



U Y U N I

Uyuni 2024.12

Quick Start Guide

2024년12월18일



차례

Quick Start	1
1. Container Deployment	2
1.1. Deploy Uyuni 2024.12 Server	2
1.1.1. Software and Hardware Requirements for Uyuni.....	2
1.1.2. Acquire the openSUSE Leap Micro 5.5 Image	3
1.1.3. Container Host Installation	3
1.1.4. Update the system and Install Container Tools	3
1.1.5. Deploy Uyuni with mgradm.....	4
1.1.6. Optional: Synchronizing Products from SUSE Customer Center	5
1.2. Deploy a Uyuni 2024.12 Proxy	6
1.2.1. Hardware Requirements for the Proxy.....	7
1.2.2. Container Host General Requirements	7
1.2.3. Container Host Requirements.....	7
1.2.4. Installing Uyuni Tools for Use with Containers.....	8
1.2.5. Configure Custom Persistent Storage.....	9
1.2.6. Bootstrap the Proxy Host as a Minion	9
1.2.7. Generate the Proxy Configuration.....	10
1.2.8. Transfer the Proxy Configuration.....	11
1.2.9. Start the Uyuni 2024.12 Proxy.....	12
2. Legacy Installation	13
2.1. Install Uyuni Server with openSUSE Leap.....	13
2.1.1. Software and Hardware Requirements	13
2.1.2. Install Uyuni Server on openSUSE Leap.....	13
2.1.3. Set up Uyuni Server with YaST	14
2.1.4. Create the Main Administration Account	15
2.1.5. Optional: Synchronizing Products from SUSE Customer Center	15
2.2. Install Uyuni Proxy with openSUSE Leap	16
2.2.1. Mirror Uyuni Proxy software	17
2.2.2. Register the openSUSE Leap system.....	17
2.2.3. Install Uyuni Proxy on openSUSE Leap.....	18
2.2.4. Prepare the Proxy	18
2.2.5. Set Up the Proxy.....	19
2.2.6. Configure DHCP for PXE through Proxy	22
2.2.7. Reinstalling a Proxy.....	22
2.2.8. More Information.....	22
3. GNU Free Documentation License	23

Quick Start

Updated: 2024-12-18

This guide shows you how to use deploy and configure a single Uyuni Server or Proxy.

It contains instructions for a selection of simple setup ups, workflows and some common use cases.

You can read Quick Start Guides for:

Container Deployment

- [Quickstart > Container-deployment](#)
- [Quickstart > Container-deployment](#)

Legacy

- [Quickstart > Legacy-installation](#)
- [Quickstart > Legacy-installation](#)

Chapter 1. Container Deployment

1.1. Deploy Uyuni 2024.12 Server

This quick start guide shows you how to install and configure a Uyuni 2024.12 container for x86-64 architecture on openSUSE Leap Micro 5.5.

1.1.1. Software and Hardware Requirements for Uyuni

This table shows the software and hardware requirements for deploying Uyuni Server.

表 1. Bare metal Host Software and Hardware Requirements

Software and Hardware	Recommended
Operating System:	openSUSE Leap Micro 5.5:
CPU:	Minimum 4 dedicated 64-bit x86-64CPU cores
RAM:	Development server Minimum 16 GB Production server Minimum 32 GB
Disk Space:	Disk space depends on your channel requirements, at least 100 GB 50 GB per SUSE or openSUSE product and 360 GB per Red Hat product
Swap space:	3 GB

Official operating system for the Server Container Host

The supported operating system for the container host is openSUSE Leap Micro 5.5.

Container host

A container host is a server equipped with a container engine like Podman, which lets it manage and deploy containers. These containers hold applications and their essential parts, such as libraries, but not a full operating system, making them lightweight. This setup ensures applications run the same way in different environments. The container host supplies the necessary resources such as CPU, memory, and storage for these containers.



Server deployment mandates the use of a fully qualified domain name (FQDN). In the absence of automatic DNS provision of an FQDN by your router or network, the deployment process will not proceed successfully. An FQDN typically follows the format <host>.<domain>.com.

For instance:



- uyuni.example.com
- uyuni.fritz.box
- uyuni.container.lab

For additional details, refer to the section on network requirements in the Installation and Upgrade Guide, available at [Installation-and-upgrade](#) > [Network-requirements](#).

