Uyuni 2026.11

Common Workflows



UYUNI

Chapter 1. Preface

Common Workflows
Uyuni 2026.11

The Uyuni Common Workflows Guide provides step-by-step instructions for the most frequently used workflows to install, manage, and configure clients with Uyuni.

Each workflow in this guide has a clear objective and includes detailed steps to help you achieve it efficiently.

Designed for both routine and advanced tasks, this guide not only explains the actions you take but also highlights the available options at each stage.

Throughout this guide, each routine task is referred to as a Workflow.

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Chapter 2. Client Onboarding

Uyuni is all about managing client systems. So one of the first things you need to do is onboard some clients. This workflow shows you how to set up your Uyuni Server to manage a new client, set up the software channels you need, and bootstrap the client using an activation key.

2.1. Use Case

This workflow shows you how to onboard a client to your Uyuni Server.

The client must be running a supported Linux operating system. For a list of supported client systems, see **Client Configuration Guide › Supported Features**.

This is one of the first tasks you need to do when you set up Uyuni for the first time, and you will probably have to do it many more times as you use the product.

2.2. Outcome

When you have completed this workflow, your client is onboarded, and it can be seen in the systems list of the Uyuni Web UI. You can then use Uyuni to manage the client.

2.3. Preparation

Before you start, you should already have:

- Uyuni Server installed, that you can access using the Web UI.
- Client machine with an operating system installed, which you can access across the network that your Uyuni Server is on, using SSH.
- Appropriate subscriptions from http://scc.suse.com for the products you are using.

This workflow uses a SUSE Linux Enterprise Server 15 SP2 operating system. You can use other Linux operating systems, but some of the steps might be different. For more information on onboarding other clients, see **Client Configuration Guide › Registration Methods**.

2.4. Step-by-step Workflow Instructions

Procedure: Configure a Fully Qualified Domain Name (FQDN) on Your Client

1. On the client, at the command prompt, show the current hostname:

```
hostname -f
```

This command will probably return an error, or show something like localhost.

2. Set a new hostname. Your new hostname should have a subdomain name and thus include at least two periods. In this example, we are using client1.MLM.example

```
hostnamectl set-hostname client1.MLM.example
```

3. Check that your change was successful:

```
hostnamectl
```

4. Open YaST and navigate to **Network Services › Hostnames**. Edit the hostname to match the one you just set, and click **[OK]**.

5. In YaST, navigate to **System › Network Settings** and go to the Hostname/DNS tab. In the Static hostname field, type your new hostmame.

6. Check that the change was successful:

```
hostname -f
```

This command should return your new FQDN.

Procedure: Prepare Software Channels on the Uyuni Server

1. In the Uyuni Web UI, navigate to **Admin › Setup Wizard**.

2. In the Organization Credentials tab, ensure you have entered your SUSE Customer Center credentials, and are correctly authenticated.

3. In the Products tab, ensure that the product catalog is fully updated:

4. Use the product search bar to find the channels you need for your client operating system. Check the channels you want to install, and click **[Add products]**:

5. Wait for the product channels to fully synchronize. Depending on the products you have chosen, this could take a long time.

Procedure: Create an Activation Key

1. In the Uyuni Web UI, navigate to **Systems › Activation Keys**, and click **[Create Key]**.

2. Give your activation key a name, and select the base channel that matches the client you want to onboard. This should be the product you just enabled:

3. Check the child channels to include, and any add-on system types you want clients registered with this key to have. Click **[Create Activation Key]**.

Procedure: Bootstrap the Client

1. In the Uyuni Web UI, navigate to **Systems › Bootstrapping**.
2. Type the hostname and provide authentication credentials for the client you want to onboard, and select the activation key. Click **[Bootstrap]**:
3. Navigate to **Systems › System List** to manage your new client.

2.5. Related Topics

- For more information about supported clients and client features, see **Client Configuration Guide › Supported Features**.
- For more information about different onboarding methods, and instructions for clients running various operating systems, see **Client Configuration Guide › Registration Methods**.
- For more information about general client concepts, see **Client Configuration Guide › Channels**.

