Reference Guide

SUSE Manager 4.1

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Table of Contents

Reference Guide Overview 1
WebUI Reference 2
Home Menu . . . 2
Systems Menu . . . 6
Clusters Menu . . . 36
Salt Menu . . . 36
Images Menu . . . 38
Patches Menu . . . 39
Software Menu . . . 43
Content Lifecycle Management Menu . . . 48
Audit Menu . . . 49
Configuration Menu . . . 53
Schedule Menu . . . 61
Users Menu . . . 64
Admin Menu . . . 66
Help Menu . . . 72
spacecmd Reference 74
Configuring spacecmd . . . 74
help . . . 76
history . . . 79
Troubleshooting spacecmd . . . 79
spacecmd Functions . . . 80
Command Line Tools 112
Configuration CLI Tools . . . 113
Synchronization CLI Tools . . . 125
Bootstrapping Command Line Tools . . . 129
Database CLI Tool . . . 129
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Reference Guide Overview

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This document contains several sections:

- The `Web UI Reference` is organized to match the SUSE Manager Web UI. As you work with the Web UI, you can consult the `Web UI Reference` to find out more about the section you are working on. For help on setting up and using the Web UI, see [**Installation › Webui-setup ›**].
- The `spacecmd Reference` is intended to help you work with the `spacecmd` command line interface. It contains a complete list of `spacecmd` commands, organized alphabetically, and their correct usage.
- The `Command Line Tools` section provides an overview of the various command line tools available in SUSE Manager.
- The `Configuration File` section describes the main configuration files available in SUSE Manager.

WebUI Reference

Home Menu

The **Home** section is a dashboard that contains a summary of your current SUSE Manager status, including tasks, client information, and critical security updates.

For more information about setting up and using the SUSE Manager Web UI, see [**Installation › Webui-setup ›**].

Home Overview

The **Home › Overview** section is a dashboard that contains a summary of your current SUSE Manager status, including tasks, client information, and critical security updates.

For more information about setting up and using the SUSE Manager Web UI, see [**Installation › Webui-setup ›**].

Notification Messages

The **Home › Notification Messages** section shows all current messages produced by SUSE Manager. By default, messages will remain current for thirty days. After this period, messages are deleted whether or not they are marked as read.

To see unread messages, navigate to the **Unread Messages** tab. To see all messages, navigate to the **All Messages** tab.

Click **[Refresh]** to update the list.

Perform bulk actions by checking messages in the list. Click **[Delete selected messages]** to bulk delete messages. Click **[Mark selected as read]** to bulk read messages.

Table 1. Notification Message Severity Statuses

Icon	Description	Example
ⓘ	Information	Client onboarding has failed.
⚠	Warning	Channel synchronization has completed.
⊗	Error	Channel synchronization has failed.

User Account Menu

The **Home** › **User Account** section allows you to change user account preferences.

My Account

The **Home** › **User Account** › **My Account** section allows you to change user account preferences.

Modify your personal information, such as name, password, and title from the **Home** › **User Account** › **My Account** page. To modify this information, make the changes in the appropriate text fields and click the `[Update]` button at the bottom.

If you forget your password or username, navigate to Web UI sign in page, click `[About]`, and click `[Lookup Login/Password]`. Enter the username or email address, and click `[Send Password]` or `[Send Login]` to have the missing information sent to you.

Addresses

The **Home** › **User Account** › **Addresses** section allows you set your mailing, billing, and shipping addresses, and associated phone numbers.

Click `[Fill in this address]` or `[Edit this address]` below the address to be modified or added, make your changes, and click `[Update]`.

Change Email

The **Home** › **User Account** › **Change Email** section allows you to set the email SUSE Manager sends notifications to.

Enter your new email address and click the `[Update]` button. Invalid email addresses, including those ending in `@localhost` are filtered and rejected.

If you would like to receive email notifications about patch alerts or daily summaries for your systems, ensure you have checked the `Receive email notifications` option in **Home** › **My Preferences** section.

Account Deactivation

The **Home** › **User Account** › **Account Deactivation** section allows you to cancel your SUSE Manager user account.

