



OTRS Update Manual

Release 2024.4.1

OTRS AG

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INTRODUCTION

This manual is intended for use by system administrators. The chapters describe the updating of the OTRS software.

There is no graphical user interface for updating. System administrators have to follow the steps described in the following chapters.

All console commands look like `username> command-to-execute`. Username indicates the user account of the operating system, which need to use to execute the command. If a command starts with `root>`, you have to execute the command as a user who has root permissions. If a command starts with `otrs>`, you have to execute the command as the user created for OTRS.

Warning: Don' t select `username>` when you copy the command and paste it to the shell. Otherwise you will get an error.

We supposed that OTRS is installed to `/opt/otrs`. If OTRS is installed to a different directory, then you have to change the path in the commands or create a symbolic link to this directory.

```
root> ln -s /path/to/otrs /opt/otrs
```


HARDWARE AND SOFTWARE REQUIREMENTS

OTRS can be installed on Linux. To run OTRS on Microsoft Windows is not possible.

To run OTRS, you'll also need to use a web server as reverse proxy and a database server. Apart from that, you should install Perl and/or install some additional Perl modules on the OTRS machine.

Perl must be installed on the same machine as OTRS. The database back end and the web server may be installed locally or on another host.

For Perl, you will need some additional modules which can be installed either with the Perl shell and CPAN, or via the package manager of your operating system (rpm, yast, apt-get).

OTRS has a console command to check the environment and the missing modules.

Note: The check environment script can be downloaded here as a standalone package: [Download otrs.CheckEnvironment.zip](#)

```
otrs> /opt/otrs/bin/otrs.CheckEnvironment.pl
```

If some packages are missing, you can get an install command for your operating system, if you run the script with `--list` option.

```
otrs> /opt/otrs/bin/otrs.CheckEnvironment.pl --list
```

If all needed packages are installed, the output of the environment check script shows the installed packages and the version numbers.

```
Checking for Perl Modules:
  o Archive::Zip.....ok (v1.68)
  o BSD::Resource.....ok (v1.2911)
  o Compress::LZ4.....ok (v0.25)
  o CryptX.....ok (v0.078)
  o Date::Format.....ok (v2.24)
  o DateTime.....ok (v1.59)
    o DateTime::TimeZone.....ok (v2.60)
  o DBI.....ok (v1.643)
  o DBD::mysql.....ok (v4.050)
  o DBD::ODBC.....Not installed! (optional - Required to connect
↳to a MS-SQL database.)
    To install, you can use: 'apt-get install -y libdbd-odbc-perl'.
  o DBD::Oracle.....Not installed! (optional - Required to connect
↳to a Oracle database.)
    To install, you can use: 'cpan DBD::Oracle'.
  o DBD::Pg.....Not installed! (optional - Required to connect
```

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```

↳to a PostgreSQL database.)
  To install, you can use: 'apt-get install -y libdbd-pg-perl'.
  o Devel::NYTProf.....Not installed! (optional - Required for web
↳server profiling.)
  To install, you can use: 'apt-get install -y libdevel-nytprof-perl'.
  o Digest::Bcrypt.....ok (v1.212)
  o Email::Address::XS.....ok (v1.05)
  o Encode::HanExtra.....ok (v0.23)
  o EV.....ok (v4.33)
  o File::Map.....ok (v0.71)
  o IO::Socket::SSL.....ok (v2.083)
  o JSON::XS.....ok (v4.03)
  o List::MoreUtils.....ok (v0.430)
  o LWP::UserAgent.....ok (v6.55)
  o Mail::IMAPClient.....ok (v3.43)
  o Authen::SASL.....ok (v2.16)
  o Authen::NTLM.....ok (v1.09)
  o Moo.....ok (v2.005005)
  o Moose.....ok (v2.2206)
  o MooseX::NonMoose.....ok (v0.26)
  o Net::DNS.....ok (v1.39)
  o Net::LDAP.....ok (v0.68)
  o Net::SMTP.....ok (v3.14)
  o Paws.....Not installed! (optional - A Perl SDK for AWS
↳(Amazon Web Services) APIs.)
  To install, you can use: 'cpan Paws'.
  o Cache::Memcached::Fast.....Not installed! (optional - Required when using
↳memcached for caching.)
  To install, you can use: 'cpan Cache::Memcached::Fast'.
  o Redis::Fast.....ok (v0.34)
  o Search::Elasticsearch.....ok (v6.81)
  o Search::Elasticsearch::Client::6_0ok (v6.81)
  o Sereal.....ok (v5.004)
  o Specio.....ok (v0.48)
  o SQL::Abstract::More.....ok (v1.39)
  o Template.....ok (v2.28)
  o Template::Stash::XS.....ok (undef)
  o Text::CSV_XS.....ok (v1.51)
  o Text::Markdown.....ok (v1.000031)
  o Time::Moment.....ok (v0.44)
  o XML::LibXML.....ok (v2.0134)
  o XML::LibXSLT.....ok (v2.002001)
  o XML::Parser.....ok (v2.46)
  o YAML::XS.....ok (v0.86)

