KIX Start

KIX 17 Admin Manual - EN

Issued on: 13.02.2024

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1 Introduction

KIX in version 17 is a browser-based open source service management system for IT service as well as for technical service.

KIX 17 is available as:

- KIX start:
  - Open source, free product according to GNU
- KIX Pro:
  - Open source, paid product
  - with extended functions for professional IT service and technical service
  - can be supplemented with additional modules

As an open source company, we make the DB schema for KIX 17 Start public on Github for our customers and interested parties in addition to the source code. Information on the structure of the KIX database can be found here: http://git.intra.cape-it.de/Softwareentwicklung/KIX/KIX/-/merge_requests/1470 .

About this manual

This manual deals with version 17 of the KIX **admin module** and is aimed at all users who have been entrusted with the administration of KIX 17. It is intended to serve as a reference work for them in their daily work and to enable them to carry out administrative tasks.

The manual is divided into the areas "KIX Start" and "KIX Pro". The "KIX Start" area deals with the administration of KIX Start and its basic functions. The "KIX Pro" area is a supplement to the KIX Start manual and describes the administration of the additional functions contained in KIX Pro.

> This edition of the manual refers to the KIX 17.22 release.

For the users of KIX 17 we have created a separate manual, which is also divided into the areas "KIX Start" and "KIX Pro". The user manual is aimed at all agents and KIX users who are entrusted with the provision of services.

Further documentation on KIX 17 and KIX 18 can be found at https://docs.kixdesk.com/.

We cordially invite you to become part of our KIX community and to support us with helpful tips in the further development of KIX and user information.

To comprehension

In these instructions, the masculine form according to the grammar is used in a neutral sense. It always appeals to all male, female and diverse readers. Gender variants are not used for reasons of legibility and understanding of the text. We ask all readers for their understanding for this simplification in the text.

Contact

We hope that this manual provides you with sufficient support for the administration of KIX 17. Should you still have any questions, please ask them in our forum: https://forum.kixdesk.com. There you will also find a range of information that can help you answer your questions.

Alternatively, you can use the KIX Service Software GmbH conclude a service contract and thus take advantage of our competent support service. Please contact us by email or telephone.

Email: info@kixdesk.com[1]
Phone: 0049 3 71/2 70 95-620

1 mailto:info@kixdesk.com

2 KIX Installation

If a KIX 2016 is already installed on your system, please still follow the respective installation instructions. This is necessary because KIX 2017 will be installed "parallel" to the existing KIX 2016, with a new database and a new application directory.

To use KIX Start, the following libraries must be stored in your system:

- Apache::DBI
- Apache2::Reload
- Archive::Tar
- Archive::Zip
- Crypt::Eksblowfish::Bcrypt
- Crypt::SSLeay
- Date::Format
- DBI
- DBD::mysqlDBD::ODBC
- DBD::Oracle
- DBD::Pg
- Encode::HanExtra
- IO::Socket::SSL
- JSON::XS
- List::Util::XS
- LWP::UserAgent
- Mail::IMAPClient
- ModPerl::Util
- Net::DNS
- Net::LDAP
- Template
- Template::Stash::XS
- Text::CSV_XS
- Time::HiRes
- # perlcore
    - Time::Piece
    - XML::LibXML
    - XML::LibXSLT
    - XML::Parser
    - YAML::XS
- Data::Compare

Please note

If the installation of KIX Start fails, it may be due to a missing library.

On the following pages you will find the installation instructions for the relevant operating system.

2.1 General information on installation

2.1.1 Use of KIX with SELinux

Before installing KIX, SELinux must be deactivated in " `/etc/selinux/config` ". During the installation, KIX checks whether SELinux is set to "disabled".

Using " `setenforce 0` " changes the mode only temporarily to " `permissive` ". This is not a direct deactivation of SELinux.

If you have installed KIX with SELinux deactivated (" `/etc/selinux/config` " -> "SELinux = disabled") and want to activate it afterwards, proceed as follows:

1. Log in with the user with whom KIX was installed.
2. Run " `./usr/share/kix/kix` "
3. Run " `setup_selinux` ".
4. The message "selinux is active ... creating policy" appears in the terminal.
5. Once this process is complete, KIX can be used.

2.2 Debian/Ubuntu

Please read the guide to the end and follow all relevant steps.

Installation Instructions

1. Add the following line to /etc/apt/sources.list

```
deb http://packages.kixdesk.com/repository/debian kix2017 stable
```

2. Import the PublicKey from c.a.p.e. IT for authentication of the packages

```
wget -qO - http://packages.kixdesk.com/repository/debian/PublicKey | apt-key add -
```

3. Update apt-sources

```
apt-get update
```

> Notice
> The apt-key may show as obsolete. However, an update does not necessarily have to be carried out.
>
> Workaround
> Get key:
>
> ```
> wget -qO - https://packages.kixdesk.com/repository/debian/PublicKey | gpg --
> dearmor > /usr/share/kix-archive-keyring.gpg
> ```
>
> Add Repo
>
> ```
> echo deb [signed-by=/usr/share/kix-archive-keyring.gpg] https://
> packages.kixdesk.com/repository/debian kix2017 stable >> /etc/apt/sources.list
> ```

4. Install KIX

with PostgreSQL database (default)

```
apt-get install kix
```

with MySQL database

Here it is necessary to set two environment variables before installation, so that KIX can create the MySQL user and MySQL database.

If the KIXMYSQL_USER variable is not specified, "root" is used.

If MySQL is not yet installed on the system, the KIX Installer will also install the MySQL server, the necessary libraries, and the MySQL client. During installation of MySQL, you will be requested to set up the MySQL administrator password. It is essential that the password you enter here is identical to the password you set up in the environment variable KIXMYSQL_PASSWORD.

```
export KIXMYSQL_USER=<MySQL admin user> export KIXMYSQL_PASSWORD=<MySQL admin
password> apt-get install kix-mysql kix
```

Important Note

During installation, KIX has to adjust the MySQL variable "innodb_log_file_size" to a size of 150 MB and the variable "max_allowed_packet" to 30 MB, so that the installation can be executed. If you have already configured a MySQL server according to your specifications and do not want to adjust anything, please also set the following environment variable BEFORE installing KIX:

```
export KIXMYSQL_NO_CONFIG_CHANGE=1
```

with MariaDB database

Installation is normally executed using the root user account. This user can log into the MariaDB server without a password. In this case, environment variables do not need to be set. Depending on the existing system environment, logging in without a password still might not be possible. This would be the case, e.g. if a MariaDB server has already been configured according to proprietary security specifications. In this case, it is necessary to set two environment variables before installation, so that KIX can create the MariaDB user and MariaDB database.

If the variable KIXMARIADB_USER is not specified, "root" is used. The variable KIXMARIADB_PASSWORD has to contain the password of the specified MariaDB administrator user.

Example of reinstalling the DBMS

```
export KIXMARIADB_USER=root
export KIXMARIADB_PASSWORD=
apt-get install kix-mariadb kix
```

If MariaDB is not yet installed on the system, the KIX Installer will also install the MariaDB Server, the necessary libraries and the MariaDB client. If you are asked to enter the administrator user password during installation, you must use the same password as the one set in the environment variable *KIXMARIADB_PASSWORD*.

Important Note

During installation, KIX has to adjust the MariaDB variable *"innodb_log_file_size"* to a size of 150 MB and the variable *"max_allowed_packet"* to 30 MB, so that the installation can be executed. If you have already configured a MariaDB server according to your specifications and do not want to adjust anything, please also set the following environment variable BEFORE installing KIX:

```
export KIXMARIADB_NO_CONFIG_CHANGE=1
```

5. Start using KIX

You can start using KIX straight after installation. There is no need for a database installation via installer.pl. Call up the URL *"<FQDN>/kix/index.pl"* in one of the supported browsers to obtain access (see Compatibility matrix[2]). When logging in for the first time, you can use the pre-configured administrator user *"root@localhost"* (password *"root"*).

You can access the working interface for service employees via the following URL after installation: *"<FQDN>/kix/index.pl"*. The self-service portal for users and customers can be accessed via *"<Servername>/ kix /customer.pl"*.

2 https://www.kixdesk.com/en/support/compatibility/

2.3 CentOS Stream

Please read the guide to the end and follow all relevant steps.

2.3.1 Installation Guide

1. Activate EPEL repositories (required for required Perl modules)

```
yum install epel-release
```

2. Add Policycoreutils

```
yum install policycoreutils-python-utils
```

3. Add the KIX repository (e.g. /etc/yum.repos.d/kix.repo)

```
echo -e "[kix]\nname=kix\nbaseurl=https://packages.kixdesk.com/repository/redhat/
kix2017/stable\ngpgcheck=1\nenabled=1\ngpgkey=" >> /etc/yum.repos.d/kix.repo
```

4. The public key of c.a.p.e. Import IT to authenticate the packages

```
wget -q http://packages.kixdesk.com/repository/redhat/PublicKey
rpm --import PublicKey
rm PublicKey
```

5. Activate Powertools

```
dnf config-manager --set-enabled powertools
```

6. Update repository sources

```
yum check-update
```

7. Install KIX

With PostgreSQL database (standard)

```
yum install kix-pg kix
sudo firewall-cmd --zone=public --add-port = 80/tcp --permanent
sudo firewall-cmd --reload

systemctl enable httpd.service
systemctl enable postgresql.service
reboot
```

With MySQL database
is no longer supported

With MariaDB database

Usually the installation takes place under the root user and a login to the MariaDB server is possible for this user without a password. In this case, no environment variables need to be set. Depending on the existing system environment, it may still not be possible to log in without a password, e.g. because a MariaDB server has already been configured according to its own security specifications. In this case it is necessary to set two environment variables before the installation so that KIX can create the MariaDB user and the MariaDB database.

If MariaDB is not yet installed on the system, the KIX installer will install the MariaDB server, the necessary libraries and the MariaDB client.

Example of reinstalling the DBMS

```
export KIXMARIADB_USER=root
export KIXMARIADB_PASSWORD=
yum install kix-mariadb kix
sudo firewall-cmd --zone=public --add-port=80/tcp --permanent
sudo firewall-cmd --reload
systemctl enable httpd.service
systemctl enable mariadb.service
reboot
```

Important Note

During the installation, KIX must adjust the MariaDB variable "*innodb_log_file_size*" to a size of 150MB and the variable "*max_allowed_packet*" to 30MB so that the installation can be carried out. If you have already configured a MariaDB server according to your specifications and do not want any adjustments, please set the following environment variable BEFORE installing KIX:

```
export KIXMARIADB_NO_CONFIG_CHANGE = 1
```

8. Preparations for Use

Installation of Mail :: IMAPClient:

```
yum install "perl (Mail :: IMAPClient)"
```

Alternatively, if Perl is not included:

```
cpan install Mail :: IMAPClient
```

9. Use KIX

KIX can be used immediately after installation. No database installation via installer.pl is necessary. Access is obtained by calling up the URL "<URL> /kix/index.pl" in one of the supported browsers (see compatibility matrix[3]). The preconfigured administrator user "root @ localhost" (password "root") is available for the first login.

You can access the work surface for service employees after installation via the following URL: "<Server name> /kix/index.pl". The self-service portal for users and customers can be used via "<server name> /kix/customer.pl".

Note on error message in the log

If you connect your Centos Stream to KIX after the installation is complete, the following error message may appear:
"Can't remove shm for log: Operation not permitted."
You can ignore these. It has no known impact on the system.

3 https://www.kixdesk.com/en/support/compatibility/

2.4 Rocky Linux / AlmaLinux

Please read the guide to the end and follow all relevant steps.

2.4.1 Installation Guide

1. Activate EPEL repositories (required for required Perl modules)

Follow the instructions on the EPEL website to install the appropriate EPEL release package for the corresponding Rocky Linux version. It is imperative to install the EPEL release that matches the current Rocky Linux release that is being operated as the operating system.

```
subscription-manager refresh
yum install https://dl.fedoraproject.org/pub/epel/epel-release-latest-9.noarch.rpm
yum install https://dl.fedoraproject.org/pub/epel/epel-next-release-
latest-9.noarch.rpm
```

2. Add the KIX repository (e.g. /etc/yum.repos.d/kix.repo)

```
[kix]
name = kix
baseurl = https: //packages.kixdesk.com/repository/redhat/kix2017/stable
gpgcheck = 1
enabled = 1
gpgkey =
proxy = _none_
```

3. The public key of c.a.p.e. Import IT to authenticate the packages

```
wget -q https://packages.kixdesk.com/repository/redhat/PublicKey
rpm --import PublicKey
rm PublicKey
```

4. Update repository sources

```
yum check-update
yum update
```

5. Install KIX

- **with PostgreSQL database**

```
yum install kix-pg kix
```

- **with MySQL database**

Is not supported.

- **with MariaDB database**

Usually the installation takes place under the root user and a login to the MariaDB server is possible for this user without a password. In this case, no environment variables need to be set. Depending on the existing system environment, it may still not be possible to log in without a password, e.g. because a MariaDB server has already been configured according to its own security specifications. In this case it is necessary to set two environment variables before the installation so that KIX can create the MariaDB user and the MariaDB database.

If the KIXMARIADB_USER variable is not specified, "root" is used. The variable KIXMARIADB_PASSWORD must contain the password of the specified MariaDB administrator user.

If MariaDB is not yet installed on the system, the KIX installer will install the MariaDB server, the necessary libraries and the MariaDB client. If you are asked for the password of the administrator user during the installation, this password must be identical to the one you set in the environment variable KIXMARIADB_PASSWORD.

Example of reinstalling the DBMS

```
export KIXMARIADB_USER=root
export KIXMARIADB_PASSWORD=
yum install kix-mariadb kix
sudo firewall-cmd --zone=public --add-port=80/tcp --permanent
sudo firewall-cmd --reload
```

Important Note

During the installation, KIX must adjust the MariaDB variable "innodb_log_file_size" to a size of 150MB, as well as the variable "max_allowed_packet" to 30MB, so that the installation can be carried out.

If you have already configured a MariaDB server according to your specifications and do not wish to make any adjustments, please set the following environment variable BEFORE installing KIX:

```
export KIXMARIADB_NO_CONFIG_CHANGE=1
```

6. System restart to activate the SELinux policy

```
reboot
```

7. Install any other required packages

```
cpan install Mail :: IMAPClient
```

8. Start services

Start the web server as follows:

```
service httpd start
(Example database service: systemctl start mariadb (analogous for Postgres)
```

9. Use KIX

KIX can be used immediately after installation. No database installation via installer.pl is necessary. Access is obtained by calling the URL "<FQDN> /kix/index.pl" in one of the supported browsers (see compatibility matrix[4]). The preconfigured administrator user "root @ localhost" (password "root") is available for the first login.

You can access the work surface for service employees after installation via the following URL:

"<Server name> /kix/index.pl".

The self-service portal for users and customers can be used via: "<Servername> /kix/customer.pl".

4 https://www.kixdesk.com/en/support/compatibility/

2.5 Red Hat Enterprise Linux

In this chapter you will find the installation instructions for the following versions of RHEL:

- Red Hat Enterprise Linux 9 (RHEL)
- Red Hat Enterprise Linux 8.5 (RHEL)

2.5.1 Red Hat Enterprise Linux 9 (RHEL)

Please read the guide to the end and follow all relevant steps.

2.5.1.1 Installation Guide

1. Activate EPEL repositories (required for required Perl modules)

Follow the instructions on the EPEL website to install the appropriate EPEL release package for the corresponding RHEL version. It is imperative to install the EPEL release that matches the current RHEL release that is being operated as the operating system. (See also the thread in the Redhat Customer Portal)

```
subscription-manager refresh
yum install https://dl.fedoraproject.org/pub/epel/epel-release-latest-9.noarch.rpm
subscription-manager repos --enable codeready-builder-for-rhel- 9 -x86_64-rpms
```

2. Add the KIX repository (e.g. /etc/yum.repos.d/kix.repo)

```
[kix]
name = kix
baseurl = https: //packages.kixdesk.com/repository/redhat/kix2017/stable
gpgcheck = 1
enabled = 1
gpgkey =
proxy = _none_
```

3. the public key of c.a.p.e. Import IT to authenticate the packages

```
wget -q https://packages.kixdesk.com/repository/redhat/PublicKey
rpm --import PublicKey
rm PublicKey
```

4. Update repository sources

```
yum check-update
```

5. Install KIX

- **with PostgreSQL database**

```
yum install kix-pg kix
```

- **with MySQL database**

Is not supported.

- **with MariaDB database**

Usually the installation takes place under the root user and a login to the MariaDB server is possible for this user without a password. In this case, no environment variables need to be set. Depending on the existing system environment, it may still not be possible to log in without a password, e.g. because a MariaDB server has already been configured according to its own security specifications. In this case it is necessary to set two environment variables before the installation so that KIX can create the MariaDB user and the MariaDB database.

If the KIXMARIADB_USER variable is not specified, "root" is used. The variable KIXMARIADB_PASSWORD must contain the password of the specified MariaDB administrator user.

If MariaDB is not yet installed on the system, the KIX installer will install the MariaDB server, the necessary libraries and the MariaDB client. If you are asked for the password of the administrator user during the installation, this password must be identical to the one you set in the environment variable KIXMARIADB_PASSWORD.
Example of reinstalling the DBMS

```
export KIXMARIADB_USER=root
export KIXMARIADB_PASSWORD=
yum install kix-mariadb kix
sudo firewall-cmd --zone=public --add-port=80/tcp --permanent
sudo firewall-cmd --reload
```

Important note

During the installation, KIX must adjust the MariaDB variable "innodb_log_file_size" to a size of 150MB and the variable "max_allowed_packet" to 30MB so that the installation can be carried out. If you have already configured a MariaDB server according to your specifications and do not want any adjustments, please set the following environment variables BEFORE installing KIX:

```
export KIXMARIADB_NO_CONFIG_CHANGE=1
```

6. System restart to activate the SELinux policy

```
reboot
```

7. Install any other required packages

```
cpan install Mail :: IMAPClient
```

8. Start services

Start the web server as follows:

```
service httpd start

(Example database service: systemctl start mariadb (analogous for Postgres)
```

9. Use KIX

KIX can be used immediately after installation. No database installation via installer.pl is necessary. Access is obtained by calling the URL "<FQDN> /kix/index.pl" in one of the supported browsers (see compatibility matrix[5]). The preconfigured administrator user "root @ localhost" (password "root") is available for the first login.

You can access the work surface for service employees after installation via the following URL:

"<Server name> /kix/index.pl".

The self-service portal for users and customers can be used via: "<Servername> /kix/customer.pl".

5 https://www.kixdesk.com/en/support/compatibility/

2.5.2 Red Hat Enterprise Linux 8.5 (RHEL)

Please read the guide to the end and follow all relevant steps.

2.5.2.1 Installation Guide

1. Activate EPEL repositories (required for required Perl modules)

Follow the instructions on the EPEL website to install the appropriate EPEL release package for the corresponding RHEL version. It is imperative to install the EPEL release that matches the current RHEL release that is being operated as the operating system. (See also the thread in the Redhat Customer Portal)

```
subscription-manager refresh
yum install https://dl.fedoraproject.org/pub/epel/epel-release-latest-8.noarch.rpm
subscription-manager repos --enable codeready-builder-for-rhel-8-x86_64-rpms
```

2. Add the KIX repository (e.g. /etc/yum.repos.d/kix.repo)

```
[kix]
name = kix
baseurl = https: //packages.kixdesk.com/repository/redhat/kix2017/stable
gpgcheck = 1
enabled = 1
gpgkey =
proxy = _none_
```

3. the public key of c.a.p.e. Import IT to authenticate the packages

```
wget -q https://packages.kixdesk.com/repository/redhat/PublicKey
rpm --import PublicKey
rm PublicKey
```

4. Update repository sources

```
yum check-update
```

5. Install KIX

- **with PostgreSQL database**

```
yum install kix-pg kix
```

- **with MySQL database**

Is not supported.

- **with MariaDB database**

Usually the installation takes place under the root user and a login to the MariaDB server is possible for this user without a password. In this case, no environment variables need to be set. Depending on the existing system environment, it may still not be possible to log in without a password, e.g. because a MariaDB server has already been configured according to its own security specifications. In this case it is necessary to set two environment variables before the installation so that KIX can create the MariaDB user and the MariaDB database.

If the KIXMARIADB_USER variable is not specified, "root" is used. The variable KIXMARIADB_PASSWORD must contain the password of the specified MariaDB administrator user.

If MariaDB is not yet installed on the system, the KIX installer will install the MariaDB server, the necessary libraries and the MariaDB client. If you are asked for the password of the administrator user during the installation, this password must be identical to the one you set in the environment variable KIXMARIADB_PASSWORD.

Example of reinstalling the DBMS

```
export KIXMARIADB_USER=root
export KIXMARIADB_PASSWORD=
yum install kix-mariadb kix
sudo firewall-cmd --zone=public --add-port=80/tcp --permanent
sudo firewall-cmd --reload
```

Important Note

During the installation, KIX must adjust the MariaDB variable "innodb_log_file_size" to a size of 150MB and the variable "max_allowed_packet" to 30MB so that the installation can be carried out. If you have already configured a MariaDB server according to your specifications and do not want any adjustments, please set the following environment variables BEFORE installing KIX:

```
export KIXMARIADB_NO_CONFIG_CHANGE=1
```

6. System restart to activate the SELinux policy

```
reboot
```

7. Install any other required packages

```
cpan install Mail :: IMAPClient
```

8. Start services

Start the web server as follows:

```
service httpd start

(Example database service: systemctl start mariadb (analogous for Postgres)
```

9. Use KIX

KIX can be used immediately after installation. No database installation via installer.pl is necessary. Access is obtained by calling the URL "<FQDN> /kix/index.pl" in one of the supported browsers (see compatibility matrix[6]). The preconfigured administrator user "root @ localhost" (password "root") is available for the first login.

You can access the work surface for service employees after installation via the following URL:

"<Server name> /kix/index.pl".

The self-service portal for users and customers can be used via: "<Servername> /kix/customer.pl".

6 https://www.kixdesk.com/en/support/compatibility/

2.6 SUSE Linux Enterprise Server

In this chapter you will find the installation instructions for the following versions of SLES:

- SLES 15 SP4
- SLES 15 SP3
- SLES 12 SP5

2.6.1 SUSE Linux Enterprise Server 15.4 (SLES)

Please read the guide to the end and follow all relevant steps.

2.6.1.1 Installation Guide

1. If the server was NOT installed with a GUI (Gnome, KDE, ...):

```
SUSEConnect -p sle-module-desktop-applications/15.4/x86_64
```

Add the KIX repository

```
zypper -n ar https://packages.kixdesk.com/repository/suse/kix2017/stable kix
```

2. the public key of c.a.p.e. IT to authenticate the packages

```
wget -q http://packages.kixdesk.com/repository/suse/PublicKey
rpm --import PublicKey
rm PublicKey
```

3. Add the OpenSUSE developer repository (required for required Perl modules)

```
zypper addrepo http://download.opensuse.org/repositories/devel:/languages:/perl/
SLE_15_SP4/devel:languages:perl.repo
```

The file 'perl-DBD-Pg-3.15.0-94.5.x86_64.rpm' is not in the repository for SLES 15 SP4. There are two ways you can go about it:

- Install the missing file separately (http://download.opensuse.org/repositories/devel:/languages:/perl/SLE_15_SP3/x86_64/perl-DBD-Pg-3.15.0-94.5.x86_64.rpm)
- Use the SLES 15 SP3 repository.

4. Update repository sources

```
zypper refresh
```

5. Install KIX

with PostgreSQL database (standard)

```
zypper install kix-pg kix
```

with MySQL database

is not supported

with MariaDB database

Usually the installation takes place under the root user and a login to the MariaDB server is possible for this user without a password. In this case, no environment variables need to be set. Depending on the existing system environment, it may still not be possible to log in without a password, e.g. because a MariaDB server has already been configured according to its own security specifications. In this case it is necessary to set two environment variables before the installation so that KIX can create the MariaDB user and the MariaDB database.

If the variable KIXMARIADB_USER is not specified, "root" is used. The variable KIXMARIADB_PASSWORD must contain the password of the specified MariaDB administrator user.

If MariaDB is not yet installed on the system, the KIX installer will install the MariaDB server, the necessary libraries and the MariaDB client. If you are asked for the password of the administrator user during the installation, this password must be identical to the one you set in the environment variable KIXMARIADB_PASSWORD.

Example of reinstalling the DBMS

```
export KIXMARIADB_USER=root
export KIXMARIADB_PASSWORD=
zypper install kix-mariadb kix
```

Important Note

During the installation, KIX must adjust the MariaDB variable "innodb_log_file_size" to a size of 150MB and the variable "max_allowed_packet" to 30MB so that the installation can be carried out. If you have already configured a MariaDB server according to your specifications and do not want any adjustments, please set the following environment variable BEFORE installing KIX:

```
export KIXMARIADB_NO_CONFIG_CHANGE = 1
```

6. Adjust Apache Config

The default configuration of the Apache web server under SLES prevents symbolic links (SymLink) from being followed in the file system. However, KIX creates one (/ opt / kix) and uses it in the Apache config. So that the web server accepts the SymLink, the Apache config must be adapted accordingly. The easiest way to do this is to adjust the following position in /etc/apache2/httpd.conf:

```
# forbid access to the entire filesystem by default <Directory />
Options None + FollowSymLinks
```

7. Use KIX

KIX can be used immediately after installation. No database installation via installer.pl is necessary.

You can access it by calling up the URL "<Servername> /kix/index.pl" in one of the supported browsers (see compatibility matrix[7]). The preconfigured administrator user "root @ localhost" (password "root") is available for the first login.
You can access the work surface for service employees after installation via the following URL: "<Server name> /kix/index.pl".

The self-service portal for users and customers can be used via "<server name> /kix/customer.pl".

7 https://www.kixdesk.com/en/support/compatibility/

2.6.2 SUSE Linux Enterprise Server 15.3 (SLES)

Please read the guide to the end and follow all relevant steps.

2.6.2.1 Installation Guide

1. If the server was NOT installed with a GUI (Gnome, KDE, ...):

```
SUSEConnect -p sle-module-desktop-applications/15.3/x86_64
```

Add the KIX repository

```
zypper -n ar https://packages.kixdesk.com/repository/suse/kix2017/stable kix
```

2. the public key of c.a.p.e. IT to authenticate the packages

```
wget -q http://packages.kixdesk.com/repository/suse/PublicKey
rpm --import PublicKey
rm PublicKey
```

3. Add the OpenSUSE developer repository (required for required Perl modules)

```
zypper addrepo http://download.opensuse.org/repositories/devel:/languages:/perl/
SLE_15_SP3/devel:languages:perl.repo
```

4. Update repository sources

```
zypper refresh
```

5. Install KIX

with PostgreSQL database (standard)

```
zypper install kix-pg kix
```

with MySQL database

is not supported

with MariaDB database

Usually the installation takes place under the root user and a login to the MariaDB server is possible for this user without a password. In this case, no environment variables need to be set. Depending on the existing system environment, it may still not be possible to log in without a password, e.g. because a MariaDB server has already been configured according to its own security specifications. In this case it is necessary to set two environment variables before the installation so that KIX can create the MariaDB user and the MariaDB database.

If the variable KIXMARIADB_USER is not specified, "root" is used. The variable KIXMARIADB_PASSWORD must contain the password of the specified MariaDB administrator user.

If MariaDB is not yet installed on the system, the KIX installer will install the MariaDB server, the necessary libraries and the MariaDB client. If you are asked for the password of the administrator user during the installation, this password must be identical to the one you set in the environment variable KIXMARIADB_PASSWORD.

Example of reinstalling the DBMS

```
export KIXMARIADB_USER=root
export KIXMARIADB_PASSWORD=
zypper install kix-mariadb kix
```

Important Note

During the installation, KIX must adjust the MariaDB variable "innodb_log_file_size" to a size of 150MB and the variable "max_allowed_packet" to 30MB so that the installation can be carried out. If you have already configured a MariaDB server according to your specifications and do not want any adjustments, please set the following environment variable BEFORE installing KIX:

```
export KIXMARIADB_NO_CONFIG_CHANGE = 1
```

6. Adjust Apache Config

The default configuration of the Apache web server under SLES prevents symbolic links (SymLink) from being followed in the file system. However, KIX creates one (/ opt / kix) and uses it in the Apache config. So that the web server accepts the SymLink, the Apache config must be adapted accordingly. The easiest way to do this is to adjust the following position in /etc/apache2/httpd.conf:

```
# forbid access to the entire filesystem by default <Directory />
Options None + FollowSymLinks
```

7. Use KIX

KIX can be used immediately after installation. No database installation via installer.pl is necessary.

You can access it by calling up the URL "<Servername> /kix/index.pl" in one of the supported browsers (see compatibility matrix[8]). The preconfigured administrator user "root @ localhost" (password "root") is available for the first login.
You can access the work surface for service employees after installation via the following URL: "<Server name> /kix/index.pl".

The self-service portal for users and customers can be used via "<server name> /kix/customer.pl".

8 https://www.kixdesk.com/en/support/compatibility/

2.6.3 SUSE Linux Enterprise Server 12.5 (SLES)

Please read the guide to the end and follow all relevant steps.

2.6.3.1 Installation Guide

1. Add the KIX repository

```
zypper -n ar https://packages.kixdesk.com/repository/suse/kix2017/stable kix
```

2. the public key of c.a.p.e. IT to authenticate the packages

```
wget -q https://packages.kixdesk.com/repository/suse/PublicKey
rpm --import PublicKey
rm PublicKey
zypper -n --gpg-auto-import-keys ref -s
```

3. Add the OpenSUSE developer repository (required for required Perl modules)

```
zypper -n ar https://download.opensuse.org/repositories/devel:languages:perl/
SLE_12_SP5/devel:languages:perl.repo
```

4. Update repository sources

```
zypper refresh
```

5. Install KIX

with PostgreSQL database (standard)

```
zypper install kix-pg kix
```

with MySQL database

is not supported

with MariaDB database

Usually the installation takes place under the root user and a login to the MariaDB server is possible for this user without a password. In this case, no environment variables need to be set. Depending on the existing system environment, it may still not be possible to log in without a password, e.g. because a MariaDB server has already been configured according to its own security specifications. In this case it is necessary to set two environment variables before the installation so that KIX can create the MariaDB user and the MariaDB database.

If the variable KIXMARIADB_USER is not specified, "root" is used. The variable KIXMARIADB_PASSWORD must contain the password of the specified MariaDB administrator user.

If MariaDB is not yet installed on the system, the KIX installer will install the MariaDB server, the necessary libraries and the MariaDB client. If you are asked for the password of the administrator user during the installation, this password must be identical to the one you set in the environment variable KIXMARIADB_PASSWORD.

Example of reinstalling the DBMS

```
export KIXMARIADB_USER=root
export KIXMARIADB_PASSWORD=
zypper install kix-mariadb kix
```

Important Note

During the installation, KIX must adjust the MariaDB variable "innodb_log_file_size" to a size of 150MB and the variable "max_allowed_packet" to 30MB so that the installation can be carried out. If you have already configured a MariaDB server according to your specifications and do not want any adjustments, please set the following environment variable BEFORE installing KIX:

```
export KIXMARIADB_NO_CONFIG_CHANGE = 1
```

6. Adjust Apache Config

The default configuration of the Apache web server under SLES prevents symbolic links (SymLink) from being followed in the file system. However, KIX creates one (/ opt / kix) and uses it in the Apache config. So that the web server accepts the SymLink, the Apache config must be adapted accordingly. The easiest way to do this is to adjust the following position in /etc/apache2/httpd.conf:

```
# forbid access to the entire filesystem by default <Directory />
Options None + FollowSymLinks
```

7. Use KIX

KIX can be used immediately after installation. No database installation via installer.pl is necessary.

You can access it by calling up the URL "<Servername> /kix/index.pl" in one of the supported browsers (see compatibility matrix[9]). The preconfigured administrator user "root @ localhost" (password "root") is available for the first login.
You can access the work surface for service employees after installation via the following URL: "<Server name> /kix/index.pl".

The self-service portal for users and customers can be used via "<server name> /kix/customer.pl".

9 https://www.kixdesk.com/en/support/compatibility/

2.7 Web server configuration

This chapter presents settings on the web server that can solve certain problems.

2.7.1 Avoid Google Phishing Warning

To avoid Google Phising warnings for your domain due to possible cross-site scripting caused by unset headers, we recommend making the following additions to Apache's security.conf:

- Header set X-Frame-Options SAMEORIGIN
- Header set X-XSS-Protection 1; mode = block
- Header set X-Content-Type-Options nosniff
- Header always set Strict-Transport-Security "max-age = 63072000; includeSubDomains"

2.7.2 Further measures to secure the server

Further measures to secure the web server are recommended:

- Deactivate directory listing
- Disable the Http-TRACE method
- Hide the version number of the server

2.8 Migration

The process of software migration describes the changeover from a previously used to a new technological environment. It goes beyond a simple update or upgrade. The migration was designed in such a way that it can be repeated as often as required without data loss if problems should arise.

For this purpose, among other things, the database of the source system is exported and imported into the new system and adapted accordingly. The file system needs sufficient space for this, on the one hand in the directory which is specified as the target directory for temporary files during the migration and on the other hand on the hard disk where the database is imported. Therefore, please make sure that there is sufficient space in the respective file system. Otherwise the migration will fail.

⚠️The procedure described here cannot be transferred 1: 1 to KIX Pro, as additional components are installed compared to KIX Start.

2.8.1 Migration from the (OTRS) Community Edition to KIX Start

To switch from a classic (OTRS) Community Edition to the KIX Start service system, the following requirements must be met:

- The (OTRS) Community Edition system runs on the (OTRS) Community Edition Version 5.
- The (OTRS) Community Edition system uses the same database management system as KIX.
- The following packages must be installed in the (OTRS) Community Edition:
    - FAQ
    - GeneralCatalog
    - ImportExport
    - ITSMCore
    - ITSMConfigurationManagement
    - ITSMIncidentProblemManagement

The migration itself is carried out automatically by a corresponding migration script (/opt/kix/scripts/migrate_otrs2kix.sh).

The concrete description of the migration steps and the procedure can be found in the file /opt/kix/MIGRATING_OTRS.md after the installation of KIX. Follow the instructions.

2.8.2 Migration from KIX 16 to KIX 17

With every version of KIX a corresponding instruction is delivered in the file "/opt/kix/MIGRATING.md" on the file system.

The description for the migration from KIX 16 to KIX 17 is as follows. It is imperative to meet the requirements and follow the steps.

2.8.2.1 Requirements

- The KIX 16 system uses the same DBMS as KIX 17 (PostgreSQL, MariaDB or MySQL).
- KIX 16 is the latest version (16.1.0).
- The KIX database is installed locally.

2.8.2.2 Action

- Stop daemon in KIX 2016 system
    - `sudo -u www-data <KIX2016-Home>/bin/otrs.Daemon.pl stop`
- Stop cron jobs in KIX 2016 system
    - `<KIX2016-Home> /bin/Cron.sh stop <Apache user>`
- Stop apache
- Change to the KIX 2017 directory
    - `cd/opt/kix`
- Run migration script
    - `scripts/migrate_kix16.sh`
      Instructions follow
      wait...
- Transfer special configurations from the old Config.pm to the new Config.pm from KIX
    - Copy the old SystemID into the SystemID-Config-Attribute of the KIX Config.pm
    - Do not overwrite the rest of the existing KIX configuration!
- Deactivate mod_perl
- Only necessary if you want to work in KIX 2016 and KIX 2017 at the same time
- Start apache
- then re-install the remaining installed packages in the package manager on the console
    - `sudo -u <apache user> /opt/kix/bin/kix.Console.pl Admin::Package::Reinstall --force <package name>`
- Copy the article attachments in the file system from the old KIX installation to KIX 2017
    - `cp -rvp <KIX2016-Home> /var/article/opt/kix/var`
- If available, copy the CI images in the file system from the old KIX installation to KIX 2017
    - `cp -rvp <KIX2016-Home> /var/ITSMConfigItem/opt/kix/var`
- If available, copy the CI attribute attachments in the file system from the old KIX installation to KIX
    - `cp -rvp <KIX2016-Home> /var/attachments/opt/kix/var`
- Config rebuild
- Clear caches
- Apache reload
- Check cron jobs in KIX 2017 system
    - Transfer special cron jobs and check configuration and adjust if necessary

- Start cron jobs in the KIX 2017 system
  - / `opt/kix/bin/Cron.sh start <Apache user>`
- Start daemon in KIX 2017 system
  - `sudo -u www-data /opt/kix/bin/kix.Daemon.pl start`

Errors that are not "real" errors

When migrating from KIX16 to KIX17, error messages are noted in the log. If necessary, these must be examined carefully. Not every log entry marked as error requires action.

Example: The Postgresql dump import delivers, for example, '`psql: /tmp/KIX17_migration/KIX16_DB.dmp: 29: ERROR: must be owner of extension plpgsql'`, or '`psql: /tmp/KIX17_migration/KIX16_DB.dmp: 17821: WARNING: no privileges could be revoked for "public"`. These messages are displayed as errors but can be ignored.

3 General Notes

3.1 Manual configuration of cron jobs

If you plan to create your own cron jobs, which you enter directly in the crontab of the web server user, the following process is absolutely necessary.

- The KIX cron (under / otp / kix / bin) reads the relevant cron files again after a restart. These are located under / opt / kix / var / cron.
- All files in the directory without the .dist extension are viewed and read in.
- If you want to expand your own jobs, you have to create a new file and save the relevant entries there. This is the only way to guarantee security during the update.
- Then correct the rights on the web server user and restart the cron.

Warning

If you do not proceed like this, all settings will be gone after a reboot.

3.2 Linking

In order to automatically create links in the SysConfig per event, event names must be created correctly. These are not stored in the KIX by default.

Possible prefixes for this are

- 'TicketMasterLinkAdd',
- 'TicketMasterLinkDelete',
- 'TicketSlaveLinkAdd' and
- 'TicketSlaveLinkDelete'.

The link type is now appended to the relevant prefix (⚠ The type and not the selected link).

The link types are stored in the SysConfig with entries of the form 'LinkObject :: Type ### ...'. You can find it in the *Framework* group and there in the *Core :: LinkObject* subgroup.

Example

For the parent <-> child link, the type is called 'ParentChild'. For example, an available event would be 'TicketSlaveLinkAddParentChild'.

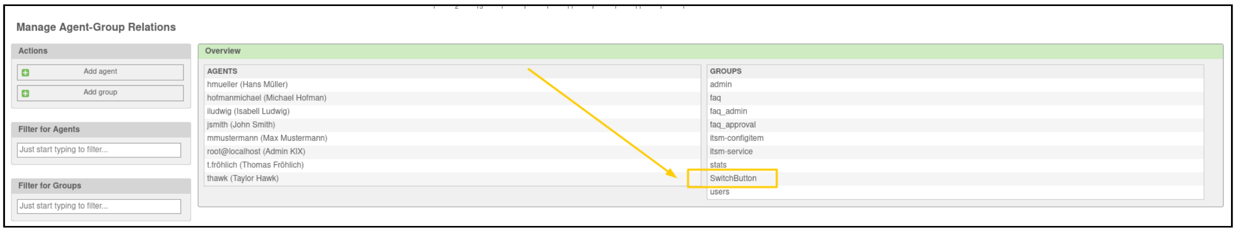
3.3 Customer frontend

The KIX customer front end is the graphical user interface (GUI) for contact persons or agents in the role of a customer. You reach the customer frontend by writing "customer.pl" instead of "index.pl" at the end of your KIX URL.

So that agents can easily switch between the agent and customer front end, there is a "switch button" within the special functions, see chapter "The customer front end" in the KIX 17 user manual.

The following settings must be made for this:

- The login for agents and customer portal users (contact persons) must be analogous.
- The agent requires rights to the "SwitchButton". You set this under *Admin module > Agents < - > Groups > Manage Agent-Group Relations*.



4 Common Structure of the Admin Area in KIX

The following sections contain information about the settings in the KIX Admin Area.

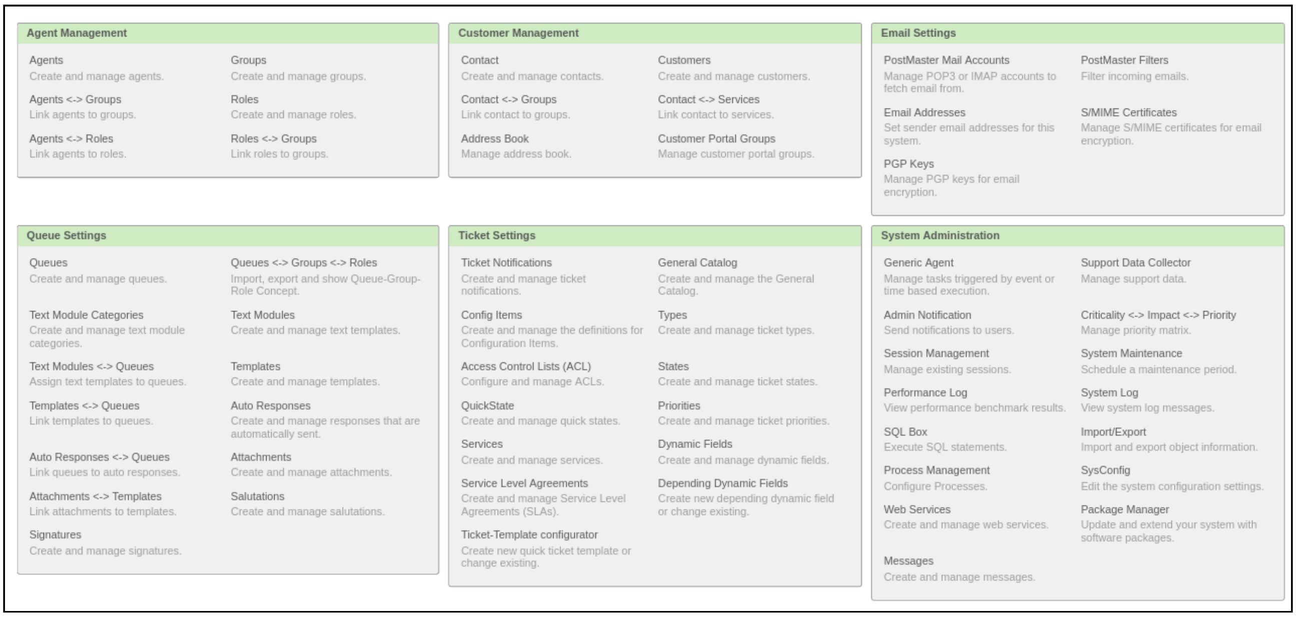


Figure: KIX Admin Area

The subject areas that can be managed and edited include:

- Agent management
- Customer management
- Email settings
- Queue settings
- Ticket settings
- System administration

In the following chapters, the individual topics will be discussed in more detail. However, the assignment there can differ from the assignment in the overview, which has grown over time.

4.1 General Settings

Setting options that cannot be assigned to a specific topic or that can be stored across multiple functions in the KIX are the subject of this chapter.

4.1.1 Settings for overviews and lists

Adjust the limit of the characters displayed

If values in the representations are too long, they are abbreviated with ...

The length of the values from which this is carried out is 20 characters as standard. You can adapt this by adapting the key "Frontend :: OverrideQDataDisplayLimits" for general fields or "Frontend :: OverrideDynamicFieldDisplayLimits" for dynamic fields in the SysConfig. The associated output filter should be active and contain the respective module for which the field length is to be adjusted.

4.1.2 Enlarge columns in tables

The length restriction of the columns in the article overview table of the ticket view can be adjusted if necessary. In order to be able to change the column width via the header columns as an agent, the system must be configured accordingly:

- SysConfig key: Frontend :: Agent :: Ticket :: ViewTicketZoomTabArticle
    - Change of table cells
    - Addition of the "resizeable" class
- Adaptation of the JS "Core.Agent.TicketZoom"
    - The calculation of the column width must take into account the values from the user preference.
    - The event must be adapted accordingly so that the addition that defines the "resizeable" saves it as a user preference in the event of a change (s).
- The CSS for the article table must be added so that the cell contents are not displayed larger than the cell. The same applies to the CSS for the visual display when moving the column width.

As a result, when you change one column width, the other columns automatically adjust within the framework of the maximum table width. The minimum column width does not fall below the content of the header column. The column width set by the agent is saved for the respective agent.

5 Agent Management

The following sections contain information on how to:

- Create and manage agents
- Link Agents to Groups
- Link Agents to Roles
- Create and Manage Groups
- Create and Manage Roles
- Link Roles to Groups

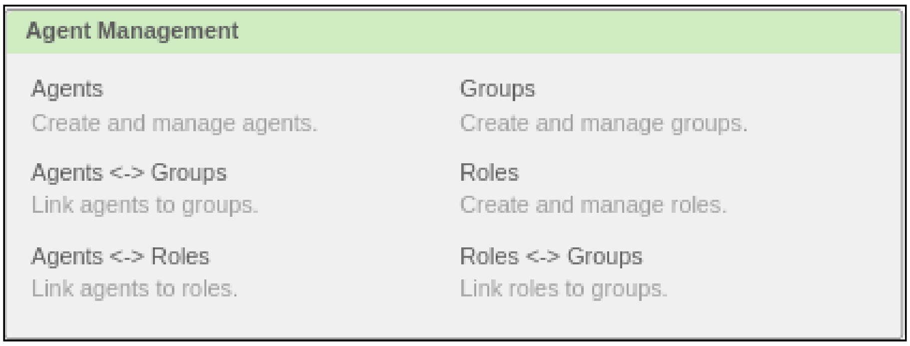


Figure: Agent Management

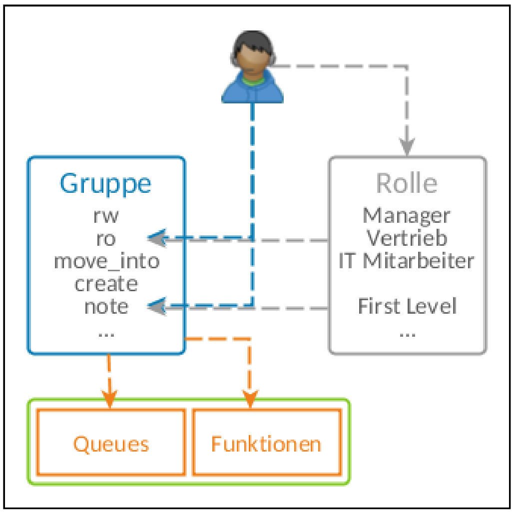
5.1 Authorization concept

The authorization concept describes which access rules apply to individual users or user groups to the data of the IT system.

It assigns each user / agent a number of rights that he is actually allowed to use, or conversely, each right is assigned a list of the authorized users. The type of authorization can also be specified, for example read, change, delete and / or use.

A concept that is mapped using roles and user groups is clear and makes day-to-day business easier for the administrator.

5.1.1 Interaction of agents, groups and roles



Agent:

People who work internally at KIX are called agents. Each agent logs on to the system via his own password-protected "account".

Groups:

Agents are assigned to groups and receive their authorizations, which resource they are allowed to edit in which way. The admin has to assign each individual authorization to each group to the agent.
Groups are also assigned queues or functional areas.

Roles:

Agents can also be assigned roles. This role combines a combination of groups and permissions. Roles de facto define a collection of group permissions. A role can be assigned to multiple agents.

Example

As the admin of the company, you assign each individual employee his or her necessary rights in the KIX. You can assign each right individually via the group assignment.
The tasks and necessary work authorizations are often the same within a department. The use of roles is recommended for this. This allows authorizations to be summarized, for example all authorizations that employees need in payroll accounting, as it results from the business processes there. This role is assigned to every employee who is now actually working in personnel accounting.
In addition, roles and authorizations can be combined with one another via the groups, agents can be assigned roles as well as direct authorizations via the group. Permissions add up this way. Neither role nor group have priority here; you always have all of the authorizations.
An employee can also have several roles if he has several functions. In this way it is achieved that changes in the responsibilities of the individual employees as well as changes in the business process only have to be tracked at one point in the authorization concept and this remains consistent and manageable. The maintenance effort is reduced.

5.1.2 Authorization types

The following types of authorization are available in KIX:

Authorization	Abbreviation	Meaning of impact
create	CR	Agent can create tickets in group / queue.
move_into	MO	Agent can move tickets into group / queue.
note	NO	Agent can add notes to tickets in group / queue.
owner	OW	Agent can be set as an editor in group / queue.
priority	PR	Agent can set ticket priority in group / queue.
ro	RO	Agent can see tickets in group / queue.
rw	RW	Full authorization on tickets in group / queue.

Each of these authorizations can be assigned individually to an agent, a group or a role.

5.2 Create and Manage Groups

In this area you can create new groups in order to give permissions to different agents. The list shows all of the groups created in the system.

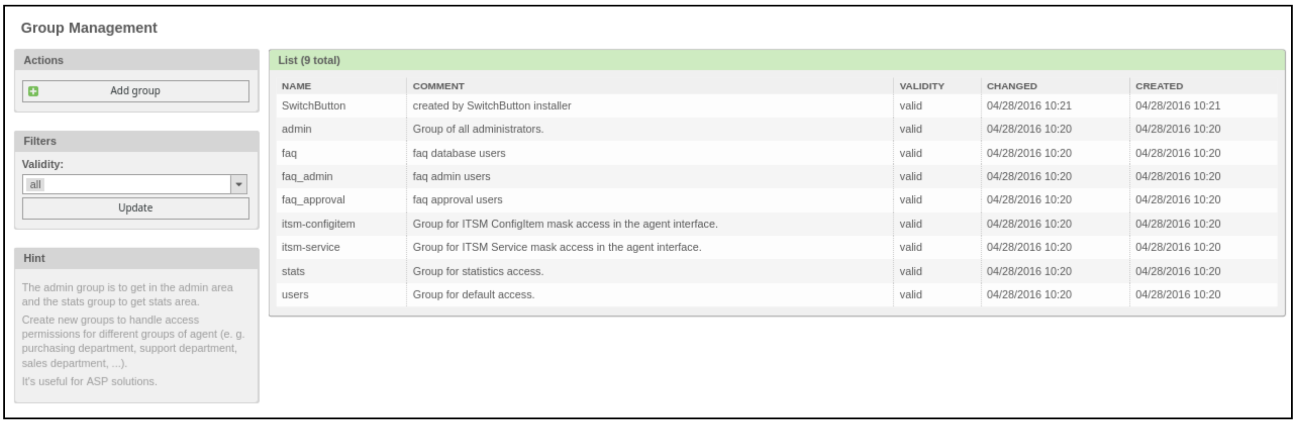


Figure: Group Management

The *"admin"* group is required for the Admin area.
The *"stats"* group is required for the *"KPI Dashboard"* and *"Statistics"* areas.

You will find a filter in the menu on the left-hand side of the screen. With this, the overview list of the existing groups can be filtered for validity.

The following filters are possible:

- All
- Valid
- Invalid
- Temporarily invalid

This setting is temporary and applies as long as you are in the respective area. "All" is set as standard. All existing entries are displayed without restriction.

The filter also takes into account searches that have already been carried out.

A standard can be set for the filter in SysConfig, which initially defines the filter and accordingly shows the list in a restricted manner. To do this, go to the *Framework* group in SysConfig and then to the *Frontend :: Admin :: ViewGroup* subgroup.

Add a New Group

In the *"Actions"* widget click "Add Group". The following widget will open:

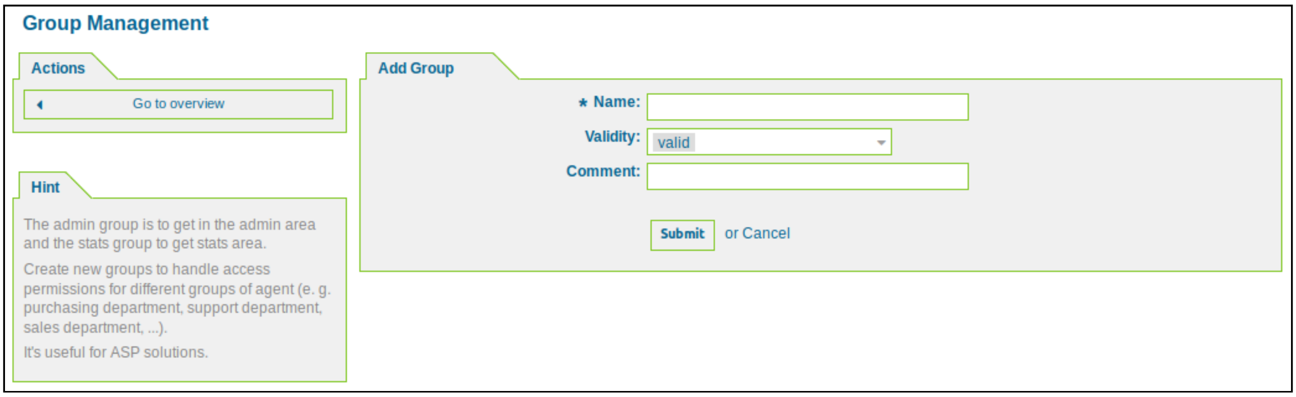


Figure: Group Management - Add Group

Assign the group a name and, if applicable, add a comment. Then click "Submit".

5.3 Create and manage agents

In this area you can create/manage new agents and adjust the settings for a specific agent.

> ⚠ Initially there is an agent whose username is root @ localhost. This account is a superuser account which is linked to various system processes. Do not set this account to "invalid" as these processes will no longer work properly.
> 1. Assign a new password to this superuser account.
> 2. Create your own superuser account with which you can work in the system.

Figure: Agent Management

You will find a filter in the menu on the left-hand side of the screen. With this, the overview list of the existing agents can be filtered for validity.

The following filters are possible:

- All
- Valid
- Invalid
- Temporarily invalid

This setting is temporary and applies as long as you are in the respective area. "All" is set as standard. All existing entries are displayed without restriction.

The filter also takes into account searches that have already been carried out.

A standard can be set for the filter in SysConfig, which initially defines the filter and accordingly shows the list in a restricted manner. To do this, go to the *Framework* group in SysConfig and then to the *Frontend :: Admin :: ViewUser* subgroup.

Add a New Agent

In the *"Actions"* widget click "Add Agent". A new widget with input fields will open.

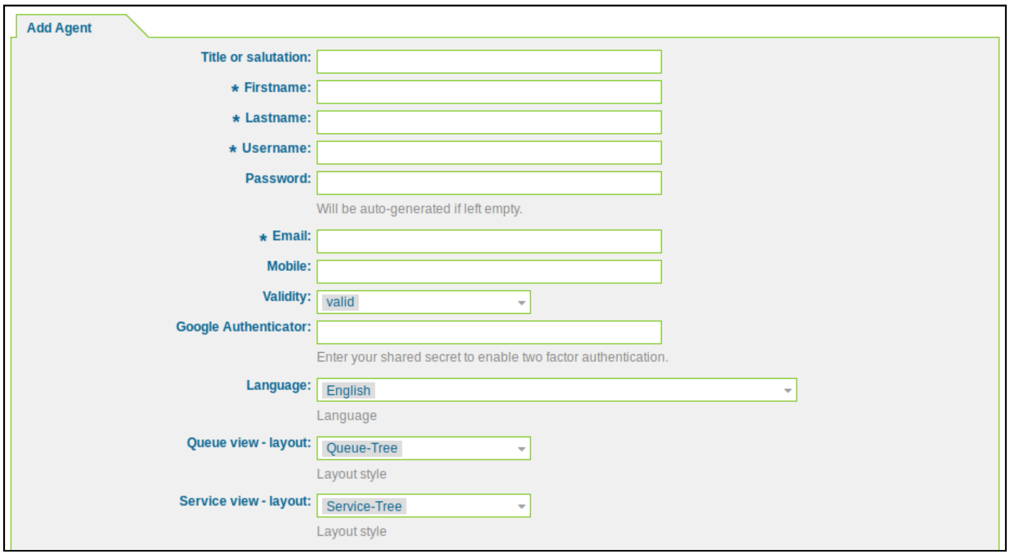


Figure: "Add Agent" Widget

Assign a lastname, firstname, username and email address, and specify the settings for the agent. Then click "Submit".

After submitting the data you will be taken automatically to the *"Manage Agent-Group Relations"* area.

Please note

The password has to meet the password criteria. In the standard KIX version the criteria are:

- Minimum length: 8 characters
- Maximum length: 16 characters
- Must consist of at least 3 of the following character groups: lowercase, uppercase, numbers, or special characters
- You cannot use your: login name, firstname, lastname
- Use at least one of the following special characters:][+-*:_=#,$
- Do not use these special characters: space,\/;^
- Password valid for: 90 days

If you wish to change the criteria for the agent password, you have to change the settings in SysConfig: *Framework -> Frontend::Agent::Preferences -> PreferencesGroups###Password*.
If LDAP/AD is used for user authentication, the KIX password policy has no effect.

In the standard version the number of possible login attempts is 3 (three). After this, the agent's login will be blocked. To unblock a blocked agent, go to the *"Block Login"* field in the *"Edit Agent"* widget and select *"No"*.

The 'forgot password' function in the agent and customer front end is deactivated when delivered in order to minimize the attack surface.
If you want to activate the function, you have to change the setting in the SysConfig:

- *Framework → Frontend :: Customer → CustomerPanelLostPassword*
- *Framework → Frontend :: Agent → LostPassword*

Warning: This function is not effective when using an LDAP.

5.4 Link Agents to Groups

In this area you can manage agent-group relations and define an agent's permissions in a group. In the *"Overview"* widget you can view all the existing agents and groups in the KIX system.

You can add a new agent by clicking "Add Agent".
You can add a new group by clicking "Add Group".

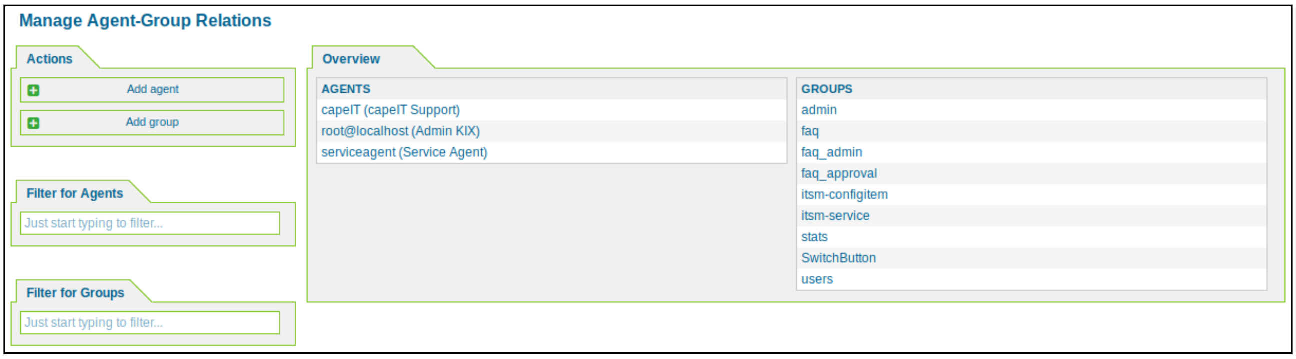


Figure: Manage Agent-Group Relations

<u>Agent Relations in a Group</u>

In the *"Overview"* widget click a group name. The following widget will open:

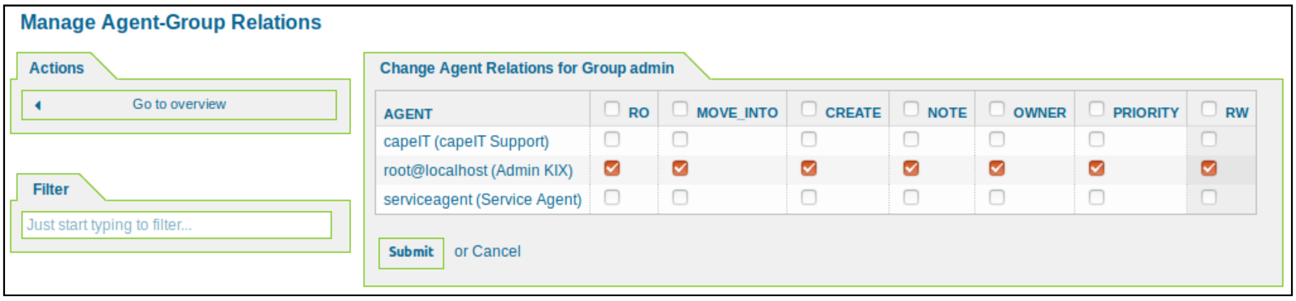


Figure: Agent Relations in a Group

Define the individual rights of an agent for this group here. Then click the "Submit" button.

<u>Reference</u>

ro - Read only access to the ticket in this group/queue

move_into - Permissions to move tickets into this group/queue

create - Permissions to create tickets in this group/queue

note - Permissions to add notes to tickets in this group/queue

owner - Permissions to change the owner of tickets in this group/queue

priority - Permissions to change the ticket priority in this group/queue

rw - Full read and write access to the tickets in this group/queue

<u>Group Relations for an Agent</u>

In the *"Overview"* widget click the name of an agent. The following widget will open:

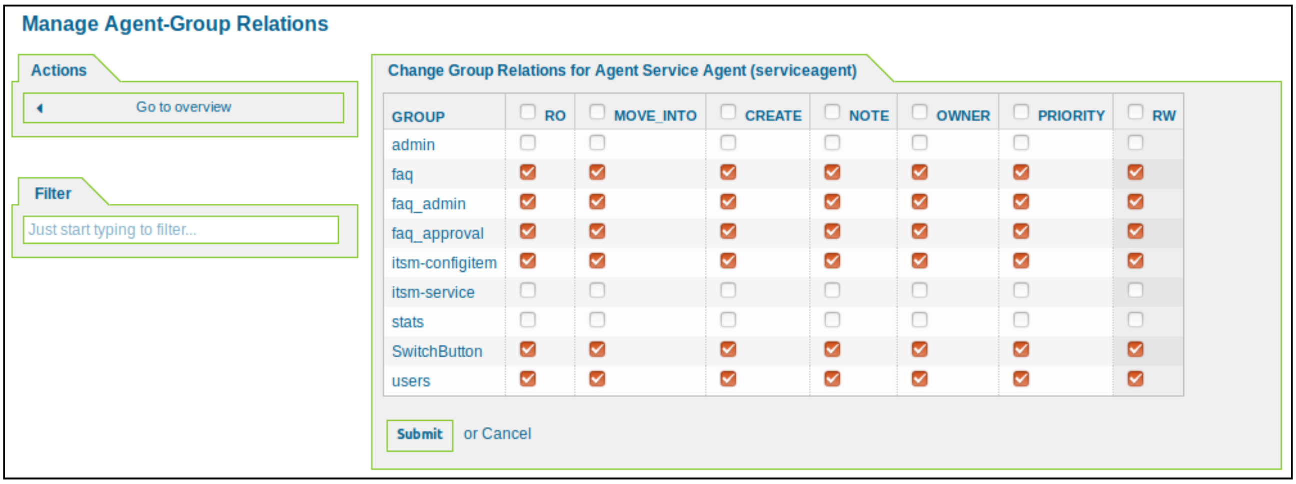


Figure: Group Relations for an Agent

Define the rights for the selected agent for the respective group here. Then click the "Submit" button.

<u>Reference</u>

ro - Read only access to the ticket in this group/queue

move_into - Permissions to move tickets into this group/queue

create - Permissions to create tickets in this group/queue

note - Permissions to add notes to tickets in this group/queue

owner - Permissions to change the owner of tickets in this group/queue

priority - Permissions to change the ticket priority in this group/queue

rw - Full read and write access to the tickets in this group/queue

5.5 Create and Manage Roles

In this area you can create new roles and manage existing ones. The list shows all of the roles created in the system.

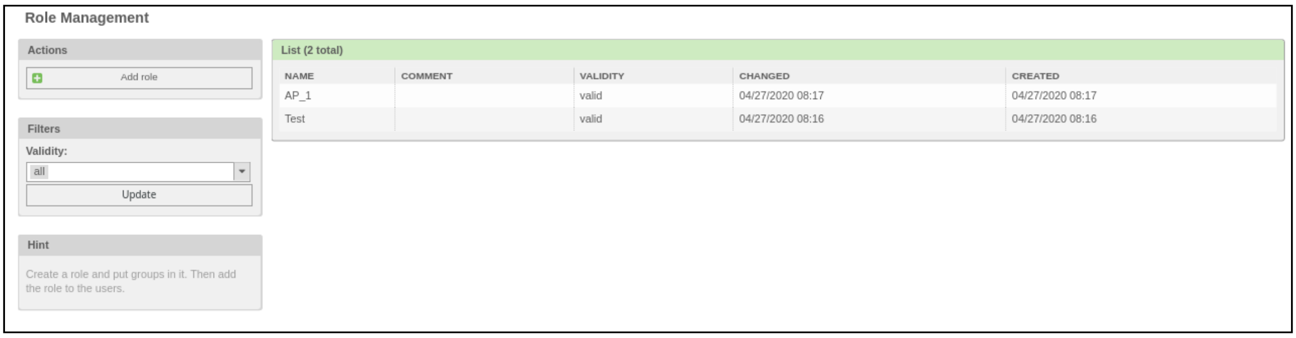


Figure: Role Management

You will find a filter in the menu on the left-hand side of the screen. With this, the overview list of the existing roles can be filtered for validity.

The following filters are possible:

- All
- Valid
- Invalid
- Temporarily invalid

This setting is temporary and applies as long as you are in the respective area. "All" is set as standard. All existing entries are displayed without restriction.

The filter also takes into account searches that have already been carried out.

A standard can be set for the filter in SysConfig, which initially defines the filter and accordingly shows the list in a restricted manner. To do this, go to the *Framework* group in SysConfig and then to the *Frontend :: Admin :: ViewRole* subgroup.

Add a New Role

In the *"Actions"* widget click "Add Role". The following widget will open:

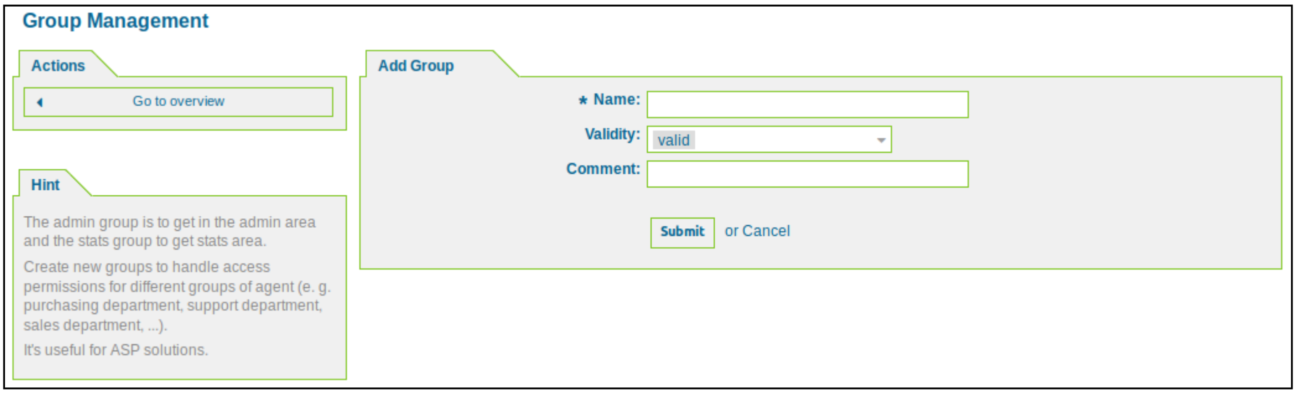


Figure: Add Role

Assign the role a name and, if applicable, add a comment. Then click "Submit".

5.6 Link Agents to Roles

In this area you can manage agent-role relations. In the "Overview" widget you can view all the existing agents and groups in the KIX system.

You can add a new agent by clicking "Add Agent".
You can add a new role by clicking "Add Role".

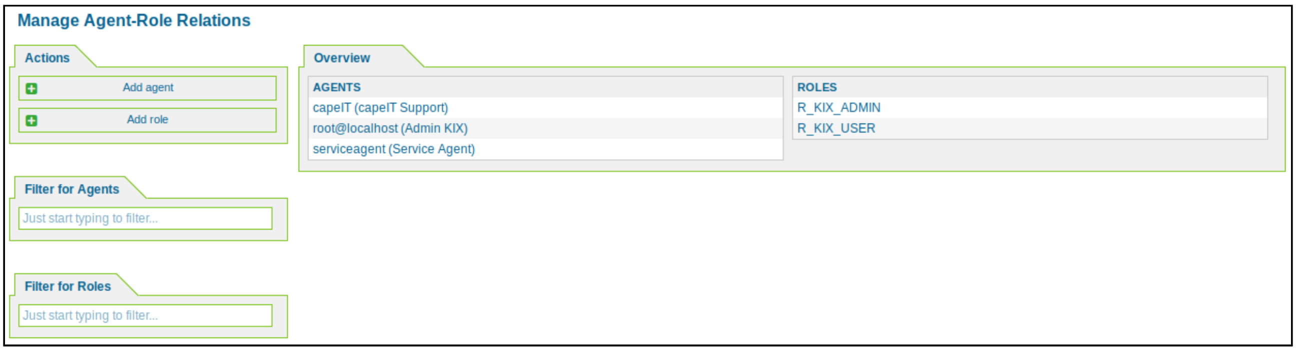


Figure: Overview of Agents and Roles

Link Agents to a Role

In the *"Overview"* widget click the name of the role. The following widget will open:

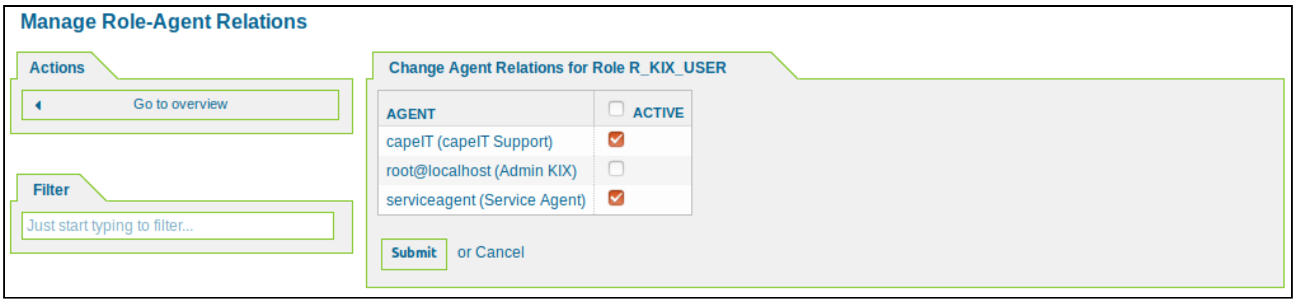


Figure: Agent Relations for a Role

Select the agents that you want to assign to the role. Then click the "Submit" button.

Link Roles to an Agent

In the *"Overview"* widget, click the name of the agent. The following widget will open:

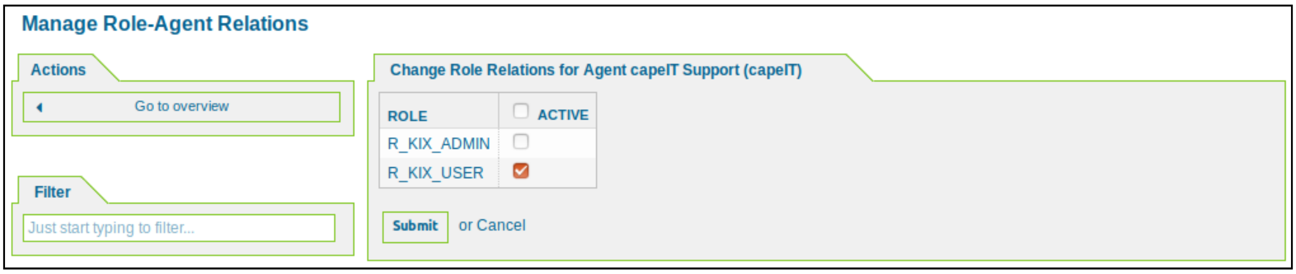


Figure: Role Relations for an Agent

Select the role(s) that you want to assign to the agent. Then click the "Submit" button.

5.7 Link Roles to Groups

In this area you can manage role-group / group-role relations. The *"Overview"* widget contains a list of all the existing roles and groups in the KIX system.

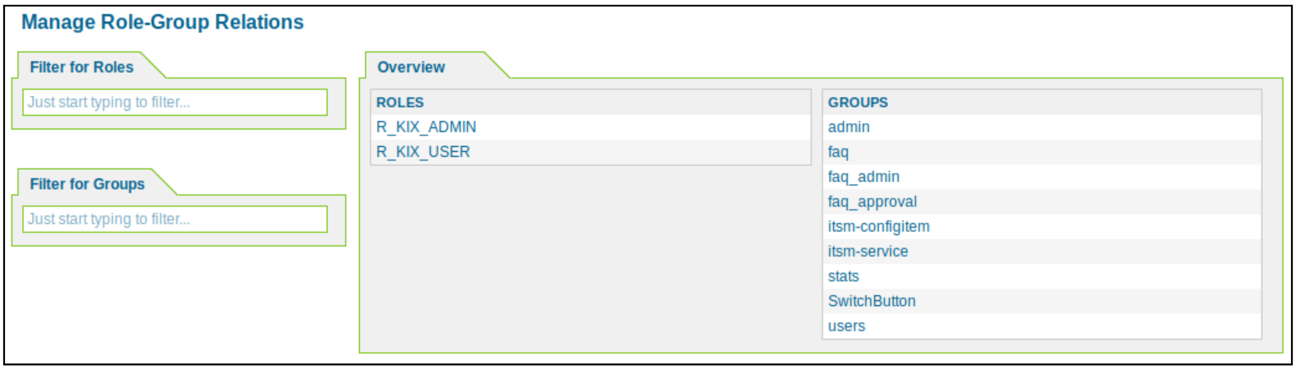


Figure: Overview of Role < - > Group Relations

Group Relations for a Role

In the *"Overview"* widget, click the name of a role. The following widget will appear:

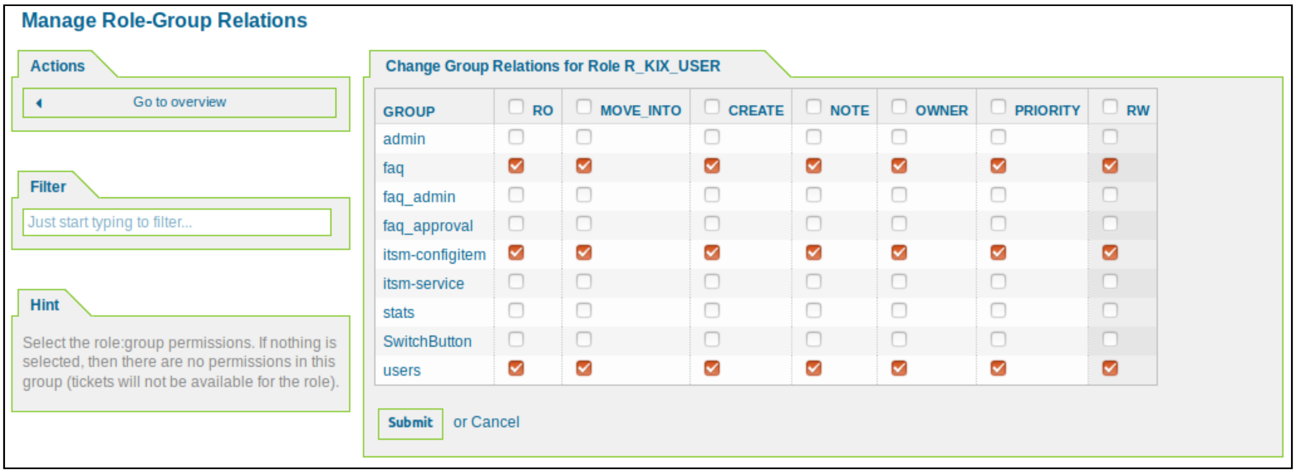


Figure: Group Relations for a Role

Now mark the individual rights for a group for the role. Then click the "Submit" button.