1.1.2. Acquire the openSUSE Leap Micro 5.5 Image

1. Proceed to: [Download openSUSE Leap Micro 5.5](#)
2. Select and download the **Offline Image**.
3. Prepare a USB flash disk or DVD for installation.
4. Insert a DVD or a bootable USB stick containing the installation image for openSUSE Leap.
5. Boot or reboot your system.

1.1.3. Container Host Installation

For detailed documentation on preparing your machines OS (virtual or physical), see [SLE Micro 5.5 Deployment Guide](#).

Procedure: openSUSE Leap Micro 5.5 Installation

1. Use the arrow keys to select **Installation**.
2. On the **Language**, **Keyboard** and **license Agreement** page click **[Next]**.
3. On the **NTP Configuration** page click **[Next]**.
4. On the **Authentication for the System** page enter a password for the root user. Click **[Next]**.
5. On the **Installation Settings** page click **[Install]**.

1.1.4. Update the system and Install Container Tools

1. Login at the prompt as **root**.
2. Run **transactional-update**:

```
transactional-update
```

3. Reboot the system.
4. Login as root.
5. Enter the transactional shell:

```
transactional-update shell
```

6. Add the container utility repository:

```
zypper ar  
https://download.opensuse.org/repositories/systemsmanagement:/Uyuni:  
/Stable/images/repo/Uyuni-Server-POOL-$(arch)-Media1/ uyuni-server-  
stable
```

7. Refresh the repository list and accept the key:

```
zypper ref
```

8. Install the container tools:

```
zypper in mgradm mgrctl mgradm-bash-completion mgrctl-bash-  
completion uyuni-storage-setup-server
```

9. Reboot the host.

1.1.5. Deploy Uyuni with mgradm

Uyuni is deployed as a container using the `mgradm` tool. There are two methods of deploying a Uyuni server as a container. In this section we will focus on basic container deployment.

For information on using a custom configuration file to deploy see, [Installation-and-upgrade > Container-management](#).

For additional information, you can explore further by running `mgradm --help` from the command line.

Procedure: Deploying an Uyuni container with Podman

1. From the terminal run the following command as root.

```
mgradm install podman
```

2. Input a password for the CA certificate, an administrative account password and your email for notifications:

```
leapmicro:~ # mgradm install podman
3:07PM INF Welcome to mgradm
3:07PM INF Executing command: podman
Password for the CA certificate to generate:
Administrator password:
Administrator's email: admin@example.com
```

3. The container will take some minutes to deploy.
4. Once complete open a browser and visit <https://leapmicro.uyuni.lab> to begin working with Uyuni.

1.1.6. Optional: Synchronizing Products from SUSE Customer Center

SUSE Customer Center (SCC) maintains a collection of repositories which contain packages, software and updates for all supported enterprise client systems. These repositories are organized into channels each of which provide software specific to a distribution, release, and architecture. After synchronizing with SCC, clients can receive updates, be organized into groups, and assigned to specific product software channels.

This section covers synchronizing with SCC from the Web UI and adding your first client channel.



For Uyuni, synchronizing products from SUSE Customer Center is optional.

Before you can synchronize software repositories with SCC, you will need to enter organization credentials in Uyuni. The organization credentials give you access to the SUSE product downloads. You will find your organization credentials in <https://scc.suse.com/organizations>.

Enter your organization credentials in the Uyuni Web UI:

Optional Procedure: Entering Organization Credentials

1. In the Uyuni Web UI, navigate to **Admin > Setup Wizard**.
2. In the **Setup Wizard** page, navigate to the **[Organization Credentials]** tab.
3. Click **[Add a new credential]**.
4. Enter a username and password, and click **[Save]**.

A check mark icon is shown when the credentials are confirmed. When you have successfully entered the new credentials, you can synchronize with SUSE Customer Center.

Optional Procedure: Synchronizing with SUSE Customer Center

1. In the Uyuni Web UI, navigate to **Admin > Setup Wizard**.
2. From the **Setup Wizard** page select the **[SUSE Products]** tab. Wait a moment for the products list to populate. If you previously registered with SUSE Customer Center a list of products will populate the table. This table lists architecture, channels, and status information.
3. If your SUSE Linux Enterprise client is based on `x86_64` architecture scroll down the page and select the check box for this channel now.
4. Add channels to Uyuni by selecting the check box to the left of each channel. Click the arrow symbol to the left of the description to unfold a product and list available modules.
5. Click **[Add Products]** to start product synchronization.