When you click `[Deactivate Account]` your user account will be deleted, you will be signed out, and you will not be able to sign back in.

If you do this by accident, you will need to contact your SUSE Manager Administrator to reactivate your user account.

If you are the only SUSE Manager Administrator for your organization, you can not deactivate your account.

My Preferences

The **Home › My Preferences** section allows you to configure SUSE Manager Web UI options.

Table 2. Home Preferences

Option	Description	Default
Email Notification	Receive email for client and Taskomatic notifications, including a daily summary email.	Checked
SUSE Manager List Page Size	Maximum number of items that can appear in a list on a single page.	25 entries
"Overview" Start Page	Select the information panes to display on the **Home › Overview** page.	All checked
Time Zone	Set your local timezone.	System timezone
Interface Language	Set the language to use in the Web UI.	Default language
Style Theme	Set the style theme to use in the Web UI.	`susemanager-light`
CSV Files	Select whether to use comma or semi-colon delimiters when producing downloadable CSV files.	Comma

For information about setting up and using the SUSE Manager Web UI, see [**Installation › Webui-setup** ›]. For information about changing the default preferences, see [**Administration › Users** ›].

My Organization

The **Home › My Organization** section allows you to configure your current organization.

For more information about organizations, see [**Administration › Organizations** ›].

Organization Configuration

The **Home › My Organization › Configuration** section allows you to configure your current organization.

Table 3. Organization Configuration Options

Option	Description	Default
Enable staging contents	For clients in this organization, allow content staging by default.	Unchecked
Enable Errata E-mail Notifications	For users in this organization, send email notifications when errata (patches) are available.	Checked
Enable Software Crash Reporting	In case of a crash, a log of the crash is saved to file.	Checked
Enable Upload of Crash Files	Allow crash log files to be uploaded to SUSE.	Checked
Crash File Upload Size Limit	The maximum crash log file size (in MB) that can be uploaded to SUSE.	2048 MB
Enable Upload of Detailed SCAP Files	Allow detailed SCAP content files to be uploaded for auditing.	Unchecked
SCAP File Upload Size Limit	The maximum SCAP file size (in MB) that can be uploaded.	2048 MB
Allow Deletion of SCAP Results	Allow SCAP results to be deleted after the audit is complete.	Checked
Allow Deletion After	The number of days after an SCAP audit is complete, that results can be deleted.	90 days

- For more information about content staging, see [**Administration › Content-staging ›**].
- For more information about OpenSCAP, see [**Administration › Openscap ›**].
- For more information about organizations, see [**Administration › Organizations ›**].

Organization Trusts

The **Home › My Organization › Organization Trusts** section shows the trusts that you have established within your organization. This section also shows the channels that are available to other users through trusts.

For more information about organization trusts, see [**Administration › Organizations ›**].

Organization Configuration Channels

The **Home › My Organization › Configuration Channels** section shows the configuration channels available within your organization. Configuration channels can be created in the SUSE Manager Web UI by navigating to **Configuration › Channels**. Apply configuration channels to your organization using the SUSE Manager Web UI.

For more information about organizations, see [**Administration › Organizations ›**].

Systems Menu

The **Systems** section allows you to manage your client systems.

For more information about managing clients, see [**Client-configuration › Client-config-overview ›**].

Systems Overview

The **Systems › Overview** section lists all client systems registered to the SUSE Manager Server. The list contains information about the clients, including available software updates, the base channel they are subscribed to, and whether they are a traditional or Salt client.

Click the name of a client to go to the **System Details Overview** page. For more information about the **System Details Overview** page in the Web UI, see [**Reference › Systems ›**].

Check a client to add it to the system set manager. For more information about the system set manager, see [**Client-configuration › System-set-manager ›**].

Click **[Add Systems]** to go to **Systems › Bootstrapping**. For more about bootstrapping new clients, see [**Reference › Systems ›**].

For more information about managing clients, see [**Client-configuration › Client-config-overview ›**].

System Details

The System Details section allows you to manage the details for a chosen client. To get to this section, click the name of a client anywhere throughout the Web UI to see the relevant System Details page for the client.