Reference

ro - Read only access to the ticket in this group/queue

move_into - Permissions to move tickets into this group/queue

create - Permissions to create tickets in this group/queue

note - Permissions to add notes to tickets in this group/queue

owner - Permissions to change the owner of tickets in this group/queue

priority - Permissions to change the ticket priority in this group/queue

rw - Full read and write access to the tickets in this group/queue

Role Relations for a Group

In the *"Overview"* widget click a group. The following widget will open:

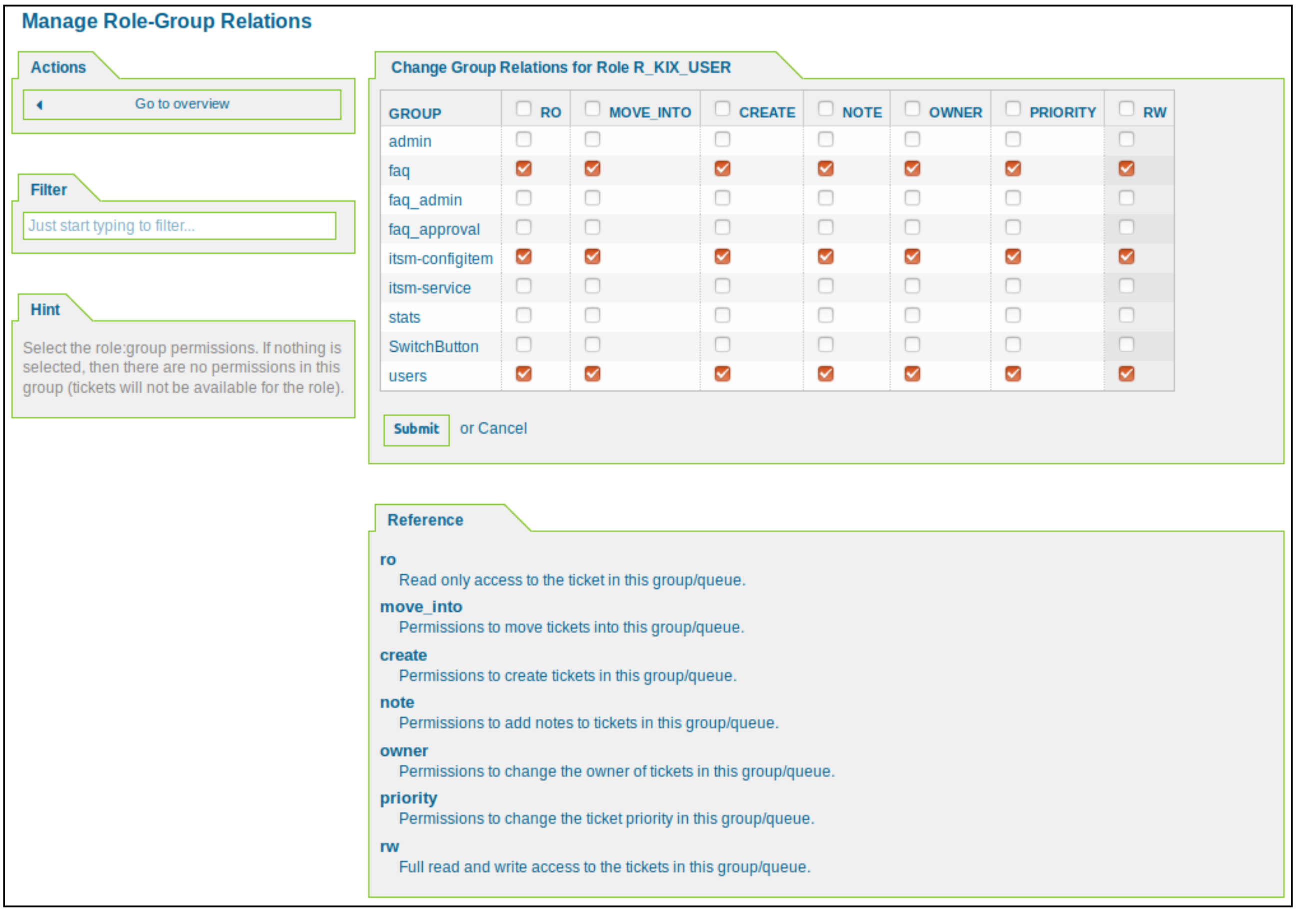


Figure: Role Relations for a Group

Now mark the individual rights for a role for the group. Then click the "Submit" button.

Reference

ro - Read only access to the ticket in this group/queue

move_into - Permissions to move tickets into this group/queue

create - Permissions to create tickets in this group/queue

note - Permissions to add notes to tickets in this group/queue

owner - Permissions to change the owner of tickets in this group/queue

priority - Permissions to change the ticket priority in this group/queue

rw - Full read and write access to the tickets in this group/queue

6 Customer Management

The following sections contain information on how to:

- Create and Manage Contacts
- Link Contact to Groups
- Manage Address Book
- Create and Manage Customers
- Link customers to services and SLAs
- Manage Customer Portal Groups

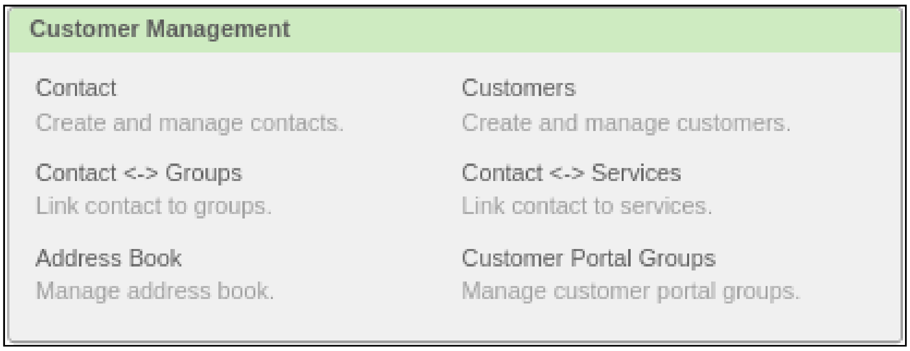


Figure: Customer Management

6.1 Create and Manage Contacts

In this area you can create and manage contacts. You can also export or import contacts via CSV. The list shows all of the contacts created in the system.

Figure: Contact Management

Add a New Contact

In the *"Actions"* widget click "Add Contact". The following widget will open:

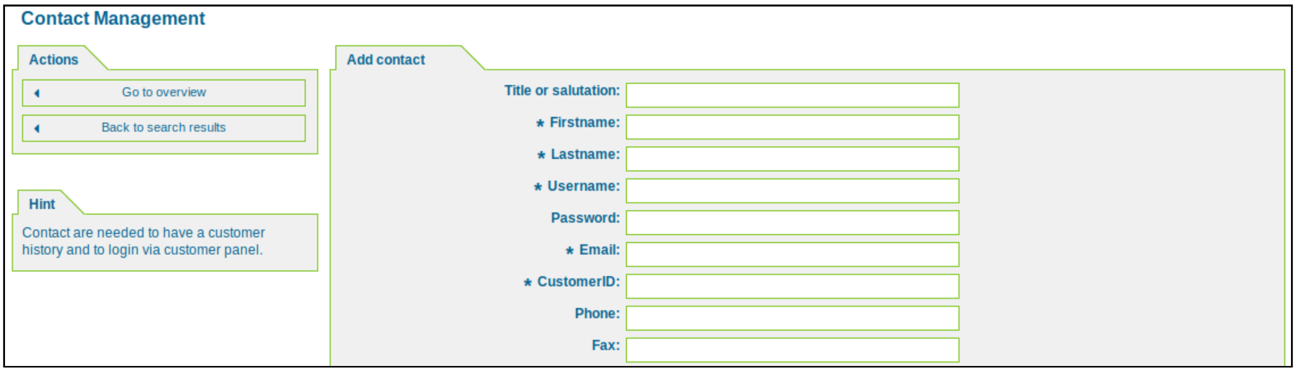


Figure: Add Contact

Fill out the input fields and specify the settings for this contact. Then click "Submit".

Please note

The password has to meet the password criteria. In the standard KIX version the criteria are:

- Minimum length: 8 characters
- Maximum length: 16 characters
- Must consist of at least 3 of the following character groups: lowercase, uppercase, numbers, or special characters
- You cannot use your: login name, firstname, lastname
- Use at least one of the following special characters:][+-*:_=#,$
- Do not use these special characters: space,\/;^
- Password valid for: 90 days

If you wish to change the criteria for the agent password, you have to change the settings in SysConfig: *Framework -> Frontend::Agent::Preferences -> PreferencesGroups###Password*.
If LDAP/AD is used for user authentication, the KIX password policy has no effect.
In the standard version the number of possible login attempts is 3 (three). After this, the contact's login will be blocked. To unblock a blocked contact, go to the *"Block Login"* field in the *"Edit contact"* widget and select *"No"*.

6.1.1 Use of several customer numbers at one contact person (MultipleCusotmerIDs)

It is possible to assign several customer numbers to one contact person. The following adjustments are required in the system for this:

Step 1: expand the table

In order to make several customer numbers available for a contact person, the contact table must be extended by the corresponding column:

```
ALTER TABLE customer_user ADD customer_ids VARCHAR(250);
```

Step 2: Adopting the mapping in Config.pm

The config block for mapping the tables must be transferred to Config.pm.

The config block is located in the Defaults.pm (opt/kix/Kernel/Config/Defaults.pm).

Step 3: Adapting the mapping

The mapping must now be adjusted in order to enable support for multiple customer numbers.

To do this, set CustomerCompanySupport to 1:

```
CustomerCompanySupport => 1,
```

Then the column for UserCustomerIDs must be commented in the mapping:

```
[ 'UserCustomerID', Translatable('CustomerID'), 'customer_id', 0, 1, 'var', '', 0 ],

[ 'UserCustomerIDs', Translatable('CustomerIDs'), 'customer_ids', 1, 0, 'array', '',
0 ],
```

Tip: Change the storage_type to “array” in order to get a multiple selection list for the customer numbers.

Step 4: Clear cache, config rebuild and restart web service

Now you have to clear the caches, rebuild the configuration and restart the web service in order for the changes to take effect:

```
sudo -u <WebUser> /opt/kix/bin/kix.Console.pl Maint::Cache::Delete

sudo -u <WebUser> /opt/kix/bin/kix.Console.pl Maint::Loader::CacheCleanup

sudo -u <WebUser> /opt/kix/bin/kix.Console.pl Maint::Config::Rebuild

service <WebService>restart
```

6.2 Link Contact to Groups

In this area you can manage the relations between contacts (customers) and groups. This feature is disabled by default and has to be enabled in the SysConfig area.

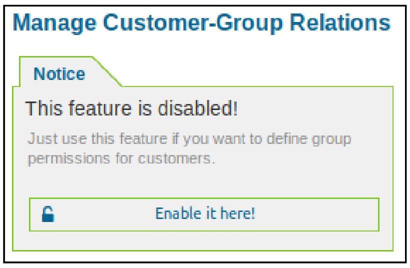


Figure: Manage Customer-Group Relations

Click "Enable it here!" to activate this function. You will land on the following SysConfig area:

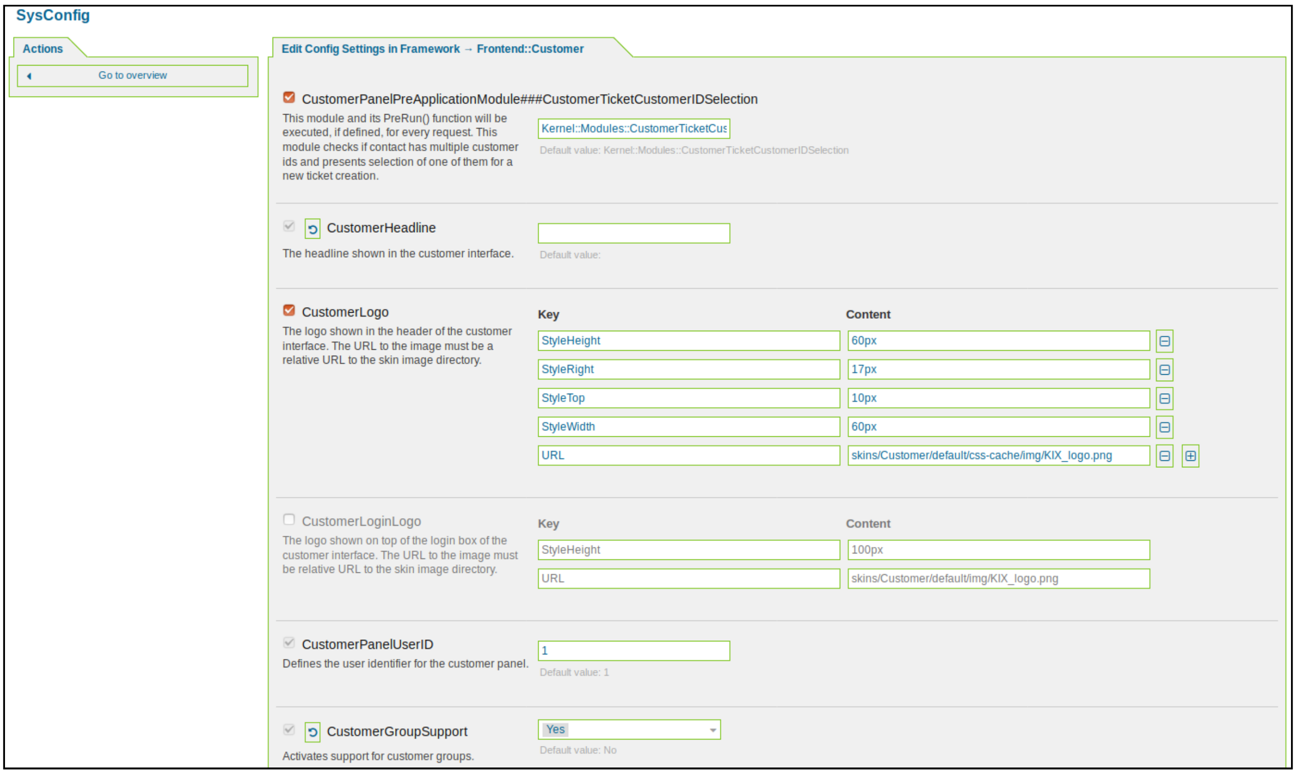


Figure: SysConfig - Edit Config Settings in Framework - Frontend::Customer

In *"CustomerGroupSupport"* select *"Yes"* and then click "Submit".

When the function is enabled, you will see the *"Search Results"* widget. Here you will see all of the contacts (customers) and groups that were found using the search bar in the *"Actions"* widget. The search results are made up of the initial search for all contacts (customers) using the *"*"* wildcard character in the *"Actions"* widget.

In the *"Customer Default Groups"* widget you will see the customer default groups. The only group that is included with the factory settings is *"users"*.

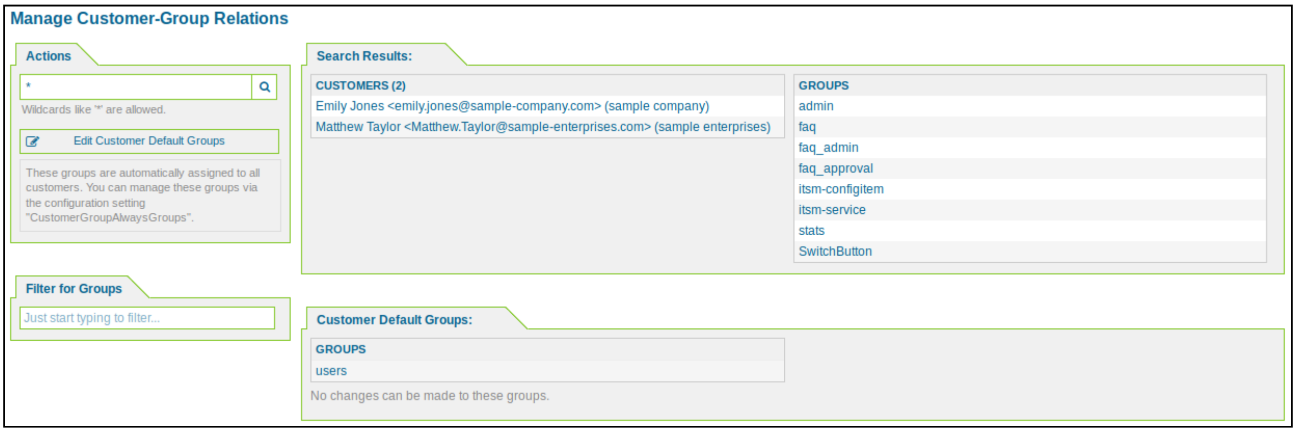


Figure: Manage Customer-Group Relations

Link Groups to a Contact (Customer)

In the *"Search Results"* widget click an item from the *"Customers"* column.

In the "RO" and "RW" columns, select the read / write rights for the selected group to which the contact person (customer) can access.

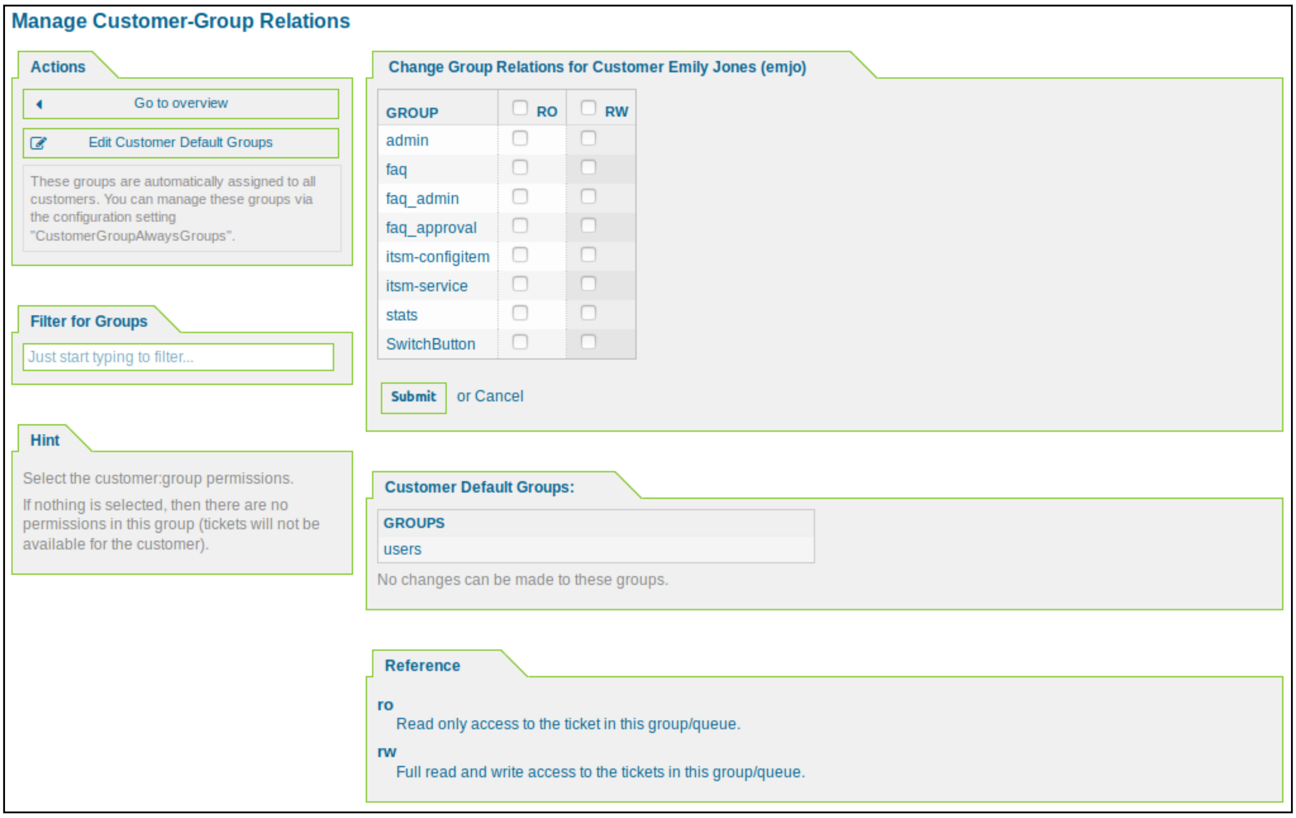


Figure: Group Relations for a Customer

Then click "Submit" to save the relations for this contact (customer).

Link Contact (Customer) to a Group

In the *"Search Results"* widget click an entry from the *"Groups"* column.

In the "RO" and "RW" columns, select the read / write rights for the selected group to which the contact person (customer) can access.

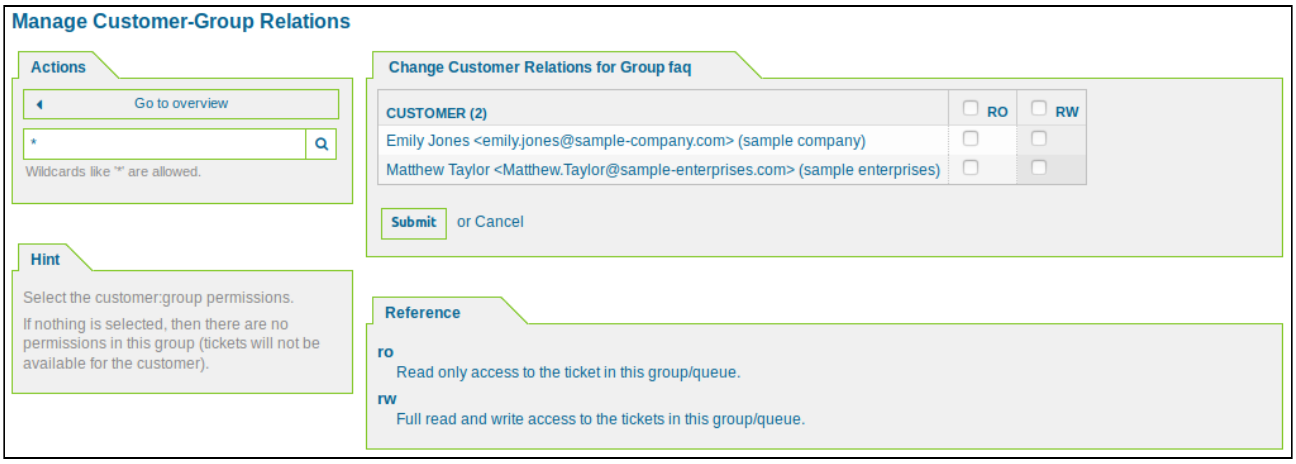


Figure: Customer Relations for a Group

Then click "Submit" to save the relations for this group.

Add a New Customer Default Group

In the *"Actions"* widget click "Edit Customer Default Group". You get to the SysConfig *configuration settings in Framework → Edit Frontend :: Customer.*

Click ⊞ *and enter the description for the customer group.*

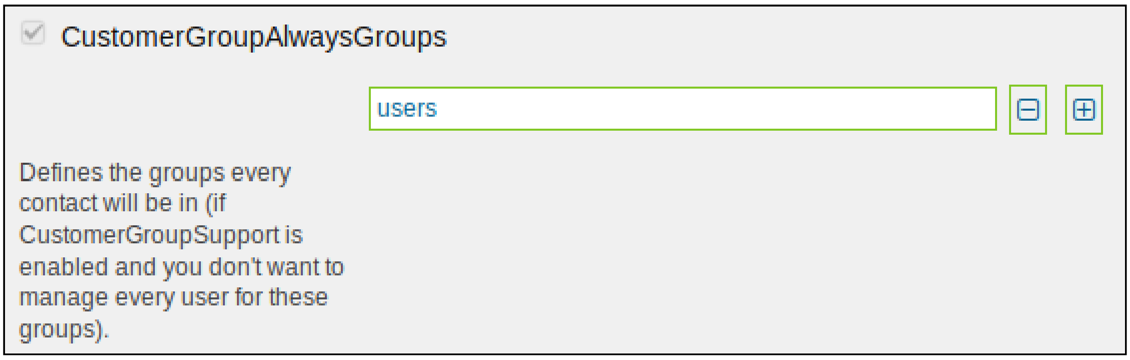


Figure: SysConfig Settings for Customer Default Groups

Finally click on the "Update" button.

6.3 Manage Address Book

In the *"Address Book Management"* area you can manage email addresses within KIX. For example, you can delete email addresses that are no longer used or even empty the entire address book.

The address book is populated automatically if an email address isn't in one of the data backends.

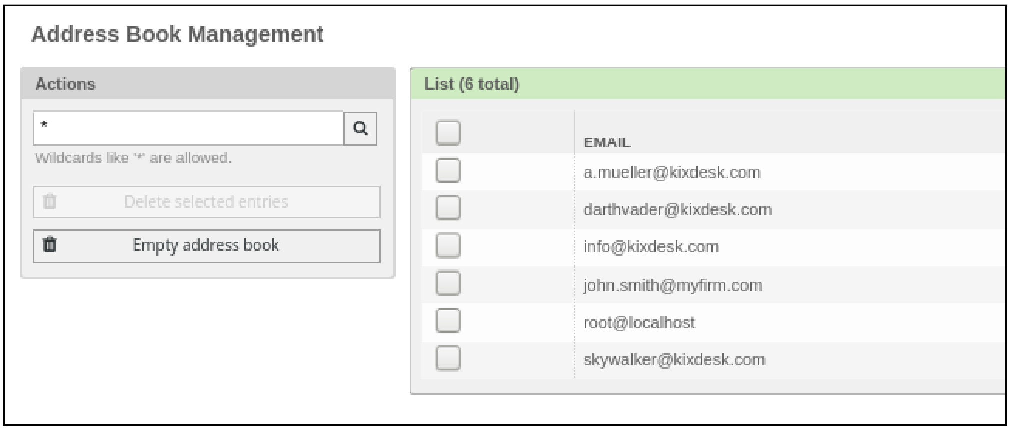


Figure: Address Book Management

6.4 Create and Manage Customers

In this area you can create and manage customers. The list shows all of the customers created in the system.

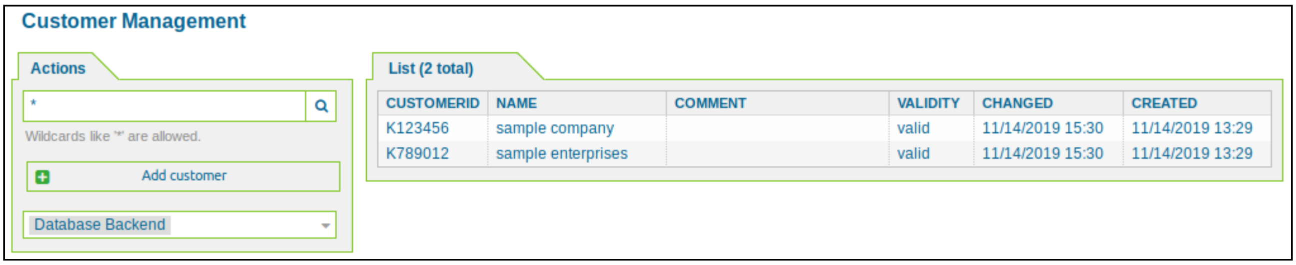


Figure: Customer Management

<u>Add a New Customer</u>

In the *"Actions"* widget click "Add Customer". The following widget will open:

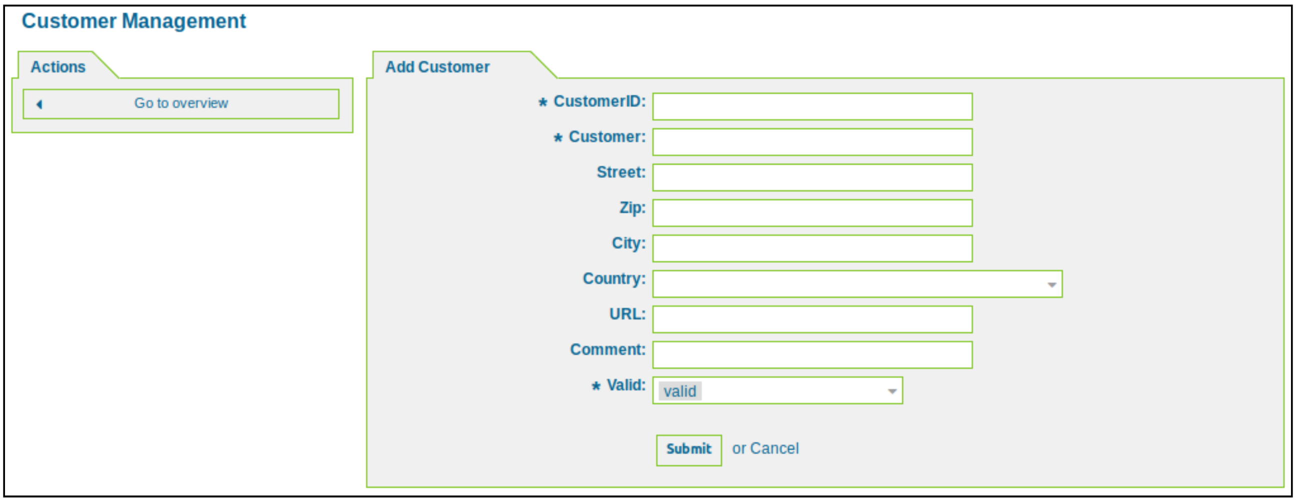


Figure: Customer Management - Add Customer

Assign the customer a customerID and a description and, if applicable, fill in the address details. Then click "Submit".

6.5 Contacts and Services

Here you can assign a service to a contact person.

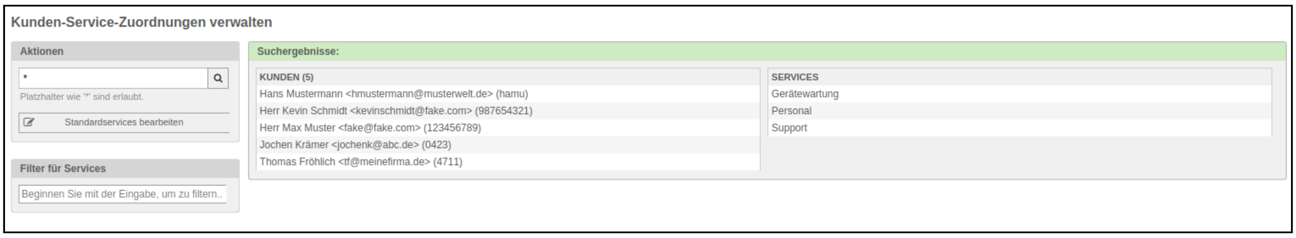


Figure: Manage Customer-Services Relations

Allocating services to customer

In the *"Search Results"* widget click a customer. The following widget will open:

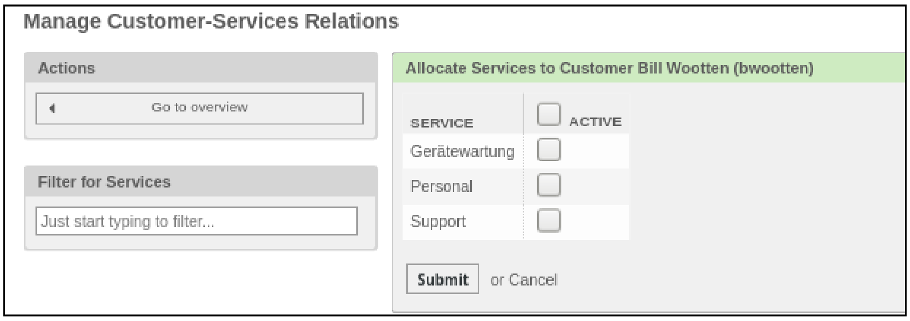


Figure: Assigning a Service to a Customer

- Mark the services which you wish to link to the customer.
- Click button "Submit".

Allocating customers to service

In the *"Search Results"* widget click a service. The following widget will open:

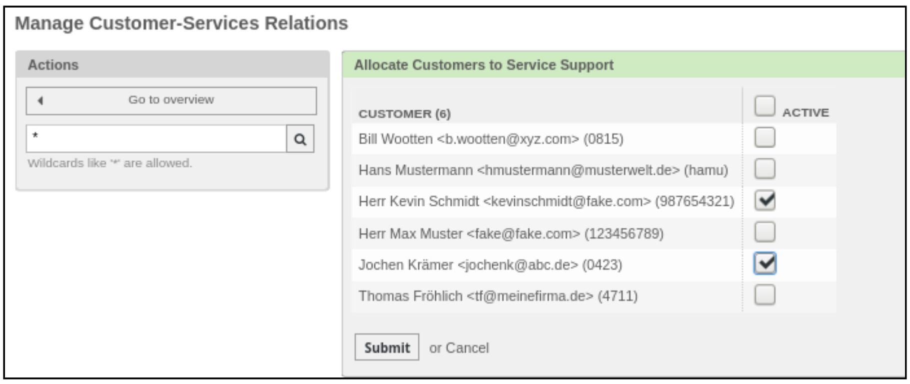


Figure: Assigning Service to Customer

- Mark the customer(s) which you wish to link to the service.
- Click button "Submit".

6.6 Manage Customer Portal Groups

Customer portal groups allow you to make ticket template and process templates available to the customer in the customer front-end (self-service portal).

In this area you can create and manage customer portal groups. You can also assign different icons to different customer portal groups.

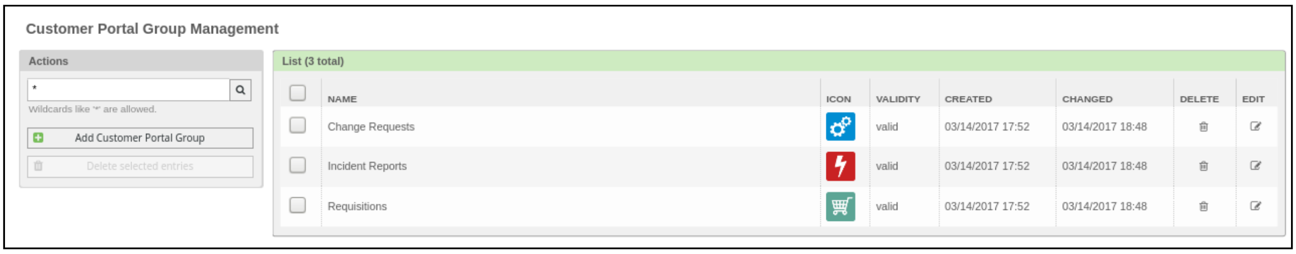


Figure: Customer Portal Group Management

Please note

In order to control the menu behavior in the customer frontend in line with the agent frontend, the SysConfig key 'CustomerOpenMainMenuOnHover' is available to you. This key is provided with the value 'No' by default. This means that the user has to click a menu item to open the sub-menu. Change the value to 'Yes' and the sub-menu will open as soon as the user hovers the mouse over the menu item. If you now click the menu item, a saved link is opened (usually the overview page for the relevant menu area).

Add Customer Portal Group

In the *"Actions"* widget click "Add Customer Portal Group". Assign the customer portal group a name and an icon.

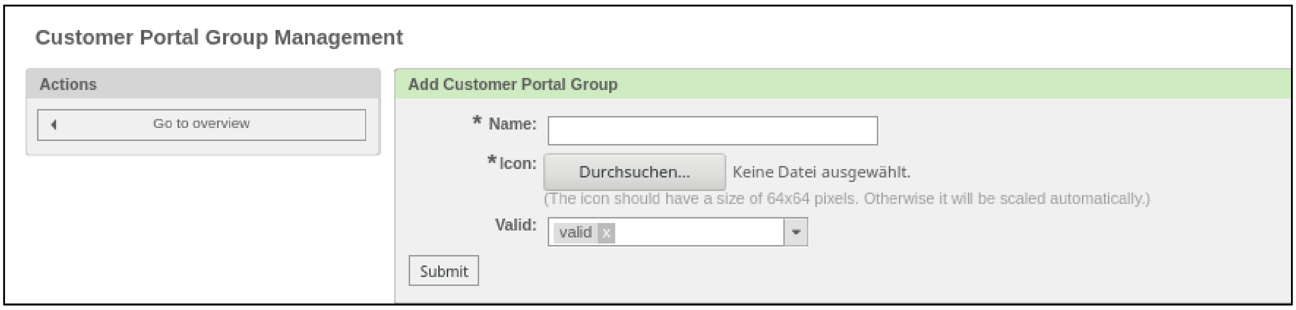


Figure: Add Customer Portal Group

Finally click button "Submit".

Linking individual functionalities to a customer portal group is described in these sections:

- Ticket template - configurator
- Ticket-Template Workflows
- Process management

7 Ticket Settings

The following sections contain information on how to:

- Create and Manage Ticket Notifications
- Create and manage ConfigItem definitions
- Configure and manage Access Control Lists (ACLs)
- Create and Manage Ticket Priorities
- Create and Manage Dynamic Fields
- Create new depending dynamic field or change existing
- Create and Manage Ticket-Template Workflows
- Create and manage the General Catalog
- Create and manage ticket types
- Create and Manage Ticket States
- Create and Manage Services
- Create and Manage Service Level Agreements (SLAs)
- Create a new quick ticket template or change existing

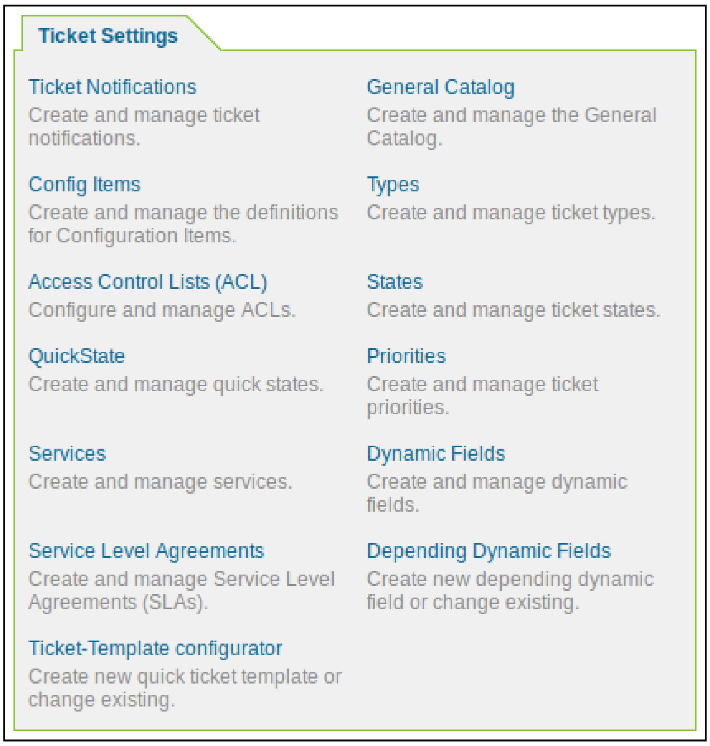
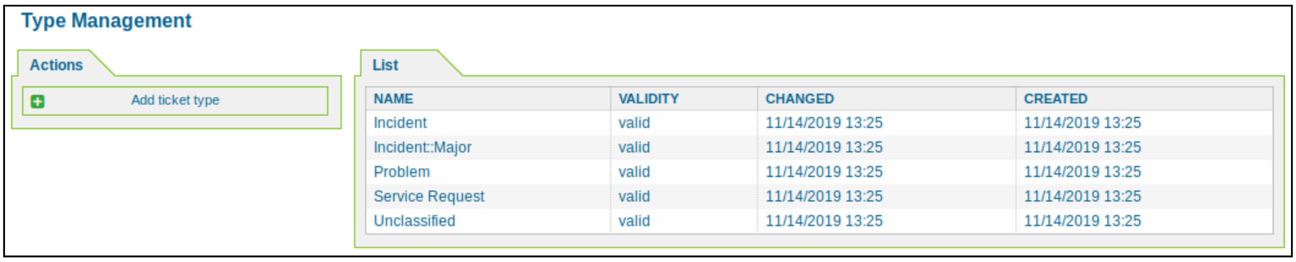


Figure: Ticket Settings

7.1 Create and Manage Ticket Types

In this area you can create and manage ticket types. In the list you can see all of the ticket types created in the system.



NAME	VALIDITY	CHANGED	CREATED
Incident	valid	11/14/2019 13:25	11/14/2019 13:25
Incident::Major	valid	11/14/2019 13:25	11/14/2019 13:25
Problem	valid	11/14/2019 13:25	11/14/2019 13:25
Service Request	valid	11/14/2019 13:25	11/14/2019 13:25
Unclassified	valid	11/14/2019 13:25	11/14/2019 13:25

Figure: Type Management

Add a New Ticket Type

In the *"Actions"* widget click "Add ticket type". The following widget will open:

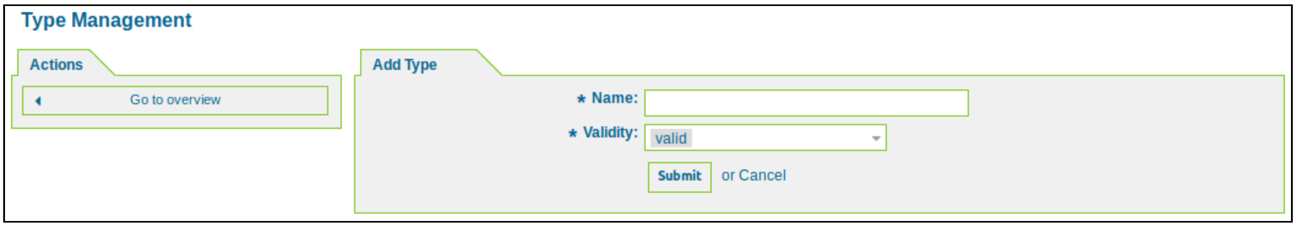


Figure: Add Type

Assign the new ticket type a name and then click *"Submit"*.

7.2 Create and Manage Ticket States

In this area you can create and manage ticket states.

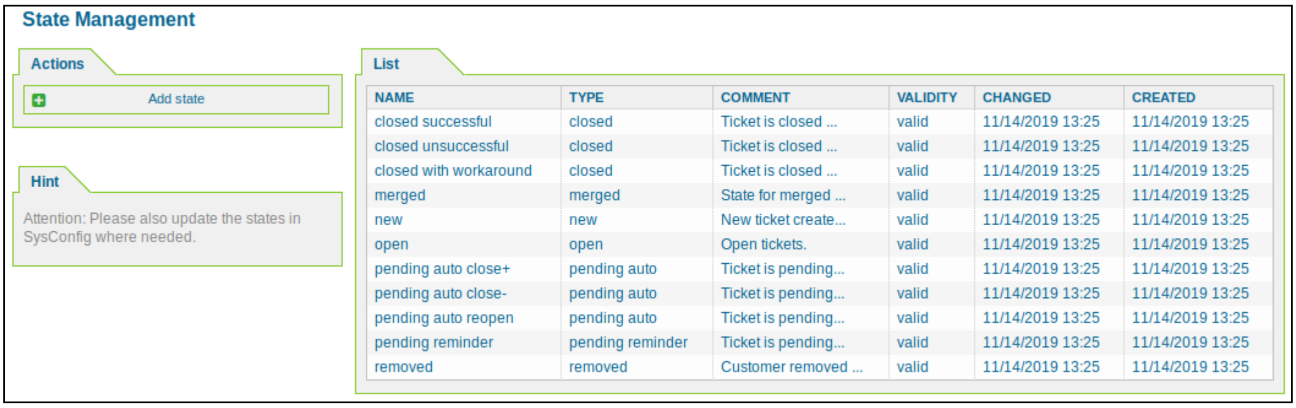


Figure: State Management

Add a New Ticket State

In the *"Actions"* widget click "Add state". The following widget will open:

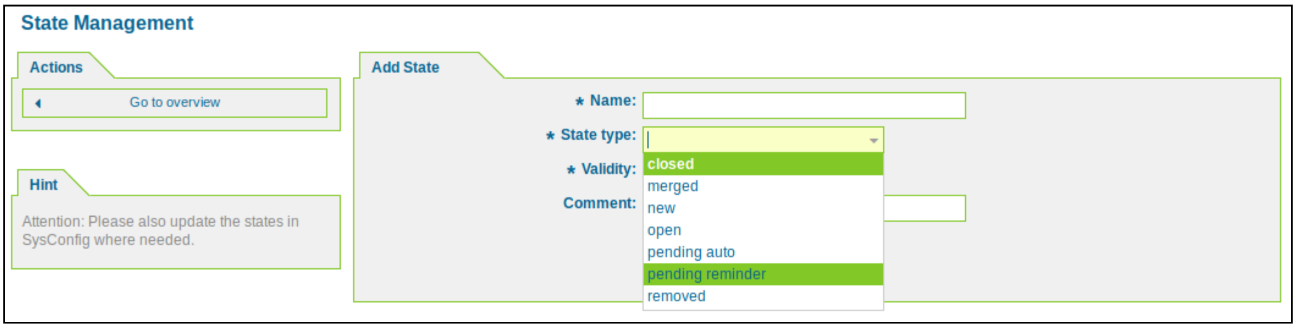


Figure: Add State

Assign a name and select a state type *(removed / closed / new / open / pending auto / pending reminder)*. Then click "Submit".

Configure the status for ticket announcement

In SysConfig you can specify the status of tickets in order to be displayed as known faults in the customer front end.

- Configuration via SysConfig - Core :: Ticket :: TicketAnnouncement

- "TicketAnnouncement ### StateBlacklist" defines a blacklist with status, which defines which ticket status does not show a ticket notification in the customer frontend.

7.2.1 Generate and manage status changes

In this area you can create and manage status changes.

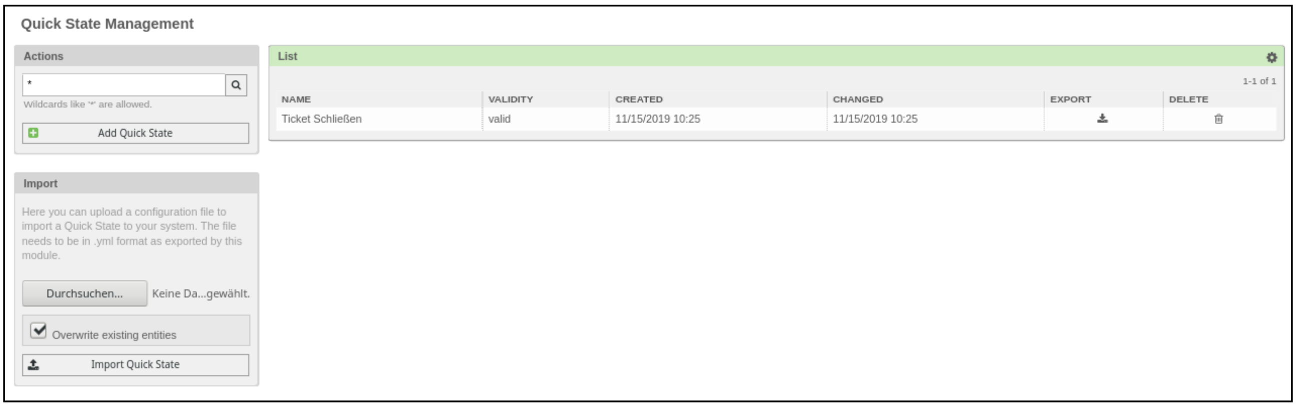


Figure: Status change administration

The system initially contains the status change "Close ticket". If the status "successfully closed" does not exist in the system, no entry will be displayed in the drop-down menu.
Add status change

In the Actions widget, click the Add State Change button. The following widget appears:

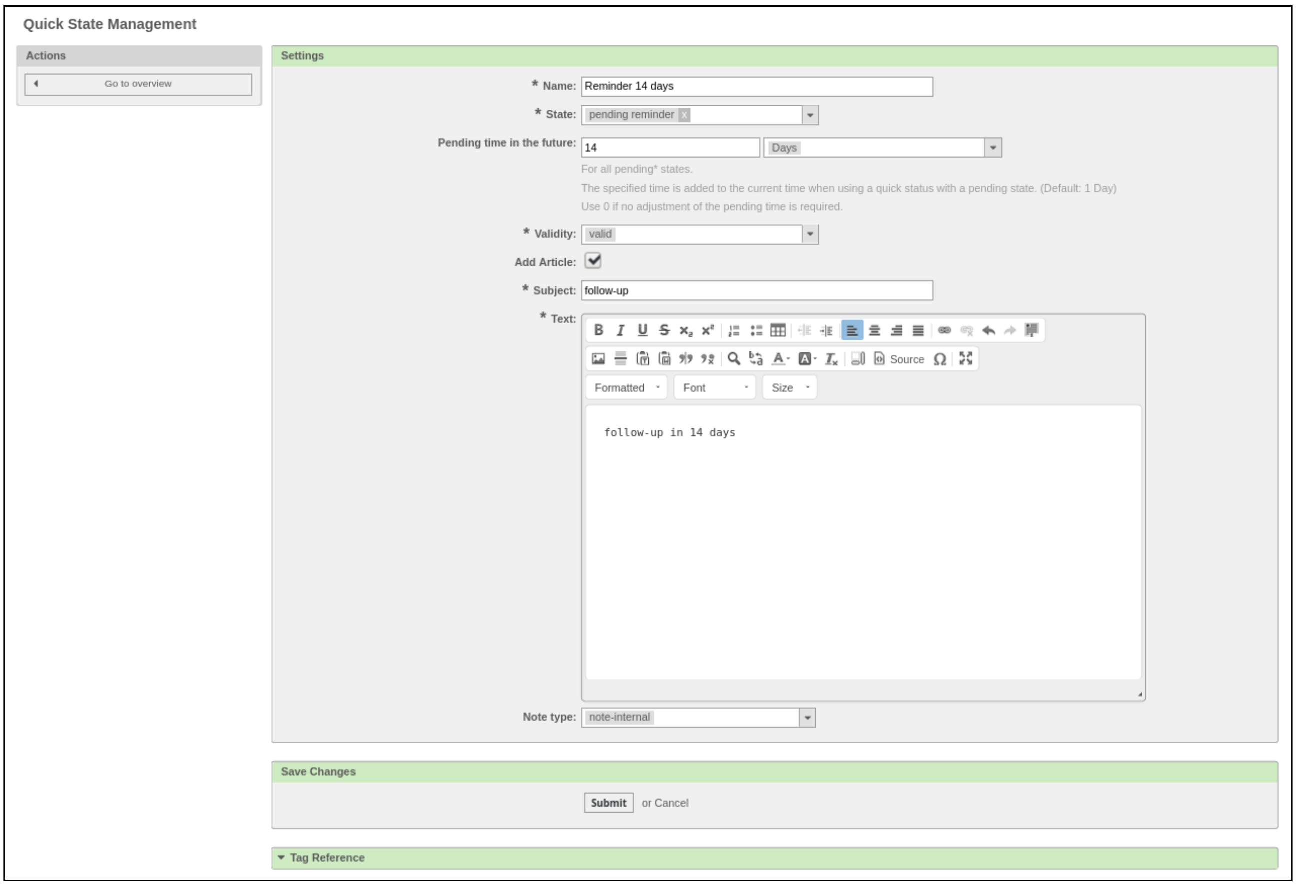


Figure: Create a new status change (example: waiting for a reminder)

Assign a name for the change and select the status to which the change should refer.

Set the validity.

Optionally, you can add an article. Placeholders that are listed in the "Tag Reference" area are possible.

Then click the "Submit" button.

> **Hint**
>
> If a ticket status workflow is configured, the status can only be set via QuickState if the workflow also provides for this status accordingly.

Configuration in the agent frontend

In SysConfig, you can use the Frontend :: Admin :: ViewQuickState subgroup to make settings for the status change in the agent frontend.

The key Ticket :: Frontend :: AdminQuickState ### Permissions allows to define the permissions that the agent needs to see and use the status change.

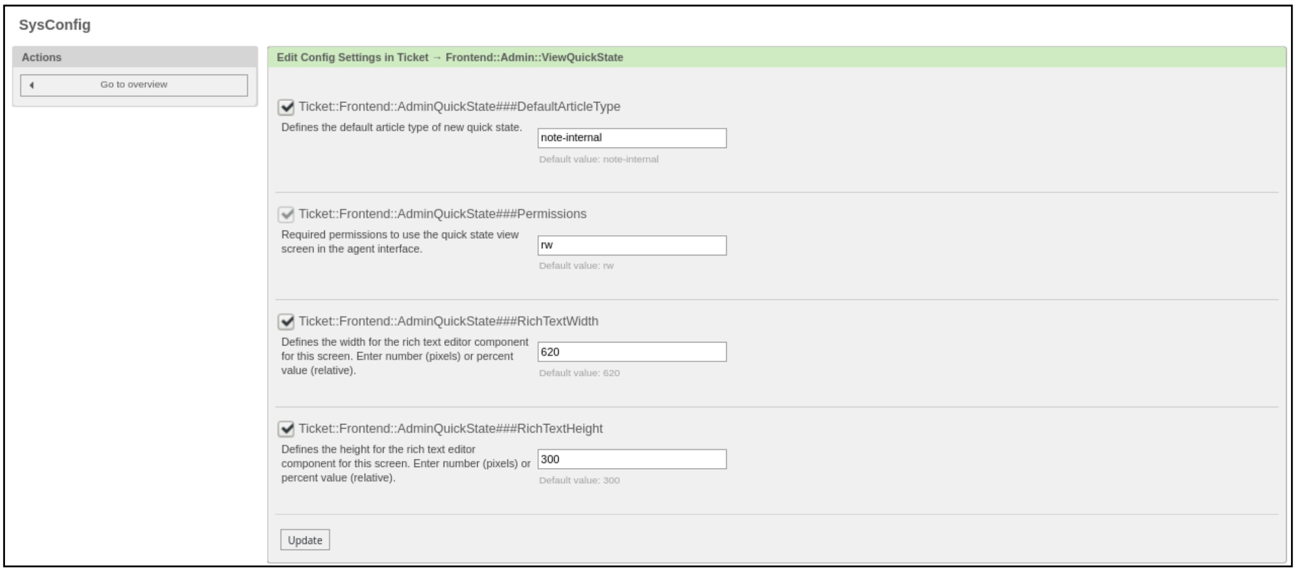


Figure: Configuration of status change in SysConfig

7.3 Create and Manage Ticket Priorities

In this area you can create new ticket priorities.

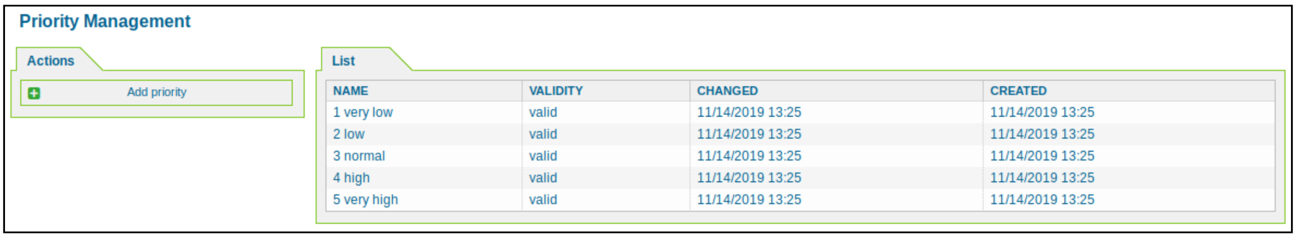


Figure: Priority Management

Add a New Priority

Click "Add priority" in the *"Actions"* widget. The following widget will open:

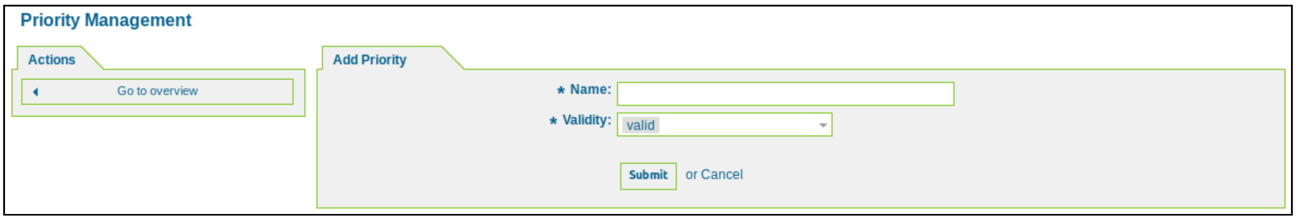


Figure: Add Priority

Assign the priority a name and then click "Submit".

> **Please note**
>
> There has to be a color definition in the css class ""Core.Default.css"" for the priority, otherwise no color will be shown. To ensure this is the case, adjust the css-file "Core.Default.css".

7.4 Queue Settings

The following sections contain information on how to:

- Create and Manage Queues
- Create and Manage Text Module Categories
- Assign Text Modules to Queues
- Link Templates to Queues
- Link queues to auto responses
- Link Attachments to Templates
- Create and Manage Signatures
- Import, export and show queue-group-role concept
- Create and manage text modules
- Create and manage templates
- Create and manage responses that are automatically sent
- Create and Manage Attachments
- Create and Manage Salutations

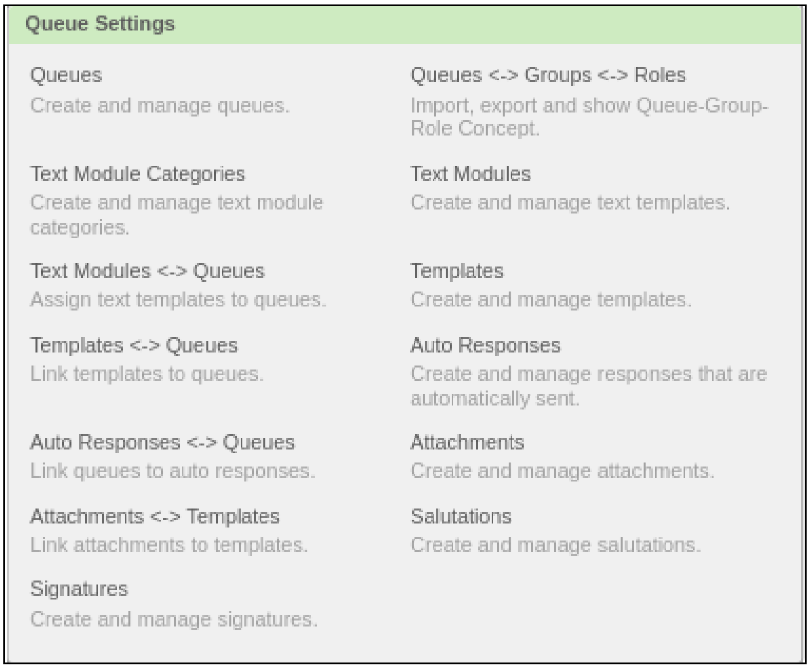


Figure: Queue Settings

7.4.1 Create and Manage Queues

In this area you can create new queues and manage existing ones.

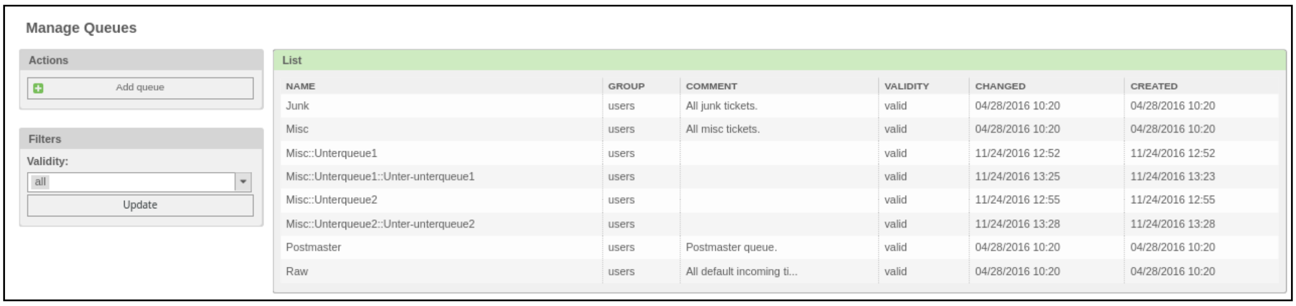


Figure: Manage Queues

You will find a filter in the menu on the left-hand side of the screen. With this, the overview list of the existing queues can be filtered for validity.

The following filters are possible:

- All
- Valid
- Invalid
- Temporarily invalid

This setting is temporary and applies as long as you are in the respective area. "All" is set as standard. All existing entries are displayed without restriction.

The filter also takes into account searches that have already been carried out.

A standard can be set for the filter in SysConfig, which initially defines the filter and accordingly shows the list in a restricted manner. To do this, go to the *Ticket* group in SysConfig and then to the *Frontend :: Admin :: ViewQueue* subgroup.

Add a New Queue

In the *"Actions"* widget click "Add queue". The following widget will open:

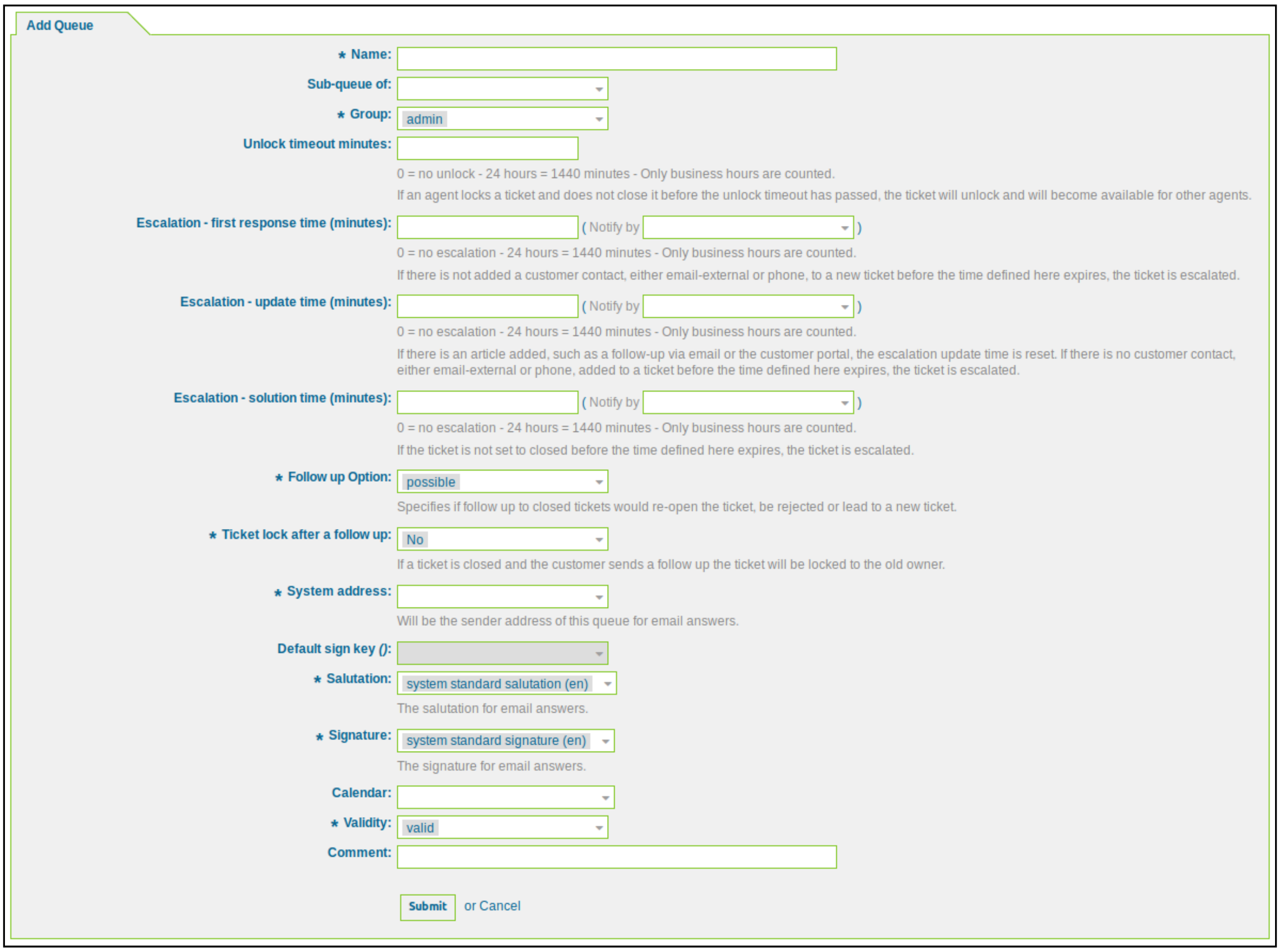


Figure: Add Queue

Specify the settings for this queue and then click "Submit" .

Generate forwarding queues

Some queues can be configured as "forwarding queues". Everyone has to be assigned the email address of an external supplier.

There are also some article types that are configured as relevant for forwarding to external suppliers (initially only “note-supplier-external” and “note-supplier-internal”).

If a new ticket is created in a forwarding queue or a new item of the corresponding type is added to a ticket in a forwarding queue, the system automatically sends a message to the email address of the external supplier assigned to this particular queue. In addition, a new article with the content of the email sent is added to the ticket.

The forwarded mail is PGP-encrypted if a key is configured for the destination mail address.

The forwarded information (automatically generated article) consists of three sections:

- PROBLEM DESCRIPTION: This section contains the text of the first article from the ticket creation or the text of the added article (for a new article of the relevant type).
- CUSTOMER DATA: This section contains customer data based on customer attributes defined in the customer backend configuration. It is possible to exclude some of the attributes configured in the customer-backend assignment.
- RELATED OBJECT DATA: This section contains information about related objects (linked configuration items). It can be configured which CI classes and CI attributes are relevant and should be included in the forwarded e-mails.

The following tables provide an overview of the configuration options available in Sys Config.

You can find this in *SysConfig*, in the *Framework* group and there in the *Core* or *Core::Ticket* and *Core::PostMaster* and *Core::Frontend* subgroups.

1. Automatically forward tickets from the forwarding queue

Key	Description
ExternalSupplierForwarding::ForwardQueues	Defines mapping of queues to be forwarded and corresponding email-addresses.
ExternalSupplierForwarding::RelevantFwdArticleTypes	Defines article types which are forwarded if added to tickets in fwd-Queues.
Ticket::EventModulePost###999-ExternalSupplierForwarding	Workflow module, which forwards the first article of the ticket and the associated CIs.
ExternalSupplierForwarding::BCC	Defines BCC email address for external supplier forwarding submissions, but does not offer separate encryption for BCC recipients.
PostMaster::PreFilterModule###-000-PGPInlineDecrypt	Module to decrypt PGP-encrypted mails. This step takes place before any further processes.
ExternalSupplierForwarding::-ForwardEmailPGPKeys	Defines PGP-Keys for mail addresses which are not registered in the key.

Key	Description
ExternalSupplierForwarding::ArticleType	Defines article type for generated message. Do not use article types which trigger an external supplier forwarding itself. This leads to an endless loop.

2. Content of the forwarded e-mails

Key	Description
ExternalSupplierForwarding::ForwardObjectClasses	Defines the classes of linked object which are relevant to be forwarded (included).
ExternalSupplierForwarding::CustomerUserAttrBlacklist	Defines customer user attributes which should not be shown in forwarded documents.
FwdLinkedObjectData::OnlyCIAttributeKeys	Defines only CI-attributes for CI-Classes which are forwarded.
FwdLinkedObjectData::ExcludedCIAttributeKeys	Defines CI-attributes for CI-Classes which are not forwarded.

3. Ticket action “Print Forward Fax”

Key	Description
Ticket::Frontend::MenuModule###210-PrintForwardFax	Module to show print forward fax link in menu.
Frontend::Module###AgentTicketPrintForwardFax	Frontend module registration for the AgentTicketPrintForwardFax object in the agent interface.
ExternalSupplierForwarding::ForwardFaxQueues	Defines mapping of queues to be fax-forwarded and corresponding fax-numbers.
ExternalSupplierForwarding::PDFOutputTicketDynamicFields	Defines which ticket dynamic fields are forwarded.
OrganizationHotline1	Extended organization description

Key	Description
OrganizationHotline2	Extended organization description
OrganizationLong	Extended organization description
Ticket::Acl::Module###500-ExternalSupplierForwarding	Ticket-ACL to show/hide ticket action AgentTicketPrintForwardFax.
Ticket::Frontend::AgentTicketPrintForwardFax###ShownArticleAttributes	Defines which article data parameters are displayed.

7.4.2 Assign Text Modules to Queues

In this area you can link text modules that you created to certain queues. The *"Overview"* widget contains a list of all the text modules and queues.

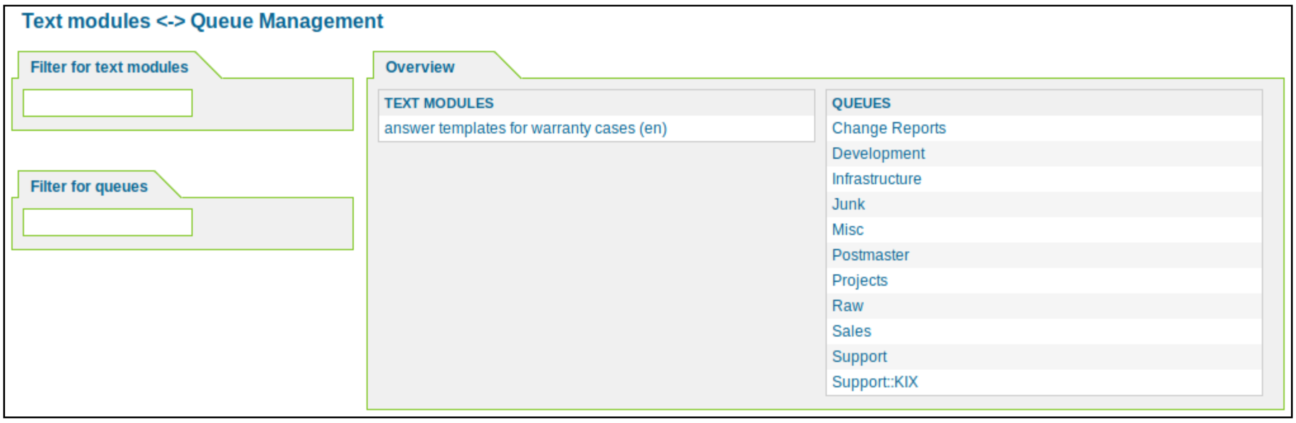


Figure: Text Modules Queue Management

Link Text Modules to a Queue

In the Overview widget, click the queue. In the following widget, mark all text modules that you want to assign this queue and then click on the "Submit" button.

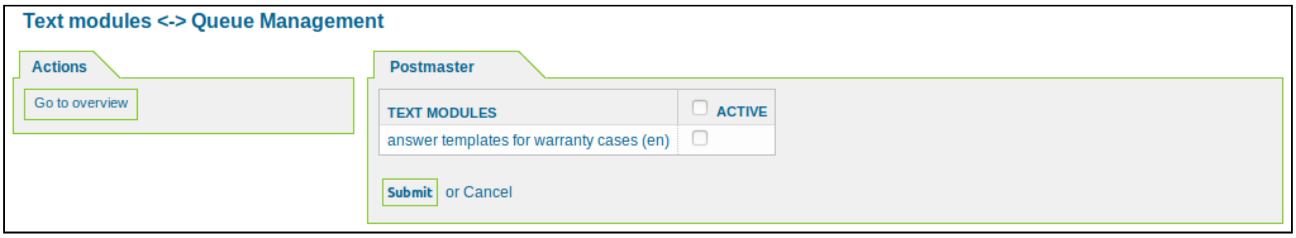


Figure: Change Text Module Relations for a Queue

Link Queues to a Text Module

In the "Overview" widget, click on a text module. In the following widget, mark all queues that you want to assign to this text module and then click on the "Submit" button.

