SUSE Manager 4.3

Common Workflows

Contents

Common workflows overview

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The SUSE Manager Common Workflows Guide covers most commonly used workflows you need to install, manage, and configure your clients with SUSE Manager.

Each workflow in this book has a clear goal, and provides detailed steps to achieve that goal.

It is designed to help you better understand both routine and advanced tasks, by explaining what you are achieving in each step, and the various options available to you along the way.

Each routine will be decribed as Workflow.

Chapter 1. Client onboarding

SUSE Manager 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 SUSE Manager Server to manage a new client, set up the software channels you need, and bootstrap the client using an activation key.

1.1. Use case

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

The client must be running a supported Linux operating system. For a list of supported client systems, see **Installation-and-upgrade › Client-requirements**.

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

1.2. Outcome

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

1.3. Preparation

Before you start, you should already have:

- SUSE Manager 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 SUSE Manager 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 › Registration-methods**.

1.4. 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.suma.example

```
hostnamectl set-hostname client1.suma.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 SUSE Manager Server

1. In the SUSE Manager 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:
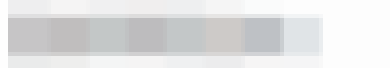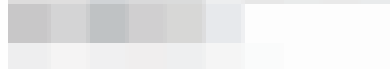
4. Use the product search bar to find the channels you need for your client operating system. Check the channels you want to install, and click **[Add products]**:
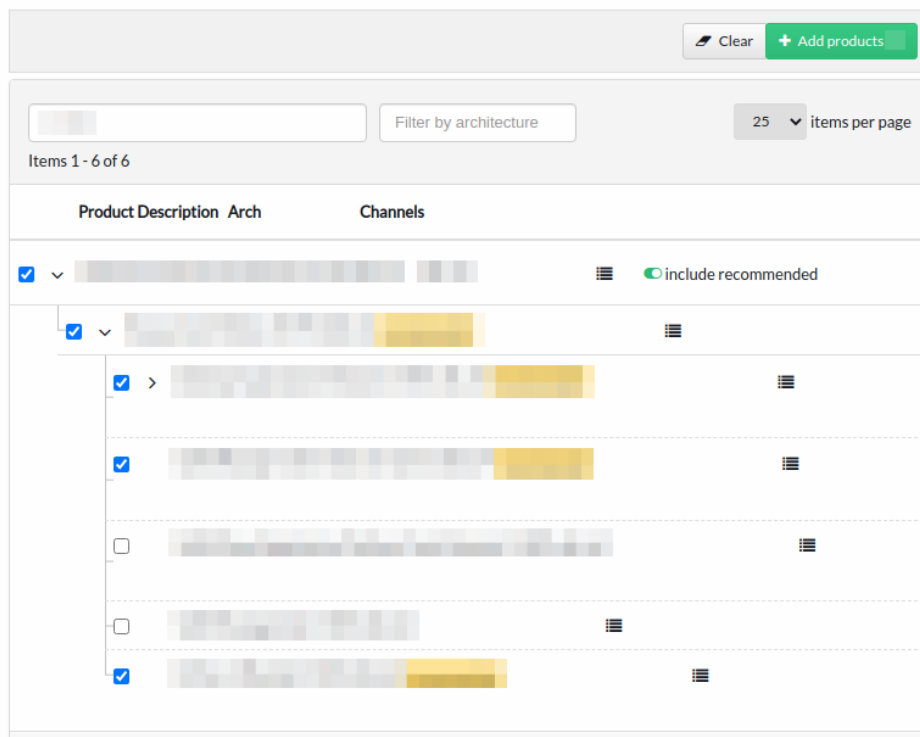
5. Wait for the product channels to fully synchronize. Depending on the products you have chosen, this could take a long time.

Procedure: Create an activation key

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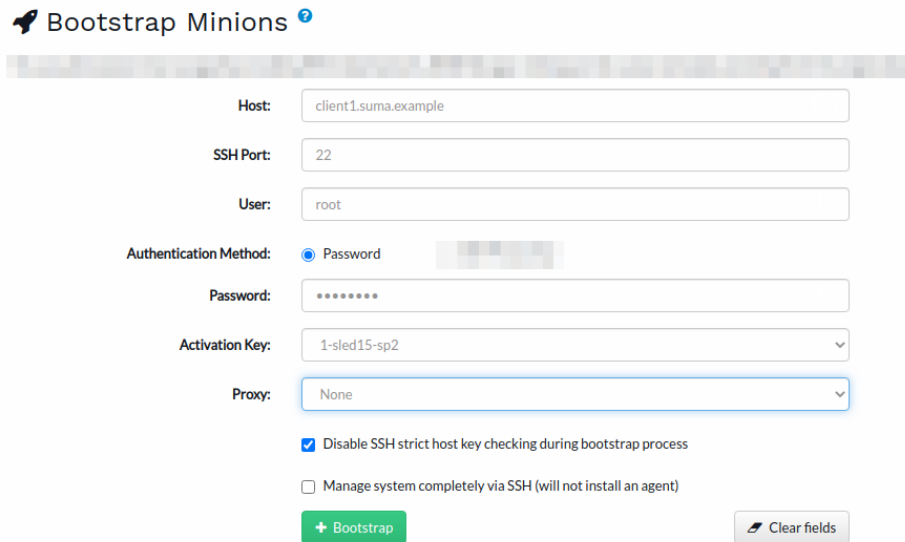
3. Check the child channels to include, and any add-on system types you want clients registered with this key to have. Click **[Create Activation Key]**.

Procedure: Bootstrap the client

1. In the SUSE Manager 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]**:

🚀 Bootstrap Minions ❓

Host:	client1.suma.example
SSH Port:	22
User:	root
Authentication Method:	🔘 Password
Password:	••••••••
Activation Key:	1-sled15-sp2
Proxy:	None

☑ Disable SSH strict host key checking during bootstrap process

☐ Manage system completely via SSH (will not install an agent)

+ Bootstrap   ✎ Clear fields

3. Navigate to **Systems › System List** to manage your new client.

1.5. Related topics

- For more information about supported clients and client features, see **Client-configuration › Supported-features**.

- For more information about different onboarding methods, and instructions for clients running various operating systems, see **Client-configuration › Registration-methods**.

- For more information about general client concepts, see **Client-configuration › Channels**.

Chapter 2. Clients Update Using Recurring Actions

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

The workflow is applicable for Salt clients only.

2.1. 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.

2.2. Outcome / Resolution

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

2.3. Preparation

Before you start, you should have a number of Salt 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.