When a channel is added, Uyuni will schedule the channel for synchronization. Depending on the number and size of this channels, this can take a long time. You can monitor synchronization progress in the Web UI.

For more information about using the setup wizard, see **Reference > Admin**.

When the channel synchronization process is complete, you can register and configure clients. For more instructions, see **Client-configuration > Registration-overview**.

1.2. Deploy a Uyuni 2024.12 Proxy

This guide outlines the deployment process for the Uyuni 2024.12 Proxy. This guide presumes you have already successfully deployed a Uyuni 2024.12 Server. To successfully deploy, you will perform the following actions:

Checklist: Proxy Deployment

1. Review hardware requirements.
2. Install openSUSE Leap Micro 5.5 on a bare-metal machine.
3. Bootstrap the Proxy as a Salt minion.
4. Generate a Proxy configuration.
5. Transfer the Proxy configuration from Server to Proxy
6. Use the Proxy configuration to register the Salt minion as a Proxy with Uyuni.

Supported operating system for the Proxy Container Host
The supported operating system for the container host is openSUSE Leap Micro 5.5.

Container host



A container host is a server equipped with a container engine like Podman, which lets it manage and deploy containers. These containers hold applications and their essential parts, such as libraries, but not a full operating system, making them lightweight. This setup ensures applications run the same way in different environments. The container host supplies the necessary resources such as CPU, memory, and storage for these containers.

1.2.1. Hardware Requirements for the Proxy

This table shows the hardware requirements for deploying Uyuni Proxy.

表 2. Proxy Hardware Requirements

Hardware	Details	Recommendation
CPU	x86-64, ARM	Minimum 2 dedicated 64-bit CPU cores
RAM	Minimum	2 GB
	Recommended	8 GB
Disk Space	/ (root directory)	Minimum 40 GB
	/var/lib/containers/storage/volumes	Minimum 100 GB, Storage requirements should be calculated for the number of ISO distribution images, containers, and bootstrap repositories you will use.

1.2.2. Container Host General Requirements

For general requirements, see [Installation-and-upgrade > General-requirements](#).

An openSUSE Leap Micro 5.5 server should be installed from installation media. This procedure is described below.

1.2.3. Container Host Requirements

For CPU, RAM, and storage requirements, see [Installation-and-upgrade > Hardware-requirements](#).



To guarantee that clients can resolve the FQDN domain name, both the containerized server and the host machines must be linked to a functional DNS server. Additionally, it is essential to ensure correct configuration of reverse lookups.

1.2.4. Installing Uyuni Tools for Use with Containers

Procedure: Installing Uyuni Tools on openSUSE Leap Micro 5.5

1. On your local host open a terminal window or start up a virtual machine running openSUSE Leap Micro 5.5.
2. Login.
3. Enter the `transactional-update` shell:

```
transactional-update shell
```

4. Add the following repository to your openSUSE Leap Micro 5.5 server:

```
zypper ar
https://download.opensuse.org/repositories/systemsmanagement:/Uyuni:
/Stable/images/repo/Uyuni-Proxy-POOL-$(arch)-Media1/ uyuni-proxy-
stable
```

5. Refresh the repository list and accept the key:

```
zypper ref
```

6. Install the container tools:

```
zypper in mgrpxy mgrpxy-bash-completion uyuni-storage-setup-proxy
```



Alternatively you may install `mgrpxy-zsh-completion` or `mgrpxy-fish-completion`.

7. Exit the transactional shell:

```
transactional update # exit
```

8. Reboot the host.

For more information on the Uyuni Container Utilities, see [Uyuni Container Utilities](#).

1.2.5. Configure Custom Persistent Storage

This step is optional. However, if custom persistent storage is required for your infrastructure, use the `mgr-storage-proxy` tool.

For more information, see `mgr-storage-proxy --help`. This tool simplifies creating the container storage and Squid cache volumes.

Use the command in the following manner:

```
mgr-storage-proxy <storage-disk-device>
```

For example:

```
mgr-storage-proxy /dev/nvme1n1
```

This command will create the persistent storage volumes at `/var/lib/containers/storage/volumes`.



For more information, see

- [Installation-and-upgrade > Container-management](#)
- [Administration > Troubleshooting](#)

1.2.6. Bootstrap the Proxy Host as a Minion

Task: Bootstrap the Proxy Host

1. Select **Systems** > **Bootstrapping**.
2. Fill in the fields for your Proxy host.
3. Select the Activation key created in the previous step from the dropdown.
4. Click **[+ Bootstrap]**.
5. Wait for the Bootstrap process to complete successfully. Check the **Salt** menu and confirm the Salt minion key is listed and accepted.
6. Reboot the Proxy host.
7. Select the host from the **System** list and trigger a second reboot after all events are finished to conclude the onboarding.

