4
KBAItemField5
KBAItemField6
KBALinkedObjects::CalendarAppointment
KBALinkedObjects::KnowledgeBaseArticle

(continues on next page)
 KBALinkedObjects::Ticket
KBAProperties
KBARating
People

**StatisticCreateUpdateView**
Possible widget names for the *Create Statistic* and *Edit Statistic* screens.

CreateUpdateProperties

**StatisticReportCreateUpdateView**
Possible widget names for the *Create Report* and *Edit Report* screens.

CreateUpdateProperties

**StatisticReportOverview**
Possible widget names for the *Statistics and Reports* overview screen.

StatisticLists
StatisticMetrics
StatisticReportList
StatisticStatic

**TicketCreate::Email**
Possible widget names for the *Create Email Ticket* screen.

CreateProperties
CustomerHistory
CustomerInformation
CustomerUserHistory

**TicketCreate::Phone**
Possible widget names for the *Create Phone Ticket* screen.

CreateProperties
CustomerHistory
CustomerInformation
CustomerUserHistory

**TicketCreate::SMS**
Possible widget names for the *Create SMS Ticket* screen.

CreateProperties
CustomerHistory
CustomerInformation
CustomerUserHistory

**TicketCreate::Process**
Possible widget names for the *Create Process Ticket* screen.

CreatePropertiesProcess
ProcessInformation

**TicketDetailView**
Possible widget names for the ticket detail view screen.
Widget Type Definitions

Each widget type provides its own definition that will be inherited by any widget that uses it. For example, let’s take a look how this definition looks for one of the dashboard widget types:

```yaml
Type: BusinessObject
BusinessObjectType: Ticket
ActiveFilters: {}
FilterPresets: {}
Columns: {}
Collapsed: 0
Hidden: 0
```

**Type**
Defines whether the related widget type handles a business object or other data. `BusinessObject` is currently the only supported type, but this might be extended by installed packages.

**BusinessObjectType**
 This key defines the type of object the configuration is valid for. Based on this type, the front end and the back end will handle this object differently. New business object types may also be added by installed packages.

**ActiveFilters**
 This key defines the default filters that are active when displaying the business object list. It contains a hash of filters. A single filter also has a hash structure that normally contains a filter value. The value can be a string, array or hash for special filters like dates.

---

Fig. 53: An Example of the Ticket List Widget Type in the Dashboard Screen

The configuration of this widget type is located in the `AgentFrontend::Dashboard::WidgetType###TicketList` system configuration setting in YAML format.

A widget type definition contains the following general YAML keys:
ActiveFilters:
  <FilterName1>:
    Value: <Value>
  <FilterName2>:
    Value: <Value>

The following example illustrates two active filters which are showing only tickets that were closed recently:

ActiveFilters:
  StateType:
    Value: Closed
  TicketClose_DateTimeRelative:
    Value:
      Start: Before
      Point: 1
      Format: minute

See also:
The list of possible filter names can be found in the Filter Names chapter.

FilterPresets
A hash of default filter preset names with a defined set of filters.

FilterPresets:
  "<Filter Preset Name 1>":
    <FilterName1>:
      Value: <Value>
  "<Filter Preset Name 2>":
    <FilterName2>:
      Value: <Value>

The following example illustrates three separate filter presets: locked, unlocked and unread tickets.

FilterPresets:
  Locked:
    LockIDs:
      Value: - 2
  Unlocked:
    LockIDs:
      Value: - 1
  Unread:
    AgentTicketFlagSeen:
      Value: Unread

See also:
The list of possible filter names can be found in the Filter Names chapter.
Widget Definitions

Each widget provides its own definition that will be merged with the configuration of the inherited widget type. For example, let’s take a look at what this definition looks like for one of the widgets in the customer business object detail view:

![Reminder Tickets Widget in the Customer Detail View](image)

Fig. 54: An Example of the Reminder Tickets Widget in the Customer Detail View

The configuration of this widget is located in the `AgentFrontend::CustomerCompanyDetailView::Widget###ReminderTickets` system configuration setting in YAML format.

A widget definition contains the following general YAML keys:

```
Title: Reminders # Translatable
Active: 1
IsVisible: 1
IsAlwaysPresent: 0
IsDuplicatable: 1
Config: {}
```

**Active**
Defines whether the widget is active.

**Collapsed**
Defines whether the form group is collapsed by default.

**Config**
This key contains the complete default configuration of a widget. If left empty, the configuration of the widget type is used.

**Hidden**
Defines whether the widget is hidden.

**IsVisible**
Defines whether the widget is visible per default.

**IsAlwaysPresent**
Defines whether the widget can be removed from a view by the user.

**IsDuplicatable**
Defines whether the widget can be placed in a view multiple times.

**Title**
Defines the displayed title of a widget in the header section.

**Note:** In some places, you may notice `# translatable` comments that are displayed next to the text values. This marker is only used for the internal collection of translatable strings and has no effect in the changed settings. Adding this comment to modified values will not result in the actual text translation.
The visible text in the configuration can be translated into other languages with custom language files. For more information, see the *Custom Language File* chapter.

If the widget contains a business object list:

**Columns**

A hash with column names that are displayed in the business object list.

```
Columns:
  <ColumnName1>:
    IsVisible: <Value>
  <ColumnName2>:
    IsVisible: <Value>
```

Possible values for the `IsVisible` key:

- 0 = not available
- 1 = available but not visible
- 2 = available and visible

**See also:**

The list of possible column names can be found in the *Column Names* chapter.

**ArticleDynamicFields**

Contains a list of dynamic fields to be displayed in the article preview. The dynamic fields must be added without the prefix `DynamicField_`.

```
ArticleDynamicFields:
  - <FieldName1>
  - <FieldName2>
  ...
```

**ArticleViewType**

Defines whether the articles should be displayed collapsed or expanded by default.

```
ArticleViewType: collapsed
```

**DefaultColumnOrder**

An array of column names that defines the default column order in the business object list.

```
DefaultColumnOrder:
  - <ColumnName1>
  - <ColumnName2>
  ...
```

**DefaultFilterPresetFields**

Defines the default filter preset fields and their values.

```
DefaultFilterPresetFields:
  <FilterName1>:
    Value: '<Value>'
  <FilterName2>:
    Value: '<Value>'
```

**CountPolling**

This determines whether the organizer item queries the current number of its objects in the background and displays them in a speech bubble next to the icon.
CountPolling: ShowNumberFoundItems

Possible values for the CountPolling key:

- 0 = do not show number
- ShowNumberFoundItems = show number of found tickets

Header

This key contains the definition of information fields to be displayed in the header section of the agent business cards.

```yaml
Header:
  Properties:
  - Name: Avatar
    IsVisible: 1
```

HideAvailableFilters

This key contains a list of filter names that are not present in the list of available filters in the widget configuration.

```yaml
HideAvailableFilters:
  - <FilterName1>
  - <FilterName2>
  - <FilterName3>
```

The following example hides filters for the ticket customer, text search and ticket type:

```yaml
HideAvailableFilters:
  - CustomerID
  - Fulltext
  - TypeIDs
```

Identifier

Defines the property that will be used as a full-width card in the Properties widget. The property must be a unique identifier of the business object. If defined this property can be configured separately from other cards.

```yaml
Identifier:
  Name: TicketNumber
  IsVisible: 0
```

InitialLimit

Defines the limit of displayed agents in the stripe sidebar in the collapsed state.

ItemsPerPage

A number that defines the number of items per page or load.

Limit

A number that defines the maximum amount of displayed items.

LastUsedFilterPreset

Defines the last used filter preset of a widget. This will be automatically applied when the widget is loaded.

```yaml
LastUsedFilterPreset: "Reminder Reached"
```
Properties

The properties are special containers (cards) within a widget that contain detailed information about a specific value of the associated business object. The cards have the option to allow editing of the associated value directly, such as setting a new queue or the owner of a ticket. The properties list in the configuration contains the name and default visibility state of every property.

Properties:
- **Name**: ArchiveFlag
  - **IsVisible**: 1
- **Name**: Created
  - **IsVisible**: 1
- **Name**: CustomerTickets
  - **IsVisible**: 1
- **Name**: Lock
  - **IsVisible**: 1
  - **IsInlineEditable**: 0
- **Name**: Watch
  - **IsVisible**: 1
  - **IsInlineEditable**: 0

Possible values for the **IsVisible** key:
- **0** = not available
- **1** = available but not visible
- **2** = available and visible

Possible values for the **IsInlineEditable** key:
- **0** = not editable
- **1** = editable

**ShowPropertyOnEmpty**

Defines whether the customer or customer user business card is displayed in the customer information widget when it does not contain a value.

**ShowPropertyOnEmpty**: 1

**Note**: This key is supported only by the customer and customer user business cards and cannot be used for regular property cards.

**SortBy**

Defines the sort order of the business object list. To sort by multiple columns simultaneously, add each sort column as a separate element in the configuration.

**SortBy**:
- **Column**: Created
  - **Direction**: Down
- **Column**: Priority
  - **Direction**: Up

**See also**:

The list of sortable columns per business object type can be found in the `Column Names` chapter. Look for the (sortable) marker next to the column name.
Note: Only certain business object types support the multi-sorting feature, please see Column Names chapter for more information.

Forms

The configurable forms can be used in many screens, including ticket and article actions. The form configuration will define the fields and properties displayed for each action. Here is the form of Add Note action as an example.

The configuration of this form is located in the Forms###AgentFrontend::Ticket::Action::Note system configuration setting in YAML format.

In general a form can contain a list of fields and form groups. Both are optional and can be added multiple times.

---
- <Field>
  - ...
- <FormGroup>
  - ...

The field is the basic element of a form. A field can have multiple properties.

- Name: <InternalName>
  Label: <Displayed Label>
  Config:
    - <Parameter>:
      - <value>
      - ...
  Default: <default value>
  Description: <some description>
  Disabled: 1
  Hidden: 1
  Hint: <some hint>
  Required: 1
  Props:
    - MaxLength: 20

The following keys and values can be used for the fields.

**Warning:** The keys marked with the * (mandatory) symbol are mandatory. Skipping them might result in broken configuration and/or non-functional features.

If a non-mandatory key is missing from the form field configuration, it will assume the built-in default behavior.

**Warning:** Most forms and their fields are subject to existing Access Control Lists (ACL). These rules have the final word on which values can be used in the fields and which will overwrite the form configuration.

**Name** *

Defines the internal name of the field. This key has pre-defined values for each form.
Add Note

Write Article

* Subject

* Body

Attachments

Drop files here or click to select files

Time Units (work units)

☐ Is visible to customer

☐ Mark article as important

Save as New Draft

Cancel

Send

Fig. 55: Form of Add Note Action
See also:

The list of possible field names can be found in the Form Fields chapter.

The dynamic fields can also be added to the form by using the DynamicField_prefix and the name of the dynamic field. For example, if there is a dynamic field with the name TestDropdown, you need to use DynamicField_TestDropdown in the form configuration.

Label

Defines the label of the field displayed above the input element. If omitted, the default label is displayed for the field specified with Name.

Note: In some places, you may notice # translatable comments that are displayed next to the text values. This marker is only used for the internal collection of translatable strings and has no effect in the changed settings. Adding this comment to modified values will not result in the actual text translation.

The visible text in the configuration can be translated into other languages with custom language files. For more information, see the Custom Language File chapter.

Config

Defines the values that can be selected in a drop-down list. The values depend on the field specified with Name.

- Name: StateID
  Config:
  - StateType:
    - open
    - pending auto
    - pending reminder
    - closed
  Default: 4 # open

Note: The Config key is not applicable for all fields. It is only supported for specific fields. If the key is missing from the default configuration, it is most likely not supported by that field.

Default

Defines the default value for the field. If the form field refers to an ID, the default value will be an ID from the appropriate database table.

In the example above, the state type open has the id=4 in the ticket_state table.

Note: The Default key must refer to a constant value. Substituting it with search terms, regular expressions or similar constructs is currently not supported.

Description

Defines the description of the field. The description is displayed next to the label as a bubble icon and shows a tooltip when the mouse is hovered.

Disabled

Defines whether the field is displayed in a disabled state. A disabled field means that the field is read-only. The field value will, however, be sent by submitting the form.

Hidden

Defines whether the field will be hidden. A hidden field is still part of the form and its value will be sent
by submitting the form, but it will not be displayed in the user interface.

**Hint**
Defines explanation text for the field which is displayed below the input element as help text.

**Required**
Defines whether the field is mandatory. A mandatory field cannot be empty.

**Props**
Props are like traits or additional behavior of the front end components, and normally they are used in the source code by the developers, but the configurable form feature now allows modifying their values.

**See also:**
For the complete list of props, see the API documentation of the design system.

The fields can be grouped into form groups. The form groups can contain other form groups or fields. The form groups can be displayed in one, two or three column layouts.

```plaintext
- Label: <Displayed Label>
  Collapsible: 1
  Collapsed: 1
  Fields:
  - <Field>
    - ...
    - <FormGroup>
    - ...
  - ColumnLayout: N # Repeated N-times (2 or 3)
    Fields:
    - <Field>
    - ...
    - <FormGroup>
    - ...
```

The following keys and values can be used for the form groups.

**Warning:** The keys marked with the * symbol are mandatory. Skipping them might result in broken configuration and/or non-functional features.

**Label** *
Defines the label of the form group.

**Collapsible**
Defines whether the form group is collapsible.

**Collapsed**
Defines whether the form group is collapsed by default.

**Fields** *
Lists the fields and form groups that belong to this form group. There is no limitation on how many fields can be added or how many form groups can be nested.

If the form group has no fields and acts only as placeholder, then this key has to be defined as an empty list.

```plaintext
- Label: Placeholder Form Group
  Fields: []
```
ColumnLayout

Defines the grid in the form component. The fields are displayed in one column layout by default. This key can be used only for the two or three column layouts. The width of the columns are the same, 50%-50% for two column layout and 33%-33%-33% for three column layout.

```
- Label: Two Column Example
  - ColumnLayout: 2
    Fields:
    - Name: IsVisibleForCustomer
    - ColumnLayout: 2
      Fields:
      - Name: MarkAsImportant
```

Business Cards

Business cards are used throughout the system to display additional information about agent users.

![Business Card Example](image)

Fig. 56: An Example of the Ticket Owner Business Card

The configuration of this business card is located in the `AgentFrontend::BusinessCard::User` system configuration setting in YAML format.

**AdditionalProperties**

This key is used to show additional user fields in the agent business card. Each field is referenced by its `Name` key. It is possible to customize its `DisplayName` and control visibility via the `IsVisible` flag (1 shows it, 0 hides it).

**Contact**

This key defines contact options in agent business cards. Each property item is referencing a user field with some contact information via the `Name` key (i.e. `UserEmail`), an icon to show the user (regular weight only!) and can be made visible via the `IsVisible: 1` key. By default, clicking on these contact icons will copy the value of the user field to the clipboard.

Alternatively, the `Link` key can be specified to show a URL instead. Each `Link` key supports the TemplateToolkit syntax for replacements, and will receive all of the field values of the user via the `Data` variable.
Chat
This key adds an icon to call the chat function directly from a business card.

Header
This key defines the information shown in the header of a business card. Each field is referenced by its Name key. It is only possible to control the visibility via IsVisible flag (1 shows it; 0 hides it).

10.8.5 Business Object Reference
This chapter lists all possible values for specific business object configurations. The values can be different in each setting.

Column Names
The columns can be referenced by their name. This section lists the possible column names for specific business object types.

Note: The columns marked with the symbol are sortable. The default limit for the multi-sorting feature is a maximum of three columns at a time, unless explicitly mentioned differently.

ChatRequest
Possible column names:

- Action
- Channel
- CreateTime
- Description
- RequesterName
- RequesterType
- Type

Note: This business object type does not support the multi-sorting feature. Sorting is supported only by a single column at a time.

CustomerCompany
Possible column names depend on the available fields in the CustomerCompany###Map configuration array. For the default database back end, these include:

- CustomerCompanyCity
- CustomerCompanyComment
- CustomerCompanyCountry
- CustomerCompanyName
- CustomerCompanyStreet
- CustomerCompanyURL
- CustomerCompanyZIP
• CustomerID
• ValidID

Additional column names which are always available:
• ClosedTickets
• Edit
• OpenTickets

**CustomerUser**

Possible column names depend on the available fields in the `CustomerUser###Map` and the `CustomerCompany###Map` configuration arrays. For the default database back ends, these include:
• CustomerCompanyCity
• CustomerCompanyComment
• CustomerCompanyCountry
• CustomerCompanyName
• CustomerCompanyStreet
• CustomerCompanyURL
• CustomerCompanyValidID
• CustomerCompanyZIP
• CustomerID
• UserCity
• UserComment
• UserCountry
• UserCustomerID
• UserEmail
• UserFax
• UserFirstname
• UserLastname
• UserLogin
• UserMobile
• UserPassword
• UserPhone
• UserStreet
• UserTitle
• UserZip
• ValidID

Additional column names which are always available:
• Chat
• ClosedTickets
• CreateTicket
• Edit
• OpenTickets
• SwitchToCustomer

FormDraft
Possible column names:
• Delete
• Saved
• Title
• Type

KnowledgeBaseArticle
Possible column names:
• Approved
• Category
• Changed
• ChangedBy
• ContentType
• Created
• CreatedBy
• Helpful
• Language
• NotHelpful
• Number
• State
• Title
• Valid

KnowledgeBaseArticleAttachment
Possible column names:
• ContentType
• CreateTime
• Download
• Filename
• Filesize
• Preview

Note: This business object type does not support the multi-sorting feature. Sorting is supported only by a single column at a time.
Search
Possible column names:
- Result
- Source
- Type

Statistic
Possible column names:
- Changed
- Created
- ObjectName
- ObjectType
- StatNumber
- StatType
- Title
- Valid

Note: This business object type does not support the multi-sorting feature. Sorting is supported only by a single column at a time.

StatisticReport
Possible column names:
- ChangeTime
- CreateTime
- CronDefinition
- Description
- Language
- Name
- Valid

Note: This business object type does not support the multi-sorting feature. Sorting is supported only by a single column at a time.

Ticket
Possible column names:
- Age
- ArticleTree
- Changed
- Created
- CreatedBy
- CustomerCompanyName
- CustomerID
- CustomerName
- CustomerUserID
- EscalationResponseTime
- EscalationSolutionTime
- EscalationTime
- EscalationUpdateTime
- Lock
- Owner
- PendingTime
- Priority
- Queue
- Responsible
- Sender
- Service
- SLA
- State
- Subject
- TicketNumber
- Title
- Type
- Watch

**TicketArticle**

Possible column names:

- ArticleNumber
- ArticleProperties
- Attachment
- Channel
- CreateTime
- Direction
- Sender
- Status
- Subject
**Note:** This business object type does not support the multi-sorting feature. Sorting is supported only by a single column at a time.

**TicketAttachment**

Possible column names:

- ContentType
- CreateTime
- Direction
- Download
- Filename
- Filesize
- Preview

**Note:** This business object type does not support the multi-sorting feature. Sorting is supported only by a single column at a time.

**WebNotification**

Possible column names:

- CreateTime
- Name
- ObjectReference
- ObjectType
- Subject

**Filter Names**

Filters can be referenced by their names. This section lists the possible filter names for specific business object types. Each filter has a value type displayed next to it that can be used to quickly jump to the reference.

**See also:**

The list of possible filter value types can be found in the *Filter Value Types* chapter.

**Note:** The filters marked with the × (multiple) symbol support array values for multiple matches.

**ChatRequest**

The following filter names and values can be used for the *Chat Request* business object lists.

**ChannelIDs:** array ×

 Defines the IDs of the chat channels.

**Create_DateTimeRange:** absolute date

 Defines the absolute range of the chat request creation time.

**Create_DateTimeRelative:** relative date

 Defines the relative range of the chat request creation time.
**RequesterType:** array

Defines the type of the user that initiated the chat request.

- **User**
  - The user is an agent.

- **Customer**
  - The user is a customer user.

- **Public**
  - The user is anonymous (public user).

**Type:** array

Defines the type of the chat request.

- **Invitation**
  - The invitation to a chat initiated by another agent user.

- **Request**
  - A chat request initiated by a customer user or a public user.

**CustomerCompany**

The following filter names and values can be used for the Customer business object lists.

- **CustomerCompanyCity:** string
  - Defines the text when searching for the customer city. Wildcard * can be used. The search is case insensitive.

- **CustomerCompanyComment:** string
  - Defines the text when searching for the customer comment. Wildcard * can be used. The search is case insensitive.

- **CustomerCompanyCountry:** string
  - Defines the text when searching for the customer country. Wildcard * can be used. The search is case insensitive.

- **CustomerCompanyName:** string
  - Defines the text when searching for the customer name. Wildcard * can be used. The search is case insensitive.

- **CustomerCompanyStreet:** string
  - Defines the text when searching for the customer street. Wildcard * can be used. The search is case insensitive.

- **CustomerCompanyURL:** string
  - Defines the text when searching for the customer URL. Wildcard * can be used. The search is case insensitive.

- **CustomerCompanyZIP:** string
  - Defines the text when searching for the customer postcode. Wildcard * can be used. The search is case insensitive.

- **CustomerID:** string
  - Defines the text when searching for the customer ID. Wildcard * can be used. The search is case insensitive.

- **ValidID:** array

  Defines the IDs of the customer validity. By default, these include:

  - 1 = valid
  - 2 = invalid
The following filter names and values can be used for the Customer User business object lists.

**CustomerCompany_CustomerCompanyCity:** string
- Defines the text when searching for the customer city. Wildcard * can be used. The search is case insensitive.

**CustomerCompany_CustomerCompanyComment:** string
- Defines the text when searching for the customer comment. Wildcard * can be used. The search is case insensitive.

**CustomerCompany_CustomerCompanyCountry:** string
- Defines the text when searching for the customer country. Wildcard * can be used. The search is case insensitive.

**CustomerCompany_CustomerCompanyName:** string
- Defines the text when searching for the customer name. Wildcard * can be used. The search is case insensitive.

**CustomerCompany_CustomerCompanyStreet:** string
- Defines the text when searching for the customer street. Wildcard * can be used. The search is case insensitive.

**CustomerCompany_CustomerCompanyURL:** string
- Defines the text when searching for the customer URL. Wildcard * can be used. The search is case insensitive.

**CustomerCompany_CustomerCompanyZIP:** string
- Defines the text when searching for the customer postcode. Wildcard * can be used. The search is case insensitive.