2.4. 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 1: 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 SUSE Manager 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 2: 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 SUSE Manager 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.

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, and finally uptodate. Click **[Confirm]** to store the order.

8. Click **[Create Schedule]** to save the action.

> ⚠️ The `uptodate also performs a reboot, if an update requests it. This reboot be prevented if needed. For example, the systems which use live patching need to prevent the rebooting following the update.

Procedure 3: Configuring Systems to Not Reboot After the uptodate State is Applied

1. In the SUSE Manager [web ui} go to **Systems › Custom System Info** and click **[Create Key]**.

2. Enter "mgr_reboot_if_needed" as Key Label and set as Description. Define if the uptodate state should perform a reboot if needed. Set to False if this is not wanted.

3. Click **[Create Key]** to store the new key.

4. To assign values to multiple systems, navigate in the SUSE Manager Web UI to **Systems › Overview** and select the checkbox for all systems you want to modify. These system are not in the System Set Manager (SSM).

5. Select in the left menu System Set Manager and select **Misc › Custom Values** in the tab bar.

6. Click mgr_reboot_if_needed and enter **False** as Value.

7. Click **[Set Values]** to save.

Procedure 4: 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 SUSE Manager 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.

2.5. 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 SUSE Manager.

   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. If SUSE Manager detects that reboot is necessary, SUSE Manager will automatically reboot that client.

   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

2.6. Related Topics

- For more information about recurring actions, see Recurring Actions.

- For more information about custom info values, see **Client-configuration › Custom-info**.

Chapter 3. 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 SUSE Manager Web UI to create a centrally managed configuration file, assign it to a Salt client, and apply the configuration.

3.1. 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.

3.2. 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.

3.3. Preparation

Before you start, you should already have:

- SUSE Manager Server installed, that you can access using the Web UI.

- At least one Salt 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. You can also use locally managed configuration files, traditional clients, and different methods, to get more flexibility in how you manage configuration in your environment. For more information about the different ways to manage configuration, see **Client-configuration › Configuration-management**.

3.4. Step-by-step workflow instructions

Procedure: Create a new configuration channel and file

1. In the SUSE Manager 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. . Click **[Create Config State Channel]**

3. Procedure: Assign clients to the configuration channel

4. In the SUSE Manager Web UI, navigate to **Systems › Systems List** and select the client you want to assign to your configuration channel.

5. Navigate to the Configuration tab. In the guimenu:Configuration Overview section, click **[Subscribe to channels]**.

6. Check the configuration channel you created earlier, and click **[Continue]**.

7. 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 SUSE Manager 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]**.

3.5. Example

3.5.1. 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 %}
```

3.6. Related topics

- For more information about configuration management, see **Client-configuration › Configuration-management**.