Checking for External Programs:
  o GnuPG.....ok
  o npm.....ok (9.8.0)
  o Node.js.....ok (20.5.1)
  o Python.....ok (3.11.6)
  o g++.....ok (13.2.0)
  o OpenSSL.....ok (3.0.10/OpenSSL)

```

2.1 Hardware Requirements

Hardware requirements highly depend on the usage of OTRS. OTRS can be used to process a few tickets per month or to process hundreds of tickets per day. The storage requirement also depends on the number of tickets and size of attachments.

We recommend using a machine with:

- AMD Ryzen 7 3700X Octa core or comparable CPU
- 64 GB RAM
- 2 × 1 TB NVMe SSD (Software-RAID 1)
- Gigabit LAN

Bare metal server or virtual machine is required. Containerized environments are not supported.

2.2 Software Requirements

Operating Systems

- CentOS Stream 9
- Debian 10, 11 and 12
- Gentoo
- Red Hat Enterprise Linux 8 and 9
- Ubuntu 20.04, 22.04 and 24.04

Perl

- Perl 5.16.0 or higher
- Perl packages listed by `/opt/otrs/bin/otrs.CheckEnvironment.pl` console command

Web Servers

- Apache2
- nginx
- Any other web server that can be used as a reverse proxy

Databases

- MySQL 5.7 or higher
- MariaDB 10.2 or higher
- PostgreSQL 9.2 or higher

Other dependencies

- Elasticsearch (see versions below)
- Elasticsearch module `analysis-icu`
- Elasticsearch module `ingest-attachment` (for Elasticsearch 6 and 7, it is included in 8)
- `Search::Elasticsearch`

- Search::::Client::<7_0 or Search::::Client::<8_0 (must have equal Perl package versions)
- Node.js (see versions below)
- Python (see versions below)

	Elasticsearch	Node.js	Python
2024.3.1 - 2024.x.y	7.14.0 - 8.x	20	3.7.1 - 3.x
2024.1.1 - 2024.2.9	6.5.0 - 6.8.23		
8.0.29 - 2023.1.1	or	16	none
8.0.1 - 8.0.28	7.12.0 - 7.17.x	14.15.0 - 14.x	

Web browsers

- Apple Safari version 7 or higher
- Google Chrome
- Microsoft Edge
- Mozilla Firefox version 32 or higher
- Any other modern web browser with JavaScript support

Note: OTRS does not support IE-Compatibility Mode.

INSTALLATION

Note: OTRS is installed by the *Customer Solutions Team*. Please contact us via support@otrs.com or in the [OTRS Portal](#).

UPDATING

There are two different scenarios to obtain a newer OTRS version:

- Patch level update: you are using OTRS 8 or OTRS and you want to have the latest OTRS version.
- Major upgrade: you are using an OTRS 7 and you want to have the latest OTRS version.

Updating from an earlier version of OTRS 8 or OTRS

You can update directly from any previous patch level release to the latest available patch level release.

Note: It is highly recommended to perform a test update on a separate testing machine first.

Upgrading from OTRS 7

OTRS can be upgraded from any OTRS 7 patch level release to the latest available OTRS patch level release.

Note: OTRS is upgraded by the *Customer Solutions Team*. Please contact us via support@otrs.com or in the [OTRS Portal](#).

Upgrading from OTRS 6 or earlier

OTRS cannot be upgraded from OTRS 6 or earlier directly to OTRS. Upgrades to all available major versions have to be made sequentially instead. For example, if you come from OTRS 5, OTRS has to be upgraded to OTRS 6 first, then to OTRS 7 and finally to OTRS.

Note: OTRS is upgraded by the *Customer Solutions Team*. Please contact us via support@otrs.com or in the [OTRS Portal](#).

4.1 Step 1: Stop All Relevant Services and the OTRS Daemon

Please make sure there are no more running services or cron jobs that try to access OTRS. This will depend on your service configuration and OTRS version.

The following `systemctl` commands are only examples and may differ on the target system if it uses different mailer or web server.