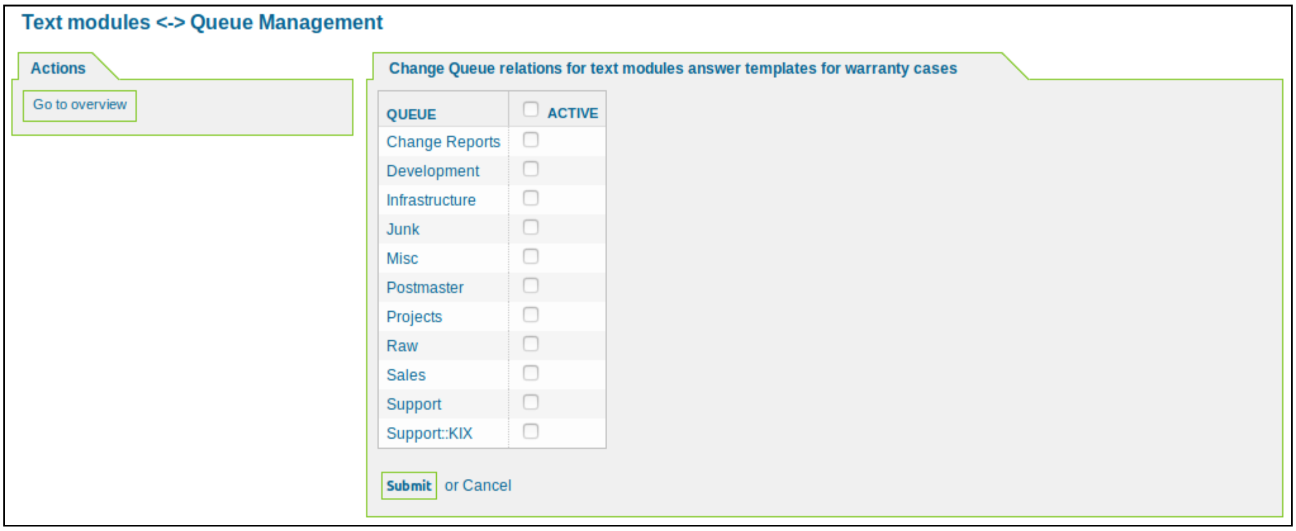


Figure: Change Queue Relations for a Text Module

7.4.3 Link Templates to Queues

In this area you can manage template-queue relations. Using the *"Filter for Templates"* and *"Filter for Queues"* widgets, you can filter the overview on the screen.

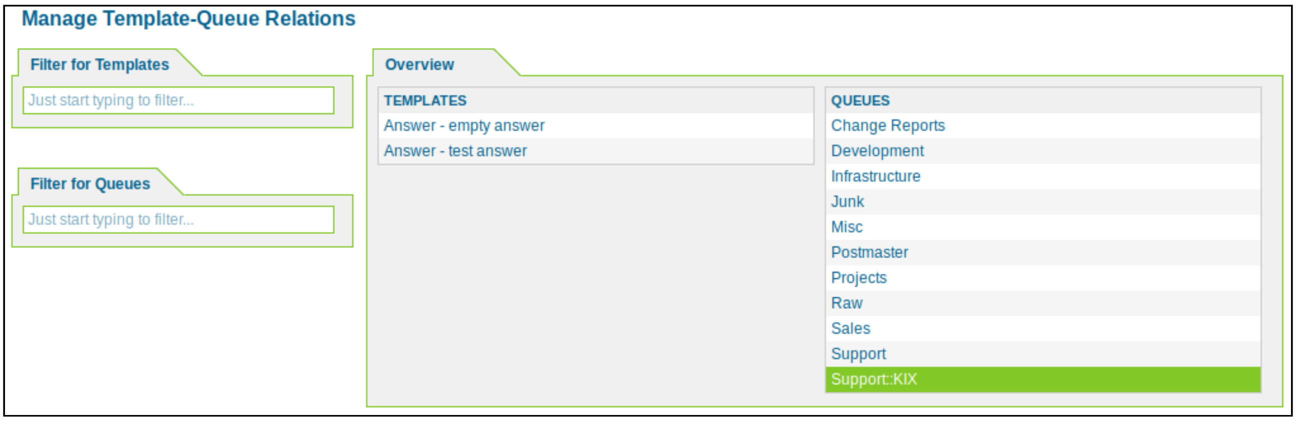


Figure: Manage Template-Queue Relations

<u>Link Queues to a Template</u>

In the *"Overview"* widget click the name of a template. The following widget will appear:

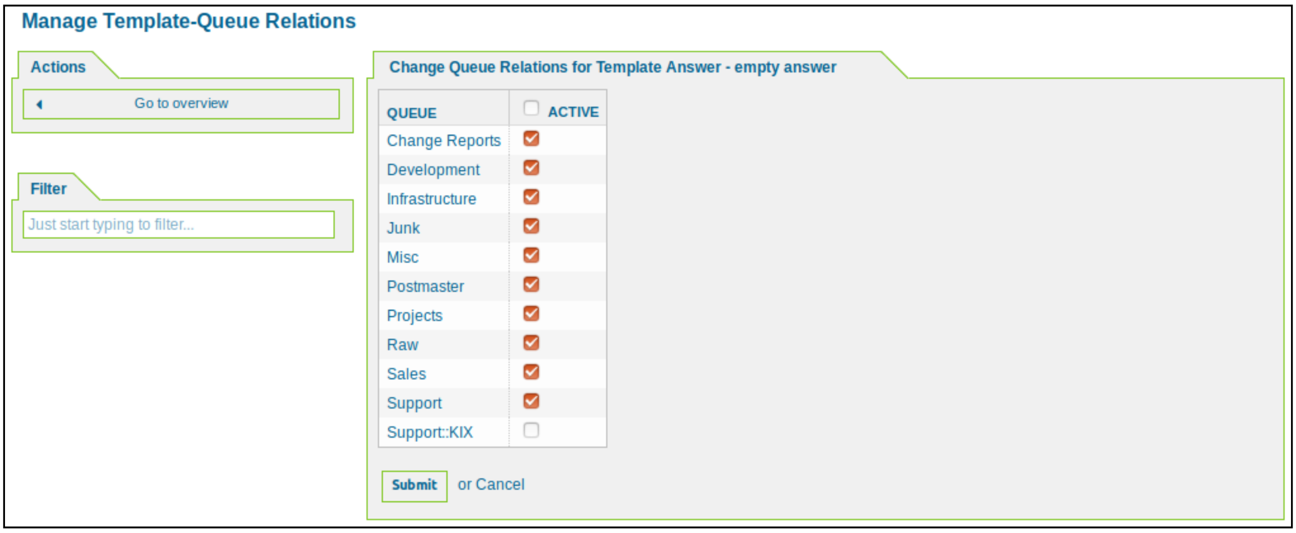


Figure: Link Queues to a Template

Select the queues that you want to assign to the template and then click the "Submit" button.

Link Templates to a Queue

In the *"Overview"* widget click the name of a queue. The following widget will appear:

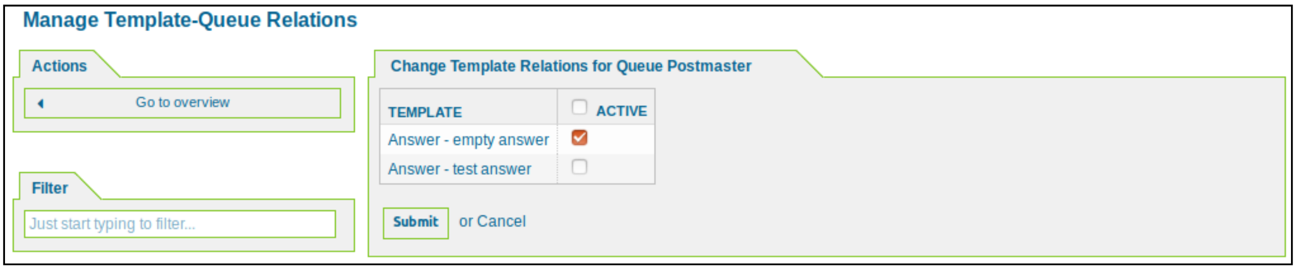


Figure: Link Templates to a Queue

Select the template that you want to assign to the queue and then click on the "Submit" button.

7.4.4 Link Queues to Auto Responses

In this area you can manage queue-auto response relations. In the *"Overview"* widget you will see a list of the queues and auto responses.

In the *"Actions"* widget you can click "Queues without auto response" to show queues without auto responses.

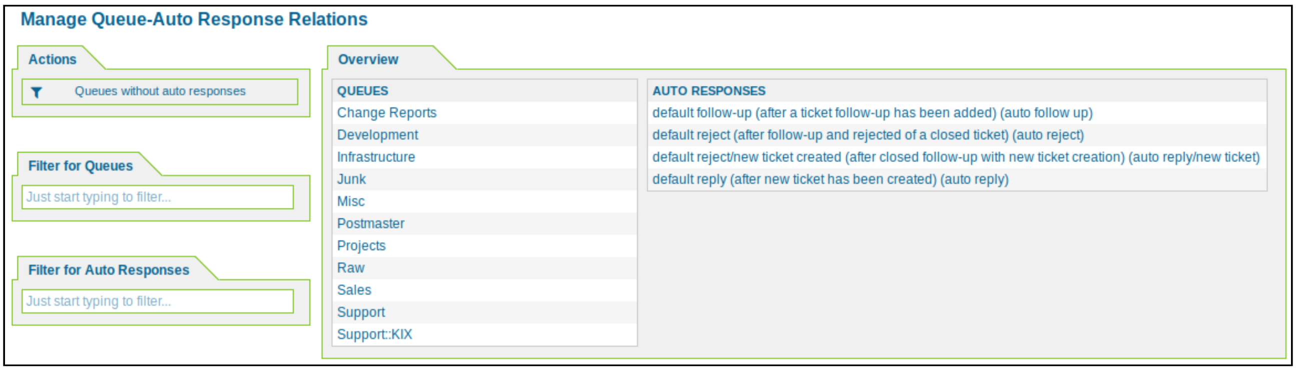


Figure: Manage Template-Queue Relations

Link Auto Responses to a Queue

In the *"Overview"* widget click the queue that you wish to link auto responses to. The following widget will open:

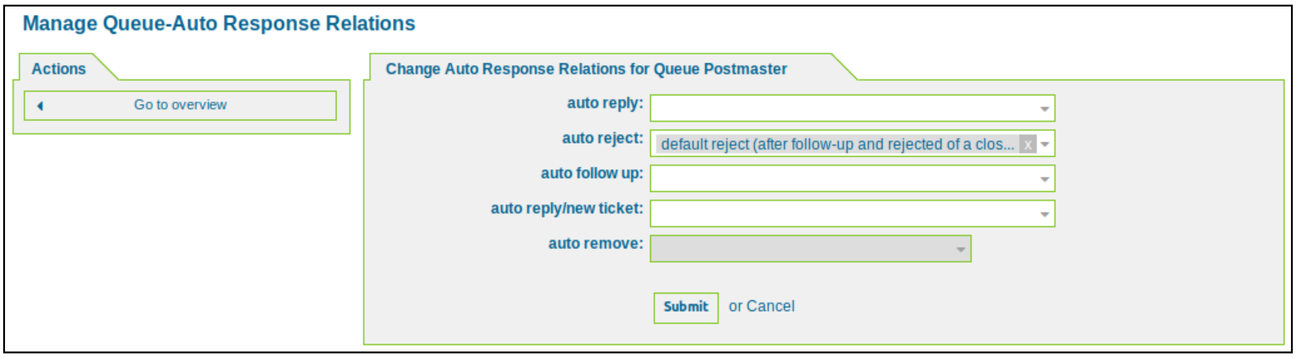


Figure: Widget for Linking Auto Response to a Queue

Select the option in the dropdown list within the "auto reply" type and "Submit".

Change Auto Response

You can edit a response by clicking an auto response in the *"Overview"* widget.

7.4.5 Link Attachments to Templates

In this area you can link attachments to response templates. The *"Overview"* widget contains a list of all the defined response templates and attachments in the system.

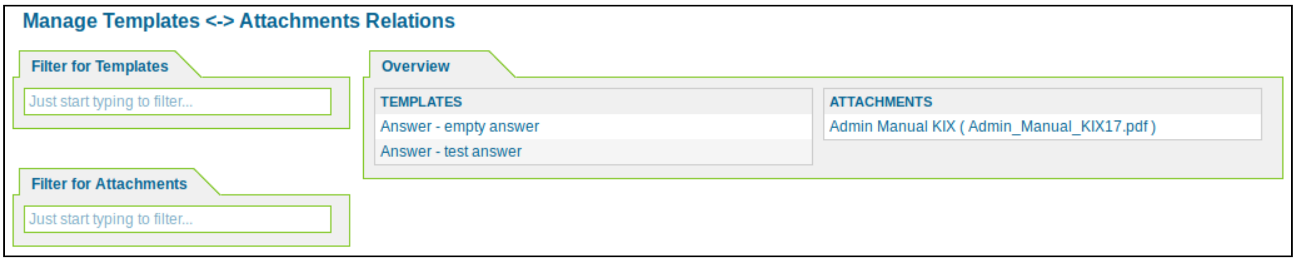


Figure: Manage Templates-Attachments Relations

<u>Link Response Template to an Attachment</u>

In the *"Overview"* widget click an attachment. The following widget will open:

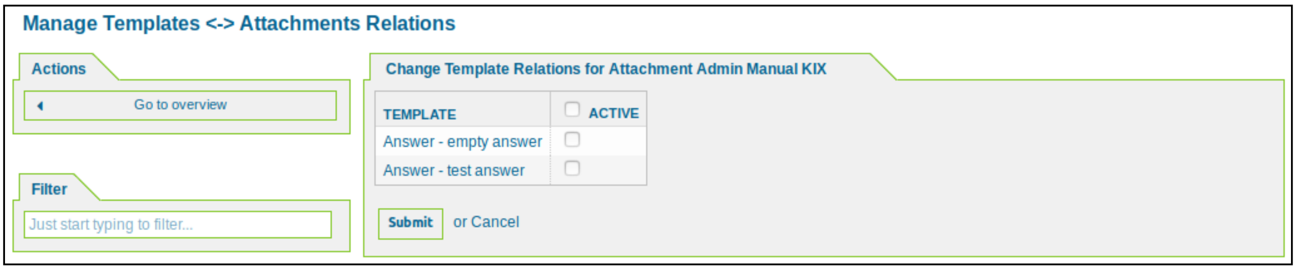


Figure: Link Templates to Attachment

Select the reply template (s) that you want to assign to the attachment and then click on the "Submit" button.

<u>Link Attachments to a Template</u>

In the *"Overview"* widget click a response template. The following widget will open:

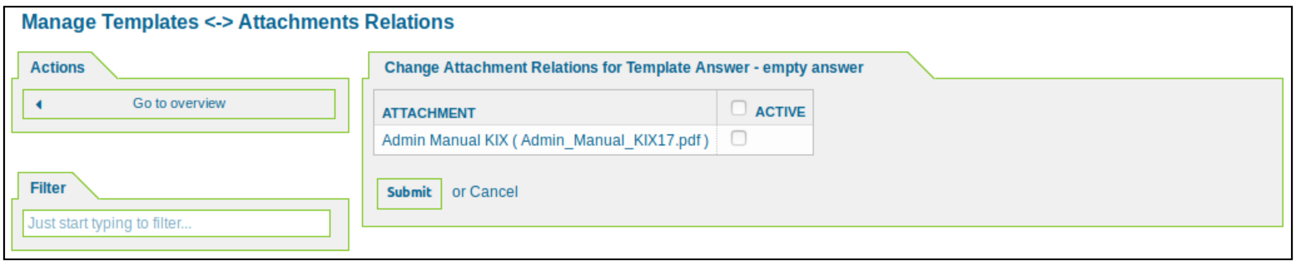


Figure: Link Attachments to Response Template

Select the attachment or attachments that you would like to assign to the reply template and then click the "Submit" button.

7.4.6 Create and Manage Signatures

In this area you can manage the signatures for the KIX system. The *"List"* widget shows all of the salutations available in the system.

The signatures can be linked to one or more queues (*"Queue Settings / Create and Manage Queues"* area).

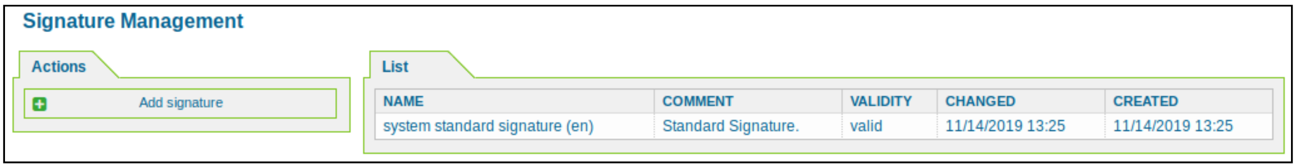


Figure: Signature Management

Add New Signature

In the *"Actions"* widget click "Add signature". The following widget will open:

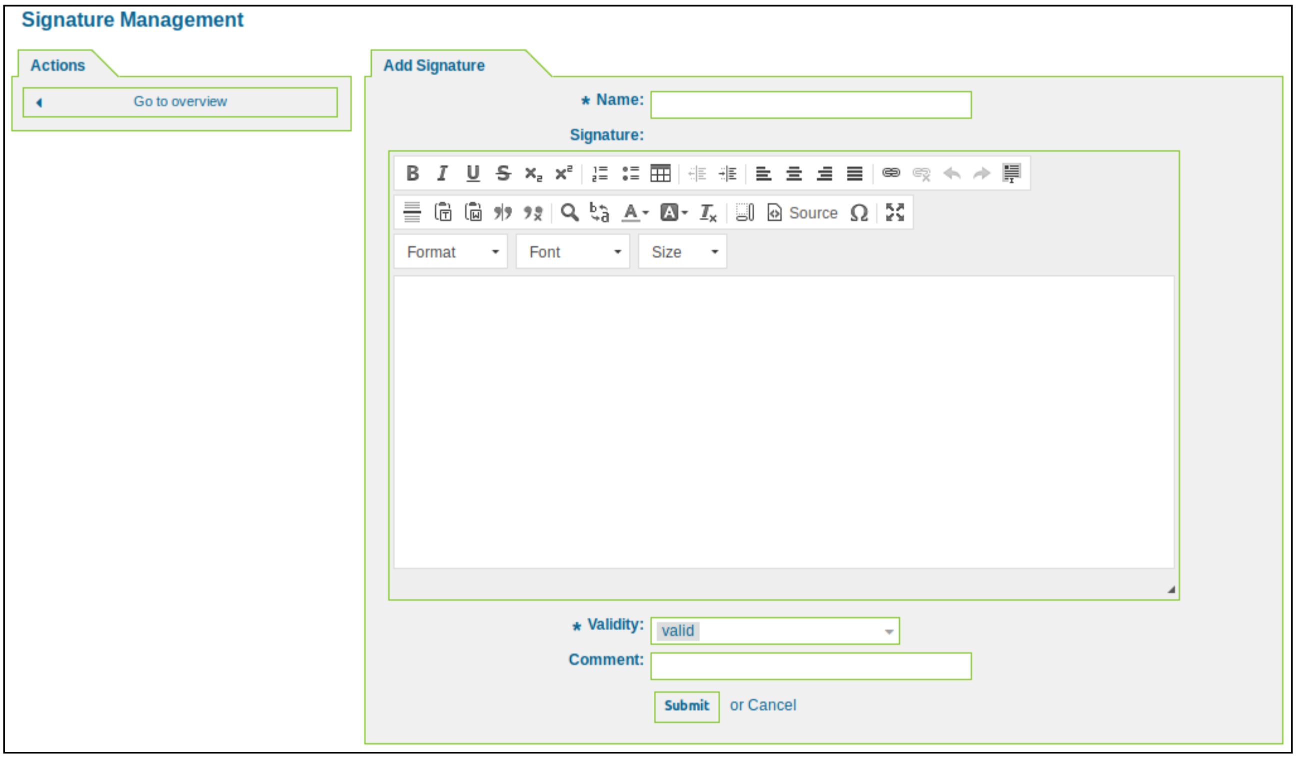


Figure: Add Signature

Assign the signature a name and compose the signature text. You can use placeholders (tags) for the signature text. Then click "Submit".

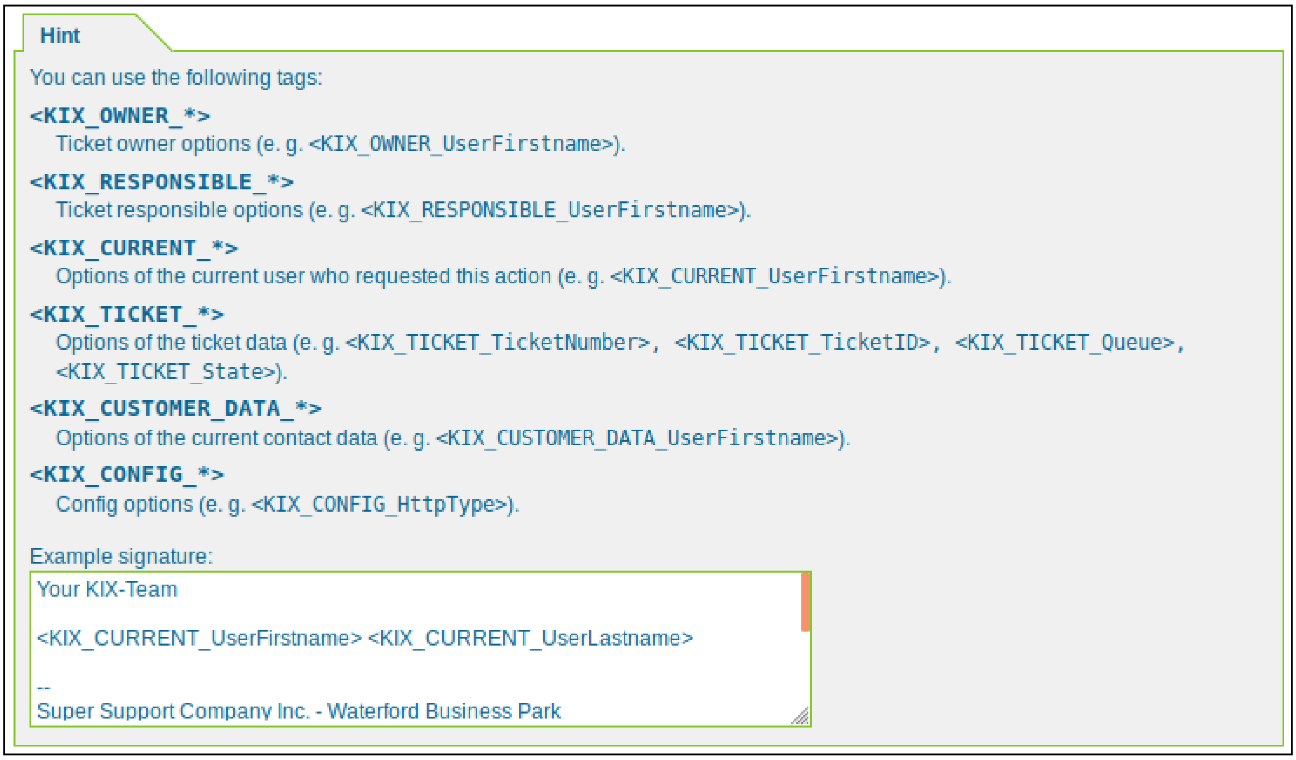


Figure: Reference

7.4.7 Export Queues-Groups-Roles Concept

In this area you can export the Queues-Groups-Roles Concept as a CSV file or import a Queues-Groups-Roles Concept.

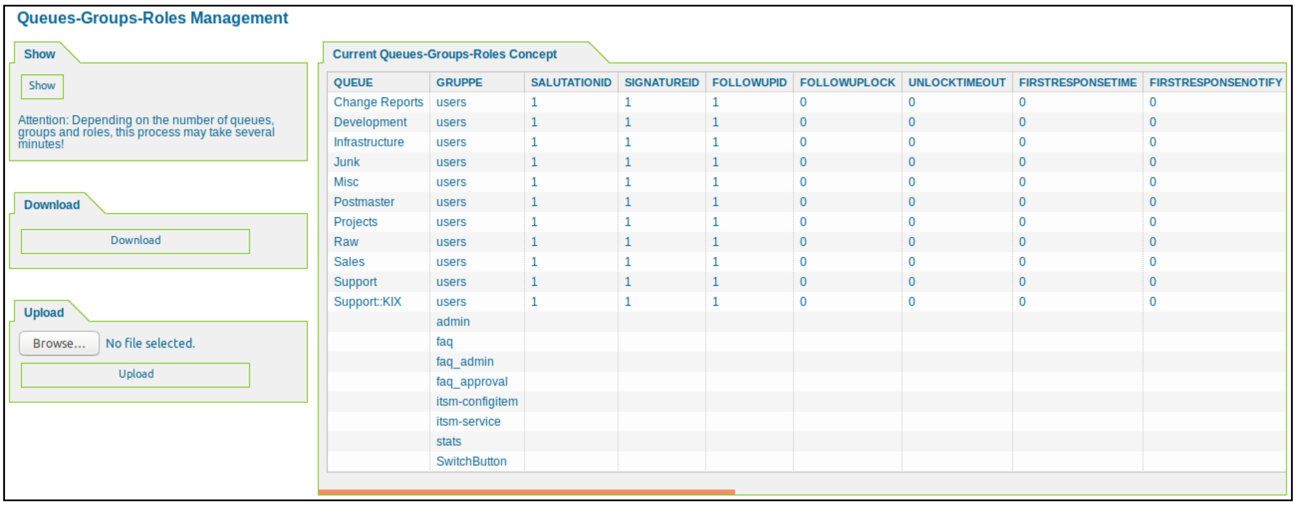


Figure: Queues-Groups-Roles Management

> **Tip**
>
> By clicking the queue in the widget "Current Queues-Group-Roles Concept" you can edit it.

7.4.8 Create and Manage Templates

In this area you can manage templates with standard texts. The templates can also contain attachments. A template can be linked to one or more queues or vice versa.

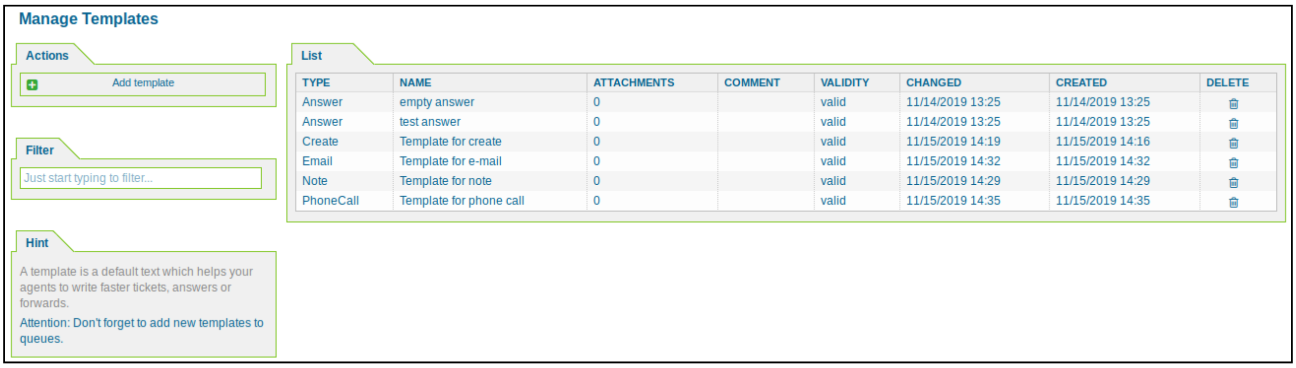


Figure: Manage Templates

There are different types of templates, which can be used in different ways:

- Create
- Forward
- Note
- Email
- Phone call

7.4.8.1 Create a Template

Click "Add template". The following widget will open:

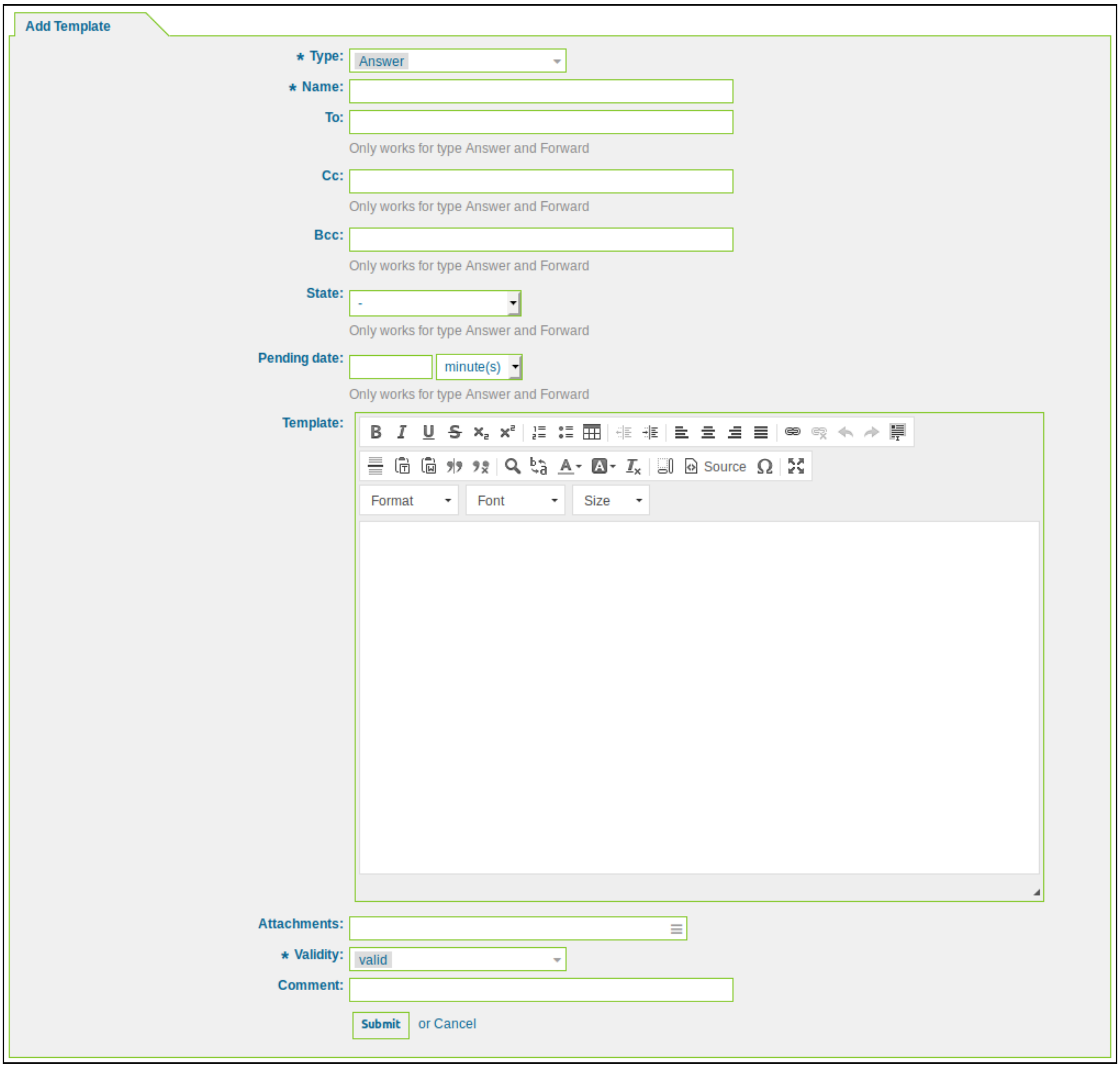


Figure: "Add Template" Widget

Select the template type for "Type" and assign a template name for "Name". For templates of the type "Reply" and "Forward" it is possible to add a comma-separated recipient list in the fields "To," Cc "and" Bcc ". You can also define the subsequent ticket status. If this status contains a pending waiting period it is also possible to specify the period to wait.

> **Please note**
>
> If you wish to add an attachment to the template, you have to define the attachment beforehand in the *"Create and manage attachments"* area, so that the attachment is available in this widget.
> Before a template is available, the template has to be linked to one or more queues in the *"Link templates to queues"* area.

You can use tags in the body of the template. There is a list of possible tags in the *"Reference"* widget.

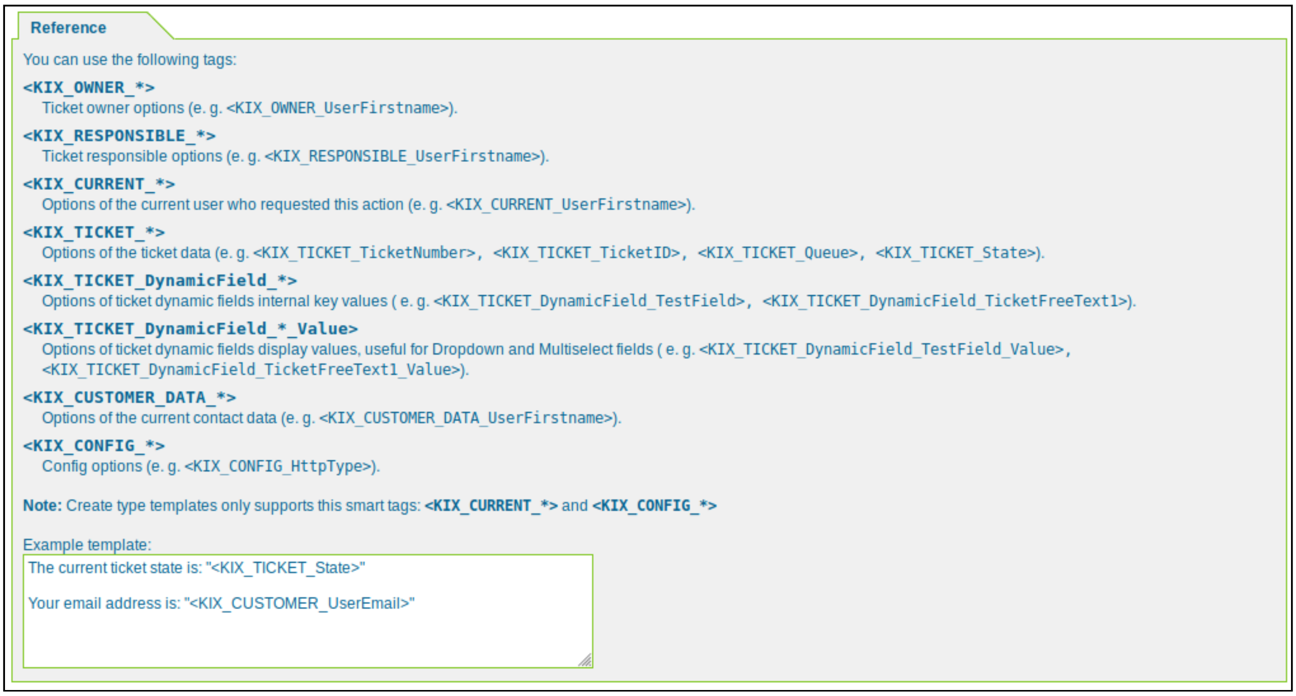


Figure: "Reference" Widget

Text can also be quoted in the template. Use the placeholders KIX_QUOTE_Start and KIX_QUOTE_End in combination for this. The text quoted in this way corresponds completely to the template article in the layout and is supplemented by quotation markings.

> **Example**

Start the quote with KIX_QUOTE_Start and end it with KIX_QUOTE_End. For example, if you want to store the content of an article, it looks like this:
"You wrote: <KIX_QUOTE_Start><KIX_ARTICLE_Body[100]> <KIX_QUOTE_End> 'I can make you the following offer ....."
Note: You always have to include a number of lines in the content of the article, for example '<KIX_ARTICLE_Body [100]>'.

Please note

If you create a template in which you save the queue as a fixed value, this is set. This ensures that the selected queue cannot be changed in the template.
If a user does not have access to this queue due to the setting of his authorizations, he cannot use the template to create tickets.

You also have the option of providing the agent with dynamic fields in a template, which are prefilled with placeholders of the type "CustomerUser" and "CustomerCompany".

Proceed as follows:

- Create a response template "TemplateXYZ" that uses the placeholder "<KIX_CUSTOMER_DATA_DynamicField_SomeTextDF>".
- Assign this reply template to all queues.
- Now create a dynamic field, which is given the name "SomeTextDF", on the one hand for the "CustomerUser" object and on the other hand in the "AdminCustomerUser" mask.
  You also create the contact person "Mustermann", who fills the dynamic field "SomeTextDF" with any value "XYZ".
- If the agent now creates a new ticket with the customer contact "Mustermann", the reply template "TemplateXYZ" is available to him, for example, when answering an email.

7.4.8.2 Template types

***"Creation"* Type Template**

This type of template is available when you create a new ticket (*"Tickets / New Ticket"* menu). The template can be selected in the *"New Ticket"* pop-up.

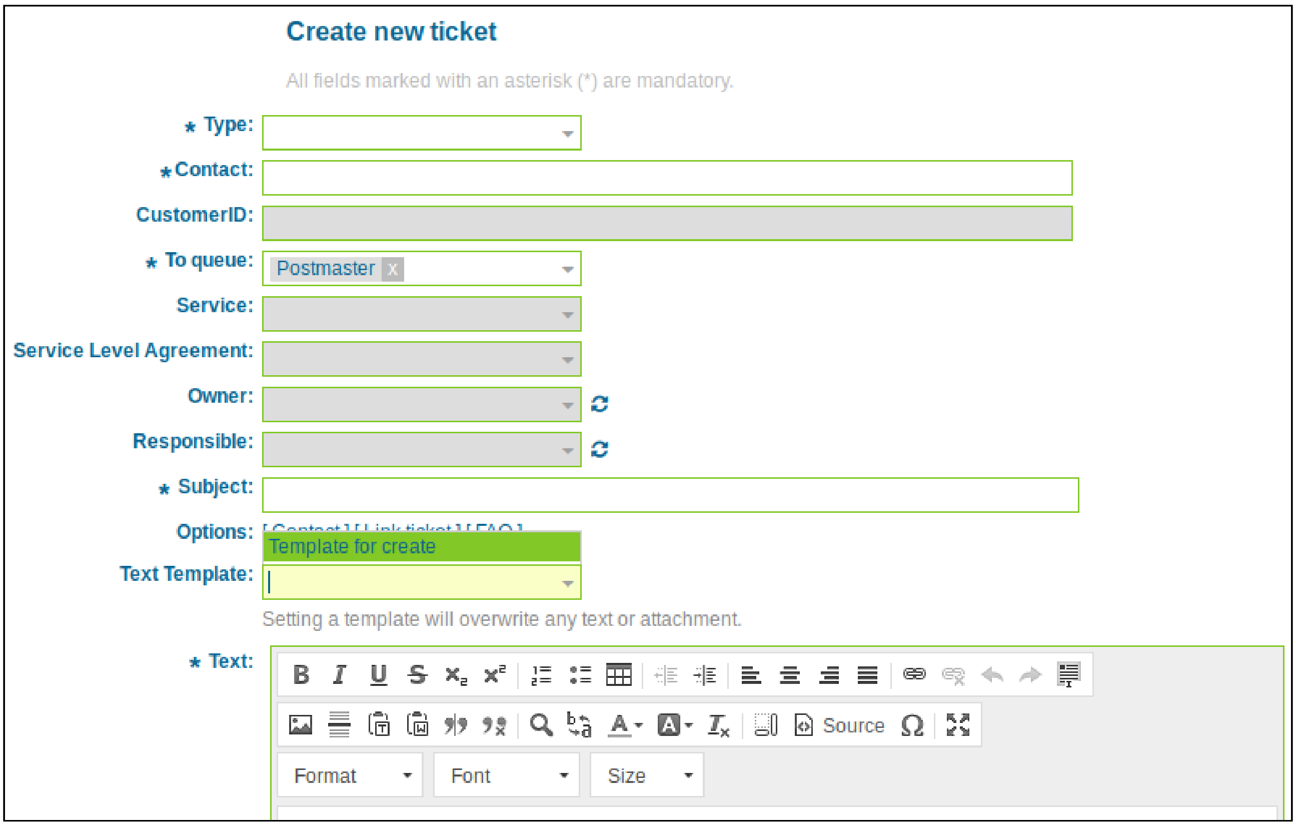


Figure: "Creation" Article Action Type

"Forward" Type Template

This type of template is available when a new ticket is created through an incoming email.
This template is available as article actions for articles created by incoming emails.

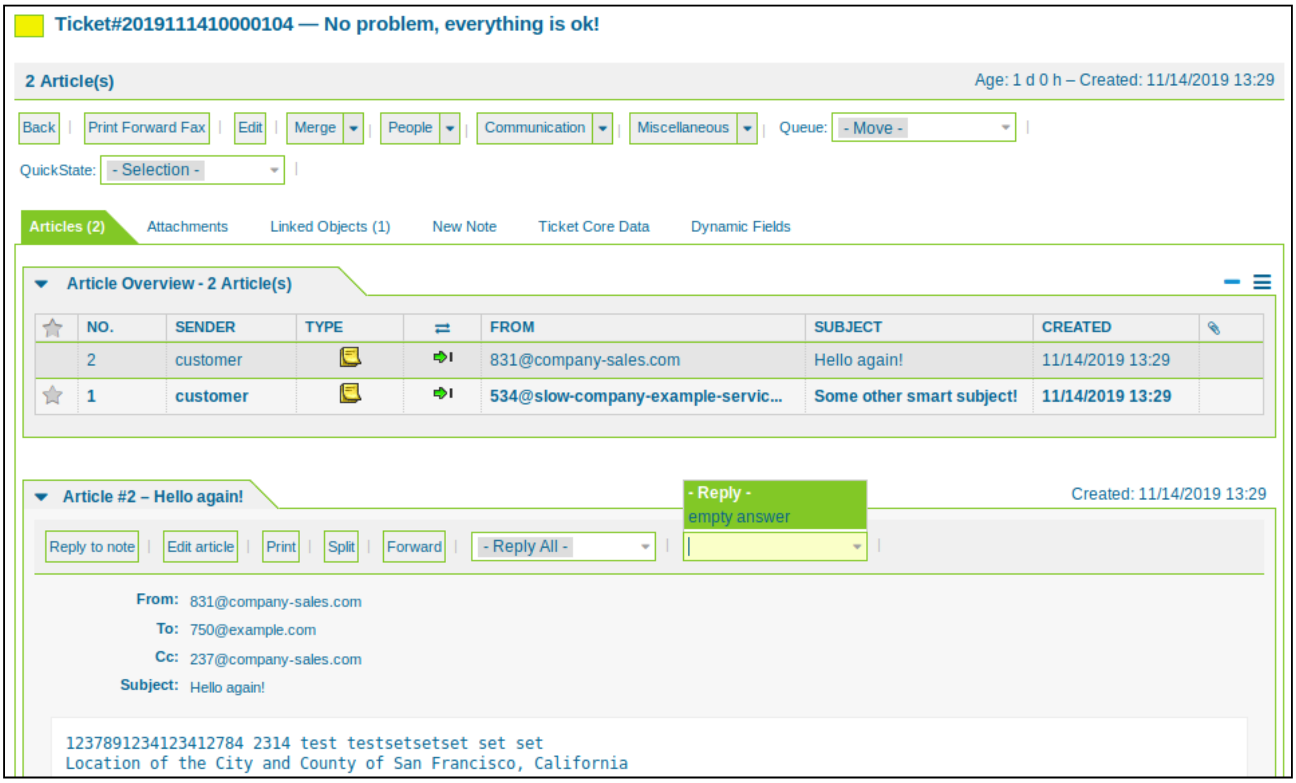


Figure: "Forward" Article Action Type

"Note" Type Template

This type of template is available when you wish to add a *"Note"* type article to a ticket.

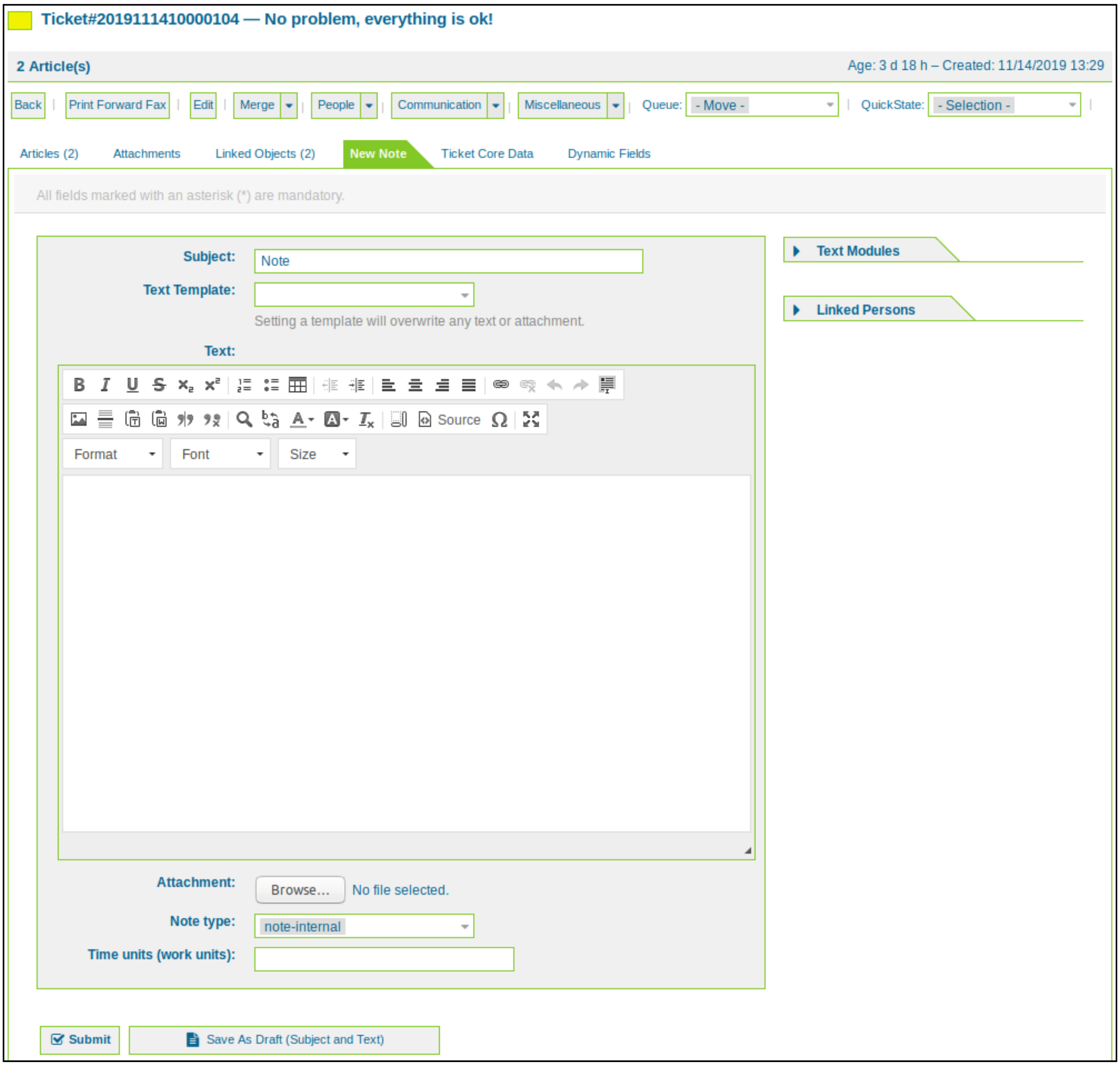


Figure: Add Note With Text Template

***"<u>Email</u>"* Type Template**

This type of template is available for the ticket action *"Outgoing Email"*.

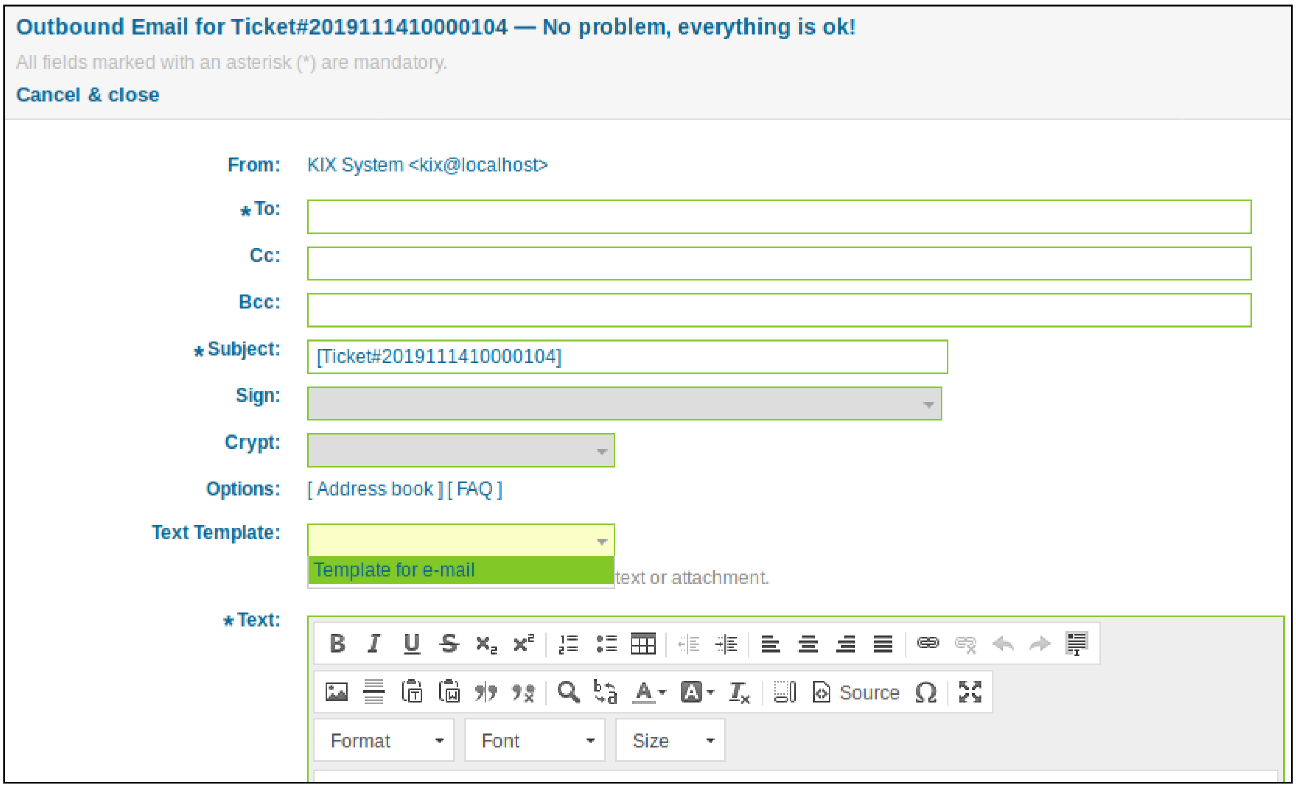


Figure: Template Selection for Ticket Action "Outgoing Email"

"Phone call" **Type Template**

This type of template is available for the *"Outgoing Phone Call"* and *"Incoming Phone Call"* ticket actions.

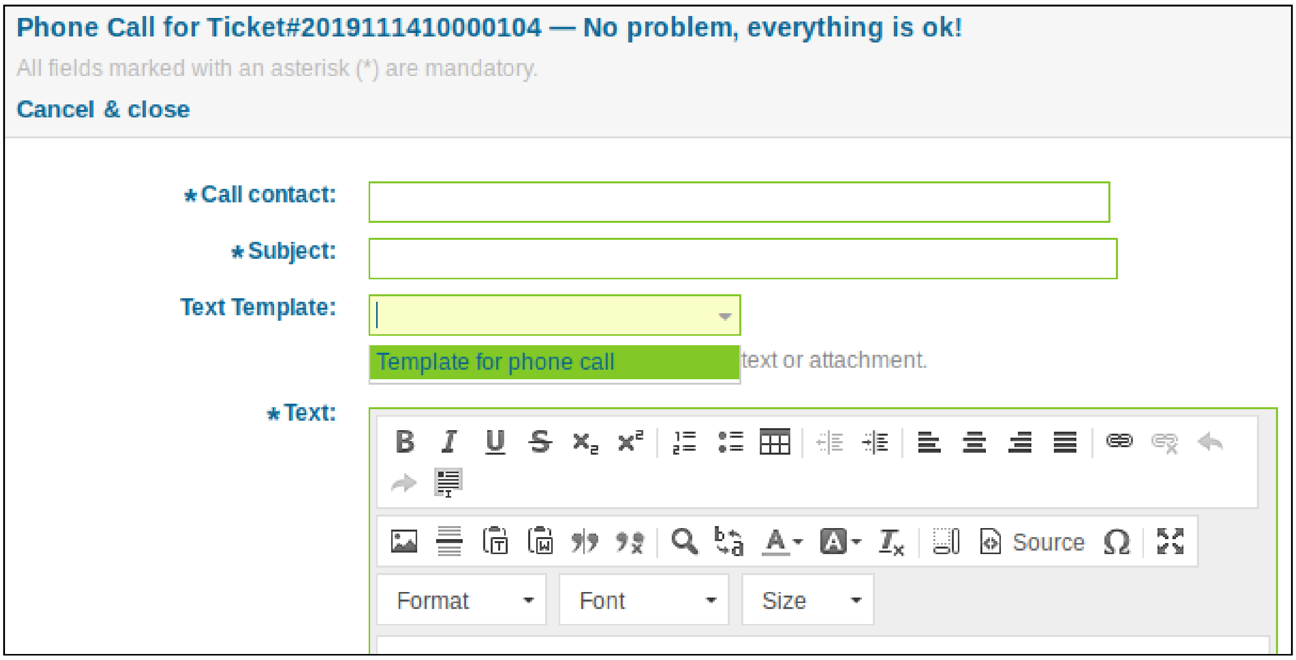


Figure: Template Selection for Ticket Action "Incoming Phone Call" / "Outgoing Phone Call"

7.4.9 Create and Manage Responses that are automatically sent

In this area you can create and manage auto responses when certain events occur in connection with a ticket.

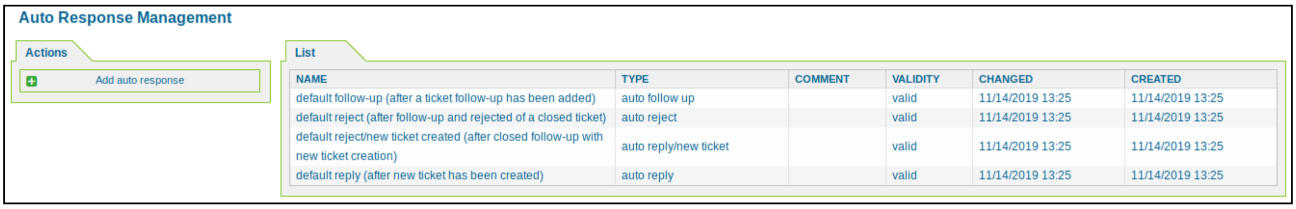


Figure: Auto Response Management

The following events come with KIX standard installation:

- Default reject - this event is triggered when a ticket is rejected by the KIX system.
- Default reply - this event is triggered when a new ticket is created in a queue.
- Default reply/new ticket - this event is triggered when a customer sends a reply to a ticket that is already closed, and so a new ticket is created.
- Default follow-up - this event is triggered when a ticket follow-up is added.
- Default removal - this event is triggered when a ticket is removed from the KIX system.

Create a New Auto Response

In the *"Actions"* widget click "Add auto response". The following widget will appear:

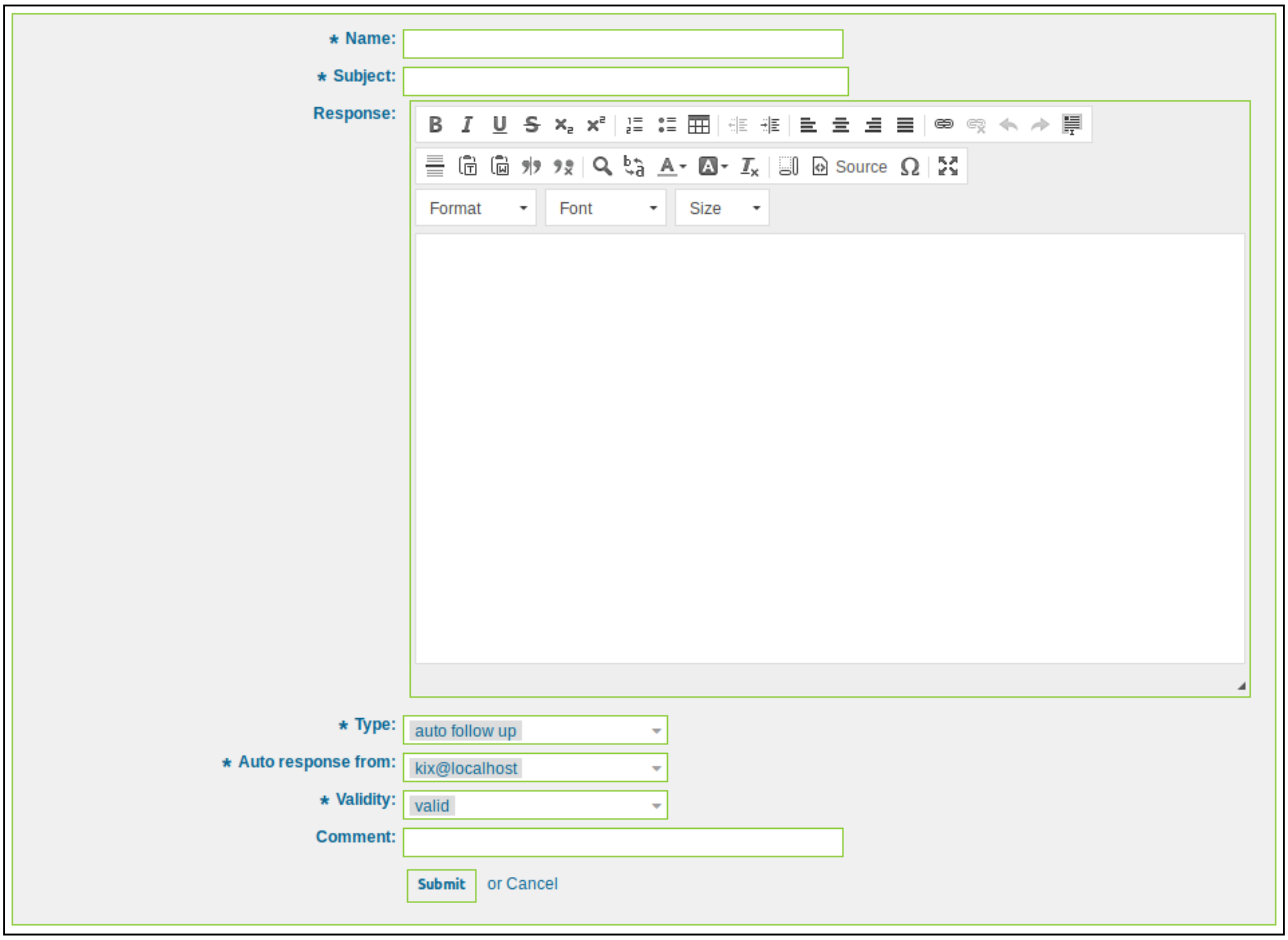


Figure: Create Auto Response

Assign the auto response a name. As in the case of signatures and salutations, the subject and response text can be created dynamically using placeholders. There is a list of available placeholders in the *"Reference"* area.

Figure: Reference

Auto responses cannot be deleted, but only deactivated by being set to *"invalid"*.
You can link auto responses to one or more queues in the *"Link queues to auto responses"* area.

7.4.10 Create and Manage Attachments

In this area you can create and manage attachments. Any attachments already integrated in the system are shown in the *"List"* widget.
Clicking the filename of an attachment opens the file. You can change the attachment by clicking an attachment name.

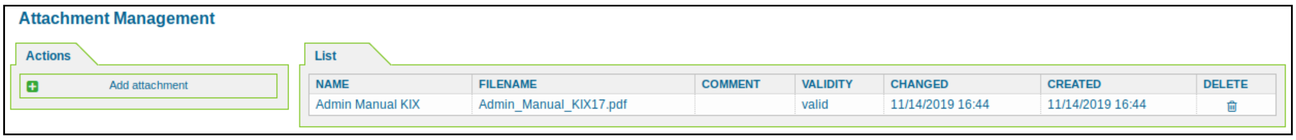


Figure: Attachment Management

Add Attachment

In the *"Actions"* widget click "Add attachment". The following widget will open:

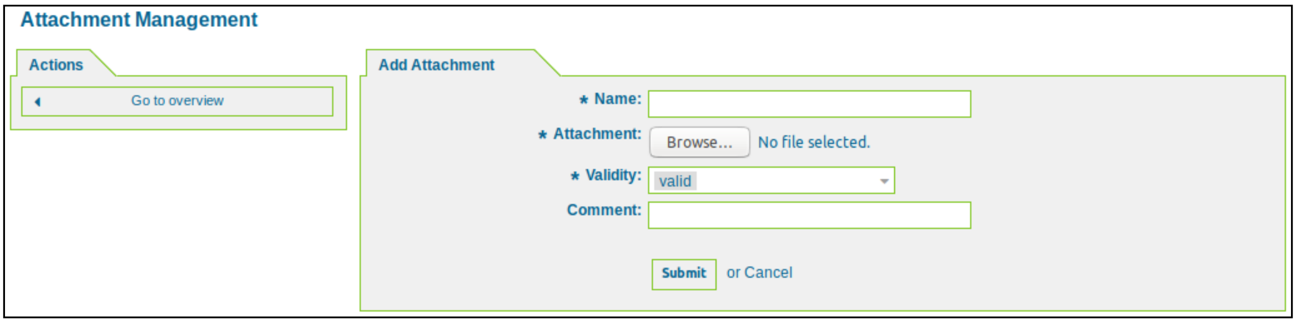


Figure: Add Attachment

This is where you can assign the attachment a name, select the attachment, set an attachment to "valid" / "invalid" (if applicable) and, if required, write a comment. Then click "Submit".

7.4.11 Create and Manage Salutations

In this area you can manage salutations for the KIX system. The *"List"* widget shows all of the salutations available in the system.

The salutations can be linked to one or more queues (*"Queue Settings / Create and Manage Queues"* area).

Figure: Salutation Management

Add Salutation

In the *"Actions"* widget click "Add salutation". The following widget will open:

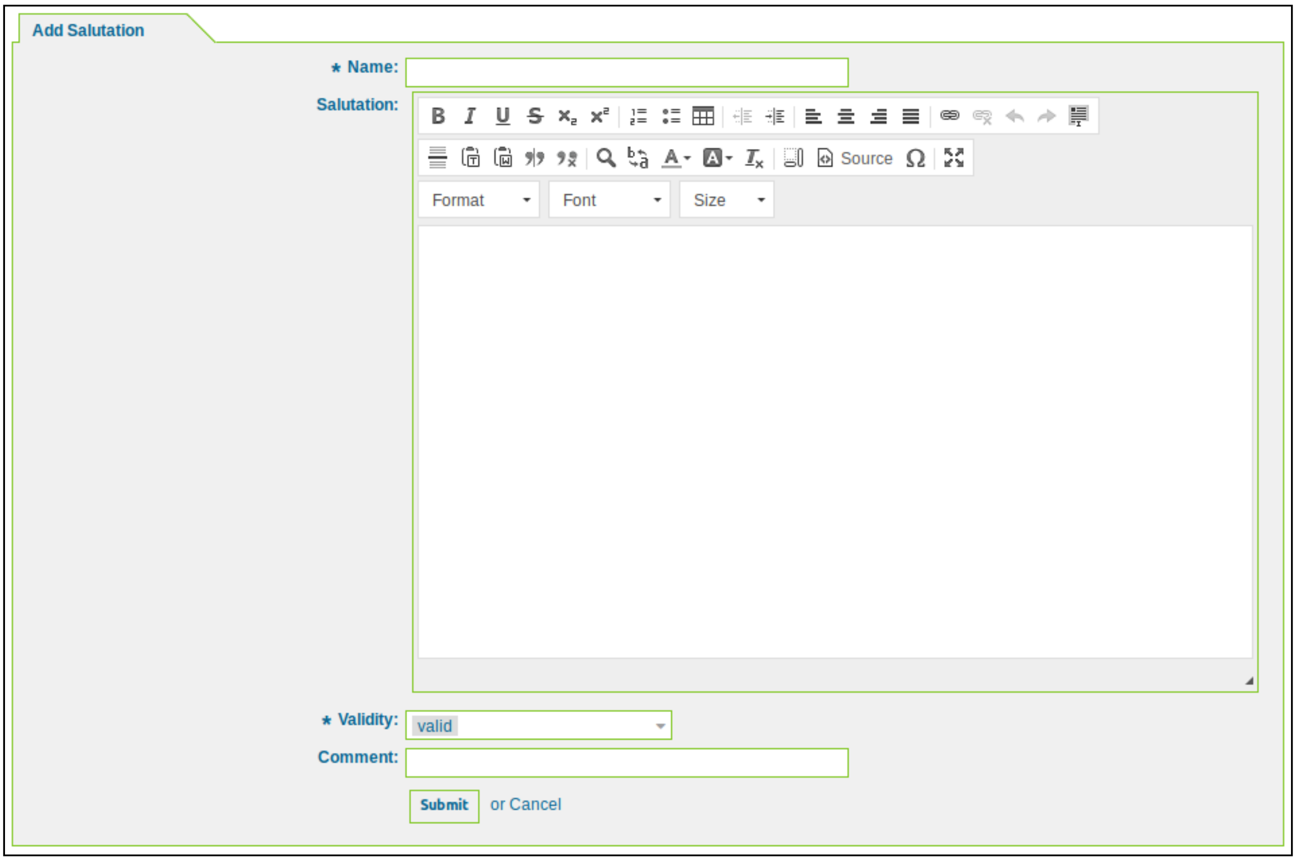


Figure: Add Salutation

Assign the salutation a name and enter the salutation text. You can use placeholders for the salutation text. Then click "Submit".

7.5 Create and Manage Services

In this area you can create and manage services and sub-services. In the list you can see all of the services created in the system.

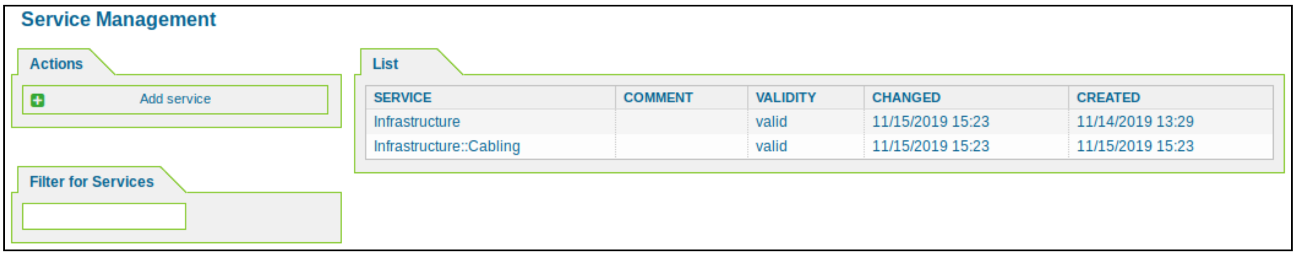


Figure: Service Management

Add a New Service

In the *"Actions"* widget click "Add service". The following widget will open:

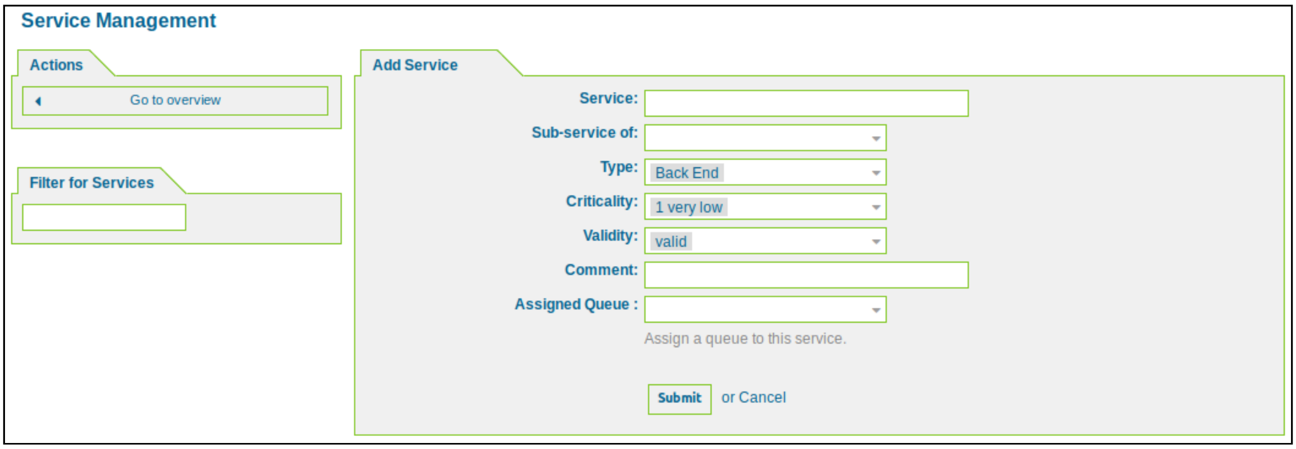


Figure: Add Service

Assign the service a name. If applicable, select whether the new service is to be a sub-service. Select the service type from the dropdown list and specify the level of criticality for the service.
Assign the service to a queue. Then click "Submit".

Please note

Once a service has been created in the system, it cannot be deleted.
There is, however, the option to set services as *"invalid"*.

Edit service

In the service administration, click on the service that you want to edit.

- The same fields are displayed as in the "Add Service" widget.
- Change the desired values and click the "Submit" button.
- Your changes are saved and the updated service is visible in the list.

7.6 Create and Manage Service Level Agreements (SLAs)

In this area you can create new service level agreements (SLAs) and edit existing ones. I.

Click on the menu item "Admin" in the menu bar.
In the "Ticket Settings" area, select the item "Create and manage service level agreements".

The "SLA Administration" area is displayed. In the list you can see all SLAs created in the system.

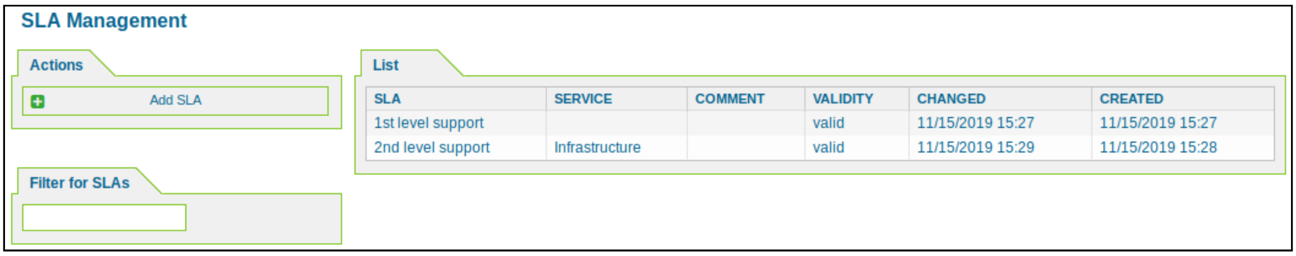


Figure: SLA Management

Add a New SLA

In the *"Actions"* widget click "Add SLA".

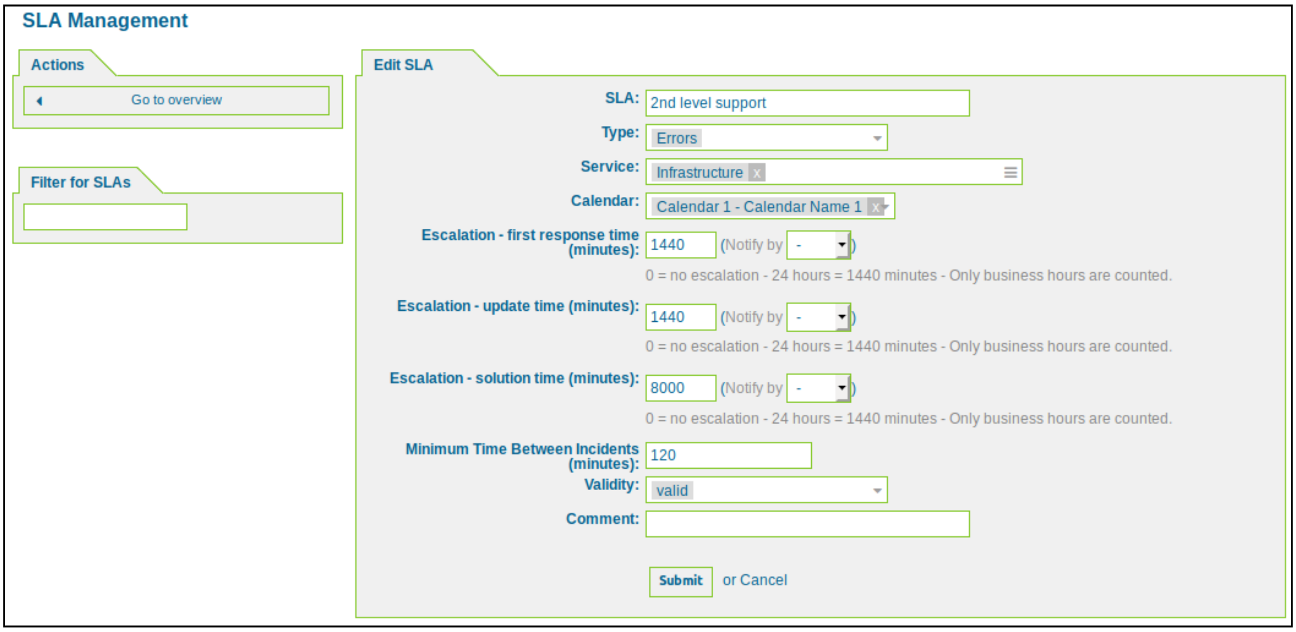


Figure: Add SLA

- SLA: Enter the name of the SLA here.
- Type: Select a type from the list.
- Service: Select the services to be linked to the SLA here.
- Calendar: Select a calendar.

- Escalation - time for first response: Define the time span within which a ticket must be responded to for the first time (FirstResponseTime).
  - Notification by: Define what percentage of the defined period of time must have elapsed before you can receive a notification
- Escalation - update time: Define the time span within which an update (external e-mail) must occur on the ticket.
  - Notification by: Define what percentage of the defined period of time must have elapsed before you can receive a notification
- Escalation - resolution time: Define the time span within which the ticket must be (successfully) closed.
  - Notification by: Define what percentage of the defined period of time must have elapsed before you can receive a notification
- Minimum time between incidents: Set the minimum time between the last incident and the recurrence of an incident.
- Valid: Define the validity of the SLA.
- Comment: If necessary, enter a comment.

Click the Submit button. Your settings are saved and the SLA created is visible in the list.

Please note

Once an SLA has been created in the system, it cannot be deleted. There is, however, the option to set SLAs to *"invalid"*.

Hint

The escalation times refer to the working hours defined in the selected calendar. The values are only calculated within these defined working hours. Further information on the calendar can be found in the KIX admin manual.

Edit SLA

in the SLA administration, click on the SLA that you want to edit.

- The same fields are displayed as in the "Add SLA" widget.
- Change the desired values and click the "Submit" button.
- Your changes are saved and the updated SLA is visible in the list.

7.7 Create a new quick Ticket Template or change existing

In this area you can create and manage ticket templates. The ticket templates can be made available in the agent and customer frontends.

