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# The Loway Keyring

## Loway

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### Revision history:

- 1.0: First revision. Oct 15, 2011.

## Introducing the Loway Keyring

The Loway Keyring is a simple dashboard application that allows you to administer multiple instances of QueueMetrics that are deployed on the cloud.

These can be provisioned, scaled up and down and even closed using a web GUI that keeps track of which licenses are installed on each system and that lets you change them as needed.

This model is best suited for deploying a large number of parallel QueueMetrics instances - for example, as a complement of an existing Asterisk cloud offer - without taking the financial risk of purchasing many long-term licenses.

In this way:

- You can generate a key as soon as your clients ask for it (no delays due to bank payments, different time zones, etc.)
- If your business model is hosting remote call centers with QueueMetrics, you can purchase QM licenses that last as long as your client has paid you for; if they pay you monthly, you do not have to commit to a four-year license in advance.
- When each key expires, you can install a different one - you invoice your client for actual usage.

## Terminology used

A **pre-purchased key (PPK)** is an activation key that you purchase from Loway and specifies an activation period for a given license of QueueMetrics - for example, a PPK that looks like this:

```
XQI-LOWAY-74KKMREX6TOH1:QM-50/1/90
```

will eventually convert into a 90-day QueueMetrics key for 50-agents and 1 Asterisk server, counting from the day you convert it.

A **license key** is the actual key that will be installed in QueueMetrics in order to activate it. It can be installed manually within the 'web.xml' file or over QM itself, on the License page. It contains a fixed expiration date that cannot be changed once it's generated.

## Installation

The Loway Keyring is a web application written in Java. It requires the same infrastructure as QueueMetrics (Java 6, a MySQL database). In addition, it requires a *cron* entry to update licenses automatically, when needed.

The Keyring can be installed alongside an existing QueueMetrics installation or on a different, dedicated server. The box that the keyring is installed on must be able to reach all the required QM instances - either on a private network or through VPN tunnels. It must also be able to connect to the Internet for key generation.



## Important

The Keyring cannot control an instance of QueueMetrics that is installed on the same machine, as during the update process the whole servlet container is restarted.

## Installing using RPM

If your Linux distribution uses RPM, installing the Loway Keyring is very easy:

```
wget -P /etc/yum.repos.d http://yum.loway.ch/loway.repo
yum install LowayKeyring
```

Once the installation is complete, you will be prompted to execute a script to install the initial database.

```
cd /usr/local/queuemetrics/webapps/LowayKeyring-0.1.15
cd WEB-INF/README
./installDB.sh
```

You will be prompted to enter your MySQL root password and the default database will be loaded.

In order to access it, point your browser to: <http://yourserver:8080/LowayKeyring>

Once you see the welcome page, do not forget to set up a cron job as described below.

## Setting up a cron job

In order to set up a cron job, run the following command:

```
crontab -e
```

When the editor appears, add a line that looks like:

```
0 23 * * * /usr/bin/wget -O- "http://127.0.0.1:8080/
LowayKeyring/LKKeyBatch.jsp?user=demoadmin&pass=demo"
```

(it must be all on one single line).

Make sure that you change the default login and password once you set up the Keyring. Running the cron job daily should usually be enough, though there is no harm in running it hourly.



## Tip

We strongly suggest using a single time-source throughout all your deployment - so that cross-machine logs make sense and are readable. You can easily achieve this by running *ntp* periodically to make sure that the clock is aligned on all your servers.

## Setting Up QueueMetrics for use with the Keyring

In order for a QueueMetrics instance to be controlled by the Keyring, you should install it as you normally do:

```
wget -P /etc/yum.repos.d http://yum.loway.ch/loway.repo
yum install queuemetrics
```

and follow the standard installation procedure.

When the QM instance is active, you should log in to it as an administrator and perform the steps described below.

## Activating the keyupdater profile

The *keyupdater* user (the one used for scriptable remote key updates) ships with QueueMetrics but is disabled by default, as a security measure.