```
root> systemctl stop postfix
root> systemctl stop apache2
```

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```
root> systemctl stop otrs-daemon
root> systemctl stop otrs-webserver
```

4.2 Step 2: Backup Files and Database

Create a backup of the following files and folders:

- Kernel/Config.pm
- Kernel/WebApp.conf
- var/*
- files which are not part of the official release package but added manually to the system (custom language files, logos, CSS style sheets, XML configuration, etc.)
- as well as the database

Note: It is recommended to have an up-to-date list of files which are added manually or changed in the system.

Warning: Don't proceed without a complete backup of your system. Use the *Backup* script for this.

4.3 Step 3: Install the New Release

You can obtain either `otrs-patchlevel-update-x.y.z.tar.gz` or `otrs-patchlevel-update-x.y.z.tar.bz2`. Unpack the source archive (for example, using `tar`) into the directory `/opt`, and create a symbolic link `/opt/otrs` that points to `/opt/otrs-x.y.z`.

Do not forget to replace the version numbers!

Note: Package `bzip2` is not installed in some systems by default. Make sure, that `bzip2` is installed before unpacking `otrs-patchlevel-update-x.y.z.tar.bz2`.

Unpack command for `otrs-patchlevel-update-x.y.z.tar.gz`:

```
root> tar -xzf otrs-patchlevel-update-x.y.z.tar.gz -C /opt
```

Unpack command for `otrs-patchlevel-update-x.y.z.tar.bz2`:

```
root> tar -xjf otrs-patchlevel-update-x.y.z.tar.bz2 -C /opt
```

It is recommended to create a symbolic link named `/opt/otrs` that always points to the latest OTRS version. Using symbolic link makes it easier to manage the OTRS updates, because you can leave the directory of the previous version untouched, only the symbolic link needs to be changed.

Execute this command to create a symbolic link:


```
root> ln -fns /opt/otrs-x.y.z /opt/otrs
```

If you need to revert the update, you can change the target of the symbolic link back if you **did not run** the migration script already in step 4. If the migration script was executed, the database needs to be restored from the backup in case of a rollback.

4.3.1 Restore Old Configuration Files

Copy the following files from the backup created in step 2 into the same destination:

- Kernel/Config.pm
- Kernel/WebApp.conf
- files which are not part of the official release package but added manually to the system (custom language files, logos, CSS style sheets, XML configuration, etc.)

Warning: Copy only custom files added by you manually, not the files shipped with OTRS. Overwriting the default files may lead to issues after the update.

Check for hidden files with the `ls -a` command like `.fetchmailrc`, `.mailfilter`, `.procmailrc` in the previous OTRS directory. If these files exist without `.dist` extension, copy them to the OTRS folder using the `cp -p` command to preserve the permissions.

4.3.2 Restore Article Data

If you configured OTRS to store article data in the file system you have to restore the `article` folder to `/opt/otrs/var/` or the folder specified in the system configuration.

4.3.3 Restore Already Installed Default Statistics

If you have additional packages with default statistics you have to restore the stats XML files with the suffix `*.installed` to `/opt/otrs/var/stats`.

```
root> cd OTRS-BACKUP/var/stats
root> cp *.installed /opt/otrs/var/stats
```

4.3.4 Set File Permissions

Please execute the following command to set the file and directory permissions for OTRS. It will try to detect the correct user and group settings needed for your setup.

```
root> /opt/otrs/bin/otrs.SetPermissions.pl
```

4.3.5 Install Required Programs and Perl Modules

Use the following script to get an overview of all installed and required CPAN modules and other external dependencies.

```
root> perl /opt/otrs/bin/otrs.CheckEnvironment.pl
Checking for Perl Modules:
  o Archive::Tar.....ok (v1.90)
  o Archive::Zip.....ok (v1.37)
  o Crypt::Eksblowfish::Bcrypt.....ok (v0.009)
...
```

Note: Please note that OTRS requires a working Perl installation with all *core* modules such as the module *version*. These modules are not explicitly checked by the script. You may need to install a `perl-core` package on some systems like RHEL that do not install the Perl core packages by default.