The System Details section is divided into tabs and subtabs. Each tab and subtab has its own section in this document.

The **Systems › Details › Overview** subtab is displayed by default. Which tabs are available is dependent on the system type of the client you have selected.

For more information about managing clients, see [**Client-configuration › Client-config-overview ›**].

Overview

The **Systems › Details › Overview** section shows a summary of information about the selected client, including the current system status. This subtab is displayed by default when you click the name of a client anywhere throughout the Web UI.

Click **[Delete System]** to delete the system profile. Deleting a system profile will not destroy or remove the client, but you will no longer be able to manage it with SUSE Manager. If you delete a system profile by mistake, you can re-register the client using bootstrap.

The **Systems › Details › Overview** subtab is split into sections:

System Status

The section shows the current status of the client. If no action is required for this client, the status is System is up to date.

If the client has new software ready for installation, the status is Software Updates Available, along with details of updates. Apply updates by navigating to **System Details › Packages**.

System Info

This section shows general information about the client.

Table 4. System Info Columns

Column Name	Description	Conditions
Hostname	The hostname used by the client with the SUSE Manager Server.	-

Column Name	Description	Conditions
FQDN	The fully qualified domain name of the client.	Shown only if it differs from the host name.
IP address	The IPv4 IP address of the client.	-
IPv6 address	The IPv6 IP address of the client.	-
Minion ID	The minion ID of the client.	Salt clients only.
Virtualization	The type of virtualization used by the client.	Virtualized clients only.
UUID	The universally unique identifier.	-
Kernel	The kernel currently in use on the client.	-
SUSE Manager System ID	A unique identifier generated by SUSE Manager when the client is registered.	-
Activation key	The activation key used to register the client.	Remains blank if the client has not been activated.
Installed products	Software products currently installed on the client.	-
Lock status	Indicates whether the client is locked.	Traditional clients only. Locked Salt clients instead show a yellow banner on this page.

For more information about system locks, see [**Client-configuration › System-locking ›**].

Subscribed Channels

This section shows the base and child software channels this client is subscribed to.

Click `[Alter Channel Subscriptions]` to change the channel subscriptions for this client. Click a channel name to go to the `Channel Details` tab.

For more information about channels, see [**Client-configuration › Channels ›**].

System Events

This section shows the most recent system events for this client.

Table 5. System Events Columns

Column Name	Description
Checked in	The time that the client last successfully checked in with the SUSE Manager Server.
Registered	The time that the client registered with SUSE Manager.
Last booted	The time that the client was most recently started or rebooted.

Click **[Schedule system reboot]** to set a time for the client to reboot. The reboot will occur when the client next checks in with the SUSE Manager Server after the scheduled time. For more on task scheduling, see [**Administration › Task-schedules ›**].

System Properties

This section shows further information about the client.

Table 6. System Properties Columns

Column Name	Description
System types	Lists the system type applied to the client. Usually either `Salt` for Salt clients, or `Management` for traditional clients.
Notifications	Lists the current notification options for this client.
Contact method	The method used by this client to communicate with the SUSE Manager Server.
Auto patch update	Indicates if the client is receiving patches automatically.
Maintenance Schedule	Specifies which maintenance schedule is assigned to this client.
System name	The system name of the client. By default, this is the host name, but it can be changed.

Column Name	Description
Description	General information about the client. By default, this is automatically gathered when the client is registered, but it can be changed.
Location	The physical location of the client.

For more information about contact methods, see [**Client-configuration › Contact-methods-intro ›**].

Click `[Edit These Properties]` to go to **System Details › Details › Properties** subtab.

Properties

The **Systems › Details › Properties** section allows you to edit details about the selected client, including the system name and details.

Table 7. Edit System Details Settings

Setting Name	Description	Default Setting
System Name	The name of the system to use within the SUSE Manager Web UI.	The hostname of the client.
Base System Type	The type of base system used by the client.	Shown for information only, you cannot edit this.
Add-on System Types	Check additional system types to add features such as build hosts, or monitoring.	Only available system types for this client are shown.
Notifications	Check to receive notifications of updates or patches, and to include this client in the daily summary.	Checked.
Auto Patch Update	Check to have available patches automatically applied.	Unchecked.
Description	This field can contain any text you want.	The operating system, release, and architecture of the system when it first registered to SUSE Manager.
Facility Address	The physical location of the client.	Blank

Remote Command

The **Systems › Details › Remote Command** section allows you to run commands remotely on the selected client.