- Go to 'Edit users and classes', look at the *keyupdater* user and edit it.
- Set it as *Enabled: yes* and change its default password

## Turning off the key expiration message

When the expiration date of a QueueMetrics license is very close, QueueMetrics will display a warning message. As KeyRing licenses are usually quite short (a few days or one month), your users will often see this message.

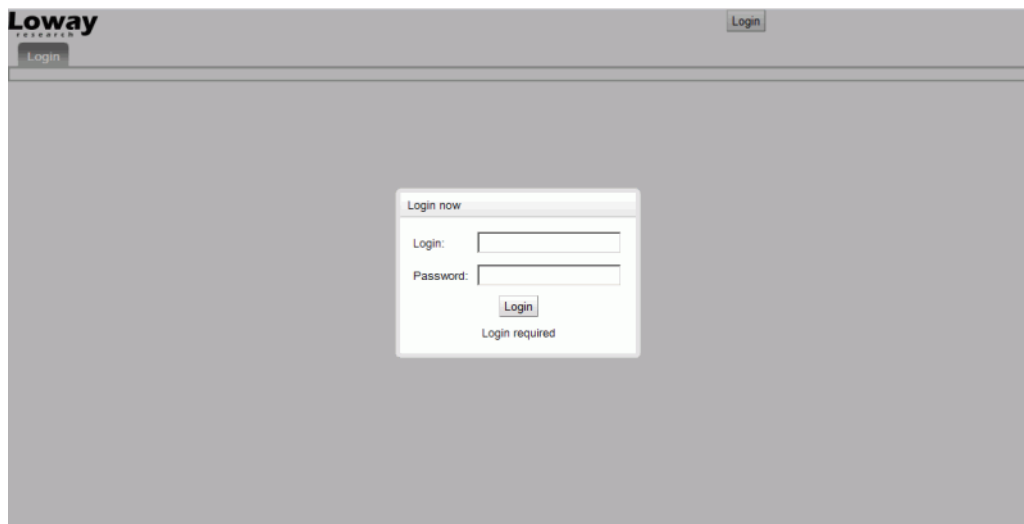
In order to turn it off, set:

```
default.noLicenseWarning=true
```

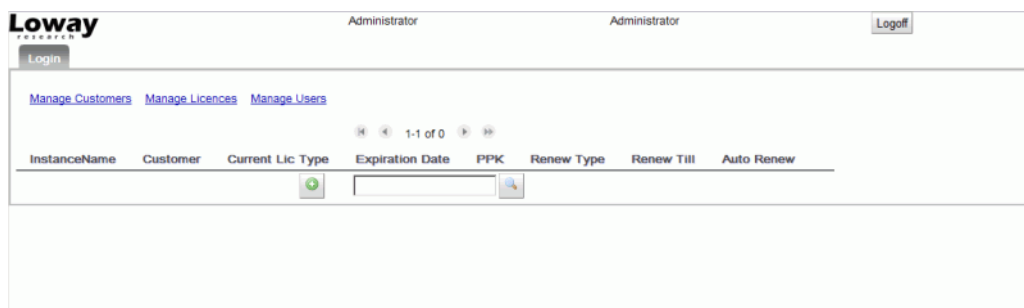
within the configuration.properties file of each QueueMetrics instance.

## Using the Keyring

If you point your browser to `http://yourserver:8080/LowayKeyring` you should see the initial login screen.



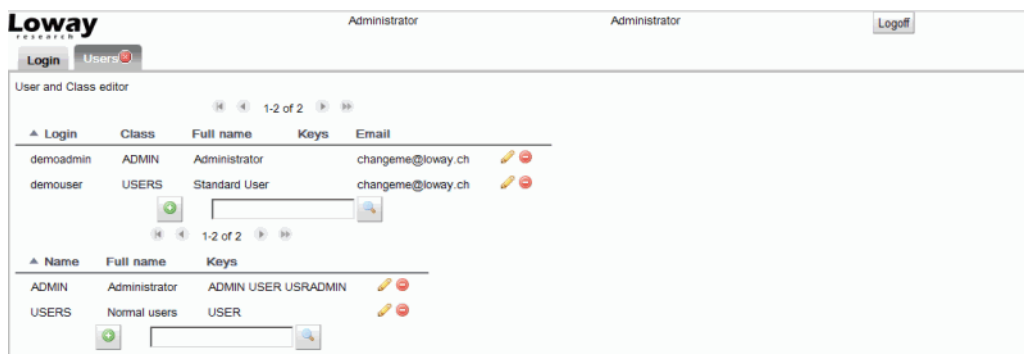
You can login as "demoadmin", password "demo" for the first access.