To install the required and optional packages, you can use either CPAN or the package manager of your Linux distribution.

Execute this command to get an install command to install the missing dependencies:

```
root> /opt/otrs/bin/otrs.CheckEnvironment.pl --list
```

OTRS requires a supported stable version of Node.js to be installed. Please refer to the [Node.js installation instructions](#).

4.4 Step 4: Run the Migration Script

The migration script will perform many checks on your system and give you advice on how to install missing Perl modules etc., if that is required. If all checks succeeded, the necessary migration steps will be performed.

Note: Please also run this script in case of patch level updates.

Run the migration script:

```
otrs> /opt/otrs/scripts/DBUpdate.pl
```

Warning: Do not continue the upgrading process if this script did not work properly for you. Otherwise malfunction or data loss may occur.

The migration script also checks if ACLs and system configuration settings are correct. In case of an invalid system configuration setting, script will offer you an opportunity to fix it by choosing from a list of possible values. In case the script runs in a non-interactive mode, it will try to automatically fix invalid settings. If this fails, you will be asked to manually update the setting after the migration.

If there are outdated ACLs, the system will not be able to fix them automatically, and they need to be corrected by the administrator. Please see the last step for manual changes for details.

4.5 Step 5: Update Installed Packages

Note: Packages for OTRS 7 are not compatible with OTRS and have to be upgraded.

You can use the command below to update all installed packages. This works for all packages that are available from online repositories. You can update other packages later via the package manager (this requires a running OTRS daemon).

```
otrs> /opt/otrs/bin/otrs.Console.pl Admin::Package::UpgradeAll
otrs> /opt/otrs/bin/otrs.Console.pl Admin::Package::ReinstallAll
```

4.6 Step 6: Start your Services

Now the services can be started. This will depend on your service configuration, here is an example:

```
root> systemctl start postfix
root> systemctl start apache2
```

Note: The OTRS daemon is required for correct operation of OTRS such as sending emails. Please activate it as described in the next step.

4.7 Step 7: Start the OTRS Daemon and Web Server

The OTRS web application will be built for the new version upon the first start. This may take a while and causes a timeout if started with the systemd commands. To prevent this, start the OTRS web server once as `otrs` user to build the OTRS web application and stop it afterwards. Then it can be started with the systemd commands as `root` user.

```
otrs> ~/bin/otrs.WebServer.pl --deploy-assets
otrs> ~/bin/otrs.WebServer.pl --stop
```

OTRS comes with example systemd configuration files that can be used to make sure that the OTRS daemon and web server are started automatically after the system starts.

```
root> systemctl start otrs-daemon
root> systemctl start otrs-webserver
```

Now you can log into your system.

4.8 Step 8: Manual Migration Tasks and Changes

Warning: Read this step carefully and apply the actions only if they are relevant to your system.

The system maintenance feature has been dropped.

With OTRS 8 a new default password policy for agents and customer users is in effect. The password policy rules can be changed in the system configuration (`AgentPersonalPreference###Password` and `CustomerPersonalPreference###Password`).

Password Policy Rule	Default
<code>PasswordMinSize</code>	8
<code>PasswordMin2Lower2UpperCharacters</code>	Yes
<code>PasswordNeedDigit</code>	Yes
<code>PasswordHistory</code>	10
<code>PasswordTTL</code>	30 days
<code>PasswordWarnBeforeExpiry</code>	5 days
<code>PasswordChangeAfterFirstLogin</code>	Yes

It is also possible to add some password policy exceptions for agents or customer users. Please check the following configuration options for details:

- `PasswordPolicy::ExceptAgentPasswordComplexity`
- `PasswordPolicy::ExceptAgentPasswordTTL`
- `PasswordPolicy::ExceptAgentPasswordHistory`
- `PasswordPolicy::ExceptAgentPasswordChangeAfterFirstLogin`
- `PasswordPolicy::ExceptCustomerPasswordComplexity`
- `PasswordPolicy::ExceptCustomerPasswordTTL`
- `PasswordPolicy::ExceptCustomerPasswordHistory`
- `PasswordPolicy::ExceptCustomerPasswordChangeAfterFirstLogin`

Since the old agent interface screens are no longer present, some ACLs need to be corrected manually by the administrator. The migration script already informed you if this is the case.