Before doing so, you must first configure the system to accept such commands. For more information about using remote commands, see [**Administration › Actions ›**].

Reactivation

The **Systems › Details › Reactivation** section allows you to generate reactivation keys for the selected client. Reactivation keys can be used once only to re-register the client and regain all SUSE Manager settings.

For more information about reactivation keys, see [**Client-configuration › Activation-keys ›**].

Hardware

The **Systems › Details › Hardware** section shows detailed hardware information about the selected client, including architecture, networking, and memory.

Click **[Schedule Hardware Refresh]** to update this page with the latest hardware information. To change the primary network interface on the client, select the correct interface in the `Primary Network Interface` field in the `Networking` section, and click **[Update Properties]**.

Migrate

The **Systems › Details › Migrate** section allows you to move clients between organizations. Clients can only belong to one organization at any time.

To move a client to a different organization, select the name of the organization in the `Organization Name` field, and click **[Migrate System]**.

> When you move a client to a different organization, channel assignments, system group membership, custom data values, configuration channels, reactivation keys, and snapshots are deleted from the system configuration. You will need to set these values again when the move is complete.

Notes

The **Systems › Details › Notes** section lists notes about the selected client.

Click **[Create Note]** to create a new note. Give your note a subject, and add any details you require. Click **[Create]** to save the note.

Notes are listed in the table with a time stamp of when they were last edited. Click the subject of a note to edit or delete it.

Custom Info

The **Systems › Details › Custom Info** section lists the custom system information that has been applied to the selected client.

Click `[Create Value]` to apply a new custom system key to the client. Click the key label to see more information, and to edit the value.

For more information about custom system information, see [**Client-configuration › Custom-info ›**].

Proxy

The **Systems › Proxy** section shows all clients connected to the selected client as a proxy. This is only available when the selected client is registered as a SUSE Manager Proxy.

For more information about setting up a SUSE Manager Proxy, see [**Installation › Install-proxy ›**].

Software

The **Systems › Software** section allows you to manage software on the selected client.

Patches

The **Systems › Software › Patches** section displays a list of all patches currently available to the selected client.

To apply a patch, check it in the list and click `[Apply Patches]` to schedule the installation. The `Status` column in the list shows whether an update has been scheduled. Click the status for more information about the action.

For more information about patching, see [**Client-configuration › Patch-management ›**].

Packages

The **Systems › Software › Packages** section allows you to manage packages on the selected client.

Click `[Update Package List]` to refresh the list of available packages.

The **Systems › Software › Packages** tab is split into subtabs:

List/Remove

Lists all packages currently installed on the selected client. Click the name of a package to see more information. To uninstall packages, check the package in the list and click `[Remove Packages]`.

Upgrade

Lists packages that have newer versions available. Click the name of a package to see more information. To upgrade packages, check the package in the list and click `[Upgrade Packages]`. Any EULAs will be accepted automatically.

Install

Lists packages that are available for installation on the selected client. Click the name of a package to see more information. To install packages, check the package in the list and click `[Install Selected Packages]`. Any EULAs will be accepted automatically.

Verify

Traditional clients only. Lists packages available for verification against the package repository. Click the name of a package to see more information. To verify a package, check the package in the list and click `[Verify Selected Packages]`. When the verification is complete, navigate to **Systems › Events › History** to see the results.

Lock

Traditional clients only. Lists packages that are locked on the selected client. To lock a package, check the package in the list and click `[Request Lock]`. To remove a package lock, check the package in the list and click `[Request Unlock]`. For more information about package locks, see [**Client-configuration › System-locking ›**].

Profiles

Compare packages installed on the selected client with a stored profile, or with packages installed on another client. When the comparison is made, you can choose to modify the selected client to match. To compare with a stored profile, select the profile and click `[Compare]`. To compare with another client, select the client name and click `[Compare]`.