Task: Update the Proxy Host

1. Select the host from the **Systems** list and apply all patches to update it.

-
2. Reboot the Proxy host.

1.2.7. Generate the Proxy Configuration

The configuration archive of the Uyuni Proxy is generated by the Uyuni Server. Each additional Proxy requires its own configuration archive.



- ! The container host for the Uyuni Proxy must be registered as a salt minion to the Uyuni Server prior to generating this Proxy configuration.

You will perform the following tasks:

1. Generate a Proxy configuration file.
2. Transfer the configuration to the Proxy.
3. Start the Proxy with the `mgrpxy` command.

Task: Generating a Proxy Container Configuration using Web UI

1. In the Web UI, navigate to **Systems > Proxy Configuration** and fill the required data:
2. In the `Proxy FQDN` field type fully qualified domain name for the proxy.
3. In the `Parent FQDN` field type fully qualified domain name for the Uyuni Server or another Uyuni Proxy.
4. In the `Proxy SSH port` field type SSH port on which SSH service is listening on Uyuni Proxy. Recommended is to keep default 8022.
5. In the `Max Squid cache size [MB]` field type maximal allowed size for Squid cache. Typically this should be at most 60% of available storage for the containers. In the `SSL certificate` selection list choose if new server certificate should be generated for Uyuni Proxy or an existing one should be used. You can consider generated certificates as Uyuni builtin (self signed) certificates.

Depending on the choice then provide either path to signing CA certificate to generate a new certificate or path to an existing certificate and its key to be used as proxy certificate.

The CA certificates generated on the server are stored in the `/var/lib/containers/storage/volumes/root/ssl-build` directory.

For more information about existing or custom certificates and the concept of corporate and intermediate certificates, see **Administration > Ssl-certs-imported**.

6. Click **[Generate]** to register new proxy FQDN in Uyuni Server and generate configuration archive with details for container host.
7. After a few moments you are presented with file to download. Save this file locally.

Container Based Proxy Configuration [?](#)

You can generate a set of configuration files and certificates in order to register and run a container-based proxy. Once the following form is filled out and submitted you will get a .zip archive to download.

Proxy FQDN *:	<input type="text" value="e.g., proxy.domain.com"/>				
Server FQDN *:	<input type="text" value="e.g., server.domain.com"/>				
FQDN of the server of proxy to connect to.					
Proxy SSH port:	<input type="text" value="8022"/>				
Port range: 1 - 65535					
Max Squid cache size (MB) *:	<input type="text" value="e.g., 2048"/>				
Proxy administrator email *:	<input type="text" value="admin"/>				
SSL certificate *:	<input checked="" type="radio"/> Create <input type="radio"/> Use existing <input type="button" value="Browse..."/> No file selected.				
CA certificate to use to sign the SSL certificate in PEM format *:	<input type="button" value="Browse..."/> No file selected.				
CA private key to use to sign the SSL certificate in PEM format *:	<input type="button" value="Browse..."/> No file selected.				
The CA private key password *:	<input type="text" value="*****"/>				
SSL Certificate data <table border="0" style="width: 100%;"> <tr> <td style="vertical-align: top;"> <input type="text" value="Alternate CNAMEs"/> <div style="text-align: right;">+</div> </td> <td style="vertical-align: top; width: 150px;"> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> </td> </tr> <tr> <td colspan="2" style="text-align: center;"> <input type="button" value="Generate"/> <input type="button" value="Clear fields"/> </td> </tr> </table>		<input type="text" value="Alternate CNAMEs"/> <div style="text-align: right;">+</div>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="button" value="Generate"/> <input type="button" value="Clear fields"/>	
<input type="text" value="Alternate CNAMEs"/> <div style="text-align: right;">+</div>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>				
<input type="button" value="Generate"/> <input type="button" value="Clear fields"/>					

1.2.8. Transfer the Proxy Configuration

The Web UI generates a configuration archive. This archive needs to be made available on the Proxy container host.

