



U Y U N I

# Uyuni '2024.10'

## Quick Start Guide

2024년10월17일



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# Quick Start

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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\*\*](#)

# Chapter 1. Container Deployment

## 1.1. Deploy Uyuni '2024.10' Server

This quick start guide shows you how to install and configure a Uyuni '2024.10' 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 fash 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-x86_64-Media1/
```

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
```

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
```

- 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
```

- The container will take some minutes to deploy.
- 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

- In the Uyuni Web UI, navigate to **Admin > Setup Wizard**.
- In the **Setup Wizard** page, navigate to the **[Organization Credentials]** tab.
- Click **[Add a new credential]**.
- 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

- In the Uyuni Web UI, navigate to **Admin > Setup Wizard**.
- 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 '2024.10' Proxy

This guide outlines the deployment process for the Uyuni '2024.10' Proxy. This guide presumes you have already successfully deployed a Uyuni '2024.10' 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-x86_64-Media1/
```

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 \*:

Server FQDN \*:

FQDN of the server of proxy to connect to.

---

Proxy SSH port:

Port range: 1 - 65535

---

Max Squid cache size (MB) \*:

Proxy administrator email \*:

---

SSL certificate \*:

Create  Use existing

No file selected.

CA certificate to use to sign the SSL certificate in PEM format \*:

No file selected.

---

CA private key to use to sign the SSL certificate in PEM format \*:

No file selected.

The CA private key password \*:

---

SSL Certificate data

Alternate CNAMEs

2-letter country code:

State:

City:

Organization:

Organization Unit:

Email:

Generate

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 '2024.10' 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.

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