Non Compliant

Lists packages that are installed on the selected client, but are not available in any of the subscribed software channels.

For more information about packages, see [**Client-configuration › Package-management ›**].

Software Channels

The **Systems › Software › Software Channels** section allows you to manage the software channels on the current client.

For more information about software channels, see [**Client-configuration › Channels ›**].

The **Systems › Software › Software Channels** subtab is split into sections:

Base Channel

This section shows the base channel the current client is subscribed to, as well as any other available base channels.

Click the chain icon next to a base channel to see more information about the channel. Change the base channel subscription by selecting the new base channel, and click **`[Next]`** to schedule the change.

The child channels associated with the base channel are populated in the **Child Channels** section. Mandatory child channels are pre-selected. Toggle the **include recommended** switch to also select recommended child channels.

For Salt clients, apply the highstate after changing software channels.

Child Channels

This section shows the software product and child channels associated with the currently selected base channel.

Hover over the information icon next to the channel name to see channel requirements. Click the chain icon next to a base channel to see more information about the channel.

Child channels are can be either recommended or mandatory. Mandatory child channels must be installed for the selected client to use the associated base channel. Recommended child channels should be installed to provide additional packages. All other child channels are optional.

Check the child channels you want to install, and click **`[Next]`** to schedule the change.

SP Migration

The **Systems › Software › SP Migration** section allows you to upgrade clients to the latest service pack of their underlying operating system. Check the product version you want to upgrade the client to, and click **`[Select Channels]`**.

For more information about service pack upgrades, see [**Client-configuration › Client-upgrades-sp-migration ›**].

Configuration

The **Systems › Configuration** section allows you to manage the configuration files for the selected client. Configuration files are distributed with a configuration channel. For traditional clients, configuration files can also be managed directly on a single client.

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

The **Systems › Configuration** tab is split into subtabs:

Overview

The **Systems › Configuration › Overview** subtab is split into sections:

Configuration Overview
: This section contained the total number of available configuration files, and channel subscriptions. Click the name of a configuration file or channel to see more information. Click `[Subscribe to channels]` to subscribe to additional configuration channels.

Recent Events
: This section shows when the configuration channels was most recently deployed on the selected client. It also shows the most recent time that a comparison was performed.

Configuration Actions
: This section allows you to deploy or to compare configuration channels on the selected client.

View Files

The **Systems › Configuration › View Files** subtab is split into subtabs for centrally managed, and locally managed configuration files. On traditional clients, there is also a subtab for a local sandbox, where you can store configuration files that are still under development.

The `Centrally-Managed Files` and `Locally-Managed Files` subtabs both show a list of all available configuration files. Click `[View]` to see details about the configuration file. Click `[Compare]` to compare the configuration file to other files, or to various revisions of itself. Click the configuration channel name to see more information about the channel that contains this configuration file. Click the revision number to see additional details about the configuration file.

Deploy Files

The **Systems › Configuration › Deploy Files** shows a list of available configuration files that can be deployed on the selected client.

Compare Files

The **Systems › Configuration › Compare Files** shows a list of available configuration files that can be compared to SUSE Manager managed configuration files. Check the configuration file to compare and click `[Compare Files]` to schedule a comparison. Click the revision number to see additional details about the configuration file. Click the configuration channel name to see more information about the channel that contains this configuration file.

Manage Configuration Channels

The **Systems** › **Configuration** › **Manage Configuration** subtab is split into subtabs:

List/Unsubscribe from Channels

This section shows the list of currently subscribed channels. To unsubscribe the selected client from a configuration channel, check the channel, and click `[Unsubscribe]`. Click the configuration channel name to see more information about the channel that contains this configuration file.

Subscribe to Channels

This section shows the list of configuration channels that are available for the selected client to subscribe to. To subscribe the selected client to a configuration channel, check the channel, and click `[Continue]`.

View/Modify Rankings

This section shows the currently subscribed configuration channels, in ranked order. Where settings conflicts occur between configuration channels, channels closer to the top of the list take precedence. To complete subscription to a configuration channel, review the rankings, adjust as necessary using the up and down arrows, and click `[Update Channel Rankings]`.