Task: Copy the Proxy configuration

1. Copy the files from the Server container to the Server host OS:

```
mgrctl cp server:/root/config.tar.gz .
```

2. Next copy the files from the Server host OS to the Proxy host:

```
scp config.tar.gz <proxy-FQDN>:/root
```

3. Install the Proxy with:

```
mgrpxy install podman config.tar.gz
```

1.2.9. Start the Uyuni 2024.12 Proxy

Container can now be started with the `mgrpxy` command:

Task: Start and Check Proxy Status

1. Start the Proxy by calling:

```
mgrpxy start
```

2. Check container status by calling:

```
mgrpxy status
```

Five Uyuni Proxy containers should be present:

- proxy-salt-broker
- proxy-httpd
- proxy-tftpd
- proxy-squid
- proxy-ssh

And should be part of the `proxy-pod` container pod.

Chapter 2. Legacy Installation

2.1. Install Uyuni Server with openSUSE Leap

Uyuni Server can be installed on openSUSE Leap.

- For information about the stable version of Uyuni, see <https://www.uyuni-project.org/pages/stable-version.html>.
- For information about the development version of Uyuni, see <https://www.uyuni-project.org/pages/devel-version.html>.
- For information about the latest version and updates of openSUSE Leap, see <https://doc.opensuse.org/release-notes/>.

2.1.1. Software and Hardware Requirements

This table shows the software and hardware requirements for installing an Uyuni Server on openSUSE Leap.

表 3. Software and Hardware Requirements

Software and Hardware	Recommended
Operating System:	openSUSE Leap 15.5: Clean installation, up-to-date
CPU:	Minimum 4 dedicated 64-bit x86-64CPU cores
RAM:	Test Server Minimum 8 GB Base Installation Minimum 16 GB Production Server Minimum 32 GB
Disk Space:	Disk space depends on your channel requirements, at least 100 GB 50 GB per SUSE or openSUSE product and 360 GB per Red Hat product
Swap space:	3 GB

2.1.2. Install Uyuni Server on openSUSE Leap

You can use a physical or virtual machine running openSUSE Leap to install the Uyuni Server. Configure a resolvable fully qualified domain name on the server before you begin, to ensure that the server is accessible across the network.

The Uyuni Server software is available from download.opensuse.org, and you can use zypper to retrieve the software and install it.

Procedure: Installing openSUSE Leap with Uyuni

1. Install openSUSE Leap as the base system, and ensure all available service packs and package updates have been applied.

2. Configure a resolvable fully qualified domain name (FQDN) with YaST by navigating to **System > Network Settings > Hostname/DNS**.
3. At the command prompt, as root, add the repository for installing the Uyuni Server software:

```
repo=repositories/systemsmanagement:/  
repo=${repo}Uyuni:/Stable/images/repo/Uyuni-Server-Pool-x86_64-  
Media1/  
zypper ar https://download.opensuse.org/$repo uyuni-server-stable
```

4. Refresh metadata from the repositories:

```
zypper ref
```

5. Install the pattern for the Uyuni Server:

```
zypper in patterns-uyuni_server
```

6. Reboot the server.

When the installation is complete, you can continue with Uyuni setup. For more information, see [Installation-and-upgrade > Uyuni-server-setup](#).

2.1.3. Set up Uyuni Server with YaST

The initial setup procedure is handled by YaST.

Procedure: Uyuni Setup

1. Log in to the Uyuni Server and start YaST.
2. In YaST, navigate to **Network Services > Uyuni Setup** to begin the setup.
3. From the introduction screen select **Uyuni Setup > Set up Uyuni from scratch** and click **[Next]** to continue.
4. Enter an email address to receive status notifications and click **[Next]** to continue. Uyuni can sometimes send a large volume of notification emails. You can disable email notifications in the Web UI after setup, if you need to.
5. Enter your certificate information and a password. Passwords must be at least seven characters in length, and must not contain spaces, single or double quotation marks (' or "), exclamation marks (!), or dollar signs (\$). Always store your passwords in a secure location.



If you need to also set up a Uyuni Proxy Server, ensure you have taken a note of the certificate password.

6. Click **[Next]** to continue.
7. From the **Uyuni Setup > Database Settings** screen, enter a database user and password and click **[Next]** to continue. Passwords must be at least seven characters in length, and must not contain spaces, single or double quotation marks (' or "), exclamation marks (!), or dollar signs (\$). Always store your passwords in a secure location.
8. Click **[Next]** to continue.
9. Click **[Yes]** to run setup when prompted.
10. When setup is complete, click **[Next]** to continue. You will see the address of the Uyuni Web UI.
11. Click **[Finish]** to complete Uyuni setup.