- For more information about SLS files, see: https://docs.saltproject.io/en/latest/topics/tutorials/starting_states.html.

Chapter 4. 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.

4.1. 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.

4.2. 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.

4.3. Preparations

Before you start, you should already have:

- SUSE Manager Server installed, which you can access using the Web UI.

- Client machine with an operating system installed, which you can access across the network that your SUSE Manager Server is on, using SSH.

- Appropriate subscriptions from http://scc.suse.com for the products you are using.

4.4. Step-by-step Workflow Instructions

Procedure: Create a new CLM Project

1. In the SUSE Manager 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 SUSE Manager 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.

4.5. Related Topics

- For more information about CLM, including information about how to use filters, see **Administration › Content-lifecycle**.

- For CLM examples, see **Administration › Content-lifecycle-examples**.

Chapter 5. In-place upgrade of SUSE Linux Enterprise Server with SUSE Manager

This workflow shows how to automatically complete the task of in-place SUSE Linux Enterprise Server instances upgrade with SUSE Manager Server.

The workflow is applicable for both Salt and Traditional clients.

5.1. Use case

In-place migration is benefitial when:

- migrating large number of the older SUSE Linux Enterprise Server is time-consuming

- you are looking for a way to automate migrations

5.2. Outcome

Successful completion of this workflow results in consistent, supportable outcomes.

5.3. Step-by-step preparation instructions

> ⚠️ This workflow is complex and time-consuming. Make sure that adequate testing is done before deploying the procedure in live environment.

Procedure: Prepare the SUSE Manager Server for Provisioning

1. Create a SUSE Manager Content Lifecycle Management project for your distribution. Choose a short-but-descriptive prefix in the name, including all source channel modules. Add Filters as needed. Add at least one Environment.

2. Create an Activation Key that includes the filtered project channels.
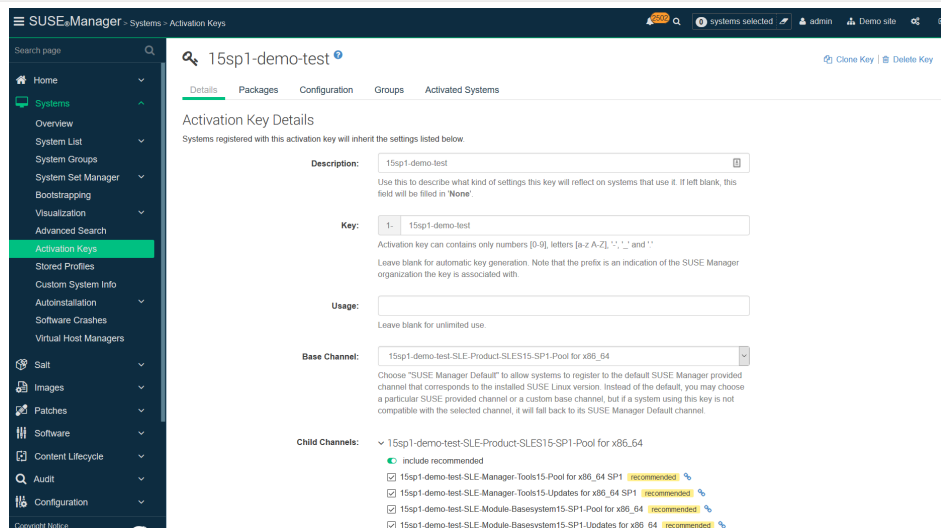
3. (Optional) Create a bootstrap script. The profile will not need it, because it is managed in the AutoYaST.

4. Create a `/var/spacewalk/iso` directory, and for SLES 15 SP2 and following, copy the Full iso (>10 GB) there. Create a mount point for it, such as `/opt/install/15sp3` and mount the ISO there. Ensure this path gets re-mounted at boot time.