In the list you can see all of the ticket templates defined in the system, and note on which interface (agent/ customer frontend) and in which customer portal group the ticket template is available.

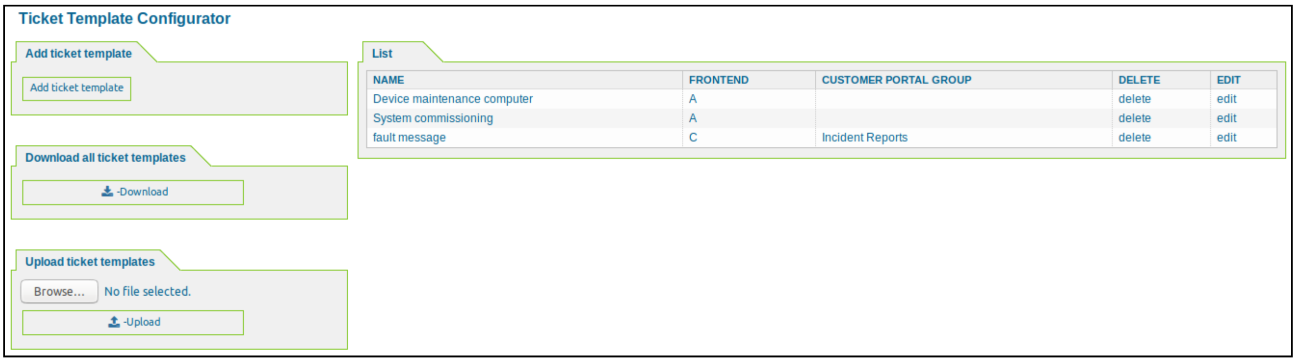


Figure: Ticket Template Configurator

<u>Add a New Ticket Template</u>

In the left-hand sidebar, click the following button: "Add ticket template". The following widget will open:

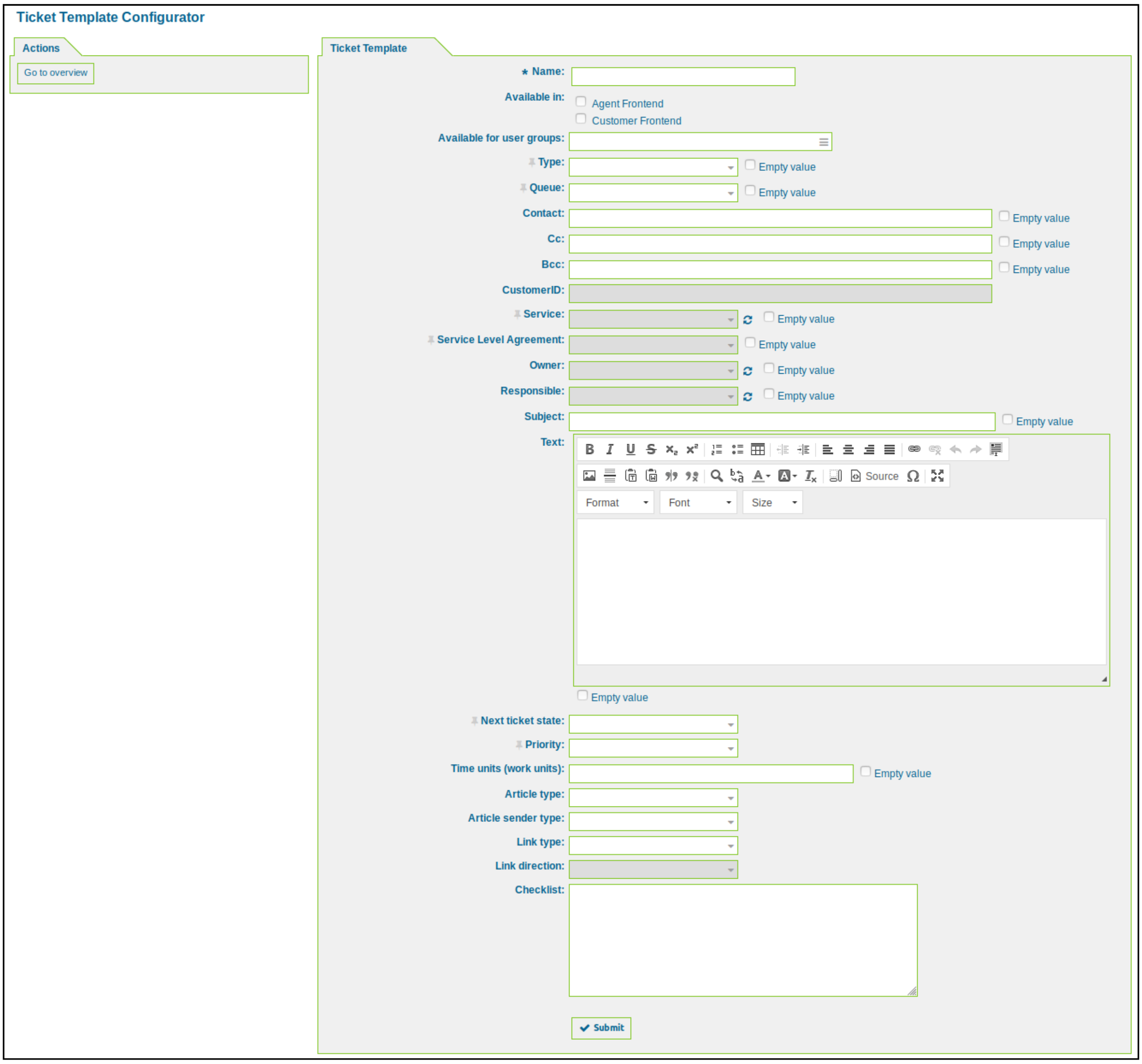


Figure: Create Ticket Template

Then click "Submit".

7.8 Create and Manage Text Modules

In this area you can create certain text modules and link them to specific queues, categories, ticket types, or ticket states. Text modules can be exported/imported as a CSV file.

In the *"Filter Overview"* widget you can filter the list of text modules by name, language, validity, and quantity.

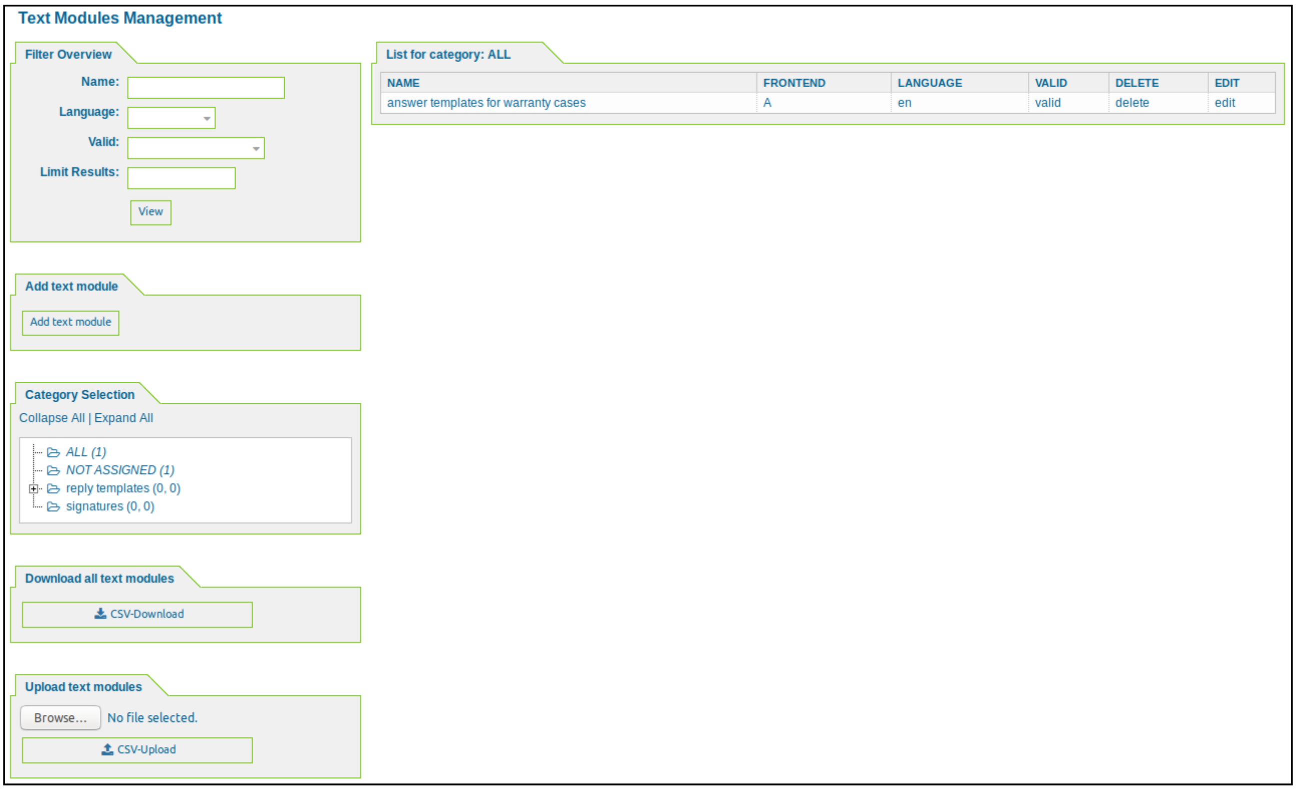


Figure: Text Modules Management

Create Text Module

Click "Add text module" to create a new text module.

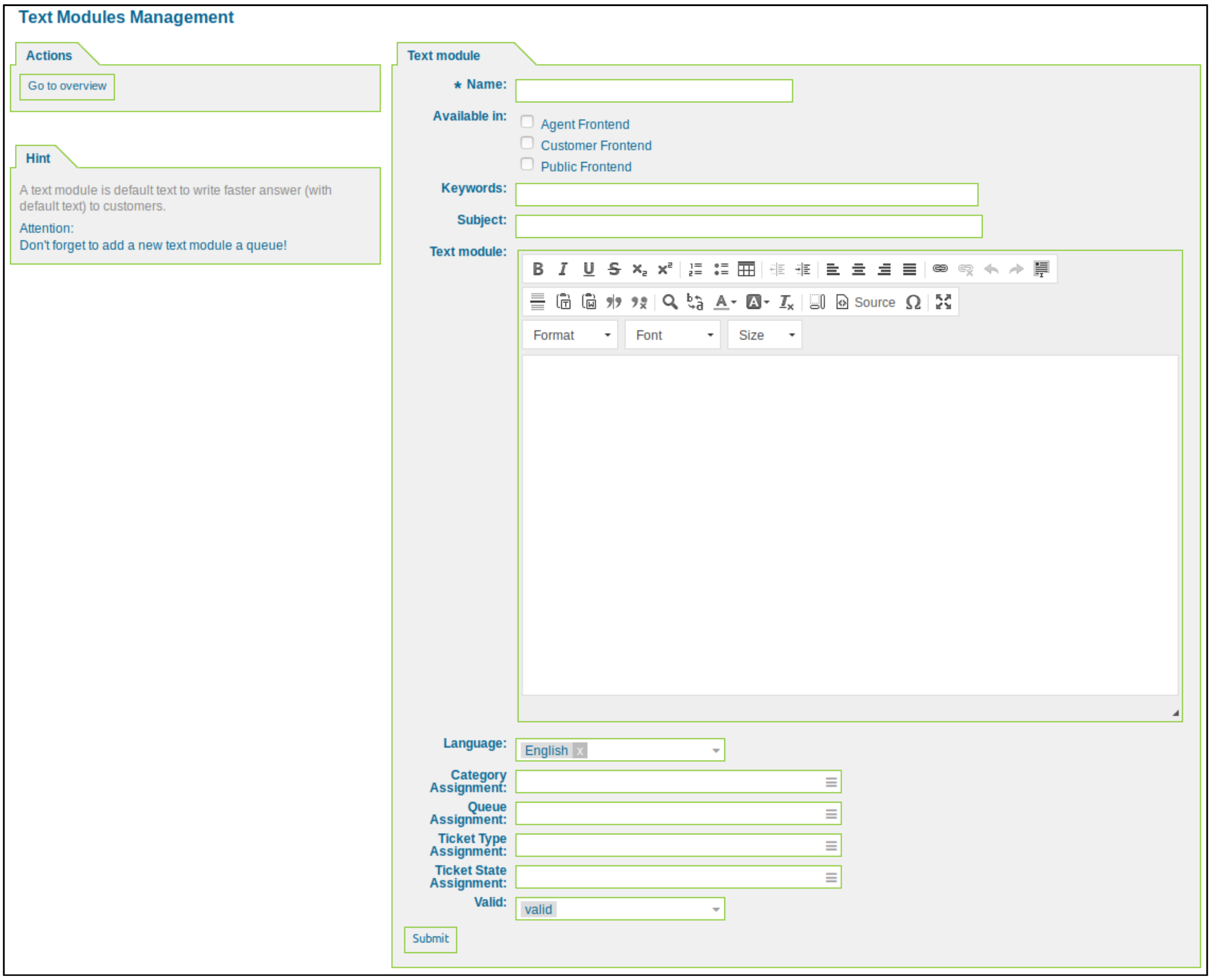


Figure: Create Text Module

When creating the text module, you can specify in which frontend to make it available (agent frontend, customer frontend, public frontend).

You can also link the text module to a text module category and, by linking it to a queue, ticket type or ticket state, specify where the created text module is to be available.

Below the text creation widget you will see a *"Reference"* widget with a list of tags that can be used in the text modules.

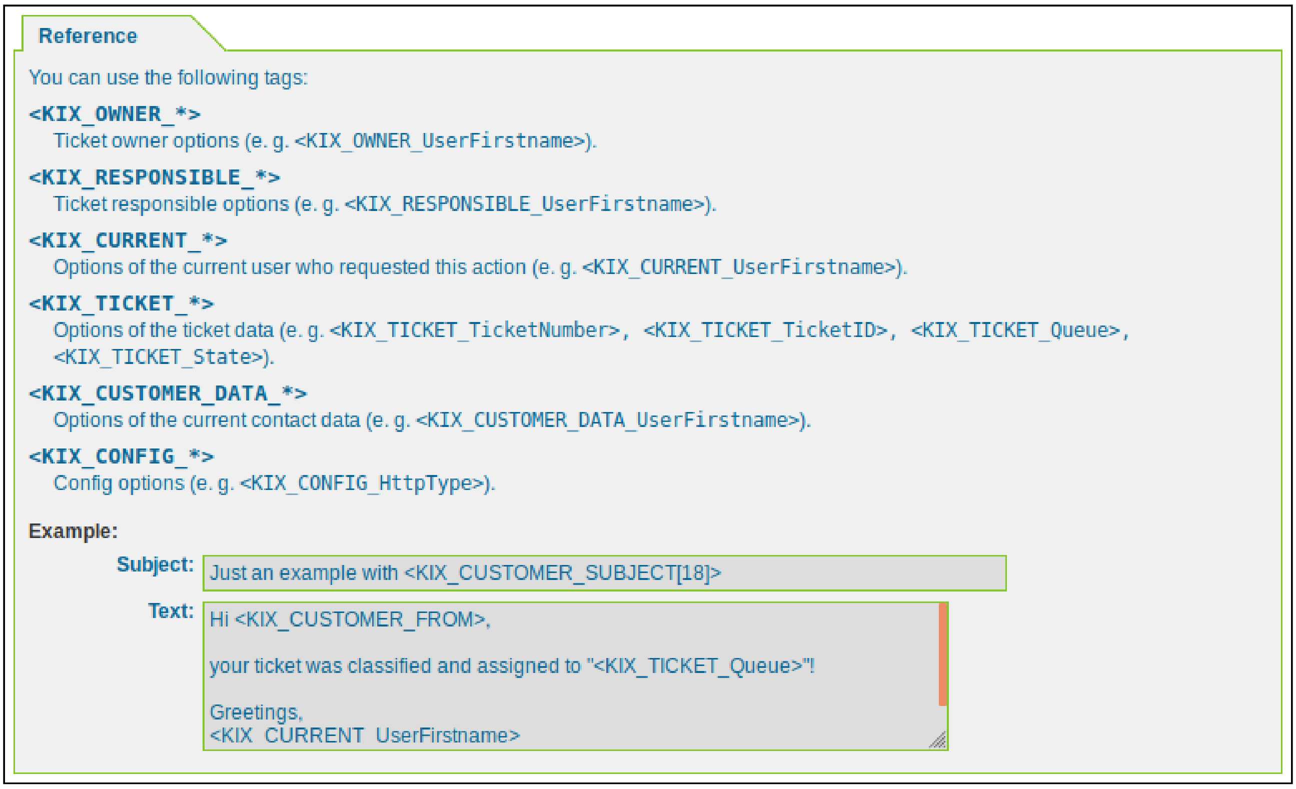


Figure: Reference

7.8.1 Create and Manage Text Module Categories

In this area you can create categories for text modules and manage existing ones. You can also export or import text module categories as a CSV file.

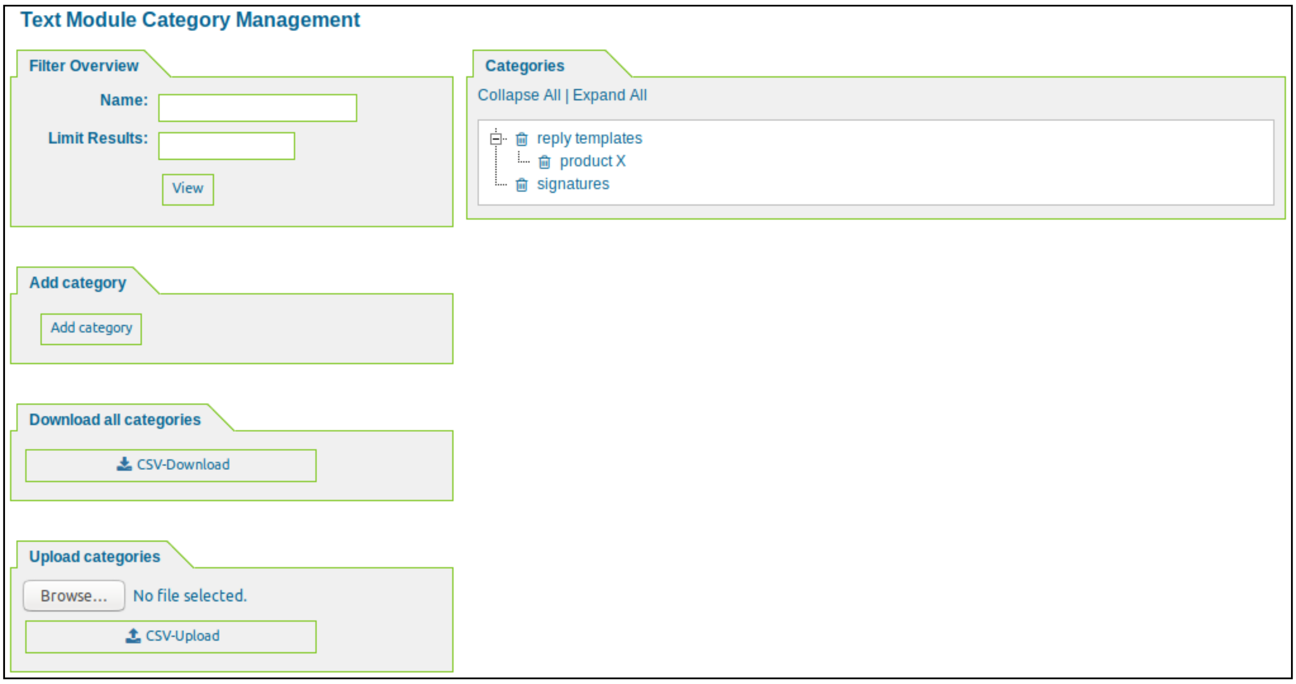


Figure: Create and Manage Text Module Categories

Add Text Module Category

In the *"Add category"* widget click "Add categroy". In the following widget you can create a new text module category and, if applicable, link it to a parent category.

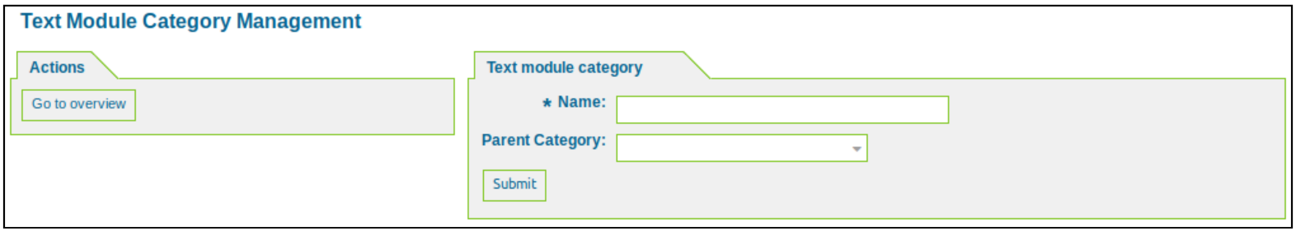


Figure: Create Text Module Category

7.9 Create and Manage Ticket Notifications

In this area you can create and manage ticket notifications triggered through events. In the *"List"* widget you will see all of the notifications in the system

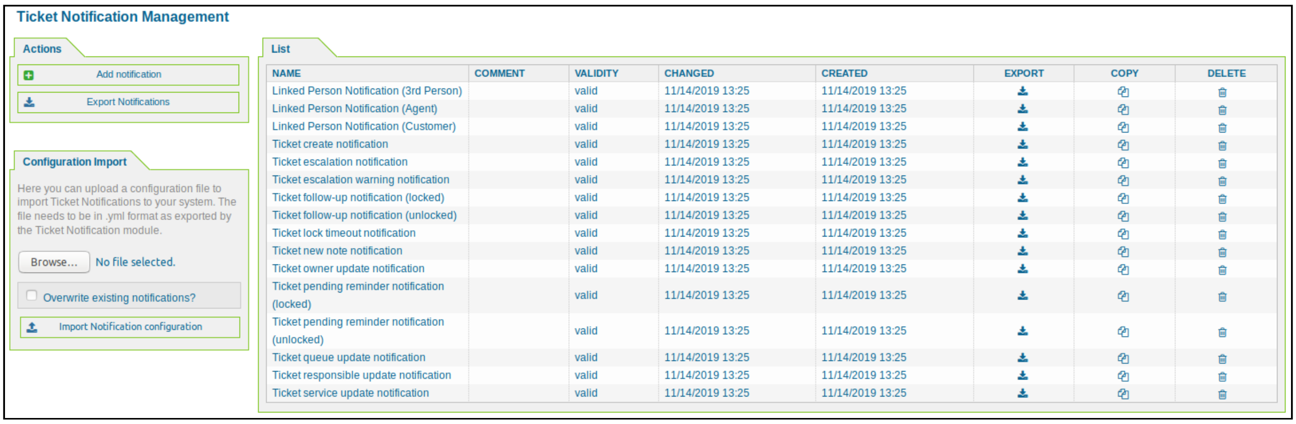


Figure: Ticket Notification Management

<u>Add a New Notification</u>

In the *"Actions"* widget click "Add notification" . In the *"Add notification"* area assign the notification a name and, if applicable, add a comment.

The option *"Show in agent preferences"* determines whether this notification is to be shown in an agent's personal settings ( ).

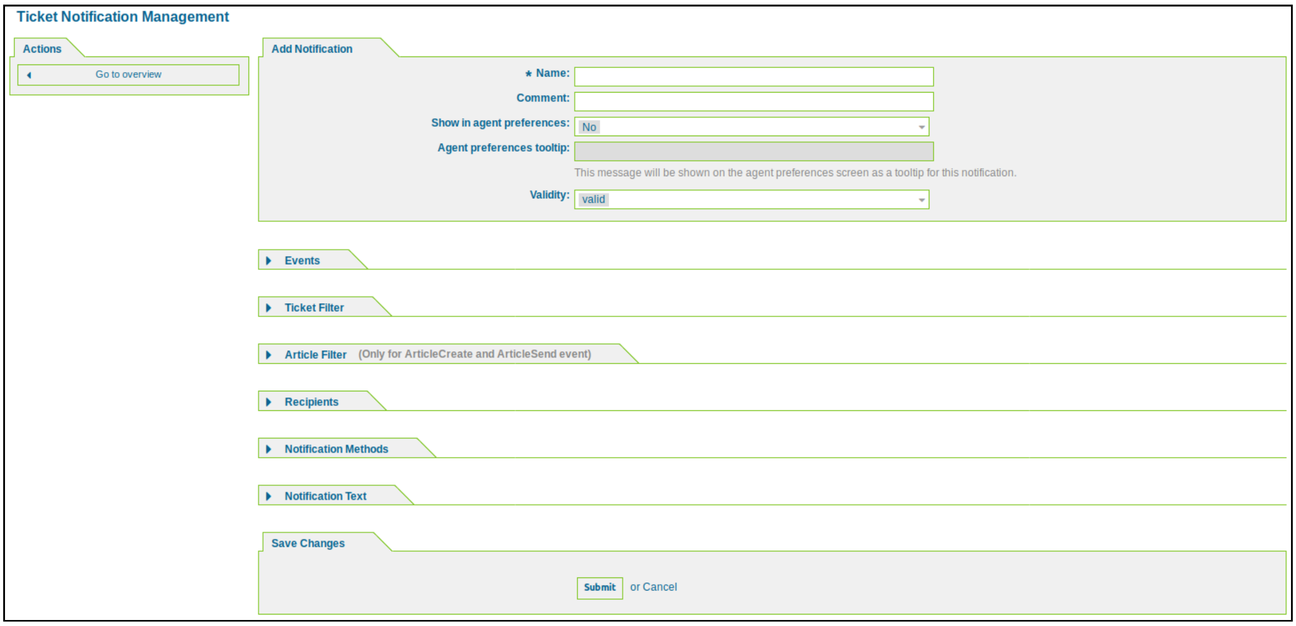


Figure: Add Ticket Notification

In the *"Events"* area you specify which events should trigger the notification.

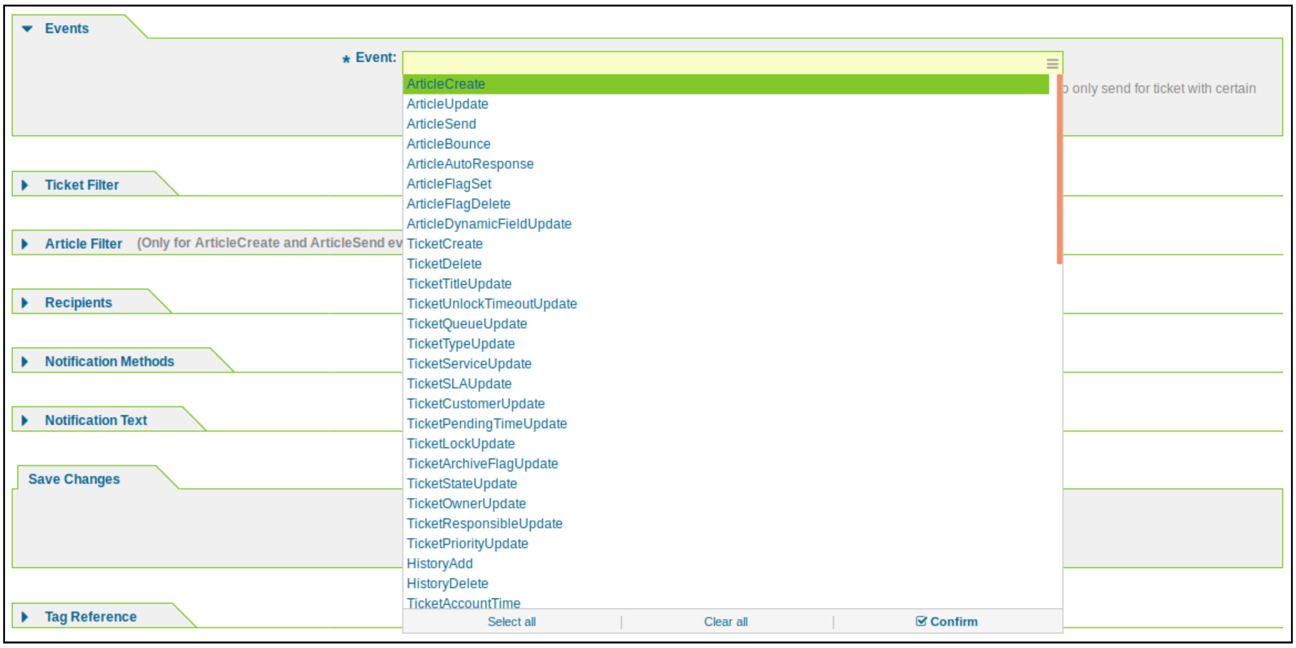


Figure: Selection of Events

In the *"Ticket Filter"* area you can use ticket attributes and dynamic fields to restrict the type of tickets that trigger a notification.

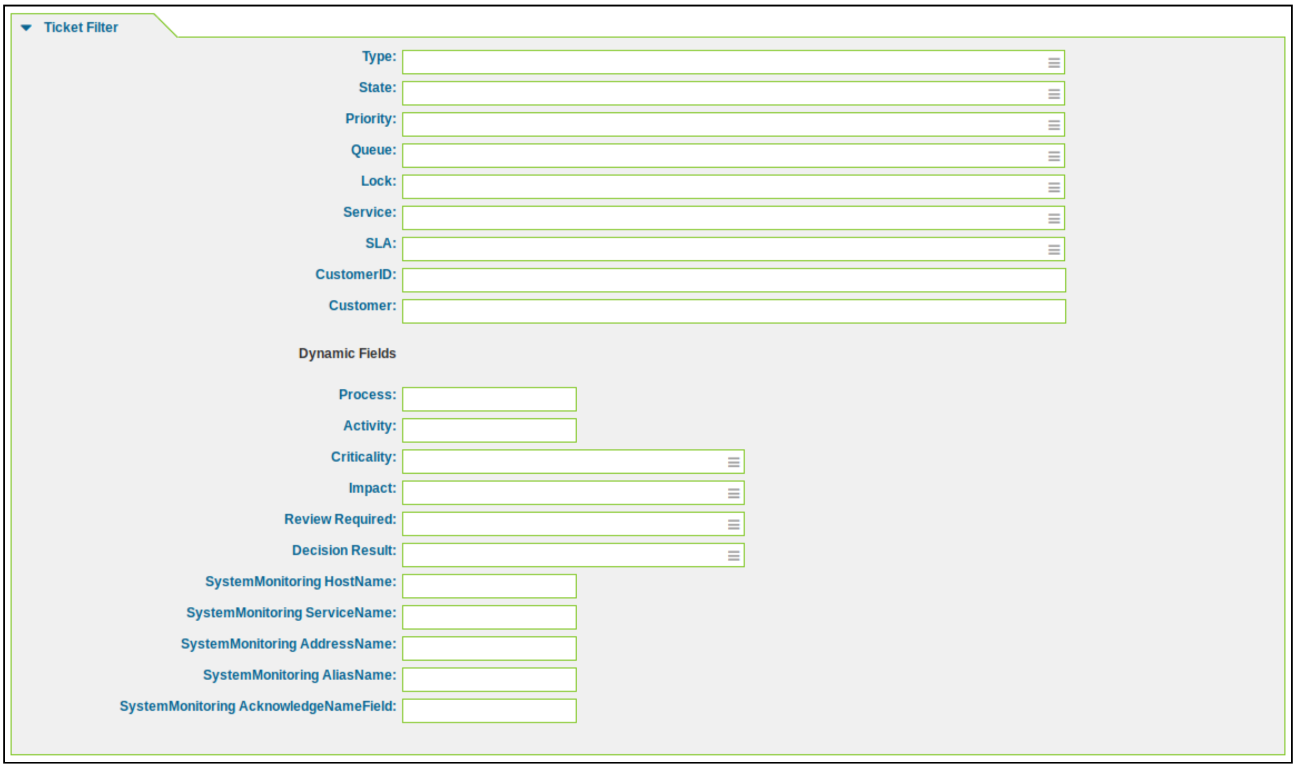


Figure: Ticket Filter

In the *"Article Filter"* area you can restrict articles by article type, article sender type, and search terms for *"ArticleCreate"* and *"ArticleSend"* event types. In addition, all dynamic fields configured in the system and valid for articles are available in this section.

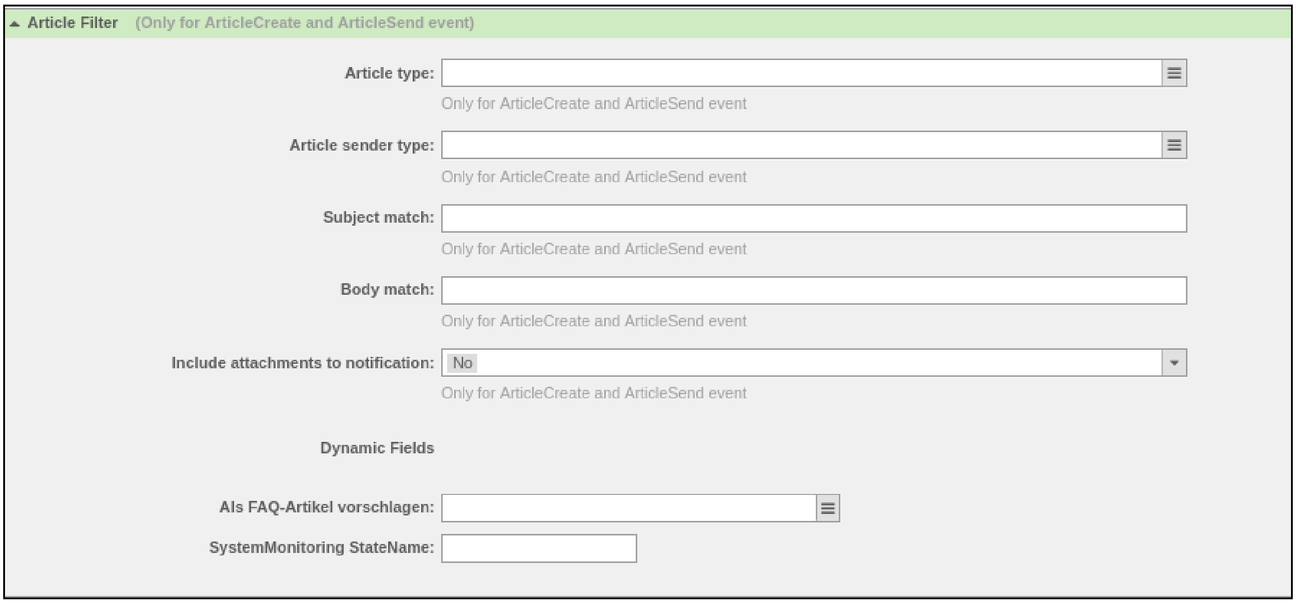


Figure: Article Filter

In the *"Recipients"* area you can restrict who should receive the notifications, if required.

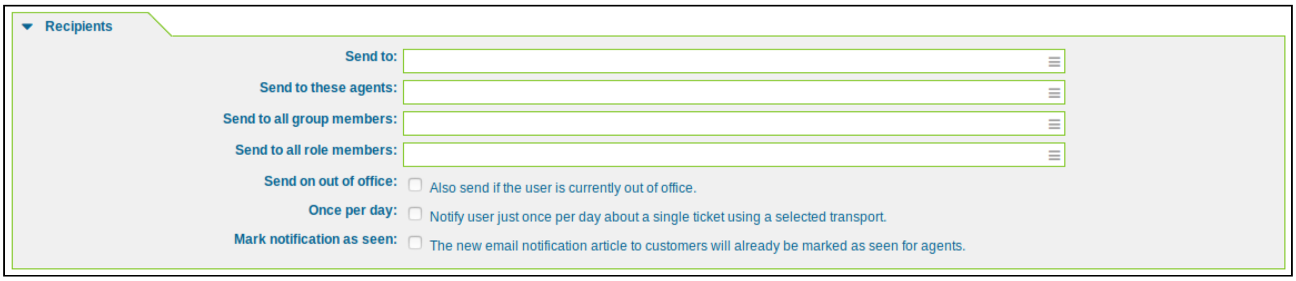


Figure: Recipients

In the *"Notification Methods"* area you can select which method to use for sending the notification (email or agent notification). Please select at least one method.

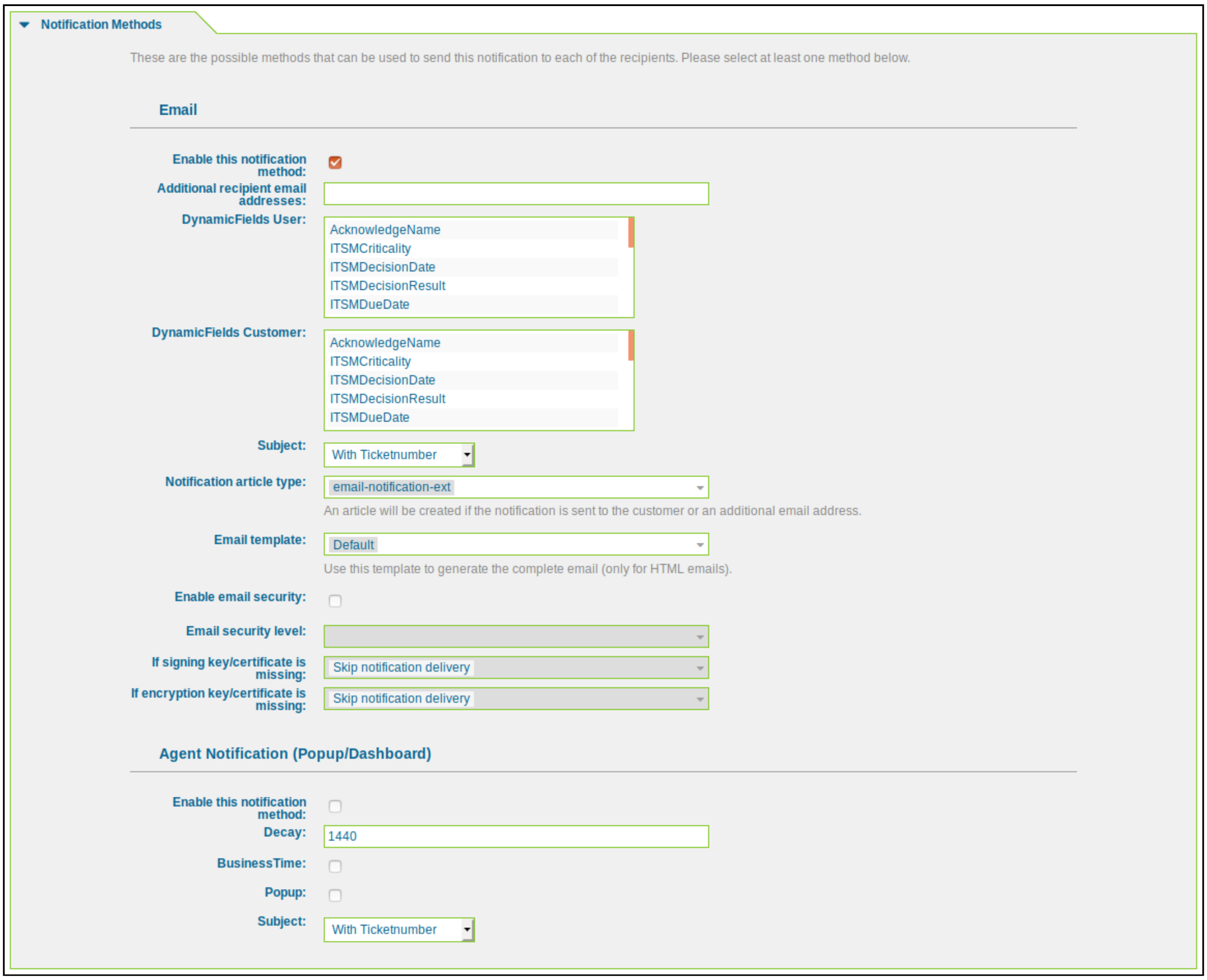


Figure: Notification Methods

In the *"Notification Text"* area you can enter the text for the notification.

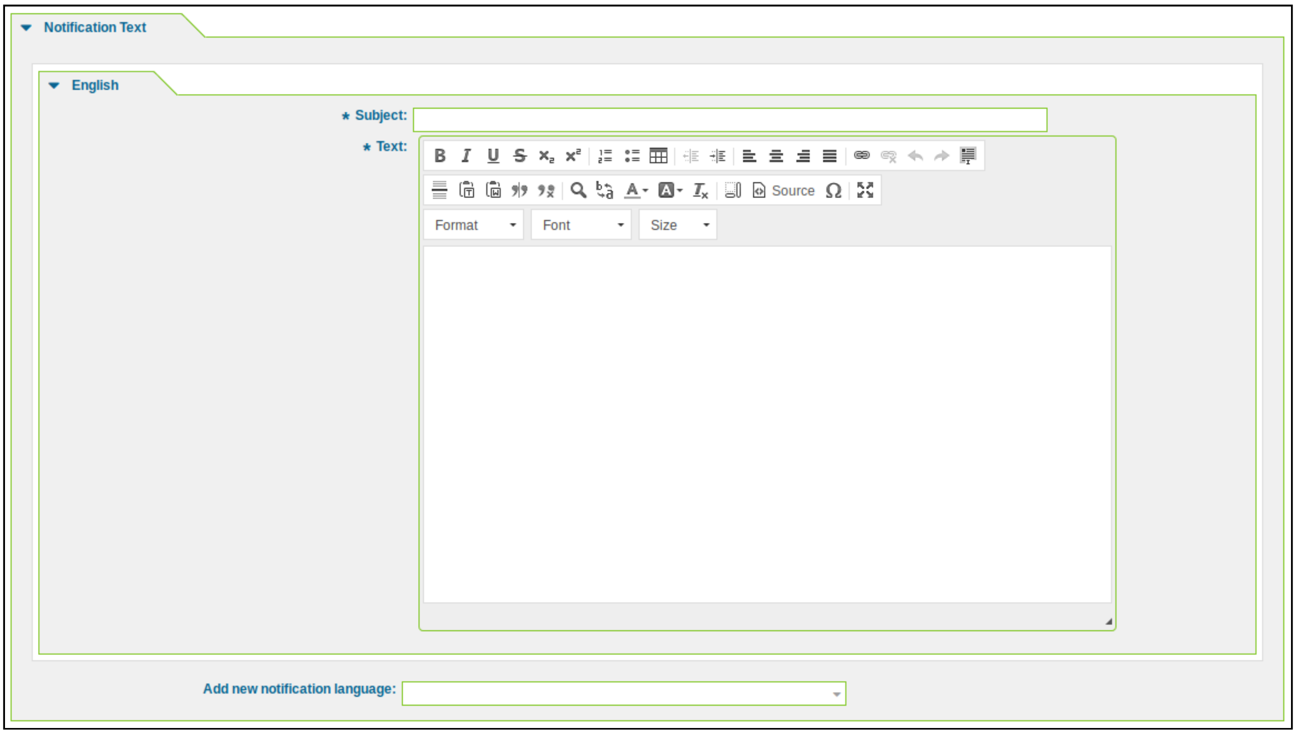


Figure: Notification Text

You can use placeholders, which are listed in the *"Reference"* area. Then click "Submit".

7.10 Configure and Manage ACLs

In this area you can configure and manage Access Control Lists (ACLs). ACLs enable you to filter by certain objects and attributes in the database, and limit or prevent certain actions and change settings for the filtered results. The list shows all of the defined ACLs.

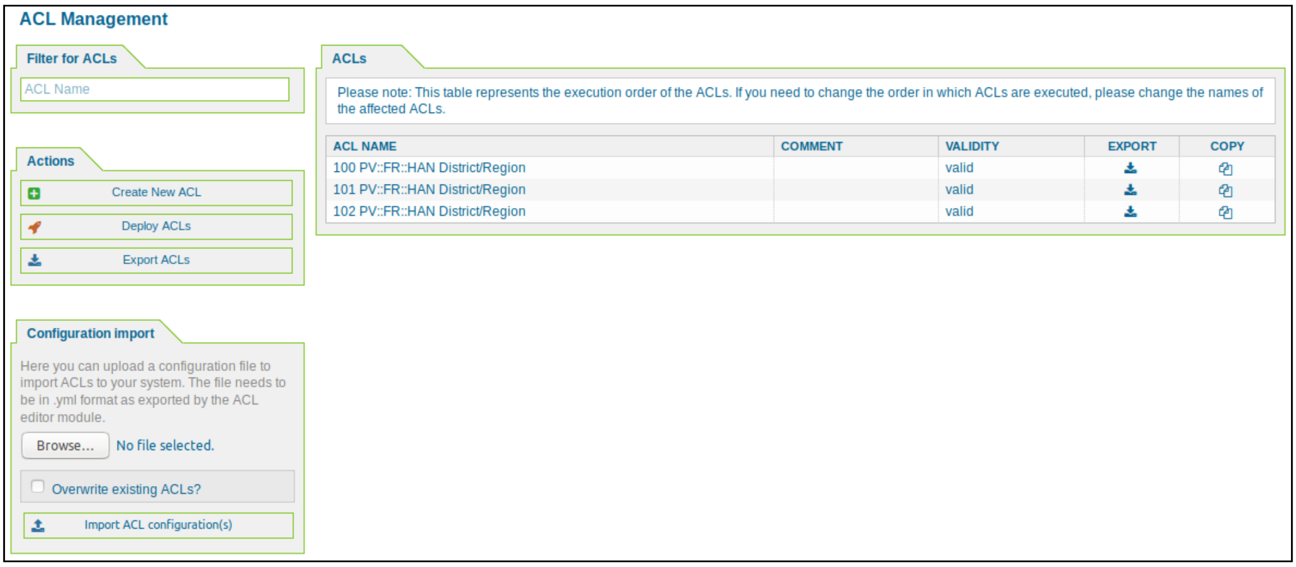


Figure: ACL Management

Create a New ACL

In the *"Actions"* widget click "Create new ACL". The following widget will open:

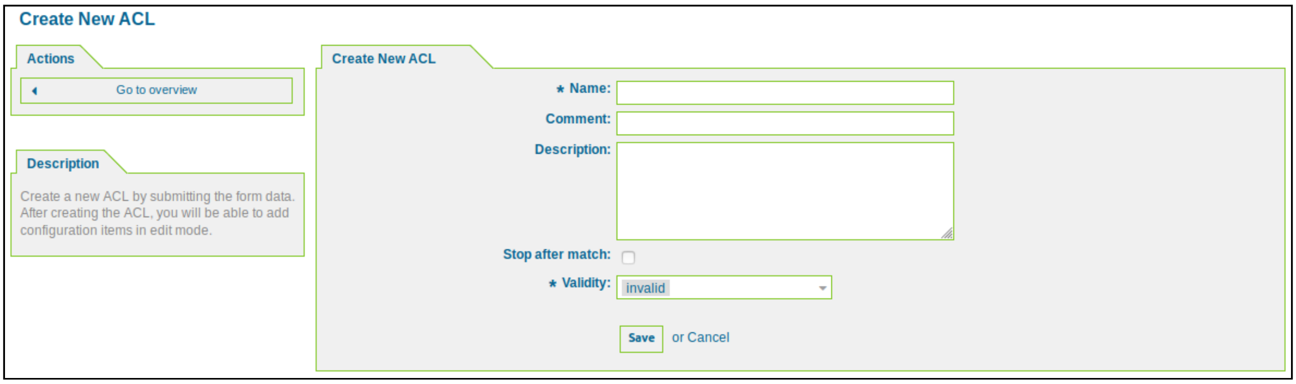


Figure: Create New ACL

Assign a name and, if desired, add a comment and description. The option *"Stop after match"* determines whether the execution of the ACL should continue after a search hit. Then click "Submit".

Edit an ACL

In the list, click the ACL you wish to edit. The following widget will appear:

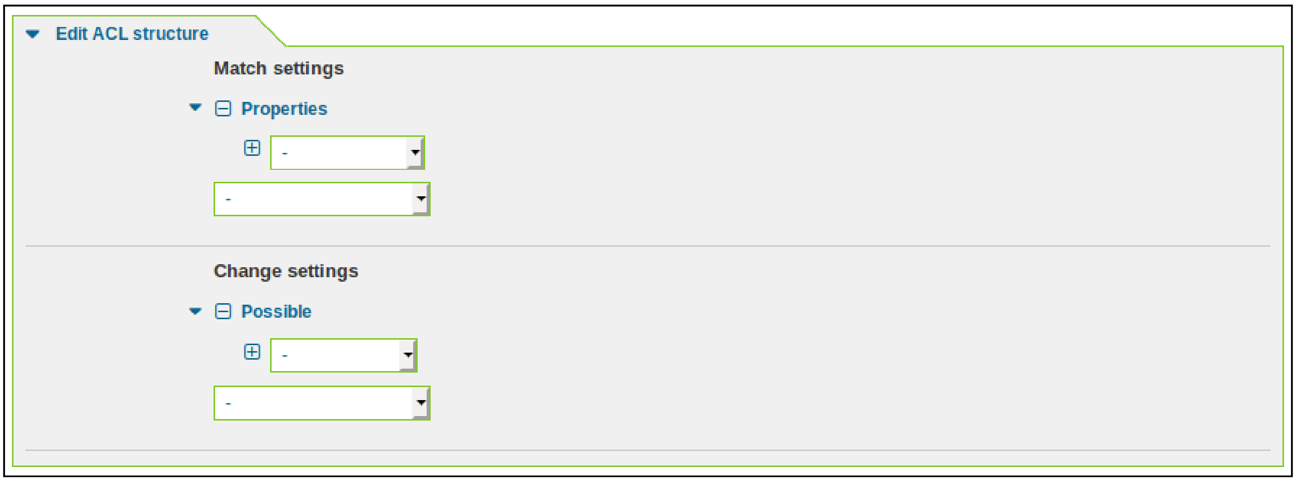


Figure: Edit ACL Structure

The *"Match settings"* area is where you can define the object and object attributes according to which you wish to filter in the database.

"Properties": checks the value of an attribute from the current screen.*"Properties Database"*: checks the manner in which the value of an attribute is saved in the database.

You can filter according to the following conditions:

- CustomerUser - the ACL refers to the indicated contact(s).
- DynamicField - the ACL refers to the indicated dynamic fields.
- Frontend - the ACL refers to the indicated actions in the frontend.
- Owner - the ACL refers to the owner of a ticket.
- Priority - the ACL refers to the priority of a ticket.
- Process - the ACL refers to a process.
- Queue - the ACL refers to a queue.
- Responsible - the ACL refers to the person responsible for a ticket.
- Service - the ACL refers to a service.
- SLA - the ACL refers to an SLA.
- Ticket - the ACL refers to a ticket attribute.
- Type - the ACL refers to the ticket type.
- User - the ACL refers to a user.

You can enter the restrictions in the *"Change settings"* area.

- *Possible:* these change settings, actions, and processes are possible (positive list).
- *PossibleNot:* these change settings, actions, and processes are not possible (negative list).
- *PossibleAdd:* adds missing elements that were reduced in other ACLs.
- *"PossibleAdd"* is only used together with other ACLs that have *"Possible"* or *"PossibleNot"* sections.

Deploy an ACL

In the *"Actions"* widget click "Deploy ACLs". The ACLs will now be deployed in alphanumerical order, as shown in the list. If you want an ACL to be deployed at a different time, you have to change the name of the ACL accordingly.

Export/Import an ACL

You can export and import ACLs in .yml format.

7.11 Public Tickets

This function expands the public frontend so that unregistered/unknown customers can generate tickets like in the customer frontend and have access via an automatically generated token. To configure settings for this function, select "KIX Professional" group in SysConfig. After page has reloaded, select one of the subgroups: Frontend::Public::Ticket::ViewNew or Frontend::Public::Ticket::ViewZoom.

Screen after a new ticket has been created in public frontend

- SysConfig setting: Ticket::Frontend::PublicTicketMessage###NextScreenAfterNewTicket

Using this setting, you can define which screen is shown after a ticket has been created in the public frontend.

Please note: This setting is required. Default value is "PublicTicketZoom".

Ticket attribute: Priority of a new ticket in public frontend

- SysConfig setting: Ticket::Frontend::PublicTicketMessage###Priority

If this setting is set to "Yes", the customer can set the ticket priority in the public frontend. Default value is "No".

Ticket attribute: Default priority of a new ticket in public frontend

- SysConfig setting: Ticket::Frontend::PublicTicketMessage###PriorityDefault

This setting defines the default priority of a new ticket in the public frontend. Default value is "3 normal".

Ticket attribute: Queue of a new ticket in public frontend

- SysConfig setting: Ticket::Frontend::PublicTicketMessage###Queue

If this setting is set to "Yes", the customer can set the ticket queue for a new ticket in the public frontend. Default value is "Yes".

Please note: If this setting is set to "No", setting "Ticket::Frontend::PublicTicketMessage###QueueDefault" should be configured.

Ticket attribute: Default queue of a new ticket in public frontend

- SysConfig setting: Ticket::Frontend::PublicTicketMessage###QueueDefault

This setting defines the default queue for new tickets in the public frontend. Default value is "Postmaster".

Ticket attribute: Ticket type of a new ticket in public frontend

- SysConfig setting: Ticket::Frontend::PublicTicketMessage###TicketType

If this setting is set to "Yes", the customer can set the ticket type for a new ticket in the public frontend. Default value is "No".

Please note: If this setting is set to "No", setting "Ticket::Frontend::PublicTicketMessage###TicketTypeDefault" should be configured.

Ticket attribute: Default ticket type of a new ticket in public frontend

- SysConfig setting: Ticket::Frontend::PublicTicketMessage###TicketTypeDefault

This setting defines the default ticket type for new tickets in the public frontend. Default value is "Incident".

Ticket attribute: Service of a new ticket in public frontend

- SysConfig setting: Ticket::Frontend::PublicTicketMessage###Service

If this setting is set to "Yes", the customer can set the ticket service for a new ticket in the public frontend. Default value is "No".

Ticket attribute: SLA of a new ticket in public frontend

- SysConfig setting: Ticket::Frontend::PublicTicketMessage###SLA

If this setting is set to "Yes", the customer can set the SLA for a new ticket in the public frontend. Default value is "No".

Ticket attribute: Service as mandatory attribute of a new ticket in public frontend

- SysConfig setting: Ticket::Frontend::PublicTicketMessage###ServiceMandatory

If this setting is set to "Yes", then ticket attribute "Service" must be set (mandatory field). Default value is "No".

Ticket attribute: SLA as mandatory attribute of a new ticket in public frontend

- SysConfig setting: Ticket::Frontend::PublicTicketMessage###SLAMandatory

If this setting is set to "Yes", then ticket attribute "SLA" must be set (mandatory field). Default value is "No".

Ticket attribute: Default state of a new ticket in public frontend

- SysConfig setting: Ticket::Frontend::PublicTicketMessage###StateDefault

This setting defines the default state for a new ticket in the public frontend. Default value is "new".

Ticket attribute: Article type of a new ticket in public frontend

- SysConfig setting: Ticket::Frontend::PublicTicketMessage###ArticleType

This setting defines the default type for a new ticket in the public frontend. Default value is "webrequest".

Ticket attribute: Sender type of a new ticket in public frontend

- SysConfig setting: Ticket::Frontend::PublicTicketMessage###SenderType

Using this setting, you define the sender type for new tickets in the public frontend. Default value is "customer".

Ticket attribute: Default history type of a new ticket in public frontend

- SysConfig setting: Ticket::Frontend::PublicTicketMessage###HistoryType

Using this setting, you define the default history type for new tickets in the public frontend. Default value is "WebRequestCustomer".

Ticket attribute: Comment for history entries of a new ticket in public frontend

- SysConfig setting: Ticket::Frontend::PublicTicketMessage###HistoryComment

Using this setting, you define the comment for new history entries of a new ticket in the public frontend.

Ticket attribute: Dynamic fields of a new ticket in public frontend

- SysConfig setting: Ticket::Frontend::PublicTicketMessage###DynamicField

Using this setting, you define whether and which dynamic fields are available when creating a new ticket in the public frontend.

Possible values in the "Content" field are:

0 = Disabled

1 = Enabled

2 = Enabled and required

> **Hint**
>
> If the entered dynamic fields are also to be visible in the ticket content, they must also be entered in the setting: "PublicTicketZoom###DynamicField".

Recipient target in public frontend

- SysConfig setting: PublicPanelSelectionType

Using this setting, you define the recipient target of a new ticket in the public frontend. "Queue" shows all queues. "SystemAdress" shows all system addresses. Default value is "Queue".

Display of recipient in public frontend

- SysConfig setting: PublicPanelSelectionString

Using this setting, you define how the recipient of a new ticket is shown in the public frontend. If the option "Queue" is selected in "PublicPanelSelectionType", the name of the queue is shown with "<>". If the option "Queue" is selected in "PublicPanelSelectionType", the name and email address of the recipient (system email address) is shown with "<>".

Please note: This setting is required. Default value is "Queue".

Selectable queues in public frontend

- SysConfig setting: PublicPanelOwnSelection

Using this setting, you define which queues are valid for ticket recipients in the public frontend. The entry in "Key" field is the queue. The entry in "Content" field is the shown name of the queue.

Please note: This setting is deactivated by default.

Follow-up function for public tickets

- SysConfig setting: Ticket::Frontend::PublicTicketZoom###FollowUp

Using this setting, you can activate/deactivate the option to follow up a ticket in the public frontend. Default value is "Yes".

Screen following follow-up in public frontend

- SysConfig setting: Ticket::Frontend::PublicTicketZoom###NextScreenAfterFollowUp

Using this setting, you define which screen appears following a follow-up to a ticket in the public frontend. Default value is "PublicTicketZoom".

Follow-up in public frontend – setting ticket attributes: Priority

- SysConfig setting: Ticket::Frontend::PublicTicketZoom###Priority

If this setting is set to "Yes", the customer can set the ticket priority in the public frontend. Default value is "No".

Follow-up in public frontend – setting ticket attributes: Priority – Default

- SysConfig setting:Ticket::Frontend::PublicTicketZoom###PriorityDefault

Using this setting, you define the default priority of ticket notes from the public frontend. Default value is "3 normal".

Follow-up in public frontend – setting ticket attributes: State

- SysConfig setting: Ticket::Frontend::PublicTicketZoom###State

If this setting is set to "Yes", the customer can set the ticket state in the public frontend. Default value is "No".

Follow-up in public frontend – setting ticket attributes: State – Default

- SysConfig setting: Ticket::Frontend::PublicTicketZoom###StateDefault

Using this setting, you define the default follow-up state for ticket notes from the public frontend. Default value is "open".

Follow-up in public frontend – setting ticket attributes: Dynamic fields

- SysConfig setting: Ticket::Frontend::PublicTicketZoom###DynamicField

Using this setting, you can define dynamic fields which are to be shown in the ticket zoom view in the public frontend.

Ticket notes from the public frontend: ArticleType

- SysConfig setting: Ticket::Frontend::PublicTicketZoom###ArticleType

Using this setting, you define the default type for ticket notes from the public frontend. Default value is "webrequest".

Ticket notes from the public frontend: Sender type

- SysConfig setting: Ticket::Frontend::PublicTicketZoom###SenderType

Using this setting, you define the sender type for ticket notes from the public frontend. Default value is "customer".

Ticket notes from the public frontend: History type

- SysConfig setting: Ticket::Frontend::PublicTicketZoom###HistoryType

Using this setting, you define the default history type for ticket notes from the public frontend. Default value is "FollowUp".

Ticket notes from the public frontend: History comment

- SysConfig setting: Ticket::Frontend::PublicTicketZoom###HistoryComment

Using this setting, you define the comment for new history entries for ticket notes from the public frontend.

Displayed attributes in the ticket zoom view in the public frontend

- SysConfig setting: Ticket::Frontend::PublicTicketZoom###AttributesView

Using this setting, you define which ticket attributes are displayed in the ticket zoom view in the public frontend. The entry in the field "Key" is the attribute. The entry in the field "Content" is: 0 = disabled / 1 = enabled.

7.12 Expand the color highlighting of tickets

Tickets can be displayed in different colors in overviews depending on the ticket type and status. If necessary (creation of new ticket types or new ticket status) you can assign additional colors in the system.

To do this, go to the Framework group in *SysConfig* and then to the *Core :: Web* subgroup.

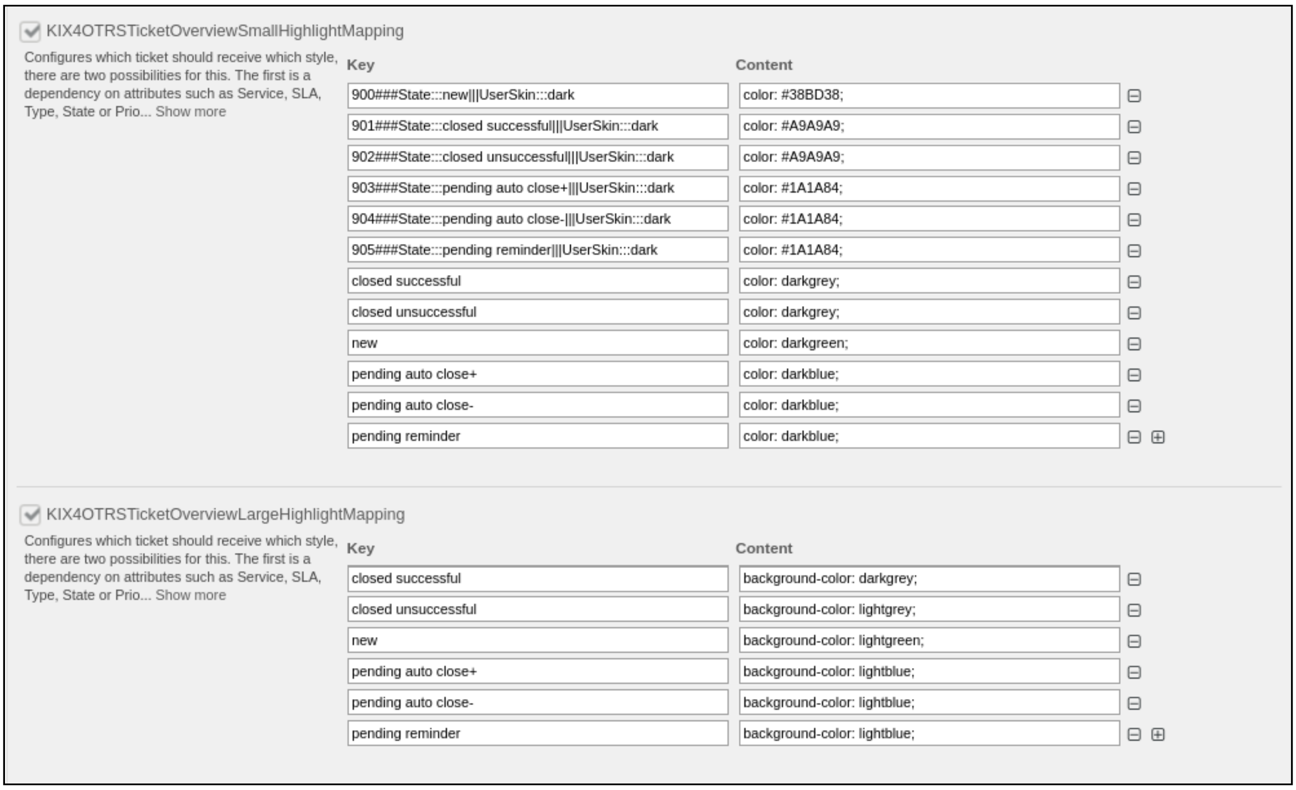


Fig .: Example configuration of color highlighting taking into account the skin used

- KIX4OTRSTicketOverviewSmallHighlightMapping
- KIX4OTRSTicketOverviewLargeHighlightMapping

This setting defines which ticket status (key) should have which appearance (content).

The configuration of the colors via the key "KIX4OTRSTicketOverviewSmallHighlightMapping" is used for the view "Small", for the KIXSidebar "TicketWorkflow", for the dashlets "TicketGeneric" and for the widgets "LinkObject :: Ticket".

The configuration of the colors via the key "KIX4OTRSTicketOverviewLargeHighlightMapping" is used in the "Medium" view as well as in the "Preview" view.

There are two options for making an entry in the "Key" column.

- The first possibility is to create a dependency on attributes such as service, SLA, type, state or priority and their value name. The key consists of 000 ### attribute ::: value name or as a combination with several attributes 000 ### attribute ::: value name ||| attribute2 ::: value name (||| is a logical AND). The number at the beginning defines the priority of the processing. Several values (separated by semicolons) can be viewed for each attribute. In addition, tests can be carried out with the value "EMPTY" for empty values or with "[regexp]" using regular expressions.
- The second option is to store the desired ticket status as a key.

Any possible CSS expression can be used for the entry in the "Content" column. Not only can the color be stored, but also whether the content should be printed in bold or the field has a background color.

7.13 Archive tickets

In order to keep your system up-to-date and fast, there is the option of archiving tickets. These tickets are then no longer accessed when an agent performs a regular ticket search or performs a generic agent job. As a result, your system does not have to process such large quantities of tickets.

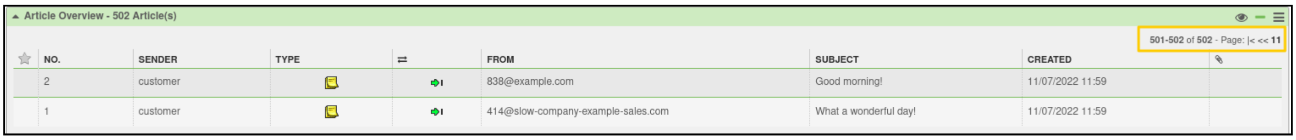
How to use the archive function:

- To do this, go to the *Ticket* group in SysConfig and then to the *Core :: Ticket* subgroup. Activate the key *'Ticket :: ArchiveSystem'*, which is set to "No" by default.
- Now create a job using the Generic Agent.
    - In the Job Settings section, enter a name and select the correct options to schedule this job.
    - Define the ticket filters in the Select tickets section.
    - In the Update / Add Ticket Attributes section, set the Archive selected tickets field to Archive tickets.
    - Click the Save button.
- Do the job. The system displays all tickets that are to be archived when the Generic Agent job is executed.

7.14 Settings in Ticket zoom view

In order to significantly reduce the access times for tickets with many articles, it is possible to set the pagination (page history).

To do this, go to the *Ticket* group in the *SysConfig* and then to the *Frontend::Agent::Ticket::ViewZoom* subgroup.
Go to the "*Ticket::Frontend::MaxArticlesPerPage*" key. This is set to "1000" by default and specifies the maximum number of articles that are displayed on a page in the ticket detail view.
Change the value of the key to a smaller number, e.g. 50 and save it. After updating, the ticket loads faster this way.



Also in the *SysConfig*, group *Ticket,* subgroup *Frontend::Agent::Ticket::ViewZoom* you will find the key *Ticket::Frontend::ZoomExpandSort*. This indicates the order in which the items are sorted. The default value is "reverse", that is, the most recent article first, the oldest article last. An alternative is the "normal" display, that is, the oldest article first, the youngest article last.

Another key to setting the ticket detail view is called *Ticket::Frontend::TicketArticleFilter.* You can activate various article filters in the zoom view. The default value of the key is "No", which means that no filter function is initially available.

8 Config Item Management

You will find information on these topics below:

- Create and manage definitions for config items

8.1 Create and Manage the Definitions for Configuration Items

In this area you can create and manage the definitions for ConfigItem classes. In the *"List"* widget you will see all of the ConfigItem classes defined in the system.

You can create new ConfigItem classes in the *"General Catalog"* admin area if required. To do so, select the catalog class *"ITSM::ConfigItem::Class"* and add the desired class as a new catalog item for this class.

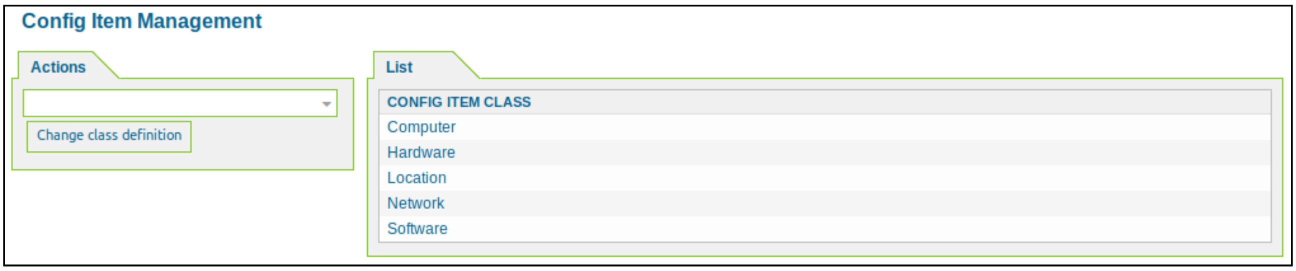


Figure: ConfigItem Management

8.1.1 Change Class Definition

In the list, click the ConfigItem class you wish to change. This opens a new widget with the class definition.

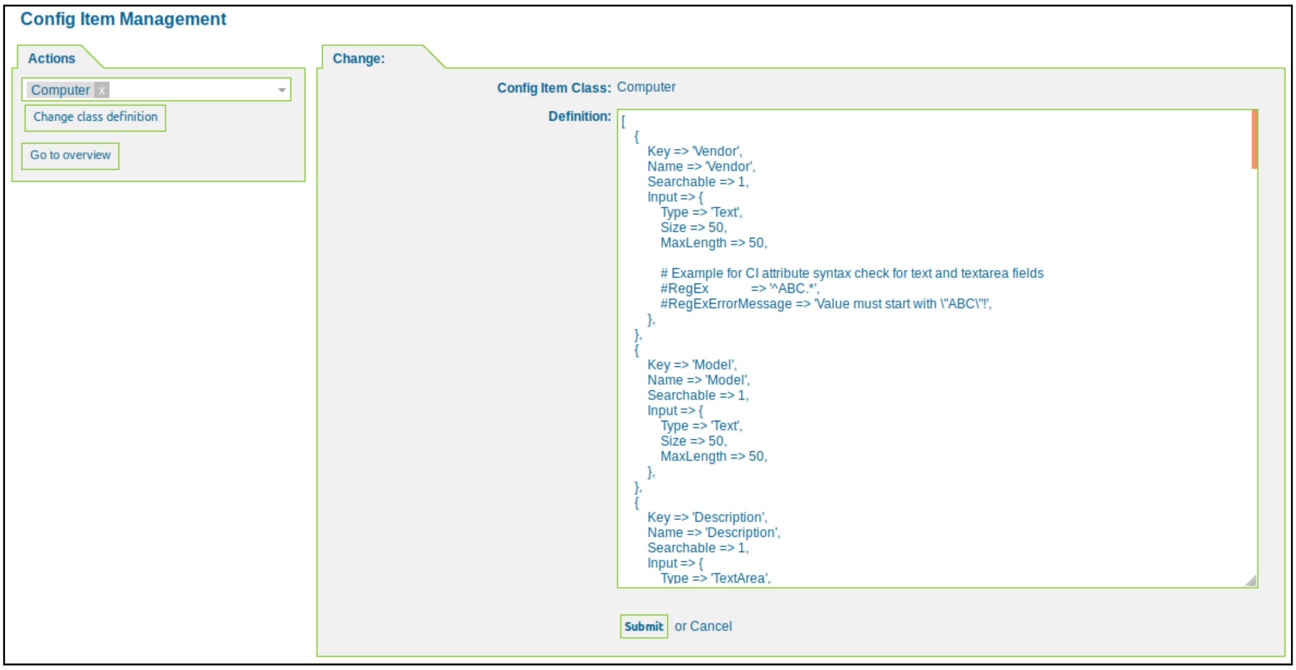


Figure: Change Class Definition

Change the class in the *"Definition"* text area and then click "Submit".

> **Tip**
>
> We recommend using an external Perl Editor to change the class definition, as this makes it easier to identify structural errors.

8.1.2 Overview of the attributes for Config Item classes

8.1.2.1 General key/values

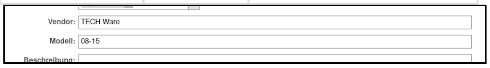
The general keys used in the individual attribute types and their associated values are explained here. Special then further down in the overview of the CI attribute types.