**CustomerCompany_ValidID:** array ×
- Defines the IDs of the customer validity. By default, these include:
  - 1 = valid
  - 2 = invalid
  - 3 = invalid-temporarily

**CustomerID:** string
- Defines the text when searching for the related customer ID. Wildcard * can be used. The search is case insensitive.

**UserCity:** string
- Defines the text when searching for the customer user city. Wildcard * can be used. The search is case insensitive.

**UserComment:** string
- Defines the text when searching for the customer user comment. Wildcard * can be used. The search is case insensitive.

**UserCountry:** string
- Defines the text when searching for the customer user country. Wildcard * can be used. The search is case insensitive.

**UserCustomerID:** string
- Defines the text when searching for the customer user ID. Wildcard * can be used. The search is case insensitive.
UserEmail: string
Defines the text when searching for the customer user email address. Wildcard * can be used. The search is case insensitive.

UserFax: string
Defines the text when searching for the customer user fax number. Wildcard * can be used. The search is case insensitive.

UserFirstname: string
Defines the text when searching for the customer user first name. Wildcard * can be used. The search is case insensitive.

UserLastname: string
Defines the text when searching for the customer user last name. Wildcard * can be used. The search is case insensitive.

UserLogin: string
Defines the text when searching for the customer user login name (username). Wildcard * can be used. The search is case insensitive.

UserMobile: string
Defines the text when searching for the customer user mobile number. Wildcard * can be used. The search is case insensitive.

UserPhone: string
Defines the text when searching for the customer user phone number. Wildcard * can be used. The search is case insensitive.

UserStreet: string
Defines the text when searching for the customer user street. Wildcard * can be used. The search is case insensitive.

UserTitle: string
Defines the text when searching for the customer user title. Wildcard * can be used. The search is case insensitive.

UserZip: string
Defines the text when searching for the customer user postcode. Wildcard * can be used. The search is case insensitive.

ValidID: array *
Defines the IDs of the customer user validity. By default, these include:
• 1 = valid
• 2 = invalid
• 3 = invalid-temporarily

KnowledgeBaseArticle
The following filter names and values can be used for the Knowledge Base Article business object lists.

Approved: boolean
Defines whether the article has been approved.

CategoryIDs: array *
Defines the IDs of the article categories.

CreatedUserIDs: array *
Defines the IDs of the agents who created the article.
ItemChange_DateTimeRange: **absolute date**
Defines the absolute range of the article change time.

ItemChange_DateTimeRelative: **relative date**
Defines the relative range of the article change time.

ItemCreate_DateTimeRange: **absolute date**
Defines the absolute range of the article create time.

ItemCreate_DateTimeRelative: **relative date**
Defines the relative range of the article create time.

**Keyword:** **string**
Defines the text when searching for the article keyword. Wildcard * can be used. The search is case insensitive.

**LanguageIDs:** **array ×**
Defines the IDs of the article language. By default, these include:
- en
- de

**LastChangedUserIDs:** **array ×**
Defines the IDs of the agents who changed the article last.

**Number:** **string**
Defines the text when searching for the article number. Wildcard * can be used.

**Rate:** **comparison**
Compares the article rating in percentage against the supplied value.

**StateIDs:** **array ×**
Defines the IDs of the article state. By default, these include:
- 1 = internal (agent)
- 2 = external (customer)
- 3 = public (all)

**Title:** **string**
Defines the text when searching for the article title. Wildcard * can be used. The search is case insensitive.

**ValidIDs:** **array ×**
Defines the IDs of the article validity. By default, these include:
- 1 = valid
- 2 = invalid
- 3 = invalid-temporarily

**Votes:** **comparison**
Compares the number of votes for the article against the supplied value.

**What:** **string**
Defines the text when searching through the article full text. Wildcard * can be used. The search is case insensitive.

**KnowledgeBaseArticleAttachment**
The following filter names and values can be used for the Knowledge Base Article Attachment business object lists.
Create **_DateTimeRange_**: *absolute date*
Defines the absolute range of the attachment create time.

Create **_DateTimeRelative_**: *relative date*
Defines the relative range of the attachment create time.

**Filename**: *string*
Defines the text when searching for the attachment filename. Wildcard * and regular expressions can be used. The search is case insensitive.

**Type**: *string*
Defines the text when searching for the attachment MIME type. Wildcard * and regular expressions can be used. The search is case insensitive.

**Search**
The following filter names and values can be used for the Search business object lists.

**Appointment Calendar**: *string*
Defines the calendar in which to search for the appointment. Please set it to a string value formatted as:

**CalendarID#**
Where # is the ID of the calendar, i.e. CalendarID1.

**Warning**: This filter is applicable only when the filter DocumentType is defined and set to the value Appointment. Otherwise, it will be ignored.

**Appointment Schedule**: *string*
Defines the type of the appointment.

**AllDay**
The appointment is an all day appointment (i.e. it does not have the time component).

**TimeFrame**
The appointment is a time frame appointment (i.e. it has the time component).

**Warning**: This filter is applicable only when the filter DocumentType is defined and set to the value Appointment. Otherwise, it will be ignored.

**DocumentType**: *string*
Defines the type of document to be searched. By default, these include:

- **Appointment** = Calendar Appointments
- **FAQ** = Knowledge Base Articles
- **Ticket** = Tickets

**FAQ FAQ Categories**: *string*
Defines the knowledge base article category for which you are searching. Please set it to a string value formatted as:

**CategoryID#**
Where # is the ID of the category, i.e. CategoryID1.
Warning: This filter is applicable only when the filter `DocumentType` is defined and set to the value `FAQ`. Otherwise, it will be ignored.

**FAQ Languages:** *string*

Defines the knowledge base article language for which you are searching. Please set it to a string value formatted as:

```plaintext
LanguageID#
```

Where `#` is the ID of the language, i.e. `LanguageID1`.

Warning: This filter is applicable only when the filter `DocumentType` is defined and set to the value `FAQ`. Otherwise, it will be ignored.

**FAQ Has attachments:** *string*

Defines the presence of knowledge base article attachments.

HasAttachments

The article has at least one attachment.

Warning: This filter is applicable only when the filter `DocumentType` is defined and set to the value `FAQ`. Otherwise, it will be ignored.

**FAQ State:** *string*

Defines the knowledge base article state for which you are searching. Please set it to a string value formatted as:

```plaintext
StateID#
```

Where `#` is the ID of the state, i.e. `StateID1`.

Warning: This filter is applicable only when the filter `DocumentType` is defined and set to the value `FAQ`. Otherwise, it will be ignored.

**Ticket Has attachments:** *string*

Defines the presence of the ticket article attachments.

HasAttachments

The ticket article has at least one attachment.

Warning: This filter is applicable only when the filter `DocumentType` is defined and set to the value `Ticket`. Otherwise, it will be ignored.

**Ticket Owner:** *string*

Defines the ID of the agent who is the ticket owner. Please set it to a string value formatted as:

```plaintext
OwnerID#
```

Where `#` is the ID of the agent, i.e. `OwnerID1`.

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**Ticket Priority:** *string*
Defines the ID of the ticket priority. Please set it to a string value formatted as:

```
PriorityID#
```
Where # is the ID of the priority, i.e. *PriorityID1*.

**Warning:** This filter is applicable only when the filter `DocumentType` is defined and set to the value *Ticket*. Otherwise, it will be ignored.

**Ticket Queue:** *string*
Defines the ID of the ticket queue. Please set it to a string value formatted as:

```
QueueID#
```
Where # is the ID of the queue, i.e. *QueueID1*.

**Warning:** This filter is applicable only when the filter `DocumentType` is defined and set to the value *Ticket*. Otherwise, it will be ignored.

**Ticket Responsible:** *string*
Defines the ID of the agent who is the ticket responsible. Please set it to a string value formatted as:

```
ResponsibleID#
```
Where # is the ID of the agent, i.e. *ResponsibleID1*.

**Warning:** This filter is applicable only when the filter `DocumentType` is defined and set to the value *Ticket*. Otherwise, it will be ignored.

**Ticket Sender type:** *string*
Defines the sender of the ticket articles.

- **SenderTypeAgent**
  The sender of the ticket article is an agent user.

- **SenderTypeCustomer**
  The sender of the ticket article is a customer user.

- **SenderTypeSystem**
  The sender of the ticket article is a system user.

**Warning:** This filter is applicable only when the filter `DocumentType` is defined and set to the value *Ticket*. Otherwise, it will be ignored.

**Ticket Service Level Agreement (SLA):** *string*
Defines the ID of the ticket SLA. Please set it to a string value formatted as:
SLAID#  
Where # is the ID of the SLA, i.e. SLAID1.

**Warning:** This filter is applicable only when the filter `DocumentType` is defined and set to the value `Ticket`. Otherwise, it will be ignored.

**Ticket Service:** *string*  
Defines the ID of the ticket service. Please set it to a string value formatted as:

ServiceID#  
Where # is the ID of the service, i.e. ServiceID1.

**Warning:** This filter is applicable only when the filter `DocumentType` is defined and set to the value `Ticket`. Otherwise, it will be ignored.

**Ticket State:** *string*  
Defines the ID of the ticket state. Please set it to a string value formatted as:

StateID#  
Where # is the ID of the state, i.e. StateID1.

**Warning:** This filter is applicable only when the filter `DocumentType` is defined and set to the value `Ticket`. Otherwise, it will be ignored.

**Ticket Visible to customer:** *string*  
Defines whether the ticket articles are visible to the customer user.

isVisibleForCustomer  
Ticket article is visible to the customer user.

**Warning:** This filter is applicable only when the filter `DocumentType` is defined and set to the value `Ticket`. Otherwise, it will be ignored.

**Statistic**  
The following filter names and values can be used for the Statistic business object lists.

**StatNumber:** *string*  
Defines the text when searching for the statistic number. Wildcard * can be used.

**StatType:** *array*  
Defines the statistic type for which you are searching.

  * static  
    The statistic is of the static type.

  * dynamic  
    The statistic is of the dynamic type.

**Title:** *string*  
Defines the text when searching for the statistic name. Wildcard * can be used. The search is case insensitive.
ObjectName: array
  Defines the statistic object name to be searched. By default, these include:
  • Ticketlist
  • TicketAccountedTime
  • TicketAccumulation
  • TicketSolutionResponseTime
  • FAQAccess
  • StateAction

ObjectType: array
  Defines the statistic object type to be searched.
  
  DynamicList
    The object type is a list.
  
  DynamicMatrix
    The object type is a matrix.
  
  Static
    The object type is static.

Valid: array
  Defines the IDs of the statistic validity. By default, these include:
  • 1 = valid
  • 0 = invalid

StatisticReport
  The following filter names and values can be used for the Report business object lists.

  Name: string
    Defines the text when searching for the report name. Wildcard * can be used. The search is case insensitive.

  Description: string
    Defines the text when searching for the report description. Wildcard * can be used. The search is case insensitive.

  LanguageID: string
    Defines the report language code, i.e. de.

  ValidID: array
    Defines the IDs of the report validity. By default, these include:
    • 1 = valid
    • 2 = invalid
    • 3 = invalid-temporarily

Ticket
  The following filter names and values can be used for the Ticket business object lists.

  AgentCreator: boolean
    Defines whether the ticket was created by the current agent.

  AgentInvolved: boolean
    Defines whether the current agent is involved in the ticket.
AgentOwner: **boolean**  
Defines whether the current agent is the ticket owner while the ticket is locked.

AgentQueues: **boolean**  
Defines whether the ticket is in one of the subscribed queues of the current agent. Agents can subscribe to queues via their *My Queues* personal preference.

AgentResponsible: **boolean**  
Defines whether the current agent is the ticket responsible.

AgentServices: **boolean**  
Defines whether the ticket has one of the subscribed services of the current agent. Agents can subscribe to services via their *My Services* personal preference.

AgentTicketFlagSeen: **string**  
Defines whether the current agent has read the ticket.

   - Unread  
     All articles are unread by the current agent.

   - Read  
     All articles are read by the current agent.

AgentWatcher: **boolean**  
Defines whether the current agent is watching the ticket.

ArticleCreate_DateTimeRange: **absolute date**  
Defines the absolute range of the ticket article creation time.

ArticleCreate_DateTimeRelative: **relative date**  
Defines the relative range of the ticket article creation time.

Chat_ChatterName: **string**  
Defines the text when searching for the chat article participants. Wildcard * can be used. The search is case insensitive.

Chat_MessageText: **string**  
Defines the text when searching for the chat article message. Wildcard * can be used. The search is case insensitive.

CreatedQueueIDs: **array**  
Defines the IDs of the queues where the ticket was originally created.

CreatedUserIDs: **array**  
Defines the IDs of the agents who created the ticket.

CustomerID: **string**  
Defines the text when searching for the ticket customer ID field. Use this filter for a complex search. Wildcard * can be used. The search is case insensitive.

CustomerIDRaw: **string**  
Defines the text when searching for the ticket customer ID field. Use this filter for an exact match. The search is case insensitive.

CustomerUserID: **string**  
Defines whether the ticket is accessible to a specific customer user in the external interface. Supports only exact match. The search is case insensitive.

CustomerUserLogin: **string**  
Defines the text when searching for the ticket customer user ID field. Use this filter for the complex search. Wildcard * can be used. The search is case insensitive.
CustomerUserLoginRaw: `string`
Defines the text when searching for the ticket customer user ID field. Use this filter for an exact match. The search is case insensitive.

Fulltext: `string`
Defines the text when searching for the ticket article full text. Wildcard * can be used. The search is case insensitive.

LockIDs: `array`
Defines the IDs of the ticket lock types. By default, these include:
- 1 = unlock
- 2 = lock
- 3 = tmp_lock

MIMEBase_AttachmentName: `string`
Defines the text when searching for the article attachment names. Wildcard * can be used. The search is case insensitive.

MIMEBase_Bcc: `string`
Defines the text when searching for the article blind carbon copy field. Wildcard * can be used. The search is case insensitive.

MIMEBase_Body: `string`
Defines the text when searching for the article body. Wildcard * can be used. The search is case insensitive.

MIMEBase_Cc: `string`
Defines the text when searching for the article carbon copy field. Wildcard * can be used. The search is case insensitive.

MIMEBase_From: `string`
Defines the text when searching for the article sender field. Wildcard * can be used. The search is case insensitive.

MIMEBase_Subject: `string`
Defines the text when searching for the article subject field. Wildcard * can be used. The search is case insensitive.

MIMEBase_To: `string`
Defines the text when searching for the article recipient field. Wildcard * can be used. The search is case insensitive.

OwnerIDs: `array`
Defines the IDs of the agents who are the ticket owners.

PriorityIDs: `array`
Defines the IDs of the ticket priorities.

QueueIDs: `array`
Defines the IDs of the ticket queues.

ResponsibleIDs: `array`
Defines the IDs of the agents who are the ticket responsibles.

SearchInArchive: `string`
Defines how the search behaves related to the ticket archive status.

ArchivedTickets
Search in archived tickets only.
**NotArchivedTickets**
Search in unarchived tickets only.

**AllTickets**
Search in all tickets.

**ServiceIDs:** `array` ×
Defines the IDs of the ticket services.

**SLAIDs:** `array` ×
Defines the IDs of the ticket SLAs.

**SMS_PhoneNumbers:** `string`
Defines the text when searching for the SMS article recipient phone numbers. Wildcard * can be used. The search is case insensitive.

**SMS_Text:** `string`
Defines the text when searching for the SMS article body. Wildcard * can be used. The search is case insensitive.

**SMS_TransactionNumbers:** `string`
Defines the text when searching for the SMS article transaction numbers. Wildcard * can be used. The search is case insensitive.

**StateIDs:** `array` ×
Defines the IDs of the ticket states.

**StateType:** `string`
Defines the ticket state category.

- **Open**
  Search in open tickets only.

- **Closed**
  Search in closed tickets only.

**Warning:** Despite its name, this filter does not apply to the actual ticket state types. Open and Closed are not valid state types. They are group constructs included for compatibility reasons. If a ticket is in a state which has any of the state types defined in the `Ticket::ViewableStateType` setting, it will be considered as open. Otherwise, it is considered as closed.

**StateTypeID:** `array` ×
Defines the IDs of the ticket state types.

**TicketChange_DateTimeRange:** `absolute date`
Defines the absolute range of the ticket change time.

**TicketChange_DateTimeRelative:** `relative date`
Defines the relative range of the ticket change time.

**TicketClose_DateTimeRange:** `absolute date`
Defines the absolute range of the ticket close time.

**TicketClose_DateTimeRelative:** `relative date`
Defines the relative range of the ticket close time.

**TicketCreate_DateTimeRange:** `absolute date`
Defines the absolute range of the ticket create time.
TicketCreate_DateTimeRelative: relative date
Defines the relative range of the ticket create time.

TicketEscalation_DateTimeRange: absolute date
Defines the absolute range of the ticket escalation time.

TicketEscalation_DateTimeRelative: relative date
Defines the relative range of the ticket escalation time.

TicketLastChange_DateTimeRange: absolute date
Defines the absolute range of the ticket last change time.

TicketLastChange_DateTimeRelative: relative date
Defines the relative range of the ticket last change time.

TicketNumber: string
Defines the text when searching for the ticket number. Wildcard * can be used.

TicketPending_DateTimeRange: absolute date
Defines the absolute range of the ticket pending time.

TicketPending_DateTimeRelative: relative date
Defines the relative range of the ticket pending time.

Title: string
Defines the text when searching for the ticket title. Wildcard * can be used. The search is case insensitive.

TypeIDs: array
Defines the text when searching for the ticket type.

WatchUserIDs: array
Defines the IDs of the agents who are watching the ticket.

TicketArticle
The following filter names and values can be used for the Ticket Article business object lists.

CommunicationChannelID: array
IsVisibleForCustomer: string
SenderTypeID: array

TicketAttachment
The following filter names and values can be used for the Ticket Attachment business object lists.

Article: string
Create_DateTimeRange: absolute date
Create_DateTimeRelative: relative date
Direction: array
Filename: string
Type: string

WebNotification
The following filter names and values can be used for the Web Notification business object lists.

Name: array
Subject: string
ObjectTypes: array
Filter Value Types

Every filter supports exactly one kind of a value type. Depending on this type, the following structures should be used to define it in the YAML configuration.

Boolean
A simple value that is considered either true or false.

```yaml
<FilterName1>
  Value: 1
<FilterName2>
  Value: 0
```

1
The filter is active (turned on).

0
The filter is inactive (turned off).

String
A text value, normally used when searching. Check specific filters for more details.

```yaml
<FilterName1>
  Value: simple
<FilterName2>
  Value: 'String with spaces or special characters like @$!+*'
```

Array
An array value normally used to search for multiple values at the same time.

```yaml
<FilterName1>
  Value:
  - 1
  - 2
  - 3
<FilterName2>
  Value:
  - 4
  - 5
```

Absolute date
The time range value between two absolute dates.

```yaml
<FilterName1>
  Value:
    Start: '2020-01-01 00:00:00'
    End: '2020-02-01 00:00:00'
<FilterName2>
  Value:
    Start: '2020-02-01 00:00:00'
    End: '2020-03-01 00:00:00'
```

Start
Absolute timestamp in ISO format for the start of the range (i.e. 2020-01-01 00:00:00). The
value must be supplied in the current system time zone (configurable via the `OTRSTimeZone` system setting).

**End**

Absolute timestamp in ISO format for the end of the range (i.e. 2020-02-01 00:00:00). The value must be supplied in the current system time zone (configurable via the `OTRSTimeZone` system setting).

**Relative date**

The time range value relative to the current time.

```
<FilterName1>:
  Value:
    Start: Last
    Point: 1
    Format: month

<FilterName2>:
  Value:
    Start: Before
    Point: 3
    Format: day
```

**Start**

The type of the relative range.

Possible values for the **Start** key:

- **Last** = within the last...
- **Before** = more than ...ago

**Point**

Integer value of the time unit (i.e. 3).

**Format**

Time unit of the relative range.

Possible values for the **Format** key:

- minute
- hour
- day
- week
- month
- year

**Comparison**

The comparison with the supplied value.

```
<FilterName1>:
  Value:
    Type: Equals
    Value: 25

<FilterName2>:
  Value:
    Start: GreaterThan
    Value: 50
```

**Type**

The type of the comparison.
Possible values for the Type key:

- Equals = equals ...
- GreaterThan = greater than ...
- GreaterThanEquals = greater than or equals ...
- SmallerThan = smaller than ...
- SmallerThanEquals = smaller than or equals ...

Value

Integer value to compare against (i.e. 25).

Form Fields

The form fields can be defined via their Name key. This section lists the values of the Name key for the specific settings.

See also:

Form fields can be made mandatory by setting their Required key to 1.

Possible field names for ticket actions:

Forms###AgentFrontend::Ticket::Action::Close
Configurable form for the Close Ticket action.