2.1.4. Create the Main Administration Account

Before you can log in to the server to manage your clients, you need to have created an administration account. The main administration account has the highest authority within Uyuni. Ensure you keep access information for this account secure. We recommend that you create lower level administration accounts for organizations and groups. Do not share the main administration access details.

Procedure: Setting Up the Main Administration Account

1. In your web browser, enter the address for the Uyuni Web UI. This address was provided after you completed setup.
2. Sign in to the Web UI, navigate to the **Create Organization > Organization Name** field, and enter your organization name.
3. In the **Create Organization > Desired Login** and **Create Organization > Desired Password** fields, enter your username and password.
4. Fill in the account information fields, including an email for system notifications.
5. Click **[Create Organization]** to finish creating your administration account.

When you have completed the Uyuni Web UI setup, you are taken to the **Home > Overview** page.

2.1.5. Optional: Synchronizing Products from SUSE Customer Center

SUSE Customer Center (SCC) maintains a collection of repositories which contain packages, software and updates for all supported enterprise client systems. These repositories are organized into channels each of which provide software specific to a distribution, release, and architecture. After synchronizing with SCC, clients can receive updates, be organized into groups, and assigned to specific product software channels.

This section covers synchronizing with SCC from the Web UI and adding your first client channel.



- For Uyuni, synchronizing products from SUSE Customer Center is optional.

Before you can synchronize software repositories with SCC, you will need to enter organization credentials in Uyuni. The organization credentials give you access to the SUSE product downloads. You will find your organization credentials in <https://scc.suse.com/organizations>.

Enter your organization credentials in the Uyuni Web UI:

Optional Procedure: Entering Organization Credentials

1. In the Uyuni Web UI, navigate to **Admin > Setup Wizard**.
2. In the Setup Wizard page, navigate to the **[Organization Credentials]** tab.
3. Click **[Add a new credential]**.
4. Enter a username and password, and click **[Save]**.

A check mark icon is shown when the credentials are confirmed. When you have successfully entered the new credentials, you can synchronize with SUSE Customer Center.

Optional Procedure: Synchronizing with SUSE Customer Center

1. In the Uyuni Web UI, navigate to **Admin > Setup Wizard**.
2. From the Setup Wizard page select the **[SUSE Products]** tab. Wait a moment for the products list to populate. If you previously registered with SUSE Customer Center a list of products will populate the table. This table lists architecture, channels, and status information.
3. If your SUSE Linux Enterprise client is based on `x86_64` architecture scroll down the page and select the check box for this channel now.
4. Add channels to Uyuni by selecting the check box to the left of each channel. Click the arrow symbol to the left of the description to unfold a product and list available modules.
5. Click **[Add Products]** to start product synchronization.

When a channel is added, Uyuni will schedule the channel for synchronization. Depending on the number and size of this channels, this can take a long time. You can monitor synchronization progress in the Web UI.

For more information about using the setup wizard, see **Reference > Admin**.

When the channel synchronization process is complete, you can register and configure clients. For more instructions, see **Client-configuration > Registration-overview**.

2.2. Install Uyuni Proxy with openSUSE Leap

Uyuni Proxy can be installed as a server extension on openSUSE Leap. The proxy is installed in the same way as a client, but is designated as a proxy server during installation. This is achieved by adding the Uyuni Proxy pattern, and executing the proxy setup script.

- For more information about the stable version of Uyuni, see <https://www.uyuni-project.org/pages/stable-version.html>.
- For more information about the development version of Uyuni, see <https://www.uyuni-project.org/pages/devel-version.html>.

2.2.1. Mirror Uyuni Proxy software

The Uyuni Proxy software is available from <https://download.opensuse.org>. You can synchronize the proxy software to your Uyuni Server. This process is also known as mirroring.

Procedure: Mirroring Uyuni Proxy software

1. On the Uyuni Server, create openSUSE Leap and the Uyuni Proxy channels with the `spacewalk-common-channels` command. `spacewalk-common-channels` is part of the `spacewalk-utils` package:

```
spacewalk-common-channels \
opensuse_leap15_5 \
opensuse_leap15_5-non-oss \
opensuse_leap15_5-non-oss-updates \
opensuse_leap15_5-updates \
opensuse_leap15_5-backports-updates \
opensuse_leap15_5-sle-updates \
opensuse_leap15_5-uyuni-client \
uyuni-proxy-stable-leap-155
```

Instead of the `uyuni-proxy-stable-leap-155` version you can also try the latest development version, called `uyuni-proxy-devel-leap`. For more information, see [Client-configuration > Clients-opensuseleap](#).