5. Create an Autoinstallation Distribution in SUSE Manager for each base channel to which you will migrate.

   a. In the Distribution, reference the specific Base Channel to match the base to which you might migrate, for example the base channel of your CLM project Environment Lifecycle.

   b. Label the Distribution something that references your specific Base Channel.

   c. Set the Installer Generation to match your specific version of SUSE Linux Enterprise Server (12, 15, etc.).

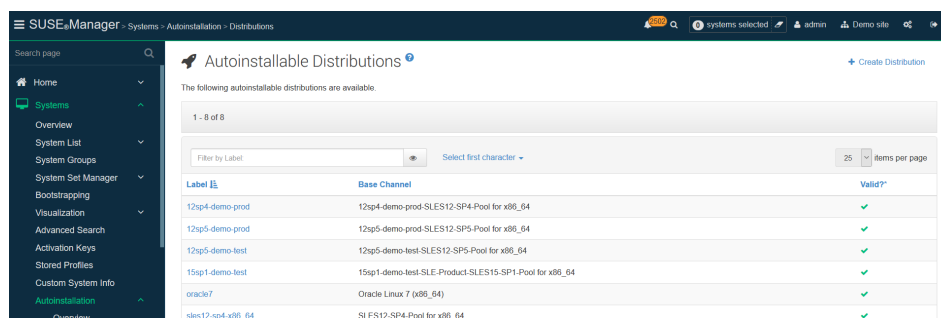   d. The kernel options will be automatically populated when you click Create Autoinstallable Distribution.

6. You may create more Distributions depending on the Base Channel you need to assign, and you can re-use the same Tree Path for the boot media if required.

7. Click on Profiles, and upload Kickstart/AutoYaST file for each target SUSE Linux Enterprise Server distribution, service pack and channels you wish to migrate to.

   a. This profile will be associated with the activation key and autoinstallation distribution created above.

b. Cut-and-paste a Profile template as the basis for what you upload, assign it the Autoinstall tree you created as a Distribution above.

c. Do not put anything in the Virtualizaton Type box, and click **[Create]**.

8. Once created, your profile will now have some new fields on this Details page. In the Kernel Options line on this Details page, put in

```
autoupgrade=1 insecure=1 useonlinerepo
```

9. This will tell your profile to treat its install as an upgrade, and allow http access to the SUSE Manager Server to obtain installer updates without needing to go to SUSE Customer Center.
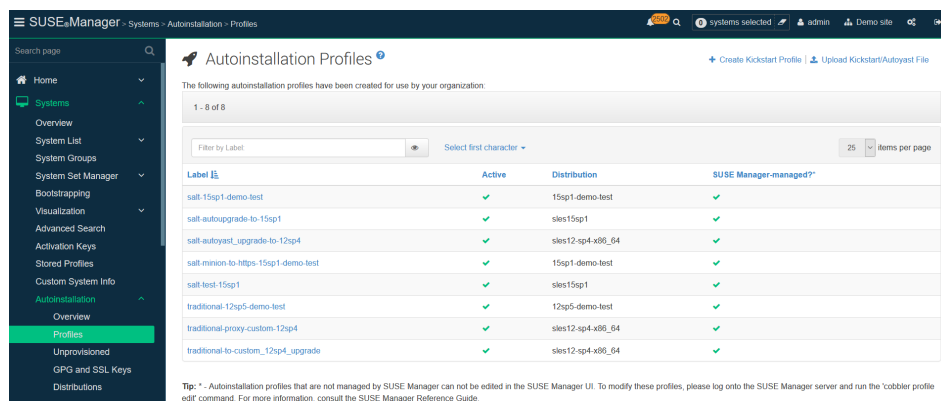
10. Click the variables tab in your Autoinstallation Profile to specify CLM prefix, Activation Key, Distribution tree, and Organization:
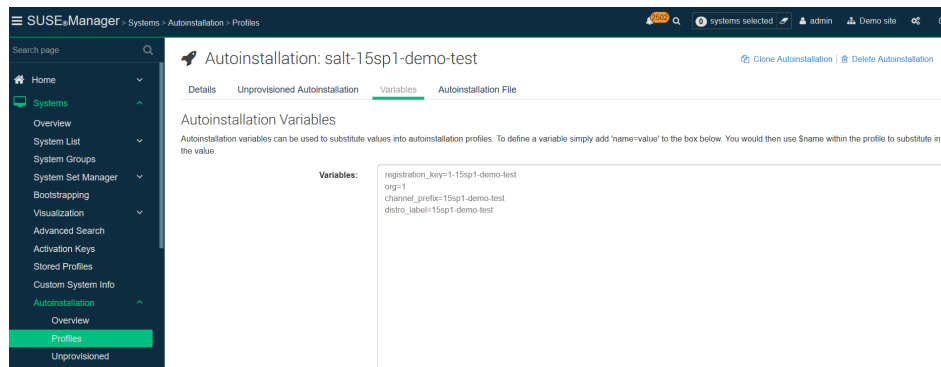
Sample Variables:

- registration_key=1-15sp1-demo-test

- org=1

- channel_prefix=15sp1-demo-test

- distrotree=15sp1-demo-test

Edit the AutoYaST profile itself in a tool where you can use cut-and-paste for the channels in your profile. Use

variables in your profiles where possible.

Published profiles can be used as a starting point.

ℹ️   For profile files, see https://github.com/SUSE/manager-build-profiles.

The profiles follow AutoYaST XML guidelines, and for an in-place upgrade there are several important sections:

Add-ons - the repositories used in the upgrade

```
<listentry>
<ask_on_error config:type="boolean">true</ask_on_error>
#if $channel_prefix != ""
<media_url>https://$redhat_management_server/ks/dist/child/$channel_prefix-sle-manager-
tools15-pool-$arch-sp3/$distrotree</media_url>
#else
<media_url>https://$redhat_management_server/ks/dist/child/sle-manager-tools15-pool-$arch-
sp3/$distrotree</media_url>
#end if
<name>$channel_prefix SLE-15-Manager-Tools Pool</name>
<product>sle-manager-tools</product>
</listentry>
```

Be sure to include all (and only) the relevant modules (both Pool and Updates) to be used in the migration. In migration, it is recommended to add all available modules, as the location of certain packages changes with new major versions.

After finishing the preparation, proceed with the actual migration depending on the type of your client.

For Salt clients, go to Migration of Salt clients.

For Traditional clients, go to Migration of Traditional clients.

5.4. Migration of Salt clients

Procedure: Migrating Salt clients

1. Prior to migration, be sure to check Software → Non-Compliant. This will show any orphaned packages on your system - those SUSE Manager does not find in any assigned channel. Make sure this list is very small or empty, and that you can account for all the packages there. Delete any that are unnecessary.

2. Before provisioning, issue the following Remote Command to the systems you wish to upgrade to remove the existing SUSE Manager channels during the upgrade process:

   ```
   rm -rf /etc/zypp/repos.d/susemanager*
   ```

3. Assign your Autoinstallation Profile in System Details → Provisioning for one system, or in the Provisioning tab in SSM for as many systems as you need. SUSE Manager provisioning then auto-assigns a Reactivation

Key to this system, that is referenced in the provisioning process. If you need to perform the upgrade through a particular SUSE Manager Proxy you will need to group just those systems together in SSM.

SUSE Manager creates the proper entry in /etc/grub.d/ for the reinstallation, and boots the selected systems to that entry. The Profile you created above will be used to drive automated upgrade, following which your system will use the reactivation key (one time), associating the upgraded system with the previous SUSE Manager profile.

The Session Status screen in SUSE Manager will not be updated real-time for Salt clients. Instead, watch the target system console to track progress. If you are updating an instance on a hyperscaler like AWS you may be able to get screenshots of the console.

aws | ⠿ Services | 🔍 Search for services, features, blogs, docs, and more [Alt+S]

⬛ EC2   📊 AWS Cost Explorer

☰   EC2 > Instances > i-0967884ceaf68f70e > Get instance screenshot

Get instance screenshot Info
i-0967884ceaf68f70e (dpv-slesupdater) on 2022-04-29 at T16:13:01.642 -04:00