Key	**Value**	**Example**	**Explanation**
Key	String alpha numerical	Key => 'Model',	Internal Key
Name	String	Name => 'Model',	Displayed value
Searchable	0|1	Searchable => 1,	Available in the CI search
CustomerViewable	0|1	CustomerViewable => 1,	Displayed in the customer front end
CountMin	0..n	CountMin => 0,	Minimum number of input fields of this type
CountMax	0..n	CountMax => 1,	Maximum number of input fields of this type
CountDefault	0..n	CountDefault => 0,	The number of input fields of this type is initial

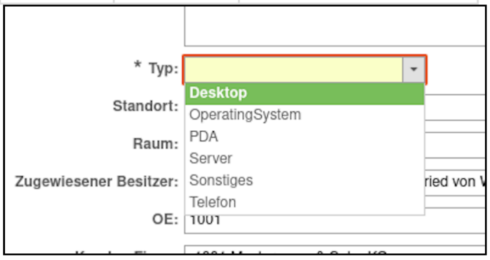
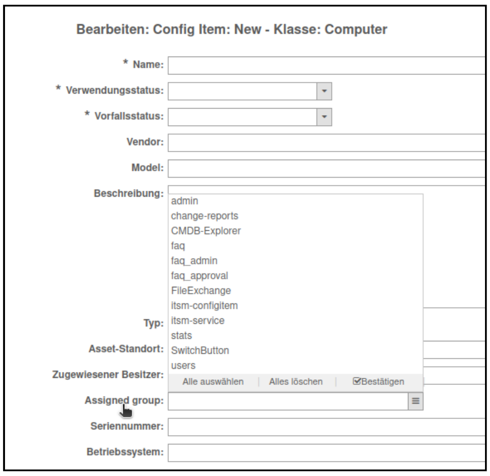
Key	Value	Example	Explanation
SuppressVersionAdd	UpdateLastVersion|Ignore	SuppressVersionAdd => 'UpdateLastVersion',	Suppresses the creation of a new version • UpdateLastVersion: If this value is set and no other attribute has been changed, the value is adjusted in the current version without creating a new version • Ignore: If this value is set and no other attribute has been changed, nothing happens. No new version is created either.
Input	Hash	Input => { }	Definition of the parameters for the input field
Input → Type	String without spaces/special characters	Type => 'Text',	See table below
Input → Size	1..n	Size => 50,	Size of the input field
Input → MaxLength	1..n	MaxLength => 50,	Maximum length of the entry
Input → Translation	0|1	Translation => 1,	Value translation (only works for fields with pre-assigned values)
Input → Required	0|1	Required => 1,	Required field
Sub	Array of Hashes	Sub => [{}]	Sub identifies a block with further subordinate attributes

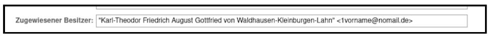
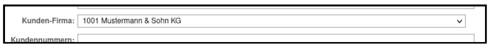
8.1.2.2 Available attribute types

<table>
<tr><th>Attribute</th><th>Package</th><th>Use</th><th>Annotation</th></tr>
<tr><td>Text</td><td>KIX</td><td><pre>
{
    Key => 'Model',
    Name => 'Model',
    Input => {
        Type => 'Text',
        Size => 50,
        MaxLength =>
50,
        RegEx
=> '^ABC.*',

RegExErrorMessage =>
'Value must start with
\"ABC\"!',
    },
},
</pre></td><td>Entering text with the option of checking the entry via Regexp.
<table>
<tr><th>Key</th><th>Value</th><th>Hints</th></tr>
<tr><td>RegEx</td><td>String</td><td>valid regular expression</td></tr>
<tr><td>RegExErrorMessage</td><td>String</td><td>Error message if the expression does not apply</td></tr>
</table>

</td></tr>
<tr><td>TextArea</td><td>KIX</td><td><pre>
{
    Key =>
'Description',
    Name =>
'Description',
    Searchable => 1,
    Input => {
        Type =>
'TextArea',
    },
},
</pre></td><td>Entry of multiline text (no HTML)

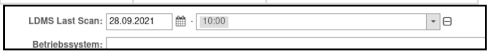
</td></tr>
</table>

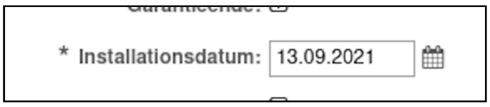
<table>
<tr><th>Attribute</th><th>Package</th><th>Use</th><th>Annotation</th></tr>
<tr><td>GeneralCatalog</td><td>KIX</td><td><pre>{
    Key => 'Type',
    Name => 'Type',
    Input => {
        Type =>
'GeneralCatalog',
        Class =>
'ITSM::ConfigItem::Com
puter::Type',
    },
},</pre></td><td>Integration of values from the general catalog
<table>
<tr><th>Key</th><th>Value</th><th>Hint</th></tr>
<tr><td>Class</td><td>String</td><td>valid General Catalog class</td></tr>
</table>

</td></tr>
<tr><td>CIGroupAccess</td><td>KIX</td><td><pre>{
    Key =>
'AccessGroup',
    Name => 'Access
Group',
    Input => {
        Type =>
'CIGroupAccess',
    },
},</pre></td><td>Provides a selection of which group is required as an agent to view ConfigItems in the overview and as a detail view

</td></tr>
</table>

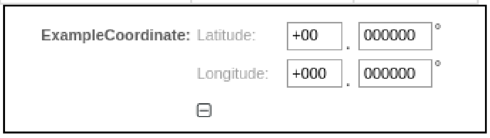
<table>
<tr><th>Attribute</th><th>Package</th><th>Use</th><th>Annotation</th></tr>
<tr><td>Customer</td><td>KIX</td><td><pre><code>{
    Key => 'Owner',
    Name => 'Assigned owner',
    Input => {
        Type => 'Customer',
    },
},</code></pre></td><td>Integration of contact persons

</td></tr>
<tr><td>CustomerCompany</td><td>KIX</td><td><pre><code>{
    Key => 'CustomerCompany',
    Name => 'Customer Company',
    Input => {
        Type => 'CustomerCompany',
    },
},</code></pre></td><td>Involvement of customers/companies


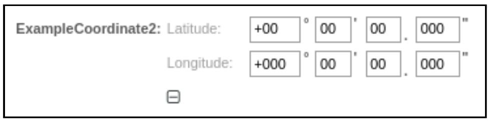
Hint:
Dropdown with customers/ companies
The name of the customer is searched for
The ID is used for export/import
Can be used in the reports</td></tr>
</table>

<table>
<tr><th>Attribute</th><th>Package</th><th>Use</th><th>Annotation</th></tr>
<tr><td>DateTime</td><td>KIX</td><td><pre>{
    Key =>
'LdmsLastScanDate',
    Name => 'LDMS Last
Scan',
    Input => {
        Type =>
'DateTime',
        YearPeriodPast
=> 20,

YearPeriodFuture => 10,
    },
},</pre></td><td>Enter a date and time
<table>
<tr><th>Key</th><th>Value</th><th>Hints</th></tr>
<tr><td>YearPeriodPast</td><td>positive Integer</td><td>How many years can be selected from the current year in the past</td></tr>
<tr><td>YearPeriodFuture</td><td>positive Integer</td><td>How many years can be selected from the current year into the future</td></tr>
</table>

</td></tr>
<tr><td>Date</td><td>KIX</td><td><pre>{
    Key =>
'WarrantyExpirationDat
e',
    Name =>
'Garantieende',
    Input => {
        Type => 'Date',
        YearPeriodPast
=> 20,

YearPeriodFuture => 10,
    },
},</pre></td><td>Enter a date

</td></tr>
</table>

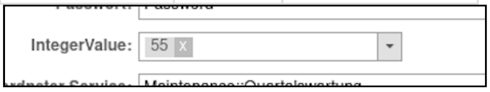
<table>
<tr><th>Attribute</th><th>Package</th><th>Use</th><th>Annotation</th></tr>
<tr>
<td>GeoCoordinate</td>
<td>KIX</td>
<td>
<pre>
{
     Key =>
'ExampleCoordinate',
     Name =>
'ExampleCoordinate',
     Input => {
         Type =>
'GeoCoordinate',
         DisplayFormat
=> 'Degree',
         InputFormat
=> 'Degree',
         ExportFormat
=> 'Degree',
     },
 },
</pre>
</td>
<td>
Input of geographic coordinates (see page 170)
<table>
<tr><th>Key</th><th>Value</th><th>Hints</th></tr>
<tr><td>DisplayFormat</td><td>DecimalDegree| Degree</td><td>Display Format</td></tr>
<tr><td>InputFormat</td><td>DecimalDegree| Degree</td><td>InputFormat</td></tr>
<tr><td>ExportFormat</td><td>DecimalDegree| Degree</td><td>Export Format</td></tr>
</table>




</td>
</tr>
</table>

<table>
<tr><th>Attribute</th><th>Package</th><th>Use</th><th>Annotation</th></tr>
<tr><td>Integer</td><td>KIX</td><td>

```
{
    Key =>
'IntegerValue',
    Name =>
'IntegerValue',
    Input => {
        Type =>
'Integer',
        ValueMin => 0,
        ValueMax =>
120,
        ValueDefault
=> 55,
    },
},
```

</td><td>Selection field with integer values
<table>
<tr><th>Key</th><th>Value</th><th>Hints</th></tr>
<tr><td>ValueMin</td><td>0..n</td><td>smallest number</td></tr>
<tr><td>ValueMax</td><td>0..n</td><td>greatest number</td></tr>
<tr><td>ValueDefault</td><td>0..n</td><td>preselected number</td></tr>
</table>


</td></tr>
</table>

<table>
<tr><th>Attribute</th><th>Package</th><th>Use</th><th>Annotation</th></tr>
<tr><td>CIClassReference</td><td>KIXPro</td><td><pre><code>{
    Key => 'Location',
    Name => 'Asset
Location',
    Searchable => 1,
    Input => {
        Type =>
'CIClassReference',

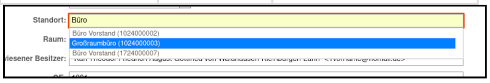
ReferencedCIClassName
=> 'Location',

ReferencedCIClassLinkT
ype => 'Includes',

ReferencedCIClassLinkD
irection => 'Reverse',

ReferencedCIClassRefer
enceAttributeKey =>
'SerialNumber',

SearchInputType =>
'AutoComplete',
        },
    },</code></pre></td><td>Integration of config items
<table>
<tr><th>Key</th><th>Value</th><th>Hints</th></tr>
<tr><td>ReferencedCIClassName</td><td>String</td><td>Referenced class via name</td></tr>
<tr><td>ReferencedCIClassID</td><td>Integer</td><td>Referenced class via ID</td></tr>
<tr><td>ReferencedCIClassLinkType</td><td>String</td><td>Link type for the automatic creation of a link
If not set, no link will be created</td></tr>
<tr><td>ReferencedCIClassLinkDirection</td><td>Reverse| Normal</td><td>If a directed link type has been set, you can control here whether a reverse link should be set here</td></tr>
<tr><td>ReferencedCIClassReferenceAttributeKey</td><td>String</td><td>Attribute which should serve as an identifier for the import</td></tr>
</table></td></tr>
</table>

<table>
<tr><th>Attribute</th><th>Package</th><th>Use</th><th>Annotation</th></tr>
<tr><td></td><td></td><td></td><td>
<table>
<tr><th>Key</th><th>Value</th><th>Hints</th></tr>
<tr><td>SearchInputType</td><td>AutoComplete| Pattern</td><td>Standard: Autocomplete
AutoComplete Pattern: allows to search for several relevant configitems by name (* allowed as wildcard), by number (starts with '[Number]' followed by digest. * allowed as wildcard) and by id (starts with '[ID]' followed by digest). Multiple entries can be separated by '||'.</td></tr>
</table>


Hints:
If a CI is edited via the edit dialog, all links are deleted and set again according to the CI attribute
</td></tr>
</table>

<table>
<tr><th>Attribute</th><th>Package</th><th>Use</th><th>Annotation</th></tr>
<tr><td></td><td></td><td></td><td>

- The "Key" attribute must be unique within the class definition

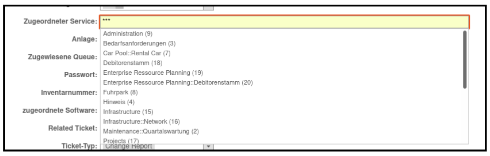
</td></tr>
<tr><td>ServiceReference</td><td>KIXPro</td><td>

```
{
    Key =>
'AssignedService',
    Name => 'Assigned
Service',
    Input => {
        Type =>
'ServiceReference',

ReferencedServiceLinkT
ype => 'RelevantTo',

ReferencedServiceLinkD
irection => 'Normal',
    },
},
```

</td><td>

Integration of services

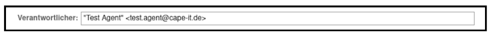
<table>
<tr><th>Key</th><th>Value</th><th>Hints</th></tr>
<tr><td>ReferencedServiceLinkType</td><td>RelevantTo</td><td>Link type for the automatic creation of a link
If not set, no link is created</td></tr>
<tr><td>ReferencedServiceLinkDirection</td><td>Reverse| Normal</td><td>If a directed link type has been set, you can control here whether a reverse link should be set here</td></tr>
</table>



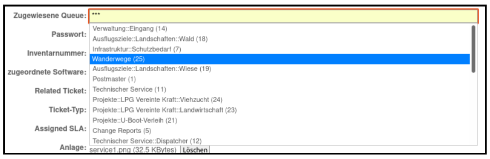
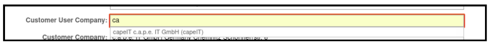
Hints:

- If a CI is edited via the edit dialog, all links are deleted and set again according to the CI attribute
- If all service references are deleted in the CI edit dialog, the links are not deleted
- The "Key" attribute must be unique within the class definition

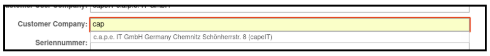
</td></tr>
</table>

<table>
<tr><th>Attribute</th><th>Package</th><th>Use</th><th>Annotation</th></tr>
<tr><td>CIAttachment</td><td>KIXPro</td><td><pre>{
    Key   =>
'Attachment',
    Name   =>
'Attachment',
    Input => {
        Type =>
'CIAttachment',
    },
    CountMin => 0,
    CountMax => 4,
},</pre></td><td>Integration of attachments
Hints:
In contrast to the standard CI systems, these systems behave more like a normal CI attribute
You are not limited to 25 systems (unless you configure it that way)
Systems are tied to the CI version
If it is changed, a new version is created
CountMin and CountMax are mandatory attributes
If they are missing, the attachments cannot be deleted
If CountMin> = 1, the last system cannot be deleted
Attention: Never use attachments in the overviews, for example in ITSMConfigItem::Frontend::AgentITSMConfigItem ### ShowColumnsByClass</td></tr>
<tr><td>User</td><td>KIXPro</td><td><pre>{
    Key   =>
'Responsible',
    Name   =>
'Responsible',
    Input => {
        Type => 'User',
    },
},</pre></td><td>Integration of users


Hint:
Autocomplete field</td></tr>
</table>

<table>
<tr><th>Attribute</th><th>Package</th><th>Use</th><th>Annotation</th></tr>
<tr><td>QueueReference</td><td>KIXPro</td><td><pre>{
    Key   =>
'AssignedQueue',
    Name   =>
'Assigned Queue',
    Input => {
        Type =>
'QueueReference',
    },
},</pre></td><td>Integration of queues

Hint:
Autocomplete field</td></tr>
<tr><td>CustomerUserCompany</td><td>KIXPro</td><td><pre>{
    Key   =>
'CustomerUserCompany',
    Name   =>
'Customer User
Company',
    Input => {
        Type =>
'CustomerUserCompany',
    },
},</pre></td><td>Integration of customer/company

Hints:
Autocomplete field with customers/ companies
Searches the CustomerUserDatas of the CustomerCompany
The ID is used for export / import
Not used in reports, just as a restriction</td></tr>
</table>

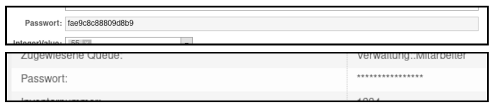
Attribute	Package	Use	Annotation

CIACCustomerCompany	KIXPro	`{`
		`    Key         =>`
		`'CustomerUserCompany',`
		`    Name        =>`
		`'Customer Company',`
		`    Input => {`
		`        Type =>`
		`'CIACCustomerCompany',`
		`    },`
		`},`
			Integration of customer/company
			
			
			Hints:
			• Autocomplete field with customers/ companies
			• Searches the CustomerCompany backend
			
			• The appearance of the output can be controlled with ITSMCIAttributeCollection::CompanyBackendMapping
			• The export/import information can be controlled with ITSMCIAttributeCollection::CustomerCompany::Content
			• Not used in reports, just as a restriction

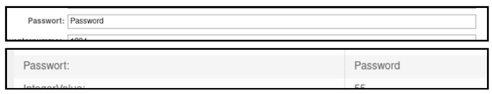
<table>
<tr><th>Attribute</th><th>Package</th><th>Use</th><th>Annotation</th></tr>
<tr>
<td>EncryptedText</td>
<td>KIXPro</td>
<td>

```
{
    Key         =>
'Password',
    Name        =>
'Password',
    Group => {
        admin => 1,

SomeOtherGroupname =>
1,
    },
    Input => {
        Type       =>
'EncryptedText',
    },
},
```

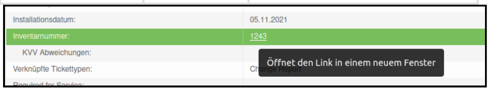
</td>
<td>
Storage of passwords or content that may not be viewed by everyone
<table>
<tr><th>Key</th><th>Value</th><th>Hint</th></tr>
<tr><td>Group</td><td>Hash</td><td>Hash of group names with permission to be seen
Group => 1: visible
Group => 0: displayed encrypted</td></tr>
</table>
Editing/Viewing without rights:



Editing/Viewing with rights:



Hint:
RW rights are required in the corresponding groups
</td>
</tr>
</table>

<table>
<tr><th>Attribute</th><th>Package</th><th>Use</th><th>Annotation</th></tr>
<tr>
<td>TextLink</td>
<td>KIXPro</td>
<td><pre>{
    Key => 'TextLink',
    Name => 'Text
Link',
    Input => {
        Type =>
'TextLink',
        URL =>
'http://
www.example.com/
<VALUE>',
    },
},</pre></td>
<td>Shows a defined link for a stored value
<table>
<tr><th>Key</th><th>Value</th><th>Hint</th></tr>
<tr><td>URL</td><td>String</td><td>URL plus <Value>, the value stored in the text field is used in Value</td></tr>
</table>


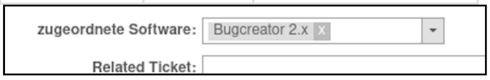
Hints:

If the URL does not start with http / https, the link is accepted relative to the KIX instance
Attention: Never use attachments in the overviews, for example in ITSMConfigItem::Frontend::AgentITSMConfigItem###ShowColumnsByClass
Popularly used to pass links to system monitoring or printer control tools

</td>
</tr>
</table>

<table>
<tr><th>Attribute</th><th>Package</th><th>Use</th><th>Annotation</th></tr>
<tr><td>DynamicField</td><td>KIXPro</td><td><pre><code>{
    Key   =>
'Impact',
    Name   =>
'Impact',
    Input => {
        Type   =>
'DynamicField',
        Name   =>
'TicketFreeText14',
    },
},</code></pre></td><td>
Allows the use of dynamic fields of the type "single selection"

<table>
<tr><th>Key</th><th>Value</th><th>Hint</th></tr>
<tr><td>Name</td><td>String</td><td>Name of the dynamic field</td></tr>
</table>



Hint:
Only dynamic fields of the "single selection" type are supported
</td></tr>
</table>

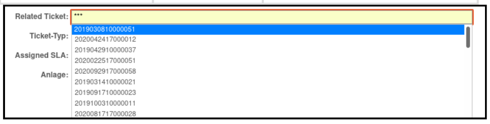
<table>
<tr><th>Attribute</th><th>Package</th><th>Use</th><th>Annotation</th></tr>
<tr><td>TicketReference</td><td>KIXPro</td><td>

```
{
    Key          =>
'RelatedTicket',
    Name         =>
'Related Ticket',
    Searchable => 1,
    Input => {
        Type =>
'TicketReference',

ReferencedTicketLinkTy
pe => 'RelevantTo',

ReferencedTicketLinkDi
rection  => 'Normal',
    },
},
```

</td><td>

Integration of tickets

<table>
<tr><th>Key</th><th>Value</th><th>Hints</th></tr>
<tr><td>ReferencedTicketLinkType</td><td>String</td><td>Link type for automatic linking</td></tr>
<tr><td>ReferencedTicketLinkDirection</td><td>Reverse| Normal</td><td>Direction of the link</td></tr>
</table>



Hints:

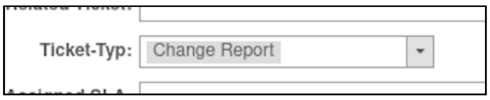
- The ticket number is searched for
- Allows the automatic creation or deletion of links to the ticket
- The "Key" attribute must be unique within the class definition
- If the CI is adjusted in the CI edit dialog, the links are deleted and set again as defined in the attribute

</td></tr>
<tr><td>TypeReference</td><td>KIXPro</td><td>

```
{
    Key          =>
'TicketType',
    Name         =>
'Ticket Type',
    Input => {
        Type  =>
'TypeReference',
    },
},
```

</td><td>

Integration of TicketTypes



</td></tr>
</table>

<table>
<tr><th>Attribute</th><th>Package</th><th>Use</th><th>Annotation</th></tr>
<tr>
<td>SLAReference</td>
<td>KIXPro</td>
<td>
<pre>
{
    Key   =>
'AssignedSLA',
    Name   =>
'Assigned SLA',
    Input => {
        Type =>
'SLAReference',

ReferencedServiceAttrKey =>
'AssignedService',

ReferencedCustomerLogin =>
'AssignedCustomer',

ReferencedCustomerCompany =>
'AssignedCompany'
    },
    CountMin => 0,
    CountMax => 1,
    CountDefault => 0
},
</pre>
</td>
<td>
Integration of SLAs
<table>
<tr><th>Key</th><th>Value</th><th>Hints</th></tr>
<tr><td>ReferencedServiceAttrKey</td><td>String</td><td>Name of an attribute of the type "ServiceReference" in the current CI class definition

* Is required as a filter attribute for the SLAs
* Only SLAs assigned to this service are displayed</td></tr>
<tr><td>ReferencedCustomerLogin</td><td>String</td><td>Name of an attribute of the type "Customer" in the current CI class definition

* Is required as a filter attribute for the SLAs
* Only SLAs that are assigned to this contact person are displayed</td></tr>
</table>
</td>
</tr>
</table>

<table>
<tr><th>Attribute</th><th>Package</th><th>Use</th><th>Annotation</th></tr>
<tr><td></td><td></td><td></td><td>
<table>
<tr><th>Key</th><th>Value</th><th>Hints</th></tr>
<tr><td>ReferencedCustomerCompany</td><td>String</td><td>Name of an attribute of the type "CIACCustomerCompany" in the current CI class definition

* Is required as a filter attribute for the SLAs
* Only SLAs assigned to this customer / company are displayed</td></tr>
</table>
Hints:

One of the three parameters should be specified
If none is stored, only the SLAs that are assigned to a standard service are displayed
CountMin and CountDefault should be set to 0
Only add these fields with the "+" button AFTER all referenced fields (Service, CustomerUser, CustomerCompany) have been filled with values, otherwise the values will be ignored

</td></tr>
</table>

Attribute	Package	Use	Annotation
			• If ReferencedCustomerLogin is stored, ReferencedCustomerCompany is ignored • If the referenced attribute is an array attribute, SLAs are found for each referenced value and only the intersection of these result sets is displayed • If the SLAReference attribute is a sub-attribute of the referenced service or customer/company attribute, only the value of the higher-level attribute is used

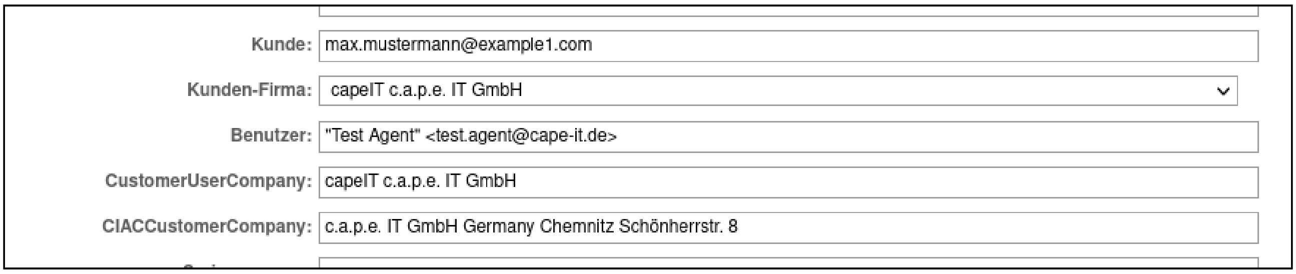
The available attribute types for KIX Pro such as CIClassReference or TicketReference, please refer to the KIX Pro manual.

8.1.2.3 Comparison of customer / contact / agent attribute types

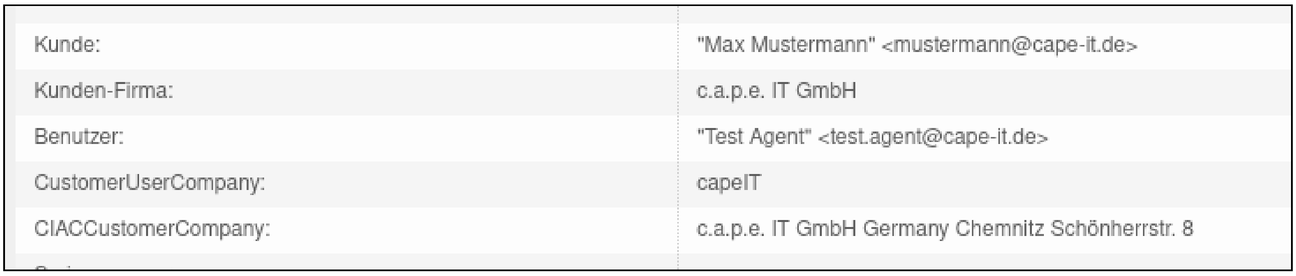
```
{
    Key => 'Customer',
    Name => 'Customer',
    Input => {
       Type => 'Customer',
    },
},
{
    Key => 'CustomerCompany',
    Name => 'CustomerCompany',
    Input => {
       Type => 'CustomerCompany',
    },
},
{
    Key         => 'User',
    Name        => 'User',
    Input => {
        Type => 'User',
    },
},
{
    Key         => 'CustomerUserCompany',
```

```
        Name        => 'CustomerUserCompany',
        Input => {
            Type => 'CustomerUserCompany',
        },
    },
    {
        Key         => 'CIACCustomerCompany',
        Name        => 'CIACCustomerCompany',
        Input => {
            Type => 'CIACCustomerCompany',
        },
    },
```

Edit View



Output / Detailed view



8.2 Create and manage geopositioning

In order to determine a config item more precisely, geopositions can be assigned to it via the user interface or via CSV import. These geographical locations are implemented using Config Item Attributes and can be specified either in decimal degrees or in degrees and decimal minutes.

To do this, go to "Config Items" in the ticket settings area of the admin module.

Go to the desired Config Item class and click the "Change Class Definition" button. Add the following code block to the existing definition:

```
{
Key => 'ExampleCoordinate',
Name => 'ExampleCoordinate',
Searchable => 1,
Input => {
Type => 'GeoCoordinate',
DisplayFormat => 'Degree',
InputFormat => 'Degree',
ExportFormat => 'Degree',
},
CountMin => 0,
CountMax => 2,
CountDefault => 0,
},
```

Figure: Example of code block to insert into the class definition

You can set whether the display should be given in decimal degrees (DecimalDegree) or in degrees and decimal minutes (Degree). Mixed forms within the formats are also possible (e.g. DisplayFormat => 'Degree', InputFormat => 'DecimalDegree', ExportFormat => 'Degree',). By default, the specification is stored here in decimal degrees.

Tip

The latitude is measured from the equator to the north (0 ° to 90 ° north at the north pole) and south (0 ° to 90 ° south at the south pole). Northern latitudes are positive and southern latitudes negative. The longitude is measured from the prime meridian (runs through the meridian plane of the London observatory Greenwich) from 0 ° to 180 ° to the east and from 0 ° to 180 ° to the west. Eastern longitudes are positive and western longitudes are negative.

Click "Submit" to save the change.

Example

```
    {
        Key => 'ExampleCoordinate',
        Name => 'ExampleCoordinate',
        Searchable => 1,
        Input => {
            Type => 'GeoCoordinate',
            DisplayFormat => 'Degree',
            InputFormat => 'DecimalDegree',

            # Link to OpenstreetMap
            Link => 'http://www.openstreetmap.org/?mlat=<LATITUDE>&mlon=<LONGITUDE>&zoom=15&layers=M'

        },
        CountMin => 0,
        CountMax => 2,
        CountDefault => 0,
    },
    {
        Key => 'ExampleCoordinate2',
        Name => 'ExampleCoordinate2',
        Searchable => 1,
        Input => {
            Type => 'GeoCoordinate',
            DisplayFormat => 'DecimalDegree',
            InputFormat => 'Degree',
            ExportFormat => 'Degree',

        },
        CountMin => 0,
        CountMax => 2,
        CountDefault => 0,
    },
```

Two fields of the type geoposition are inserted here.

- In the first field the agent specifies the position in decimal degrees and the stored value can be visualized in a new window via OpenStreetMap by clicking on it. There is no specific export format specified.
- In the second field, the agent specifies the position in degrees and decimal minutes. The data is exported in the same format. There is no link to a map service.

There is also the option of displaying the referenced position in a map service (e.g. OpenStreetMap, Google Maps or Bing Maps).

```
# Link to OpenstreetMap
Link => 'http://www.openstreetmap.org/?mlat= <LATITUDE> & mlon = <LONGITUDE> & zoom = 15 & layers = M'

# Link to GoogleMaps
Link => 'http://maps.google.com/maps?z=17&t=m&q=loc: <LATITUDE>, <LONGITUDE>'

# Link to BingMaps
Link => 'https://www.bing.com/maps?where1= <LATITUDE> <LONGITUDE>'
```

Figure: Links for the respective map service

If necessary, integrate a link in the code block shown above. If you want to use a different map service than the one shown here, the following placeholders are used to set the latitude and longitude: <LATITUDE> and <LONGITUDE>.
Click "Submit" to save the change.

The agent now sees the following fields when creating or editing a CI:

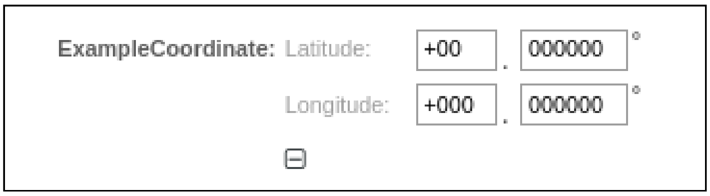


Figure: "Geoposition" in decimal degree format when creating a new CI

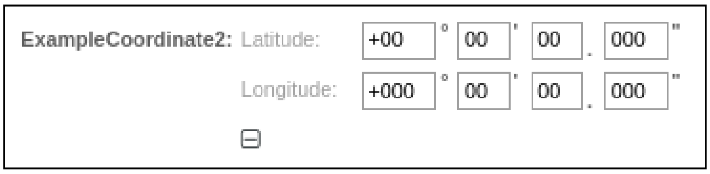


Figure: "Geoposition" in degrees and decimal minutes format when creating a new CI

CSV import or export of the data

When importing or exporting the data via CSV, the mapping must be adjusted beforehand.

During the CSV import, the supported formats are checked against the incoming formats using regular expressions. Permitted formats are

+ dd ° dd "dd.ddd '+ ddd ° dd" dd.ddd' or + dd ° dd "dd.ddd '+ ddd ° dd" dd.ddd'

+ ddd.dddddd + ddd.dddddd

If a format is not recognized, this value is not saved and an error message is displayed in the log.

The following formats can be defined for the CSV export, which are used for entering and displaying the values:

- DisplayFormat
- InputFormat
- ExportFormat

If no format is defined for the output either on the attribute or in the SysConfig, the standard format is used.

Configuration

There are two ways to configure a link and the formats:

- The content is determined by the CI attribute by being stored there.
- If no information is stored in the CI attribute, you can make the settings in SysConfig:
- ITSMConfigItem :: GeoCoordinate ### InputFormat
  - Standard: DecimalDegree
  - Delivery status inactive
- ITSMConfigItem :: GeoCoordinate ### DisplayFormat
  - Standard: DecimalDegree
  - Delivery status inactive
- ITSMConfigItem :: GeoCoordinate ### ExportFormat
  - Standard: DecimalDegree
  - Delivery status inactive
- ITSMConfigItem :: GeoCoordinate ### Link
  - Standard: http://maps.google.com/maps?z=17&t=m&q=loc: <LATITUDE> <LONGITUDE>
  - Delivery status inactive

If no information is stored in the CI attributes and the SysConfig keys mentioned are not activated, the system's standard setting (fallback) takes effect.

9 System Administration

The following sections contain information on how to:

- Manage tasks triggered by event or time based execution
- Send notifications
- Manage existing sessions
- View Performance Benchmark Results
- Execute SQL Statements
- Configure processes
- Create and manage web services
- Manage support data
- Manage priorities matrix
- Schedule a maintenance period
- View System Log messages
- Import and export object information
- Edit the system configuration settings
- Update and extend your system with software packages

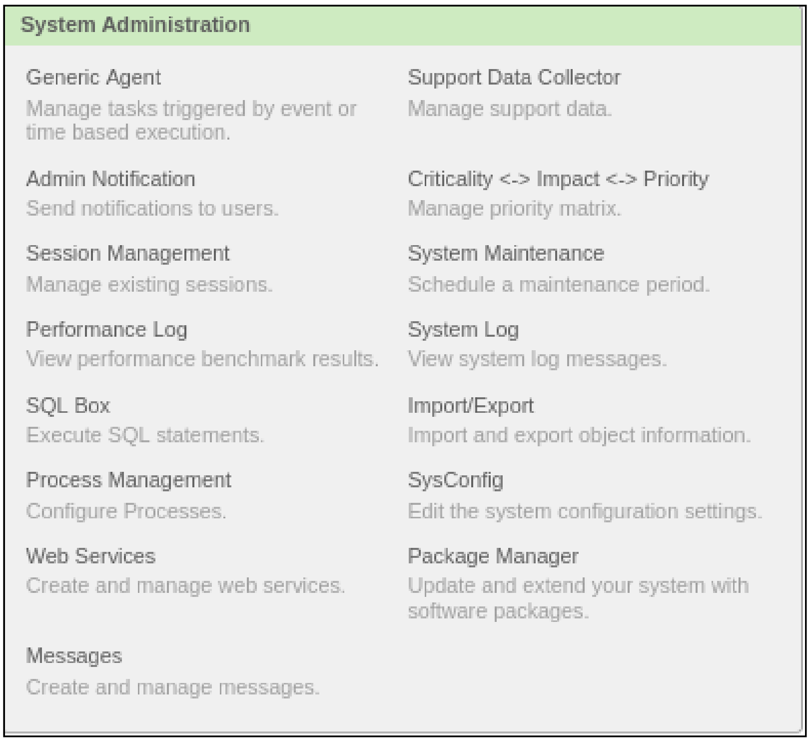


Figure: System Administration

9.1 Create and Manage Dynamic Fields

In this area you can create and manage dynamic fields. Dynamic fields are special input fields for expanding the information that can be saved about a ticket or article. You can specify the frontend in which a dynamic field should be shown. The list shows the defined dynamic fields. You can create dynamic fields for the following objects:

- Ticket
- Article
- FAQ
- Contact
- Customer Company

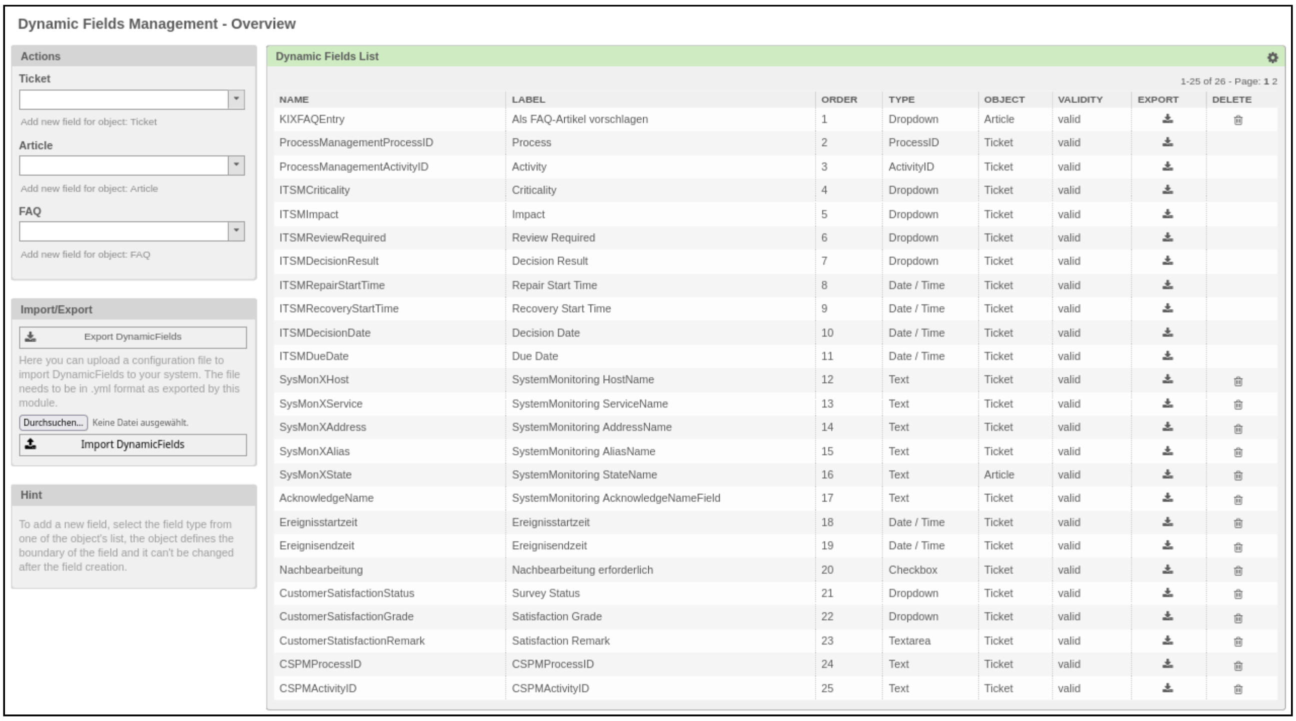


Figure: Dynamic Fields Management

9.1.1 Create a New Dynamic Field

In the *"Actions"* widget select the object for which you wish to create a dynamic field.

Select the field type of the dynamic field from the dropdown menu.

In the *"General"* widget assign a name and description, and specify the order in which the dynamic field is to be shown.

In the *"Time to live (TTL)"* field you can specify the desired validity of a value in a dynamic field, if required. Once the time period is up, the value in the dynamic field is deleted automatically through a cron job. The time of deletion depends on the configured time interval in the following SysConfig setting: *"Daemon:: SchedulerCronTaskManager::Task###DynamicFieldTTLCheck"*.

Please note

Tthe TTL value will not update if the value of a dynamic field is updated. If you make configuration changes to the TTL, you can update it by configuring *DynamicField:: EventModulePost###000-DFTTLUpdate*.

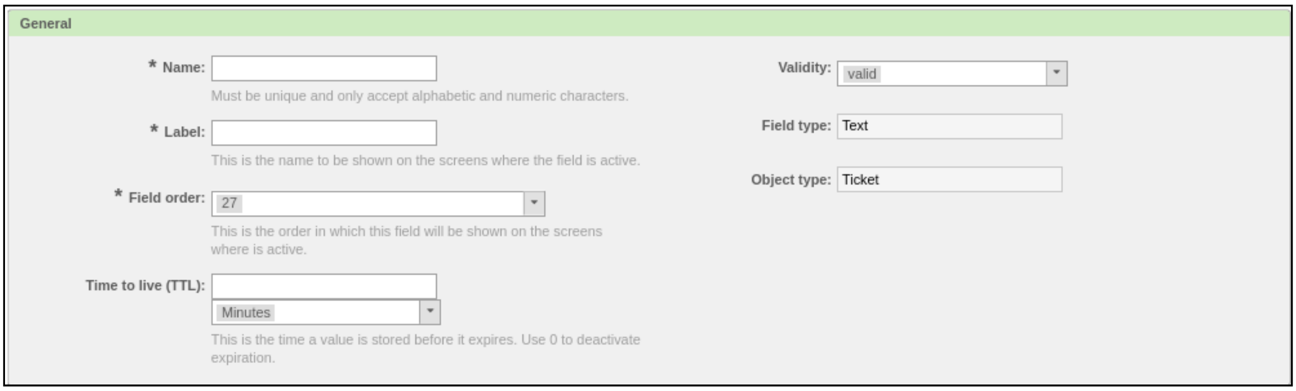


Figure: Create Dynamic Field - General Specifications (here for example Ticket:Text)

The *"Field Settings"* area is where you specify the settings for the values of the dynamic field. The possible settings differ depending on the type of dynamic field.

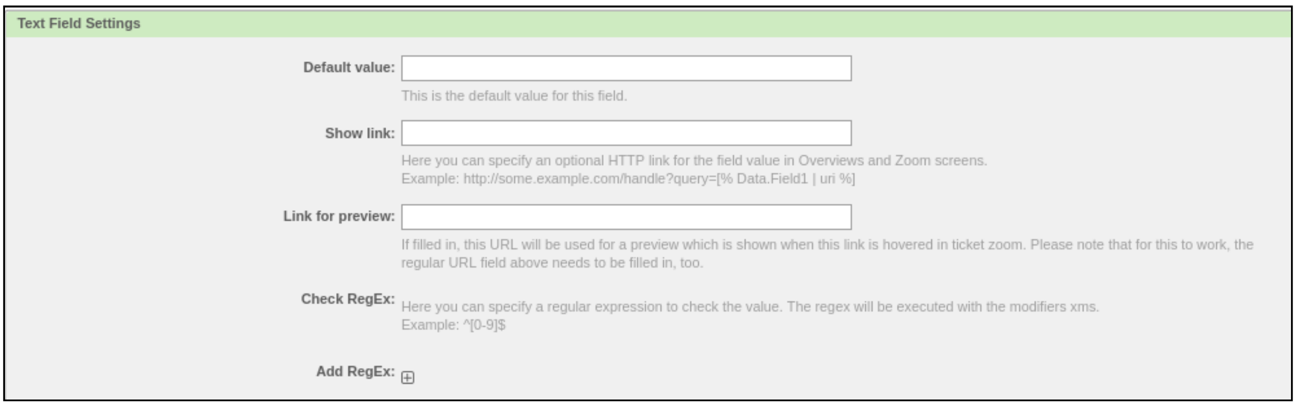


Figure: Create Dynamic Field - Field Settings (here for example Ticket:Text)

The *"DynamicField SysConfig..."* area is where you specify in which frontend modules the dynamic field should be shown and, if applicable, where it should be a compulsory field. Select one or more items in the list. To select several values, press and hold down the left mouse button.

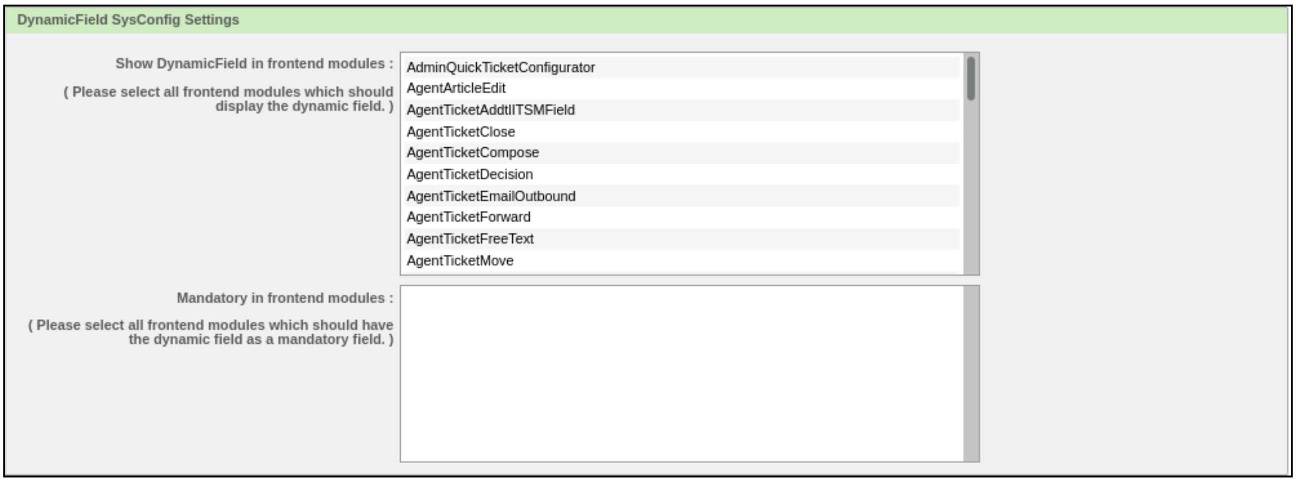
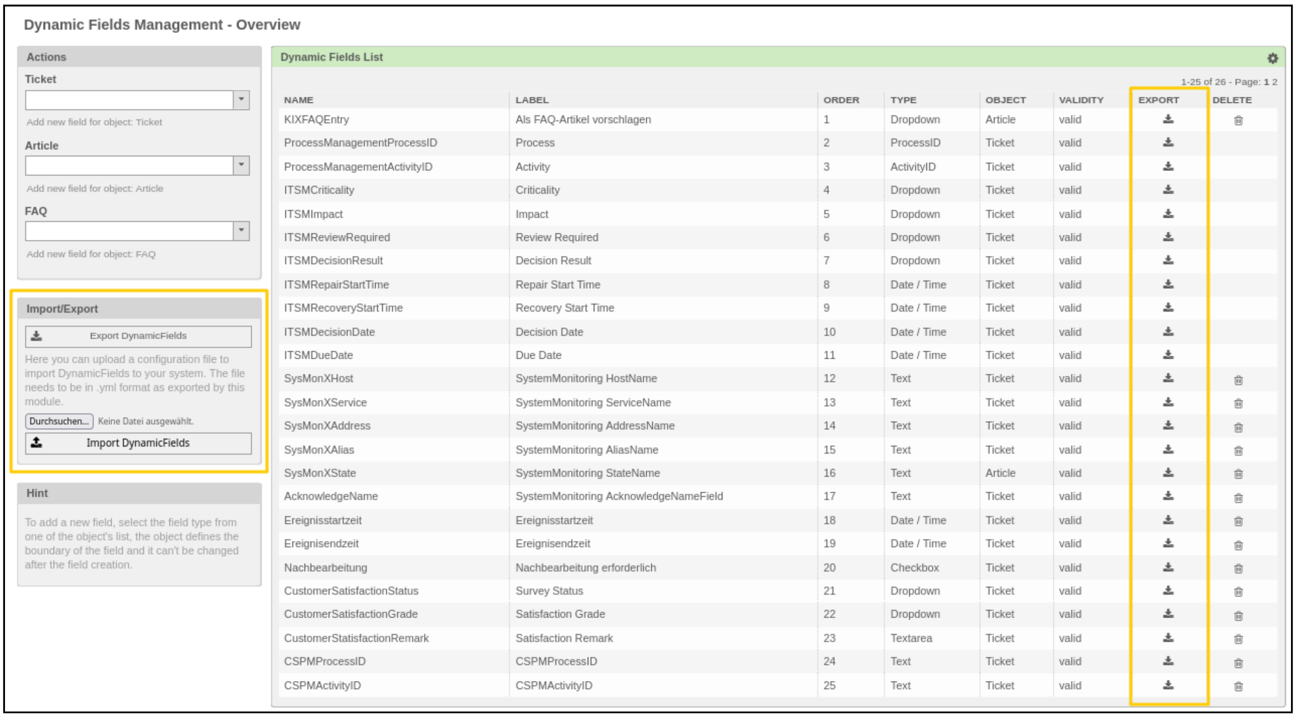


Figure: Create Dynamic Field - SysConfig Settings for example Ticket:Text

Then click "Submit".

9.1.2 Import and Export of Dynamic Fields

It is possible to import and export dynamic fields.



NAME	LABEL	ORDER	TYPE	OBJECT	VALIDITY	EXPORT	DELETE
KIXFAQEntry	Als FAQ-Artikel vorschlagen	1	Dropdown	Article	valid		
ProcessManagementProcessID	Process	2	ProcessID	Ticket	valid		
ProcessManagementActivityID	Activity	3	ActivityID	Ticket	valid		
ITSMCriticality	Criticality	4	Dropdown	Ticket	valid		
ITSMImpact	Impact	5	Dropdown	Ticket	valid		
ITSMReviewRequired	Review Required	6	Dropdown	Ticket	valid		
ITSMDecisionResult	Decision Result	7	Dropdown	Ticket	valid		
ITSMRepairStartTime	Repair Start Time	8	Date / Time	Ticket	valid		
ITSMRecoveryStartTime	Recovery Start Time	9	Date / Time	Ticket	valid		
ITSMDecisionDate	Decision Date	10	Date / Time	Ticket	valid		
ITSMDueDate	Due Date	11	Date / Time	Ticket	valid		
SysMonXHost	SystemMonitoring HostName	12	Text	Ticket	valid		
SysMonXService	SystemMonitoring ServiceName	13	Text	Ticket	valid		
SysMonXAddress	SystemMonitoring AddressName	14	Text	Ticket	valid		
SysMonXAlias	SystemMonitoring AliasName	15	Text	Ticket	valid		
SysMonXState	SystemMonitoring StateName	16	Text	Article	valid		
AcknowledgeName	SystemMonitoring AcknowledgeNameField	17	Text	Ticket	valid		
Ereignisstartzeit	Ereignisstartzeit	18	Date / Time	Ticket	valid		
Ereignisendzeit	Ereignisendzeit	19	Date / Time	Ticket	valid		
Nachbearbeitung	Nachbearbeitung erforderlich	20	Checkbox	Ticket	valid		
CustomerSatisfactionStatus	Survey Status	21	Dropdown	Ticket	valid		
CustomerSatisfactionGrade	Satisfaction Grade	22	Dropdown	Ticket	valid		
CustomerStatisfactionRemark	Satisfaction Remark	23	Textarea	Ticket	valid		
CSPMProcessID	CSPMProcessID	24	Text	Ticket	valid		
CSPMActivityID	CSPMActivityID	25	Text	Ticket	valid		

Figure: Options for importing and exporting dynamic fields

You can import a dynamic field using the import / export widget on the left. Load it into the system via "Search" and then click on "Import dynamic field". The file must be in .yml format,

By clicking the "Export dynamic fields" button, you export all existing dynamic fields to a file in .yml format.

It is also possible to export individual dynamic fields by clicking the download button in the relevant line.

9.1.3 Types of dynamic fields

A dynamic field is not anchored in the system and is only visible in certain surfaces. Its display within the various interfaces depends on the field type that is selected during creation.

The following dynamic field types are used in KIX:

- Text
- Textarea
- Date
- Date / Time
- Dropdown
- Multiselect
- Checkbox
- ObjectReference
- ITSMConfigItemReference
- DropdownGeneralCatalog
- MultiselectGeneralCatalog
- RemoteDB

After selecting the desired field type, a new form opens. This form is divided into three areas: General, Field type-specific entries and SysConfig settings for the dynamic field.

The first area "General" is the same for every field type. Here you define the following: Name, labeling, field sequence, value lifetime, validity. The field type is preselected, as is the object type.

Figure: Create dynamic field - general settings

The third area "SysConfig settings for the dynamic field" is the same for every field type. Here you specify in which front-end modules the dynamic field should be displayed and where it should be a mandatory field, if applicable. Select one or more entries in the list. To select multiple values, keep the left mouse button pressed.

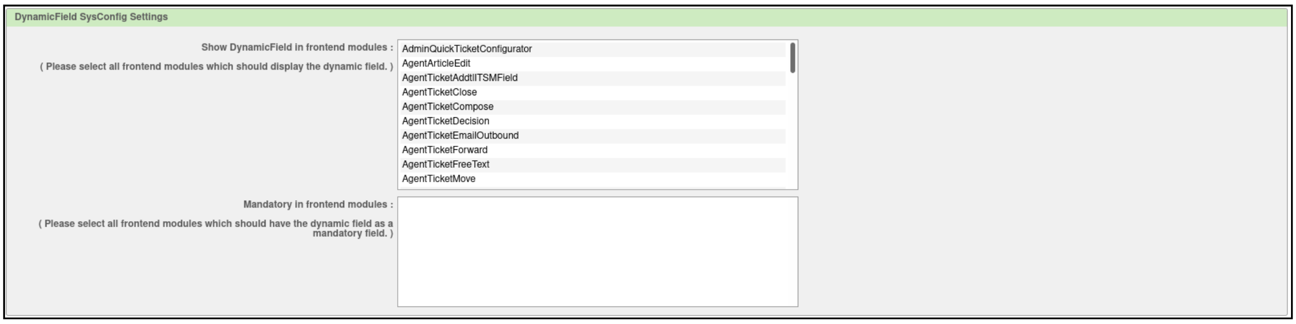
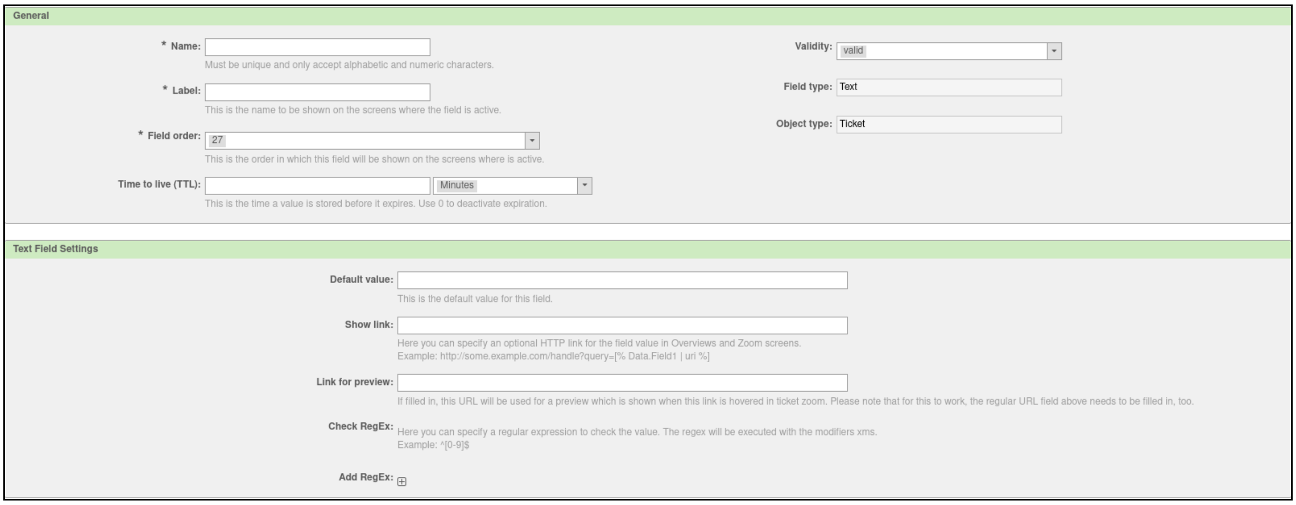


Figure: Create dynamic field - SysConfig settings

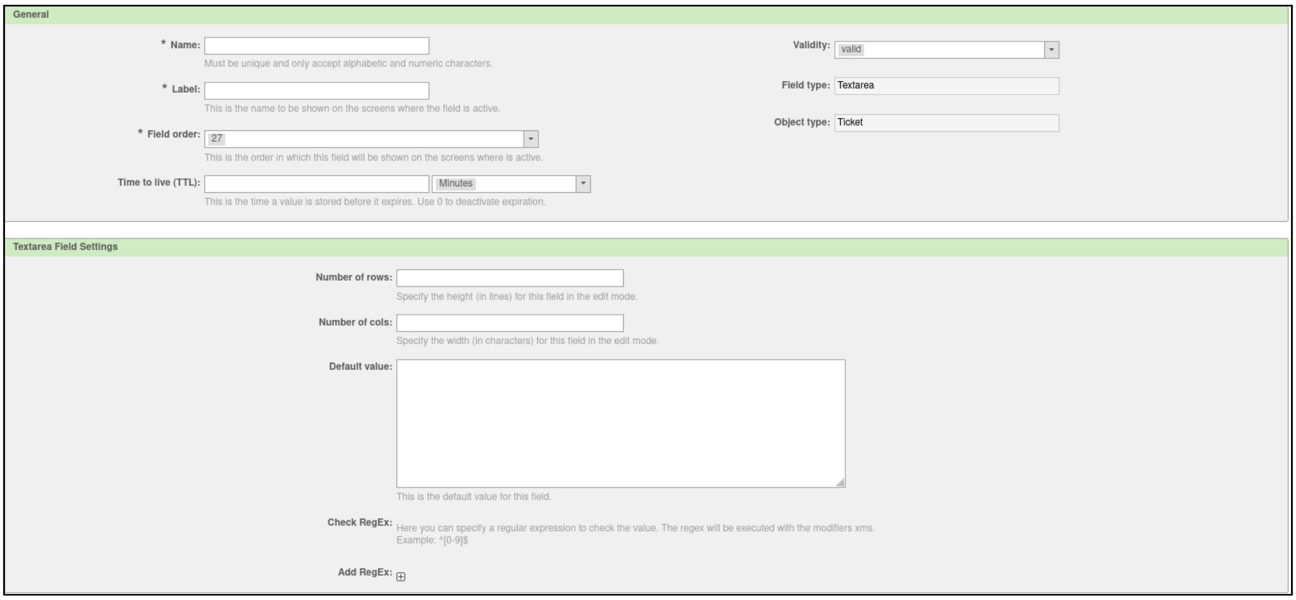
9.1.3.1 Text

The dynamic field type Text is used to save individual lines.



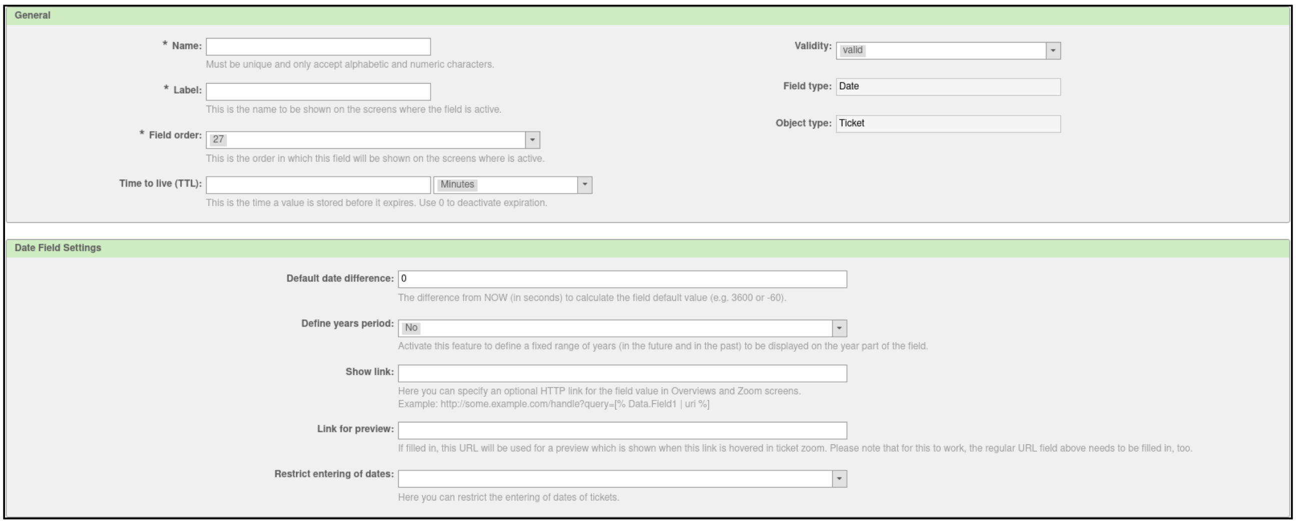
9.1.3.2 Textarea

The dynamic field type textarea is used to store multiple lines.



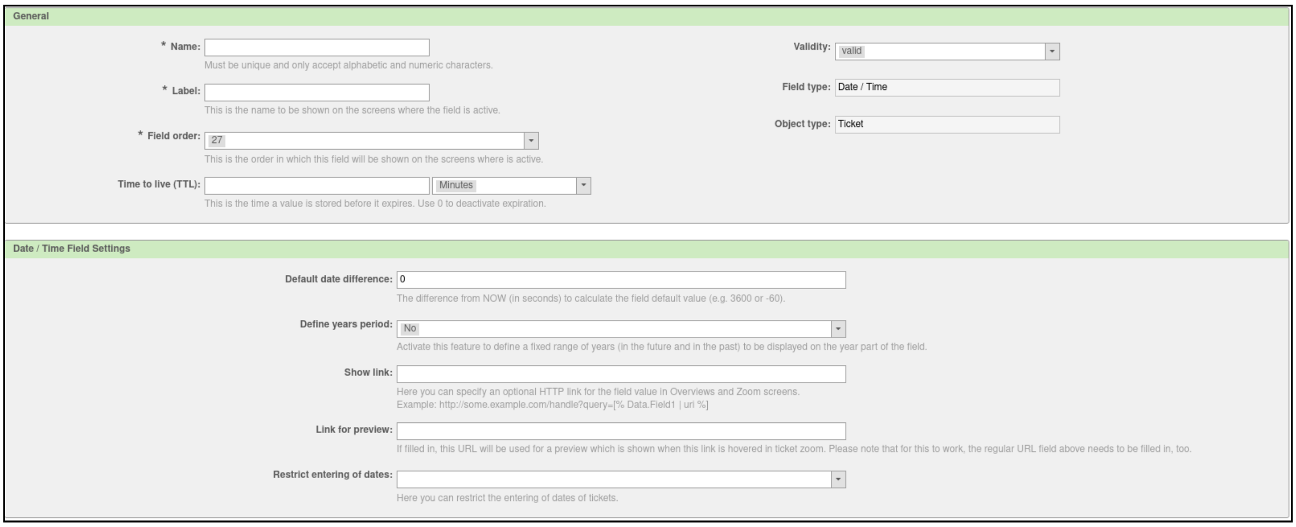
9.1.3.3 Date

The dynamic field type Date is used to store the date.



9.1.3.4 Date / Time

The date / time dynamic field type is used to store the date and time.



Tip

In the standard KIX there is always a date/time field in all masks after a status selection, which is used for ticket processing. Basically, the date selection is only necessary if the status type “pending reminder” or “pending autor” is used. It is possible to hide the date/time field and only show it when a status of the two types mentioned is selected.
First go to *SysConfig* to the *Ticket* group and there to the *Frontend :: AgentModule* subgroup.

- SysConfig key: Frontend::Output::FilterElementPost###HidePendingTimeInput

Registration takes place here and you can configure in which masks and ticket actions the functionality should be active. Don't forget to update this configuration when you add the status selection to new ticket actions!

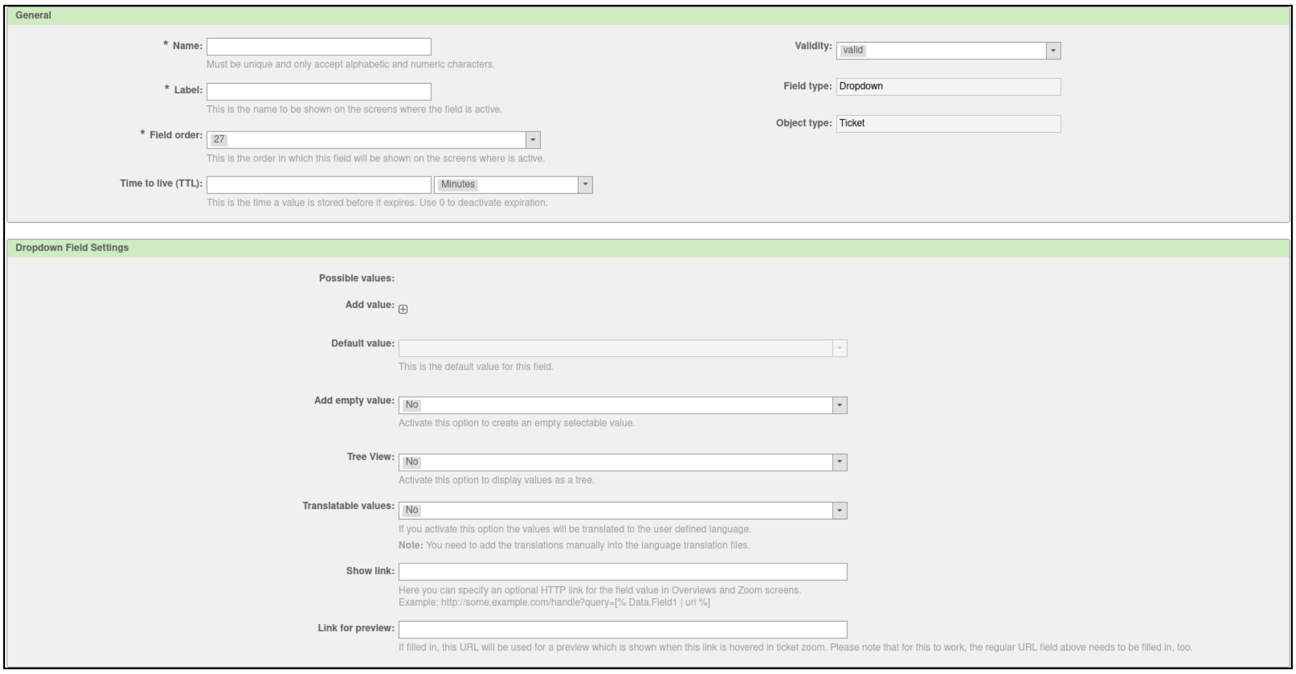
Then go to *SysConfig* to the *Ticket* group and there to the *Frontend::Agent::ModuleRegistration* subgroup.

- SysConfig key: HidePendingTimeInput###StateTypes

Here you can configure the types of status for which the date/time field should be displayed. The default status types are Pending Reminder and Pending Automatic Reminder.

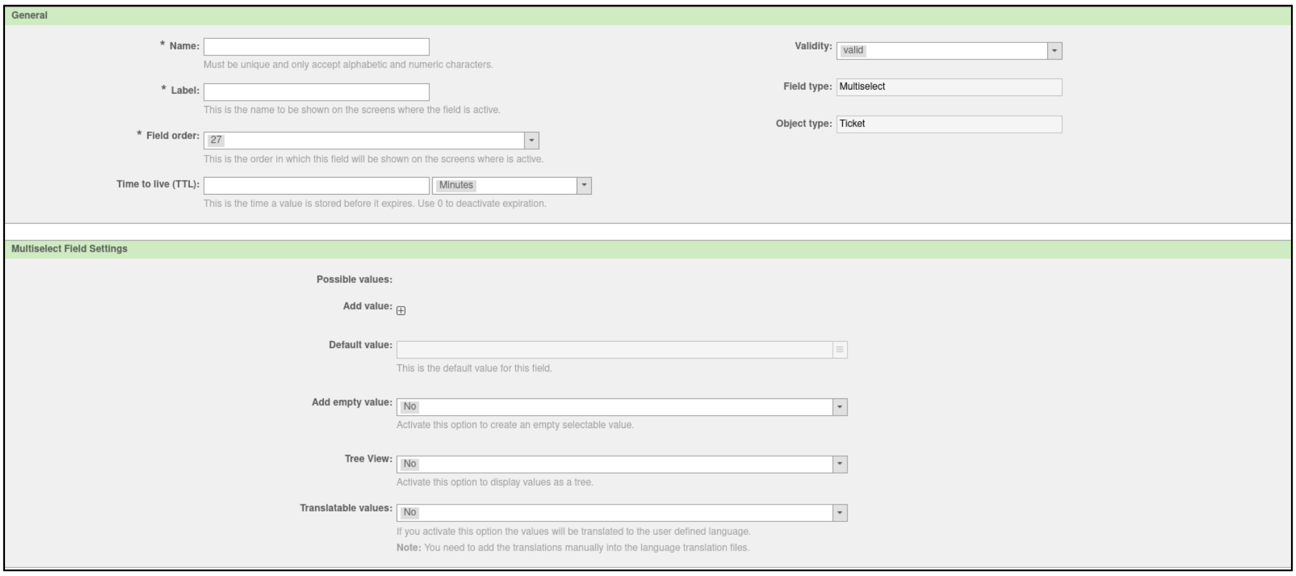
9.1.3.5 Dropdown

The dynamic field type dropdown is used to save a single value from a list.



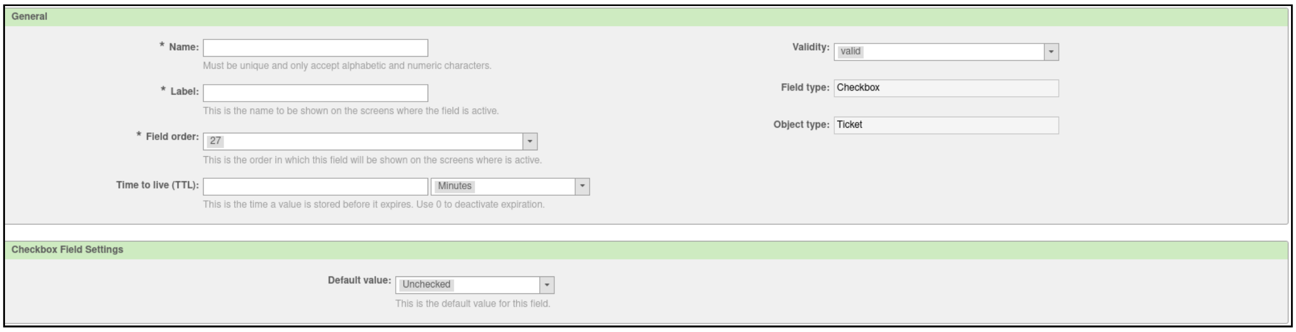
9.1.3.6 Multiselect

The multiple selection dynamic field type is used to save several values from a list.



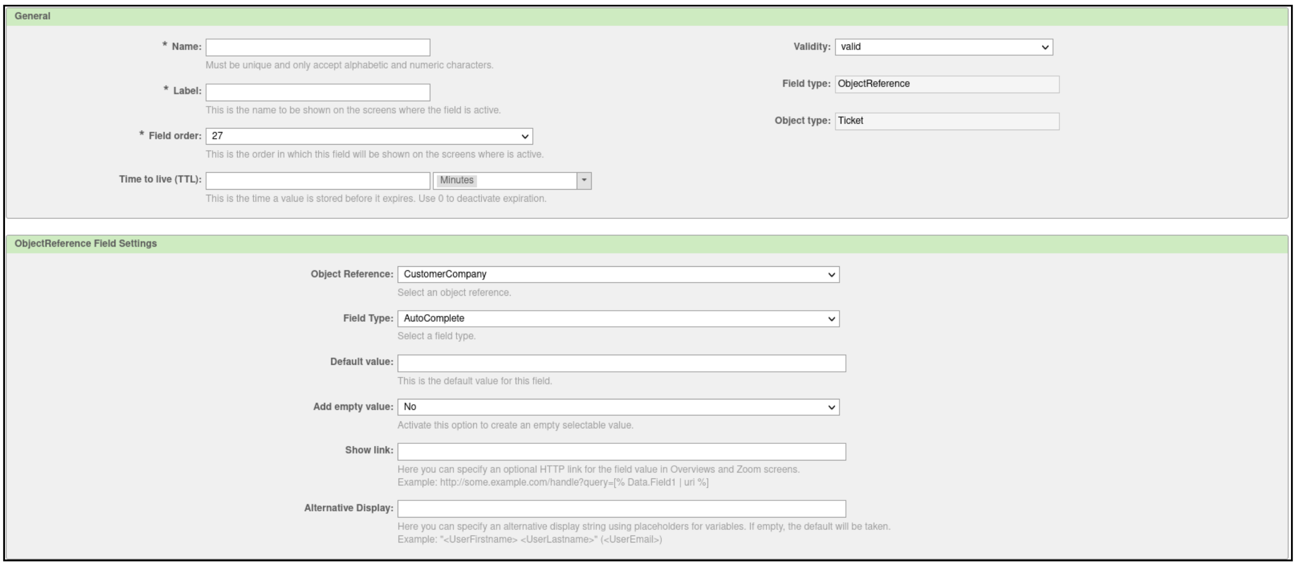
9.1.3.7 Checkbox

The dynamic field type check box is used to save true values, represented by a ticked or empty check box.



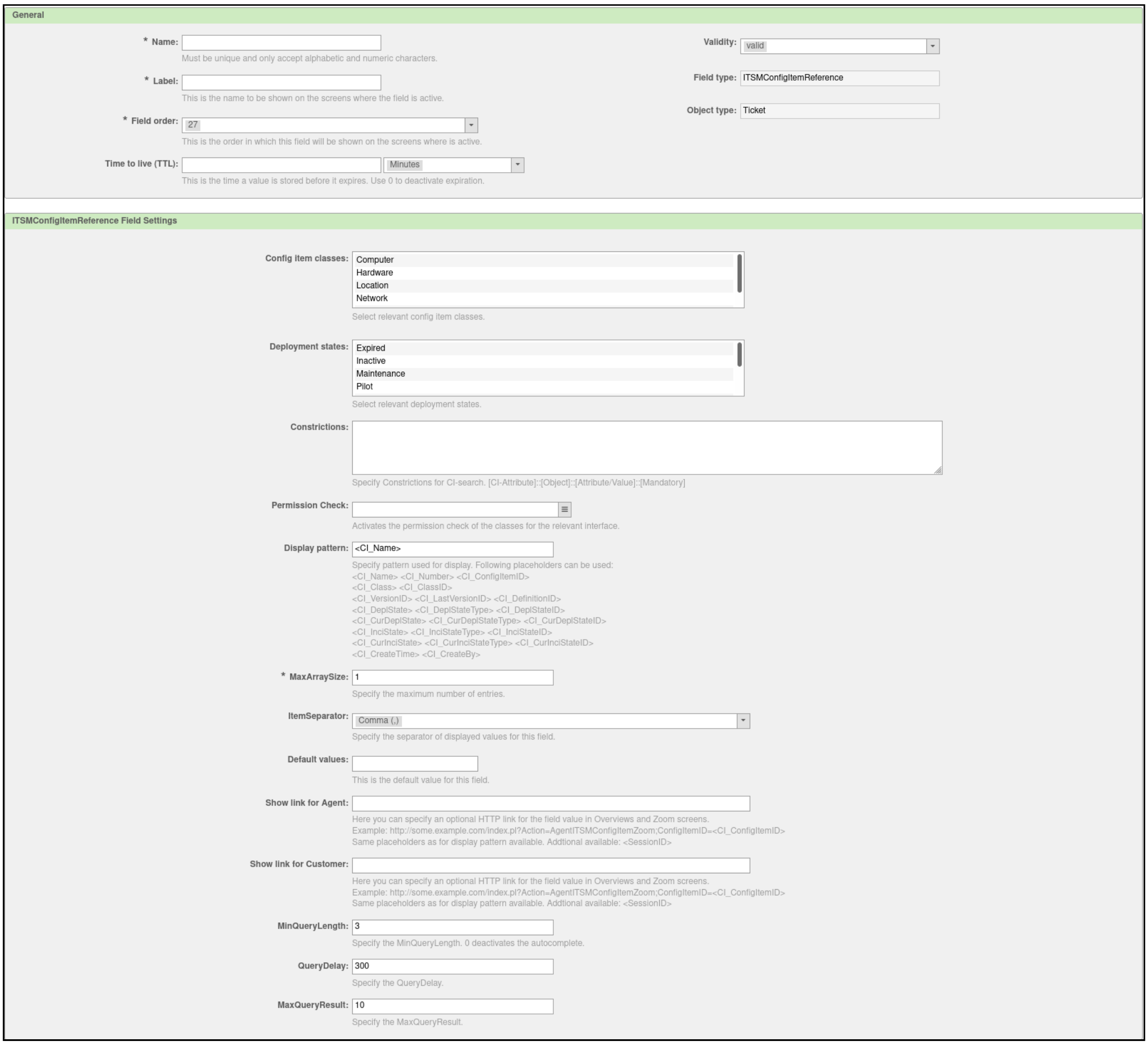
9.1.3.8 ObjectReference

The dynamic field type object reference is used to refer to another object (agent, contact, customer company) in KIX.