Affected ACLs are those that refer to a non-existing agent interface screen in their `Action` setting. This front end `Action` rule needs to be replaced with a corresponding `Endpoint` rule. A table with possible mapping is included below.

Action	Endpoint
<code>AgentAppointmentCalendarOverview</code>	No replacement (feature dropped)
<code>AgentLinkObject</code>	No replacement (feature dropped)
<code>AgentSplitSelection</code>	<code>AgentFrontend::TicketArticle::Action::Split</code>
<code>AgentTicketBounce</code>	<code>AgentFrontend::TicketArticle::Action::Redirect</code>
<code>AgentTicketBulk</code>	<code>AgentFrontend::TicketList::Bulk</code>
<code>AgentTicketClose</code>	<code>AgentFrontend::Ticket::Action::Close</code>
<code>AgentTicketCompose</code>	<code>AgentFrontend::TicketArticle::Action::Reply</code> <code>AgentFrontend::TicketArticle::Action::ReplyAll</code>

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Table 1 – continued from previous page

Action	Endpoint
AgentTicketCustomer	AgentFrontend::Ticket::Action::Customer
AgentTicketEmail	AgentFrontend::TicketCreate::Email
AgentTicketEmailOutbound	AgentFrontend::Ticket::Action::EmailOutbound
AgentTicketEmailResend	No replacement (feature dropped)
AgentTicketForward	AgentFrontend::TicketArticle::Action::Forward
AgentTicketFreeText	AgentFrontend::Ticket::Action::FreeText
AgentTicketHistory	AgentFrontend::Ticket::Action::TicketHistory
AgentTicketLink	AgentFrontend::Ticket::Action::Link
AgentTicketLock	AgentFrontend::Ticket::Action::Lock AgentFrontend::Ticket::Action::Unlock
AgentTicketMerge	AgentFrontend::Ticket::Action::Merge
AgentTicketMove	AgentFrontend::Ticket::Action::Move
AgentTicketNote	AgentFrontend::Ticket::Action::Note AgentFrontend::TicketArticle::Action::ReplyToNote
AgentTicketOwner	AgentFrontend::Ticket::Action::Owner
AgentTicketPending	AgentFrontend::Ticket::Action::Pending
AgentTicketPhone	AgentFrontend::TicketCreate::Phone
AgentTicketPhoneInbound	AgentFrontend::Ticket::Action::PhoneCallInbound
AgentTicketPhoneOutbound	AgentFrontend::Ticket::Action::PhoneCallOutbound
AgentTicketPlain	AgentFrontend::TicketArticle::Action::Plain
AgentTicketPrint	AgentFrontend::Ticket::Action::Print AgentFrontend::TicketArticle::Action::Print
AgentTicketPriority	AgentFrontend::Ticket::Action::Priority
AgentTicketProcess	AgentFrontend::TicketCreate::Process AgentFrontend::ProcessTicketNextStep
AgentTicketResponsible	AgentFrontend::Ticket::Action::Responsible
AgentTicketSearch	No replacement (feature dropped)
AgentTicketWatcher	AgentFrontend::Ticket::Action::Watch AgentFrontend::Ticket::Action::Unwatch
AgentTicketZoom	AgentFrontend::TicketDetailView AgentFrontend::TicketDetailView::Property

4.8.1 Upgrade Elasticsearch

Upgrade your Elasticsearch installation if newer version is available. For more information read the [Upgrade Elasticsearch](#) chapter in the official documentation.

See also:

Please refer to the [Hardware and Software Requirements](#) chapter for the supported versions.

Additionally, OTRS requires plugins to be installed into Elasticsearch. When a newer Elasticsearch version is installed, the plugins have to be removed and installed again.