🔄   ⬇ Download

SUSE

Performing Upgrade

Media	Remaining	Packages	Time
Total	2.149 GiB	873	⌛
SLES15-SP3-15.3-0	334.5 KiB	1	⌛
SLE-15-Manager-Tools Updates	8.63 MiB	5	⌛
SLE-Module-Basesystem15-SP3 Pool for x86_64 SAP	259.83 MiB	391	⌛
SLE-Module-Basesystem15-sp3 Updates for x86_64 SAP	1.730 GiB	381	⌛
SLE-Module-Desktop-Applications15-sp3 Pool for x86_64 SAP	880 KiB	5	⌛
SLE-Module-Public-Cloud15-sp3-Pool for x86_64 SAP	402.9 KiB	7	⌛
SLE-Module-Public-Cloud15-sp3-Updates for x86_64 SAP	12.42 MiB	5	⌛
SLE-Module-Python2-15-SP3-Pool for x86_64 SAP	22.96 MiB	32	⌛
SLE-Module-Python2-15-SP3-Updates for x86_64 SAP	53.68 MiB	15	⌛
SLE-Module-Server-Applications15-sp3 Pool for x86_64 SAP	4.98 MiB	18	⌛
SLE-Module-Server-Applications15-sp3 Updates for x86_64 SAP	53.85 MiB	2	⌛

Actions performed:
Downloading libstdc++6 (download size 551.8 KiB)
Installing libstdc++6-11.2.1+git810 0000.1.6.6.x86_64.rpm (installed size 2.06 MiB)
Installing libxffiz-z'2.9./-3.3.r'.1.x86_64rpm (installed size 1.54 MiB)
Downloading terminfo-base (download size 206 KiB)
Installing terminfo-base-6.1-5.9.1.x86_64.rpm (installed size 1.12 MiB)
Downloading libncurses6 (download size 403.6 KiB)
Installing libncurses6-6.1-5.9.1.x86_64.rpm (installed size 1.06 MiB)
Downloading lifecycle-data-sle-module-desktop-applications (download size 15.5 KiB)
Installing lifecycle-data-sle-module-desktop-applications-1-5.4.1.x86_64.rpm (installed size 17.8 KiB)
Downloading cloud-init-config-suse (download size 159.5 KiB)
Installing cloud-init-config-suse-21.4-150100.8.58.1.x86_64.rpm (installed size 2.3 KiB)
Downloading lifecycle-data-sle-module-server-applications (download size 15.5 KiB)
Installing lifecycle-data-sle-module-server-applications-1-5.4.1.x86_64.rpm (installed size 17.8 KiB)
Downloading grub2-x86_64-xen (download size 2.85 MiB)

Downloading grub2-x86_64-xen - 2.5d MiB/s (on average 2.5d MiB/s) (download size 2.85 MiB)
100%

Installing Packages... (Remaining: 2.149 GiB, 872 packages)
2%

ⓘ For boot or networking issues, use the EC2 serial console for troubleshooting. Choose the **Connect** button to start a session.

[Connect]

SUSE

Performing Upgrade

Media	Remaining	Packages
Total	565.27 MiB	252
15sp3filtered-preprod SLE-15-Manager-Tools Updates	262.8 KiB	1
15sp3filtered-preprod SLE-Module-Basesystem15-SP3 Pool for x86_64 SAP	70.10 MiB	74
15sp3filtered-preprod SLE-Module-Basesystem15-sp3 Updates for x86_64 SAP	367.82 MiB	107
15sp3filtered-preprod SLE-Module-Public-Cloud15-sp3-Pool for x86_64 SAP	68 KiB	1
15sp3filtered-preprod SLE-Module-Python2-15-SP3-Pool for x86_64 SAP	18.76 MiB	23
15sp3filtered-preprod SLE-Module-Python2-15-SP3-Updates for x86_64 SAP	54.08 MiB	15
15sp3filtered-preprod SLE-Module-Server-Applications15-sp3 Pool for x86_64 SAP	4.33 MiB	11
15sp3filtered-preprod SLE-Module-Server-Applications15-sp3 Updates for x86_64 SAP	34.97 MiB	2
15sp3filtered-preprod SLE-Module-DevTools15-SP3-Pool for x86_64 SAP	29.3 MiB	1
15sp3filtered-preprod SLE-Module-DevTools15-SP3-Updates for x86_64 SAP	24 KiB	1
SLE-Module-Public-Cloud12-Updates for x86_64 SP4	4.90 MiB	7
SLES12-SP4-Pool for x86_64	1.31 MiB	6