Provisioning

The **Systems** › **Provisioning** section allows you to manage provisioning for the selected client. This includes managing and scheduling autoinstallation, booting the selected client, and managing snapshots of the client configuration state.

The **Systems** › **Provisioning** tab is split into subtabs:

Autoinstallation

This section displays a list of the available autoinstallation profiles for the selected client. Select a time and date for autoinstallation to re-install the client.

For more information about autoinstallation, see [**Client-configuration** › **Autoinst-intro** ›].

Power Management

This section allows you to power on, power off, and reboot the selected client.

This feature uses either the IPMI or Redfish protocol and is managed using a Cobbler profile. The selected client must have a power management controller supporting one of these protocols. For Redfish, ensure you can establish a valid SSL connection between the client and the SUSE

Manager Server.

Complete the details for the power management server, and click the appropriate button for the action to take. Click [Get status] to determine if the client is currently running. Click [Save only] to save the details without taking any action.

Click [Remove Cobbler System Profile] to remove the current client's system profile from Cobbler. For more information about Cobbler, see xref:client-configuration:cobbler.adoc

For more information about power management, see [**Client-configuration** › **Power-management** ›].

Snapshots

This section shows a list of the snapshots taken for the current client. Click the name of a snapshot to see more details. You can use the subtabs in the **Provisioning** › **Snapshots** tab to see the changes that rolling back to the selected snapshot will make to:

- Group memberships
- Channel subscriptions
- Installed packages
- Configuration channel subscriptions
- Configuration files
- Snapshot tags

Click [Rollback to Snapshot] to roll back to the selected snapshot.

For more information about snapshots, see [**Client-configuration** › **Snapshots** ›].

Snapshot Tags

This sections shows a list of the snapshot tags for the current client. Click the tag name to see more information about the snapshot. Click [Create System Tag] to apply a new tag to the most recent snapshot.

For more information about snapshots, see [**Client-configuration** › **Snapshots** ›].

Groups

The **Systems** › **Groups** section shows the system groups the selected client is assigned to.

The **Systems** › **Groups** subtab is split into sections:

For more information about system groups, see [**Client-configuration** › **System-groups** ›].

List/Leave

This section lists all groups that the selected client belongs to.

Click the group name to see more information about the system group. To remove the selected client from a system group, check the group, and click **`[Leave Selected Groups]`**.

Join

This section lists all groups that are available for the selected client to subscribe to.

Click the group name to see more information about the system group. To join a system group, check the group, and click **`[Join Selected Groups]`**.

Virtualization

The **Systems › Virtualization** section allows you to manage the virtual guests registered to the selected client. This is only available when the selected client is registered as a virtual host.

For more information about virtualization, see [**Client-configuration › Virtualization ›**].

The **Systems › Virtualization** tab is split into subtabs:

Guests

This section lists the virtual guests registered to the selected client. This is only available when the selected client is registered as a virtual host.

The list shows these columns:

Table 8. Virtual Guest List Columns

Column	Description
Guest	The name of the virtual guest
System	The client the virtual guest is registered to
Updates	Icon indicates if the guest has outstanding patches
State	Indicates if the guest is running, suspended, stopped, or crashed
Current Memory	The amount of RAM allocated to the guest
vCPUs	The number of virtual processors allocated to the guest

Column	Description
Base Software Channel	The base software channel the guest is registered to
Action Status	Any currently running action
Actions	Use these buttons to start, stop, or change the guest

To perform bulk actions on multiple virtual guests, select the guests, and click the appropriate action button above the table. For Salt clients, click **[Create Guest]** to configure and create a new virtual guest.

Virtual guests must be registered to virtual hosts. Virtual guests cannot be registered to a virtual guest.

Storage

This section lists the virtual storage pools and volumes defined on the selected client. This is only available when the selected client is registered as a Salt virtual host.