Chapter 3. Clients Update Using Recurring Actions

This workflow shows how to automate updating the clients registered at Uyuni using recurring actions.

3.1. Use case / Situation

Automated update of clients is benefitial when:

- update of a large number of clients is wanted
- the workflow should not be re-done every execution
- a dedicated maintenance window exists.

3.2. Outcome / Resolution

Successful completion of this workflow results in consistent and supportable state.

3.3. Preparation

Before you start, you should have a number of clients onboarded. It may make sense to have them sorted into groups you want to update together. In this workflow we use a system group named infra-services.

3.4. Step-by-Step workflow instructions

To update a client two steps are required. A third step is optional but highly recommended to finalize the update process.

Procedure: Creating a recurring action to update Salt itself

1. As an example, we create the action to update Salt itself as a recurring action for all systems in the organization. In the Uyuni Web UI, navigate to **Home › My Organization › Recurring Actions** and click **[Create]**.
2. Select Action Type **Custom State** and enter a Schedule Name like update-salt.
3. Select a schedule. For example, **Weekly: Wednesday, 9:00 am** .
4. Assign the update-salt state by selecting the checkbox.
5. Click **[Save Changes]** to save the action.

6. You can edit the execution order of the states if needed. Click **[Confirm]** to confirm the order.
7. Click **[Create Schedule]** to save the action.

Procedure: Creating a recurring action to apply all available updates to the systems

1. As an example we create the action to apply all updates as a recurring action for a system group called **infra-services**. In the Uyuni Web UI go to **Systems › System Groups** and click on infra-services.
2. Now go to Recurring Actions and click **[Create]**.
3. Select Action Type **Custom State** and enter a Schedule Name like full-system-update.
4. Select a Schedule. For example, **Weekly: Wednesday, 9:30 am** . Keep enough time between this action and the update-salt action. The update-salt actions must be finished on all systems before this action should be executed.
5. Assign the states util.syncall, certs, channels and uptodate by selecting the checkboxes. To perform a reboot afterwards you can also add reboot or rebootifneeded.
6. Save the action by clicking **[Save Changes]**.
7. You can edit the execution order of the states. The order should be util.syncall, certs, channels, uptodate and finally reboot or rebootifneeded if chosen. Click **[Confirm]** to store the order.
8. Click **[Create Schedule]** to save the action.

Procedure: Creating a recurring action to run a highstate after the update

1. As an example, we create the action to apply the highstate for the same group which was fully updated before. In the Uyuni Web UI, navigate to **Systems › System Groups** and click infra-services.

2. Go to Recurring Actions and click **[Create]**.
3. Select Action Type **Highstate** and enter a Schedule Name like highstate.
4. Select a Schedule. For example, **Weekly: Wednesday, 10:30 am** . Again, keep enough time between this action and the full-system-update action.
5. Click **[Create Schedule]** to save the action.

3.5. Background information on uptodate state

1. The uptodate state applies critical patches to the update components.
    a. On SUSE-based systems, the state executes the command:

    ```
    zypper --non-interactive patch --updatestack-only
    ```

    And then, the state also updates Salt.

    b. On all the other systems, not based on SUSE, the state only updates Salt.
2. The state runs the package manager, such as dnf, yum, apt, or zypper based on what is available on the client operating system to update the rest of the packages.
    a. The state lists all of the upgradable packages, based on the synchronized package repositories in Uyuni.
    b. The state upgrades the packages to their latest available version by using the client's package manager. The executed command depends on the operating system of the client:
        i. For Debian-based clients, such as Debian or Ubuntu, the action executes apt dist-upgrade -q -y $PACKAGES.
        ii. For RPM-based clients that are not SUSE, such as Red Hat Enterprise Linux or SUSE Liberty Linux, the action executes yum --quiet -y update $PACKAGES or dnf --quiet -y upgrade $PACKAGES (depending on the package manager the client is using).
        iii. For non-transactional SUSE clients, such as SUSE Linux Enterprise 15, the action executes zypper --non-interactive --auto-agree-with-licenses update $PACKAGES.
        iv. For transactional SUSE clients, the action executes the same in a transactional shell.
3. Uyuni provides the reboot and rebootifneeded actions. Use one of the actions if you want your client to reboot after the package upgrade.

rebootifneeded

Reboot detection is specific to the client operating system.