Link to the reference of the system configuration:

- Forms###AgentFrontend::Ticket::Action::Close

Possible values for the Name key of the form field:

```
AccountedTime
AddMessage
Attachments
Body
CustomerID
CustomerUserID
DynamicField
HistoryComment
HistoryType
InformAgent
InvolvedAgent
IsVisibleForCustomer
MarkAsImportant
Messages
OwnerID
PriorityID
QueueID
RelevantKnowledge
ResponsibleID
SenderType
ServiceID
SLAID
StandardTemplateID
StateID
Subject

(continues on next page)```
Forms###AgentFrontend::Ticket::Action::Customer
Configurable form for the \textit{Change Customer} action.

Link to the reference of the system configuration:

- Forms###AgentFrontend::Ticket::Action::Customer

Possible values for the \textit{Name} key of the form field:

- CustomerUserID
- CustomerID

Forms###AgentFrontend::Ticket::Action::EmailOutbound
Configurable form for the \textit{Send Email Outbound} action.

Link to the reference of the system configuration:

- Forms###AgentFrontend::Ticket::Action::EmailOutbound

Possible values for the \textit{Name} key of the form field:

- AccountedTime
- Attachments
- Bcc
- Body
- Cc
- CustomerID
- CustomerUserID
- DynamicField
- EmailSecurity
- From
- HistoryComment
- HistoryType
- InformAgent
- InvolvedAgent
- IsVisibleForCustomer
- MarkAsImportant
- Messages
- OwnerID
- PriorityID
- QueueID
- RelevantKnowledge
- ResponsibleID
- SenderType
- ServiceID
- Signature
- SLAID
- StandardTemplateID
- StateID
- Subject
- Title
- To
- UserID
- TicketID
Link to the reference of the system configuration:

• **Forms###AgentFrontend::Ticket::Action::FreeText**

Possible values for the Name key of the form field:

```
AccountedTime
AddMessage
Attachments
Body
CustomerID
CustomerUserID
DynamicField
HistoryComment
HistoryType
InformAgent
InvolvedAgent
IsVisibleForCustomer
MarkAsImportant
Messages
OwnerID
PriorityID
QueueID
RelevantKnowledge
ResponsibleID
SenderType
ServiceID
SLAID
StandardTemplateID
StateID
Subject
Title
TypeID
```

**Forms###AgentFrontend::Ticket::Action::Merge**

Configurable form for the Merge Ticket action.

Link to the reference of the system configuration:

• **Forms###AgentFrontend::Ticket::Action::Merge**

Possible values for the Name key of the form field:

```
AddMessage
Body
DynamicField
From
HistoryComment
HistoryType
IsVisibleForCustomer
MarkAsImportant
Messages
RelevantKnowledge
SenderType
Subject
To
```

**Forms###AgentFrontend::Ticket::Action::Move**

Configurable form for the Move Ticket action.

Link to the reference of the system configuration:
• **Forms###Agent::Frontend::Ticket::Action::Move**

Possible values for the `Name` key of the form field:

<table>
<thead>
<tr>
<th>Possible Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>AccountedTime</td>
</tr>
<tr>
<td>AddMessage</td>
</tr>
<tr>
<td>Attachments</td>
</tr>
<tr>
<td>Body</td>
</tr>
<tr>
<td>CustomerID</td>
</tr>
<tr>
<td>CustomerUserID</td>
</tr>
<tr>
<td>DynamicField</td>
</tr>
<tr>
<td>HistoryComment</td>
</tr>
<tr>
<td>HistoryType</td>
</tr>
<tr>
<td>InformAgent</td>
</tr>
<tr>
<td>InvolvedAgent</td>
</tr>
<tr>
<td>IsVisibleForCustomer</td>
</tr>
<tr>
<td>MarkAsImportant</td>
</tr>
<tr>
<td>Messages</td>
</tr>
<tr>
<td>OwnerID</td>
</tr>
<tr>
<td>PriorityID</td>
</tr>
<tr>
<td>QueueID</td>
</tr>
<tr>
<td>RelevantKnowledge</td>
</tr>
<tr>
<td>ResponsibleID</td>
</tr>
<tr>
<td>SenderType</td>
</tr>
<tr>
<td>ServiceID</td>
</tr>
<tr>
<td>SLAID</td>
</tr>
<tr>
<td>StandardTemplateID</td>
</tr>
<tr>
<td>StateID</td>
</tr>
<tr>
<td>Subject</td>
</tr>
<tr>
<td>Title</td>
</tr>
<tr>
<td>TypeID</td>
</tr>
</tbody>
</table>

**Forms###Agent::Frontend::Ticket::Action::Note**

Configurable form for the `Add Note` action.

Link to the reference of the system configuration:

• **Forms###Agent::Frontend::Ticket::Action::Note**

Possible values for the `Name` key of the form field:

<table>
<thead>
<tr>
<th>Possible Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>AccountedTime</td>
</tr>
<tr>
<td>Attachments</td>
</tr>
<tr>
<td>Body</td>
</tr>
<tr>
<td>CustomerID</td>
</tr>
<tr>
<td>CustomerUserID</td>
</tr>
<tr>
<td>DynamicField</td>
</tr>
<tr>
<td>HistoryComment</td>
</tr>
<tr>
<td>HistoryType</td>
</tr>
<tr>
<td>InformAgent</td>
</tr>
<tr>
<td>InvolvedAgent</td>
</tr>
<tr>
<td>IsVisibleForCustomer</td>
</tr>
<tr>
<td>MarkAsImportant</td>
</tr>
<tr>
<td>Messages</td>
</tr>
<tr>
<td>OwnerID</td>
</tr>
<tr>
<td>PriorityID</td>
</tr>
<tr>
<td>QueueID</td>
</tr>
<tr>
<td>RelevantKnowledge</td>
</tr>
<tr>
<td>ResponsibleID</td>
</tr>
</tbody>
</table>

(continues on next page)
Forms###AgentFrontend::Ticket::Action::Owner
Configurable form for the Change Owner action.

Link to the reference of the system configuration:

- Forms###AgentFrontend::Ticket::Action::Owner

Possible values for the Name key of the form field:

Forms###AgentFrontend::Ticket::Action::Pending
Configurable form for the Set Pending Time action.

Link to the reference of the system configuration:

- Forms###AgentFrontend::Ticket::Action::Pending

Possible values for the Name key of the form field:
Body  
CustomerID  
CustomerUserID  
DynamicField  
HistoryComment  
HistoryType  
InformAgent  
InvolvedAgent  
IsVisibleForCustomer  
MarkAsImportant  
Messages  
OwnerID  
PriorityID  
QueueID  
RelevantKnowledge  
ResponsibleID  
SenderType  
ServiceID  
SLAID  
StandardTemplateID  
StateID  
Subject  
Title  
TypeID

**Forms###AgentFrontend::Ticket::Action::PhoneCallInbound**

Configurable form for the Add Phone Call Inbound action.

Link to the reference of the system configuration:

- **Forms###AgentFrontend::Ticket::Action::PhoneCallInbound**

Possible values for the Name key of the form field:
Forms###AgentFrontend::Ticket::Action::PhoneCallOutbound
Configurable form for the Add Phone Call Outbound action.

Link to the reference of the system configuration:

• Forms###AgentFrontend::Ticket::Action::PhoneCallOutbound

Possible values for the Name key of the form field:

- AccountedTime
- Attachments
- Body
- CustomerID
- CustomerUserID
- DynamicField
- HistoryComment
- HistoryType
- InformAgent
- InvolvedAgent
- IsVisibleForCustomer
- MarkAsImportant
- Messages
- OwnerID
- PriorityID
- QueueID
- RelevantKnowledge
- ResponsibleID
- SenderType
- ServiceID
- SLAID
- StandardTemplateID
- StateID
- Subject
- Title
-TypeID

Forms###AgentFrontend::Ticket::Action::Priority
Configurable form for the Change Priority action.

Link to the reference of the system configuration:

• Forms###AgentFrontend::Ticket::Action::Priority

Possible values for the Name key of the form field:

- AccountedTime
- AddMessage
- Attachments
- Body
- CustomerID
- CustomerUserID
- DynamicField
- HistoryComment
- HistoryType
InformAgent
InvolvedAgent
IsVisibleForCustomer
MarkAsImportant
Messages
OwnerID
PriorityID
QueueID
RelevantKnowledge
ResponsibleID
SenderType
ServiceID
SLAID
StandardTemplateID
StateID
Subject
Title
TypeID

**Forms###AgentFrontend::Ticket::Action::Responsible**
Configurable form for the *Change Responsible* action.

Link to the reference of the system configuration:

- **Forms###AgentFrontend::Ticket::Action::Responsible**

Possible values for the **Name** key of the form field:

AccountedTime
AddMessage
Attachments
Body
CustomerID
CustomerUserID
DynamicField
HistoryComment
HistoryType
InformAgent
InvolvedAgent
IsVisibleForCustomer
MarkAsImportant
Messages
OwnerID
PriorityID
QueueID
RelevantKnowledge
ResponsibleID
SenderType
ServiceID
SLAID
StandardTemplateID
StateID
Subject
Title
TypeID

**Forms###AgentFrontend::Ticket::Action::SmsOutbound**
Configurable form for the *Send SMS Outbound* action.
Link to the reference of the system configuration:

- `Forms###AgentFrontend::Ticket::Action::SmsOutbound`

Possible values for the `Name` key of the form field:

```
AccountedTime
Body
CustomerID
CustomerUserID
DynamicField
FlashMessage
HistoryComment
HistoryType
InformAgent
InvolvedAgent
IsVisibleForCustomer
MarkAsImportant
Messages
OwnerID
PriorityID
QueueID
RelevantKnowledge
ResponsibleID
SenderType
ServiceID
Signature
SLAID
StandardTemplateID
StateID
Title
To
TypeID
```

Possible field names for article actions:

- `Forms###AgentFrontend::TicketArticle::Action::Forward`

Configurable form for the `Forward via Email` action.

Link to the reference of the system configuration:

- `Forms###AgentFrontend::TicketArticle::Action::Forward`

Possible values for the `Name` key of the form field:

```
AccountedTime
Attachments
Bcc
Body
Cc
DynamicField
EmailSecurity
From
HistoryComment
HistoryType
IsVisibleForCustomer
MarkAsImportant
Messages
RelevantKnowledge
SenderType
```

(continues on next page)
StandardTemplateID
StateID
Subject
To

Forms###AgentFrontend::TicketArticle::Action::Redirect
Configurable form for the Redirect via Email action.

Link to the reference of the system configuration:

- Forms###AgentFrontend::TicketArticle::Action::Redirect

Possible values for the Name key of the form field:

AddMessage
Body
From
HistoryType
Messages
RedirectTo
StateID
Subject
To

Forms###AgentFrontend::TicketArticle::Action::Reply
Configurable form for the Reply via Email action.

Link to the reference of the system configuration:

- Forms###AgentFrontend::TicketArticle::Action::Reply

Possible values for the Name key of the form field:

AccountedTime
Attachments
Bcc
Body
Cc
DynamicField
EmailSecurity
From
HistoryComment
HistoryType
IsVisibleForCustomer
MarkAsImportant
Messages
RelevantKnowledge
SenderId
StateID
Subject
To

Forms###AgentFrontend::TicketArticle::Action::ReplyAll
Configurable form for the Reply to All via Email action.

Link to the reference of the system configuration:

- Forms###AgentFrontend::TicketArticle::Action::ReplyAll
Possible values for the Name key of the form field:

```
AccountedTime
Attachments
Bcc
Body
Cc
DynamicField
EmailSecurity
From
HistoryComment
HistoryType
IsVisibleForCustomer
MarkAsImportant
Messages
RelevantKnowledge
SenderId
StandardTemplateID
StateID
Subject
To
```

**Forms###AgentFrontend::TicketArticle::Action::ReplyToNote**

Configurable form for the *Reply via Note* action.

Link to the reference of the system configuration:

- **Forms###AgentFrontend::TicketArticle::Action::ReplyToNote**

Possible values for the Name key of the form field:

```
AccountedTime
Attachments
AutoInvolvedAgents
Body
CustomerID
CustomerUserID
DynamicField
HistoryComment
HistoryType
InformAgent
InvolvedAgent
IsVisibleForCustomer
MarkAsImportant
Messages
OwnerID
PriorityID
QueueID
RelevantKnowledge
ResponsibleID
SenderId
ServiceID
SLAID
StandardTemplateID
StateID
Subject
Title
TypeID
```

**Forms###AgentFrontend::TicketArticle::Action::ReplyViaSms**
Configurable form for the *Reply via SMS* action.

Link to the reference of the system configuration:

- `Forms###AgentFrontend::TicketArticle::Action::ReplyViaSms`

Possible values for the *Name* key of the form field:

```
AccountedTime
Body
CustomerID
CustomerUserID
DynamicField
FlashMessage
HistoryComment
HistoryType
InformAgent
InvolvedAgent
IsVisibleForCustomer
MarkAsImportant
Messages
OwnerID
PriorityID
QueueID
RelevantKnowledge
ResponsibleID
SenderType
ServiceID
Signature
SLAID
StandardTemplateID
StateID
Title
To
TypeID
```

`Forms###AgentFrontend::TicketArticle::Action::Split`

Configurable form for the *Split Article* action.

Link to the reference of the system configuration:

- `Forms###AgentFrontend::TicketArticle::Action::Split`

Possible values for the *Name* key of the form field:

```
LinkAs
Messages
ProcessID
Target
```

Possible field names for the ticket create properties forms:

`Forms###AgentFrontend::TicketCreate::Email::CreateProperties`

Configurable form for the *Properties* widget of the *New Email Ticket* screen.

Link to the reference of the system configuration:

- `Forms###AgentFrontend::TicketCreate::Email::CreateProperties`

Possible values for the *Name* key of the form field:
AccountsTime
Attachments
Bcc
Body
Cc
CustomerID
CustomerUserID
DynamicField
EmailSecurity
HistoryComment
HistoryType
IsVisibleForCustomer
LinkTicketID
LinkType
OwnerID
PriorityID
QueueID
RelevantKnowledge
ResponsibleID
SenderType
ServiceID
Signature
SLAID
StandardTemplateID
StateID
Subject
To
TypeID

Forms###AgentFrontend::TicketCreate::Phone::CreateProperties
Configurable form for the Properties widget of the New Phone Ticket screen.

Link to the reference of the system configuration:

- Forms###AgentFrontend::TicketCreate::Phone::CreateProperties

Possible values for the Name key of the form field:

AccountsTime
Attachments
Body
CustomerID
CustomerUserID
DynamicField
From
HistoryComment
HistoryType
IsVisibleForCustomer
LinkTicketID
LinkType
OwnerID
PendingDate
PriorityID
QueueID
RelevantKnowledge
ResponsibleID
SenderType
ServiceID
SLAID
StandardTemplateID
StateID
Subject
To
TypeID

**Forms###AgentFrontend::TicketCreate::SMS::CreateProperties**
Configurable form for the *Properties* widget of the *New SMS Ticket* screen.

Link to the reference of the system configuration:

- Forms###AgentFrontend::TicketCreate::SMS::CreateProperties

Possible values for the Name key of the form field:

- AccountedTime
- Body
- CustomerID
- CustomerUserID
- DynamicField
- FlashMessage
- HistoryComment
- HistoryType
- IsVisibleForCustomer
- OwnerID
- PendingDate
- PriorityID
- QueueID
- RelevantKnowledge
- ResponsibleID
- Sender
- SenderType
- ServiceID
- SLAID
- StandardTemplateID
- StateID
- Subject
- To
-TypeID

Possible field names for knowledge base article actions:

**Forms###AgentFrontend::KnowledgeBaseArticleCreate::Properties**
Configurable form for the *Properties* widget of the *Create Knowledge Base Article* screen.

Link to the reference of the system configuration:

- Forms###AgentFrontend::KnowledgeBaseArticleCreate::Properties

Possible values for the Name key of the form field:

- Approved
- Attachments
- Category
- DynamicFields
- Field1
- Field2
- Field3
Forms###AgentFrontend::KnowledgeBaseArticleUpdate::Properties
Configurable form for the Properties widget of the Edit Knowledge Base Article screen.

Link to the reference of the system configuration:

- Forms###AgentFrontend::KnowledgeBaseArticleUpdate::Properties

Possible values for the Name key of the form field:

- Approved
- Attachments
- Category
- DynamicFields
- Field1
- Field2
- Field3
- Field4
- Field5
- Field6
- Keywords
- Language
- State
- Title
- Valid

Possible field names for customer actions:

Forms###AgentFrontend::CustomerCompanyCreate::Properties
Configurable form for the Properties widget of the Create Customer screen.

Link to the reference of the system configuration:

- Forms###AgentFrontend::CustomerCompanyCreate::Properties

Possible values for the Name key depend on the available fields in the CustomerCompany###Map configuration array. For the default database back end, these include:

- CustomerCompanyCity
- CustomerCompanyComment
- CustomerCompanyCountry
- CustomerCompanyName
- CustomerCompanyStreet
- CustomerCompanyURL
- CustomerCompanyZIP
- CustomerID
- ValidID

Additional column names which are always available:
Warning: In case Multiple Customer User Back Ends are configured, all possible fields must be present in the form configuration in order to be able to modify them. Both configurations must be kept in sync, otherwise it will not be possible to modify the customer records.

Forms###AgentFrontend::CustomerCompanyUpdate::Properties
Configurable form for the Properties widget of the Edit Customer screen.

Link to the reference of the system configuration:
- Forms###AgentFrontend::CustomerCompanyUpdate::Properties

Possible values for the Name key depend on the available fields in the CustomerCompany###Map configuration array. For the default database back end, these include:

CustomerCompanyCity
CustomerCompanyComment
CustomerCompanyCountry
CustomerCompanyName
CustomerCompanyStreet
CustomerCompanyURL
CustomerCompanyZIP
CustomerID
ValidID

Warning: In case Multiple Customer User Back Ends are configured, all possible fields must be present in the form configuration in order to be able to modify them. Both configurations must be kept in sync, otherwise it will not be possible to modify the customer records.

Possible field names for customer user actions:

Forms###AgentFrontend::CustomerUserCreate::Properties
Configurable form for the Properties widget of the Create Customer User screen.

Link to the reference of the system configuration:
- Forms###AgentFrontend::CustomerUserCreate::Properties

Possible values for the Name key depend on the Customer User Back Ends configuration. For the default database back end, these include:

UserCity
UserComment
UserCountry
UserCustomerID
UserEmail
UserFax
UserFirstname
UserLastname
UserLogin
UserMobile
UserPassword
UserPhone

(continues on next page)
For most customer user preference modules registered under `CustomerPersonalPreference` namespace, it is also possible to show dedicated form fields. By default, these include:

```
Preference_Language
Preference_LoginForbidden
Preference_PGP
Preference_SMIME
Preference_TimeZone
Preference_TwoFactor
```

Additional column names which are always available:

```
DataSource
```

**Warning:** In case Multiple Customer User Back Ends are configured, all possible fields must be present in the form configuration in order to be able to modify them. Both configurations must be kept in sync, otherwise it will not be possible to modify the customer user records.

**Forms::AgentFrontend::CustomerUserUpdate::Properties**

Configurable form for the `Properties` widget of the `Edit Customer User` screen.

Link to the reference of the system configuration:

- Forms::AgentFrontend::CustomerUserUpdate::Properties

Possible values for the Name key depend on the `Customer User Back Ends` configuration. For the default database back end, these include:

```
UserCity
UserComment
UserCountry
UserCustomerID
UserEmail
UserFax
UserFirstname
UserLastname
UserLogin
UserMobile
UserPassword
UserPhone
UserStreet
UserTitle
UserZip
ValidID
```

For most customer user preference modules registered under `CustomerPersonalPreference` namespace, it is also possible to show dedicated form fields. By default, these include:

```
Preference_Language
Preference_LoginForbidden
```

(continues on next page)
Possible field names for calendar appointment actions:

**Forms###AgentFrontend::Calendar::AppointmentCreate::Properties**
Configurable form for the *Add Appointment* action.

Link to the reference of the system configuration:

- Forms###AgentFrontend::Calendar::AppointmentCreate::Properties

Possible values for the *Name* key of the form field:

- AllDay
- CalendarID
- Description
-EndTime
- Location
- Notification
- Recurrence
- ResourceID
- StartTime
- TeamID
- TicketPlugin
- Title

**Forms###AgentFrontend::Calendar::AppointmentUpdate::Properties**
Configurable form for the *Edit Appointment* action.

Link to the reference of the system configuration:

- Forms###AgentFrontend::Calendar::AppointmentUpdate::Properties

Possible values for the *Name* key of the form field:

- AllDay
- CalendarID
- Description
-EndTime
- Location
- Notification
- Recurrence
- ResourceID
- StartTime
- TeamID
- TicketPlugin
- Title
10.9 System Log

Professional systems log their activities in one or more log files to help administrators when troubleshooting or to get an overview of what is going on in their system on a detailed level.

These logs are usually not available to application administrators without a certain level of permissions, and skills, on the operating system.

OTRS allows application administrators to access the system log comfortably by using the graphical interface without the need to have access to the server’s command shell. The administrator can decide which level of logging is needed, to make sure that the log files are not unnecessarily filled.

Use this screen to view log entries of OTRS. The log overview screen is available in the System Log module of the Administration group.

Each line in the log contains a timestamp, the log priority, the system component and the log entry itself.

**Note:** If several log entries are displayed in the log, use the filter box to find a particular log entry by just typing the name to filter.

To adjust the logging settings of the system:

1. Go to **System Configuration** screen.
2. Navigate to **Core → Log** in the navigation tree.
3. Review the settings.
Any system requires configuration. Configuring a system should be an easy task and the tools for configuration fit-for-purpose.

OTRS offers several administration tools to configure, monitor, control and extend OTRS.

### 11.1 Archiving Tickets

**OTRS** can be used as an audit-proof system. In this case deleting closed tickets may not be a good idea. Therefore a feature has been implemented that allows you to archive tickets.

Tickets in *closed* states that match certain criteria can be marked as *archived*. These tickets are not displayed in ticket lists and not accessed by generic agent jobs. The system itself does not have to deal with a huge amount of tickets any longer as only the latest tickets are taken into consideration. This can result in a huge performance gain on large systems.

To use the archive feature:

1. Go to the **System Configuration** screen.
2. Search for the setting `Ticket::ArchiveSystem` and enable the setting.
3. Go to the **Generic Agent** screen.
4. Click on the **Add job** button in the left sidebar.
5. Provide a name in the **Job Settings** section, and select proper options to schedule this job.
6. Define the ticket filters in the **Select Tickets** section. It might be a good idea to only archive those tickets in a closed state that have been closed a few months before.
7. In the **Update/Add Ticket Attributes** section, set the field `Archive selected tickets` to `archive tickets`.
8. Click on the **Save** button.
9. Run the job. The system will display all tickets which will be archived when executing the generic agent job.

**Note:** Up to 5000 tickets can be modified by running this job manually.

Archived tickets can be still searched by using the search feature in the top of the page but they are not displayed in ticket lists and ticket list widgets. However, these lists and widgets have a filter in their configuration to display the archived tickets, too.

To display the archived tickets in a ticket list or in a ticket list widget:
1. Open the screen configuration or the widget configuration using the gear icon in the top right corner.
2. Add the Archive search filter.
3. Select All tickets from the list.

11.2 Knowledge Base Article Approval

OTRS has a knowledge base article approval feature. If you activate the approval feature all newly created knowledge base articles also create a new ticket in a predefined queue. The persons who need to approve the knowledge base articles can then act on these tickets and approve the knowledge base articles if they see fit. As long as the article has not been approved the article will not be visible in the external interface.

The approval function can be activated via the FAQ::ApprovalRequired system configuration setting. The following system configuration settings may be useful to set this feature properly:

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FAQ::ApprovalGroup</td>
<td></td>
</tr>
<tr>
<td>FAQ::ApprovalRequired</td>
<td></td>
</tr>
<tr>
<td>FAQ::ApprovalTicketBody</td>
<td></td>
</tr>
<tr>
<td>FAQ::ApprovalTicketDefaultState</td>
<td></td>
</tr>
<tr>
<td>FAQ::ApprovalTicketPriority</td>
<td></td>
</tr>
<tr>
<td>FAQ::ApprovalTicketSubject</td>
<td></td>
</tr>
<tr>
<td>FAQ::ApprovalTicketType</td>
<td></td>
</tr>
</tbody>
</table>

The approval message can be defined in the FAQ::ApprovalTicketBody setting. You can modify the text if you need, and you can also use OTRS smart tags that will be substituted with their actual values when the approval note is generated. The available OTRS smart tags are listed in the table below.

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;OTRS_FAQ_CATEGORY&gt;</td>
<td>Category name of the knowledge base article.</td>
</tr>
<tr>
<td>&lt;OTRS_FAQ_CATEGORYID&gt;</td>
<td>Category ID of the knowledge base article.</td>
</tr>
<tr>
<td>&lt;OTRS_FAQ_LANGUAGE&gt;</td>
<td>Language of the knowledge base article.</td>
</tr>
<tr>
<td>&lt;OTRS_FAQ_ITEMID&gt;</td>
<td>Item ID of the knowledge base article.</td>
</tr>
<tr>
<td>&lt;OTRS_FAQ_NUMBER&gt;</td>
<td>FAQ number of the knowledge base article.</td>
</tr>
<tr>
<td>&lt;OTRS_FAQ_TITLE&gt;</td>
<td>Title of the knowledge base article.</td>
</tr>
<tr>
<td>&lt;OTRS_FAQ_AUTHOR&gt;</td>
<td>Author name of the knowledge base article.</td>
</tr>
<tr>
<td>&lt;OTRS_FAQ_STATE&gt;</td>
<td>State (visibility) of the knowledge base article.</td>
</tr>
</tbody>
</table>

11.3 Creating New Phone Ticket on Incoming Calls

It is possible to integrate OTRS with third-party computer telephony integration (CTI) solutions and make them work in unison. On as simple action as a click on a button in the CTI incoming call screen, the OTRS New Phone Ticket screen can be opened with the customer pre-selected by their phone number.

Note: This feature is only available to On-Premise customers. If you are a Managed customer, this feature is taken care of by the Customer Solutions Team in OTRS. Please contact us via support@otrs.com or in the OTRS Portal.

The only pre-requisite for the example below is that the used CTI software is able to open a link of a certain format in the web browser.
1. First, edit the customer user configuration file and add the phone number field to `CustomerUserSearchFields` (in our case it is aptly named `phone`):