9.1.3.9 ITSMConfigItemReference

The dynamic field type ITSMConfigItemReference is used to establish the reference to a ConfigItem.



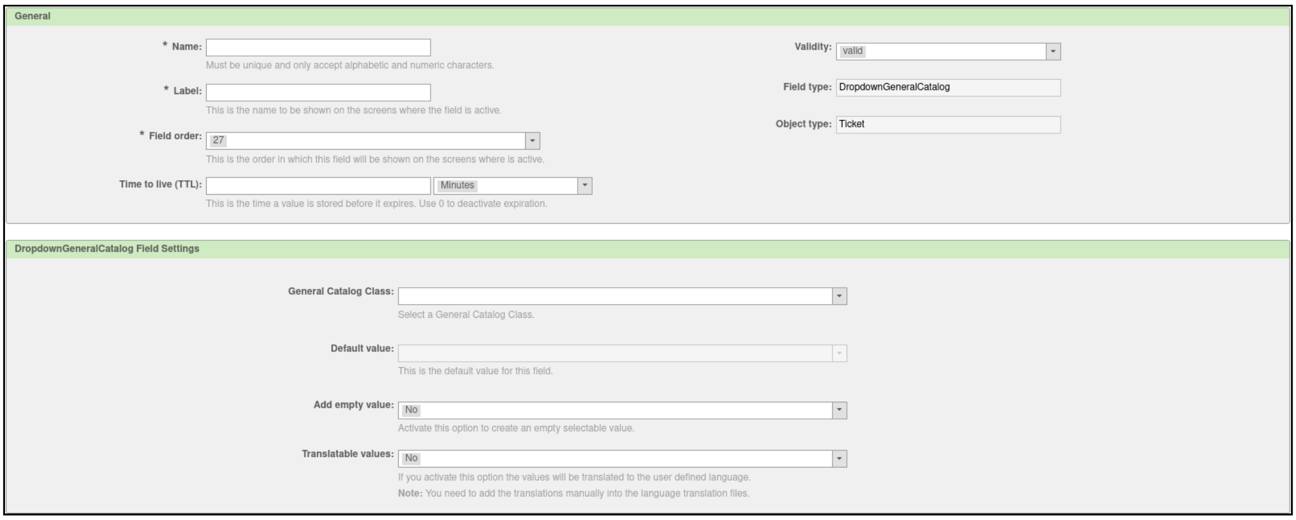
Completion Aid

If you specify restrictions for the CI search, this must follow the pattern [CI-Attribute] :: [Object] :: [Attribute / Value] :: [Mandatory].

- CI attribute - attribute key comes from the ConfigItem definition. Only this key applies to sub-attributes, not the entire path.
- Object
  - Configuration - the value for the restriction is permanently configured, [attribute / value] is accepted directly.
  - Ticket - The current form value of the given ticket attribute or the attribute value stored on the ticket is used for the restriction.
  - CustomerUser - The attribute value stored in the customer data is used for the restriction.
- Required field
  - 0 - If no attribute value is stored for the object, the rule is ignored.
  - 1 - If no attribute value is stored for the object, the search is suppressed.

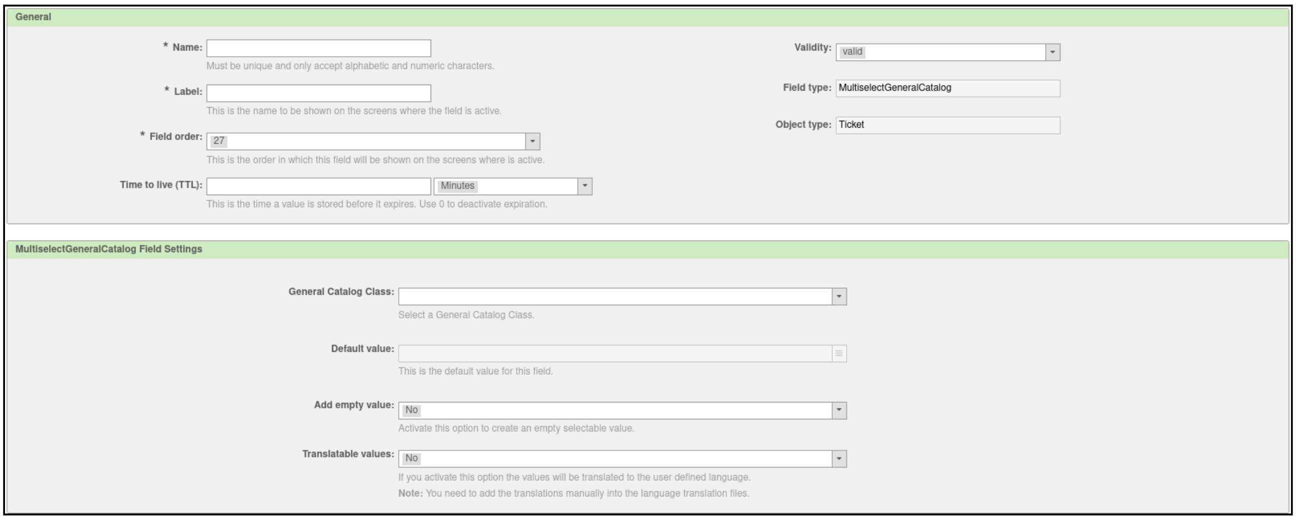
9.1.3.10 DropdownGeneralCatalog

The dynamic field type DropdownGeneralCatalog is used to display a dropdown list of all General Catalog classes from which exactly one class can be selected and saved.



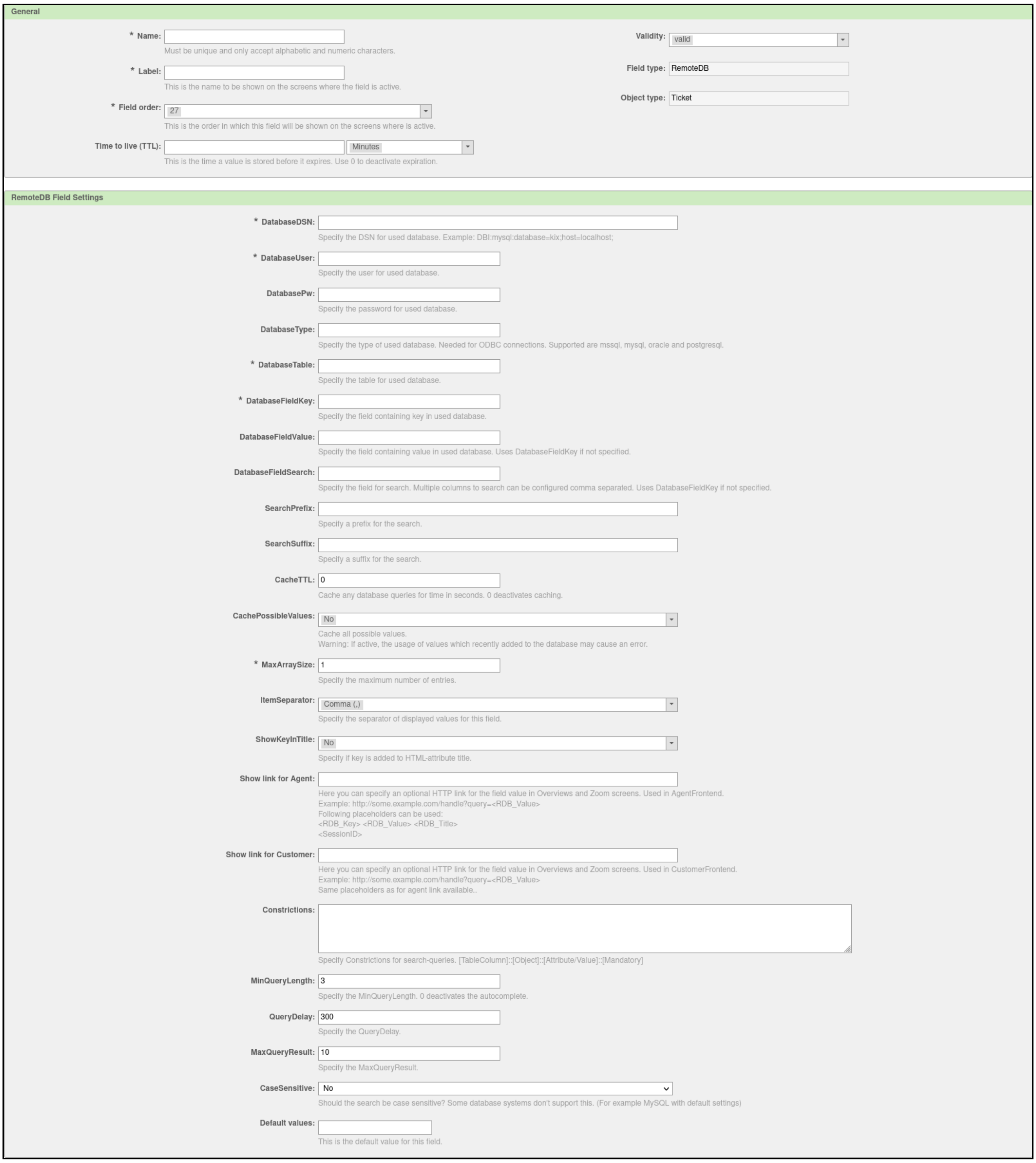
9.1.3.11 MultiselectGeneralCatalog

The dynamic field type MultiselectGeneralCatalog is used to display a drop-down list of all General Catalog classes from which several classes can be selected and saved.



9.1.3.12 RemoteDB

The dynamic field type RemoteDB is used to enable a database to be queried either in the own system or externally.



Completion Aid

In the Database DSN (Data Source Name) field, enter the address of the database to be queried. In the following fields you enter for this database:

- the relevant user
- with the appropriate password
- the type of database
- and which table should be queried
  - You store key, value and search columns for this table (these are only declarations with which the dynamic field works to identify data records, to receive display values and to be able to search)
  - Search prefix and suffix are details that are appended before or after the entered search pattern (e.g. prefix "*" / suffix "*" → search string in the dynamic field is `*search term*`)

If you use restrictions for the search queries, these must be separated from one another by a line break. Restrictions have the format: [table column] :: [object] :: [attribute / value] :: [mandatory field]

- Table column - column in the table which should be used for the restriction
- Object
  - Configuration - the value for the restriction is permanently configured, [attribute / value] is adopted directly.
  - Ticket - The current form value of the given ticket attribute or the attribute value stored on the ticket is used for the restriction.
  - CustomerUser - The attribute value stored in the customer data is used for the restriction.
- Required field
  - 0 - If no attribute value is stored for the object, the rule is ignored.
  - 1 - If no attribute value is stored for the object, the search is suppressed.

ATTENTION: Only one restriction is effective per table column. The restriction used is always the one that last provided a value for the restriction. This value is also used for defined mandatory field checks.

9.1.4 Create new depending Dynamic Field or change existing

In this area you can create and manage inter-depending dynamic fields. The dependencies form a tree structure.

All of the dependencies defined in the system are shown in the *"Depending Dynamic Fields - Tree View"* widget. Dependencies can be formed between single-selection or multiple-selection dynamic fields.

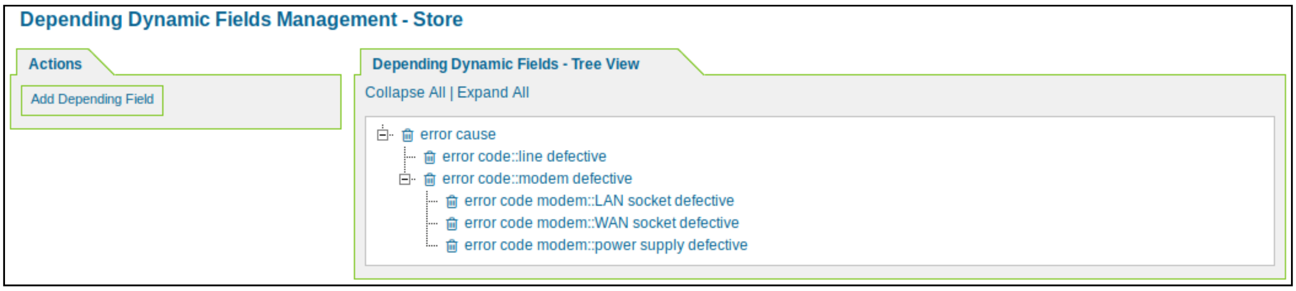


Figure: Depending Dynamic Fields Management

Create a New Dependency Tree

In the *"Actions"* widget click "Add depending field". The following widget will open.

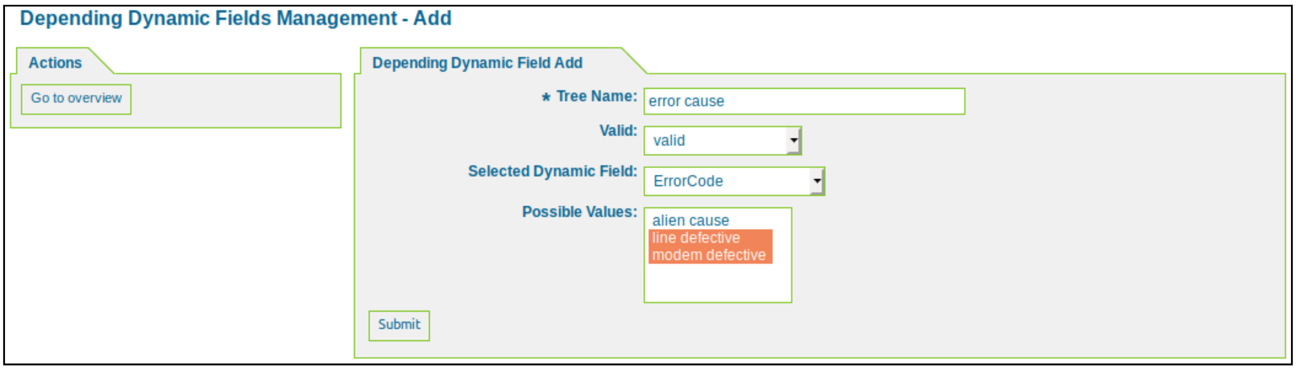


Figure: Add Depending Dynamic Fields

Assign a name and under *"Selected Dynamic Field"* select a field from the list. Under *"Possible Values"*, select the values on which another dynamic field is to be dependent. Then click "Submit".

Note

"::" must not be used in the "Tree Name" field.

Add a Depending Dynamic Field

In the tree view, click the dynamic field on which the other dynamic field is to be dependent. A widget for editing the dynamic field will open.

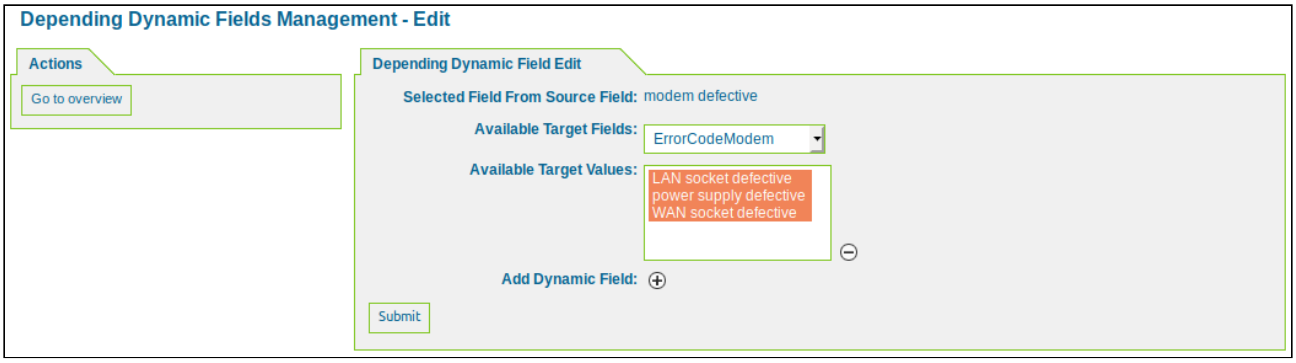


Figure: Edit Depending Dynamic Fields

Under *"Available Target Fields"*, select the depending dynamic field, and under *"Available Target Values"*, select the value(s) that is/are to be dependent on the source field value. Use the sign, if necessary, to add further depending dynamic fields. Then click "Submit".

9.1.5 Show and hide dynamic fields via ACLs

Dynamic fields can be displayed, hidden or influenced in different ways.

Hiding and showing fields via the ACL admin area

For general handling of ACLs, please read the chapter Configuring and managing ACLs. This section deals with the special features of displaying and hiding dynamic fields using ACLs.

- To hide or show a dynamic field based on a value, first select the corresponding value under 'Filter condition'. In the example in the picture below, the field is shown using another dynamic field.
- For 'Change value', select the 'Shape' option on the second level. This influences the content of the displayed forms.
- Now, on the third level, enter the name of the dynamic field, what should be shown or hidden.
- Now select 'Exact Match' and enter the value 0 for hide or 1 for display.
- If you want to influence several fields, you can add further fields on level three.

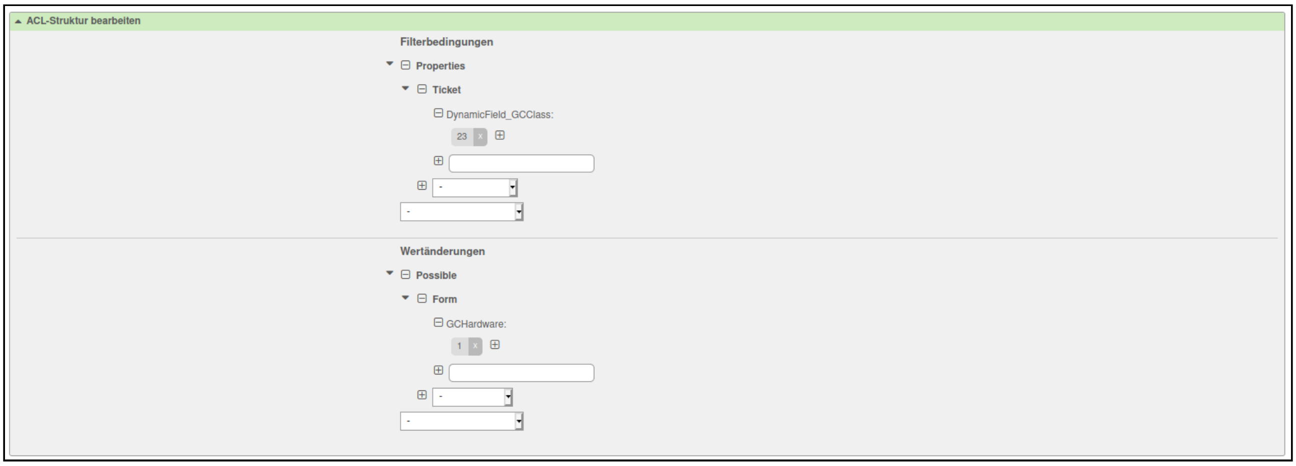


Figure: Configuration of an ACL to display dynamic fields

Hiding and showing fields via DisabledDynamicFields

Another way of influencing dynamic fields is via SysConfig.

To do this, activate the key 'Ticket :: Acl :: Module ### 991_DisabledDynamicField'.

You then make entries in the key 'Ticket :: Frontend :: DynamicField ### DisabledDynamicFields'. This defines which dynamic fields should be hidden depending on the front-end module used, attributes such as service, type, status or priority and their respective value. The key consists of the front end module ::: attribute ::: value and value from the dynamic fields to be hidden. These can be specified as RegExp. If dynamic fields are to be hidden with empty values, EMPTY must be used in this form: FrontendModule ::: Attribute ::: EMPTY. Note the triple colon as a separator.

9.2 Process Management

In this area you can define, manage, and import reoccurring processes (workflows). The imported data has to be in YAML format. With the graphical interface, it is easy to configure processes and business logics. Using decision dialogs, you can guide agents and contacts through a process in a secure manner.

In the *"Processes"* widget you will see a list of all the processes in the system.

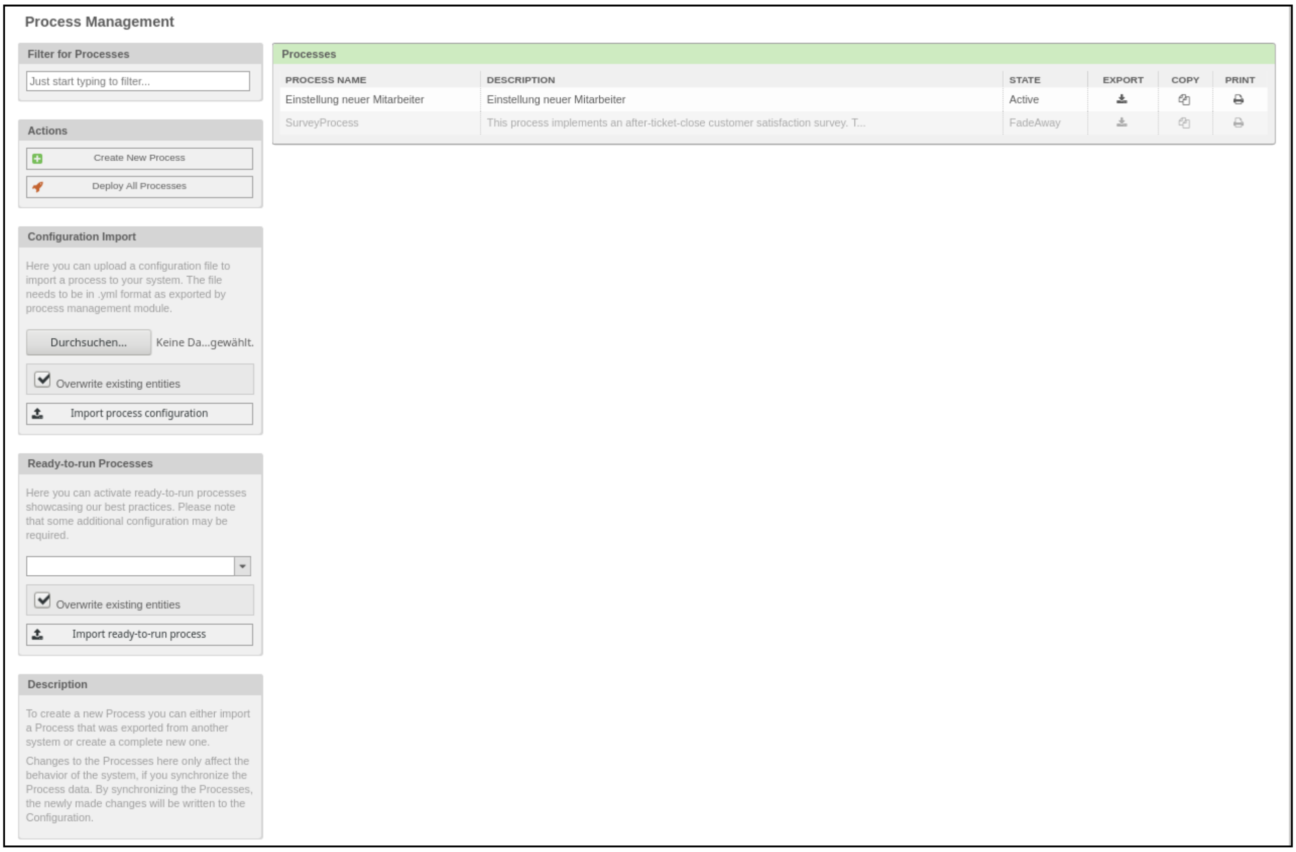


Figure: Process Management

9.2.1 Creating a New Process

In the *"Actions"* widget, click "Create New Process" button. The following widget will open:

Figure: Create New Process

Assign a process name and description. Finally, click "Save" button. This creates the process, which can subsequently be edited.

9.2.2 Edit a Process

In the list, click the process you wish to edit. The following widget will open:

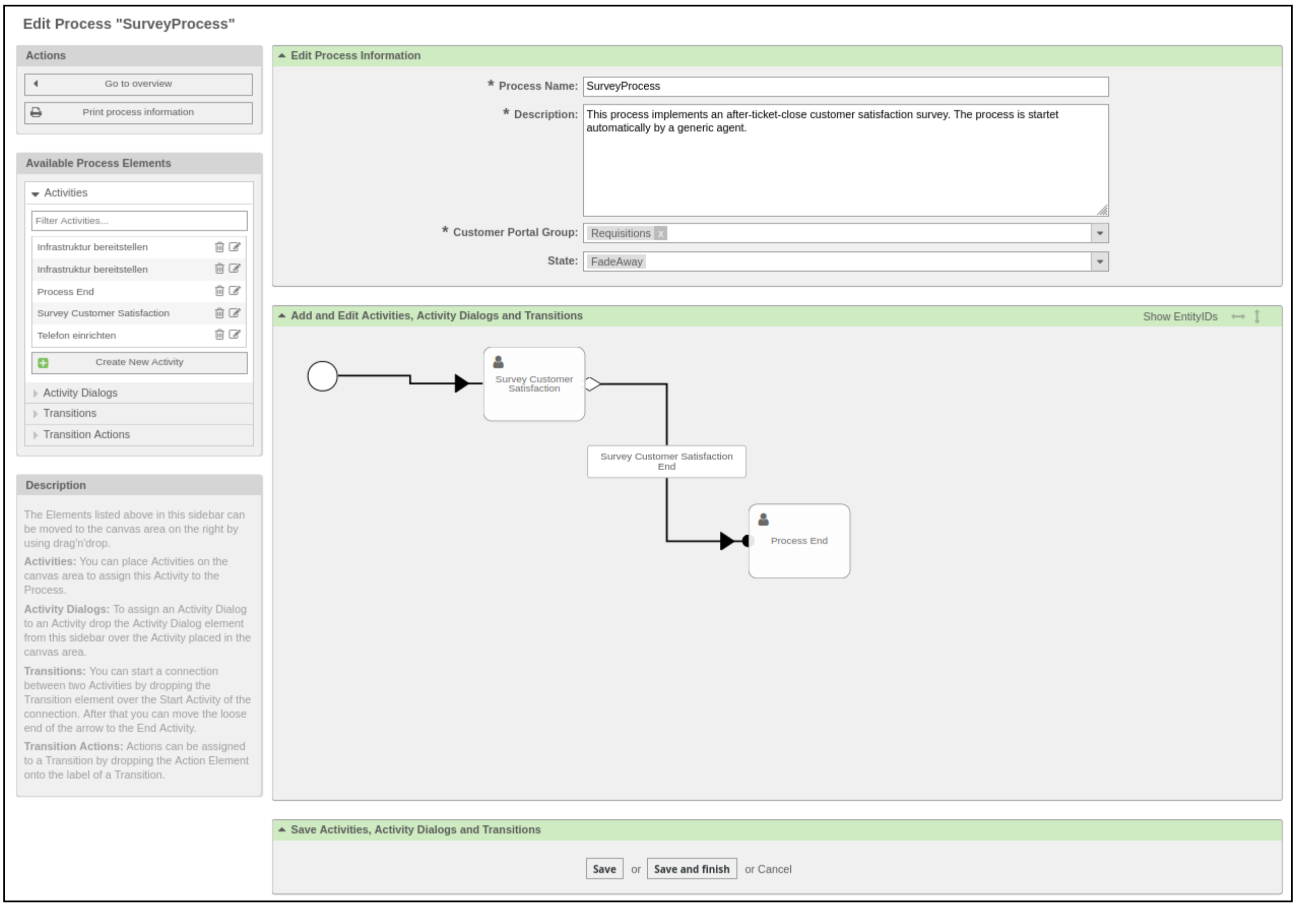


Figure: Edit Process

In the "Add and Edit Activities, Activity Dialogs and Transitions" area, the entire process is illustrated graphically. In the "Available Process Elements" widget, you will see a list of the available activities, activity dialogs, transitions, and transition actions.

If no process elements have been defined yet, the list will be empty.

9.2.3 Creating a New Activity

In the *"Available Process Elements"* widget, click "Create New Activity" button. The following widget will open:

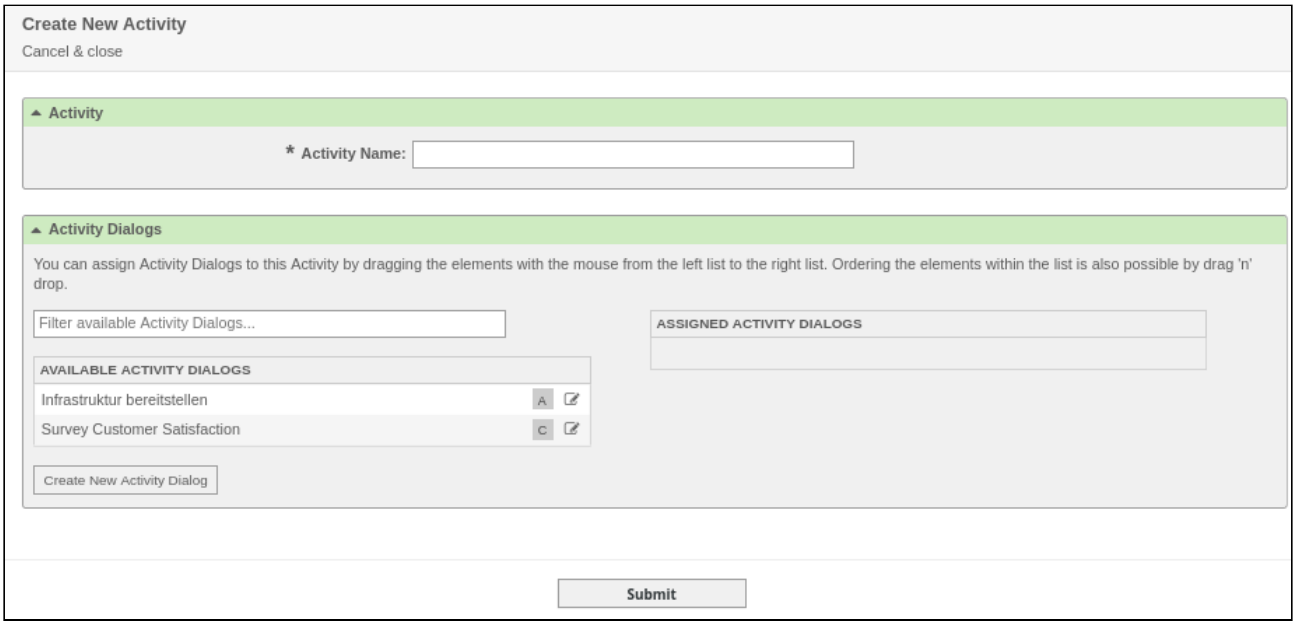


Figure: "Create New Activity"

Assign the activity a name. In the *"Activity Dialogs"* widget, you will see a list of all the available activity dialogs. Using drag & drop, place an activity dialog in the *"Assigned Activity Dialogs"* area.

If no activity dialogs have been defined, you can create a new activity dialog using the "Create New Activity Dialog" button. Finally, click button "Submit".

9.2.3.1 Creating a New Activity Dialog

In the *"Available Process Elements"* widget, click "Create New Activity Dialog" button. The following widget will open:

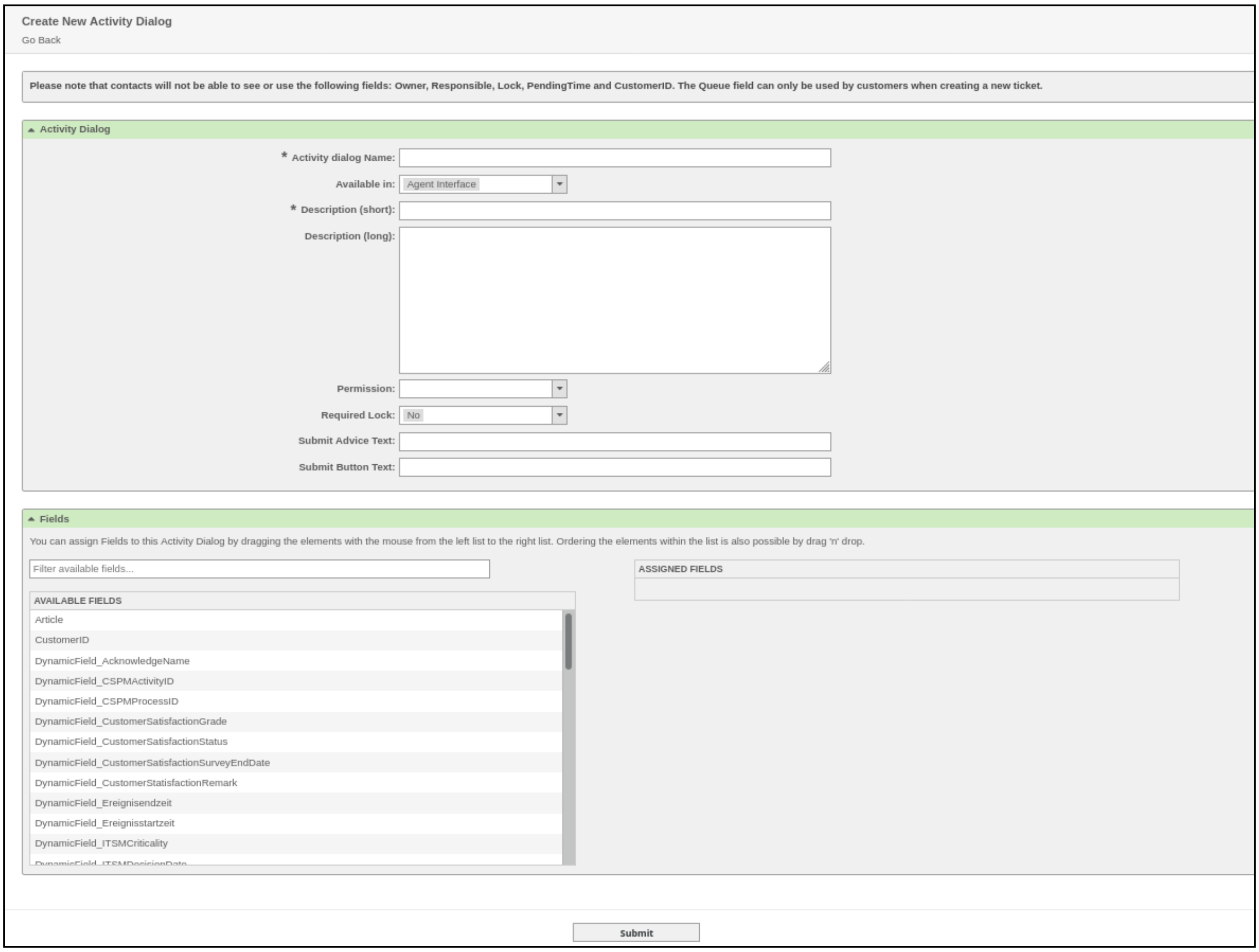


Figure: Create New Activity Dialog

9.2.4 Creating a New Transition

In the *"Available Process Elements"* widget, click "Create New Transition" button. The following widget will open:

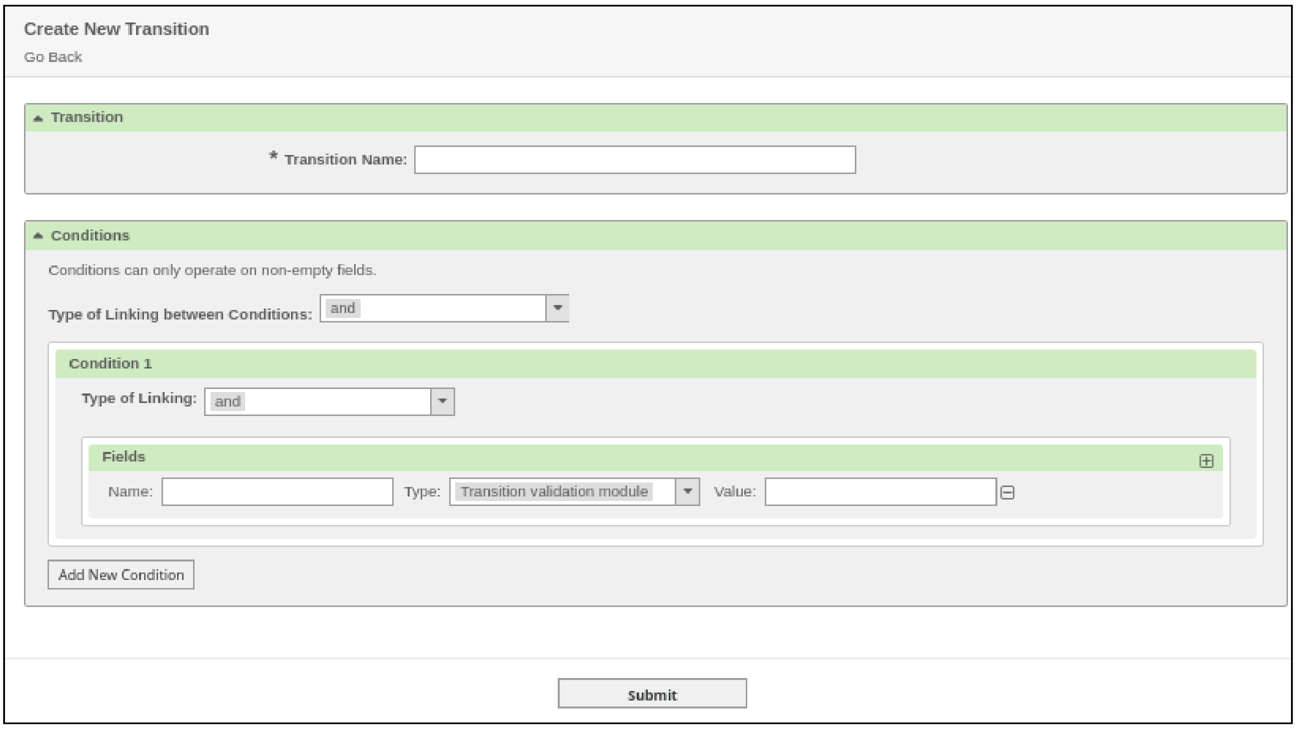


Figure: Create New Transition

Assign the transition a name and enter the conditions for this transition in the *"Conditions"* area. You can link the conditions using the linking types AND, OR, and XOR.

9.2.4.1 Creating a New Transition Action

In the *"Available Process Elements"* widget, click "Create New Transition Action" button. The following widget will open:

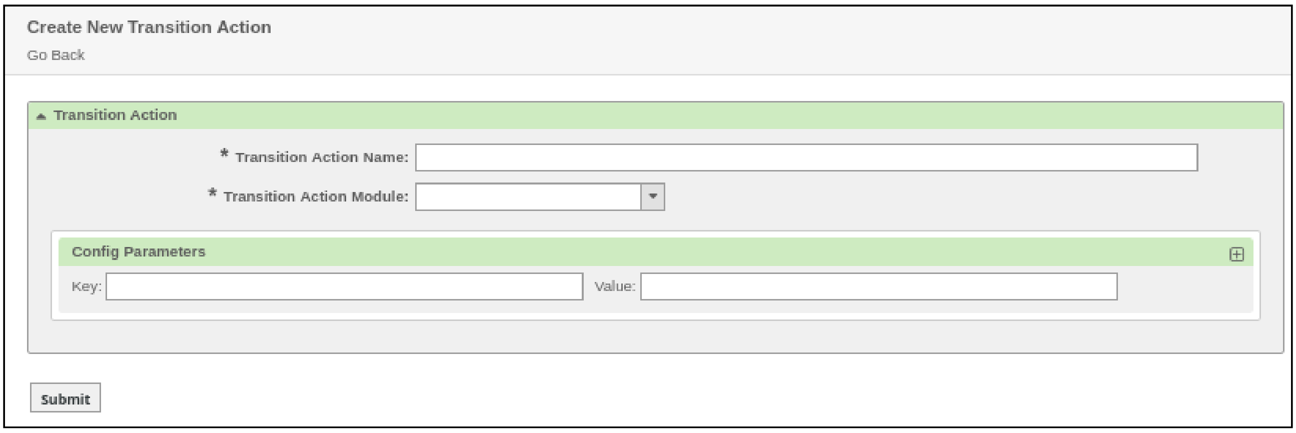


Figure: Create New Transition Action

Assign the transition action a name and select the transition action module. The transition action module outlines what should happen once a condition has been fulfilled, for example, changing a ticket attribute.

In the "Key" / "Value" field within the "Config Parameters" area, enter the attribute and the value to be set for the attribute during transition.

9.3 Manage tasks triggered by event or time based execution

In this area you can create and manage tasks triggered by event or time based execution, such the automatic closing of tickets.
The list shows all of the tasks created in the system. To run the task, click *"Run this task"*.

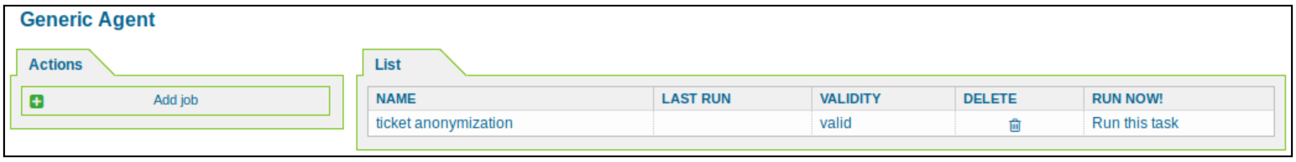


Figure: Generic Agent

9.3.1 Add a New Job

In the *"Actions"* widget click "Add job". The following widgets will appear:

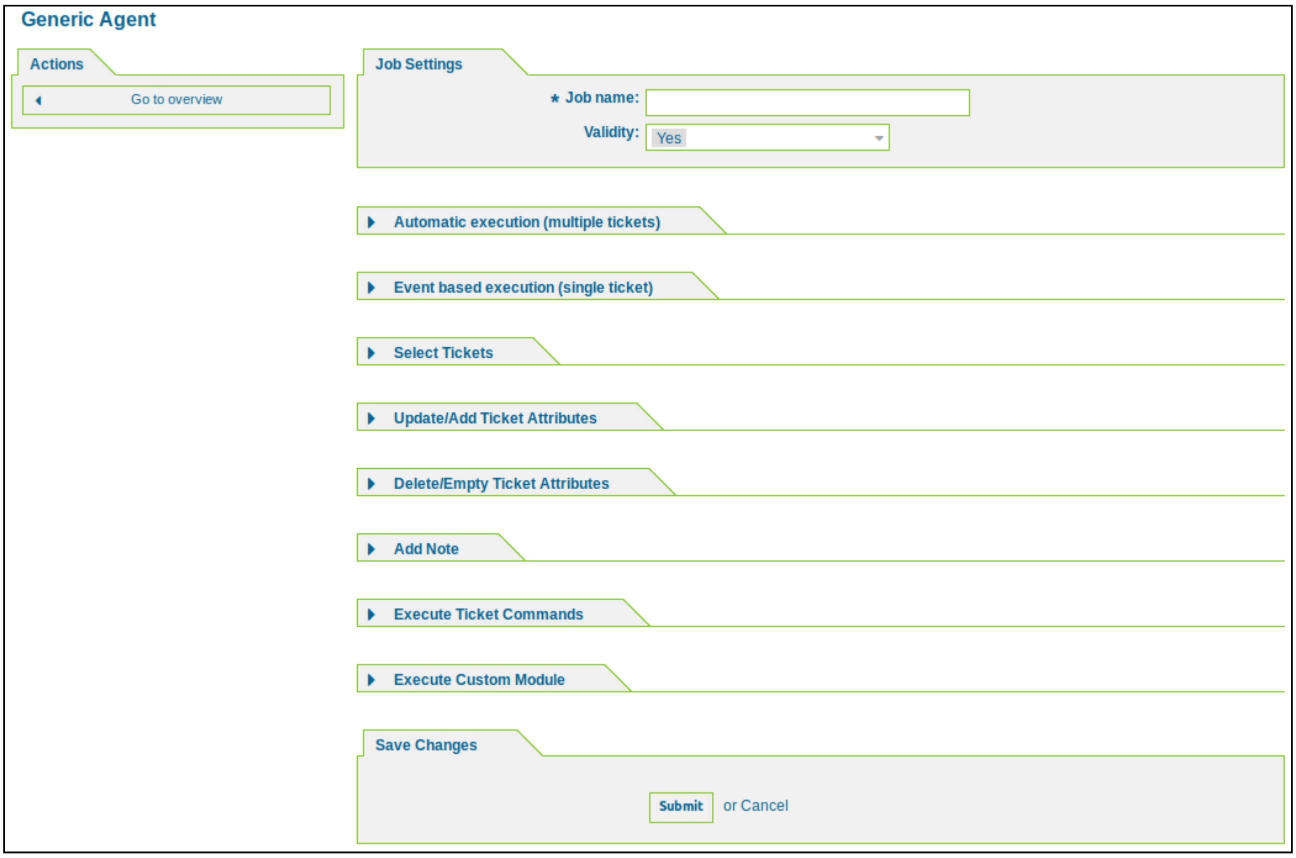


Figure: Add Job

- Enter a name for the task under "Job settings".
- Set the execution time for "Automatic execution (multiple tickets)".

> **Please note**
>
> A cron job is stored in the SysConfig for running the Generic Agent. The cron job execution frequency must be higher than the desired task execution interval.

- Under "Event-controlled execution (single ticket)", specify an event that should trigger the execution of the job.
- With "Select tickets" you can limit which tickets should be affected by the execution of the job.
- In the Update/Add Ticket Attributes widget, you can now specify which ticket attributes should be changed by running the job.
- In the "Delete/Empty Ticket Attributes" widget you can define whether the executed job should clear ticket attributes or clear dynamic field values. Only the ticket attributes "Service" and "SLA" can be emptied.

> **Please note**
>
> Emptying/deleting attributes has a higher priority than updating or adding attributes.

- In the "Add note" widget you can define a note to be added to the selected tickets as an article.

> When performing a GenericAgent job, placeholders from the Subject and Body fields of the Add Note widget will be replaced with the corresponding values of the relevant ticket.
> The following placeholders can be used:
> <KIX_TICKET_...>
> <KIX_TICKET_OWNER_...>
> <KIX_TICKET_RESPONSIBLE_...>
> <KIX_TICKET_DynamicField_...>
> <KIX_TICKET_DynamicField_..._Value>

- In the "Execute Ticket Commands" widget you can specify a module to be executed on the selected tickets.

9.3.2 Digression :: Event on "DynamicFieldFromCustomerUser"

The following example serves to illustrate the course of an event: The location of the contact person should be visible in the ticket in the sidebar ticket information. If the contact person (event) changes, the location is automatically adjusted.

9.3.2.1 Step 1: Create a relevant dynamic field

Go to the Ticket settings tile in the admin module and then to the Dynamic fields item.

In the Actions widget, select the Ticket object and the Text field type for the dynamic field to create.

In the "General" widget, assign a name consisting of letters and numbers and a caption that corresponds to the field name in the frontend.

ℹ️ Tip: Choose the name according to the mapping ID from the SysConfig key. This makes it easier to assign the process.

The "Value TTL" field may remain empty.

The "Field Settings" area can remain empty.

In the "SysConfig settings for the dynamic field" area, you specify in which frontend modules the dynamic field should be displayed. For our example, this is "AgentTicketZoom".

Finally, click on the "Submit" button.

9.3.2.2 Step 2: Enable and configure SysConfig key

To do this, go to the *Ticket* group in the SysConfig and then to the *Core::Ticket* subgroup.

For our example, the key UserCity with the content CustomerCity is relevant in the mapping.

- DynamicFieldFromCustomerUser::Mapping

Activate the key by ticking it.
This key defines the assignment between the variables of the contact person data (input: see info box below) and the values of the dynamic field of a ticket (input: name of the dynamic field). This is how you can save contact person data of a ticket in dynamic fields.

⚠️ They must not be applied to dynamic fields of type AgentTicketPhone, AgentTicketEmail and AgentTicketCustomer. If they are activated in these masks, they later overwrite automatically set values.

- Ticket::EventModulePost###950-DynamicFieldFromCustomerUser

Activate the key by ticking it.
This event module stores attributes of CustomerUser as DynamicFields tickets.

Possible variables of the contact person

```
        # 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', '', 0 ],
        [ 'UserFirstname',  Translatable('Firstname'),  'first_name', 1, 1, 'var', '', 0 ],
        [ 'UserLastname',   Translatable('Lastname'),   'last_name',  1, 1, 'var', '', 0 ],
        [ 'UserLogin',      Translatable('Username'),   'login',      1, 1, 'var', '', 0 ],
        [ 'UserPassword',   Translatable('Password'),   'pw',         0, 0, 'var', '', 0 ],
        [ 'UserEmail',      Translatable('Email'),      'email',      1, 1, 'var', '', 0 ],
#       [ 'UserEmail',      Translatable('Email'), 'email',           1, 1, 'var', '[% Env("CGIHandle") %]?Action=AgentTicketCompose;ResponseID=1;TicketID=[% Data.TicketID | uri %];ArticleID=[% D
        [ 'UserCustomerID', Translatable('CustomerID'), 'customer_id', 0, 1, 'var', '', 0 ],
#       [ 'UserCustomerIDs', Translatable('CustomerIDs'), 'customer_ids', 1, 0, 'var', '', 0 ],
        [ 'UserPhone',        Translatable('Phone'),      'phone',       1, 0, 'var', '', 0 ],
        [ 'UserFax',          Translatable('Fax'),        'fax',         1, 0, 'var', '', 0 ],
        [ 'UserMobile',       Translatable('Mobile'),     'mobile',      1, 0, 'var', '', 0 ],
        [ 'UserStreet',       Translatable('Street'),     'street',      1, 0, 'var', '', 0 ],
        [ 'UserZip',          Translatable('Zip'),        'zip',         1, 0, 'var', '', 0 ],
        [ 'UserCity',         Translatable('City'),       'city',        1, 0, 'var', '', 0 ],
        [ 'UserCountry',      Translatable('Country'),    'country',     1, 0, 'var', '', 0 ],
        [ 'UserComment',      Translatable('Comment'),    'comments',    1, 0, 'var', '', 0 ],
        [ 'ValidID',          Translatable('Valid'),      'valid_id',    0, 1, 'int', '', 0 ],
    ],
```

9.3.2.3 Step 3: Application in the system

In existing tickets, the location of the contact person at the customer is displayed in the ticket information sidebar. If you change the customer's contact person using the People - Customer button, the location in the sidebar is updated automatically.

9.4 Create and Manage WebServices

In this area you can create and manage web services. In "Provider" mode, KIX offers web services that are used by external systems. In "Requester" mode, KIX itself uses web services from an external system.

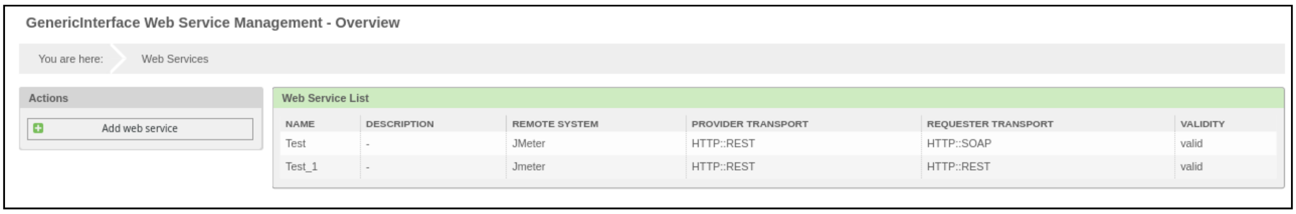


Figure: GenericInterface Web Service Management - Overview

9.4.1 Adding a New Web Service

In the *"Actions"* widget, click "Add web service" button. The following widget will open:

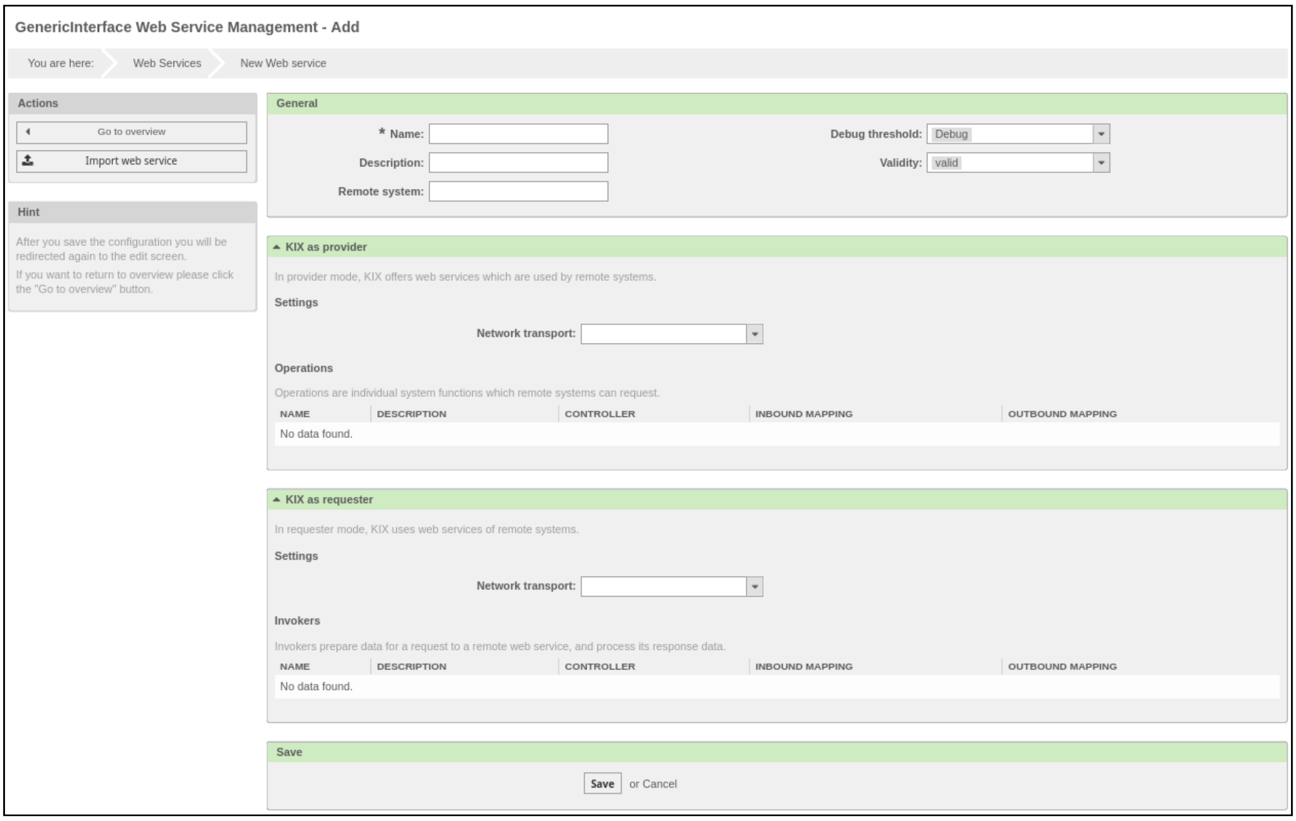


Figure: Add Web Service

Fill in the general fields.

Name*	Assign a name for the web service. Any characters can be entered in this field, including uppercase letters and spaces. The name is displayed in the overview table.
Description	A longer text can be added here, which explains the service in more detail.
Remote system	Put here a reminder of what the other system is. This information will appear later in the overview.

Debug level	The default is debugging. Debug level (low → high): • Troubleshooting • Info • Comment • Failure
Validity	With this setting you determine the validity of the web service. Only if this field is set to valid.

In the widgets "*KIX as provider*" or "*KIX as requester*" you can define the settings for the required web service. In the "Provider" mode, KIX offers web services that are used by external systems. In the "Requester" mode, KIX itself uses web services from an external system.

- KIX as a provider - HTTP :: REST (see page 207)
- KIX as a provider - HTTP :: SOAP (see page 209)
- KIX as requester - HTTP :: REST (see page 210)
- KIX as requester - HTTP :: SOAP (see page 212)

9.4.1.1 KIX as a provider - HTTP :: REST

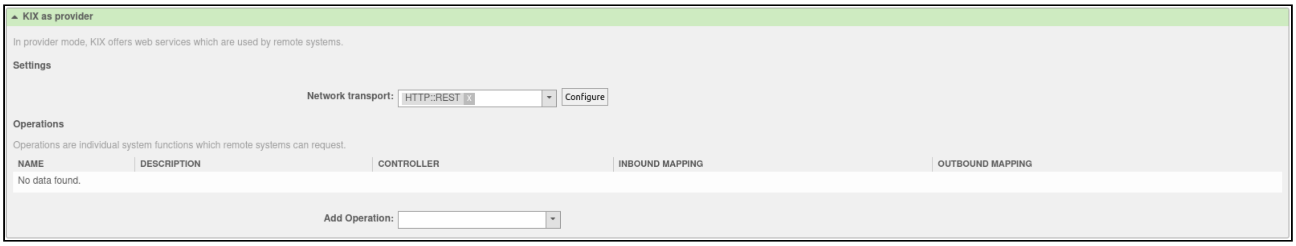
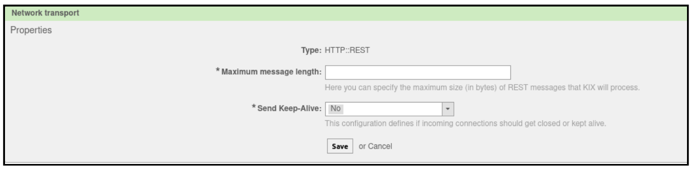


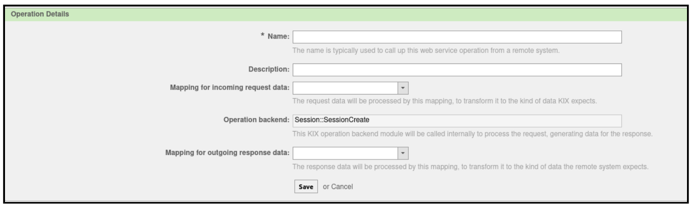
Figure: Add web service - KIX as provider HTTP :: REST

Network transport	Select which network transport you want to use with the web service. **Hint** After selecting the transport method, you must confirm this configuration by clicking on "Save". Only then is a "Configuration" button displayed next to this field.

<table>
<tr>
<td>Configuration

(Is only visible if a network transport has been selected and saved)</td>
<td>If you click on "Configuration", the following page opens:


Here you can set the maximum message length and specify whether incoming connections are closed or remain open. Click "Save" to confirm your entries.</td>
</tr>
<tr>
<td>Add Operation

(Is only visible if a network transport has been selected and saved)</td>
<td>The selection of an operation opens a new view for its configuration (here on the example Session :: SessionCreate).


Enter the name of the operation. The web service operation is called from another system using this name.
A longer text can be added to the description to explain the operation in more detail.
The following options are available for mapping incoming request data: Simple or XSLT. Depending on the selection, the data of the incoming request are processed in order to reshape them as required by the KIX operation.
The operation backend module (preselected in the selection menu on the previous dialog) is called internally to process the request and generates response data in the process. (here on the example Session :: SessionCreate)
The following options are available for the mapping for outgoing response data: Simple or XSLT. Depending on the selection, the response data is processed and transformed by this mapping in the way that the other system needs the data.
Click "Save" to confirm your entries.
</td>
</tr>
</table>

9.4.1.2 KIX as a provider - HTTP :: SOAP

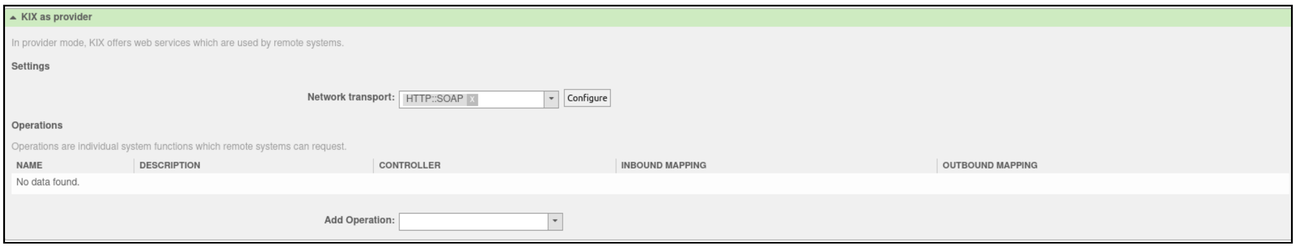
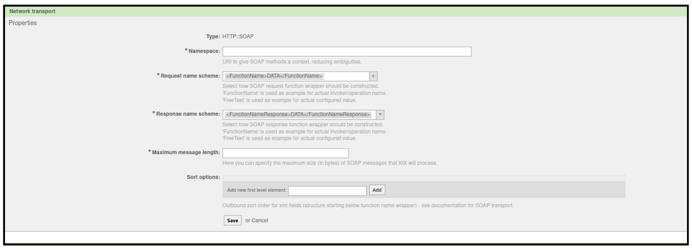
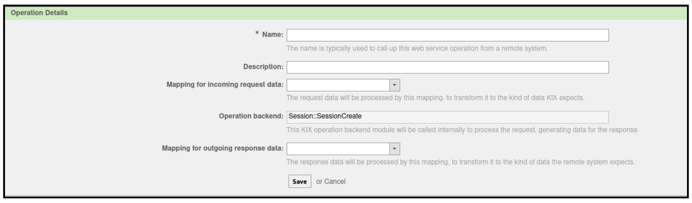


Figure: Adding a web service - KIX as HTTP :: SOAP provider

Network transport	Select which network transport you want to use with the web service. **Hint** After selecting the transport method, you must confirm this configuration by clicking on "Save". Only then is a "Configuration" button displayed next to this field.
Configuration (Is only visible if a network transport has been selected and saved)	If you click on "Configuration", the following page opens:  • In the Namespace field, enter the URI that gives SOAP methods a context and thus resolves ambiguities. • Using the request naming scheme and the response naming scheme, you specify how the SOAP function call or the SOAP response should be carried out. • You can also set the maximum message length and, if necessary, specify a sorting. • Click "Save" to confirm your entries.

Add Operation (Is only visible if a network transport has been selected and saved)	The selection of an operation opens a new view for its configuration (here on the example Session :: SessionCreate).  • Enter the name of the operation. The web service operation is called from another system using this name. • A longer text can be added to the description to explain the operation in more detail. • The following options are available for mapping incoming request data: Simple or XSLT. Depending on the selection, the data of the incoming request are processed in order to reshape them as required by the KIX operation. • The operation backend module (preselected in the selection menu on the previous dialog) is called internally to process the request and generates response data in the process. (here on the example Session :: SessionCreate) • The following options are available for the mapping for outgoing response data: Simple or XSLT. Depending on the selection, the response data is processed and transformed by this mapping in the way that the other system needs the data.

9.4.1.3 KIX as requester - HTTP :: REST

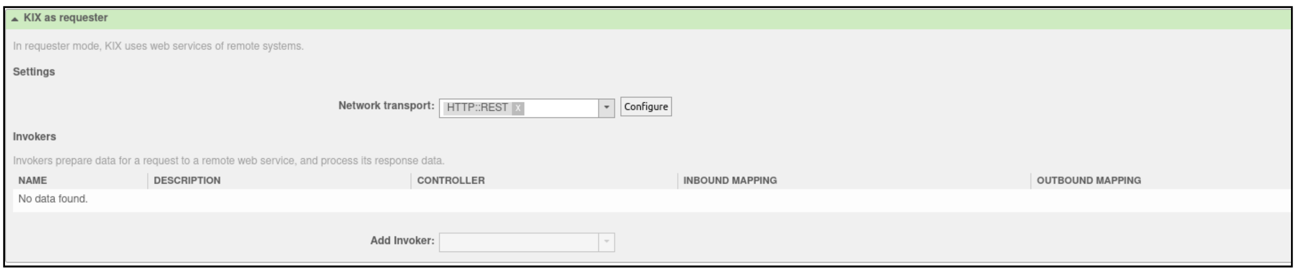


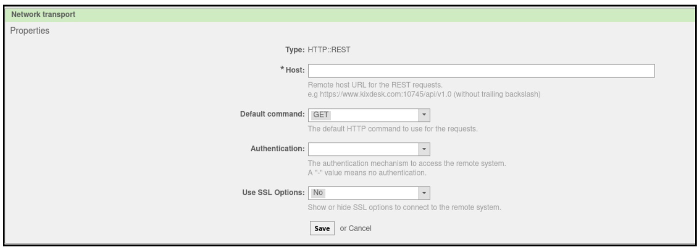
Figure: Adding a web service - KIX as Requester HTTP :: REST

<table>
<tr>
<td>Network transport</td>
<td>Select which network transport you want to use with the web service. Possible values are HTTP :: REST and HTTP :: SOAP.

Hint

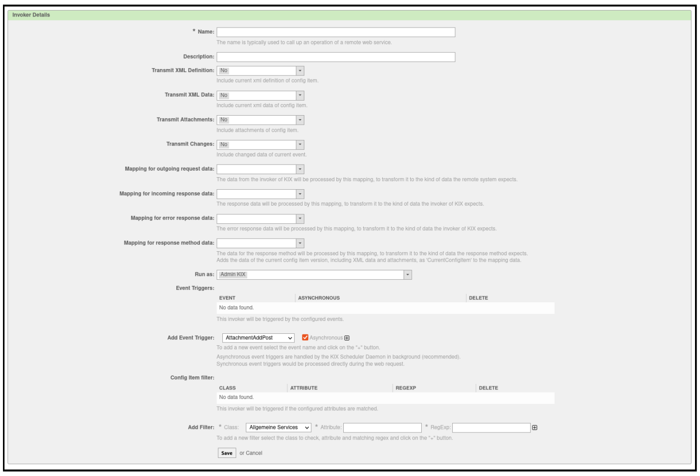
After selecting the transport method, you must confirm this configuration by clicking on "Save". Only then is a "Configuration" button displayed next to this field.</td>
</tr>
<tr>
<td>Configuration

(Is only visible if a network transport has been selected and saved)</td>
<td>If you click on "Configuration", the following page opens:



Entering the host is a mandatory field. As a rule, this is where you store the URL of the server that the system is to access. However, there is also the option of specifying a URI, where the base address of the interface is already contained.
The following are available for the standard command for the request:
CONNECT, DELETE, GET, HEAD, OPTIONS, PATCH, POST, PUT and TRACE
Set the authentication method for accessing the other system.
Tip: The value "-" means no authentication.
Options for using SSL to access the other system can either be shown or hidden.
</td>
</tr>
</table>

<table>
<tr>
<td>Add Invoker

(Is only visible if a network transport has been selected and saved)</td>
<td>

Depending on the selected invoker, a form opens with fields relevant to this invoker.
Assign a name to the invoker. An operation of another web service is called using this name.
Fill in all other fields according to your needs and specifications.
Then click the "Save and Complete" button. This will take you back to the editing screen of the web service.</td>
</tr>
</table>

9.4.1.4 KIX as requester - HTTP :: SOAP

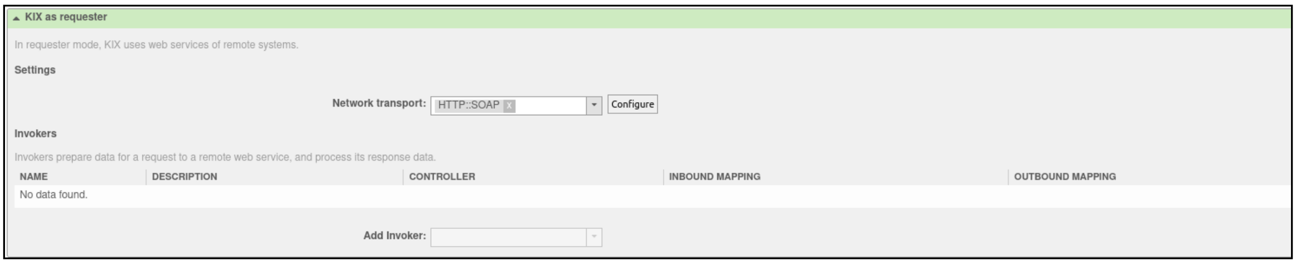
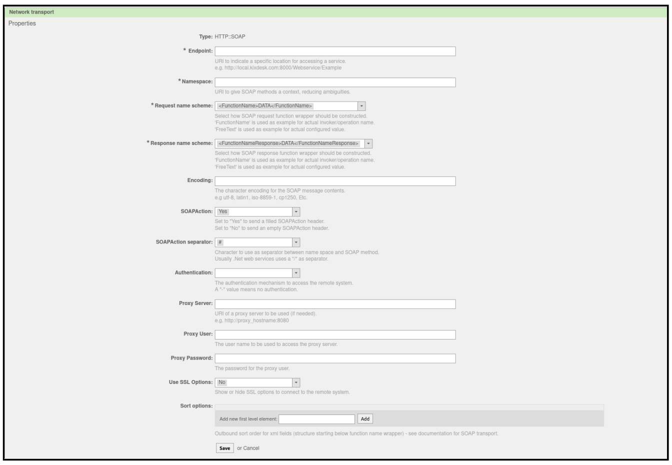


Fig: Adding a web service - KIX as Requester HTTP :: SOAP

<table>
<tr>
<td>Network transport</td>
<td>
Select which network transport you want to use with the web service. Possible values are HTTP :: REST and HTTP :: SOAP.
Hint
After selecting the transport method, you must confirm this configuration by clicking on "Save". Only then is a "Configuration" button displayed next to this field.
</td>
</tr>
<tr>
<td>
Configuration
(Is only visible if a network transport has been selected and saved)
</td>
<td>
If you click on "Configuration", the following page opens:



You have to enter:

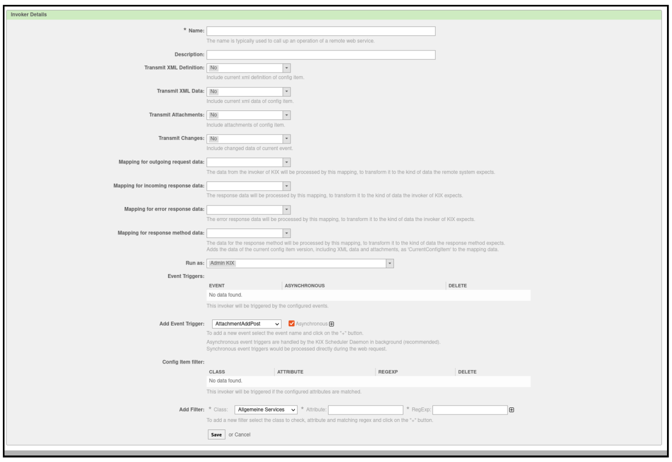
the endpoint (URI for access to a web service)
the namespace (URI, which gives SOAP methods a context and thus resolves ambiguities.)
Request naming scheme (Specify how the SOAP function call should be constructed.)
Response naming scheme (Specify how the SOAP response should be constructed.)

Fill in all other fields according to your needs and specifications.
Click "Save" to confirm your entries.

</td>
</tr>
</table>

<table>
<tr>
<td>
Add Invoker

(Is only visible if a network transport has been selected and saved)
</td>
<td>



Depending on the selected invoker, a form opens with fields relevant to this invoker.

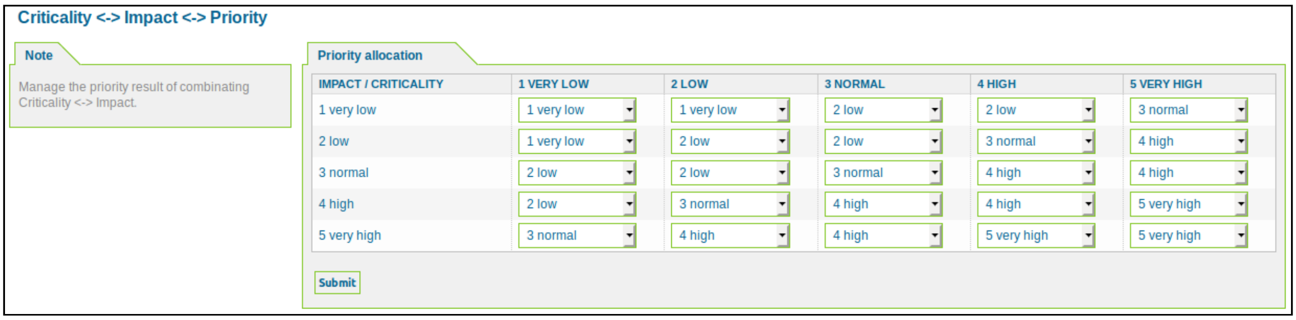
- Assign a name to the invoker. An operation of another web service is called using this name.
- Fill in all other fields according to your needs and specifications.
- Then click the "Save and Complete" button. This will take you back to the editing screen of the web service.

</td>
</tr>
</table>

⚠ You can have a web service logged. When logging is activated any credentials provided (passwords etc.) are saved in the DB.

9.5 Manage Priorities Matrix

In this area you can manage priorities by combining Impact <-> Criticality.


Criticality <-> Impact <-> Priority

Note

Manage the priority result of combinating Criticality <-> Impact.

Priority allocation

IMPACT / CRITICALITY	1 VERY LOW	2 LOW	3 NORMAL	4 HIGH	5 VERY HIGH
1 very low	1 very low	1 very low	2 low	2 low	3 normal
2 low	1 very low	2 low	2 low	3 normal	4 high
3 normal	2 low	2 low	3 normal	4 high	4 high
4 high	2 low	3 normal	4 high	4 high	5 very high
5 very high	3 normal	4 high	4 high	5 very high	5 very high

Submit

Figure: Criticality < - > Impact < - > Priority

9.6 Import and Export Object Information

In this area you can import and export object information.