Actions performed:
Downloading libldapcpp1 (download size 72.7 KiB)
Installing libldapcpp1-0.3.1-4.75.x86_64.rpm (installed size 229.4 KiB)
Downloading dirmngr (download size 365 KiB)
Installing dirmngr-2.2.27-1.2.x86_64.rpm (installed size 891 KiB)
Downloading kbd-legacy (download size 495.7 KiB)
Installing kbd-legacy-2.0.4-14.38.noarch.rpm (installed size 517 KiB)
Downloading python3-appdirs (download size 22.5 KiB)
Installing python3-appdirs-1.4.3-1.21.noarch.rpm (installed size 83.5 KiB)
Downloading python3-pyparsing (download size 187.4 KiB)
Installing python3-pyparsing-2.4.7-1.24.noarch.rpm (installed size 877 KiB)
Downloading yast2-transfer (download size 43.1 KiB)
Installing yast2-transfer-4.1.0-1.28.x86_64.rpm (installed size 123.5 KiB)
Downloading gpg2 (download size 1.95 MiB)
Installing gpg2-2.2.27-1.2.x86_64.rpm (installed size 7.02 MiB)

Installing gpg2-2.2.27-1.2.x86_64.rpm (installed size 7.02 MiB)
100%

Installing Packages... (Remaining: 565.27 MiB / 01:15, 252 packages)
48%

[Help]   [Abort] [Back] [Next]

If your profile is clean, it should complete an in-place migration in about 30 minutes – depending on the speed of your network, client, and the number of required packages in the migration.

5.5. Migration of Traditional clients

Procedure: Migrating Traditional clients

1. Assign your Autoinstallation Profile in System Details → Provisioning for one system, or in the Provisioning tab in SSM for as many systems as you need. If your system is able to use PXE, it can be completely automated from here.

2. If your system is not able to use PXE, you can create an ISO to install with Cobbler commands using the SUSE Manager server CLI. Copy the ISO file output to the machine you wish to migrate and boot from it. View all the profiles with this:

```
cobbler profile list
```

3. Output will look something like:

```
15sp1-demo-test:1:Demosite
```

4. Then build the ISO file with this command:

```
cobbler buildiso --iso=/tmp/15sp1-demo-test.iso --profiles=15sp1-demo-test:1:Demosite
```

> ℹ️ The --iso= section is the output of the buildiso command, and needs full path.

5. Copy this ISO to the virtualization environment where your system can use it as boot media.

Chapter 6. Removing channel

6.1. Use case

This workflow shows how to manually remove SUSE provided channels from SUSE Manager and to clean up end-of-life products, to reclaim space or for other purposes.

6.2. Step-by-step instructions

Manual channel removal consists of Preparing to remove a channel and Removing channel.

6.2.1. Preparing to remove a channel

Before removing a channel, you must identify the label for the channel to be removed. It can be done with Web UI or on the command line.

> • Be careful not to remove channels that systems are currently subscribed to, or that you are planning on subscribing a system to.
>
> • If there are systems that are currently subscribed to a channel that you want to delete, do not remove the channel until those systems are upgraded or unsubscribed.

Identifying Channel labels

Procedure: Identifying channel labels using Web UI

1. In the SUSE Manager Web UI, in the sidebar navigate to **Software › Channel List › All**.

2. This page displays the Channel Name. If you select the link for a channel name, you will see the field for Channel Label.

3. Identify the channel, and child channels, to be removed.

Procedure: Identifying channel labels using the command line

1. You can get a list of channels by running the following command:

```
spacewalk-remove-channel -l
```

Verify channel system subscriptions

Procedure: Verifying channel system subscriptions using Web UI

1. In the SUSE Manager Web UI, in the sidebar navigate to **Software › Channel List › All**.

2. Locate Systems column on the right.

3. Check the Systems column for the channel, or any child channels, that you want to remove.

Procedure: Verify channel system subscriptions using the command line

1. Run the following command:

```
spacecmd -- softwarechannel_listsystems <Channel Label>
```

6.2.2. Removing channel

A channel, with its metadata, can be removed in the SUMA command line by using the spacewalk-remove-channel command. This command does not remove the packages themselves from the filesystem.

Removing packages from the filesystem is described in Remove packages from the database via the Web UI.