The list shows these columns:

Table 9. Virtual Storage Pools List Columns

Column	Description
Name	The name of the virtual storage pool or volume
State	Indicates if the pool is running, suspended, stopped, or crashed
Autostart	Checked if the pool starts automatically when the virtual host is booted
Persistent	Checked if the pool persists between virtual host reboots
Location	The absolute path to the pool on the virtual host
Usage	The percentage of storage in use. Displays `unknown` if the pool is not running.
Actions	Use these buttons to start, stop, or change the pool

Click **[Create Pool]** to configure and create a new virtual storage pool.

Provisioning

This section allows you to provision a new virtual guest on the selected client. This is only available when the selected client is registered as a traditional virtual host.

Select the autoinstallation profile to use, name the new virtual guest, and schedule a time for the guest to be provisioned. Click `[Advanced Configuration]` for more configuration options. Click `[Schedule Autoinstallation and Finish]` to complete provisioning.

Deployment

This section allows you to deploy a new virtual guest on the selected client from a baremetal system. This is only available when the selected client is registered as a traditional virtual host.

Type a URL to the `qcow2` image to use, define the hardware requirements, and the proxy if required. Click `[Schedule Image Deployment]` to complete the deployment.

You can see pending virtual guest deployments by navigating to **Schedule › Pending Actions**.

Audit

The **Systems › Audit** section displays the results of OpenSCAP scans that you have performed on the selected client.

The Security Certification and Authorization Package (SCAP) is a standardized compliance checking solution for enterprise-level Linux infrastructures. SUSE Manager uses OpenSCAP to implement the SCAP specifications.

For more information about OpenSCAP, see [**Administration › Openscap ›**].

The **Systems › Audit** subtab is split into sections:

List Scans

This section displays ther results of openSCAP scans that have been performed on the selected client.

The table columns on this page are:

Table 10. OpenSCAP Scan Results

Name	Description
Xccdf Test Result	The name of the test result
Diff	FIXME
Completed	The time that the scan was completed

Name	Description
Compliance	The unweighted pass/fail ratio
P	The number of checks that passed
F	The number of checks that failed
E	The number of errors that occurred
U	The number of checks with an unknown status
N	The number of checks that were not applicable to the selected client
K	The number of checks not run
S	The number of checks that were not selected
I	The number of checks that have information available for review
X	The number of checks that reported a status of fixed
Total	The total number of checks run

Click the name of a scan test result to see details about the result.

Schedule

This section allows you to schedule a scan for the selected client.

States

The **Systems › States** section allows you to manage Salt states on the selected client. States provide configuration templates for Salt clients. Applying the highstate applies all outstanding Salt states. This is only available for Salt clients.

For more information about Salt states, see [**Salt › Salt-states ›**].

The **Systems › States** subtab is split into sections:

Highstate

This section provides details of the highstate for the selected client. To schedule a time to apply the highstate, select the date and time and click `[Apply Hightstate]`. Toggle the `[Test mode]` switch to test the highstate before you apply it.

Recurring States

This section allows you to schedule the highstate to be applied at a regular recurring time. Give your recurring schedule a name, select a time and day for it to recur, and click **[Create Schedule]**. Toggle the **[Test mode]** switch to test the highstate before you apply it.

Packages

This section allows you to manage package states for the selected client. Package states determine which packages and versions should be installed on the selected client.

Use the search tool to search for the package you want to change. To set the package state to install the package, select `Installed` as the new state. To always upgrade the package to the latest version, select `latest`. Click **[Save]** to save the changes to the state. Click **[Apply changes]** to apply the new package state to the selected client.

Use the `Changes` subtab to see what changes will occur on the selected client when this state is applied.

Configuration Channels

This section allows you to manage configuration channels for the selected client.

Use the search tool to search for the configuration channel you want to manage. This section shows the list of configuration channels that are available for the selected client to subscribe to. To subscribe the selected client to a configuration channel, check the channel, and click **[Apply]**.

Use the `Changes` subtab to see what changes will occur on the selected client when this state is applied.

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

Formulas

The **Systems** › **Formulas** section allows you to manage Salt formulas on the selected client. This is only available for Salt clients.

This section lists all currently installed formulas. Check the formulas you want to apply, and click **[Save]**. When a formula is applied, it will create a new subtab. Navigate to the subtab to configure the formula on the selected client. After most formula actions, you will need to apply the highstate to pick up the changes.