## Initial setup

The first thing you have to do is to change the default password for user *demoadmin*.

You can do this by going to the User editor (select *Manage Users* on the homepage):



You should also edit the email address for user *demoadmin*, as reminders for any license generated through the Keyring will be sent from Loway systems to this specific address.



## Important

\* Remember to log out and log in again, before continuing the installation. Also, make sure that the password you just changed is reflected in the *pass* field of the crontab request you previously set up.

## Loading PPKs

If you are just starting out with the Keyring, most likely you will have received a set of demo keys from Loway.

In order to load them into the system, click on *Manage Licenses* on the homepage:

ID	Type	Status	PPK	Start Validity	End Validity
1	QM 20/1, 2 days	Not Generated	2011-11-14 15:48:00 2012-11-14 15:48:00		
2	QM 20/1, 2 days	Not Generated	18-11-11 23:00:00 2012-11-18 23:00:00		
3	QM 20/1, 2 days	Not Generated	AKV 11-11-11 11:11:11		
4	QM 20/1, 2 days	Not Generated	18-11-11 23:00:00 2012-11-18 23:00:00		
5	QM 20/1, 2 days	Not Generated	18-11-11 23:00:00 2012-11-18 23:00:00		

Copy & paste the license list in the box on the right and click on the Add button. The system will confirm the number of imported keys.



## Tip

If you import a key multiple times, it will be skipped; so no harm comes from doing so.

## Adding a QueueMetrics system

### Adding a customer

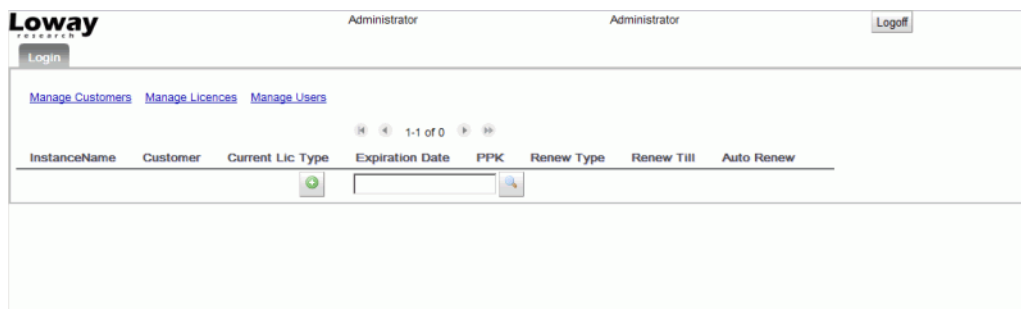
The first thing you have to do is to add a Customer, that is the entity that "owns" each QueueMetrics system. Click on *Manage Customers* from the home page:

ID	Company	Name	Surname	Address	City	ZIP	State	Country
1	Doeware	John	Doe					

The only mandatory fields are the Company name and the Customer name and surname.

### Creating a QM instance

After you created your customer, go back to the home page and add a system.



Enter a name that will identify this Asterisk instance, the customer and which license you want to deploy. You should also enter the address of the QueueMetrics instance (as you would use to login) and the username and password for the local *keyupdater* user.