- For Debian or Ubuntu, see https://www.debian.org/doc/debian-policy/ch-opersys.html#signaling-that-a-reboot-is-required.
- For non-transactional SUSE clients, Uyuni reboots the client when `zypper -x list-patches` indicates that the patches require a reboot.
- For transactional SUSE clients, Uyuni reboots the client if there is a pending transaction.
- For the Red Hat-based clients, Uyuni reboots the client if `dnf -q needs-restarting -r` indicates that a reboot is required.

For more information, see the `reboot_info.py` module: https://github.com/uyuni-project/uyuni/blob/master/susemanager-utils/susemanager-sls/src/modules/reboot_info.py

3.6. Related topics

- For more information about recurring actions, see **Administration Guide › Recurring Actions**.
- For more information about custom info values, see **Client Configuration Guide › Custom Info**.

Chapter 4. Configuration Management

You can use configuration files and channels to manage configuration for your clients, rather than configuring each client manually. This workflow shows you how to use the Uyuni Web UI to create a centrally managed configuration file, assign it to a client, and apply the configuration.

4.1. Use Case

If you are managing a lot of clients, you probably do not want to manually apply configuration settings to each of them in turn. Configuration channels are used to organize configuration files. You can subscribe clients to configuration channels, and deploy configuration files as required.

4.2. Outcome

When you have completed this workflow, you will have a configuration channel containing a configuration file, have assigned clients to the channel, and applied the configuration successfully.

4.3. Preparation

Before you start, you should already have:

- Uyuni Server installed, that you can access using the Web UI.
- At least one client registered to your server.
- Appropriate subscriptions from http://scc.suse.com for the products you are using.

This workflow uses a centrally managed configuration file and a Salt state. For more information about the different ways to manage configuration, see **Client Configuration Guide › Configuration Management**.

4.4. Step-by-step Workflow instructions

Procedure: Create a New Configuration Channel and File

1. In the Uyuni Web UI, navigate to **Configuration › Channels** and click **[Create State Channel]**.
2. Type a name, label, and description for your configuration file, and type the contents of your configuration file. An example that you can copy is at the end of this section.

Procedure: Assign Clients to the Configuration Channel

1. In the Uyuni Web UI, navigate to **Systems › Systems List** and select the client you want to assign to your configuration channel.
2. Navigate to the Configuration tab. In the guimenu:`Configuration Overview` section, click **[Subscribe to channels]**.
3. Check the configuration channel you created earlier, and click **[Continue]**.
4. If you have more than one configuration channel, you can rank them in order of importance, or click **[Update Channel Rankings]** to finish.

Procedure: Apply the Configuration to Your Client

1. In the Uyuni Web UI, navigate to **Systems › Systems List** and select the client you want to assign to your configuration channel.
2. Navigate to the Configuration tab. In the guimenu:`Configuration Actions` section, click **[Deploy all managed config files]**.

4.5. Example

4.5.1. SLS State for Keeping Clients Updated

```
include:
  - channels

int_keep_system_up2date_updatestack:
  pkg.latest:
    - pkgs:
      - salt
      - salt-minion
{%- if grains.os_family == 'Suse'%}
      - zypper
      - libzypp
{%- elif grains['os_family'] == 'RedHat' %}
{%- if grains['osmajorrelease'] >= 8 %}
      - dnf
{%- else %}
      - yum
{%- endif %}
{%- endif %}
    - require:
      - sls: channels
    - order: last

int_keep_system_up2date_pkgs:
  pkg.uptodate:
```

```
    - require:
      - sls: channels
      - pkg: int_keep_system_up2date_updatestack
    - order: last

int_reboot_if_needed:
  cmd.run:
    - name: shutdown -r +5
{%- if grains['os_family'] == 'RedHat' and grains['osmajorrelease'] >= 8 %}
    - onlyif: 'dnf -q needs-restarting -r; [ $? -eq 1 ]'
{%- elif grains['os_family'] == 'RedHat' and grains['osmajorrelease'] <= 7 %}
    - onlyif: 'needs-restarting -r; [ $? -eq 1 ]'
{%- elif grains['os_family'] == 'Debian' %}
    - onlyif:
      - test -e /var/run/reboot-required
{%- else %}
    - onlyif: 'zypper ps -s; [ $? -eq 102 ]'
{%- endif %}
```