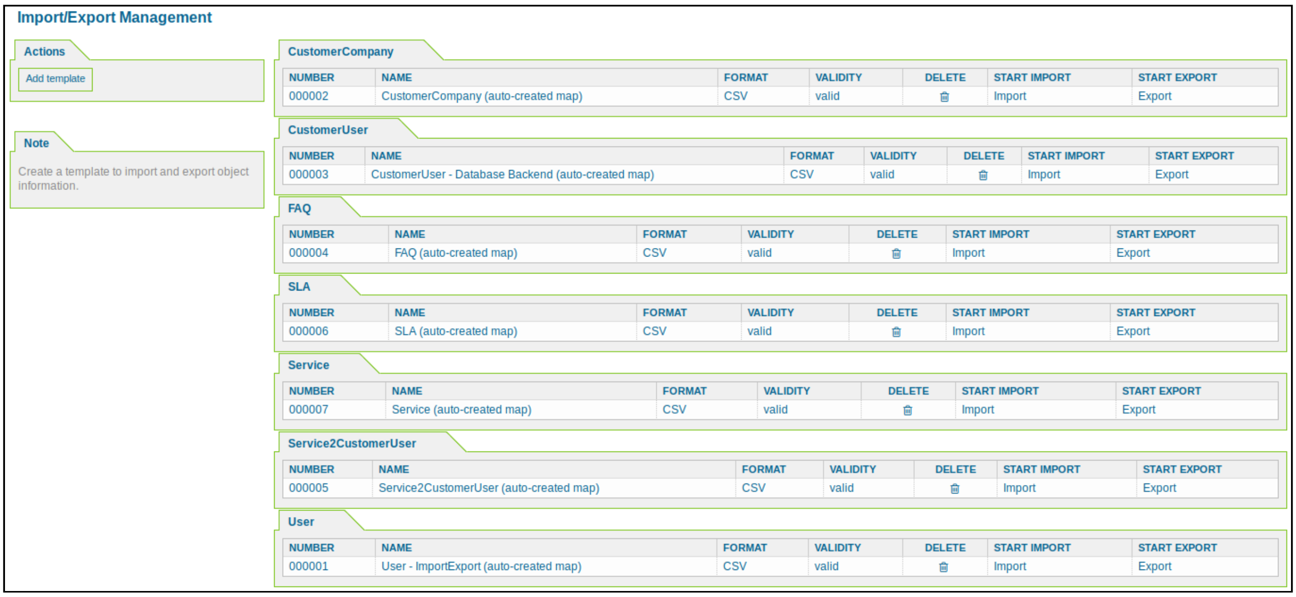


Figure: Import/Export Management

> **Warning**
>
> There is no validation for correct formats during imports. Check that all formats have been entered correctly before starting the import.
>
> Example: If you enter the date format incorrectly in the import file Date (DD-MM-YYYY instead of the correct format YYYY-MM-DD), the date will always be changed to the current day when the CIs are processed in the system. There is a risk of data loss here!

9.6.1 Create a New Template for Import/Export

In the *"Actions"* widget click "Add template". The following widget will open:

Step 1:

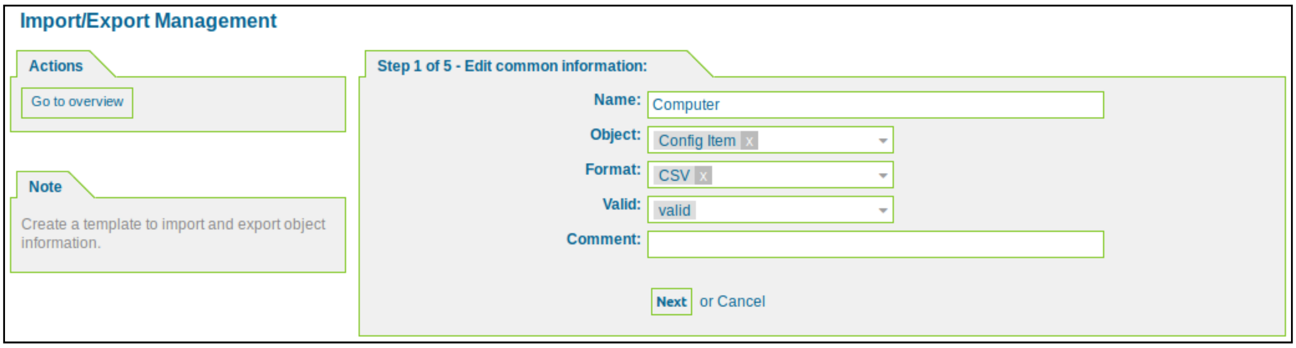


Figure: Edit Common Information

Select the object and assign the template a name. Then click "Next".

Step 2:

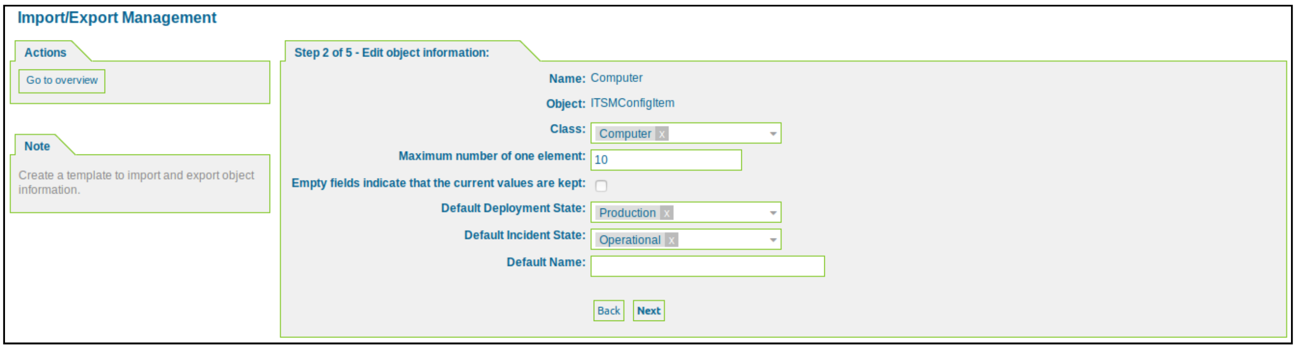


Figure: Edit Object Information

Here you can edit the format information. Then click "Next".

Please note: When importing an empty value for the attribute type 'GeneralCatalog', it is emptied. For this, the field 'Empty fields leave the current value' must not be set.

Step 3:

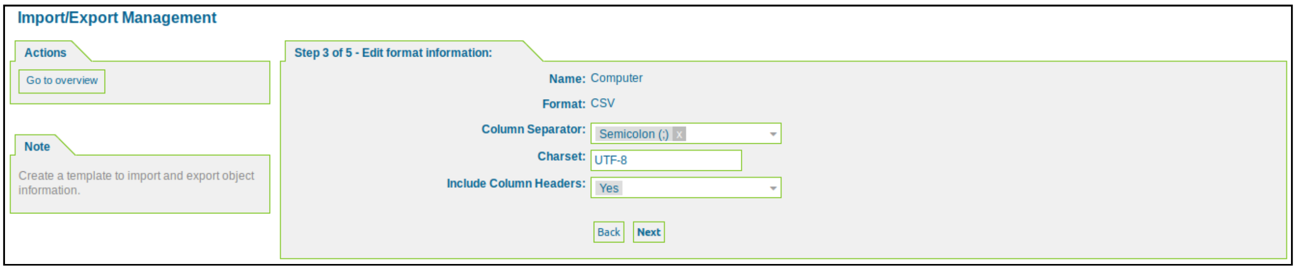


Figure: Edit Format Information

Here you can edit the format information. Then click "Next".

Step 4:

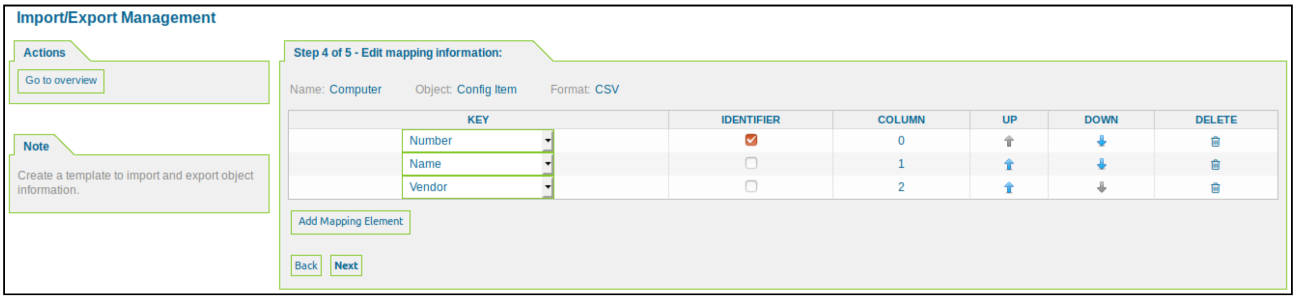


Figure: Edit Mapping Information

Here you can edit the mapping information. Then click "Next". The order of the keys has to correspond to the order of the columns in the CSV file.

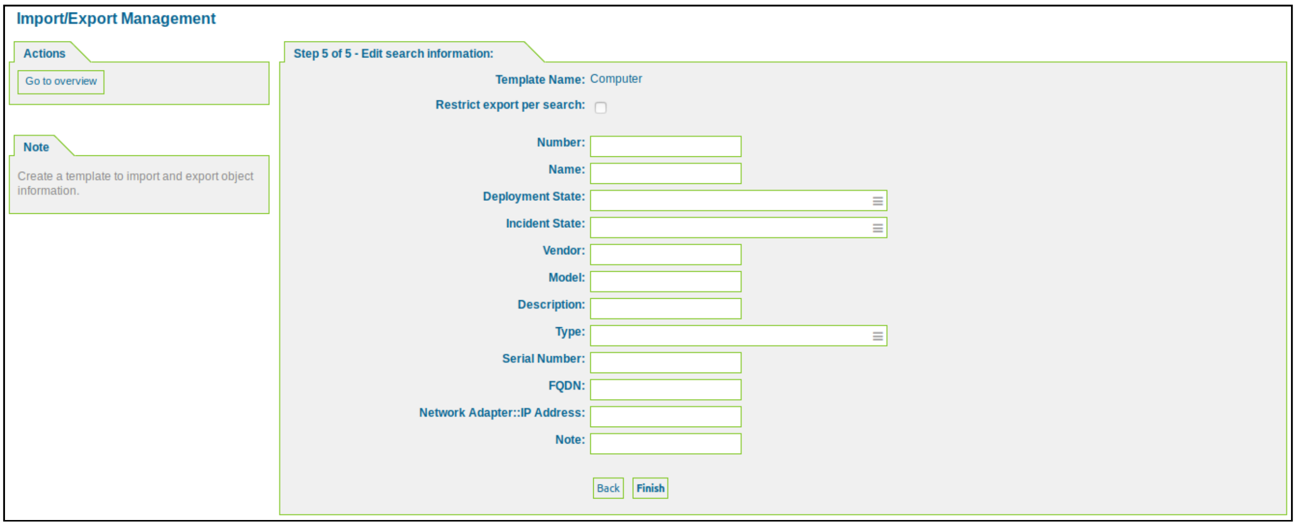


Figure: Edit Search Information

Here you can edit the search information. This allows the export to be restricted according to the criteria. Then click "Finish".

9.6.2 Hints

- If you do not see any results when importing data, it may be because you ticked an unfavorable attribute in the "Identifier" column. If the column of the selected attribute is empty (i.e. the identifier is not given), the import will fail.
- If you tick the "Number" attribute, you will always achieve a result because KIX sets this value automatically.
- Validity of data to be imported: If no information is specified in the import data, default validity will be used.

- Import of CustomerUser:
    - Force import in configured customer backend": if enabled, the entry will be added/updated to/in the customer data backend to which the mapping refers even if the login exists in another backend.
    - "Default Customer ID": Defines a default group that is assigned to a new faq-category if not specified in import date.
    - "Maildomain-CustomerID Mapping": automatically build customer ID out of mail-domain (requires some SysConfig settings which domain should be mapped to which customer ID) CustomerUserImport::EMailDomainCustomerIDMapping
    - "Default Email": default email address if not specified in import data
    - "Reset password if updated": Resets the user password to user login if user data is updated in writable customer data backend.
    - "Password-Suffix": a reset password will be identical with the login followed by this suffix
    - "Default Validity": If no valid information is provided in import data, this valid information is used.
    - The field "UserLogin" is automatically used as identifier for existing entries: If a Customer with the given UserLogin already exists it will be updated. Otherwise a new Customer will be created.

- Import of CustomerCompany data:
    - The "CustomerID" field is automatically used as an identifier for existing entries: If a CustomerCompany already exists with the specified CustomerID, it will be updated. Otherwise, a new customer company will be created.

- Import of FAQ:
    - The import will automatically create FAQ-categories and sub-categories which do not exist yet. If you import a complete FAQ-category tree, the CSV-data should be sorted ascending by the full FAQ-category name. This ensures, that a top-level-category is imported/created with you given date before its subcategories.

  - The field "Number" is used as identifier for existing entries. If an FAQ item with the given number already exists it will be updated. Otherwise a new item will be created, leaving a log message that the Number was not known.
    You can change the default mapping configuration, if you want a new FAQ entry to be created for each row of the export data (without trying to find and update an existing FAQ with the given number). Just clear the check box "Identifier" for the field "Number".
  - Note: "Number" is the only field that can be used as identifier, because other fields don't have unique values. So, please do not set the check box "Identifier" for other fields - it will have no effect.
  - Note: It is not possible to im-/export attachments so far.
- Import from SLA
  - Default SLA type: Depending on the availability of the GeneralCatalog class "ITSM::SLA::Type" you can define a default SLA type for a service to be imported (if not specified in the provided data).
  - Number of assigned services:
    - An SLA can be assigned to many services, initially it is assumed that 50 services are sufficient. If you need more AssignedServices, you can increase this number in the assignment configuration. This limits the number of "AssignedService" selections in step 4 of the mapping configuration.
    - The "SLA Name" field serves as an identifier for existing entries. If an SLA with the specified name already exists, it will be updated. Otherwise a new SLA will be created. You can change the default mapping configuration and select "SLA ID" as the identifier. Note: Only "SLA Name" or "SLA ID" can be used as an identifier, since other fields do not have unique values. Therefore, please do not set the "Identifier" check box for other fields - it has no effect.
- Import of Services:
  - When importing and exporting services, you can create your own import/export mappings. For ease of use and to provide initial functionality, mappings are created automatically on reinstallation. A check is made as to whether assignments with the specified standard names already exist. If this is the case, no new assignment is created. If no mappings exist yet, a default mapping will be created.
    Important: Check your configurations before actually using these default mappings.
  - Default service type: Depending on the availability of the GeneralCatalog class "ITSM::Service::Type" you can define a default service type for a service to be imported (if not specified in the provided data).
  - Default criticality: Depending on the availability of the GeneralCatalog class "ITSM::Core::Criticality" you can define a default criticality for a service to be imported (if not specified in the provided data).
  - CSV line with service ID: The "ServiceID" field serves as an identifier for existing entries. If a service with the specified ID already exists, it will be updated. Otherwise, a new service will be created.
    You can change the default mapping configuration and choose the "Full Service Name" as the

identifier.
Note: Only "ServiceID" or "Full service name" can be used as an identifier, since other fields do not have unique values.

9.7 Update and Extend Your System With Software Packages

In this area, you can install new packages for the KIX system and view information about installed packages.

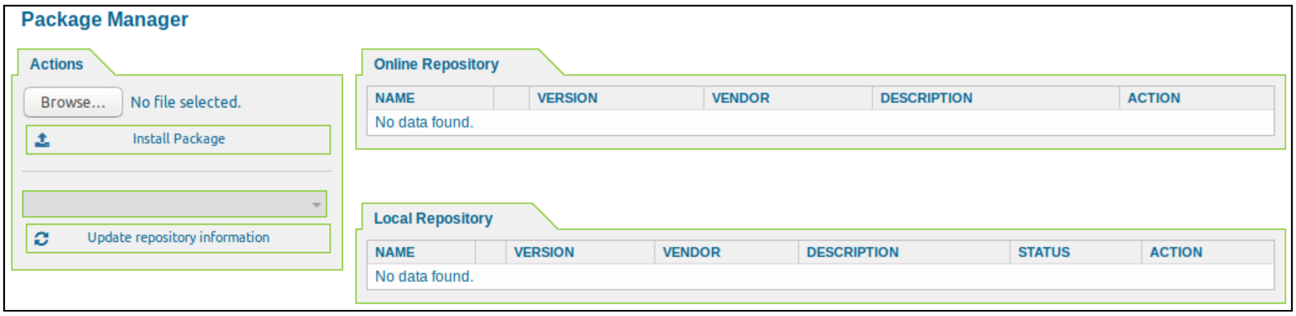


Figure: Package Manager

9.8 SysConfig

In this area you can edit system settings.

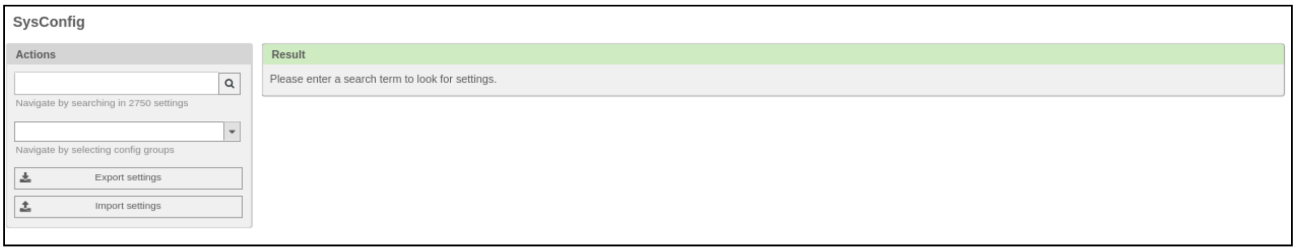


Figure: SysConfig

Tip

If importing objects with a backslash in the name does not work, it is because the CI search fails in KIX.
Change the SysConfig key 'Database::LikeQuoteBack' , which controls whether backslashes in LIKE statements can be double quoted, to "Yes"'.

Application example:

If you are an agent, clicking *"Search"* menu item in *"CMDB"* menu in the frontend allows you to search for ConfigItems (CIs) or create search templates for searching for ConfigItems.

To execute this search, applicable CIs have to be created or imported.

9.8.1 Allow large attachments to be uploaded

In order not to affect the performance of the system, the file upload is limited. If it is necessary to upload large files to the system, you have the option of setting this up in your KIX.

To do this, go to the *Framework* group in the *SysConfig* and there to the *Core::Web* subgroup.

- WebMaxFileUpload

In this key you define the maximum size (in bytes) for uploading files with the browser. The default value is 24000000 (corresponds to 24 MB).

⚠️ Do not choose the size too small, otherwise many input masks will no longer work in your KIX instance.

9.8.2 Bulk campaign for ticket function Observe

Activation of the ticket monitoring feature is a prerequisite for making this action available.

Therefor go to the Ticket group in SysConfig and then to the Core :: TicketWatcher subgroup.

Set the Ticket :: Watcher key to Yes.

The "collective action - monitoring" function is activated in the delivery state.

If you would like to deactivate this, go to the Ticket group in SysConfig and then to the Frontend :: Agent :: Ticket :: ViewBulk subgroup.

Set the key Ticket :: Frontend :: AgentTicketBulk ### TicketWatch to "No".

9.8.3 Configuration of the overview lists of tickets

9.8.3.1 Representation of the article when opening

- SysConfig key "Ticket :: Frontend :: Overview :: PreviewArticleTypeExpanded"

This SysConfig key can be found under Ticket → Frontend :: Agent :: TicketOverview and it specifies which article type should be displayed when the overview view is opened. If no type is given, the newest item is shown expanded.

This has an impact on the ticket views: B. Call up "View according to status", switch to view 'L'.

> ⚠ If the configuration is deactivated, the behavior 'Last customer article' corresponds to the preference 'Article behavior in ticket detail view'. First the last unread article is searched for, then the last customer article, then the last article is taken.

9.8.3.2 Illustration of tickets

In the overview lists for tickets, agents only see tickets to which they have write access.

If tickets with read rights or empty queues are also to be displayed here, this can be set using the following SysConfig key:

- Ticket :: Frontend :: AgentTicketQueue ### ViewAllPossibleTickets
  - If this setting is activated ("Yes"), tickets to which the agent only has read rights are also displayed.
- Ticket :: Frontend :: AgentTicketQueue ### HideEmptyQueues
  - If this setting is activated ("Yes"), the agent also sees queues that only contain blocked tickets.

You can find this SysConfig key under Ticket → Frontend :: Agent :: TicketQueue.

9.8.4 Configuring your own events

Various events are predefined in the SysConfig in the delivery state, which can be displayed in the different areas of the graphical user interface. For example, you will find all ticket events under "Events ### Ticket". This is also stored for articles, queues, dynamic fields, contact persons or companies and other objects. In order for such an event to have an effect, it must be stored in the core accordingly. Some events that are not preconfigured here but can be added are presented in this section:

9.8.4.1 Define events for links

The following prefixes are available for events in connection with links

- TicketMasterLinkAdd
- 'TicketMasterLinkDelete
- TicketSlaveLinkAdd
- TicketSlaveLinkDelete

The link type is appended to this for a correct event name. Please note that this refers to the type and not the selected link. Types can be viewed in the SysConfig under the entries of the form "LinkObject :: Type ### ...".

Example

- For the link "parent <-> child" the type is called "ParentChild"
- An available event would be "TicketSlaveLinkAddParentChild"
- This is then added in a new line under the SysConfig key mentioned above.

9.8.5 Create a FAQ entry directly from a ticket

The agent has the option of creating an FAQ entry directly from a ticket. To configure this, proceed as follows:

Step 1: Go to the *Ticket* group in SysConfig and then to the *FAQWorkflow* subgroup.

- Ticket::EventModulePost###200-CreateFAQEntry

Activate this key. It enables the creation of an FAQ entry from the currently generated article.

Step 2: Go to "Dynamic Fields" in the ticket settings in the Admin module. In the list of dynamic fields you will find the entry "KixFAQEntry".

- Open the entry and assign the dynamic field in which context it should be integrated (here: AgentTicketPhone).
- Click Submit to save the setting.

Step 3 (OPTIONAL): Go to the *Framework* group in the SysConfig and then to the *FAQWorkflow* subgroup.

- FAQWorkflow::Basic

The contents of this key are fixed by the system and contain the basic settings for the FAQ editing process.

- FAQWorkflow::CreateLink

The key defines whether the new FAQ article is linked to the source ticket. The default value is "Yes".

- FAQWorkflow::ResetTriggerFlag

The key defines whether the triggering flag on the source ticket/item is reset. The default value is "Yes".

9.8.6 Create list of placeholders for collective action

It is possible to define a list of placeholders that can be used in the collective action. All available placeholders are allowed in the delivery state.

Therefor go to the Ticket group in SysConfig and then to the Frontend :: Agent :: Ticket :: ViewBulk subgroup.

- Ticket :: Frontend :: AgentTicketBulk ### PlaceholderWhitelist

Here you can define a list of permitted placeholders that can be replaced with information.

The following placeholders can be used for this:

- <KIX_TICKET _ *>,
- <KIX_TICKET_TicketID>,
- <KIX_TICKET_Queue>,
- <KIX_TICKET_State>).
- <KIX_TICKET_OWNER _ *>
- <KIX_TICKET_RESPONSIBLE _ *>
- <KIX_TICKET_DynamicField _ *>
- <KIX_TICKET_DynamicField_TicketFreeText1>)
- <KIX_TICKET_DynamicField _ * _ Value>

It is also possible to use a regular expression as a placeholder (example: TICKET _. *).

If you use a placeholder that is not on the list, it will be replaced by "-".

9.8.7 Dashboard Widgets: Extension of the presorting

It is possible to pre-sort the results list in SysConfig for the respective dashboard configuration of the TicketGeneric type. The "PreSortDefault" and "PreOrderDefault" parameters are required to define a presorting.

- "PreSortDefault" defines the attribute that applies to the presorting.
  - Available attributes: Owner, Responsible, CustomerID, State, Queue, Priority, Type, Lock, Service, SLA
- "PreOrderDefault" defines the sorting direction of the presorting.
  - Direction available: Down, Up

In order to enable the agent to pre-sort in the widget settings of the respective dashboard, the key "UserPreSortActive" must be set to 1 in the SysConfig for the respective dashboard configuration. If this value is set to 0, the agent cannot make any settings. Then only the configuration from the SysConfig applies.

If the "UserPreSortActive" key is set to 1, the agent can also change the pre-sorting in the widget settings if "PreSortDefault" and "PreOrderDefault" are not assigned in the SysConfig. A selection with the available attributes that are available for pre-sorting is displayed. The pre-sorting set by the agent is stored in the personal preferences for the dashboard.

> **Note**
>
> The dashboards no longer show a result if the agent only selects the attribute to be sorted in the widget settings but not the sorting direction and no specification was made for "PreOrderDefault" in the SysConfig.

9.8.8 Enter regional holidays in the calendar

You have the option of creating regional holidays in the calendar. In this way, agents can immediately see whether this day is a working day when they create a due date.

Therefor go to the Framework group in SysConfig and then to the Core :: Time subgroup.

- TimeVacationDaysModules ### 000-MaundyThursday

Adds a module for calculating Maundy Thursday. Key is inactive upon delivery.

- TimeVacationDaysModules ### 004-CorpusChristi

Adds a module for calculating Corpus Christi. Key is inactive upon delivery.

- TimeVacationDaysModules ### 005-RepentancePrayer

Adds a module for calculating the day of penance and prayer. Key is inactive upon delivery.

You can use this scheme to create additional regional public holidays in the calendar if required.

9.8.9 Make article flags visible to other agents

With flags, agents can set certain indicators on tickets. It is also possible to make these flags visible to all agents so that they can be edited by all.

To do this, go to the Ticket group in SysConfig and then to the Frontend :: Agent :: Ticket :: ViewTicketZoomTabArticle subgroup.

- Ticket :: Frontend :: AgentTicketZoomTabArticle ### ArticleFlagsShared

This setting determines whether a flag is shared with other agents.

To restrict this function, different SysConfig keys must be combined with one another. This makes it possible to configure flags in such a way that they do not allow editing (setting text entries), but can only be set and removed.

There are the following options:

- Ticket :: Frontend :: AgentTicketZoomTabArticle ### ArticleFlagsOnlyOwnerAndResponsible => Yes
    - ArticleFlagsShared => 0
        - ArticleFlagsWithoutEdit => 0
            - The editor or person responsible can create, see, edit and delete their own flag. ⚠️ If your own flag is created and the engineer changes, the old engineer still has the option of deleting it.
            - Another agent has no rights to the flag.
        - ArticleFlagsWithoutEdit => 1
            - The editor or person responsible can create, see and delete their own flag.
            - Another agent has no rights to the flag.

    - ArticleFlagsShared => 1
        - ArticleFlagsWithoutEdit => 0
            - The editor or person responsible can create, see, edit or delete a shared flag. ⚠️ If a split flag is created and the engineer changes, the new engineer has the option to delete. The old processor can no longer do this.
            - Another agent can see the shared flag.
        - ArticleFlagsWithoutEdit => 1
            - The editor or person responsible can create, see and delete a shared flag.
            - Another agent can see the shared flag.

- Ticket :: Frontend :: AgentTicketZoomTabArticle ### ArticleFlagsOnlyOwnerAndResponsible => No.
  - ArticleFlagsShared => 0
    - ArticleFlagsWithoutEdit => 0
      - The editor or person responsible can create, see, edit and delete their own flag.
      - Another agent can see, edit, and clear this flag. He can also create his own flags.
    - ArticleFlagsWithoutEdit => 1
      - The editor or person responsible can create, see and delete their own flag.
      - Another agent can see this flag and clear it. He can also create his own flags.
    - ArticleFlagsShared => 1
      - ArticleFlagsWithoutEdit => 0
        - The editor or person responsible can create, see, edit and delete a shared flag.
        - Another agent can see, edit, and delete the shared flag. He can also create his own flags.
      - ArticleFlagsWithoutEdit => 1
        - The editor or person responsible can create, see and delete a shared flag.
        - Another agent can see the shared flag and clear it. He can also create his own flags.

9.8.10 Personalized Footer

You can add links to the footer of your KIX which refer to the legal notice, data protection statement, or a general help page, for example.

For this, in *SysConfig*, go to *Framework* group, and then to subgroup *Core::CustomFooter*.

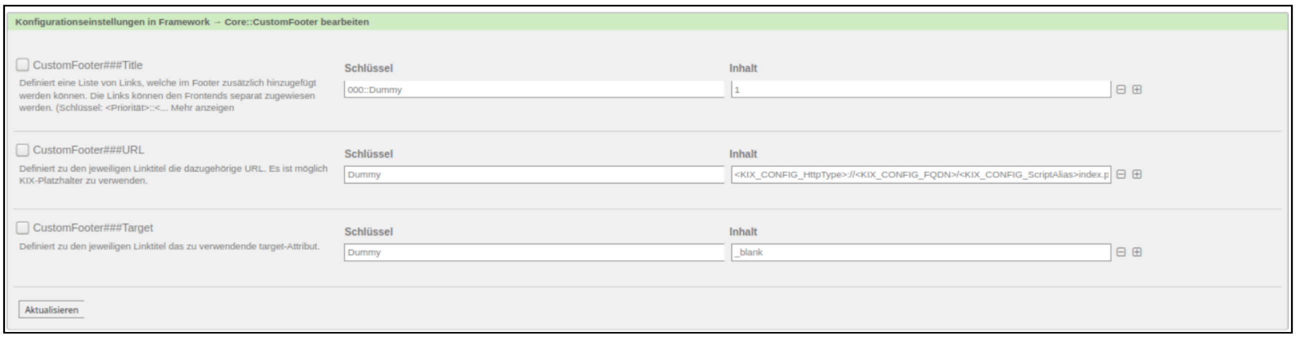


Figure: Custom Footer Settings

- CustomFooter###Title

Here, you can create a list of links that can be additionally inserted in the footer. The links can be assigned separately to the frontends.

- CustomFooter###URL

Defines the associated URL for each link title. It is possible to use KIX placeholders.

- CustomFooter###Target

Is an optional specification and determines where the link is called up. If you enter nothing, the link opens in the same window and the user would 'leave' KIX.

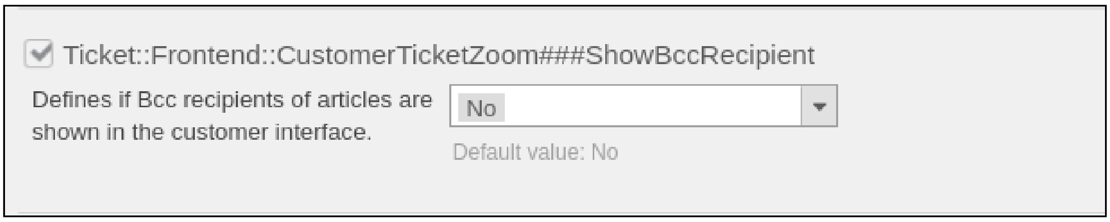
Tip: A common general entry is *_blank*. Depending on browser used, the link is opened in a new tab or a new window.

9.8.11 Representation of the BCC recipient on the article

In some areas it is necessary for an agent to be able to see the BCC recipient (s) of an article. You can use the following setting to make the BCC recipient visible.

To do this, go to the *Ticket* group in SysConfig and then to the *Frontend :: Customer :: Ticket :: ViewZoom* subgroup.

The corresponding SysConfig key is: "*Ticket :: Frontend :: CustomerTicketZoom ### ShowBccRecipient*"



9.8.12 Setting search parameters for full-text search

To configure the search parameters for the full-text search, go to the Ticket group in SysConfig and there to the Core::FulltextSearch subgroup.

The following keys can be edited there:

- Ticket::SearchIndexModule

Helps to expand your article full text search index (From, To, Cc, Subject and Text search). It creates an index after article creation, which increases the speed of full-text searches by around 50%. Use "bin/kix.Console.pl Maint::Ticket::FulltextIndex --rebuild" to create an initial index. This setting cannot be disabled.

Default: RuntimeDB

- Ticket::SearchIndex::WarnOnStopWordUsage

Displays a warning and prevents searching when stop words are entered in full-text search. This setting cannot be disabled.

Default: --- 0

- Ticket::SearchIndex::Attribute

Basic settings for the full-text index. Run "bin/kix.Console.pl Maint::Ticket::FulltextIndexRebuild" to rebuild the index. This setting cannot be disabled.

Default values:

- WordCountMax: '1000'
- WordLengthMax: '30'
- WordLengthMin: '3'

- Ticket::SearchIndex::Filters

Full-text index regex filter to remove parts of text. This setting cannot be disabled.

Default value:

- - '[,\&\<\>\?"\!*\|;\[\]\(\)\+\$\^=]'
- - ^[':.]|[':.]$
- - ^[^\w]+$

- Ticket::SearchIndex::StopWords###en

English stop words for the full-text index. These words will be removed from the search index.

Default value: see list in KIX

- Ticket::SearchIndex::StopWords###Custom

Customizable stop words for the full-text index. These words will be removed from the search index. This setting is not active by default.

Default value: - MyStopWord

In order to also consider the contents of dynamic fields in the search, make the following settings in the SysConfig. Go to the *Ticket* group and there to the *Frontend::Agent::Ticket::ViewSearch* subgroup.

- Ticket::Frontend::AgentTicketSearch###FulltextSearchInDynamicFields

Specify a list of dynamic fields that should also be used in a full-text search. Currently only fields of type "text" and "textarea" are supported.

Possible settings: 0 = Disabled, 1 = Use in full-text search.

9.8.13 Set the browser title for ticket number or ticket title

Therefor go to the Ticket group in SysConfig. You can adjust the browser title in the following subgroups:

Ticket :: Frontend :: AgentTicketZoom
Ticket :: Frontend :: CustomerTicketZoom
Ticket :: Frontend :: PublicTicketZoom

In the configuration setting you define the browser title using the respective SysConfig key:

Ticket :: Frontend :: AgentTicketZoom ### BrowserTitle
Ticket :: Frontend :: CustomerTicketZoom ### BrowserTitle
Ticket :: Frontend :: PublicTicketZoom ### BrowserTitle

Here it is possible to use KIX placeholders.

9.8.14 Set up follow-up notifications

The agent should be able to receive information about a closed ticket despite a closed ticket. As an admin, you can configure that a follow-up notification is sent even though the request option for the queue is set to "declined".

To do this, go to the *Ticket* group in the *SysConfig* and then to the *Core::PostMaster* subgroup.

- PostMaster::Reject::NoAgentNotify

Key is set to "No" by default. This means that the PostMaster does not send any follow-up notifications if a follow-up is read for a closed ticket but the queue option 'Follow up Option' is set to 'reject'.

- You can define the queue options in the Admin module in the Queue settings area when creating or editing each queue. The options here are: reject, possible, new ticket.

If you set the key "PostMaster::Reject::NoAgentNotify" to "Yes", the FollowUp notification will still be sent.

9.8.15 Translation

You can edit translations in the SysConfig area. Services, SLAs and types are translated with the following SysConfig keys:

- Ticket :: ServiceTranslation,
- Ticket :: SLATranslation
- Ticket :: TypeTranslation

To do this, go to the *Ticket* group in *SysConfig* and then to the *Core :: Ticket* subgroup. Set the relevant key to "Yes".

The prerequisite is that a translation has been stored in KIX. This affects all selections and lists in the agent/customer view. ⚠️ The only exception is the admin overview. The objects in question are still displayed there in their original form.

9.8.15.1 Translations in the ticket information sidebar

In the ticket information sidebar, the translation is only carried out via the corresponding configuration within the sidebar.

If you activate a translation configuration, you must also adjust the corresponding entry in the SysConfig in *Ticket → Frontend :: Agent :: AgentTicketZoom*.

9.9 Email Settings

The following sections contain information on how to:

- Manage POP3 or IMAP accounts to fetch email
- Set Sender Email Addresses for this System
- Manage PGP Keys for Email Encryption
- Filter Incoming Emails
- Manage S/MIME Certificates for Email Encryption
- Manage OAuth2 Profiles

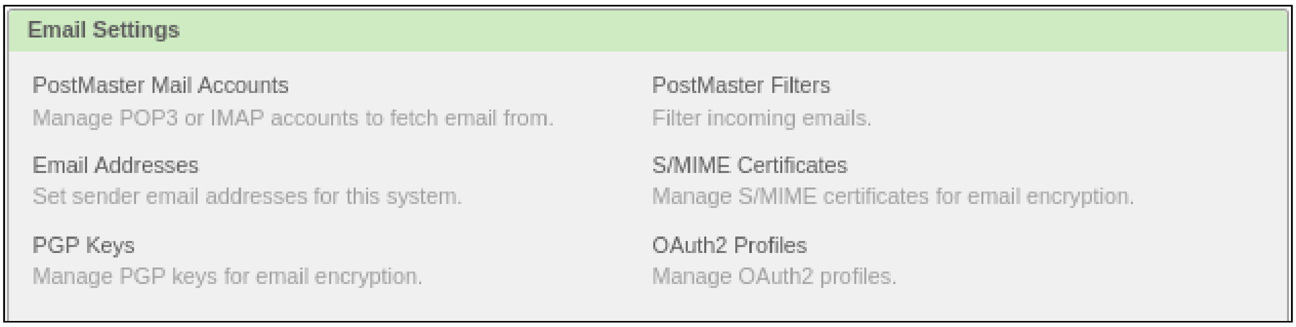


Figure: Email Settings

9.9.1 Manage POP3 or IMAP accounts to fetch email

In this area you can manage the email accounts for incoming mail and select the queues into which the emails from an account should be directed.

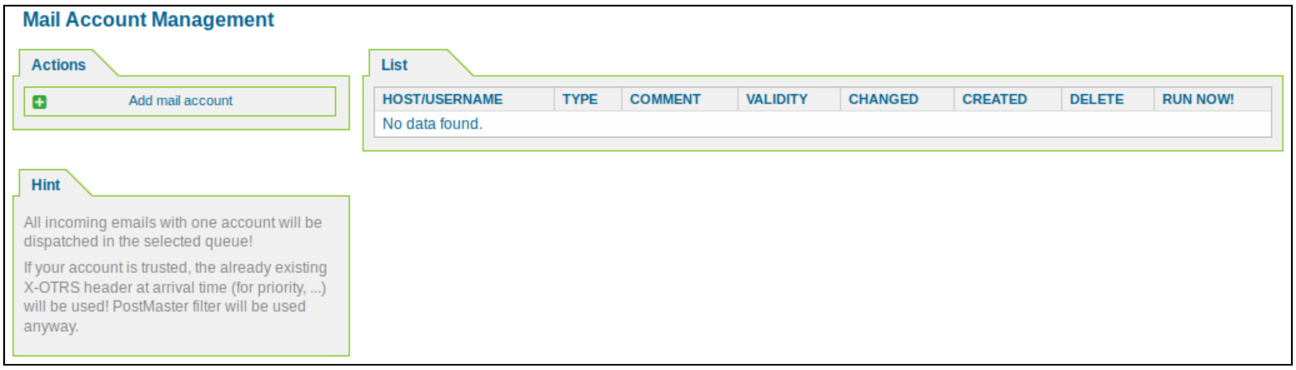


Figure: Mail Account Management

Add Email Account

In the *"Actions"* widget click "Add mail account".

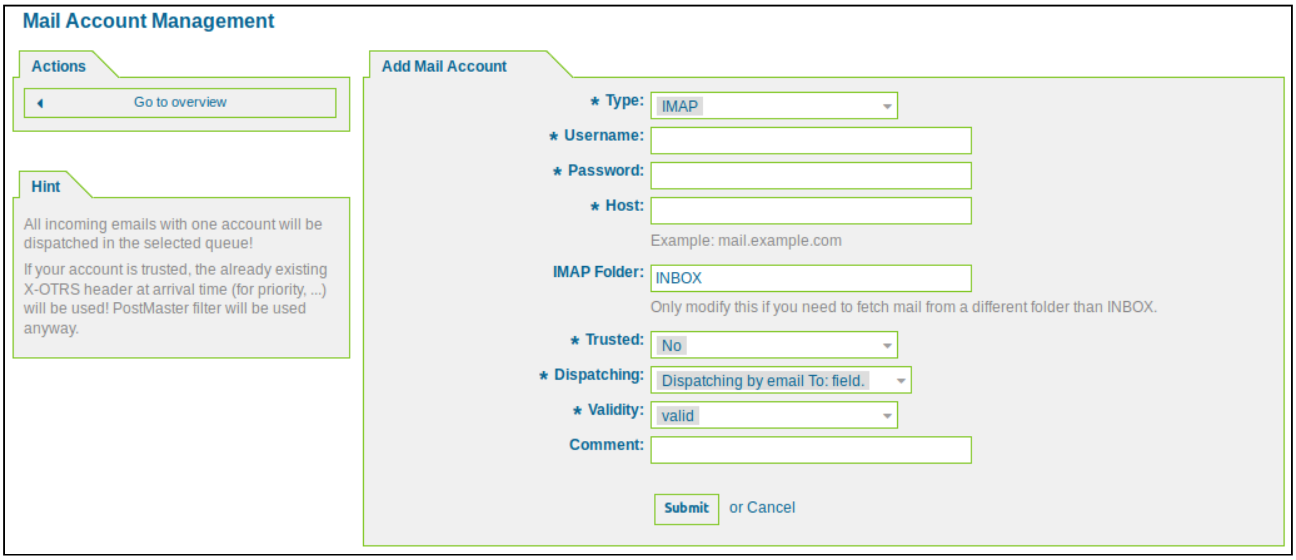


Figure: Add Email Account

- For OAuth2 profiles, select IMAPS_OAuth2 or IMAPTLS_OAuth2 or POP3TLS_OAuth2 for the 'Type'. (**Note**: Office365 currently only supports IMAPS_OAuth2!)
- If you select the value *"Yes"* for the *"Trusted"* field, the X-KIX header items will be evaluated, and any actions based on these will be used – assuming these types of header items occur in a retrieved

message.You can influence certain aspects of the system using the X-KIX headers. Only set *"Yes"* in the *"Trusted"* field if you know exactly from which senders the retrieved messages originate.

- If you select *"Dispatching by selected Queue"* in the *"Dispatching"* field, you can specify the queue to which the emails in this account should be directed. If you select *"Dispatching by email To: field"*, the emails will be forwarded to an email address saved to a queue.

The email addresses saved to a queue are listed in the *"System Email Addresses Management"* area.

> ⚠ When storing the e-mail account from which the e-mails are to be retrieved, remember that e-mails from this account are completely retrieved and deleted. There is no way to leave email on this account.

9.9.1.1 OAuth2 authentication

OAuth (Open Authorization) refers to two different open protocols for standardized, secure API authorization of desktop, mobile and web applications.

For example, in order to be able to call up emails from an Office365 mail account in KIX via IMAP / S or POP3 / S, OAuth2 authentication must be used. To provide this authentication in KIX, proceed as follows:

> It is possible that IMAP must first be activated with authentication on the account at Office365.
> Official Microsoft notice page:
> - English: https://docs.microsoft.com/en-us/exchange/clients-and-mobile-in-exchange-online/pop3-and-imap4/enable-or-disable-pop3-or-imap4-access
> - German: https://docs.microsoft.com/de-de/exchange/clients-and-mobile-in-exchange-online/pop3-and-imap4/enable-or-disable-pop3-or-imap4-access

Step 1: Microsoft Azure Portal

- Sign in to the Azure portal.
- Go to 'Azure Active Directory'.
- Go to App registrations in the left action list.
  - Select the point 'New registration' in the menu bar.
  - Enter any name for the registry. This is later not relevant for KIX.
  - Under 'Supported account types' set the selection to 'Accounts in this organizational directory only ("<your company>" only - single tenant)'
    Instead of '<company>' you should use your own company name.
  - For 'Redirection URI', select 'Web' in the selection field and enter '<HttpType>://<FQDN>/<Scriptalias>/index.pl?Action=AdminOAuth2Profile&Subaction=ProcessAuthCode' as the URI. This can also be entered or changed at a later point in time.

> **Note**: Microsoft requires the redirect URI to point to HTTPS. When using the SysConfig key HttpType (Framework → Core) in KIX must be set to 'HttpType' 'https'.
> The placeholders <HttpType>, <FQDN> and <Scriptalias> correspond to the specifications of the SysConfig of the KIX system.
>
> **Example**: https://localhost/kix/index.pl?Action=AdminOAuth2Profile&Subaction=ProcessAuthCode

- Go to 'Certificates & secrets' in the left action list.
    - Select the item 'New client secret' and have the key generated in the right sidebar. Remember or make a note of the key (value), because it is only partially displayed when you call it up again and otherwise has to be stored again.

> It is the administrator's responsibility to ensure that a valid client key (maximum validity period of 2 years) is stored in the KIX for the mailbox.

- Go to API permissions in the left action list.
    - Select the item 'Add a permission'.
    - Then select the 'Microsoft Graph' in the right sidebar.
    - Select the item 'Delegated permissions'.
    - At this point select 'IMAP.AccessAsUser.All' and 'offline_access' and confirm the selection. This is now displayed in a table, whereby the "Status" column remains empty (default value).
    - Grant the approval of the administrator for the process (field "Grant admin consent for (your company)" to the right of the field" Add a permission"). The column" Status "in the table with the selected authorizations now shows a green checkmark and the addition "Granted for " Your company" ".
- Select 'Overview' from the left action list.
    - Remember or make a note of the 'Application ID (client)' and the 'Directory ID (client)'. You can see the data in the summary.

Step 2: Create OAuth2 profile

- Go to the 'E-Mail Settings' area in the KIX admin module and click on 'OAuth2 Profiles'.

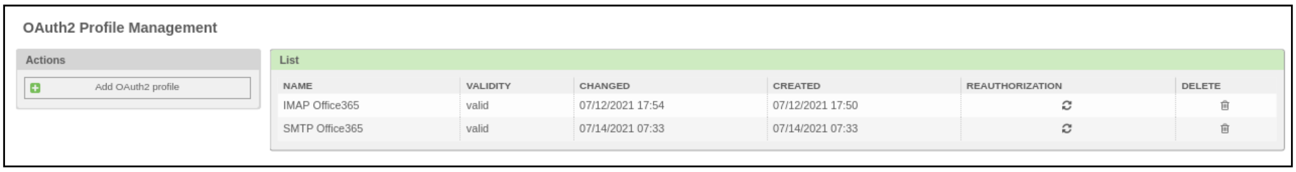


Fig .: Example of OAuth2 profile management with profiles that have already been created

- To create a new profile, click on 'Add OAuth2 profile'. The following form opens:

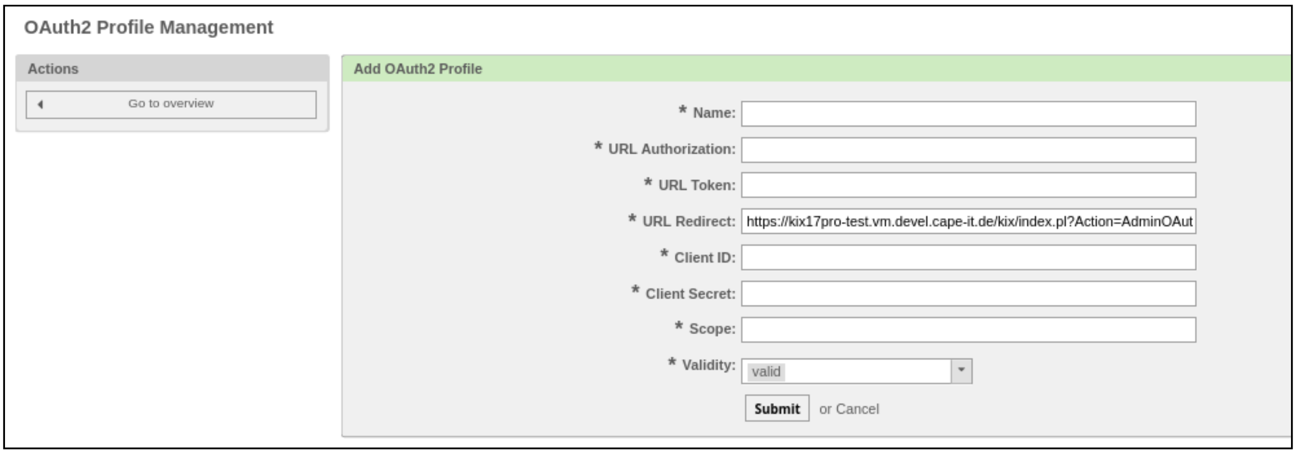


Fig .: 'Add OAuth2 profile' form

- Fill in all fields.

> When creating and later authenticating the profile, the user who is to be used for the mailbox must be created.
> For example, if you want to access a mailbox via 'mail@test.onmicrosoft.com', the authentication must be carried out via this user. A different admin user (e.g. 'admin@test.onmicrosoft.com') does not have authorization for it.
> In order to ensure that the mail can be picked up later, the application must be activated in "Microsoft Defender for Cloud Apps" (under Manage OAuth apps).

Field	Description
Name	Enter a name for the profile.
URL Authorization	Enter the URL for the OAuth2 authorization. Example for the structure at Office365: https://login.microsoftonline.com/**<Tenant-ID/Verzeichnis-ID>**/oauth2/v2.0/authorize
URL Token	Enter the URL for the OAuth2 Token. Example for the structure at Office365: https://login.microsoftonline.com/**<Tenant-ID/Verzeichnis-ID>**/oauth2/v2.0/token
URL Redirect	This field is pre-filled in by the system and can be changed if necessary.
Client ID	Enter the Client ID here. For Office365 this is the 'Application ID (Client)' from the 'Overview'.
Client Secret	Enter the client secret here. For Office365 this is the 'client key' from 'Certificates & secrets'.
Scope	Enter the required authorizations here, which is for Office365 'offline_access https://outlook.office.com/IMAP.AccessAsUser.All' .
Validity	Set the form to 'valid' to use it.

- Finally click on 'Submit' to save the form.

> **Important!**
>
> The verification must be carried out with the same user (e-mail account) who collects the e-mails. Therefore, use a private browser window when setting up to ensure that the generated tokens match the mailbox to be retrieved!
> If you receive the error message "Error: Could not select: 3 BAD User is authenticated but not connected", this indicates that you are already logged in with your Admin Microsoft account. In this case, cached session cookies or similar ensure that the token for the mailbox that KIX is supposed to retrieve is not valid.

> **Authentication error?**
>
> The activation of the profile and the mail collection with the profile work. However, sending mail with OAuth2 does not work because authentication fails.
>
> If you are experiencing this situation, it may be due to the Perl library Net::SMTP (version < 3.0.2).
>
> Update the Perl library Net::SMTP. If this is not possible via the distribution (APT, YUM, Zypper) and CPAN, obtain and replace the file manually (possible source: https://metacpan.org/pod/Net::SMTP).
> Note: The file path depends on the OS and can usually be determined using CPAN.
> ⚠ **Attention**: From version 3.03 there are adjustments in the dependencies. The use of version 3.0.2 is therefore recommended!

- After the transmission, an automatic forwarding to Microsoft takes place in order to release the necessary authorizations and to request a code to authenticate the system. When authenticating the profile, the user created above for whom the token was created must be used.
  - 'Maintain Access to Data You Granted Access to'
  - 'You log in and read your profile'
  - 'Read and write access to your mail'
- If the authorizations have been accepted, the KIX system will be called up again immediately and you will receive a positive confirmation.
- Finally click on 'Submit' to save the form.

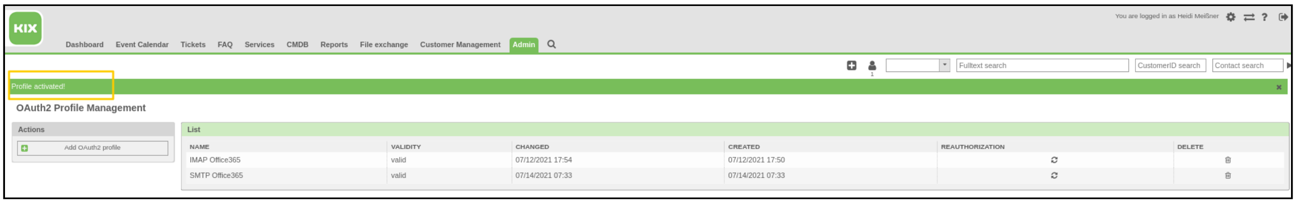


Fig .: Confirmation "Profile activated"

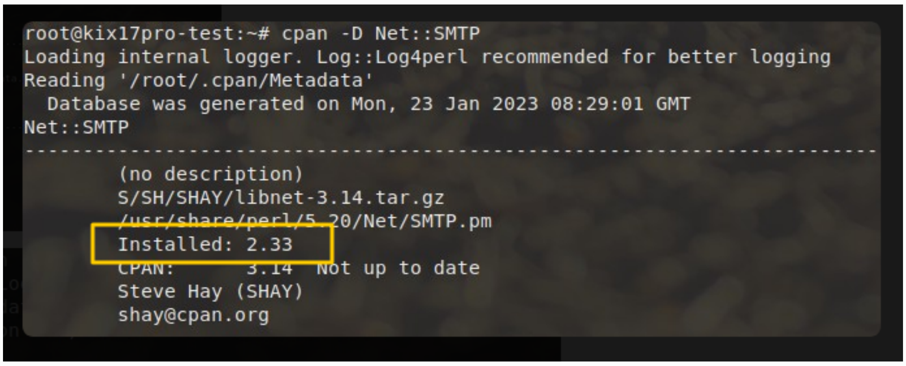
> ⚠ The system must be able to access 'https://login.microsoftonline.com/'. If necessary, a corresponding system proxy must be configured.

Step 3: Create an email account

- Go to the 'E-Mail Settings' area in the KIX admin module and click on 'PostMaster E-Mail Accounts'.
- Click the 'Add email account' button.
- Fill in all relevant fields.

Field name	Content
Type	Under "Type", select an option that ends in "_OAuth2". **(Note**: IMAPTLS_OAuth2 is no longer supported by Office365!)
OAuth2 Profile	Select the OAuth2 profile to use.
Username	The e-mail address to be retrieved must be entered here.
Host	Enter the host here. For Office365 this is 'outlook.office365.com'.
IMAP Folder	This field is pre-filled in by the system and can be changed if necessary.
Trusted Dispatching Validity Comment	You make these settings in the same way as in the chapter 'Manage POP3 or IMAP accounts for collecting e-mail' described on.

- Finally click on 'Submit' to save the form.

> ⓘ If your system selects the wrong OAuth method when sending, it may be due to an outdated Perl module '`Net::SMTP`'. Make sure you are using version 3.0 or higher.
>
> To check which version your system is working with, enter the command "`cpan -D Net::SMTP`" in the console. Behind the term "Installed" you will find the version of CPAN your system is using.
>
> 
>
> ```
> root@kix17pro-test:~# cpan -D Net::SMTP
> Loading internal logger. Log::Log4perl recommended for better logging
> Reading '/root/.cpan/Metadata'
>   Database was generated on Mon, 23 Jan 2023 08:29:01 GMT
> Net::SMTP
> -------------------------------------------------------------------------
>         (no description)
>         S/SH/SHAY/libnet-3.14.tar.gz
>         /usr/share/perl/5.20/Net/SMTP.pm
>         Installed: 2.33
>         CPAN:      3.14  Not up to date
>         Steve Hay (SHAY)
>         shay@cpan.org
> ```
>
> *Fig.: Extract from console*
>
> Update the version of the Perl module using CPAN if necessary.
>
> If you still have problems setting up OAuth, please contact our support.

9.9.2 Set Sender Email Addresses for this System

In this area you can manage the sender email addresses for the KIX system. To send emails, KIX requires a valid email address. KIX can work with several email addresses. A queue can be linked with several email addresses and vice versa. The email address to be used for outgoing messages from a queue can be specified when a queue is created.

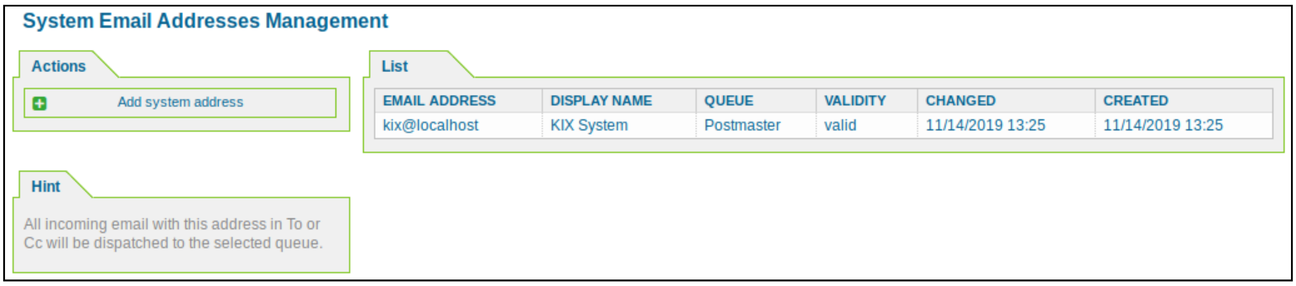


Figure: Email Addresses Management

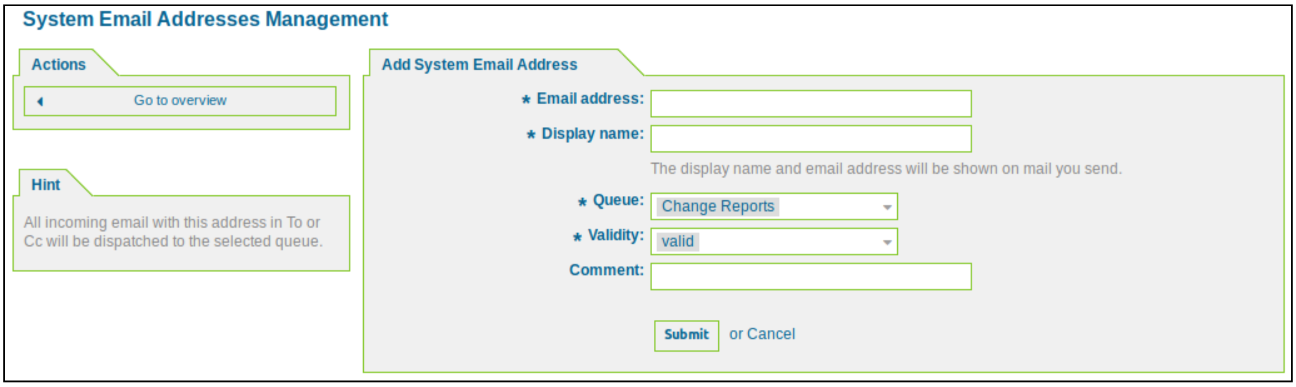


Figure: System Email Addresses

When adding a new email address, you can link it to the desired queue. It is via this link that incoming messages are sorted into the right queue, by means of the address in the *"To:"* field.

9.9.3 Manage PGP Keys for Email Encryption

In this area you can manage PGP keys. If the PGP functionality on your KIX system is disabled, you can enable it by clicking *"Enable PGP support"*. You will land on a SysConfig area in which the PGP settings can be adjusted.

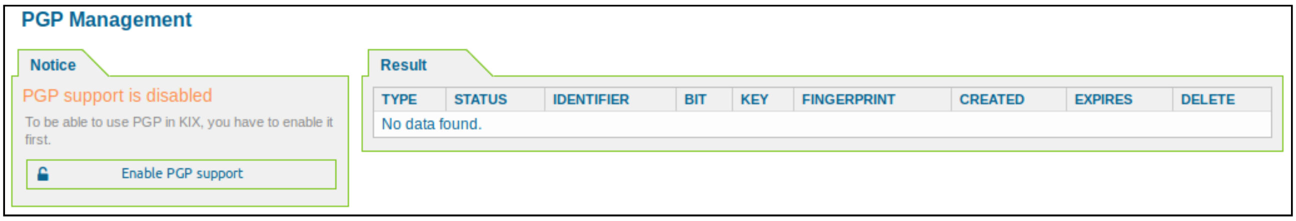


Figure: PGP Management

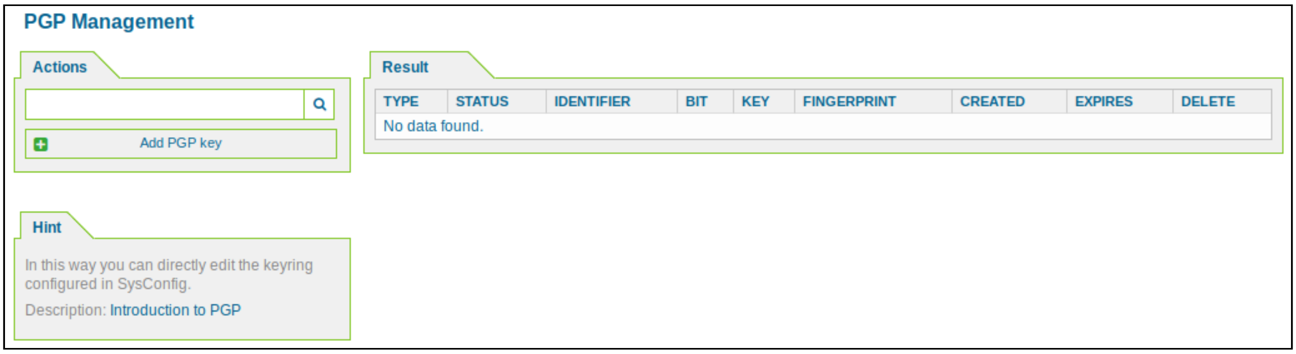


Figure: PGP Management

Add PGP Key

In the *"Actions"* widget click "Add PGP Key". The following widget will open:

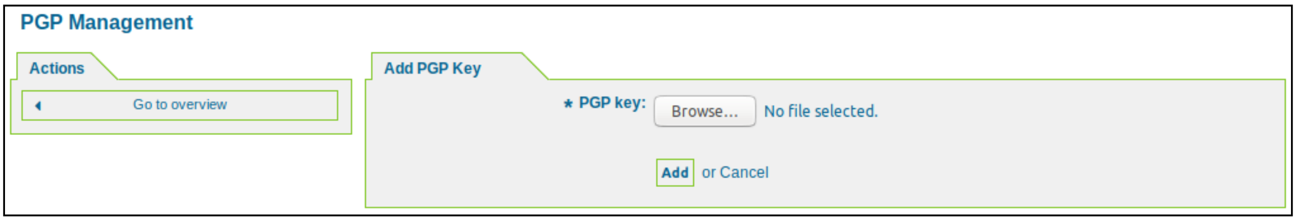


Figure: PGP Management - Add Key

Enter the path to the file containing the PGP Key and then click "Add".

> **Notice**
>
> If the paths of the PGP keys are changed several times, the data that is still stored in the old paths can appear in the SupportBundle. In order not to run into a security gap, the old paths must also be removed so that they are not integrated in the SupportBundle. This applies to all paths under "/opt/kix/".

9.9.4 Filter Incoming Emails

In KIX there is the possibility to filter incoming e-mail messages. For example, you can automatically place specific emails in the relevant queue. Another use is to set a specific ticket type or ticket status for email.

The required filters can be created and managed in this area. You can use regular expressions for this. KIX evaluates the specified conditions and writes values back into the email header.

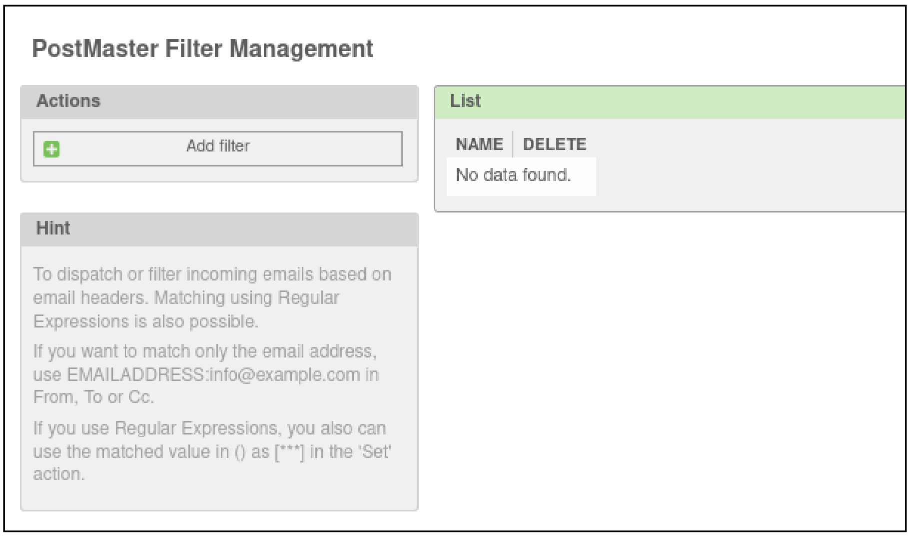


Fig.: PostMaster Filter Management

9.9.4.1 System-specific Filter

In order not to burden the performance of the system unnecessarily, KIX provides a filter option for e-mails with a large number of recipients via the SysConfig key "PostmasterRecipientCount".

To do this, go to the group *Ticket* in *SysConfig* and there to the subgroup *Core::PostmasterFilter*.

The SysConfig key "PostmasterRecipientCount" has a default value of 1000. This value defines the maximum number of allowed recipients for each incoming email. This means that e-mails with more recipients are ignored. All recipients contained in "Resent-To", "Envelope-To", "To", "Cc", "Bcc", "Delivered-To" and "X-Original-To" are counted.

This check is done BEFORE the PostMaster filters.

9.9.4.2 Add PostMaster Filter

In the *"Actions"* widget click "Add filter". The following widget will open:

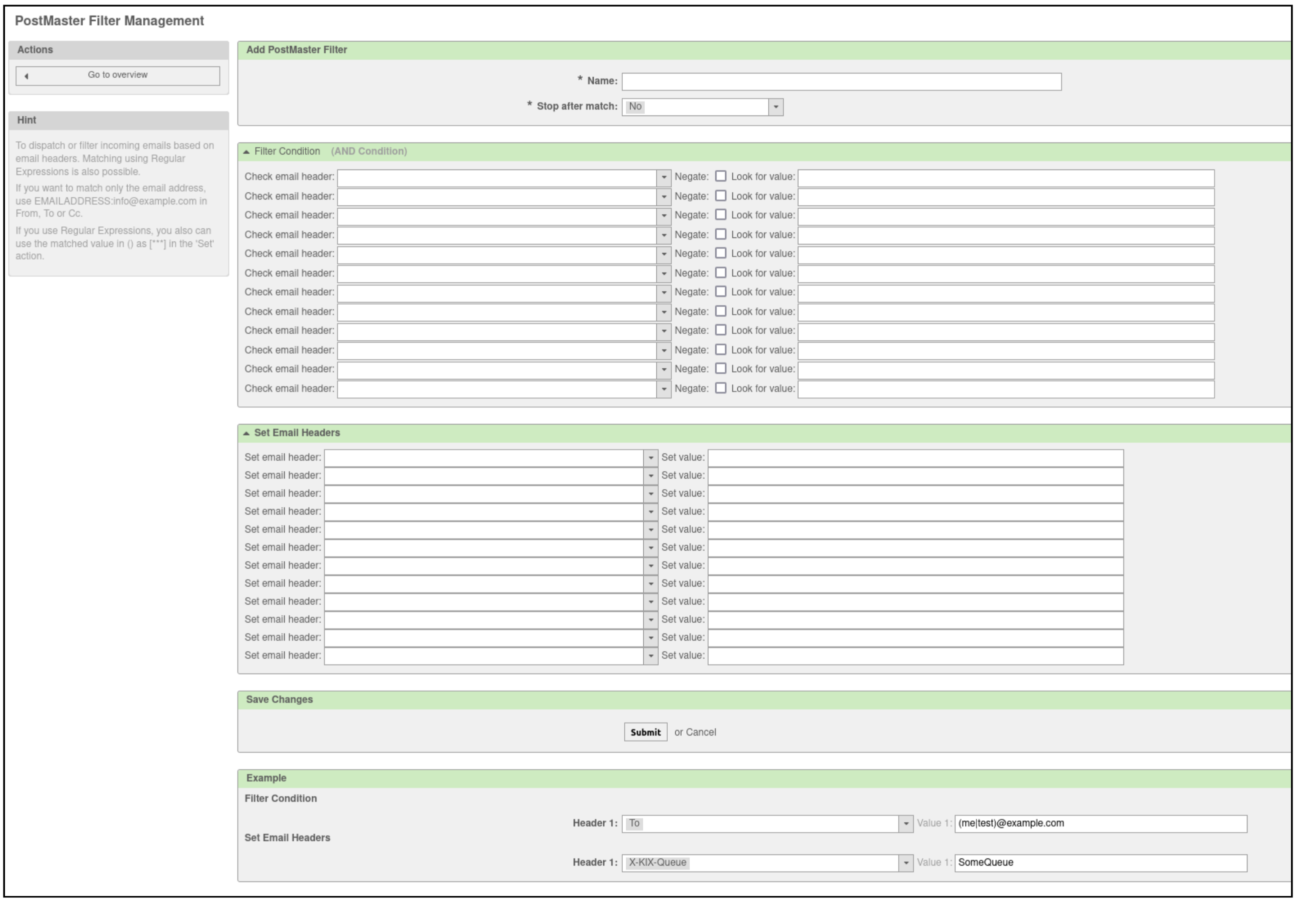


Fig.: Add PostMaster Filter

<u>Name</u>

Give the filter a unique name.

<u>Stop after Match</u>

Specify whether the hit search should stop after a hit.

- No: All postmaster filters are processed in alphabetical order.
- Yes: The current postmaster filter is evaluated. However, the evaluation of the remaining filters is aborted.

Filter Condition

In this section you can specify filter criteria. A filter can consist of one or more criteria. These must be fulfilled in order to carry out the following predefined actions relating to the e-mail.

Filter criteria can be set for the headers or the body of an email, such as the search for specific header entries, such as a sender address, or for character strings in the text body.

From the "Check email header" drop-down menu, select the part or parts of the email that you want to scan. On the right side under "Look for value" enter the value you want to filter on.

Tick "Negate" if you want to use the search term in negated form.

Set Email Headers

If your filter matches, you can set fields with the X-KIX headers in the interface. These values are adopted in KIX when the ticket or the follow-up message is created.

Use the drop-down menu for "Set email header" to select the action(s) that should be triggered when the filter rules match. On the right side under "Set value" enter the relevant value for the desired action.

Finally, click the "Submit" button.

Selection of values from drop down menu

Name	Value	Description
Classic email address fields, e. g. To, From, ReplyTo, MessageID, Organization, Subject etc.		Relevant for the filter conditions
X-KIX-ArticleType	email-external, email-internal, email-notification-ext, email-notification-int	Sets the type of article for the incoming ticket.
X-KIX-BodyDecrypted		Allows adding a search term to search for the text of an encrypted incoming email.

Name	Value	Description
X-KIX-CustomerNo	CustomerNo	Defines the customer ID that is assigned to the ticket.
X-KIX-CustomerUser	CustomerUser	This determines which customer the ticket is assigned to.
X-KIX-FollowUp-...		Header function is the same as that without the FollowUp prefix. However, these prefixed headers are only used for follow-up emails.
X-KIX-Ignore	Yes, No	If this header is set, the incoming mail will be ignored and not created as a ticket in KIX.
X-KIX-Lock	locked, unlocked	Sets the status in a ticket, e.g. to "locked".
X-KIX-Loop	True	If this header is set, there is no automatic reply to the sender of the new ticket. This may be necessary to prevent mail loops, for example.
X-KIX-Owner	Owner	This determines which owner the ticket is assigned to.
X-KIX-OwnerID	OwnerID	Defines the owner ID that is assigned to the ticket.
X-KIX-Priority	Priority from 1 to 5	Sets the priority of a ticket.
X-KIX-Queue	Name(s) of the queue(s)	Determines in which queue the ticket is moved.
X-KIX-Responsible	Responsible	This determines who is responsible for the ticket.
X-KIX-ResponsibleID	ResposibleID	Defines the responsible ID, which is assigned to the ticket.

Name	Value	Description
X-KIX-SLA		Associates the appropriate service level agreement with a ticket. ⚠ 'Ticket::Service' must be active for this.
X-KIX-SenderType	Agent, Customer, System	Here you define the type of ticket sender.
X-KIX-Service		Sets the service for the tickets. ⚠ 'Ticket::Service' must be activated for this. ℹ If you want to create a sub-service, select the existing service as 'Parent::Sub'.
X-KIX-State	new, open, closed, ...	Sets the status of a ticket.
X-KIX-State-PendingTime	Times ℹ You can specify absolute dates like "2022-11-21 00:08:00" or relative dates, e.g. B. the time the e-mail was received.	Specifies the waiting time of a ticket to be processed. For this you should also send a waiting status via X-KIX status.
X-KIX-StrictFollowUpIgnore		Deactivates the "Ignore" behavior for the incoming email, which would otherwise result for all incoming FollowUps.
X-KIX-TicketTemplate		A template ID for a ticket template can be specified here. The values set there are transferred to the ticket. ℹ This proves to be helpful if you want to use checklists, for example, or if you want to set more than the 12 postmaster filters allowed.
X-KIX-Type		Sets the ticket type. ⚠ 'Ticket::Type' must be activated for this.

Name	Value	Description
X-KIX-DynamicField-<Dynamic-FieldName>	Depends on the configuration of the dynamic fields in your KIX.	You can use this to save additional information/ values for the ticket via a dynamic field. Dynamic fields that are to be displayed here must (if they are not already stored) be activated in the SysConfig. The relevant key for this is called "PostmasterX-Header" and can be found under Ticket → Core::PostMaster.
X-Spam-...		Relevant for the filter conditions to detect, mark and/or process emails as spam.

Example: SPAM mails are automatically stored in the "JUNK" queue

Establish the following filter so that your KIX automatically moves emails that have been recognized and marked by a spam detection program to the "Junk" queue.
The spam detector adds "X-Spam-Flag" to each mail header when checking incoming mail. If an e-mail is classified as SPAM, the header is set to "Yes". The filter criterion is therefore "X-Spam-Flag: Yes".
The corresponding filter rule looks like this:

Name	Sort out_spam_mails
Filter Condition	Check email header: X-Spam-Flag || Look for value: Ja
Set Email Headers	Set email header: X-KIX-Queue || Set value: Junk

Finally, submit the form.

Notice

If there is a blockage when retrieving mail, the cause may be an unfavorably configured postmaster filter.
Avoid postmaster filters on content with the ".+somepattern" pattern. Instead, use patterns of the type ".*pattern" or ".pattern" .

9.9.5 Manage S/MIME Certificates for Email Encryption

In this area you can manage the S/MIME certificates for your system. If S/MIME support is disabled on your system, you can enable it by clicking *"Enable SMIME support"*.