```plaintext
CustomerUserSearchFields = [ 'login', 'first_name', 'last_name', 'customer_id', 'phone' ],
```

See also:

For more information on how to provide custom user configuration please see the Customer User Back Ends chapter.

**Warning:** The customer user configuration is provided as an additional Perl module file. It is your responsibility to check the validity of the supplied file, since any syntax mistakes can lead to a broken system.

Optionally, you can also add the `phone` field to `CustomerUserListFields` array, if you want to see the telephone number while searching for customer users:

```plaintext
CustomerUserListFields = [ 'first_name', 'last_name', 'phone', 'email' ],
```

2. Configure your CTI software to open the following link when you answer the phone:

```plaintext
CustomerUserID=callernumber
CustomerUserID=callerloginname
```

For example, for customer user *John Smith* with login name *johnsmith* and telephone number *12345678*:

```plaintext
CustomerUserID=12345678
CustomerUserID=johnsmith
```

Where `otrs.example.com` is the FQDN of the OTRS system in question. Which exact value you use in the end (caller number or login name) depends on what your CTI software can construct the link with.

3. When the ticket create screen is open in OTRS, a search will be conducted for the supplied value. In case only one customer user with that information is found, they will be pre-selected as the ticket customer user, and added to the related fields.

**Note:** In case you would like to do a search by the customer user email address, first make sure that the `CustomerUserPostMasterSearchFields` key of the customer user configuration is set to an appropriate field. Additionally, you must use an alternative URL query parameter called `CustomerPostMasterSearch=1`, since the email addresses use a different search mechanism. Finally, provide the email address for search as the `CustomerUserID` parameter, but you make sure to URL encode the value because it can contain some unsafe characters.

**Note:** Mechanism described above works for any of the following ticket create screens:

- New Phone Ticket (default slug: `/agent/ticket/create/phone`)
- New Email Ticket (default slug: `/agent/ticket/create/email`)

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• New SMS Ticket (default slug: /agent.ticket/create/sms)
• New Process Ticket (default slug: /agent.ticket/create/process)

Considering the new process ticket screen consists of a more complex form, you must also provide a correct ProcessID parameter in order for the process to be pre-selected. For example:


11.4 Custom URL Support

Most OTRS front ends support automation via custom URL addresses, whether for specifying configuration parameters, or automating forms. This mechanism can be used to integrate OTRS easily into existing workflows, or just provide a quick pre-configured overview of objects. There is no limit to number of use-cases.

11.4.1 Triggering Actions

Actions in the agent interface can be automatically triggered via a special URL parameter called Trigger-Action. The approach outlined below works for any action which is registered for the current screen. For example, let’s trigger the Change Free Fields action available in the ticket detail view.

1. Identify the slug name of the view in question. For the ticket detail view and the ticket with ID 1 this is:
   /agent.ticket/1
   You can access the ticket via the ticket number which will redirect you to the slug name of the view. If the ticket with ID 1 has the ticket number 2022042710123456 you can use this:
   /agent.ticket/number/2022042710123456

2. Identify the BusinessObjectType of the screen where the action should be triggered. In our case, for the ticket detail view, this is:
   Ticket

3. Go to System Configuration in the administrator interface and search for the action registration setting in question. In our case this is:
   AgentFrontend::Ticket::Action###FreeText

4. Identify the value of the Component key in the setting, which is the name of the front end component. In our case this is:
   TicketFreeText

5. Construct the action identifier in form of <BusinessObjectType>::<Component>. In our case, this is:
   Ticket::TicketFreeText
6. Append a query parameter to the URL of the detail view named `TriggerAction`, and set it to the action identifier, which is the value constructed in the previous step:

```
/agent/ticket/1?TriggerAction=Ticket%3A%3ATicketFreeText
```

**Note:** In case of custom URL query parameter values, we have to take care to encode all special characters that are normally used in URLs (e.g. double quotes). This process is called “URL encoding”, and can be done by any of freely available on-line tools, like the [Online Text Tools](#).

When visiting the URL as constructed above, the action will be automatically triggered:

![Fig. 1: Automatically Triggered Change Free Fields Action](image)

**Note:** Please keep in mind that any restrictions applied to the regular screen actions will still be honored. For example, you will not be able to trigger an action which is currently not accessible, e.g. because you don’t have permissions to it, or it was filtered out by the ACL rules in effect.

### 11.4.2 Pre-populating Form Fields

OTRS form fields can be pre-populated with values supplied via URL query parameters. The approach outlined below works for any form in the agent and external interface.

For example, let’s see how we can pre-populate the `Title` field of the `Change Free Fields` action form, which we triggered in the previous example.

Since this action is not initially shown on the screen, we will keep the `trigger action` parameter in place, and just add on to it:
1. Identify the name of the form field in question.
   In our case, we are dealing with the following form:

   Forms###AgentFrontend::Ticket::Action::FreeText

   According to the form fields reference, field is aptly named:

   Title

2. Append a query parameter to the URL of the detail view with the name of the field, and set it to the desired value:

   /agent/ticket/1?TriggerAction=Ticket%3A%3ATicketFreeText&Title=Some+text

   **Note:** Additional URL query parameters can be chained with an ampersand character (&).

   **Note:** In case of custom URL query parameter values, we have to take care to encode all special characters that are normally used in URLs (e.g. double quotes). This process is called “URL encoding”, and can be done by any of freely available on-line tools, like the Online Text Tools.

When visiting the URL as constructed above, the action will be automatically triggered and the field pre-populated:

![Fig. 2: Pre-populated Title Field of the Change Free Fields Action](image)

The approach can be repeated for all other fields in the form, for example, if we would also like to set the Service field (field name ServiceID) to a hypothetical value **Service 2** with an ID of 2, we can add it to the
existing URL like this:

```
/agent/ticket/1?TriggerAction=Ticket%3A%3ATicketFreeText&Title=Some+text&ServiceID=2
```

When visiting the URL as constructed above, the action will be automatically triggered and both fields pre-populated:

![Fig. 3: Pre-populated Title and Service Fields of the Change Free Fields Action](image)

**Note:** In case of most drop-down fields that contain business objects (e.g. services, queues, etc.), you must always provide the ID of the object, not its label. You can recognize these form fields by the ID suffix in their name. You should always do a lookup of the object ID value, and set the field to it.

**Note:** Please keep in mind that any restrictions applied to the regular action form fields will still be honored. For example, you will not be able to set a value to a disabled field, or select an option which was filtered out by the ACL rules in effect.

### 11.4.3 Submitting Actions

Actions in the agent interface can be automatically submitted by via a special URL parameter called **SubmitForm**. The approach outlined below works for any action which is registered for the current screen.

For example, let’s see how we can submit the **Change Free Fields** action form, which we already triggered and pre-populated in previous examples.

Since this action is not initially shown on the screen, we will keep the **trigger action** parameter in place, as well as some **form field parameters**, and just add on to it:
Append a query parameter to the URL of the detail view named `SubmitForm` and set 1 as its value:

```
/agent/ticket/1?TriggerAction=Ticket%3A%3ATicketFreeText&Title=Some+text&ServiceID=2&SubmitForm=1
```

When visiting the URL as constructed above, the action will be automatically triggered, both fields pre-populated and the action immediately submitted:

![Automatically Submitted Change Free Fields Action](image)

**Fig. 4: Automatically Submitted Change Free Fields Action**

**Note:** Please keep in mind that any restrictions applied to the regular action forms will still be honored. For example, you will not be able to submit an invalid form by omitting a mandatory field, or setting a field to an invalid value.

### 11.4.4 Custom Business Object Lists

All static business object lists in the agent interface support custom configuration via a special URL parameter called `Config`. The approach outlined below works for similar screens which are listed in the following section, and for any keys documented in the YAML reference.

For example, let’s see how we can set an active filter preset for a business object list by carefully constructing a direct URL for the view.

1. Identify the **slug name** of the view in question. We will be using `AgentFrontend::TicketList::Static` which has the slug:

   `/agent/tickets/static`
2. Go to *System Configuration* in the administrator interface and search for the screen configuration setting in question, in our case this is:

```
AgentFrontend::TicketList::Static###DefaultConfig
```

2. Make sure that the key `AllowGETConfig` in the screen configuration contains the properties `FilterPresets` and `FilterPresetSelected`, which we will pass via the query parameter.

To be able change these keys, they must present in the list, otherwise they will be ignored. For more information, please see the key reference.

Fig. 5: Screen Configuration with Defined Allowed Keys

3. Construct a valid YAML configuration that defines a user-defined filter preset and sets it as pre-selected.

```yaml
---
FilterPresets:
  "Total Tickets":
    CustomerID:
      Value: my-customer@otrs.com
FilterPresetSelected: "Total Tickets"
```

4. Convert the YAML structure from previous step into JSON syntax, since YAML is unsuitable for passing via parameters. If we do this, we get the following analogous structure.

```
{
  "FilterPresets": {
    "TotalTickets": {
      "CustomerID": {
        "Value": "my-customer@otrs.com"
      }
    }
  },
  "FilterPresetSelected": "Total Tickets"
}
```

4. Remove all the extra white space to compress this configuration into a single line.

```
{"FilterPresets":{"TotalTickets":{"CustomerID":{"Value":"my-customer@otrs.com"}}},"FilterPresetSelected":"Total Tickets"}
```

5. To pass the configuration to the screen located at `/agent/tickets/static`, we just need to define an URL query parameter named `Config` and set the JSON structure above as its value.

11.4. Custom URL Support
Note: In case of custom URL query parameter values, we have to take care to encode all special characters that are normally used in URLs (e.g. double quotes). This process is called “URL encoding”, and can be done by any of freely available on-line tools, like the Online Text Tools.

```
/agent/tickets/static?Config=%7B%22FilterPresets%22%3A%7B%22Total%20Tickets%22%3A
%7B%22CustomerID%22%3A%7B%22Value%22%3A%22%22%22%22%22%22%22%22%22%7D%7D%7D%7D%7D%7D%7D%7D%7D
%22FilterPresetSelected%22%3A%22%22%22%22%22%22%22%22%22%7D%7D%7D%7D%7D%7D%7D%7D%7D
```

Fig. 6: Example of the Filter Preset Defined via URL Query Parameter

Note: Did you know that you can use many freely available on-line tools to do the conversion steps outlined above? Some of them even support chaining, like the Online YAML Tools for the example above.

### 11.5 Inline Editing

OTRS provides an inline editing feature to easily modify any of the ticket attributes right in a list table or a property card. This allows for fast contextual edits, which can amplify an already instituted workflow for tickets and make it easier for agent users to do their daily work.

#### 11.5.1 Inline Editing in Business Object Lists

For an example, we will demonstrate how to turn on inline editing for the *State* ticket attribute in the *Recently Created Tickets* list screen.

1. Go to the *System Configuration* screen.
2. Search for the setting `AgentFrontend::TicketList::Created###DefaultConfig`.
3. Edit the setting and change the `IsInlineEditable` flag to `1` under the *State* column.

```
State:
  IsVisible: 2
  IsInlineEditable: 1
```

4. Search for the setting `AgentFrontend::Ticket::InlineEditing::Property###State` and verify the required permission level and lock state on the ticket, in order for the editing to be allowed for the user. By default, this attribute will require *state* permission type and ticket in a locked state.
5. Deploy the modified system configuration.

From now on, the State ticket attribute will be editable in a popover which is displayed by hovering the value in the same table column on the Recently Created Tickets list screen. By using the provided drop-down field, the ticket state can be changed after clicking on the Save button.

Warning: Please note that inline editing is only applicable for ticket lists in the organizer items or static screens, and not widgets. Ticket lists in widgets have very limited space, and the column popovers are disabled for them all together.

Note: For granular permission to the inline editing of ticket attributes, you can also employ Access Control Lists (ACL). Each ticket attribute can be targeted by the AgentFrontend::Ticket::InlineEditing::Property::* endpoint namespace.

For our example from above, this can be done by targeting the AgentFrontend::Ticket::InlineEditing::Property::State context.

11.5.2 Inline Editing in Property Cards

For an example, we will demonstrate how to turn on inline editing for a ticket dynamic field property card in the Properties widget on the ticket detail view.

The following example uses a dynamic field named Test1. Please make sure that you replace it with the actual name of your dynamic field.

1. Go to the System Configuration screen.
2. Search for the setting AgentFrontend::TicketDetailView::WidgetType###Properties.
3. Edit the setting and add a property definition under the Properties key for the dynamic field in question:

   Properties:
   - Name: DynamicField_Test1
     IsVisible: 2
     IsInlineEditable: 1

Note the IsInlineEditable flag which is set to 1 in order to activate inline editing feature for this property card.
4. **Search for the setting** `AgentFrontend::Ticket::InlineEditing::Property###DynamicField`.

5. **Edit the setting and add a configuration for the dynamic field by clicking on the plus button.** Choose the name of the dynamic field under the `DynamicFieldName` key. Verify the required permission level and lock state on the ticket, in order for the editing to be allowed for the user. By default, this attribute will require `rw` permission type and ticket in an unlocked state.

---

![Dynamic Field Inline Editing Configuration](image)

**Fig. 8:** Dynamic Field Inline Editing Configuration

5. **Deploy the modified system configuration.**

From now on, the configured dynamic field property card will be editable in the **Properties** widget of the ticket detail view. An editing icon in the upper right corner of the property card will switch the card in the editing mode. The dynamic field value can then be changed after clicking on the **Save** button.

---

![Dynamic Field Inline Editing in Properties Widget](image)

**Fig. 9:** Dynamic Field Inline Editing in Properties Widget

**Warning:** Please note that property cards are shown only for defined dynamic field values. If a ticket does not have a dynamic field value set, the property card will not be shown, and, in turn, it will not be possible to edit it inline. Similarly, in case you remove an existing dynamic field value, property card will disappear.

**Note:** For granular permission to the inline editing of ticket dynamic field values, you can also employ **Access Control Lists (ACL)**. Each dynamic field can be targeted by the `AgentFrontend::Ticket::InlineEditing::Property###DynamicField` setting. This allows for more fine-grained control over what users are allowed to edit and when.
tend::Ticket::InlineEditing::Property::DynamicField_* endpoint namespace.

For our example from above, this can be done by the targeting the AgentFron-
tend::Ticket::InlineEditing::Property::DynamicField_Test1 context.

11.6 External Link Previews

OTRS supports link previews via several features aimed at integrating externally provided content. By having contextual information in the right place, agent’s daily work can be made much more streamlined and straightforward.

11.6.1 Article Meta Filters

Article content can be automatically scanned and relevant information extracted with the help of meta filters. For example, let’s configure extraction of CVE codes from article preview in the ticket detail view and display direct links to external pages with more information.

1. Go to the System Configuration in the administrator interface, and enable the AgentFron-
tend::TicketDetailView::ArticleMeta master switch for the article meta feature.

2. Search for the setting AgentFrontend::TicketDetailView::ArticleMetaFilters###0002-Custom and enable it.

3. Edit the setting, and set its value to the following YAML configuration:

```yaml
---
- Label: CVE Details
  Name: cvedetails
  Target: _blank
  URL: https://www.cvedetails.com/cve/<MATCH1>-<MATCH2>-<MATCH3>
  URLPreview: https://www.cvedetails.com/cve/<MATCH1>-<MATCH2>-<MATCH3>
  RegExp: -* (CVE|CAN)-(\d(3,4))-\d(2,))
  Active: 1
```

4. To configure the Content Security Policy, search for the setting We-
bApp::Server::AdditionalOrigins.

5. Add the following origin under the frame-src key, in order to allow these web pages for embedding in the OTRS application:

   https://www.cvedetails.com

6. Deploy the modified system configuration.

To test the feature, you will now need a ticket article that contains at least one valid CVE identifier in its text, for example CVE-2019-1290.

A button will be shown below the preview area in the Communication Stream or Communication Compact widget, which leads to the external page. Hovering over this button will show a preview popover with the scaled down content of the same page.
Fig. 10: Additional Origins for Content Security Policy

Fig. 11: Article Meta Preview
11.6.2 Dynamic Field Value

A dynamic field can be configured to show a link preview based on its value. The value can be used as whole or part of the link in question.

The following example uses a dynamic field named Field1. Please make sure that you replace it with the actual name of your dynamic field.

1. Configure the dynamic field to show a link based on its value via Link for preview setting. Please see the setting reference for more information.

   You can use the following value for testing:

   ```
   https://example.com/handle?query=[% Data.Field1 | uri %]
   ```

2. Configure the display of the dynamic field value in ticket detail view, for example in the Properties widget. Please see the relevant guide for more information.


4. Add the following origin under the frame-src key, in order to allow these web pages for embedding in the OTRS application:

   ```
   https://example.com
   ```

   Fig. 12: Additional Origins for Content Security Policy

5. Deploy the modified system configuration.

   To test the feature, you will now need a ticket with a value set for the dynamic field in question. To set this field via a ticket action, please see the relevant guide for more information.

   If defined, the ticket dynamic field value will be shown as a property card in the Properties widget, in form of a button which leads to the configured link. Hovering over this button will show a preview popover with the scaled down content of the same page.
11.6.3 Troubleshooting

In case you can not see the preview of the configured link, please note that target web servers might have a configuration in place that prevents them from being embedded in external pages. This is indicated by following or similar errors in the browser console:

```
Load denied by X-Frame-Options: “SAMEORIGIN” from “site”, site does not permit
→cross-origin framing from “site”.
```

Firefox prevented this page from loading in this context because the page has an X-
→Frame-Options policy that disallows it.

The blocking is normally done via the X-Frame-Options response header which can be set to the prevent the preview on the browser level. If you have the control of the target web server configuration, you might be able to relax this restriction by including the OTRS domain name in the list of allowed origins, or lift the restriction all together.

For more information, please take a look at X-Frame-Options page in the Mozilla Developer Network.

Alternatively, the newer frame-ancestors directive of the Content Security Policy header can be used to block embedding of the target server. This is indicated by following or similar error in the browser console:

```
Refused to display 'https://example.com/...' in a frame because an ancestor violates
→the following Content Security Policy directive: "frame-ancestors 'self'".
```

For more information, please take a look at CSP: frame-ancestors page in the Mozilla Developer Network.
11.7 Additional Customer User Attribute

This tutorial explains how to add an additional attribute to the customer user using dynamic fields. Any kind of attribute can be added.

The following example shows how to add an attribute that holds VIP status for the customer user.

11.7.1 VIP Customer User

To use the VIP customer user functionality:

1. Go to the Dynamic Fields module of the administrator interface.
2. Add a drop-down dynamic field of type Customer User.
   - Name: CustomerUserVIPStatus
   - Label: VIP Status
   - Field type: Dropdown
   - Object type: Customer User
   - Possible values: 0 = No VIP , 1 = VIP
   - Default value: No VIP
   - Add empty value: No
   - Translatable values: Yes
   - Show link: leave it empty
3. Go to the System Configuration screen of the administrator interface.
4. Add the dynamic field to the screens.

Agent::Organizer::ItemType###CustomerUserList
Forms###AgentFrontend::CustomerUserCreate::Properties
Forms###AgentFrontend::CustomerUserUpdate::Properties

5. Copy the used customer user back end mapping from the Kernel/Config/Defaults.pm and paste it into the Kernel/Config.pm.
6. Uncomment the dynamic field section in the Map array and add the created dynamic field.

   # Dynamic field example
   [ 'DynamicField_CustomerUserVIPStatus', undef, 'CustomerUserVIPStatus', 1, 0, 'dynamic_field', undef, 0, undef, undef ],

7. Go to the Access Control Lists (ACL) module of the administrator interface.
8. Create an ACL that disables the SLA to all customer users. You can import the following ACL as well.

   - ChangeBy: root@localhost
   - ChangeTime: 2021-06-29 11:01:59
   - Comment: 'Disable SLA to all customer users.'
   - ConfigChange: PossibleNot:
     Ticket:
     SLA:

(continues on next page)
9. Create an ACL that enables the SLA only to VIP customer users. You can import the following ACL as well.