4.6. Related Topics

- For more information about configuration management, see **Client Configuration Guide › Configuration Management**.
- For more information about SLS files, see: https://docs.saltproject.io/en/latest/topics/tutorials/starting_states.html.

Chapter 5. Content Lifecycle Management

If you are managing a lot of clients and you need to apply customized packages to them, you can use content lifecycle management (CLM) to manage your packages. CLM allows you to customize and test packages before updating production clients. It is also useful if you need to apply updates during a limited maintenance window.

5.1. Use Case

Content lifecycle management allows you to select software channels as sources, adjust them as required for your environment, and thoroughly test them before installing onto your production clients. You can use CLM to manage your software channels from development, through testing, and rolling the changes out to your clients.

5.2. Outcome

When you have completed this workflow, you will have a content lifecycle project set up. You will have created a basic CLM project, and promoted it through its lifecycle.

5.3. Preparations

Before you start, you should already have:

- Uyuni Server deployed, and accessible using the Web UI.
- Client machine with an operating system installed, which you can access across the network that your Uyuni Server is on, using SSH.
- Appropriate subscriptions from http://scc.suse.com for the products you are using.

5.4. Step-by-step Workflow Instructions

Procedure: Create a new CLM Project

1. In the Uyuni Web UI, navigate to **Content Lifecycle › Projects** section, and click **[Create Project]**.

   Type a name, label, and description for your project, and click **[Create]**.

2. In the Sources section, click **[Attach/Detach Sources]**.

   Select the source type, and select a base channel for your project.

   The available child channels for the selected base channel are displayed, including information on whether the channel is mandatory or recommended. Check the child channels you require, and click **[Save]** to return to the project page.

3. Leave the Filters section blank for now, we will not be using them in this example. You can add filters later on if you need to.
4. In the Environment Lifecycle section, create three environments: production, testing, and development. Click **[Add Environment]** and complete the name and label for each.

   For the production environment, leave the Insert before field blank.

   For the testing environment, in the Insert before field, select production.

   For the development environment, in the Insert before field, select testing.
5. Click **[Build]** to build version 1 of your project:

Procedure: Assign Clients

1. Navigate to **Systems › System List**, select the client to assign, and go to the **Software › Software Channels** tab.
2. In the Base Channel section, select the CLM project and environment you want to assign the client to.

   For example, if you want this client to receive updates from your CLM only when packages are in the production environment, assign the base channel <CLM_Project_Name>-production-<Channel_Name>.

   Alternatively, you could use this client as a way to test if your CLM packages are working as expected before you promote them to development, so you assign the base channel <CLM_Project_Name>-testing-<Channel_Name>.
3. Click **[Next]** to assign the client.

Procedure: Promote Environments

1. In the Uyuni Web UI, navigate to **Content Lifecycle › Projects**, and select the project you want to work with.
2. In the Environment Lifecycle section, locate the environment to promote to its successor, and click **[Promote]**. You can monitor build progress in the Environment Lifecycle section.

5.5. Related Topics

- For more information about CLM, including information about how to use filters, see **Administration Guide › Content Lifecycle**.
- For CLM examples, see **Administration Guide › Content Lifecycle Examples**.

Chapter 6. Customize Apache Configuration

This workflow shows you how to add custom configuration to Uyuni components, specifically the Apache HTTP server, within a containerized environment. It ensures that your custom configurations are stored in a persisted volume and are not overwritten during image updates.

6.1. Use case

This workflow is beneficial when:

- You need to overwrite or extend the default Apache configuration.
- You need to ensure that configuration changes persist after a container image update.
- You want to add specific tuning configurations to the server.