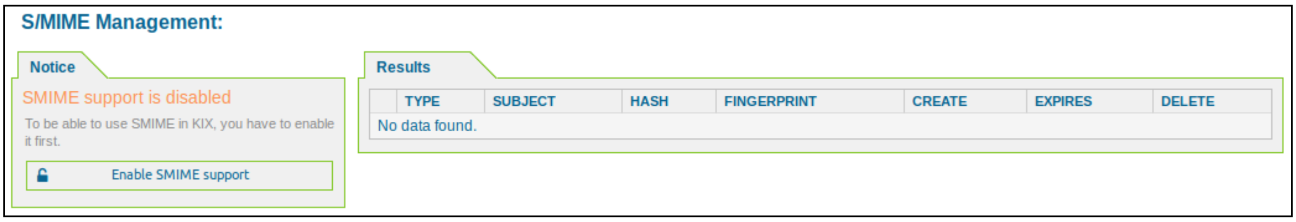


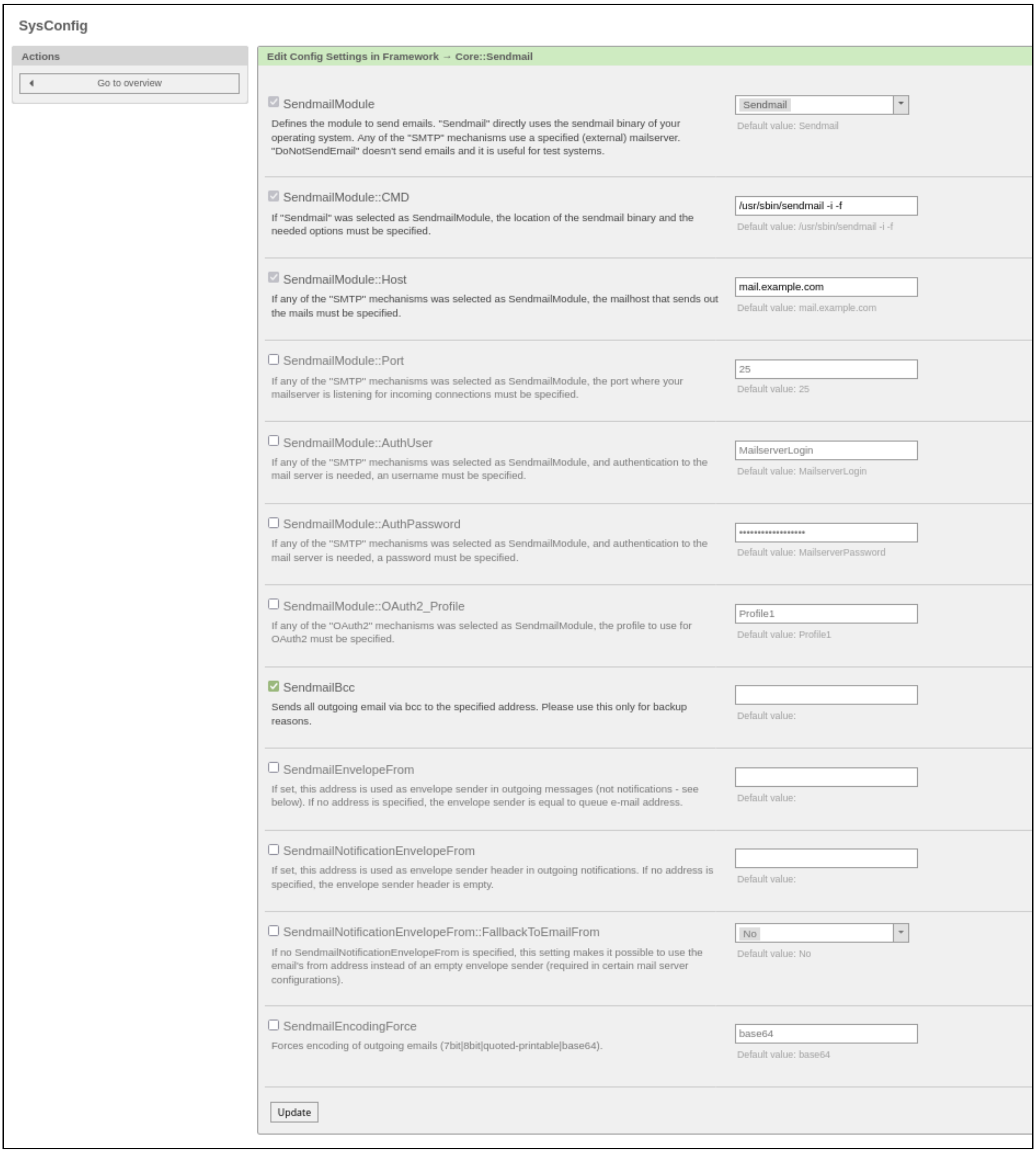
Figure: S/MIME Management

> **Notice**
>
> If the paths of the S/MIME certificates are changed several times, the data that is still stored in the old paths can appear in the SupportBundle. In order not to run into a security gap, the old paths must also be removed so that they are not integrated in the SupportBundle. This applies to all paths under "/opt/kix/".

9.9.6 Mail delivery

KIX offers various configurations for sending e-mails. The setting is made in the SysConfig.

To do this, go to the Framework group in SysConfig and then to the Core :: Sendmail subgroup.



The SysConfig key 'SendmailModule' defines the module for sending e-mails.

- If "Sendmail" has been configured as SendmailModule, you have to store your specific path to the Sendmail binary and the required options in the SysConfig key 'SendmailModule :: CMD'.
- Each of the SMTP mechanisms uses an (external) mail server to be defined, which you must specify in the SysConfig key 'SendmailModule :: Host'.
- If a different port is used for the SMTP connections, this can be stored in the key 'SendmailModule :: Port'.
- If the server requires authentication, 'SendmailModule :: AuthUser' and 'SendmailModule :: AuthPassword' must be filled in for the SendmailModule SMTP, SMTPS and SMTPTLS.
- If the server requires authentication, 'SendmailModule :: AuthUser' and 'SendmailModule :: OAuth2_Profile' must be filled in for the SendmailModule SMTP_OAuth2, SMTPS_OAuth2 and SMTPTLS_OAuth2.
- "DoNotSendEmail" does not send e-mails and is therefore useful for test systems.

9.9.6.1 Notes on OAuth2 authentication using the example of Office365

> It is possible that SMTP must first be activated with authentication on the account at Office365.
> Official notice page from Microsoft:
> English: https://docs.microsoft.com/en-us/exchange/clients-and-mobile-in-exchange-online/authenticated-client-smtp-submission
> German: https://docs.microsoft.com/de-de/exchange/clients-and-mobile-in-exchange-online/authenticated-client-smtp-submission

Step 1: Microsoft Azure Portal

- Sign in to the Azure portal.
- Go to 'Azure Active Directory'.
- Go to App registrations in the left action list.
    - Select the point 'New registration' in the menu bar.
    - Enter any name for the registry. This is later not relevant for KIX.
    - Under 'Supported account types' set the selection to 'Accounts in this organizational directory only ("<your company>" only - single tenant)'
      Instead of '<company>' you should use your own company name.
    - For 'Redirection URI', select 'Web' in the selection field and enter '<HttpType>://<FQDN>/<Scriptalias>/index.pl?Action=AdminOAuth2Profile&Subaction=ProcessAuthCode' as the URI. This can also be entered or changed at a later point in time.

> **Note**: Microsoft requires the redirect URI to point to HTTPS. When using the SysConfig key HttpType (Framework → Core) in KIX must be set to 'HttpType' 'https'.
> The placeholders <HttpType>, <FQDN> and <Scriptalias> correspond to the specifications of the SysConfig of the KIX system.
>
> **Example**: https://localhost/kix/index.pl?Action=AdminOAuth2Profile&Subaction=ProcessAuthCode

- Go to 'Certificates & secrets' in the left action list.
  - Select the item 'New client secret' and have the key generated in the right sidebar. Remember or make a note of the key (value), because it is only partially displayed when you call it up again and otherwise has to be stored again.

> It is the administrator's responsibility to ensure that a valid client key (maximum validity period of 2 years) is stored in the KIX for the mailbox.

- Go to API permissions in the left action list.
  - Select the item 'Add a permission'.
  - Then select the 'Microsoft Graph' in the right sidebar.
  - Select the item 'Delegated permissions'.
  - At this point select 'SMTP.Send' and 'offline_access' and confirm the selection. This is now displayed in a table, whereby the "Status" column remains empty (default value).

    > **Notice**
    >
    > If you use multiple sender email addresses, you must assign a "SendAs" permission for each of these addresses. This is the only way to ensure proper mail delivery.

  - Grant the approval of the administrator for the process (field "Grant admin consent for (your company)" to the right of the field" Add a permission"). The column" Status "in the table with the selected authorizations now shows a green checkmark and the addition "Granted for " Your company" ".

- Select 'Overview' from the left action list.
  - Remember or make a note of the 'Application ID (client)' and the 'Directory ID (client)'. You can see the data in the summary.

Step 2: Create OAuth2 profile

- Go to the 'E-Mail Settings' area in the KIX admin module and click on 'OAuth2 Profiles'.

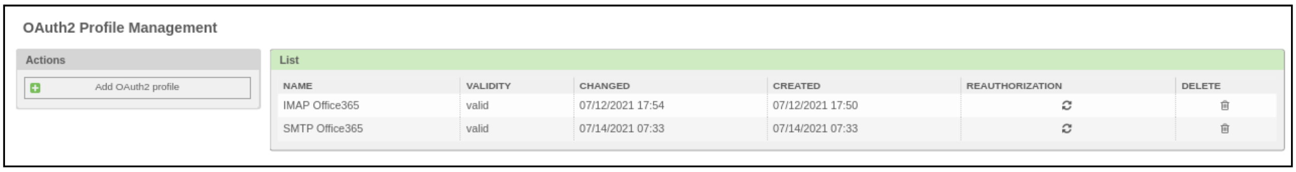


Fig .: Example of OAuth2 profile management with profiles that have already been created

- To create a new profile, click on 'Add OAuth2 profile'. The following form opens:

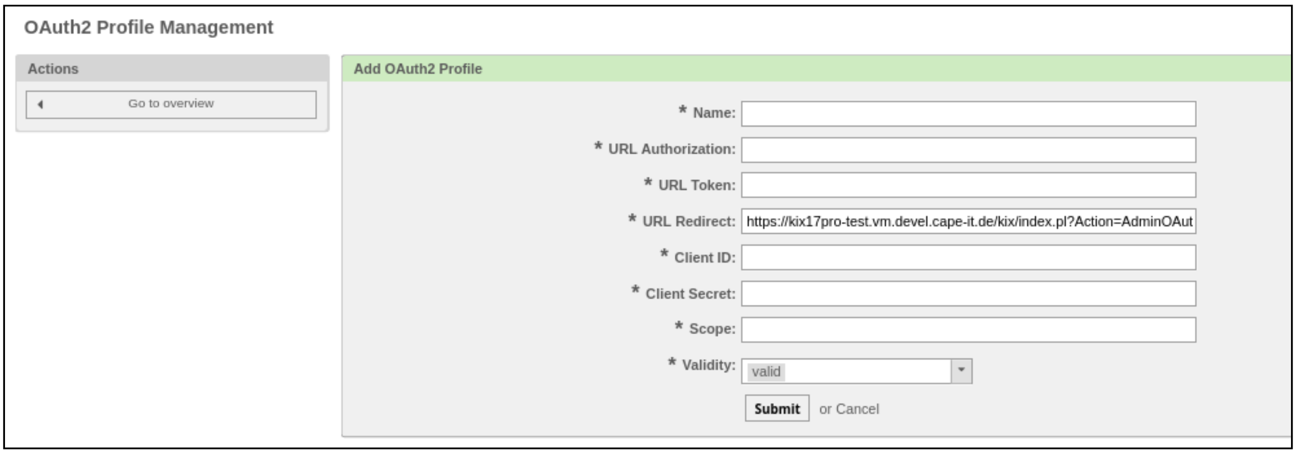


Fig .: 'Add OAuth2 profile' form

- Fill in all fields.

> When creating and later authenticating the profile, the user who is to be used for sending mail must be created.
> For example, if you want to use a mailbox via 'mail@test.onmicrosoft.com', authentication must be carried out via this user. A different admin user (e.g. 'admin@test.onmicrosoft.com') does not have authorization for it.

Name	Enter a name for the profile.
URL Authorization	Enter the URL for the OAuth2 authorization. Example for the structure at Office365: https://login.microsoftonline.com/**<Tenant-ID/Verzeichnis-ID>**/oauth2/v2.0/authorize
URL Token	Enter the URL for the OAuth2 Token. Example for the structure at Office365: https://login.microsoftonline.com/**<Tenant-ID/Verzeichnis-ID>**/oauth2/v2.0/token

URL Redirect	This field is pre-filled in by the system and can be changed if necessary.
Client ID	Enter the Client ID here. For Office365 this is the 'Application ID (Client)' from the 'Overview'.
Client Secret	Enter the client secret here. For Office365 this is the 'client key' from 'Certificates & secrets'.
Scope	Enter the required authorizations here, which is for Office365 'offline_access https://outlook.office.com/SMTP.Send' .
Validity	Set the form to 'valid' to use it.

- Finally click on 'Submit' to save the form.
- After the transmission, an automatic forwarding to Microsoft takes place in order to release the necessary authorizations and to request a code to authenticate the system.
    - 'Maintain Access to Data You Granted Access to'
    - 'You log in and read your profile'
    - 'Read and write access to your mail'
- If the authorizations have been accepted, the KIX system will be called up again immediately and you will receive a positive confirmation.
- Finally click on 'Submit' to save the form.

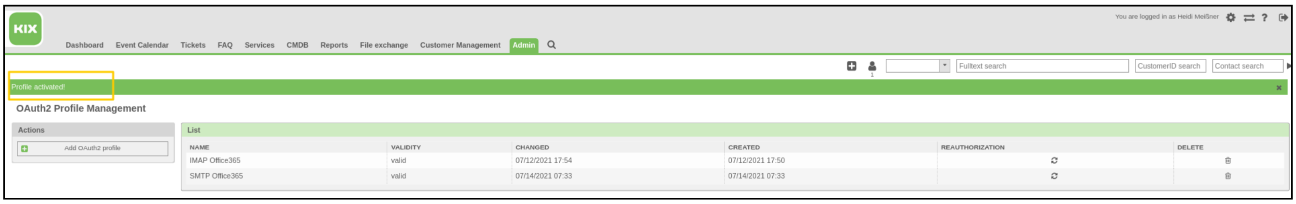


Fig .: Confirmation "Profile activated"

If the token request was successful, there is now a tick in the penultimate column in the overview in the KIX. The tick only indicates that a token (access and / or refresh token) is available, not whether it is still valid (on Microsoft's part). For example, if you change the permissions in Azure, the token request must be carried out again.

> ⚠ The system must be able to access 'https://login.microsoftonline.com/'. If necessary, a corresponding system proxy must be configured. This can be entered in the SysConfig, Framework group and there in the Core :: WebUserAgent subgroup entry WebUserAgent :: Proxy.

Step 3: Configure mail delivery

To do this, go to the Framework group in SysConfig and then to the Core :: Sendmail subgroup.

SendmailModule SMTPTLS_OAuth2
SendmailModule :: Host smtp.office365.com
SendmailModule :: AuthUser Enter the relevant email address here.
SendmailModule :: OAuth2_Profile Enter the name of the created OAuth2 profile.

SendmailModule	SMTPTLS_OAuth2
SendmailModule :: Host	smtp.office365.com
SendmailModule :: AuthUser	Enter the relevant email address here.
SendmailModule :: OAuth2_Profile	Enter the name of the created OAuth2 profile.

Finally click on 'Submit' to save your entries.

9.10 Create and Manage the General Catalog

In this area you can create and manage catalog classes for the General Catalog. The catalog classes defined in the system are shown in the *"List"* widget.

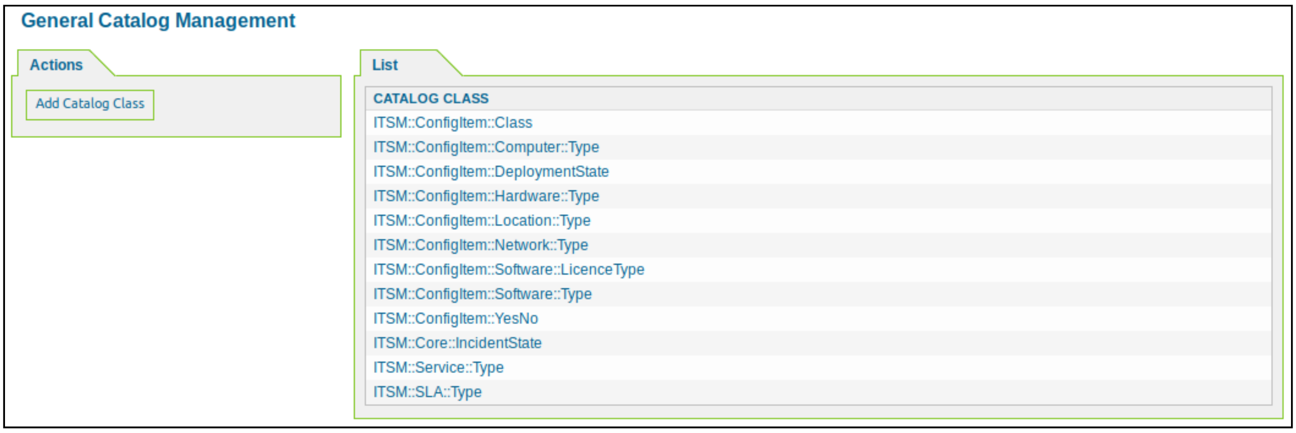


Figure: General Catalog Management

<u>Add Catalog Class</u>

In the *"Actions"* widget click "Add Catalog Class". The following widget will open:

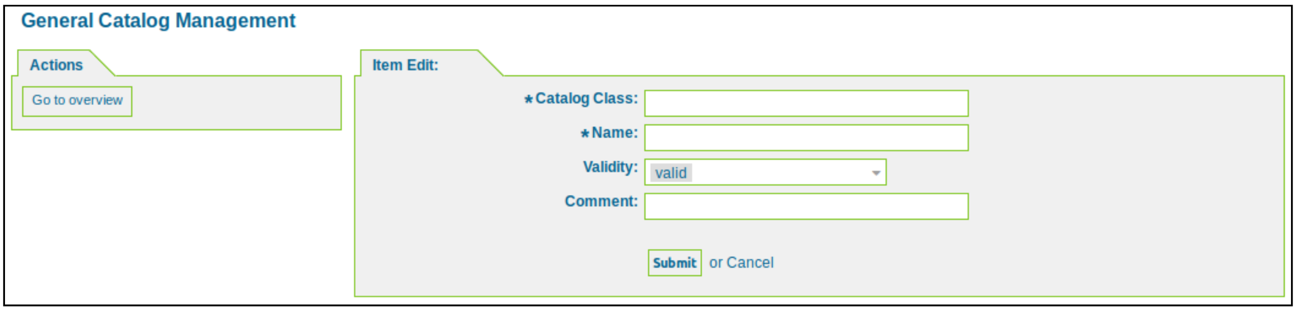


Figure: Add Catalog Class

Add an Item for a Catalog Class

In the list of catalog classes click the name of the class. This opens a widget with items for this catalog class.

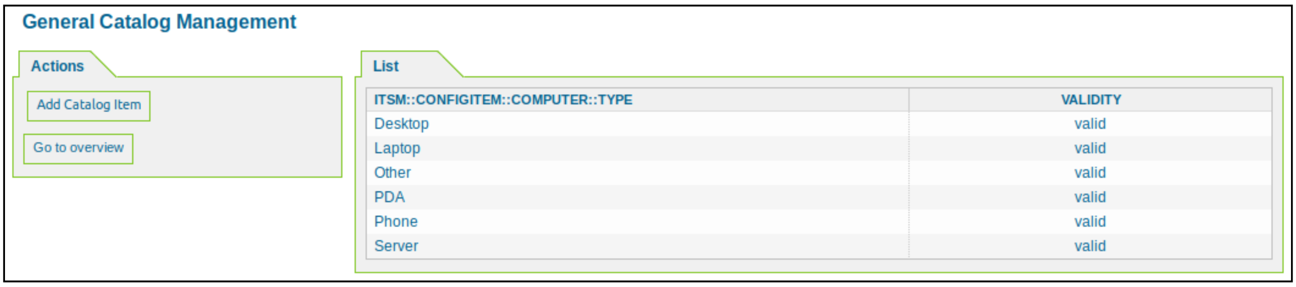
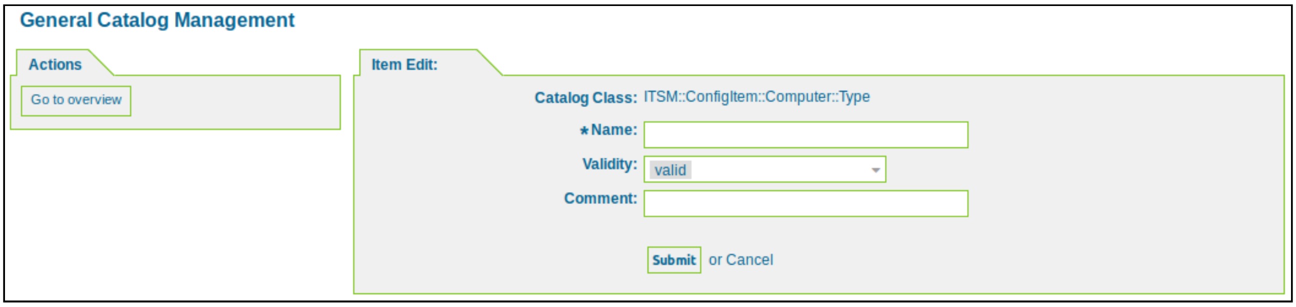


Figure: Items for a Catalog Class

Click "Add catalog item". The following widget will open:



Assign the item a name and then click "Submit".

9.11 System Management

9.11.1 Send Notifications

As administrator, in this area you can create messages and send them to agents, groups, or role owners.

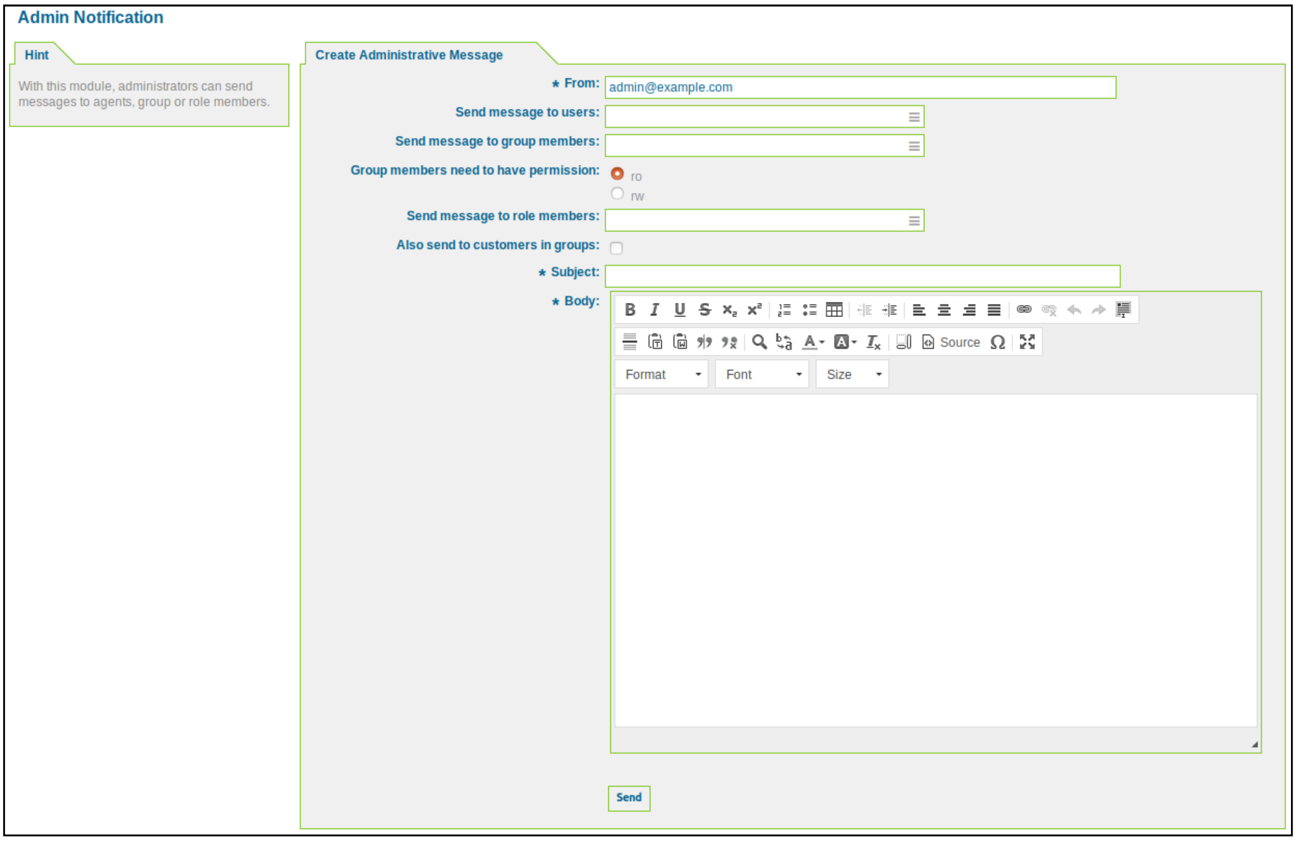


Figure: Admin Notification

9.11.2 View Performance Benchmark Results

In this area, you can view the performance benchmark results. In the overview there is a list of all the requests and response times of the individual interfaces.

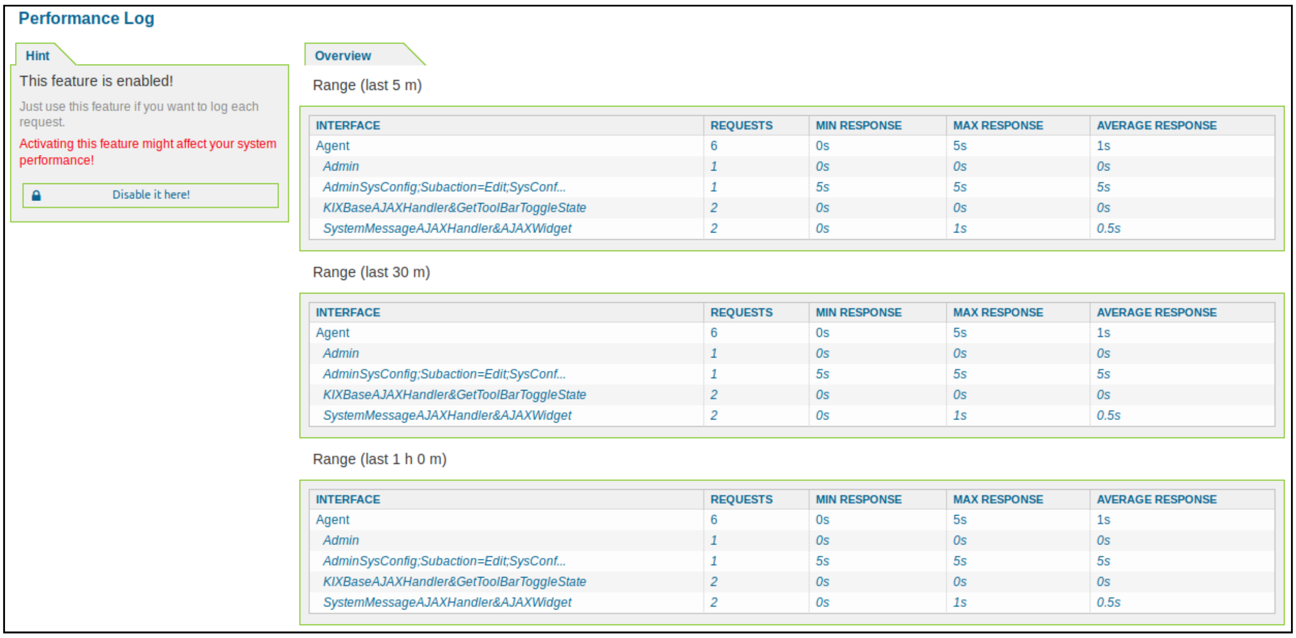


Figure: Performance Log

This feature is deactivated by default. To activate it, click "Enable it here!". The SysConfig area will open.

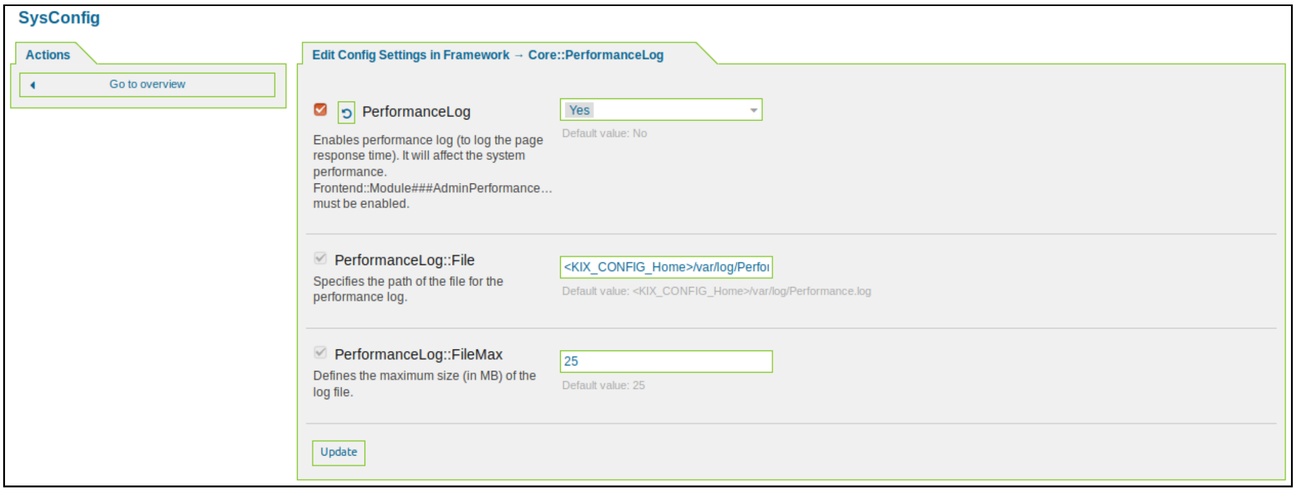


Figure: Performance Log - SysConfig Settings

Here you can activate the function, specify a path for the log file, and indicate the maximum size of the log file.
Then click "Update".

9.11.3 Create and Manage News

In this area you can create and manage messages and news for agents and customers.

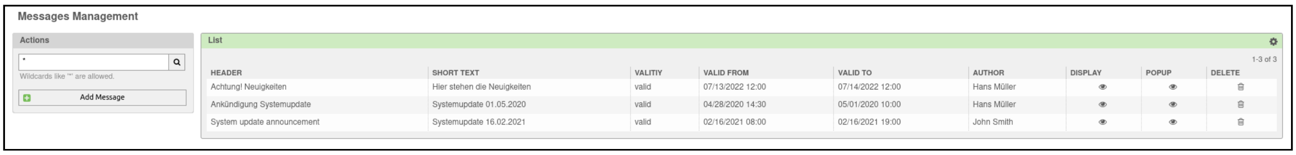


Figure: Managing News

9.11.3.1 Adding News

In the "Actions" widget, click "Add Message" button. The following widget will open:

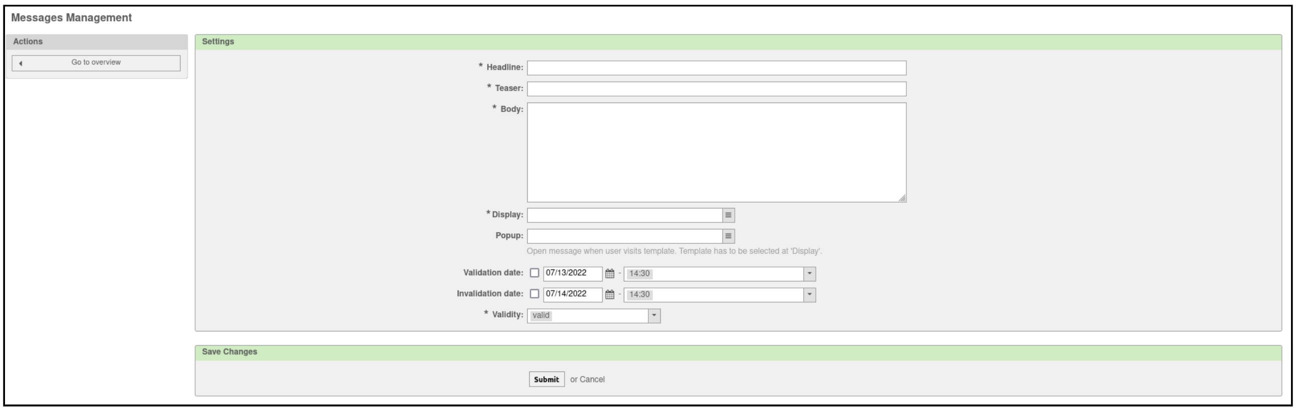
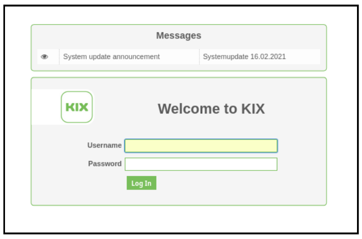
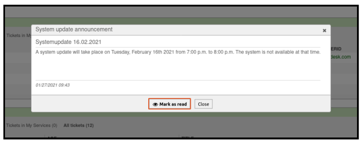


Figure: Adding News

Field	**Description**	
Headline	Enter a headline for your news item.	
Teaser	Briefly describe the content of the news item.	
Body	Enter the complete content of your news here.	

Field	Description	
Display	Choose which page you want the news to appear on. It appears (either above the login or in the system in the right sidebar) as soon as the user opens the area. You can choose from: • AgentDashboard • AgentTicketPhone • AgentTicketZoom • Login • CustomerLogin • CustomerTicketMessage • CustomerTicketOverview • CustomerTicketZoom	 Example of displaying the news in the login area.
Popup	Choose on which page you want the news to appear as a popup. It appears as soon as the user opens the area. You can choose from: • AgentDashboard • AgentTicketPhone • AgentTicketZoom • Login • CustomerLogin • CustomerTicketMessage • CustomerTicketOverview • CustomerTicketZoom ⚠️ The desired area must also be selected in the "Display" field.	 Example of a news popup in the agent dashboard.
Validation date	Enter the start date and time for the news to be displayed.	
Invalidation date	Enter the end date and time for the news to appear.	

Field	Description	
Validity	Set the validity of the news. The choices are: valid, invalid, invalid-temporary.	

⚠ To display "News", the public.pl frontend must be activated or accessible. Initially, the public.pl is delivered active. There must be no redirection and the file name must not have been renamed via system intervention.

9.11.4 Manage Existing Sessions

In this area, you can view the sessions of all the users who are currently logged in. You also have the option to delete a user's session.

Figure: Session Management

If you click a session in the list, a widget with a detailed view of the session will open.

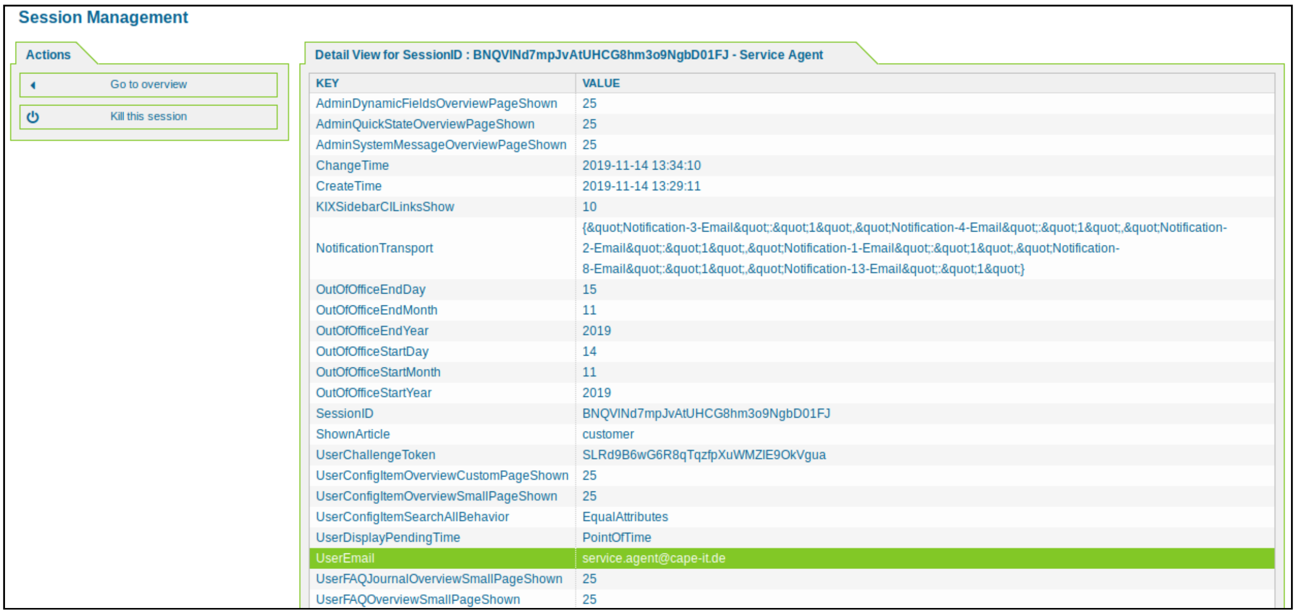


Figure: Session Management - Detail

9.11.5 Execute SQL Statements

In this area you can send the SQL commands directly to the application database. Only SELECT requests are possible. The content of the database cannot be changed.

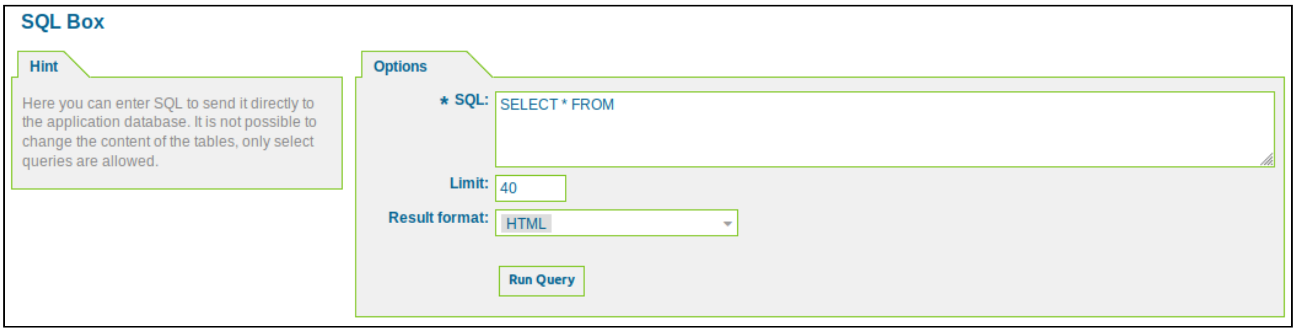


Figure: SQL Box

9.11.6 Manage Support Data

In this area you can view support data information regarding the database, KIX system, operating system, and webserver.

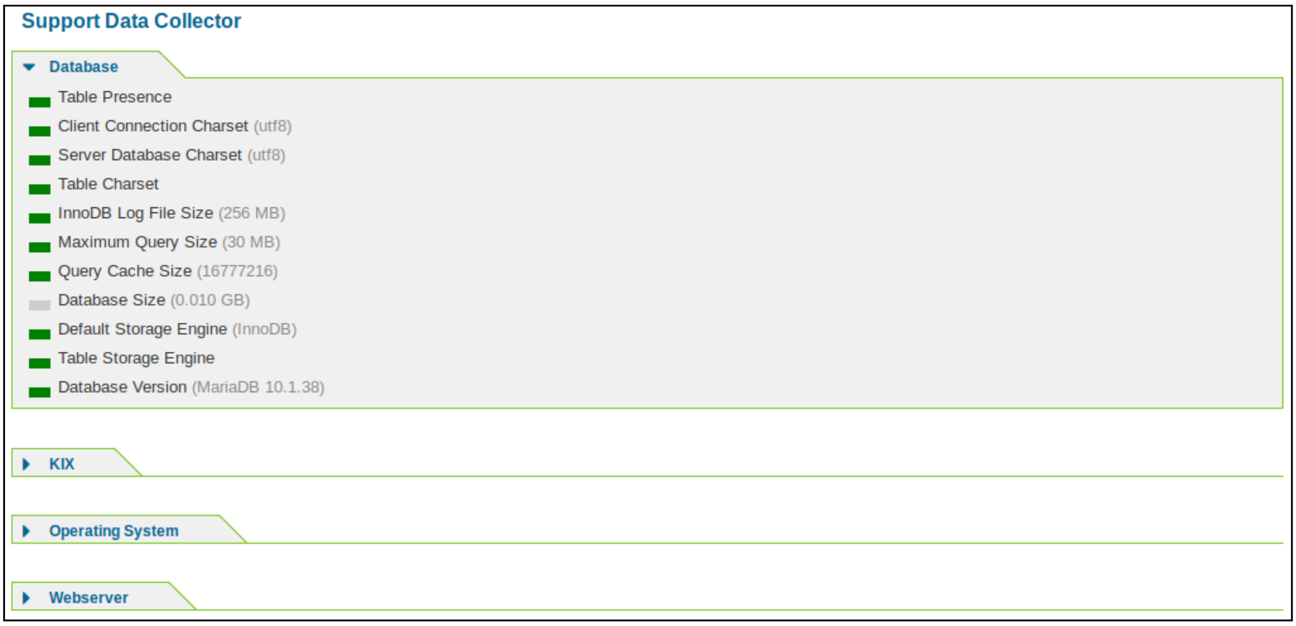


Figure: Support Data Collector

9.11.7 View System Log Messages

In this area you can view messages from the system log.

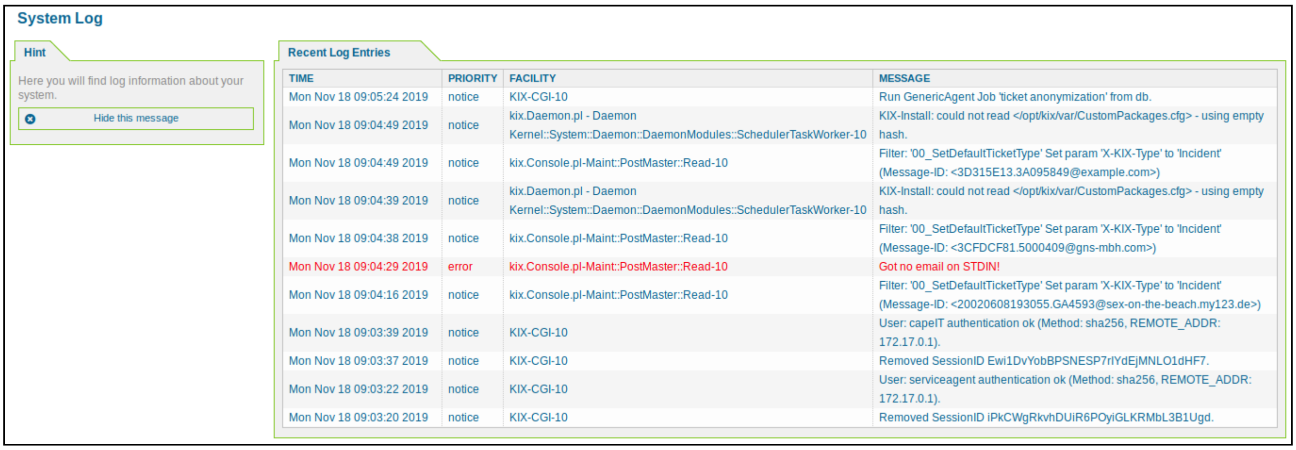


Figure: System Log

9.11.8 Schedule a Maintenance Period

In this area you can manage system maintenance periods and associated messages to users. During system maintenance, customers and agents cannot log into KIX (except for agents from the *"admin"* group). Agents and customers who are logged in will receive a message before and during the time period in which the system maintenance is carried out. Administrators have the option to end the sessions of logged-in agents and customers, so that changes in the system can be carried out in a "secure" environment (e.g. a system update).

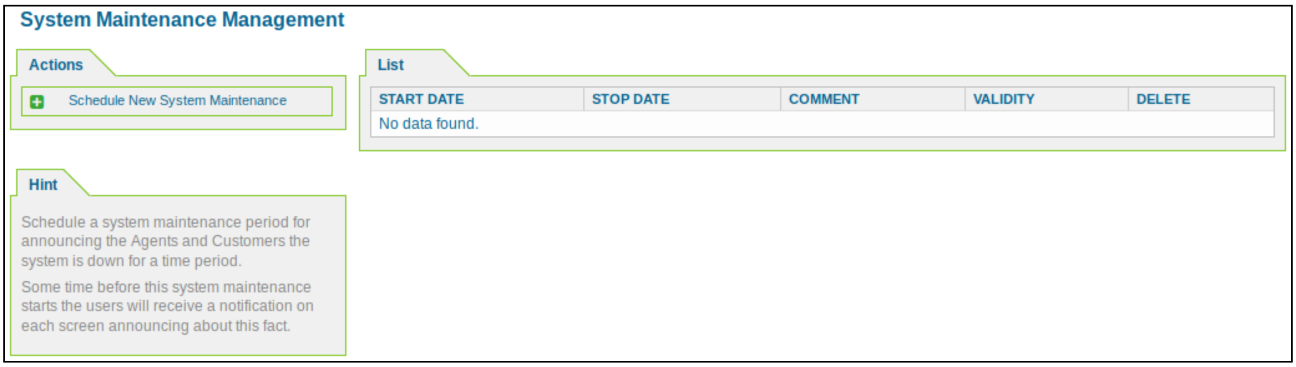


Figure: System Maintenance Management

Schedule New System Maintenance

Click "Schedule New System Maintenance". The following widget will open:

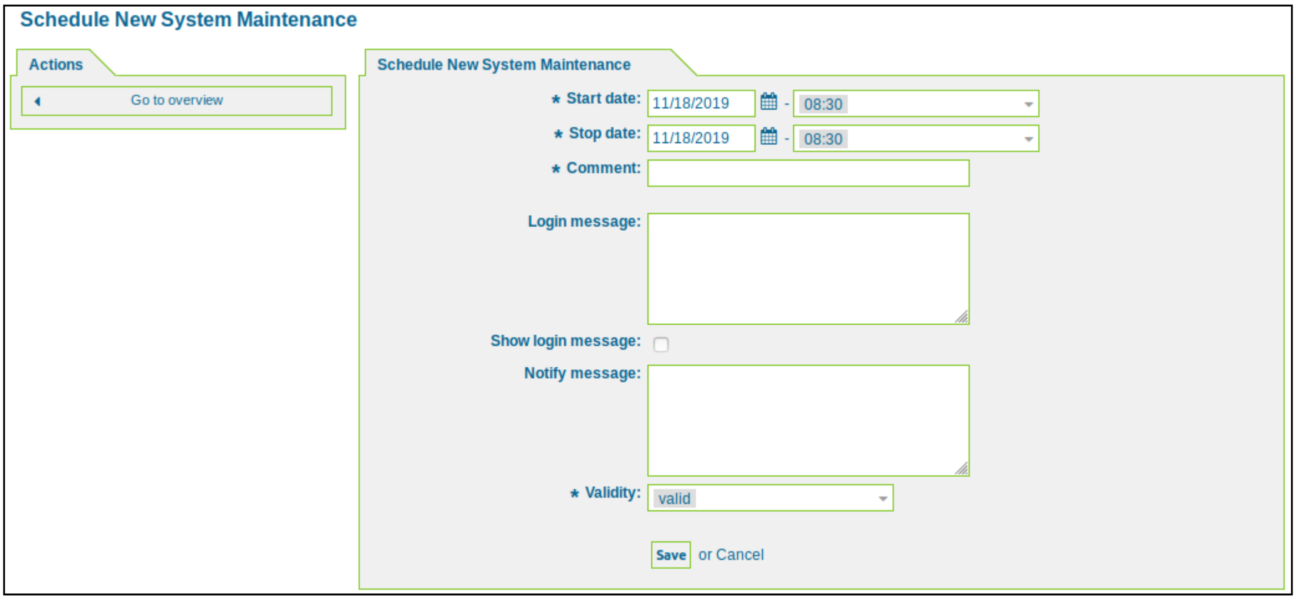


Figure: Schedule New System Maintenance

Choose a start and stop date and add a comment. You also have the option to enter the text for the messages and notify messages.
Then click "Submit".

10 KIX Placeholder

There are placeholders for the following objects:

- Owner - editor
- Responsible - person in charge
- Current - current agent
- Agent - last agent article
- Ticket - ticket data
- Customer - last customer item / customer data
- Customer Data - customer data
- Article - Article data
- First - data from the first article
- Config - Sysconfig options
- Email - email data
- Quote - quote

Owner - Editor

```
<KIX_OWNER_*>
<KIX_OWNER_AdminDynamicFieldsOverviewPageShown>
<KIX_OWNER_ChangeTime>
<KIX_OWNER_CreateTime>
<KIX_OWNER_KIXSidebarCILinkResponsible - Person in chargesShow>
<KIX_OWNER_OutOfOffice>
<KIX_OWNER_OutOfOfficeEndDay>
<KIX_OWNER_OutOfOfficeEndMonth>
<KIX_OWNER_OutOfOfficeEndYear>
<KIX_OWNER_OutOfOfficeStartDay>
<KIX_OWNER_OutOfOfficeStartMonth>
<KIX_OWNER_OutOfOfficeStartYear>
<KIX_OWNER_RedirectAfterTicketClose>
<KIX_OWNER_ShownArticle>
<KIX_OWNER_UserAuthBackend>
<KIX_OWNER_UserChangeOverviewSmallPageShown>
<KIX_OWNER_UserComment>
<KIX_OWNER_UserConfigItemOverviewCustomPageShown>
<KIX_OWNER_UserConfigItemOverviewSmallPageShown>
<KIX_OWNER_UserCreateNextMask>
<KIX_OWNER_UserCustomCILVComputer>
<KIX_OWNER_UserCustomTLVColumnValue>
<KIX_OWNER_UserEmail>
```

```
<KIX_OWNER_UserFirstname>
<KIX_OWNER_UserID>
<KIX_OWNER_UserITSMConfigItemOverviewAgentITSMConfigItem>
<KIX_OWNER_UserLanguage>
<KIX_OWNER_UserLastLogin>
<KIX_OWNER_UserLastLoginTimestamp>Agent - last agent article
<KIX_OWNER_UserLastname>
<KIX_OWNER_UserLogin>
<KIX_OWNER_UserLoginFailed>
<KIX_OWNER_UserPw>
<KIX_OWNER_UserQueueSelectionStyle>
<KIX_OWNER_UserQueueViewLayout>
<KIX_OWNER_UserRefreshTime>
<KIX_OWNER_UserSendFollowUpNotification>
<KIX_OWNER_UserSendLockTimeoutNotification>
<KIX_OWNER_UserSendMoveNotification>
<KIX_OWNER_UserSendNewTicketNotification>
<KIX_OWNER_UserSendWatcherNotification>
<KIX_OWNER_UserSkin>
<KIX_OWNER_UserTheme>
<KIX_OWNER_UserTicketOverviewAgentTicketLockedView>
<KIX_OWNER_UserTicketOverviewAgentTicketQueue>
<KIX_OWNER_UserTicketOverviewCustomPageShown>
<KIX_OWNER_UserTicketOverviewMediumPageShown>
<KIX_OWNER_UserTicketOverviewPreviewPageShown>
<KIX_OWNER_UserTicketOverviewSmallPageShown>
<KIX_OWNER_UserTitle>
<KIX_OWNER_UserViewAllTickets>
<KIX_OWNER_ValidID>
```

Responsible - Person in charge

```
<KIX_RESPONSIBLE_*>
<KIX_RESPONSIBLE_AdminDynamicFieldsOverviewPageShown>
<KIX_RESPONSIBLE_ChangeTime>
<KIX_RESPONSIBLE_CreateTime>
<KIX_RESPONSIBLE_KIXSidebarCILinksShow>
<KIX_RESPONSIBLE_OutOfOffice>
<KIX_RESPONSIBLE_OutOfOfficeEndDay>
<KIX_RESPONSIBLE_OutOfOfficeEndMonth>
<KIX_RESPONSIBLE_OutOfOfficeEndYear>
<KIX_RESPONSIBLE_OutOfOfficeStartDay>
<KIX_RESPONSIBLE_OutOfOfficeStartMonth>
```

```
<KIX_RESPONSIBLE_OutOfOfficeStartYear>
<KIX_RESPONSIBLE_RedirectAfterTicketClose>
<KIX_RESPONSIBLE_ShownArticle>
<KIX_RESPONSIBLE_UserAuthBackend>
<KIX_RESPONSIBLE_UserChangeOverviewSmallPageShown>
<KIX_RESPONSIBLE_UserComment>
<KIX_RESPONSIBLE_UserConfigItemOverviewCustomPageShown>
<KIX_RESPONSIBLE_UserConfigItemOverviewSmallPageShown>
<KIX_RESPONSIBLE_UserCreateNextMask>
<KIX_RESPONSIBLE_UserCustomCILVComputer>
<KIX_RESPONSIBLE_UserCustomTLVColumnValue>
<KIX_RESPONSIBLE_UserEmail>
<KIX_RESPONSIBLE_UserFirstname>
<KIX_RESPONSIBLE_UserID>
<KIX_RESPONSIBLE_UserITSMConfigItemOverviewAgentITSMConfigItem>
<KIX_RESPONSIBLE_UserLanguage>
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<KIX_RESPONSIBLE_UserLogin>
<KIX_RESPONSIBLE_UserLoginFailed>
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<KIX_RESPONSIBLE_UserQueueViewLayout>
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<KIX_RESPONSIBLE_UserSendLockTimeoutNotification>
<KIX_RESPONSIBLE_UserSendMoveNotification>
<KIX_RESPONSIBLE_UserSendNewTicketNotification>
<KIX_RESPONSIBLE_UserSendWatcherNotification>
<KIX_RESPONSIBLE_UserSkin>
<KIX_RESPONSIBLE_UserTheme>
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<KIX_RESPONSIBLE_UserTicketOverviewCustomPageShown>
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<KIX_RESPONSIBLE_UserTicketOverviewPreviewPageShown>
<KIX_RESPONSIBLE_UserTicketOverviewSmallPageShown>
<KIX_RESPONSIBLE_UserTitle>
<KIX_RESPONSIBLE_UserViewAllTickets>
<KIX_RESPONSIBLE_ValidID>
```

Current - Current agent

```
<KIX_CURRENT_*>
<KIX_CURRENT_AdminDynamicFieldsOverviewPageShown>
<KIX_CURRENT_ChangeTime>
<KIX_CURRENT_CreateTime>
<KIX_CURRENT_KIXSidebarCILinksShow>
<KIX_CURRENT_OutOfOffice>
<KIX_CURRENT_OutOfOfficeEndDay>
<KIX_CURRENT_OutOfOfficeEndMonth>
<KIX_CURRENT_OutOfOfficeEndYear>
<KIX_CURRENT_OutOfOfficeStartDay>
<KIX_CURRENT_OutOfOfficeStartMonth>
<KIX_CURRENT_OutOfOfficeStartYear>
<KIX_CURRENT_RedirectAfterTicketClose>
<KIX_CURRENT_ShownArticle>
<KIX_CURRENT_UserAuthBackend>
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<KIX_CURRENT_UserComment>
<KIX_CURRENT_UserConfigItemOverviewCustomPageShown>
<KIX_CURRENT_UserConfigItemOverviewSmallPageShown>
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<KIX_CURRENT_UserCustomCILVComputer>
<KIX_CURRENT_UserCustomTLVColumnValue>
<KIX_CURRENT_UserEmail>
<KIX_CURRENT_UserFirstname>
<KIX_CURRENT_UserID>
<KIX_CURRENT_UserITSMConfigItemOverviewAgentITSMConfigItem>
<KIX_CURRENT_UserLanguage>
<KIX_CURRENT_UserLastLogin>
<KIX_CURRENT_UserLastLoginTimestamp>
<KIX_CURRENT_UserLastname>
<KIX_CURRENT_UserLogin>
<KIX_CURRENT_UserLoginFailed>
<KIX_CURRENT_UserPw>
<KIX_CURRENT_UserQueueSelectionStyle>
<KIX_CURRENT_UserQueueViewLayout>
<KIX_CURRENT_UserRefreshTime>
<KIX_CURRENT_UserSendFollowUpNotification>
<KIX_CURRENT_UserSendLockTimeoutNotification>
<KIX_CURRENT_UserSendMoveNotification>
<KIX_CURRENT_UserSendNewTicketNotification>
<KIX_CURRENT_UserSendWatcherNotification>
```

```
<KIX_CURRENT_UserSkin>
<KIX_CURRENT_UserTheme>
<KIX_CURRENT_UserTicketOverviewAgentTicketLockedView>
<KIX_CURRENT_UserTicketOverviewAgentTicketQueue>
<KIX_CURRENT_UserTicketOverviewCustomPageShown>
<KIX_CURRENT_UserTicketOverviewMediumPageShown>
<KIX_CURRENT_UserTicketOverviewPreviewPageShown>
<KIX_CURRENT_UserTicketOverviewSmallPageShown>
<KIX_CURRENT_UserTitle>
<KIX_CURRENT_UserViewAllTickets>
<KIX_CURRENT_ValidID>
```

Agent - Last agent article

```
<KIX_Agent_*>
<KIX_Agent_AdminDynamicFieldsOverviewPageShown>
<KIX_Agent_ChangeTime>
<KIX_Agent_CreateTime>
<KIX_Agent_KIXSidebarCILinksShow>
<KIX_Agent_OutOfOffice>
<KIX_Agent_OutOfOfficeEndDay>
<KIX_Agent_OutOfOfficeEndMonth>
<KIX_Agent_OutOfOfficeEndYear>
<KIX_Agent_OutOfOfficeStartDay>
<KIX_Agent_OutOfOfficeStartMonth>
<KIX_Agent_OutOfOfficeStartYear>
<KIX_Agent_RedirectAfterTicketClose>
<KIX_Agent_ShownArticle>
<KIX_Agent_UserAuthBackend>
<KIX_Agent_UserChangeOverviewSmallPageShown>
<KIX_Agent_UserComment>
<KIX_Agent_UserConfigItemOverviewCustomPageShown>
<KIX_Agent_UserConfigItemOverviewSmallPageShown>
<KIX_Agent_UserCreateNextMask>
<KIX_Agent_UserCustomCILVComputer>Agent - Last agent article
<KIX_Agent_UserCustomTLVColumnValue>
<KIX_Agent_UserEmail>
<KIX_Agent_UserFirstname>
<KIX_Agent_UserID>
<KIX_Agent_UserITSMConfigItemOverviewAgentITSMConfigItem>
<KIX_Agent_UserLanguage>
```

```
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<KIX_Agent_UserLastLoginTimestamp>
<KIX_Agent_UserLastname>
<KIX_Agent_UserLogin>
<KIX_Agent_UserLoginFailed>
<KIX_Agent_UserPw>
<KIX_Agent_UserQueueSelectionStyle>
<KIX_Agent_UserQueueViewLayout>
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<KIX_Agent_UserSendLockTimeoutNotification>
<KIX_Agent_UserSendMoveNotification>
<KIX_Agent_UserSendNewTicketNotification>
<KIX_Agent_UserSendWatcherNotification>
<KIX_Agent_UserSkin>
<KIX_Agent_UserTheme>
<KIX_Agent_UserTicketOverviewAgentTicketLockedView>
<KIX_Agent_UserTicketOverviewAgentTicketQueue>
<KIX_Agent_UserTicketOverviewCustomPageShown>
<KIX_Agent_UserTicketOverviewMediumPageShown>
<KIX_Agent_UserTicketOverviewPreviewPageShown>
<KIX_Agent_UserTicketOverviewSmallPageShown>
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<KIX_Agent_UserViewAllTickets>
<KIX_Agent_ValidID>
```

Ticket - ticket data

```
<KIX_TICKET_*>
<KIX_TICKET_Age>
<KIX_TICKET_ArchiveFlag>
<KIX_TICKET_ChangeBy>
<KIX_TICKET_Changed>
<KIX_TICKET_CreateBy>
<KIX_TICKET_CreateTimeUnix>
<KIX_TICKET_Created>
<KIX_TICKET_CustomerID>
<KIX_TICKET_CustomerUserID>
<KIX_TICKET_DynamicField_FIELDNAME>
<KIX_TICKET_DynamicField_FIELDNAME_Value>
<KIX_TICKET_EscalationResponseTime>
<KIX_TICKET_EscalationSolutionTime>
<KIX_TICKET_EscalationTime>
<KIX_TICKET_EscalationUpdateTime>
<KIX_TICKET_GroupID>
<KIX_TICKET_Lock>
<KIX_TICKET_LockID>
<KIX_TICKET_Owner>
<KIX_TICKET_OwnerID>
<KIX_TICKET_Priority>
<KIX_TICKET_PriorityID>
<KIX_TICKET_Queue>
<KIX_TICKET_QueueID>
<KIX_TICKET_RealTillTimeNotUsed>
<KIX_TICKET_Responsible>
<KIX_TICKET_ResponsibleID>
<KIX_TICKET_SLAID>
<KIX_TICKET_ServiceID>
<KIX_TICKET_State>
<KIX_TICKET_StateID>
<KIX_TICKET_StateType>
<KIX_TICKET_TicketID>
<KIX_TICKET_TicketNumber>
<KIX_TICKET_Title>
<KIX_TICKET_Type>
```

Article - Article data

First - data from the first article

Config - Sysconfig options

Email - email data

Quote - quote

```
<KIX_TICKET_TypeID>
<KIX_TICKET_UnlockTimeout>
<KIX_TICKET_UntilTime>
```

Customer - last customer item / customer data

```
<KIX_CUSTOMER_*>
<KIX_CUSTOMER_Age>
<KIX_CUSTOMER_AgeTimeUnix>
<KIX_CUSTOMER_ArticleID>
<KIX_CUSTOMER_ArticleType>
<KIX_CUSTOMER_ArticleTypeID>
<KIX_CUSTOMER_Bcc>
<KIX_CUSTOMER_Body>
<KIX_CUSTOMER_Cc>
<KIX_CUSTOMER_Changed>
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<KIX_CUSTOMER_ContentType>
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<KIX_CUSTOMER_CreatedBy>
<KIX_CUSTOMER_CustomerID>
<KIX_CUSTOMER_CustomerUserID>
<KIX_CUSTOMER_DynamicField_FIELDNAME>
<KIX_CUSTOMER_DynamicField_FIELDNAME_Value>
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<KIX_CUSTOMER_EscalationSolutionTime>
<KIX_CUSTOMER_EscalationTime>
<KIX_CUSTOMER_EscalationUpdateTime>
<KIX_CUSTOMER_From>
```

```
<KIX_CUSTOMER_FromRealname>
<KIX_CUSTOMER_InReplyTo>
<KIX_CUSTOMER_IncomingTime>
<KIX_CUSTOMER_Lock>
<KIX_CUSTOMER_LockID>
<KIX_CUSTOMER_MessageID>
<KIX_CUSTOMER_MimeType>
<KIX_CUSTOMER_OrigFrom>
<KIX_CUSTOMER_OrigFromName>
<KIX_CUSTOMER_Owner>
<KIX_CUSTOMER_OwnerID>
<KIX_CUSTOMER_Priority>
<KIX_CUSTOMER_PriorityID>
<KIX_CUSTOMER_Queue>
<KIX_CUSTOMER_QueueID>
<KIX_CUSTOMER_REALNAME>
<KIX_CUSTOMER_RealTillTimeNotUsed>
<KIX_CUSTOMER_References>
<KIX_CUSTOMER_ReplyTo>
<KIX_CUSTOMER_Responsible>
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<KIX_CUSTOMER_Service>
<KIX_CUSTOMER_ServiceID>
<KIX_CUSTOMER_State>
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<KIX_CUSTOMER_StateType>
<KIX_CUSTOMER_Subject>
<KIX_CUSTOMER_SUBJECT[18]>
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<KIX_CUSTOMER_TicketNumber>
<KIX_CUSTOMER_Title>
<KIX_CUSTOMER_To>
<KIX_CUSTOMER_ToEmail>
<KIX_CUSTOMER_ToRealname>
<KIX_CUSTOMER_Type>
<KIX_CUSTOMER_TypeID>
<KIX_CUSTOMER_UntilTime>
<KIX_CUSTOMER_CompanyConfig>
```

```
<KIX_CUSTOMER_Config>
<KIX_CUSTOMER_Source>
<KIX_CUSTOMER_UserAuthBackend>
<KIX_CUSTOMER_UserCity>
<KIX_CUSTOMER_UserComment>
<KIX_CUSTOMER_UserCountry>
<KIX_CUSTOMER_UserCustomerID>
<KIX_CUSTOMER_UserEmail>
<KIX_CUSTOMER_UserFax>
<KIX_CUSTOMER_UserFirstname>
<KIX_CUSTOMER_UserID>
<KIX_CUSTOMER_UserLanguage>
<KIX_CUSTOMER_UserLastLogin>
<KIX_CUSTOMER_UserLastLoginTimestamp>
<KIX_CUSTOMER_UserLastname>
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<KIX_CUSTOMER_UserLoginFailed>
<KIX_CUSTOMER_UserMobile>
<KIX_CUSTOMER_UserPassword>
<KIX_CUSTOMER_UserPhone>
<KIX_CUSTOMER_UserRefreshTime>
<KIX_CUSTOMER_UserShowTickets>
<KIX_CUSTOMER_UserStreet>
<KIX_CUSTOMER_UserTheme>
<KIX_CUSTOMER_UserTitle>
<KIX_CUSTOMER_UserZip>
<KIX_CUSTOMER_ValidID>
```

Customer Data - customer data

```
<KIX_CUSTOMER_DATA_*>
<KIX_CUSTOMER_DATA_CompanyConfig>
<KIX_CUSTOMER_DATA_Config>
<KIX_CUSTOMER_DATA_DynamicField_NameDesFeldes>
<KIX_CUSTOMER_DATA_Source>
<KIX_CUSTOMER_DATA_UserAuthBackend>
<KIX_CUSTOMER_DATA_UserCity>
<KIX_CUSTOMER_DATA_UserComment>
<KIX_CUSTOMER_DATA_UserCountry>
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<KIX_CUSTOMER_DATA_UserEmail>
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<KIX_CUSTOMER_DATA_UserLanguage>
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<KIX_CUSTOMER_DATA_UserLastLoginTimestamp>
<KIX_CUSTOMER_DATA_UserLastname>
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<KIX_CUSTOMER_DATA_UserMobile>
<KIX_CUSTOMER_DATA_UserPassword>
<KIX_CUSTOMER_DATA_UserPhone>
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<KIX_CUSTOMER_DATA_UserTheme>
<KIX_CUSTOMER_DATA_UserTitle>
<KIX_CUSTOMER_DATA_UserZip>
<KIX_CUSTOMER_DATA_ValidID>
```

Article - Article data

```
<KIX_ARTICLE_DATA_*>
<KIX_ARTICLE_DATA_Age>
<KIX_ARTICLE_DATA_PriorityID>
<KIX_ARTICLE_DATA_ContentType>
<KIX_ARTICLE_DATA_ServiceID>
<KIX_ARTICLE_DATA_Service>
<KIX_ARTICLE_DATA_Type>
<KIX_ARTICLE_DATA_ContentCharset>
<KIX_ARTICLE_DATA_Responsible>
```

```
<KIX_ARTICLE_DATA_StateID>
<KIX_ARTICLE_DATA_SenderType>
<KIX_ARTICLE_DATA_ResponsibleID>
<KIX_ARTICLE_DATA_Body>
<KIX_ARTICLE_DATA_EscalationTime>
<KIX_ARTICLE_DATA_MimeType>
<KIX_ARTICLE_DATA_SLA>
<KIX_ARTICLE_DATA_Subject>
<KIX_ARTICLE_DATA_InReplyTo>
<KIX_ARTICLE_DATA_OwnerID>
<KIX_ARTICLE_DATA_Changed>
<KIX_ARTICLE_DATA_RealTillTimeNotUsed>
<KIX_ARTICLE_DATA_Owner>
<KIX_ARTICLE_DATA_AgeTimeUnix>
<KIX_ARTICLE_DATA_CustomerID>
<KIX_ARTICLE_DATA_TypeID>
<KIX_ARTICLE_DATA_MessageID>
<KIX_ARTICLE_DATA_Created>
<KIX_ARTICLE_DATA_ArticleID>
<KIX_ARTICLE_DATA_To>
<KIX_ARTICLE_DATA_Priority>
<KIX_ARTICLE_DATA_UntilTime>
<KIX_ARTICLE_DATA_EscalationUpdateTime>
<KIX_ARTICLE_DATA_CreatedBy>
<KIX_ARTICLE_DATA_QueueID>
<KIX_ARTICLE_DATA_ArticleTypeID>
<KIX_ARTICLE_DATA_Queue>
<KIX_ARTICLE_DATA_SenderTypeID>
<KIX_ARTICLE_DATA_State>
<KIX_ARTICLE_DATA_ToRealname>
<KIX_ARTICLE_DATA_Title>
<KIX_ARTICLE_DATA_ReplyTo>
<KIX_ARTICLE_DATA_References>
<KIX_ARTICLE_DATA_TicketID>
<KIX_ARTICLE_DATA_ArticleType>
<KIX_ARTICLE_DATA_Cc>
<KIX_ARTICLE_DATA_StateType>
<KIX_ARTICLE_DATA_FromRealname>
<KIX_ARTICLE_DATA_EscalationResponseTime>
<KIX_ARTICLE_DATA_EscalationSolutionTime>
<KIX_ARTICLE_DATA_IncomingTime>
<KIX_ARTICLE_DATA_LockID>
```

```
<KIX_ARTICLE_DATA_Charset>
<KIX_ARTICLE_DATA_TicketNumber>
<KIX_ARTICLE_DATA_CreateTimeUnix>
<KIX_ARTICLE_DATA_Lock>
<KIX_ARTICLE_DATA_SLAID>
<KIX_ARTICLE_DATA_CustomerUserID>
<KIX_ARTICLE_DATA_From>
<KIX_ARTICLE_RECIPIENT_*>
<KIX_ARTICLE_RECIPIENT_UserPassword>
<KIX_ARTICLE_RECIPIENT_CreateBy>
<KIX_ARTICLE_RECIPIENT_ChangeBy>
<KIX_ARTICLE_RECIPIENT_UserID>
<KIX_ARTICLE_RECIPIENT_CustomerCompanyValidID>
<KIX_ARTICLE_RECIPIENT_UserDefaultTicketQueue>
<KIX_ARTICLE_RECIPIENT_Config>
<KIX_ARTICLE_RECIPIENT_UserConfigItemOverviewSmallPageShown>
<KIX_ARTICLE_RECIPIENT_UserDefaultService>
<KIX_ARTICLE_RECIPIENT_UserShowTickets>
<KIX_ARTICLE_RECIPIENT_CompanyConfig>
<KIX_ARTICLE_RECIPIENT_UserGoogleAuthenticatorSecretKey>
```

First - data from the first article

```
<KIX_FIRST_*>
<KIX_FIRST_BODY>
<KIX_FIRST_COMMENT>
<KIX_FIRST_EMAIL[]>
<KIX_FIRST_SUBJECT[]>
```

Config - Sysconfig options

Selected SysConfig options can be inserted using the following placeholders:

```
<KIX_CONFIG_*>
<KIX_CONFIG HttpType>
<KIX_CONFIG_ScriptAlias>
<KIX_CONFIG_FQDN>
<KIX_CONFIG_TicketHook>
<KIX_CONFIG_NotificationSenderName>
```

Email - email data

```
<KIX_EMAIL_*>
<KIX_EMAIL_DATE>
```

Quote - quote

Text formatted as quoted can be inserted using the following placeholders.

```
<KIX_QUOTE_*>
<KIX_QUOTE_Start>
<KIX_QUOTE_Ende>
<KIX_QUOTE[]>
```

The usage is as follows:

- This placeholder can be used to define when a quote begins and when it ends. The placeholder "KIX_QUOTE_Start" starts a quote and ends it with "KIX_" QUOTE_End "Everything that lies between the two tags is marked as a quote.
- It is also possible to add a quote within the quote. To do this, another block must be added to the quote block.
    - <KIX_QUOTE_Start>
Text for a first level quote
<KIX_QUOTE_Start>
<KIX_ARTICLE_BODY> (quote from the second level)
<KIX_QUOTE_End>
More text for a first level quote
<KIX_QUOTE_End>
- "KIX_QUOTE [xx]":
    - This placeholder determines how many lines from the placeholder should be highlighted as a quote. "xx" is an integer here.

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12 Purpose for which the use of KIX Start is intended within a medical context

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In a medical context, KIX Start is exclusively intended for carrying out administration and database-related tasks. If the above restrictions are complied with, KIX Start is suitable for use in a medical environment

- purely for documentation purposes, such as:
    - the general management of equipment in the form of managing and cataloging device data (device meta data) such as names, IP addresses, series numbers, persons responsible, guarantee periods, service providers, operating documents, license information, cost centers, as well as the management/organisation of users, device instructions;
    - the central documentation of all activities and changes in the IT such as due to executed maintenance activities or other service activities (e.g. medical device log book);
    - for compiling a knowledge database.
- for automating and simplifying general management processes, such as:
    - in service and technical customer service, for example in IT service (errors, changes, maintenance);
    - in building services (errors, changes, cleaning) or medical device technology.
- for monitoring purposes and calendar functions, such as:
    - for central IT services (network, email, data servers, SAP,...);
    - and for error and requirement notifications for the IT team, building services, medical device technology;
    - for the planning of regular maintenance works and reminders for replacing wear parts;
    - for the organisation of regular orders and planning the deployment of service technicians.

KIX Start is not designed for enabling or guaranteeing the functioning of medical devices and must therefore not be used for these purposes. If in the context of the aforementioned functions KIX Start also allows data exchange via an interface, please note that KIX Start must not be used for data modification or for any type of data control for medical or therapeutic purposes.

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