```
- ChangeBy: root@localhost
  ChangeTime: 2021-06-29 11:03:48
  Comment: 'Enable SLA only to VIP customer users.'
  ConfigChange:
    PossibleAdd:
      Ticket:
        SLA:
          - 'SLA_Name'
    ConfigMatch:
      Properties:
        CustomerUser:
          DynamicField_CustomerUserVIPStatus:
            - '1'
  CreateBy: root@localhost
  CreateTime: 2021-06-29 11:03:48
  Description: ''
  ID: 4
  Name: VIP only SLA, enable to VIPs
  StopAfterMatch: 0
  ValidID: 1
```

Do not forget to change the SLA name in the exported ACLs.

### 11.8 XSLT Mapping for Outgoing Emails

This feature allows to define XSLT templates for manipulating data mapping of outgoing emails. All email specific data are available for the mapping. Additionally any ticket related data including dynamic fields are provided if an article is sent. The XSLT template must contain at least the following mappings:

```
To / Cc / Bcc
From
Subject
Body
Charset
```

Desired additional email headers are set via the `CustomHeaders` element. Any empty element (for example due to missing mapping data) is rejected.

The difference of origin email data and mapped data is recorded in the `Communication Log` with priority `debug`.
11.8.1 Example XSLT template

This template can be used in the Sendmail::XSLT::Template system configuration setting.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<xsl:stylesheet version="1.0" xmlns:xsl="http://www.w3.org/1999/XSL/Transform">
  <xsl:output method="xml" encoding="utf-8" indent="yes"/>
  <xsl:template match="/RootElement">
    <NewRootElement>
      <To>
        <xsl:value-of select="/RootElement/To"/>
      </To>
      <From>
        <xsl:value-of select="/RootElement/From"/>
      </From>
      <Subject>
        <xsl:value-of select="/RootElement/Subject"/>
      </Subject>
      <MimeType>
        <xsl:value-of select="/RootElement/MimeType"/>
      </MimeType>
      <Charset>
        <xsl:value-of select="/RootElement/Charset"/>
      </Charset>
      <Body>
        <xsl:value-of select="/RootElement/Body"/>
      </Body>
      <CustomHeaders>
        <X-OTRS-Charset>
          <xsl:value-of select="/RootElement/Charset"/>
        </X-OTRS-Charset>
        <X-OTRS-From>
          <xsl:value-of select="/RootElement/From"/>
        </X-OTRS-From>
        <X-OTRS-TicketNumber>
          <xsl:value-of select="/RootElement/Ticket/TicketNumber"/>
        </X-OTRS-TicketNumber>
      </CustomHeaders>
    </NewRootElement>
  </xsl:template>
</xsl:stylesheet>
```

11.9 OTRS Tags

This tutorial gives an overview about OTRS tags that can be used in the screens.

**Note:** Features can extend the list of OTRS tags. This tutorial explains only those OTRS tags that are shipped with the framework.
11.9.1 OTRS Tag Name Space

OTRS tags are grouped into name spaces. For a quick overview, the following name spaces exist:

<table>
<thead>
<tr>
<th>Name Space</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;OTRS_AGENT_*&gt;</td>
<td></td>
</tr>
<tr>
<td>&lt;OTRS_APPOINTMENT_*&gt;</td>
<td></td>
</tr>
<tr>
<td>&lt;OTRS CALENDAR_*&gt;</td>
<td></td>
</tr>
<tr>
<td>&lt;OTRS COMMENT&gt;</td>
<td></td>
</tr>
<tr>
<td>&lt;OTRS CONFIG_*&gt;</td>
<td></td>
</tr>
<tr>
<td>&lt;OTRS CURRENT_*&gt;</td>
<td></td>
</tr>
<tr>
<td>&lt;OTRS CUSTOMER_*&gt;</td>
<td></td>
</tr>
<tr>
<td>&lt;OTRS_EMAIL_*&gt;</td>
<td></td>
</tr>
<tr>
<td>&lt;OTRS_FAQ_*&gt;</td>
<td></td>
</tr>
<tr>
<td>&lt;OTRS_MERGE_TO_TICKET&gt;</td>
<td></td>
</tr>
<tr>
<td>&lt;OTRS_NEWPW&gt;</td>
<td></td>
</tr>
<tr>
<td>&lt;OTRS_NOTIFICATION_RECIPIENT_*&gt;</td>
<td></td>
</tr>
<tr>
<td>&lt;OTRS_OWNER_*&gt;</td>
<td></td>
</tr>
<tr>
<td>&lt;OTRS_QUEUE&gt;</td>
<td></td>
</tr>
<tr>
<td>&lt;OTRS_REDIRECT_TO&gt;</td>
<td></td>
</tr>
<tr>
<td>&lt;OTRS_RESPONSIBLE_*&gt;</td>
<td></td>
</tr>
<tr>
<td>&lt;OTRS_TICKET_*&gt;</td>
<td></td>
</tr>
<tr>
<td>&lt;OTRS_TOKEN&gt;</td>
<td></td>
</tr>
</tbody>
</table>

The * in the end of the tags indicates that some fields can be put there.

11.9.2 OTRS Tag Reference

The following reference lists all possible OTRS tags.

- `<OTRS_AGENT_Body>`
  - Body text of the latest agent article.

- `<OTRS_AGENT_Body[n]>`
  - First n lines of the latest agent article.

- `<OTRS_AGENT_BODY_RichText>`
  - The Rich Text body of the latest agent article.

- `<OTRS_AGENT_BODY_RichText[n]>`
  - First n lines of the Rich Text body of the latest agent article.

- `<OTRS_AGENT_Cc>`
  - Carbon copy address of the latest agent article.

- `<OTRS_AGENT_ChangeTime>`
  - Alias of `<OTRS_CURRENT_ChangeTime>`.

- `<OTRS_AGENT_CreateTime>`
  - Alias of `<OTRS_CURRENT_CreateTime>`.

- `<OTRS_AGENT_Email>`
  - Alias of `<OTRS_AGENT_Body>`.

- `<OTRS_AGENT_Email[n]>`

- `<OTRS_AGENT_Note>`
  - Alias of `<OTRS_AGENT_Body>`.
<OTRS_AGENT_Note[n]>
Alias of <OTRS_AGENT_Body[n]>.  

<OTRS_AGENT_From>
Sender address of the latest agent article. 

<OTRS_AGENT_Subject>
Subject of the latest agent article. 

<OTRS_AGENT_Subject[n]>
First n characters of the subject of the latest agent article. 

<OTRS_AGENT_To>
Recipient address of the latest agent article. 

<OTRS_AGENT_UserEmail>
Alias of <OTRS_CURRENT_UserEmail>. 

<OTRS_AGENT_UserFirstname>
Alias of <OTRS_CURRENT_UserFirstname>. 

<OTRS_AGENT_UserFullname>
Alias of <OTRS_CURRENT_UserFullname>. 

<OTRS_AGENT_UserID>
Alias of <OTRS_CURRENT_UserID>. 

<OTRS_AGENT_UserLastname>
Alias of <OTRS_CURRENT_UserLastname>. 

<OTRS_AGENT_UserLogin>
Alias of <OTRS_CURRENT_UserLogin>. 

<OTRS_AGENT_UserPw>
Alias of <OTRS_CURRENT_UserPw>. 

<OTRS_AGENT_ValidID>
Alias of <OTRS_CURRENT_ValidID>. 

<OTRS_APPOINTMENT_ALLDAY>
Returns Yes if the appointment is an all day appointment, otherwise returns No. 

<OTRS_APPOINTMENT_APPOINTMENTID>
ID of the appointment. 

<OTRS_APPOINTMENT_CALENDARID>
Calendar ID of the appointment. 

<OTRS_APPOINTMENT_CHANGEBY>
Full name of the agent who changed the appointment. 

<OTRS_APPOINTMENT_CHANGETIME>
Date and time when the appointment was changed. 

<OTRS_APPOINTMENT_CREATEBY>
Full name of the agent who created the appointment. 

<OTRS_APPOINTMENT_CREATETIME>
Date and time when the appointment was created. 

<OTRS_APPOINTMENT_DESCRIPTION>
Description of the appointment.
<OTRS_APPOINTMENT_ENDTIME>
End time of the appointment.

<OTRS_APPOINTMENT_LOCATION>
Location of the appointment.

<OTRS_APPOINTMENT_NOTIFICATIONCUSTOMUNIT>
Notification custom unit of the appointment.

<OTRS_APPOINTMENT_NOTIFICATIONCUSTOMUNITCOUNT>
Notification custom unit count of the appointment.

<OTRS_APPOINTMENT_NOTIFICATIONCUSTOMUNITPOINTOFTIME>
Notification custom unit point of time of the appointment.

<OTRS_APPOINTMENT_NOTIFICATIONTEMPLATE>
Notification template of the appointment.

<OTRS_APPOINTMENT_NOTIFICATIONTIME>
Notification time of the appointment.

<OTRS_APPOINTMENT_RECURRENCECOUNT>
Recurrence count of the appointment.

<OTRS_APPOINTMENT_RECURRENCEEXCLUDE>
Recurrence exclude of the appointment.

<OTRS_APPOINTMENT_RECURRENCEFREQUENCY>
Recurrence frequency of the appointment.

<OTRS_APPOINTMENT_RECURRENCEID>
Recurrence ID of the appointment.

<OTRS_APPOINTMENT_RECURRENCEINTERVAL>
Recurrence interval of the appointment.

<OTRS_APPOINTMENT_RECURRENCTYPE>
Recurrence type of the appointment.

<OTRS_APPOINTMENT_RECURRENCEUNTIL>
Recurrence until time of the appointment.

<OTRS_APPOINTMENT_RECURRING>
Returns Yes if the appointment is recurring, otherwise returns No.

<OTRS_APPOINTMENT_RESOURCEID>
Resource ID of the appointment.

<OTRS_APPOINTMENT_STARTTIME>
Start time of the appointment.

<OTRS_APPOINTMENT_TEAMID>
Team ID of the appointment.

<OTRS_APPOINTMENT_TICKET_CUSTOMER_DATA_ChangeBy>
ID of the agent who changed the customer user of the ticket linked to the appointment.

<OTRS_APPOINTMENT_TICKET_CUSTOMER_DATA_Changed>
Alias of <OTRS_APPOINTMENT_TICKET_CUSTOMER_DATA_ChangeTime>.

<OTRS_APPOINTMENT_TICKET_CUSTOMER_DATA_ChangeTime>
Date and time when the customer user of the ticket linked to the appointment was changed.
<OTRS_APPOINTMENT_TICKET_CUSTOMER_DATA_CreateBy>
ID of the agent who created the customer user of the ticket linked to the appointment.

<OTRS_APPOINTMENT_TICKET_CUSTOMER_DATA_Created>
Alias of <OTRS_APPOINTMENT_TICKET_CUSTOMER_DATA_CreateTime>.

<OTRS_APPOINTMENT_TICKET_CUSTOMER_DATA_CreateTime>
Date and time when the customer user of the ticket linked to the appointment was created.

<OTRS_APPOINTMENT_TICKET_CUSTOMER_DATA_CustomerCompanyCity>
City of the company of the customer user of the ticket linked to the appointment.

<OTRS_APPOINTMENT_TICKET_CUSTOMER_DATA_CustomerCompanyComment>
Comment of the company of the customer user of the ticket linked to the appointment.

<OTRS_APPOINTMENT_TICKET_CUSTOMER_DATA_CustomerCompanyCountry>
Country of the company of the customer user of the ticket linked to the appointment.

<OTRS_APPOINTMENT_TICKET_CUSTOMER_DATA_CustomerCompanyName>
Name of the company of the customer user of the ticket linked to the appointment.

<OTRS_APPOINTMENT_TICKET_CUSTOMER_DATA_CustomerCompanyStreet>
Street of the company of the customer user of the ticket linked to the appointment.

<OTRS_APPOINTMENT_TICKET_CUSTOMER_DATA_CustomerCompanyURL>
URL of the company of the customer user of the ticket linked to the appointment.

<OTRS_APPOINTMENT_TICKET_CUSTOMER_DATA_CustomerCompanyZIP>
ZIP code of the company of the customer user of the ticket linked to the appointment.

<OTRS_APPOINTMENT_TICKET_CUSTOMER_DATA_UserCity>
City of the customer user of the ticket linked to the appointment.

<OTRS_APPOINTMENT_TICKET_CUSTOMER_DATA_UserComment>
Comment of the customer user of the ticket linked to the appointment.

<OTRS_APPOINTMENT_TICKET_CUSTOMER_DATA_UserCountry>
Country of the customer user of the ticket linked to the appointment.

<OTRS_APPOINTMENT_TICKET_CUSTOMER_DATA_UserCustomerID>
Customer ID of the customer user of the ticket linked to the appointment.

<OTRS_APPOINTMENT_TICKET_CUSTOMER_DATA_UserEmail>
Email of the customer user of the ticket linked to the appointment.

<OTRS_APPOINTMENT_TICKET_CUSTOMER_DATA_UserFax>
Fax of the customer user of the ticket linked to the appointment.

<OTRS_APPOINTMENT_TICKET_CUSTOMER_DATA_UserFirstname>
First name of the customer user of the ticket linked to the appointment.

<OTRS_APPOINTMENT_TICKET_CUSTOMER_DATA_UserLastname>
Last name of the customer user of the ticket linked to the appointment.

<OTRS_APPOINTMENT_TICKET_CUSTOMER_DATA_UserLogin>
Login name of the customer user of the ticket linked to the appointment.

<OTRS_APPOINTMENT_TICKET_CUSTOMER_DATA_UserMobile>
Cell phone number of the customer user of the ticket linked to the appointment.

<OTRS_APPOINTMENT_TICKET_CUSTOMER_DATA_UserPassword>
Password of the customer user of the ticket linked to the appointment. Masked and replaced by xxx.
<OTRS_APPOINTMENT_TICKET_CUSTOMER_DATA_UserPhone>
Phone number of the customer user of the ticket linked to the appointment.

<OTRS_APPOINTMENT_TICKET_CUSTOMER_DATA_UserStreet>
Street of the customer user of the ticket linked to the appointment.

<OTRS_APPOINTMENT_TICKET_CUSTOMER_DATA_UserTitle>
Title of the customer user of the ticket linked to the appointment.

<OTRS_APPOINTMENT_TICKET_CUSTOMER_DATA_UserZip>
ZIP code of the customer user of the ticket linked to the appointment.

<OTRS_APPOINTMENT_TICKET_CUSTOMER_DATA_ValidID>
Validity ID of the customer user of the ticket linked to the appointment.

<OTRS_APPOINTMENT_TICKET_APPOINTMENTRULEID>
Ticket appointment rule ID of the appointment.

<OTRS_APPOINTMENT_TITLE>
Title of the appointment.

<OTRS_APPOINTMENT_TITLE[n]>
First n characters from the title of the appointment.

<OTRS_APPOINTMENT_UNIQUEID>
Unique ID of the appointment.

<OTRSCALENDAR_CalendarID>
ID of the calendar of the appointment.

<OTRSCALENDAR_CalendarName>
Name of the calendar of the appointment.

<OTRSCALENDAR_ChangeBy>
ID of the agent who changed the calendar of the appointment.

<OTRSCALENDAR_ChangeTime>
Date and time when the calendar of the appointment was changed.

<OTRSCALENDAR_Color>
Color of the calendar of the appointment in RGB format.

<OTRSCALENDAR_CreateBy>
ID of the agent who created the calendar of the appointment.

<OTRSCALENDAR_CreateTime>
Date and time when the calendar of the appointment was created.

<OTRSCALENDAR_GroupID>
Group ID of the calendar of the appointment.

<OTRSCALENDAR_TicketAppointments>
Returns an array of the ticket appointments.

<OTRSCALENDAR_ValidID>
Validation ID of the calendar of the appointment.

<OTRCOMMENT>
Alias of <OTRS_CUSTOMER_Body>.

<OTRCOMMENT[n]>
Alias of <OTRS_CUSTOMER_Body[n]>. 
<OTRS_CONFIG_AuthModule::Radius::Password> Masked and replaced by xxx.

<OTRS_CONFIG_Customer::AuthModule::DB::CustomerPassword> Masked and replaced by xxx.

<OTRS_CONFIG_Customer::AuthModule::Radius::Password> Masked and replaced by xxx.

<OTRS_CONFIG_DatabasePw> Masked and replaced by xxx.

<OTRS_CONFIG_PGP::Key::Password> Masked and replaced by xxx.

<OTRS_CONFIG_PublicFrontend::AuthPassword> Masked and replaced by xxx.

<OTRS_CONFIG_SearchUserPw> Masked and replaced by xxx.

<OTRS_CONFIG_SendmailModule::AuthPassword> Masked and replaced by xxx.

<OTRS_CONFIG_UserPw> Masked and replaced by xxx.

<OTRS_CONFIG_X>
Any system configuration value or empty string if the configuration not present. X is the name of the system configuration setting.

<OTRS_CURRENT_ChangeTime>
Change time of the current agent.

<OTRS_CURRENT_CreateTime>
Creation time of the current agent.

<OTRS_CURRENT_UserEmail>
Email of the current agent.

<OTRS_CURRENT_UserFirstname>
First name of the current agent.

<OTRS_CURRENT_UserFullname>
Full name of the current agent.

<OTRS_CURRENT_UserID>
User ID of the current agent.

<OTRS_CURRENT_UserLastname>
Last name of the current agent.

<OTRS_CURRENT_UserLogin>
Login name of the current agent.

<OTRS_CURRENT_UserPw>
Password of the current agent. Masked and replaced by xxx.

<OTRS_CURRENT_ValidID>
Validation ID of the current agent.

<OTRS_CUSTOMER_Body>
Body text of the latest customer user article.

11.9. OTRS Tags
<OTRS_CUSTOMER_Body[n]>
First n lines of the latest customer user article.

<OTRS_CUSTOMER_BODY_RichText>
The Rich Text body of the latest customer user article.

<OTRS_CUSTOMER_BODY_RichText[n]>
First n lines of the Rich Text body of the latest customer user article.

<OTRS_CUSTOMER_Cc>
Carbon copy address of the latest customer user article.

<OTRS_CUSTOMER_DATA_UserTitle>
Title of the customer user of the ticket.

<OTRS_CUSTOMER_DATA_UserFirstname>
First name of the customer user of the ticket.

<OTRS_CUSTOMER_DATA_UserLastname>
Last name of the customer user of the ticket.

<OTRS_CUSTOMER_DATA_UserLogin>
Login name of the customer user of the ticket.

<OTRS_CUSTOMER_DATA_UserPassword>
Password of the customer user of the ticket. Masked and replaced by xxx.

<OTRS_CUSTOMER_DATA_UserEmail>
Email of the customer user of the ticket.

<OTRS_CUSTOMER_DATA_UserCustomerID>
Customer ID of the customer user of the ticket.

<OTRS_CUSTOMER_DATA_UserPhone>
Phone number of the customer user of the ticket.

<OTRS_CUSTOMER_DATA_UserFax>
Fax number of the customer user of the ticket.

<OTRS_CUSTOMER_DATA_UserMobile>
Cell phone number of the customer user of the ticket.

<OTRS_CUSTOMER_DATA_UserStreet>
Street of the customer user of the ticket.

<OTRS_CUSTOMER_DATA_UserZip>
ZIP code of the customer user of the ticket.

<OTRS_CUSTOMER_DATA_UserCity>
City of the customer user of the ticket.

<OTRS_CUSTOMER_DATA_UserCountry>
Country of the customer user of the ticket.

<OTRS_CUSTOMER_DATA_UserComment>
Comment of the customer user of the ticket.

<OTRS_CUSTOMER_DATA_CustomerCompanyName>
Name of the company of the customer user of the ticket.

<OTRS_CUSTOMER_DATA_CustomerCompanyStreet>
Street of the company of the customer user of the ticket.
<OTRS_CUSTOMER_DATA_CustomerCompanyZIP>
ZIP code of the company of the customer user of the ticket.

<OTRS_CUSTOMER_DATA_CustomerCompanyCity>
City of the company of the customer user of the ticket.

<OTRS_CUSTOMER_DATA_CustomerCompanyCountry>
Country of the company of the customer user of the ticket.

<OTRS_CUSTOMER_DATA_CustomerCompanyURL>
URL of the company of the customer user of the ticket.

<OTRS_CUSTOMER_DATA_CustomerCompanyComment>
Comment of the company of the customer user of the ticket.

<OTRS_CUSTOMER_DATA_CreateTime>
Date and time when the customer user was created.

<OTRS_CUSTOMER_DATA_CreateBy>
ID of the agent who created the customer user.

<OTRS_CUSTOMER_DATA_ChangeTime>
Date and time when the customer user was changed.

<OTRS_CUSTOMER_DATA_ChangeBy>
ID of the agent who changed the customer user.

<OTRS_CUSTOMER_DATA_ValidID>
Validation ID of the customer user.

<OTRS_CUSTOMER_UserTitle>
Alias of <OTRS_CUSTOMER_DATA_UserTitle>.

<OTRS_CUSTOMER_UserFirstname>
Alias of <OTRS_CUSTOMER_DATA_UserFirstname>.

<OTRS_CUSTOMER_UserLastname>
Alias of <OTRS_CUSTOMER_DATA_UserLastname>.

<OTRS_CUSTOMER_UserLogin>
Alias of <OTRS_CUSTOMER_DATA_UserLogin>.

<OTRS_CUSTOMER_UserPassword>
Alias of <OTRS_CUSTOMER_DATA_UserPassword>.

<OTRS_CUSTOMER_UserEmail>
Alias of <OTRS_CUSTOMER_DATA_UserEmail>.

<OTRS_CUSTOMER_UserCustomerID>
Alias of <OTRS_CUSTOMER_DATA_UserCustomerID>.

<OTRS_CUSTOMER_UserPhone>
Alias of <OTRS_CUSTOMER_DATA_UserPhone>.

<OTRS_CUSTOMER_UserFax>
Alias of <OTRS_CUSTOMER_DATA_UserFax>.

<OTRS_CUSTOMER_UserMobile>
Alias of <OTRS_CUSTOMER_DATA_UserMobile>.

<OTRS_CUSTOMER_UserStreet>
Alias of <OTRS_CUSTOMER_DATA_UserStreet>.
<OTRS_CUSTOMER_UserZip>
   Alias of <OTRS_CUSTOMER_DATA_UserZip>.

<OTRS_CUSTOMER_UserCity>
   Alias of <OTRS_CUSTOMER_DATA_UserCity>.

<OTRS_CUSTOMER_UserCountry>
   Alias of <OTRS_CUSTOMER_DATA_UserCountry>.

<OTRS_CUSTOMER_UserComment>
   Alias of <OTRS_CUSTOMER_DATA_UserComment>.

<OTRS_CUSTOMER_CustomerCompanyName>
   Alias of <OTRS_CUSTOMER_DATA_CustomerCompanyName>.

<OTRS_CUSTOMER_CustomerCompanyStreet>
   Alias of <OTRS_CUSTOMER_DATA_CustomerCompanyStreet>.

<OTRS_CUSTOMER_CustomerCompanyZIP>
   Alias of <OTRS_CUSTOMER_DATA_CustomerCompanyZIP>.