6.2. Outcome

After completing this workflow, your custom Apache configuration will be active and will persist through future updates or restarts of the Uyuni containers.

6.3. Preparation

Before you start, you should have:

- Root access to the Uyuni Server host.
- Knowledge of the specific Apache directives you wish to apply.

6.4. Step-by-step workflow instructions



You should only add new configuration files, and not modify the existing configuration files provided by the image.

Procedure: Adding custom Apache configuration files

1. Open a terminal on your Uyuni Server.
2. Access the server container shell by running the following command:

```
mgrctl term
```

3. Navigate to the configuration directory. You must create your new configuration file in the path /etc/apache2/conf.d, as this folder is

persisted.

4. Create your new configuration file (for example, custom_tuning.conf) and add your required Apache directives.
5. Once you have saved your file, exit the container with command:

```
exit
```

6. Restart the Uyuni services to apply the changes:

```
mgradm restart
```

Chapter 7. Customize security policies on the server

The default allowed security algorithms on the server may contain weak ones. This workflow shows you how to apply the same policies in the Uyuni server container than on the container host on podman.

This workflow shows you how to restrict the use of weak security algorithms inside the Uyuni server container by mounting the host's cryptographic policies.

This approach uses a systemd drop-in file to cleanly handle the volume mount via Podman at startup, ensuring consistency across container Lifecycles.

7.1. Use Case

This workflow is beneficial when:

- You need to comply with strict security hardening standards by disabling weak cryptographic algorithms.
- You want to centralize policy management so that host-level crypto changes automatically apply to the container.

7.2. Outcome

After completing this workflow, the host's /etc/crypto-policies directory will be mounted read-only into the server container every time it starts, enforcing your required security baselines.

7.3. Preparation

Before you start, you should have:

- Root access to the Uyuni Server host.
- The desired cryptographic policies already configured and tested on the host system using the crypto-policies package and it update-crypto-policies.

7.4. Step-by-step Workflow Instructions



Do not modify the systemd service file directly. Always use a drop-in configuration file in the .service.d directory to ensure modifications are preserved during system updates.

Procedure: Creating a systemd drop-in for crypto policy volume mounting

1. Open a terminal on your Uyuni Server host as the root user.
2. Create or edit the drop-in configuration file named custom.conf:

```
vi /etc/systemd/system/uyuni-server.service.d/custom.conf
```

3. Add the following configuration block to inject the read-only volume mount parameter into Podman:

```
[Service]
Environment="PODMAN_EXTRA_ARGS=--volume /etc/crypto-policies:/etc/crypto-
policies:ro"
```

4. Reload the systemd manager configuration to apply the new drop-in file:

```
systemctl daemon-reload
```

5. Restart the Uyuni services to recreate the container with the newly defined volume mount:

```
mgradm restart
```

7.5. Related Topics

- For more information on crypto policies, see man 7 crypto-policies.

Chapter 8. Product Upgrade via Web UI

If you want to upgrade the registered SUSE Linux Enterprise client pack to a newer product version, it can be done either on the command line or via Web UI.

This document describes and illustrates in detail the product upgrade using the Web UI.



Product versions used are not reflective of the actual latest versions available. They are used for illustration purposes only. As an example, the following procedure describes the upgrade to version 15 SP5 from and older version 15. If you are targeting a different version, select the corresponding channels and versions.

Procedure: Upgrading Product to a Newer Version Using Web UI

1. Log in to Uyuni Web UI and navigate to **Admin › Setup Wizard › Products** and search for SUSE Linux Enterprise Server 15 SP5 x86_64.
2. Select the recommended channels.
3. Click **[Add Products]**.
4. Navigate to **Systems › Registered client › Software › Product Migration**. You will see the targets available for that registered client.
5. Select SUSE Linux Enterprise Server 15 SP5 x86_64. This will expand further.
6. Select Target Base Channel as SLE-Product-SLES15-SP5-Pool for x86_64. Keep Allow Vendor Change unchecked.
7. Click **[Schedule Migration]**. The message will be highlighted It is better to do a dry run first so continuing with dry run first.
8. Click **[Dry run]** and check the status of the simulation in **Events › History**. You should see a return code 0 indicating a successful dry run.
9. Click **[Schedule Migration]** to perform the actual product migration. The message will be highlighted on top of the screen indicating the scheduling of the action.
10. When the upgrade is complete, check the status in **Events › History**.
11. On the Uyuni Web UI side, verify the successfully completed product upgrade by going to **Systems › Registered client › Details**.
12. On the client side you can verify it by running:

```
cat /etc/os-release
```