2.2.2. Register the openSUSE Leap system

Begin by installing openSUSE Leap on a physical or virtual machine. To ensure that the proxy is accessible across the network, you must have a resolvable fully qualified domain name (FQDN) on the openSUSE Leap system before you begin the installation. You can configure an FQDN with YaST by navigating to **System > Network Settings > Hostname/DNS**.

When you have installed openSUSE Leap on the proxy and configured the FQDN, you can prepare the Uyuni Server, and register the openSUSE Leap system as a client.

Procedure: Registering the openSUSE Leap system

1. On the Uyuni Server, create an activation key with openSUSE Leap as a base channel and the proxy and the other channels as child channels. For more information about activation keys, see [Client-configuration > Activation-keys](#).
2. Modify a bootstrap script for the proxy. Ensure you add the GPG key for Uyuni to the `ORG_GPG_KEY=` parameter. For example:

```
ORG_GPG_KEY=uyuni-gpg-pubkey-0d20833e.key
```

- ° For more information, see [Client-configuration > Clients-opensuseleap](#).

3. Bootstrap the client using the script.
 - For more information, see [Client-configuration > Registration-bootstrap](#).
4. Navigate to **Salt > Keys** and accept the key. When the key is accepted, the new proxy will show in **Systems > Overview** in the Recently Registered Systems section.
5. Navigate to **System Details > Software > Software Channels**, and check that the proxy channel is selected.

2.2.3. Install Uyuni Proxy on openSUSE Leap

On the client, use the `zypper` command line tool or on the Uyuni Server, the Web UI to install the proxy software on openSUSE Leap.

Procedure: Installing Uyuni Proxy on openSUSE Leap

1. Install the pattern for the Uyuni Proxy. You can do this either on the client or on the server.
 - For the client, use `zypper`

```
zypper in patterns-uyuni_proxy
```

 - Alternatively, on the Uyuni Server, use the Web UI. Navigate to the details tab of the client, click **Software > Packages > Install**, and schedule `patterns-uyuni_proxy` for installation.
2. Reboot the client.

2.2.4. Prepare the Proxy

Before you begin, ensure that the proxy pattern is installed correctly. To verify a successful installation, on the Uyuni Server, select the `pattern_uyuni_proxy` package for installation.

The salt-broker service is automatically started after installation is complete. This service forwards the Salt interactions to the Uyuni Server.



It is possible to arrange Salt proxies in a chain. In this case, the upstream proxy is named parent.

Make sure the TCP ports 4505 and 4506 are open on the proxy. The proxy must be able to reach the Uyuni Server or a parent proxy on these ports.

The proxy shares some SSL information with the Uyuni Server. You need to copy the certificate and its key from the Uyuni Server or the parent proxy to the proxy you are setting up.

Procedure: Copying the Server Certificate and Key

1. On the proxy you are setting up, at the command prompt, as root, create a directory for the certificate and key:

```
mkdir -m 700 /root/ssl-build
cd /root/ssl-build
```

2. Copy the certificate and the key from the source to the new directory. In this example, the source location is called `PARENT`. Replace this with the correct path:

```
scp root@<PARENT>:/root/ssl-build/RHN-ORG-PRIVATE-SSL-KEY .
scp root@<PARENT>:/root/ssl-build/RHN-ORG-TRUSTED-SSL-CERT .
scp root@<PARENT>:/root/ssl-build/rhn-ca-openssl.cnf .
```



To keep the security chain intact, the Uyuni Proxy functionality requires the SSL certificate to be signed by the same CA as the Uyuni Server certificate. Using certificates signed by different CAs for proxies and server is not supported. For more information on how Uyuni handles certificates, see [Administration > Ssl-certs](#).

2.2.5. Set Up the Proxy

When you have prepared the proxy, use the supplied interactive `configure-proxy.sh` script to complete the proxy setup.

Procedure: Setting up the Proxy

1. On the proxy you are setting up, at the command prompt, as root, execute the setup script:

```
configure-proxy.sh
```

2. Follow the prompts to set up the proxy. Leave a field blank and type `Enter` to use the default values shown between square brackets.

More information about the settings set by the script:

Uyuni Parent

the Uyuni parent can be either another proxy or a server.