Removing an individual channel

Procedure: Removing an individual channel using the command line

1. To remove an individual channel run the following command:

```
spacewalk-remove-channel -c channel-label
```

2. To remove multiple channels at the same time, use -c flag for each channel, followed by the channel-label. For example:

```
spacewalk-remove-channel -c channel-label1 -c channel-label2
```

Removing a parent and all its child channels

Procedure: Removing a parent and all its child channels

1. It is also possible to remove a parent channel with all of its child channels, like this:

```
spacewalk-remove-channel -a sles12-sp5-pool-x86_64
```

Remove packages from the database via the Web UI

Procedure: Remove packages from the database via the Web UI

1. After removing the channel, you need to delete the packages from the database via the Web UI.

2. In the SUSE Manager Web UI navigate to **SUSEManager › Software › Manage › Packages**.

3. Select Package in no channel, and delete the packages.

6.3. Related topics

- For more information about deleting channels, see Delete channels.

Chapter 7. Service Pack Upgrade via Web UI

If you want to migrate the registered SUSE Linux Enterprise client's service pack (SP) to a newer version, it can be done either on the command line or via Web UI.

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

> ℹ️ SP versions used are not reflective of the actual latest versions available. They are used for illustration purposes only.

Procedure: Migrating service pack to a newer version using Web UI

1. Log in to SUSE Manager Web UI and navigate to **Admin › Products** and search for "SUSE Linux Enterprise Server 15 SP5 x86_64 (BETA)"

2. Select the recommended channels.
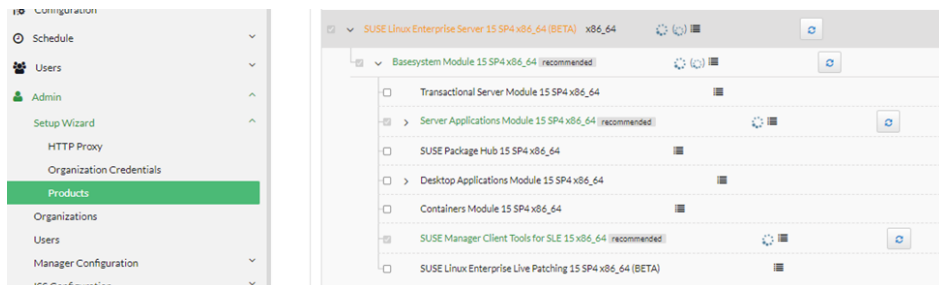
3. Click **[Add Products]**.
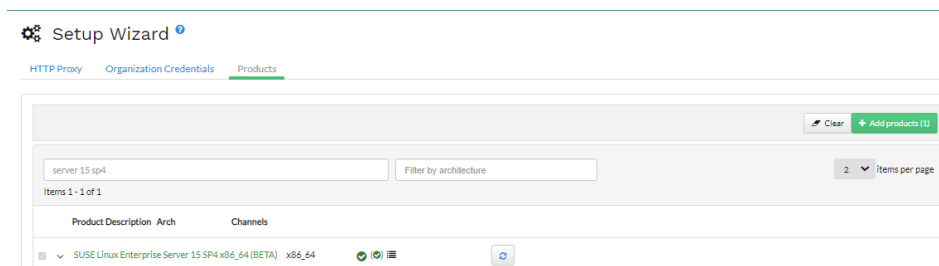
4. Navigate to **Systems › registered client › Software › SP Migration**. You will see two targets, SP4 and SP5.

5. Select SUSE Linux Enterprise Server 15 SP5 x86_64 (BETA). This will expand further as shown below.

6. Select Target Base Channel as SLE-Product-SLES15-SP5-Pool for x86_64 and keep Allow Vendor Change unchecked.

7. Click **[Schedule Migration]** and it will highlight message 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 meaning successful.

9. Now you may click **[Schedule Migration]** to actually migrate the server. Following message will get highlighted on top of the screen in SUSE Manager Web UI.

This system is scheduled to be migrated to SUSE Linux Enterprise Server 15 SP4 x86_64 (BETA).

🖥 sles15sp2a.example.com ❓

Details   Software   Configuration   Provisioning   Groups   Audit   States   Formulas   Events

Overview   Properties   Remote Command   Connection   Reactivation   Hardware   Migrate   Notes   Custom Info

10. When the migration is complete, check the status in **Events › History**.

11. On the client side also you can verify it by running:

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

12. 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/"
```

13. On the SUSE Manager Web UI side, you can verify the succesfully completed migration by going to
Systems › registered client › Detail.

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