13. The output will look similar to:

```
NAME="SLES"
VERSION="15-SP5"
VERSION_ID="15.5"
PRETTY_NAME="SUSE Linux Enterprise Server 15 SP5"
ID="sles"
ID_LIKE="suse"
ANSI_COLOR="0;32"
CPE_NAME="cpe:/o:suse:sles:15:sp5"
DOCUMENTATION_URL="https://documentation.suse.com/"
```

Chapter 9. Set up and rotate certificates using ACME

Set up and automatically rotate third-party SSL/TLS certificates using the ACME protocol (such as Let's Encrypt) on containerized installations.

9.1. Use case

Configure ACME certificate rotation to:

- Secure the containerized server with valid public CA-signed certificates.
- Automate certificate renewal and rotation to prevent downtime.
- Use the same CA and certificate chain for both server and database containers.

9.2. Outcome

The containerized server uses valid public certificates that automatically rotate on renewal, updating Podman secrets and restarting services without manual intervention.

9.3. Preparation

Ensure you have:

- Root access to the server container host.
- The acme.sh tool installed on the host.
- An active DNS challenge provider configured in acme.sh for the server FQDN.
- The fully qualified domain name (FQDN) of your server.

9.4. Step-by-step workflow instructions



If using an intermediate CA, the certificate file must contain the server certificate first, followed by all intermediate CAs in order.

Procedure: Configuring ACME certificate rotation

1. Open a terminal on the server container host as root.
2. Create the certificate directory:

```
mkdir -p /root/ssl-build
```

3. Export the DNS challenge credentials. For example, for Cloudflare:

```
export CF_Token="your_cloudflare_api_token"
export CF_Account_ID="your_cloudflare_account_id"
```



Replace with credentials for your specific DNS provider.

4. Issue the certificate and define --reloadcmd to rotate the certificates using mgradm ssl rotate on renewal:

```
./acme.sh \
   --issue \
   --force \
   --dns dns_cf \
   --keylength 4096 \
   --domain <SERVER_FQDN> \
   --cert-file /root/ssl-build/server.crt \
   --key-file /root/ssl-build/server.key \
   --ca-file /root/ssl-build/ca.pem \
   --fullchain-file /root/ssl-build/fullchain.pem \
   --reloadcmd "mgradm ssl rotate --ssl-ca-root /root/ssl-build/ca.pem --ssl
-server-cert /root/ssl-build/fullchain.pem --ssl-server-key /root/ssl-
build/server.key"
```

5. Verify the initial run completes successfully, updating the server and database certificates and restarting the services.



The mgradm ssl rotate command automatically reads the server CA, certificate, and key, updates both the server (uyuni-ca, uyuni-cert, uyuni-key) and database (uyuni-db-ca, uyuni-db-cert, uyuni-db-key) secrets, and restarts the services.

9.5. Troubleshooting: CA password prompt during upgrades

If upgrading a legacy server to a split database release (such as 2025.05), mgradm prompts for the CA password to sign database certificates.

- **Self-signed certificates**: Retrieve the password from /var/lib/containers/storage/volumes/root/_data/spacewalk-answers (ssl-password value).
- **Third-party/ACME certificates**: No password is required. Pass --ssl-db-* flags to the upgrade command, or let the upgrade complete using self-signed placeholders and then update secrets using this guide.

9.6. Related topics

- For details on importing custom certificates, see **Administration Guide › Ssl Certs Imported**.

- For CA migration information, see **Administration Guide › Ssl Certs Ca Migration**.

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0. PREAMBLE

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