HTTP Proxy

A HTTP proxy enables your Uyuni Proxy to access the Web. This is needed if direct access to the Web is prohibited by a firewall.

Traceback Email

An email address where to report problems.

Do You Want to Import Existing Certificates?

Answer `N`. This ensures using the new certificates that were copied previously from the Uyuni server.

Organization

The next questions are about the characteristics to use for the SSL certificate of the proxy. The organization might be the same organization that was used on the server, unless of course your proxy is not in the same organization as your main server.

Organization Unit

The default value here is the proxy's hostname.

City

Further information attached to the proxy's certificate.

State

Further information attached to the proxy's certificate.

Country Code

In the `country_code` field, enter the country code set during the Uyuni installation. For example, if your proxy is in the US and your Uyuni is in DE, enter `DE` for the proxy.



The country code must be two upper case letters. For a complete list of country codes, see <https://www.iso.org/obp/ui/#search>.

Cname Aliases (Separated by Space)

Use this if your proxy can be accessed through various DNS CNAME aliases. Otherwise it can be left empty.

CA Password

Enter the password that was used for the certificate of your Uyuni Server.

Do You Want to Use an Existing SSH Key for Proxying SSH-Push Salt Minion?

Use this option if you want to reuse a SSH key that was used for SSH-Push Salt clients on the server.

Create and Populate Configuration Channel `rhn_proxy_config_1000010001`?

Accept default `y`.

Uyuni Username

Use same user name and password as on the Uyuni server.

If parts are missing, such as CA key and public certificate, the script prints commands that you must execute to integrate the needed files. When the mandatory files are copied, run `configure-proxy.sh` again. If you receive an HTTP error during script execution, run the script again.

`configure-proxy.sh` activates services required by Uyuni Proxy, such as `squid`, `apache2`, `salt-broker`, and `jabberd`.

To check the status of the proxy system and its clients, click the proxy system's details page on the Web UI (**Systems** > **System List** > **Proxy**, then the system name). Connection and Proxy subtabs display various status information.

If you want to PXE boot your clients from your Uyuni Proxy, you also need to synchronize the TFTP data from the Uyuni Server.

Procedure: Synchronizing Profiles and System Information

1. On the proxy, at the command prompt, as root, install the `susemanager-tftpsync-recv` package:

```
zypper in susemanager-tftpsync-recv
```

2. On the proxy, run the `configure-tftpsync.sh` setup script and enter the requested information:

```
configure-tftpsync.sh
```

You need to provide the hostname and IP address of the Uyuni Server and the proxy. You also need to enter the path to the `tftpboot` directory on the proxy.

3. On the server, at the command prompt, as root, install `susemanager-tftpsync`:

```
zypper in susemanager-tftpsync
```

4. On the server, run `configure-tftpsync.sh` setup script and enter the requested information:

```
configure-tftpsync.sh
```

5. Run the script again with the fully qualified domain name of the proxy you are setting up. This creates the configuration, and uploads it to the Uyuni Proxy:

```
configure-tftpsync.sh FQDN_of_Proxy
```

6. On the server, start an initial synchronization:

```
cobbler sync
```

You can also synchronize after a change within Cobbler that needs to be synchronized immediately. Otherwise Cobbler synchronization will run automatically when needed.

2.2.6. Configure DHCP for PXE through Proxy

Uyuni uses Cobbler for client provisioning. PXE (tftp) is installed and activated by default. Clients must be able to find the PXE boot on the Uyuni Proxy using DHCP. Use this DHCP configuration for the zone which contains the clients to be provisioned:

```
next-server: <IP_Address_of_Proxy>
filename: "pxelinux.0"
```

2.2.7. Reinstalling a Proxy

A proxy does not contain any information about the clients that are connected to it. Therefore, a proxy can be replaced by a new one at any time. The replacement proxy must have the same name and IP address as its predecessor.

Proxy systems are registered as Salt clients using a bootstrap script.

This procedure describes software channel setup and registering the installed proxy with an activation key as the Uyuni client.



Before you can select the correct child channels while creating the activation key, ensure you have properly synchronized the openSUSE Leap channel with all the needed child channels and the Uyuni Proxy channel.

2.2.8. More Information

For more information about the Uyuni project, and to download the source, see <https://www.uyuni-project.org/>.

For more Uyuni product documentation, see <https://www.uyuni-project.org/uyuni-docs/uyuni/index.html>.

To raise an issue or propose a change to the documentation, use the links under the Resources menu on the documentation site.

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