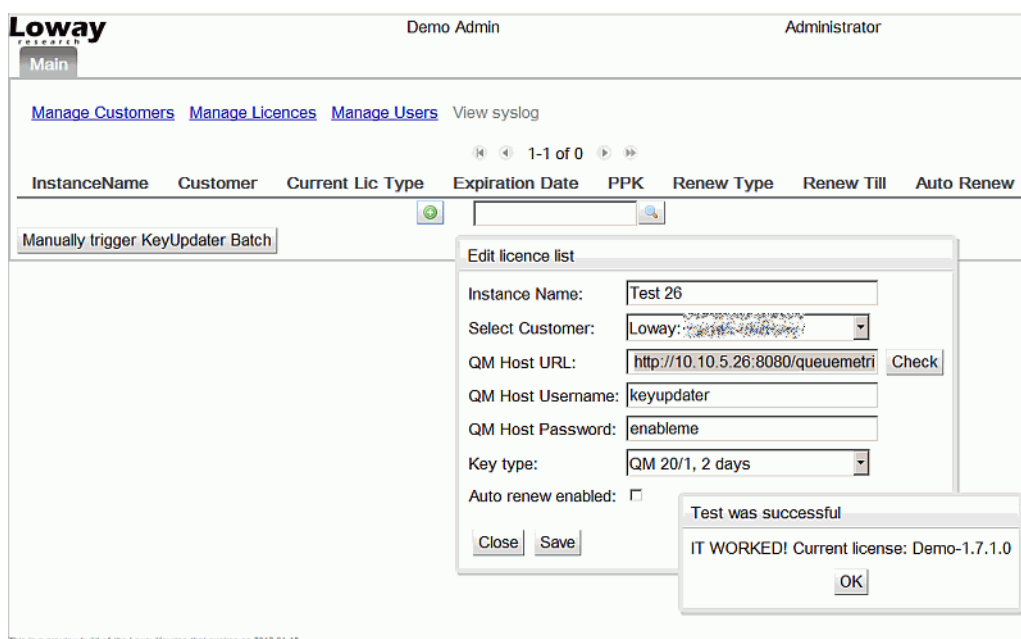
The default values are:

- *Instance Name* : Enter a name for the QueueMetrics instance
- *Select Customer* : The customer that this QM instance belongs to
- *QM Host URL* : QueueMetrics URL (e.g. <http://myserver:8080/queuemetrics>)
- *QM Host Username* : It is usually "keyupdater" (see Chapter on Activating the keyupdater profile)
- *QM Host Password* : The default one is "enableme", but you should change this as soon as possible
- *Key type* : Licence type that you want to associate to this instance



### Checking the system actually works

Before doing anything with a system, it is important to check that the system is actually available on the address you entered. To do so, click on the *Check* button next to the URL field.



This is a preview build of the LowayKeyring that expires on 2012-01-15

If all went well, you should receive a confirmation message.



## Tip

If you receive an error message here, this means that either QM is not available on the given URL, or the user *keyupdater* is not present or not enabled, or the wrong password was entered.

## Deploying a license

When initially deploying a license, you can click on the *Generate Now* button to generate the key and have it deployed. In a few seconds the QueueMetrics system will be provisioned and active.

As in real-life you have contracts that may have any duration, it is possible to set an expiration date and have the license be automatically generated every time it is about to expire. This is what the *cron* job does.

The cron job basically asks two questions:

- Is the current license present and active? if so, it does nothing
- Does this license have to be renewed up to a certain point in the future? If so, the license is generated and installed.

In case a license is generated but the installation fails (e.g. that particular QM instance is down), then the cron job will repeatedly try to install that key, until it succeeds.

Please note that the new license will be renewed until it covers at least the expiration date - not a big issue if your licenses are paid on a weekly basis, but if they are e.g. monthly and the license is renewed the second day of the month, it will however last until the end of that month.

## How to's

### Extending or reducing a QueueMetrics key

In order to extend and/or reduce an existing license, you create a new one and replace the old one with it. It is immediately active. The old one is basically "dumped" and cannot be recycled.

### What if I run out of PPKs?

In case you should run out of the PPK required for that client, it will be impossible to generate the key and an error message will be logged. (We plan to add email notifications in the near future).