<OTRS_CUSTOMER_CustomerCompanyCity>
   Alias of <OTRS_CUSTOMER_DATA_CustomerCompanyCity>.

<OTRS_CUSTOMER_CustomerCompanyCountry>

<OTRS_CUSTOMER_CustomerCompanyURL>
   Alias of <OTRS_CUSTOMER_DATA_CustomerCompanyURL>.

<OTRS_CUSTOMER_CustomerCompanyComment>
   Alias of <OTRS_CUSTOMER_DATA_CustomerCompanyComment>.

<OTRS_CUSTOMER_CreateTime>
   Alias of <OTRS_CUSTOMER_DATA_CreateTime>.

<OTRS_CUSTOMER_CreateBy>
   Alias of <OTRS_CUSTOMER_DATA_CreateBy>.

<OTRS_CUSTOMER_ChangeTime>
   Alias of <OTRS_CUSTOMER_DATA_ChangeTime>.

<OTRS_CUSTOMER_ChangeBy>
   Alias of <OTRS_CUSTOMER_DATA_ChangeBy>.

<OTRS_CUSTOMER_ValidID>
   Alias of <OTRS_CUSTOMER_DATA_ValidID>.

<OTRS_CUSTOMER_Email>
   Alias of <OTRS_CUSTOMER_BODY>.

<OTRS_CUSTOMER_Email[n]>
   Alias of <OTRS_CUSTOMER_BODY[n]>.

<OTRS_CUSTOMER_Note>
   Alias of <OTRS_CUSTOMER_BODY>.

<OTRS_CUSTOMER_Note[n]>
   Alias of <OTRS_CUSTOMER_BODY[n]>.

<OTRS_CUSTOMER_From>
   Sender address of the latest customer user article.
<OTRS_CUSTOMER_REALNAME>
Real name of the customer user of the ticket.

<OTRS_CUSTOMER_Subject>
Subject of the latest customer user article.

<OTRS_CUSTOMER_Subject[n]>
First n lines of the subject of the latest customer user article.

<OTRS_CUSTOMER_To>
Recipient address of the latest customer user article.

<OTRS_EMAIL_Date>
Full date and time of the email message based on UTC.

<OTRS_EMAIL_Date[TIMEZONE]>
Full date and time of the email message based on the given TIMEZONE (e.g. Europe/Berlin).

<OTRS_FAQ_Author>
Author name of the knowledge base article.

<OTRS_FAQ_Category>
Category name of the knowledge base article.

<OTRS_FAQ_CategoryID>
Category ID of the knowledge base article.

<OTRS_FAQ_ItemID>
Item ID of the knowledge base article.

<OTRS_FAQ_Language>
Language of the knowledge base article.

<OTRS_FAQ_Number>
Knowledge base article number of the knowledge base article.

<OTRS_FAQ_State>
State (visibility) of the knowledge base article.

<OTRS_FAQ_Title>
Title of the knowledge base article.

<OTRS_MERGE_TO_TICKET>
Ticket number of the new ticket where the original ticket is merged.

<OTRS_NOTIFICATION_RECIPIENT_UserFirstname>
First name of the recipient user of the appointment.

<OTRS_NOTIFICATION_RECIPIENT_UserFullname>
Full name of the recipient user of the appointment.

<OTRS_NOTIFICATION_RECIPIENT_UserLastname>
Last name of the recipient user of the appointment.

<OTRS_NOTIFICATION_RECIPIENT_UserLogin>
Login name of the recipient user of the appointment.

<OTRS_NOTIFICATION_RECIPIENT_UserPassword>
Password of the recipient user of the appointment. Masked and replaced by xxx.

<OTRS_OWNER_ChangeTime>
Alias of <OTRS_TICKET_OWNER_ChangeTime>.
<OTRS_OWNER_CreateTime>  
  Alias of <OTRS_TICKET_OWNER_CreateTime>.

<OTRS_OWNER_UserEmail>  
  Alias of <OTRS_TICKET_OWNER_UserEmail>.

<OTRS_OWNER_UserFirstname>  
  Alias of <OTRS_TICKET_OWNER_UserFirstname>.

<OTRS_OWNER_UserFullname>  
  Alias of <OTRS_TICKET_OWNER_UserFullname>.

<OTRS_OWNER_UserID>  
  Alias of <OTRS_TICKET_OWNER_UserID>.

<OTRS_OWNER_UserLastname>  
  Alias of <OTRS_TICKET_OWNER_UserLastname>.

<OTRS.OwnerUserLogin>  
  Alias of <OTRS_TICKET_OWNER_UserLogin>.

<OTRS_OWNER_UserPw>  
  Alias of <OTRS_TICKET_OWNER_UserPw>.

<OTRS_OWNER_ValidID>  
  Alias of <OTRS_TICKET_OWNER_ValidID>.

<OTRS_QUEUE>  
  Alias of <OTRS_TICKET_QUEUE>.

<OTRS_REDIRECT_TO>  
  Email address where the ticket is redirected to.

<OTRS_RESPONSIBLE_ChangeTime>  
  Alias of <OTRS_TICKET_RESPONSIBLE_ChangeTime>.

<OTRS_RESPONSIBLE_CreateTime>  
  Alias of <OTRS_TICKET_RESPONSIBLE_CreateTime>.

<OTRS_RESPONSIBLE_UserEmail>  
  Alias of <OTRS_TICKET_RESPONSIBLE_UserEmail>.

<OTRS_RESPONSIBLE_UserFirstname>  
  Alias of <OTRS_TICKET_RESPONSIBLE_UserFirstname>.

<OTRS_RESPONSIBLE_UserFullname>  
  Alias of <OTRS_TICKET_RESPONSIBLE_UserFullname>.

<OTRS_RESPONSIBLE_UserID>  
  Alias of <OTRS_TICKET_RESPONSIBLE_UserID>.

<OTRS_RESPONSIBLE_UserLastname>  
  Alias of <OTRS_TICKET_RESPONSIBLE_UserLastname>.

<OTRS_RESPONSIBLE_UserLogin>  
  Alias of <OTRS_TICKET_RESPONSIBLE_UserLogin>.

<OTRS_RESPONSIBLE_UserPw>  
  Alias of <OTRS_TICKET_RESPONSIBLE_UserPw>.

<OTRS_RESPONSIBLE_ValidID>  
  Alias of <OTRS_TICKET_RESPONSIBLE_ValidID>.
<OTRS_TICKET_AccountedTime>
Total time accounted in a ticket.

<OTRS_TICKET_Age>
Age of the ticket in absolute seconds.

<OTRS_TICKET_ArchiveFlag>
Archive status of the ticket. Returns y or n.

<OTRS_TICKET_ChangeBy>
ID of the agent who changed the ticket.

<OTRS_TICKET_Changed>
Date and time when the ticket was changed.

<OTRS_TICKET_CreateBy>
ID of the agent who created the ticket.

<OTRS_TICKET_Created>
Date and time when the ticket was created.

<OTRS_TICKET_CustomerID>
Customer ID of the ticket.

<OTRS_TICKET_CustomerUserID>
Customer user ID of the ticket.

<OTRS_TICKET_DynamicField_X>
Stored value of the dynamic field where X is the internal name of the dynamic field.

<OTRS_TICKET_DynamicField_X_Value>
Displayed value of the dynamic field where X is the internal name of the dynamic field.

<OTRS_TICKET_EscalationDestinationDate>
Date of escalation in date and time, e.g. 2021-08-02 18:00:00.

<OTRS_TICKET_EscalationDestinationIn>
Escalation in human readable format, e.g. 1h 4m.

<OTRS_TICKET_EscalationDestinationTime>
Date of escalation in UNIX time, e.g. 1627904516.

<OTRS_TICKET_EscalationResponseTime>
Response time of escalation in UNIX time, e.g. 1627904516.

<OTRS_TICKET_EscalationSolutionTime>
Solution time of escalation in UNIX time, e.g. 1627904516.

<OTRS_TICKET_EscalationTime>
Seconds total till escalation, e.g. 3600.

<OTRS_TICKET_EscalationTimeWorkingTime>
Seconds of working/service time till escalation, e.g. 1800.

<OTRS_TICKET_EscalationUpdateTime>
Update time of escalation in UNIX time, e.g. 1627904516.

<OTRS_TICKET_FirstResponseTime>
Seconds total till first response, e.g. 3600.

<OTRS_TICKET_FirstResponseTimeDestinationDate>
Date of first response time in date and time, e.g. 2021-08-02 18:00:00.
<OTRS_TICKET_FirstResponseTimeDestinationTime>
  Date of first response time in UNIX time, e.g. 1627904516.
</OTRS_TICKET_FirstResponseTimeDestinationTime>

<OTRS_TICKET_FirstResponseTimeEscalation>
  If true, ticket is escalated.
</OTRS_TICKET_FirstResponseTimeEscalation>

<OTRS_TICKET_FirstResponseTimeNotification>
  If true, notify - x% of escalation has reached.
</OTRS_TICKET_FirstResponseTimeNotification>

<OTRS_TICKET_FirstResponseTimeWorkingTime>
  Seconds of working/service time till first response, e.g. 1800.
</OTRS_TICKET_FirstResponseTimeWorkingTime>

<OTRS_TICKET_GroupID>
  Group ID of the queue of the ticket.
</OTRS_TICKET_GroupID>

<OTRS_TICKET_ID>
  ID of the ticket.
</OTRS_TICKET_ID>

<OTRS_TICKET_Lock>
  Lock status of the ticket.
</OTRS_TICKET_Lock>

<OTRS_TICKET_LockID>
  Lock ID of the ticket.
</OTRS_TICKET_LockID>

<OTRS_TICKET_Number>
  Number of the ticket.
</OTRS_TICKET_Number>

<OTRS_TICKET_Owner>
  Alias of <OTRS_TICKET_OWNER_UserLogin>.
</OTRS_TICKET_Owner>

<OTRS_TICKET_OWNER_ChangeTime>
  Change time of the owner agent of the ticket.
</OTRS_TICKET_OWNER_ChangeTime>

<OTRS_TICKET_OWNER_CreateTime>
  Creation time of the owner agent of the ticket.
</OTRS_TICKET_OWNER_CreateTime>

<OTRS_TICKET_OWNER_Email>
  Email of the owner agent of the ticket.
</OTRS_TICKET_OWNER_Email>

<OTRS_TICKET_OWNER_FirstName>
  First name of the owner agent of the ticket.
</OTRS_TICKET_OWNER_FirstName>

<OTRS_TICKET_OWNER_Fullname>
  Full name of the owner agent of the ticket.
</OTRS_TICKET_OWNER_Fullname>

<OTRS_TICKET_OWNER_ID>
  User ID of the owner agent of the ticket.
</OTRS_TICKET_OWNER_ID>

<OTRS_TICKET_OWNER_Lastname>
  Last name of the owner agent of the ticket.
</OTRS_TICKET_OWNER_Lastname>

<OTRS_TICKET_OWNER_Login>
  Login name of the owner agent of the ticket.
</OTRS_TICKET_OWNER_Login>

<OTRS_TICKET_OWNER_Pw>
  Password of the owner agent of the ticket. Masked and replaced by xxx.
</OTRS_TICKET_OWNER_Pw>

<OTRS_TICKET_OWNER_ValidID>
  Validation ID of the owner agent of the ticket.
</OTRS_TICKET_OWNER_ValidID>

<OTRS_TICKET_OwnerID>
  ID of the owner agent of the ticket.
</OTRS_TICKET_OwnerID>
<OTRS_TICKET_Priority>
Priority of the ticket.

<OTRS_TICKET_PriorityID>
Priority ID of the ticket.

<OTRS_TICKET_Queue>
Queue of the ticket.

<OTRS_TICKET_QueueID>
Queue ID of the ticket.

<OTRS_TICKET_RealTillTimeNotUsed>
UNIX timestamp of pending time.

<OTRS_TICKET_Responsible>
Alias of <OTRS_TICKET_RESPONSIBLE_UserLogin>.

<OTRS_TICKET_RESPONSIBLE_ChangeTime>
Change time of the responsible agent of the ticket.

<OTRS_TICKET_RESPONSIBLE_CreateTime>
Creation time of the responsible agent of the ticket.

<OTRS_TICKET_RESPONSIBLE_UserEmail>
Email of the responsible agent of the ticket.

<OTRS_TICKET_RESPONSIBLE_UserFirstname>
First name of the responsible agent of the ticket.

<OTRS_TICKET_RESPONSIBLE_UserFullname>
Full name of the responsible agent of the ticket.

<OTRS_TICKET_RESPONSIBLE_UserID>
User ID of the responsible agent of the ticket.

<OTRS_TICKET_RESPONSIBLE_UserLastname>
Last name of the responsible agent of the ticket.

<OTRS_TICKET_RESPONSIBLE_UserLogin>
Login name of the responsible agent of the ticket.

<OTRS_TICKET_RESPONSIBLE_UserPw>
Password of the responsible agent of the ticket. Masked and replaced by xxx.

<OTRS_TICKET_RESPONSIBLE_ValidID>
Validation ID of the responsible agent of the ticket.

<OTRS_TICKET_ResponsiveID>
ID of the responsible agent of the ticket.

<OTRS_TICKET_Service>
Service of the ticket.

<OTRS_TICKET_ServiceID>
Service ID of the ticket.

<OTRS_TICKET_SLA>
Service level agreement of the ticket.

<OTRS_TICKET_SLAID>
Service level agreement ID of the ticket.
<OTRS_TICKET_SolutionTime>
Seconds total till solution, e. g. 3600.

<OTRS_TICKET_SolutionTimeDestinationDate>
Date of solution time in date and time, e. g. 2021-08-02 18:00:00.

<OTRS_TICKET_SolutionTimeDestinationTime>
Date of solution time in UNIX time, e. g. 1627904516.

<OTRS_TICKET_SolutionTimeEscalation>
If true, ticket is escalated.

<OTRS_TICKET_SolutionTimeNotification>
If true, notify - x% of escalation has reached.

<OTRS_TICKET_SolutionTimeWorkingTime>
Seconds of working/service time till solution, e. g. 1800.

<OTRS_TICKET_State>
State of the ticket.

<OTRS_TICKET_StateID>
State ID of the ticket.

<OTRS_TICKET_StateType>
State type of the ticket.

<OTRS_TICKET_TicketID>
Ticket ID of the ticket.

<OTRS_TICKET_TicketNumber>
Ticket number of the ticket.

<OTRS_TICKET_TimeUnit>
Alias of <OTRS_TICKET_AccountedTime>.

<OTRS_TICKET_Title>
Title of the ticket.

<OTRS_TICKET_Type>
Type of the ticket.

<OTRS_TICKET_TypeID>
Type ID of the ticket.

<OTRS_TICKET_UnlockTimeout>
Unlock timeout of the ticket.

<OTRS_TICKET_UntilTime>
Pending time in seconds.

<OTRS_TICKET_UpdateTime>
Seconds total till update, e. g. 3600.

<OTRS_TICKET_UpdateTimeDestinationDate>
Date of update time in date and time, e. g. 2021-08-02 18:00:00.

<OTRS_TICKET_UpdateTimeDestinationTime>
Date of update time in UNIX time, e. g. 1627904516.

<OTRS_TICKET_UpdateTimeEscalation>
If true, ticket is escalated.
<OTRS TICKET_UpdateTimeNotification>
   If true, notify \( x\% \) of escalation has reached.

<OTRS TICKET_UpdateTimeWorkingTime>
   Seconds of working/service time till update, e. g. 1800.

<OTRS_TOKEN>
   Token for the lost password feature.

<OTRS_UserFirstname>
   Alias of <OTRS_NOTIFICATION_RECIPIENT_UserFirstname>.

<OTRS_UserFullname>
   Alias of <OTRS_NOTIFICATION_RECIPIENT_UserFullname>.

<OTRS_UserLastname>
   Alias of <OTRS_NOTIFICATION_RECIPIENT_UserLastname>.

<OTRS_UserLogin>
   Alias of <OTRS_NOTIFICATION_RECIPIENT_UserLogin>.

11.9.3 OTRS Screen Reference

The following reference lists the screens where the OTRS tags can be used.

**Note:** <OTRS_AGENT> and <OTRS_CURRENT> are synonym and they will be replaced by the data of the agent doing the action. For example in process management or generic agent where the agent can overwrite the UserID parameter, it do not has to be the current ticket owner.

**Forward action**
   <OTRS_TICKET_State>

**Merge Action**
   <OTRS_MERGE_TO_TICKET>

**Ticket::Frontend::AutomaticMergeText**
   <OTRS_TICKET_*>

**Generic notifications**
   <OTRS_CONFIG_*>

**Appointment notifications**
   • <OTRS_APPOINTMENT_*>
   • <OTRSCALENDAR_*>
   • <OTRS_CONFIG_*>
   • <OTRS_NOTIFICATION_*>
   • <OTRS_USER_*>

**Process management sequence flow actions and script task activities**
   • <OTRS_AGENT_*>
   • <OTRS_CONFIG_*>
   • <OTRS_CUSTOMER_*>
   • <OTRS_NOTIFICATION_*>
• `<OTRS_TICKET_*>`

Ticket notifications
• `<OTRS_APPPOINTMENT_*>`
• `<OTRS_CALENDAR_*>`
• `<OTRS_CONFIG_*>`
• `<OTRS_NOTIFICATION_*>`
• `<OTRS_USER_*>`

Lost password
• `<OTRS_NEWPW>`
• `<OTRS_USER_*>`

Auto responses
• `<OTRS_AGENT_*>`
• `<OTRS_CONFIG_*>`
• `<OTRS_CUSTOMER_*>`
• `<OTRS_NOTIFICATION_*>`
• `<OTRS_TICKET_*>`

Salutation
• `<OTRS_CONFIG_*>`
• `<OTRS_CURRENT_*>`
• `<OTRS_CUSTOMER_DATA_*>`
• `<OTRS_OWNER_*>`
• `<OTRS_RESPONSIBLE_*>`
• `<OTRS_TICKET_*>`

Signature
• `<OTRS_CONFIG_*>`
• `<OTRS_CURRENT_*>`
• `<OTRS_CUSTOMER_DATA_*>`
• `<OTRS_OWNER_*>`
• `<OTRS_RESPONSIBLE_*>`
• `<OTRS_TICKET_*>`

Templates
• `<OTRS_AGENT_*>`
• `<OTRS_CONFIG_*>`
• `<OTRS_CURRENT_*>`
• `<OTRS_CUSTOMER_*>`
• `<OTRS_CUSTOMER_DATA_*>`
11.10 Include Custom Scripts

A modern web application has been built with security-first mindset in place. It contains several mechanisms to make sure that all code in the front end is provided directly by the OTRS framework.

In addition, a security standard called Content Security Policy headers is now leveraged by the built-in web server. It serves as a last line of defense and in case some unexpected code still makes it to the client, it will make sure that the user’s browser simply refuses to run it.

However, a use-case still exists in which even a modern web application might still need to run some additional code, provided it is vetted and included by the administrators. One example could be an external integrated chat solution, but could also be an inline code snippet used for external web analytics.

See also:

Including custom scripts can be done in the System Configuration with the following settings:

- AgentFrontend::ExternalScripts
- AgentFrontend::InlineScripts
- ExternalFrontend::ExternalScripts
- ExternalFrontend::InlineScripts
- WebApp::Server::AdditionalOrigins

11.10.1 Web Analytics Example

In this example, we outline the steps to include custom scripts used by a web analytics provider in the external interface application. They will be run each time the application is used in order to track and report the behavior of the user for later analysis.

We start with the provided code snippet below, from a third party provider.

```html
<script async src="https://www.example.com/track/js?id=UA-XXXXXX-Y"></script>
<script>
    window.dataLayer = window.dataLayer || [];
    function track(){dataLayer.push(arguments);};
    track('js', new Date());
    track('config', 'UA-XXXXXX-Y');
</script>
```

First line of the snippet refers to an external resource which should be loaded by the script tag.

In the script block below, we have some inline code which is run immediately when the page is loaded.
Adding External Script Resources

First, we need to include the external script location in the appropriate configuration:

1. Go to the System Configuration screen.
2. Search for the setting ExternalFrontend::ExternalScripts.
3. Click on the setting in order to edit it.
4. In case a value is already present, click on the plus button. Otherwise, proceed below.
5. Enter the full location of the external resource in the text field. For example: https://www.example.com/track/js?id=UA-XXXXXX-Y.
6. Click on the check mark in order to save the modified setting.
7. Deploy the modified system configuration.

Adding Inline Code Snippets

Next, we have to also include the inline part of the original snippet:

1. Go to the System Configuration screen.
2. Search for the setting ExternalFrontend::InlineScripts.
3. Click on the setting in order to edit it.
4. In case a value is already present, click on the plus button. Otherwise, proceed below.
5. Enter the full code snippet in the text area, minus any script tags. For example:

   ```
   window.dataLayer = window.dataLayer || [];
   function track(){dataLayer.push(arguments);}
   track('js', new Date());
   track('config', 'UA-XXXXXX-Y');
   ```

6. Click on the check mark in order to save the modified setting.
7. Deploy the modified system configuration.

Rebuilding the Application

In order to apply the changes, we also need to rebuild the application. Drop down to shell, and execute the following command:

```
bin/otrs.WebServer.pl --deploy-assets
```
Whitelisting Additional Origins in the Security Headers

If you now try to access the external interface application, you will be able to verify that the scripts are included in the code. However, your browser will probably block access to all inline and external resources, therefore the code might fail with some errors.

This behavior is by design, since external resources can only be loaded if they are specifically whitelisted in the Content Security Policy headers.

To check for blocked code, please use suitable web browser inspection tools. In our example, we will be using Mozilla Firefox and its web console available via Tools → Web Developer → Web Console menu item, or via the F12 shortcut key.

For the example code snippet, you might receive following errors in the console when the application is accessed:

From the console errors we can see that the external script resource was prevented from being loaded (lines 1 and 3). In addition to that, two evaluation calls were also blocked (lines 2 and 5). All errors reference a Content Security Policy rule under the name of script-src, which signals script resources.

We need to add both the external resource and the evaluation calls to the additional origins list of the Content Security Policy headers:

1. Go to the System Configuration screen.
2. Search for the setting WebApp::Server::AdditionalOrigins.
3. Click on the setting in order to edit it.
4. In case a value for script-src is already present, click on the plus button next to it. Otherwise, proceed below.
5. Enter the domain part only of the blocked resource in the text field. For example: https://www.example.com. This allows the external resource to be loaded.
6. Click on the plus button next to the field, so another value is added.
7. Enter the following directive in the new field, including the quotes: 'unsafe-eval'. This allows the evaluation calls to be executed.
8. Click on the check mark in order to save the modified setting.
9. Deploy the modified system configuration.