In Elasticsearch 7:

```
root> /usr/share/elasticsearch/bin/elasticsearch-plugin remove analysis-icu
root> /usr/share/elasticsearch/bin/elasticsearch-plugin remove ingest-attachment
root> /usr/share/elasticsearch/bin/elasticsearch-plugin install --batch ingest-
↳ attachment
root> /usr/share/elasticsearch/bin/elasticsearch-plugin install --batch analysis-icu
```

In Elasticsearch 8:

```
root> /usr/share/elasticsearch/bin/elasticsearch-plugin remove analysis-icu
root> /usr/share/elasticsearch/bin/elasticsearch-plugin remove ingest-attachment
root> /usr/share/elasticsearch/bin/elasticsearch-plugin install --batch analysis-icu
```

Note: Restart Elasticsearch afterwards, or indexes will not be built.

To verify the Elasticsearch installation, you can use the following command:

```
otrs> /opt/otrs/bin/otrs.Console.pl Maint::DocumentSearch::Check
Trying to connect to cluster...
Connection successful.
```

One of the Elasticsearch options is explicitly interesting for OTRS, which is the maximum amount of open scroll contexts, that has a value of 500.

In normal situations, this value should not be reached, but we recommend to set this value back to 1000 with the following option, that has to be added to the configuration file `elasticsearch.yml`:

```
search.max_open_scroll_context: 1000
```

4.9 Recommendation: Convert Your MySQL Database

OTRS 7 and previous versions only supported the `utf8` MySQL database character set, which is not able to store all Unicode characters. Since OTRS 8 the `utf8mb4` character set is also supported, which removes this limitation. It is recommended to convert your database at your convenience with the built-in migration script.

Running the migration script without options will display only if something needs to be converted.

```
otrs> /opt/otrs/bin/otrs.Console.pl Maint::Database::MySQL::UTF8MB4Migration
The following tasks need to be done:
- 1 table(s) need to be converted to 'DYNAMIC' row format
- the database needs to be converted to 'utf8mb4'
- 411 column(s) need to be converted to 'utf8mb4'
- 156 table(s) need to be converted to 'utf8mb4'
```

Use the `--force` option to perform the actual migration.

```
otrs> /opt/otrs/bin/otrs.Console.pl Maint::Database::MySQL::UTF8MB4Migration --force
...
```

After the migration is done, you need to add a new switch to file `Kernel/Config.pm` to activate the `utf8mb4` support.

```
$Self->{'Database::mysql::utf8mb4'} = 1;
```

Note: OTRS can be operated in the `utf8` character set, without this migration. But future versions will only support the `utf8mb4` character set. Therefore this migration needs to be done at some point.

4.9.1 Allow Program Safe to Run

External programs to be run by OTRS are blocked by default due to security reasons. You have to add the program to the allow list as described in the [Allow Program Safe to Run](#) chapter of the administration manual.

BACKUP AND RESTORE

OTRS has built-in scripts for backup and restore. Execute the scripts with `-h` option for more information.

5.1 Backup

To create a backup, write permission is needed for `otrs` user for the destination directory.

```
otrs> /opt/otrs/scripts/backup.pl -h
```

The output of the script:

```
Backup an OTRS system.

Usage:
  backup.pl -d /data_backup_dir [-c gzip|bzip2] [-r DAYS] [-t
↪fullbackup|nofullbackup|dbonly]

Options:
  -d                - Directory where the backup files should place to.
  [-c]             - Select the compression method (gzip|bzip2). Default: gzip.
  [-r DAYS]        - Remove backups which are more than DAYS days old.
  [-t]             - Specify which data will be saved
↪(fullbackup|nofullbackup|dbonly). Default: fullbackup.
  [-h]             - Display help for this command.

Help:
Using -t fullbackup saves the database and the whole OTRS home directory (except /var/
↪tmp and cache directories).
Using -t nofullbackup saves only the database, /Kernel/Config* and /var directories.
With -t dbonly only the database will be saved.

Output:
  Config.tar.gz      - Backup of /Kernel/Config* configuration files.
  Application.tar.gz - Backup of application file system (in case of full backup).
  VarDir.tar.gz     - Backup of /var directory (in case of no full backup).
  DataDir.tar.gz    - Backup of article files.
  DatabaseBackup.sql.gz - Database dump.
```

5.2 Restore

To restore a backup, an empty application database is needed without tables.

```
otrs> /opt/otrs/scripts/restore.pl -h
```

The output of the script:

```
Restore an OTRS system from backup.

Usage:
restore.pl -b /data_backup/<TIME>/ -d /opt/otrs/

Options:
-b           - Directory of the backup files.
-d           - Target OTRS home directory.
[-h]        - Display help for this command.
```