There is no need to rebuild the external interface application at this point, as the additional origins configuration should be immediately in effect.

If you reload the external interface application, you might get some additional errors. In our example, it might be the following:
This error points that an additional resource that was also blocked, an image at a specific location (line 1). We can deduce this via the name of the Content Security Policy rule `img-src`, which references an image resource. In order to add it to the whitelist, try the following:

1. Go to the System Configuration screen.
2. Search for the setting `WebApp::Server::AdditionalOrigins`.
3. Click on the setting in order to edit it.
4. In case a value for `img-src` is already present, click on the plus button next to it. Otherwise, proceed below.
5. Enter the domain part only of the blocked resource in the text field. For example: `https://www.example.com`. This allows the external image resource to be loaded.
6. Click on the check mark in order to save the modified setting.
7. Deploy the modified system configuration.

Try again to reload the external interface application and check if there are more errors. If not, your scripts are now probably working as expected.

Unfortunately, it is not possible to predict what kind of resources your scripts might be requiring. But, no worries, you can whitelist most of them, just make sure to follow the trail of hints shown in the browser console log. Find a corresponding header rule in the configuration and update it accordingly.

**Note:** Some resources might only be requested by others, hence several iterations might be needed until everything is configured properly.

**Warning:** Whitelisting external resources opens potential security risks in your OTRS application! Only allow those resources that you are sure are not malicious and come from reputable sources. Keep in mind that if something is secure today, does not mean it will be tomorrow. Stay safe!

### 11.11 Allow Program Safe to Run

External programs to be run by OTRS and directories where OTRS can read from or write to are blocked by default due to security reasons. If you would like to use an external program in scripts, the 'PROGRAM' is not safe to run message appears in the log file where PROGRAM is the name of program.

There is no graphical user interface to add additional program or directory to the allow list. A system administrator who has file system access has to add the allowed programs and directories to configuration file.
To add programs and directories to the allow list:

1. Open $OTRS_HOME/Kernel/Config.pm.
2. Add the following settings:

```perl
$self->{'SystemConfiguration::ValueType::SystemCommand::BinaryWhiteList'} = {
    'program_name',
};
$self->{'SystemConfiguration::ValueType::SystemCommand::DirectoryWhiteList'} = {
    '/path/to/directory',
};
```

The first setting lists the base names of allowed commands which can be run in a system command. The second setting lists the absolute paths of allowed directories where the system can read from or write to during a system command redirect.

In the example above the 999-Custom is a unique identifier for expanding the allow lists.

**Warning:** Do not use the same unique identifier anywhere else in the system in the scope of this setting. Otherwise a previous allow list will be overwritten!

### 11.12 Custom Language File

To use this tutorial you need file system and command line access to the server where OTRS is running.

**Note:** This feature is only available to On-Premise customers. If you are a Managed customer, this feature is taken care of by the Customer Solutions Team in OTRS. Please contact us via support@otrs.com or in the OTRS Portal.

OTRS can be localized into other languages than English. The language files are stored in .pm files under the $OTRS_HOME/Kernel/Language/ folder. There are three types of language files:

**Framework language file**

The files named based on a language code and optional dialect code separated by an underscore character (for example de.pm for German language file or en_CA.pm for the Canadian English language file) contain the translation of the core system. These files are part of the released package and they are being updated time to time with the translations made on OTRS Translation Portal.

Do not edit these files manually. They will be overwritten during the next version update.

**Package language file**

Packages like ITSM packages or features have own language files using the following naming convention: language code and optional dialect code followed by the package name separated by underscore characters (for example de_OTRSServiceManagement.pm for German language file or en_CA_OTRSServiceManagement.pm for the Canadian English language file of the OTRSServiceManagement package).

Do not edit these files manually. They will be overwritten during the next version update.
Custom language file

Custom language files are not part of the system. You have to create it manually and put it to the language folder. The name of the custom language file should be a language code and optional dialect code followed by the word `Custom` separated by underscore character (for example `de_Custom.pm` for German custom language file or `en_CA_Custom.pm` for the Canadian English custom language file). Since this file is not part of the release package, this will not be overwritten during version updates.

In a system where all kind of language files are present, the framework language file is loaded first then the package language files are loaded in alphabetical order and finally the custom language file is loaded. This ensures that the translations from the custom language file can override any previous translations.

There are two kind of usage of the custom language file:

1. To add translation to system resources created or changed after the installation.
2. To customize the existing translation.

During the configuration phase of the system the created or modified resources can contain new translatable strings like names, descriptions or any other attributes of the following resources:

- Calendars
- FAQ Category
- System Configuration
- Dynamic Fields
- Process Management
- Priorities
- Services
- Service Level Agreements
- States
- Types
- Customers
- Customer Users

It is recommended to always use English texts for the resources above and translate them using the custom language file even if the system is designed to be used in a specific language.

When the resources have been added to the system, you have to collect the translatable strings manually and you have to add them to the custom language file.

This example shows a system where a new drop-down dynamic field with translatable options and a new ticket state have been added. Additionally an existing translation has been changed.

The German custom language file should look like this:

```perl
# --
# Copyright (C) YEAR, https://your-company.com/
# --
# This software comes with ABSOLUTELY NO WARRANTY. For details, see
# the enclosed file COPYING for license information (GPL). If you
# did not receive this file, see https://www.gnu.org/licenses/gpl-3.0.txt.
# --
package Kernel::Language::de_Custom;
```
use strict;
use warnings;
use utf8;

sub Data {
    my $Self = shift;

    # School dynamic field options
    $Self->{Translation}->{'middle school'} = 'Mittelschule';
    $Self->{Translation}->{'high school'} = 'Oberschule';
    $Self->{Translation}->{'University'} = 'Universität';

    # Ticket state
    $Self->{Translation}->{'closed with workaround'} = 'provisorisch geschlossen';

    # Override existing translation
    $Self->{Translation}->{'Internal News'} = 'Firmennachrichten';

    push @{$Self->{JavaScriptStrings} // []}, (  
    );

    return;
}

The first section contains copyright and license information. Since OTRS is licensed under GNU GPL version 3 it is recommended to apply the same license to the custom language file. Do not forget to change the year and the copyright holder in the second line.

The next section contains the package path which should be the relative path from the OTRS home folder and the name of the custom language file without the file extension. In the example above this is `Kernel::Language::de_Custom`. If you create the custom language file for another language you have to change the language prefix in the last segment of the path.

The most important section is the translation entries. Each entry contains the English string as key and the translation of the target language as value. It is recommended to group the entries and add a comment (a line starting with `#` character) which explains where the strings come from. This facilitates the maintenance of the custom language file.

It is possible to override the existing translation of the framework. In our example we override the German translation of `Internal News` with `Firmennachrichten` instead of the original `Interne Nachrichten`. To do this you have to search for the original string in the German language file (`de.pm`) then copy the original string to the custom language file and add different translation.

Any character can be in the strings but the apostrophe character has to be escaped as `\'` like `don\'t` because this character is used as enclosing character.

The language files for the new interface are now part of the built application (static JSON). When you add a custom language file to the file system, you need to rebuild the application for the change to be considered. To trigger the rebuild, restart the server with the `--deploy-assets` option:

```
  otrs> /opt/otrs/bin/otrs.WebServer.pl --deploy-assets
```

During the build process, the language files will be refreshed and will take any `_Custom.pm` into account.
11.13 Database Table Optimization

**Note:** This tutorial is only for on-Premise customers. The Customer Solutions team takes care of the database of managed customers.

Due to the nature of database tables they can be fragmented over the time. The fragmentation is caused by updating the values in the records. This is normal, but a fragmented table takes more storage and the queries can run slower.

This is a database operation topic and not related to OTRS strictly, but this tutorial can help to identify and solve the problem if the database is getting bigger and bigger.

To optimize the database tables:

1. Check the status of the tables using the SQL statement below.

   ```sql
   SELECT TABLE_NAME, 
       ROUND(DATA_LENGTH/1024/1024, 2) AS DATA_LENGTH, 
       ROUND(INDEX_LENGTH/1024/1024, 2) AS INDEX_LENGTH, 
       ROUND(DATA_FREE/1024/1024, 2) AS DATA_FREE, 
       (data_free/(index_length+data_length)) AS FRAG_RATIO 
   FROM information_schema.tables 
   WHERE TABLE_SCHEMA = 'otrs' 
   AND DATA_FREE > 0 
   ORDER BY frag_ratio DESC;
   ```

2. Review and analyze the output which should look like this.

   ```plaintext
   +------------------------------+-------------+--------------+-----------+-------+
   | TABLE_NAME                  | DATA_LENGTH | INDEX_LENGTH | DATA_FREE | FRAG_RATIO |
   +------------------------------+-------------+--------------+-----------+-------+
   | communication_log_object_entry | 0.02        | 0.03         | 10.00     | 213.33 |
   | user_config                  | 1.19        | 0.05         | 4.00      | 3.24   |
   | web_upload_cache             | 7.31        | 0.00         | 22.00     | 3.00   |
   | article_data_mime            | 1.52        | 0.06         | 4.00      | 2.00   |
   | sysconfig_deployment         | 10.02       | 0.02         | 16.00     | 1.00   |
   | xml_storage                  | 1.50        | 1.92         | 4.00      | 1.00   |
   | mail_queue                   | 5.52        | 0.05         | 4.00      | 0.00   |
   | virtual_fs_db                | 1.52        | 0.02         | 1.00      | 0.00   |
   | sysconfig_default            | 6.41        | 0.31         | 4.00      | 0.00   |
   | sysconfig_default_version    | 10.52       | 0.45         | 5.00      | 0.00   |
   | package_repository           | 33.52       | 0.03         | 11.00     | 0.00   |
   ```

   (continues on next page)
The output shows that the fragmentation ratio of the `communication_log_object_entry` table is 213 and the table contains 10 MB empty data.

3. If the fragmentation ratio is higher than 50% (0.5 in the FRAG_RATIO column) you should consider to optimize the table using the OPTIMIZE SQL statement.

```
OPTIMIZE TABLE otrs.communication_log_object_entry;
```

4. Verify if the table is not fragmented anymore. Use the same SQL statement as used in step 1.

```
+---------------------------+-------------+--------------+-----------+------------+
| TABLE_NAME               | DATA_LENGTH | INDEX_LENGTH | DATA_FREE | FRAG_RATIO |
+---------------------------+-------------+--------------+-----------+------------+
| user_config              | 1.19        | 0.05         | 4.00      | 3.2405     |
| web_upload_cache         | 7.31        | 0.00         | 22.00     | 3.0085     |
| article_data_mime        | 1.52        | 0.06         | 4.00      | 2.5347     |
| sysconfig_deployment     | 10.02       | 0.02         | 16.00     | 1.5950     |
| xml_storage              | 1.50        | 1.92         | 4.00      | 1.1689     |
| mail_queue               | 5.52        | 0.05         | 4.00      | 0.7191     |
| virtual_fs_db            | 1.52        | 0.02         | 1.00      | 0.6531     |
| sysconfig_default        | 6.41        | 0.31         | 4.00      | 0.5953     |
| sysconfig_default_version| 10.52       | 0.45         | 5.00      | 0.4558     |
| package_repository       | 33.52       | 0.03         | 11.00     | 0.3279     |
+---------------------------+-------------+--------------+-----------+------------+
```

5. Repeat step 3 for the other tables if needed. You can optimize more tables at the same time.

```
OPTIMIZE TABLE otrs.communication_log_object_entry, otrs.web_upload_cache, otrs.package_repository;
```

See also:

Read the official manual of MySQL for detailed information.
11.14 Process Examples

This chapter assumes that you already know basically how to create and configure process items and how to place a process path on the drawing area. Please read the Process Management chapter for more information or participate in an OTRS administrator training.

This chapter contains two simple process examples from practice. You can use them yourself to apply your learned knowledge.

11.14.1 Application for Leave

This sample process describes a possible handling for a leave request. The agent creates a process ticket and enters the data. The ticket is then first sent to the head of department. After the approval of the head of department, the ticket is sent to the queue HR Department. If the department head does not give an approval, a ticket with the rejection is sent to the agent and the process ends.

The HR department receives the ticket with the approval of the head of department. Now it is checked if the agent still has enough free days available. If yes, a ticket is sent to the agent with the information Confirmed and the process ends. If there are not enough days available, a ticket with the information Rejected is sent to the agent and the process ends.

Enable the following System Configuration settings:

- Ticket::Service
- Ticket::Type

Create the following Queues:

- Administration
- HR Department

Create the following Services:

- Application for Leave

Create the following Types:

- Internal Request

Create the following Dynamic Fields:

<table>
<thead>
<tr>
<th>Object</th>
<th>Type</th>
<th>Name</th>
<th>Label</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ticket</td>
<td>Text</td>
<td>ProcessState</td>
<td>Process State</td>
</tr>
<tr>
<td>Ticket</td>
<td>Date</td>
<td>VacationStart</td>
<td>Vacation Start</td>
</tr>
<tr>
<td>Ticket</td>
<td>Date</td>
<td>VacationEnd</td>
<td>Vacation End</td>
</tr>
<tr>
<td>Ticket</td>
<td>Text</td>
<td>UsedVacationDays</td>
<td>Days of Vacation Used</td>
</tr>
<tr>
<td>Ticket</td>
<td>Text</td>
<td>OpenVacationDays</td>
<td>Days of Vacation Open</td>
</tr>
<tr>
<td>Ticket</td>
<td>Text</td>
<td>EmergencyTelephone</td>
<td>Emergency Phone Number</td>
</tr>
</tbody>
</table>

Set the following System Configuration settings:

- AgentFrontend::TicketDetailView::Widget::BusinessProcessInformation###DynamicField
  - ProcessState → 1 - Enabled
  - VacationStart → 1 - Enabled
  - VacationEnd → 1 - Enabled
Create a new process named Application for Leave.

Create the following user task activity dialogs with fields:

- **Recording the demand**
  - CustomerID → Display: Show Field As Mandatory
  - DynamicField_ProcessState → Default value: approval, Display: Do not show Field
  - DynamicField_OpenVacationDays → Display: Show Field As Mandatory
  - DynamicField_UsedVacationDays → Display: Show Field As Mandatory
  - DynamicField_VacationStart → Display: Show Field As Mandatory
  - DynamicField_VacationEnd → Display: Show Field As Mandatory
  - Queue → Default value: Administration, Display: Do not show Field
  - Service → Default value: Application for Leave, Display: Do not show Field
  - State → Default value: open, Display: Do not show Field
  - Type → Default value: Internal Request, Display: Do not show Field

- **Approved**
  - DynamicField_ProcessState → Default value: approved, Display: Do not show Field

- **Approval denied**
  - Article → Communication Channel: OTRS, Time Units: Do not show Field, Display: Show Field
  - DynamicField_ProcessState → Default value: approval denied, Display: Do not show Field
  - State → Default value: closed successful, Display: Do not show Field

- **Application for leave processed**
  - Article → Communication Channel: OTRS, Is visible to customer: no, Display: Show Field As Mandatory
  - DynamicField_OpenVacationDays → Display: Show Field As Mandatory
  - DynamicField_UsedVacationDays → Display: Show Field As Mandatory
  - DynamicField_ProcessState → Default value: confirmation received, Display: Do not show Field
  - State → Default value: closed successful, Display: Do not show Field

- **Not enough vacation days**
  - DynamicFieldProcessState → Default value: not enough vacation days, Display: Do not show Field
  - State → Default value: closed unsuccessful, Display: Do not show Field

Create the following sequence flows:

- **DynamicField_ProcessState = approval**
Create the following sequence flow actions:

- **Set ticket title** "Application for leave: EmployeeName"
  
  - Module: TicketTitleSet

  Click on the Save then the Configure button and add the following parameters:

  - Key: Title, value: Application for leave: <OTRS_CUSTOMER_REALNAME>.

Create the following user task activities:

- **Recording the application**
  
  Assign the user task activity dialog Recording the demand.

- **Approval**
  
  Assign the user task activity dialogs Approval denied and Approved.

- **Confirmation of HR department**
  
  Assign the user task activity dialogs Application for leave processed and Not enough vacation days.
Create the following script task activities:

- **Send ticket to queue “HR Department”**
  
  - Script: TicketQueueSet
  
  Click on the Save then the Configure button and add the following parameters:
  
  - Key: Queue, value: HR Department
  - Key: UserID, value: 1

- **Send notification of confirmation to employee**
  
  - Script: TicketArticleCreate
  
  Click on the Save then the Configure button and add the following parameters:
  
  - Key: Body, value: Good News! You can take your free time!
  - Key: CommunicationChannel, value: Internal
  - Key: ContentType, value: text/html;charset=UTF-8
  - Key: HistoryComment, value: Send note
  - Key: HistoryType, value: AddNote
  - Key: IsVisibleForCustomer, value: 1
  - Key: SenderType, value: agent
  - Key: Subject, value: Your application for leave was successfully processed

- **Send notification of denial to employee**
  
  - Script: TicketArticleCreate
  
  Click on the Save then the Configure button and add the following parameters:
  
  - Key: Body, value: Your <OTRS_TICKET_Service> was denied. Please talk to your manager.
  - Key: CommunicationChannel, value: Internal
  - Key: ContentType, value: text/html;charset=UTF-8
  - Key: HistoryComment, value: Send note
  - Key: HistoryType, value: AddNote
  - Key: IsVisibleForCustomer, value: 1
  - Key: SenderType, value: agent
  - Key: Subject, value: Approval denied

Create the process path as follows:

Double click on the DynamicField_ProcessState = approval sequence flow and assign the Set ticket title “Application for leave: EmployeeName” sequence flow action.

Set the process state to Active and save it.
Fig. 16: Application for Leave Process on Canvas
11.14.2 Defect Handling

This sample process describes a possible procedure for software defect handling. First, the possible software defect is recorded and classified via ticket. If it is a software defect, the ticket is sent to the queue Development. If it is not a software defect, the process ends at this point.

The ticket is now processed in development and runs through the Troubleshooting activity. If the defect has been fixed, the process ends.

If troubleshooting is unsuccessful, the ticket is returned to the Development queue for reprocessing.

Install the following packages:

- OTRSServiceManagement
- OTRSConfigurationManagement
- OTRSDynamicFieldCI

Enable the following System Configuration settings:

- Ticket::Service
- Ticket::Type

Create the following Queues:

- Technical Support
- Development

Create the following Services:

- Software

Create the following States:

- ready for release → State type: open

Create the following Types:

- Defect

Create the following Dynamic Fields:
Set the following System Configuration settings:

- AgentFrontend::TicketDetailView::Widget::BusinessProcessInformation###DynamicField
  - ProcessState → 1 - Enabled
  - AffectedSoftware → 1 - Enabled
  - AffectedVersion → 1 - Enabled
  - AffectedComponent → 1 - Enabled
  - Severity → 1 - Enabled
  - Likelihood → 1 - Enabled
  - Tasks → 1 - Enabled

Create a new process named Defect Handling.

Create the following user task activity dialogs with fields:

- Report new software defect
  - CustomerID → Display: Show Field As Mandatory
  - DynamicField_AffectedSoftware → Display: Show Field As Mandatory
  - DynamicField_AffectedComponent → Display: Show Field As Mandatory
  - DynamicField_AffectedVersion → Display: Show Field As Mandatory
  - DynamicField_Severity → Display: Show Field As Mandatory
  - DynamicField_Likelihood → Display: Show Field As Mandatory
  - Article → Communication Channel: OTRS, Display: Show Field As Mandatory
  - DynamicField_ProcessState → Default value: defect reported, Display: Do not show Field
• Queue → Default value: Technical Support, Display: Do not show Field
• Service → Default value: Software, Display: Do not show Field
• State → Default value: open, Display: Do not show Field
• Type → Default value: Defect, Display: Do not show Field

• Defect classification
  • DynamicField_Severity → Display: Show Field As Mandatory
  • DynamicField_Likelihood → Display: Show Field As Mandatory
  • Priority → Display: Show Field As Mandatory
  • Article → Communication Channel: OTRS, Display: Show Field
  • DynamicField_ProcessState → Default value: defect classified, Display: Do not show Field

• Planning of defect handling
  • DynamicField_Tasks → Display: Show Field As Mandatory
  • Owner → Display: Show Field As Mandatory
  • DynamicField_ProcessState → Default value: planning finished, Display: Do not show Field

• No Defect
  • DynamicField_ProcessState → Default value: no defect, Display: Do not show Field
  • State → Default value: closed unsuccessful, Display: Do not show Field

• Defect solved
  • Article → Communication Channel: OTRS, Display: Show Field As Mandatory
  • DynamicField_ProcessState → Default value: defect solved, Display: Do not show Field
  • State → Default value: ready for release, Display: Do not show Field

• Defect not solved
  • Article → Communication Channel: OTRS, Display: Show Field As Mandatory
  • DynamicField_ProcessState → Default value: defect not solved, Display: Do not show Field

Create the following sequence flows:

• DynamicField_ProcessState = defect reported
  • Name: DynamicField_ProcessManagementActivityStatus
  • Type: String
  • Value: 0

• DynamicField_ProcessState = defect classified
  • Name: DynamicField_ProcessState
  • Type: String
  • Value: defect classified

• DynamicField_ProcessState = planning finished
  • Name: DynamicField_ProcessState
  • Type: String
– Value: planning finished

• DynamicField_ProcessState = defect solved
  – Name: DynamicField_ProcessState
  – Type: String
  – Value: defect solved

• DynamicField_ProcessState = defect not solved
  – Name: DynamicField_ProcessState
  – Type: String
  – Value: defect not solved

• DynamicField_ProcessState = no defect
  – Name: DynamicField_ProcessState
  – Type: String
  – Value: no defect

• DynamicField_ProcessManagementActivityStatus = 0 (successful)
  – Name: DynamicField_ProcessManagementActivityStatus
  – Type: String
  – Value: 0

Create the following sequence flow actions:

• Set ticket title “Defect reported”
  – Module: TicketTitleSet

Click on the Save then the Configure button and add the following parameters:
  – Key: Title, value: Defect reported

• Set linked CI in operational state
  – Module: ITSMConfigItemDataPush

Click on the Save then the Configure button and add the following parameters:
  – Main search parameters:
    * Class: Software
    * Incident State: Operational
    * Link Type: Relevant to
  – Additional configuration items matching conditions:
    * Key: Limit, value: 1
  – Linked configuration items attributes to be updated:
    * Key: IncidentStateID, value: 3

Create the following user task activities:

• Report Software Defect

  Assign the user task activity dialog Report new software defect.
- **Classification**
  Assign the user task activity dialogs *Defect classification* and *No Defect*.

- **Planning**
  Assign the user task activity dialog *Planning of defect handling*.

- **Defect Troubleshooting**
  Assign the user task activity dialogs *Defect solved* and *Defect not solved*.

- **Process complete**

Create the following script task activities:

- **Send ticket to queue “Development”**
  - Script: TicketQueueSet

    Click on the *Save* then the *Configure* button and add the following parameters:
    
    - Key: Queue, value: Development
    - Key: UserID, value: 1

Create the process path as follows:

![Defect Handling Process on Canvas](image)

Fig. 17: Defect Handling Process on Canvas

Double click on the `DynamicField_ProcessState = defect reported` sequence flow and assign the *Set ticket title “Defect reported”* sequence flow action.

Double click on the `DynamicField_ProcessState = defect solved` sequence flow and assign the *Set linked CI in operational state* sequence flow action.

Set the process state to *Active* and save it.
11.15 Cookies and Local Storage

The applications need cookies and local storage for proper working. Both the cookie and the local storage are stored on the user’s computer. This storage does not include personal data, they are only needed for the operation of the application.

The only cookie stored when the user visits the external interface is `AuthenticationCustomer`. This cookie stores the session ID of the logged in customer user and has a lifetime of 16 hours.

Additionally, the following key-value pairs are stored in the web browser’s local storage:

```json
Plugins/Store/PublicChat/External/MutationsSharerStorage = {
  "type": "Plugins/Store/PublicChat/External/publicUuid",
  "payload": {
    "publicUuid": "<uuid-string>"
  }
}
Plugins/Store/LoggerOptions/External = {
  "logLevel": "info",
  "logRecord": "false"
}
Plugins/Store/PublicChat/External/MutationsSharerNotification = notification-
<br>
<notification-id>
Apps/External/Plugins/Store = {
  "accessToken": "null",
  "deviceUuid": "null",
  "isLanguageSet": "false",
  "language": "en",
  "passwordExpirySoonWarning": "null"
}
Apps/External/Plugins/Store/MutationsSharerStorage = {
  "type": "language",
  "payload": {
    "language": "en"
  }
}
Apps/External/Plugins/Store/PrivacyNotice = {
  "isNoticeVisible": "true"
}
Apps/External/Plugins/Store/MutationsSharerNotification = notification-
<br>
<notification-id>
Plugins/Store/PerlProfiler/External = {
  "perlProfiler": {} }
Plugins/Store/PublicChat/External = {
  "publicUuid": "<uuid-string>"
}
```

The UUID values in the local storage are auto-generated when the user visits the external interface for the first time. The local storage has no expiration date and stores data used for the application itself. Additional notification entries might get spawned during the usage, and are used to sync the data state across multiple instances of the application.
11.16 Credit Card Filter

This feature offers options for the responsible handling of sensitive data, like credit card numbers, in your OTRS system. With the help of this function, it is possible to hide credit card numbers for new tickets and articles, as well as articles already stored in the system. Additionally, flexibly configurable warning messages for the credit card number can be automatically set and showed.

This mechanism for recognizing credit cards works for cards with 13, 15 or 16 digits. All articles of a ticket in the system will be scanned for valid credit card numbers before storing. Then, the majority of the digits will be encoded before storage in the system.

Benefits

- Improved data protection.
- Less security risks for credit card data.

Target Groups

- Customer service
- Finance
- Sales
- Order management
- Complaint management

11.16.1 Legacy Credit Card Masking

A console command exists to treat already stored credit card numbers in the system. This command will mask any unmasked valid credit card number in the article database table.

Note: This feature is only available to On-Premise customers. If you are a Managed customer, this feature is taken care of by the Customer Solutions Team in OTRS. Please contact us via support@otrs.com or in the OTRS Portal.

To mask the existing credit card numbers:

1. Make sure that setting OTRSCreditCardFilter::ActiveMaskEnabled is not enabled.
2. Create one or more tickets with valid credit card information.

<table>
<thead>
<tr>
<th>Issuing Network, Card Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>JCB, 3528988095245935</td>
</tr>
<tr>
<td>JCB, 3112606824580636</td>
</tr>
<tr>
<td>JCB, 3096030869937728</td>
</tr>
<tr>
<td>JCB, 3112437499296450</td>
</tr>
<tr>
<td>JCB, 3096010732100407</td>
</tr>
<tr>
<td>JCB, 3528461498782367</td>
</tr>
<tr>
<td>JCB, 3112892137191440</td>
</tr>
<tr>
<td>JCB, 3088814635323630</td>
</tr>
</tbody>
</table>

3. Open the ticket detail view to make sure that the credit card numbers are not masked.
4. Execute the following command in the command line to mask the credit card numbers:
5. Refresh the ticket detail view. The article the body will shown as:

<table>
<thead>
<tr>
<th>Issuing Network, Card Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>JCB, 352898xxxxxx5935</td>
</tr>
<tr>
<td>JCB, 311260xxxxxx0636</td>
</tr>
<tr>
<td>JCB, 309603xxxxxx7728</td>
</tr>
<tr>
<td>JCB, 311243xxxxxx6450</td>
</tr>
<tr>
<td>JCB, 309601xxxxxx0407</td>
</tr>
<tr>
<td>JCB, 352846xxxxxx2367</td>
</tr>
<tr>
<td>JCB, 311289xxxxxx1440</td>
</tr>
<tr>
<td>JCB, 308881xxxxxx3630</td>
</tr>
</tbody>
</table>

This script starts masking the credit card numbers on last articles first, since they are the most common used, so the results can be seen faster.

See also:

For more information about the Maint::Ticket::MaskCreditCard parameters, execute the following command:

```
otrs> /opt/otrs/bin/otrs.Console.pl Maint::Ticket::MaskCreditCard --help
```

The architecture of this script is designed to avoid affecting the system performance by working in batches and waiting between each batch. The number of processed articles per batch and the wait time between batches can be fine tuned to match system performance.

The script is also designed to remember last processed article and start again from that, allowing to stop the process at a certain time and resume later. There is an override to force starting again from the beginning.

You could specify an end date so only articles until that date will be processed (e.g. if you started automatic masking at a certain date), also it is possible to specify the number of articles to process per run.

### 11.16.2 Mask Credit Card

This feature is a complete subsystem that allows the following:

- Automatically show a warning message next to a credit card number (not storable).
- Mask credit card numbers for new tickets and articles.
- Mask credit card numbers contained in articles already stored in the system.

The credit card detection mechanism requires credit card numbers of 13, 15 or 16 digits. These credit card numbers should be at least potentially valid numerically, which means they pass the Luhn algorithm test.

For the current version only a subgroup of all potentially valid credit card number are detected. This is the list of the credit cards numbers that are considered valid:

- Visa 16 digits starting with a 4.
- Visa 13 digits starting with a 4.
- MasterCard 16 digits starting with 51 to 55.
- Discover 16 digits starting with 6011, 6121-29 to 6229-25, 644 to 649 or 65.
- JCB 16 digits starting with 3088, 3096, 3112, 3158, 3337 or 3528 to 3589.
- JCB 15 digits starting with 1800, 2100 or 2131.
• American Express 15 digits starting with 34 or 37.

For successful detection, the digits of these credit card numbers are allowed without separation or with a single separator in groups of digits as 4-4-4-4, 4-4-4-3, 4-4-4-1 or 4-6-5 (the last combination for American Express only). Allowed separators are -, +, /, or a combination thereof.

Valid credit card numbers that are a subset of a bigger number are not considered as credit card numbers. This is to avoid false positives, e.g. a serial number that contains a (not intentionally) valid credit card number. Valid credit card numbers should be enclosed by at least one non-numeric character.

### 11.16.3 Active Credit Card Masking

When this feature is enabled, every article will be scanned for valid credit card numbers before it is saved on the database. In case of any findings in subject or body, all but the first six and the last four digits will be replaced by a configurable masking character.

**See also:**

The behavior can be changed with the following settings in the system configuration:

- `OTRSCreditCardFilter::ActiveMaskEnabled`
- `OTRSCreditCardFilter::MaskedCharacter`

For example 1234-5678-9012-3456 becomes 1234-56xx-xxxx-3456.

**Warning:** This procedure is permanent and irreversible!

To use this feature:

1. **Create a ticket with the following article body:**

   ```plaintext
   Issuing Network, Card Number
   JCB 15 digit,180061388939823
   JCB 15 digit,180079668437698
   JCB 15 digit,18000143486883
   JCB 15 digit,180044208063503
   JCB 15 digit,180010497338476
   JCB 15 digit,210004248524033
   JCB 15 digit,210012319871803
   JCB 15 digit,180094846333594
   JCB 15 digit,210084424984649
   JCB 15 digit,210012951351973
   JCB 15 digit,21008094074787
   JCB 15 digit,210081171733450
   ```

2. **Open the ticket detail view to see the created ticket. The body of the article will be shown as:**

   ```plaintext
   Issuing Network, Card Number
   JCB 15 digit,180061xxxxx9823
   JCB 15 digit,180079xxxxx7698
   JCB 15 digit,180001xxxxx6883
   JCB 15 digit,180044xxxxx3503
   JCB 15 digit,180010xxxxx8476
   JCB 15 digit,210004xxxxx4033
   JCB 15 digit,210012xxxxx1803
   JCB 15 digit,180094xxxxx3594
   ```

   (continues on next page)
3. You can also try with valid credit card numbers in the subject or fetch a mail with valid credit card information using a postmaster account.

11.16.4 Credit Card Warning Message

It is possible to display a warning message next to the credit card number.

To use this feature:

1. Make sure that setting `OTRSCreditCardFilter::ActiveMaskEnabled` is not enabled.
2. Make sure that setting `OTRSCreditCardFilter::WarningTextEnabled` is enabled.
3. Define your custom message in setting `OTRSCreditCardFilter::WarningText` in the system configuration.
4. Create a ticket with the following article body:

```
Issuing Network, Card Number
JCB, 3528988095245935
JCB, 3112606824580636
JCB, 3096030869937728
JCB, 3112437499296450
JCB, 3096010732100407
JCB, 3528461498782367
JCB, 3112892137191440
JCB, 3088814635323630
```

5. Open the ticket detail view. The warning message should appear next to the credit card number.

```
Issuing Network, Card Number
JCB, 3528988095245935 Reminder: You should not store credit card numbers in this product!
JCB, 3112606824580636 Reminder: You should not store credit card numbers in this product!
JCB, 3096030869937728 Reminder: You should not store credit card numbers in this product!
JCB, 3112437499296450 Reminder: You should not store credit card numbers in this product!
JCB, 3096010732100407 Reminder: You should not store credit card numbers in this product!
JCB, 3528461498782367 Reminder: You should not store credit card numbers in this product!
JCB, 3112892137191440 Reminder: You should not store credit card numbers in this product!
JCB, 3088814635323630 Reminder: You should not store credit card numbers in this product!
```

You can also try with valid credit card numbers in the subject or fetch a mail with valid credit card information using a postmaster account.
11.17 Performance Tuning

There is a list of performance enhancing techniques for your OTRS installation, including configuration, coding, memory use, and more.

11.17.1 Ticket Search Index

OTRS uses a special search index to perform full-text searches across fields in articles from different communication channels.

To create an initial index, use this command:

```
otrs> /opt/otrs/bin/otrs.Console.pl Maint::Ticket::FulltextIndex --rebuild
```

**Note:** Actual article indexing happens via an OTRS daemon job in the background. While articles which were just added in the system are marked for indexing immediately, it could happen their index is available within a few minutes.

There are some options available for fine tuning the search index:

**Ticket::SearchIndex::Attribute**

Basic full-text index settings.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>WordCountMax</td>
<td>1000</td>
</tr>
<tr>
<td>WordLengthMax</td>
<td>30</td>
</tr>
<tr>
<td>WordLengthMin</td>
<td>3</td>
</tr>
</tbody>
</table>

**Note:** Run the following command in order to generate a new index:

```
otrs> /opt/otrs/bin/otrs.Console.pl Maint::Ticket::FulltextIndexRebuild
```

**WordCountMax**

Defines the maximum number of words which will be processed to build up the index. For example only the first 1000 words of an article body are stored in the article search index.

**WordLengthMin and WordLengthMax**

Used as word length boundaries. Only words with a length between these two values are stored in the article search index.

**Ticket::SearchIndex::Filters**

Full-text index regular expression filters to remove parts of the text.

There are three default filters defined:

- The first filter strips out special chars like: , & < > ? "! * [: ] () + $ ^ =
- The second filter strips out words which begin or ends with one of following chars: ‘: .
• The third filter strips out words which do not contain a word-character: a-z, A-Z, 0-9, _

**Ticket::SearchIndex::StopWords**

English stop words for full-text index. These words will be removed from the search index.

There are so-called stop-words defined for some languages. These stop-words will be skipped while creating the search index.

**See also:**

If your language is not in the system configuration settings or you want to add more words, you can add them to this setting:

• **Ticket::SearchIndex::StopWords###Custom**

### 11.17.2 Document Search

OTRS uses Elasticsearch for its document search functionality. For a good introduction into the concepts, installation and usage of Elasticsearch, please follow the **Quick start** chapter in the official documentation.
Heap Size

Elasticsearch is written in Java and therefore runs in a Java Virtual Machine (JVM) on any cluster node. Such a JVM uses a part of the memory, called heap, which size can be configured in configuration file jvm.options.

The heap minimum and maximum configurations are by default set to a value of 1 GB and can be modified with the following options:

- Xms1g: minimum heap size.
- Xmx1g: maximum heap size.

If the Xms has a lower value than Xmx, the JVM will resize the used heap anytime the current limit is exceeded, until the value of Xmx is reached. Such a resizing causes the service to pause until it is finished, which may decrease the speed and reactivity of the search or indexing actions. Therefore it is highly recommended to set those configurations to an equal value.

**Warning:** If the maximum heap size is exceeded, the related cluster node stops working and might even shutdown the service.

The higher the heap maximum value is set, the more memory can be used by Elasticsearch, which also increases the possible pauses for garbage collection, done by the JVM. Therefore it is recommended to set a value for Xmx, that is not higher than 50% of the physical memory.

For more information and good rules of thumb about the heap size, please follow the Setting the heap size chapter in the official documentation.

Disk Allocation

During the run-time of the service, Elasticsearch inspects the available disk space and therefore decides whether to allocate new shards to the related cluster node or even relocate shards away from that particular node. Such behavior will be controlled by the current disk capacity and can be configured in configuration file elasticsearch.yml. Enclosed are some important configurations, that come with good default values, but might be important:

- **cluster.routing.allocation.disk.watermark.low**
  Default value of 85%. If this limit is exceeded, Elasticsearch will not allocate more shards to the related cluster node. The operation of that node is not influenced and data can still be indexed and searched.

- **cluster.routing.allocation.disk.watermark.high**
  Default value of 90%. If this limit is exceeded, Elasticsearch will try to relocate existing shards to other nodes (if possible), that have enough space available.

- **cluster.routing.allocation.disk.watermark.flood_stage**
  Default value of 95%. If this limit is exceeded, Elasticsearch will update the configuration of all indices to read-only index blocks index.blocks.read_only_allow_delete, that have at least one shard allocated to the related cluster node. Since then, it is not possible to index new data to such indices and restricted to searches and delete actions.

**Note:** If the flood stage was exceeded and certain indices are configured to read-only mode, such configuration will not automatically be changed by Elasticsearch. If the related disks contains enough free space again, due to manual actions, it is needed change the configuration back to normal mode manually.
For more information about disk watermarks and disk-based shard allocation, please follow the Disk-based Shard Allocation chapter in the official documentation.

### 11.17.3 Article Storage

There are three different back end modules for the article storage of phone, email and internal articles. The used article storage can be configured in the setting `Ticket::Article::Backend::MIMEBase::ArticleStorage`.

**Kernel::System::Ticket::Article::Backend::MIMEBase::ArticleStorageDB**

This default module will store attachments in the database. It also works with multiple front end servers, but requires much storage space in the database.

**Note:** Don’t use this with large setups.

**Kernel::System::Ticket::Article::Backend::MIMEBase::ArticleStorageFS**

Use this module to store attachments on the local file system. It is fast, but if you have multiple front end servers, you must make sure the file system is shared between the servers. Place it on an NFS share or preferably a SAN or similar solution.

**Note:** Recommended for large setups.

**Kernel::System::Ticket::Article::Backend::MIMEBase::ArticleStorageAmazonS3**

Use this module to store attachments in any AWS S3 compatible object storage.

There is a default connection setup to the AWS S3 file storage in `Kernel/Config/Defaults.pm`. To activate the connection for your environment you have to add the following code snippet to `Kernel/Config.pm`:

```perl
$self->{'Ticket::Article::Backend::MIMEBase::ArticleStorage'} = 'Kernel::System::Ticket::Article::Backend::MIMEBase::ArticleStorageAmazonS3';
$self->{'|Ticket::Article::Backend::MIMEBase::ArticleStorageAmazonS3'} = {
    'Active' => 1,
    'Endpoint' => 'http://127.0.0.1:9000',
    'Region' => 'local',
    'AwsAccessKey' => 'minioadmin',
    'AwsSecretKey' => 'minioadmin',
    'Bucket' => 'storage',
    'TestBucket' => 'unit-test',
    'HealthCheck' => '/minio/health/live',
    'MaxObjectSize' => 1024 * 1024 * 20,
    'Reconnect' => 2,
    'BackoffOnFailure' => 1,
    'BackoffRetryCount' => 150,
};
```

You can switch from one back end to the other on the fly. You can switch the back end in the system configuration, and then run this command line utility to put the articles from the database onto the file system or the other way around:

```
otrs> /opt/otrs/bin/otrs.Console.pl Admin::Article::StorageSwitch --target ArticleStorageFS
```
You can use the `--target` option to specify the target back end.

**Note:** The entire process can take considerable time to run, depending on the number of articles you have and the available CPU power and/or network capacity.

To ensure that you have access to all articles during the migration process you can use the `Ticket::Article::Backend::MIMEBase::ArticleStorageBackendCheckOrder` system configuration setting. This setting specifies additional article storage back ends to be checked for articles and their attachments. It is recommended to add here the old article storage back end.

### 11.17.4 Tuning the Web Server

The built-in web server of OTRS can handle small and medium setups out of the box. When OTRS serves many users simultaneously, it may be necessary to tweak the web server configuration to increase the number of worker processes, for example.

The web server configuration file is located in `/Kernel/WebApp.conf`, and all settings there are documented. The `worker` setting can be increased to deploy more processes for serving HTTP requests on capable servers.

### 11.17.5 Caching

OTRS caches a lot of temporary data in `/opt/otrs/var/tmp`. Please make sure that this uses a high performance file system and storage. If you have enough RAM, you can also try to put this directory on a ramdisk like this:

```
.otrs> /opt/otrs/bin/otrs.Console.pl Maint::Session::DeleteAll
.otrs> /opt/otrs/bin/otrs.Console.pl Maint::Cache::Delete
.root> mount -o size=16G -t tmpfs none /opt/otrs/var/tmp
```

**Note:** Add persistent mount point in `/etc/fstab`.

**Warning:** This will be a non-permanent storage that will be lost on server reboot. All your sessions (if you store them in the file system) and your cache data will be lost.

### 11.17.6 Clustering

For very high loads, it can be required to operate OTRS on a cluster of multiple front end servers. This is a complex task with many pitfalls. Therefore, OTRS Group provides support for clusters in its managed OTRS environment exclusively.
11.17.7 Limits of Objects

There is no technical limitation of how many objects can be used in the system but using high number of objects may affect the system performance. The proposed limits apply only to objects that are set as valid. The objects set as invalid or invalid-temporarily are not used by the system.

To keep the system fast and responsive the following limits for valid objects should not be exceeded:

- Mail accounts: 10
- Postmaster filters: 50
- ACLs: 80
- Dynamic fields: 300
- Dynamic field dropdown or multiselect values per field: 100
- Services: 500
- SLAs: 50
- Queues: 200
- Configuration item classes: 20
- Configuration item objects: 20,000
- Processes: 50
- Generic agents: 30 (frequency max once per hour per generic agent)
- Ticket states: 20
- Ticket types: 10
- Appointment calendars: 50
- Articles per ticket: 500
Activity
Part of the process management.

Agent
An agent is a user which services customer users. The person working for your organization.

Back end
A configuration file, module, script or other functional item within OTRS which is not reachable via the browser.

Calendar
Defines working hours, time-zone, and holidays to be applied when using escalation times.

Customer
Physical organizations to which customer users are assigned. These provide the function to group users together which belong to a single organization.

Customer User
Physical persons, and their contact data, which belong to a customer. These are the people raising tickets.

Dynamic Field
A field used in tickets and articles to extend the data which can be saved in a ticket or article. They are saved from values in the database or accessed from outside resources.

Escalation Times
The defined amount of working time before a ticket breaches an agreement.

Front end
The graphical interface to OTRS as viewed in a browser.

Group
This is a resource within OTRS. An agent or a customer can be assigned permissions to this resource as needed. Additionally, they can be used for access control, processes and web services.

Invoker
An invoker is a special Perl module which allows OTRS to provide information to a remote system via REST or HTTP. Invokers must be developed in Perl by a back end developer.

Mapping
A mapping allows OTRS to provide inbound and outbound translation of data allowing us to offer a specific data construction to rebuild incoming structures to meet our needs.

Operation
Similar to a web hook, a provider operation offers a specific sub-set of OTRS Perl API functionality to external systems.
Process
  Part of the process management.

Process Path
  Part of the process management.

Resource
  A resource is any object which has effective permissions. This can be, but is not limited to, a ticket, dashboard widget, statistic, or module.

Screen
  A graphical interface to OTRS viewed in a browser (see also Front end).

Service
  A means of delivering added value to customers by making it easier for customers or helping them to achieve their desired results without them having to personally bear the responsibility for specific costs and risks.

Service Level Agreement
  A service level agreement (SLA) is a contract between a service provider (either internal or external) and the end user that defines the level of service expected from the service provider. SLAs are output-based in that their purpose is specifically to define what the customer will receive.

Service Request
  (see also Ticket).

Sequence Flow
  Part of the process management.

Sequence Flow Action
  Part of the process management.

SLA
  (see also Service Level Agreement).

Ticket
  A ticket is a collection of all communications with a customer during the course of a service request. A ticket contains article, which are the communication received from or sent to customers, agents, external systems, etc. Tickets belong to a customer user, are assigned to agents and reside in queues.

Transport
  A transport is the method chosen for communication. OTRS support REST and SOAP.

User Task Activity Dialog
  Part of the process management.

Working Time
  A definition of minutes passed during the defined working hours of any calendar.
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