For more information about formulas, see [**Salt** › **Formulas-intro** ›].

Events

The **Systems** › **Events** section shows past, current, and scheduled actions for the selected client.

For more information about actions, see [**Administration** › **Actions** ›].

The **Systems** › **Event** tab is split into subtabs:

Pending

This section shows actions that are scheduled, but have not yet started.

Click the name of an action to see more information. To cancel an action, check the action and click `[Cancel Selected Events]`.

History

This section shows actions that have been completed on the selected client.

Click the summary of an action to see more information.

Systems List

The **Systems** › **System List** section lists all clients available in your SUSE Manager environment.

For more information about managing clients, see [**Client-configuration** › **Client-config-overview** ›].

The **Systems** › **System List** section is split into submenus:

All

The **Systems** › **System List** › **All** section lists every client that you have permission to manage.

Physical Systems

The **Systems** › **System List** › **Physical Systems** section lists every client that is installed on physical hardware.

Virtual Systems

The **Systems** › **System List** › **Virtual Systems** section lists every client that is installed on virtual hardware. The list includes all your virtual hosts, and the virtual guests that are attached to them.

For virtual guests that are registered to the SUSE Manager Server, click the name of the guest to manage it. Virtual guests that are not registered are shown, but cannot be managed in the Web UI.

For more information about virtual clients, see [**Client-configuration** › **Virtualization** ›].

Unprovisioned Systems

The **Systems** › **System List** › **Unprovisioned Systems** section lists every bare metal client that the SUSE Manager Server is aware of, but has not yet been registered.

For more information about bare metal clients, see [**Client-configuration** › **Autoinst-intro** ›].

Out of Date

The **Systems** › **System List** › **Out of Date** section lists every client that has available updates.

For more information about managing client updates, see [**Client-configuration** › **Package-management** ›].

Requiring Reboot

The **Systems** › **System List** › **Requiring Reboot** section lists every client that requires rebooting.

Non Compliant

The **Systems** › **System List** › **Non Compliant** section lists every client that has non-compliant packages installed. Packages are considered non-compliant if they have been installed from a source other than SUSE Manager. In the list, the `Packages` column shows the number of non-compliant packages on the client.

Without System Type

The **Systems** › **System List** › **Without System Type** section lists every client that does not have a base system type recorded.

For more information about system types, see [**Client-configuration** › **System-types** ›].

Ungrouped

The **Systems** › **System List** › **Ungroups** section lists every client that is not assigned to a system group.

For more information about system groups, see [**Client-configuration** › **System-groups** ›].

Inactive

The **Systems › System List › Inactive** section lists every client that has not checked in with the the SUSE Manager Server in 24 hours or more.

For more information about client connections to the server, see [**Client-configuration › Contact-methods-intro ›**].

For more information on troubleshooting inactive clients, see [**Administration › Tshoot-inactiveclients ›**].

Recently Registered

The **Systems › System List › Recently Registered** section lists every client that has registered within a given period. Select the period to view from the `View systems registered` field.

Proxy

The **Systems › System List › Proxy** section lists every client that is registered as a proxy.

Duplicate Systems

The **Systems › System List › Duplicate Systems** section lists clients that share IP addresses, host names, or MAC addresses. Use the tabs to compare clients.

System Currency

The **Systems › System List › System Currency** section lists all clients with information about available updates, and provides a currency score for each. You can use the currency score to determine in which order clients should be updated. A score with a larger number indicates that a client is not current, and might require critical updates.

System Types

The **Systems › System List › System Types** section lists every client, their base system type, add-on system type, and base channel. It also gives a count of clients of each system type.

For more information about system types, see [**Client-configuration › System-types ›**].

System Groups

The **Systems › System Groups** section displays the list of system groups in your organization.

Click the name of a group to work with it, or to add or delete clients in the group.

The list shows an icon if there are updates available for any of the clients in the group. Click the icon to see more information about the updates available.

Table 11. Update Status Icons

Icon	Description	Action Required
✓	No applicable updates	All clients in this group are up to date
⚠	Updates available	One or more clients have updates ready to install
❗	Security updates needed	One or more clients have security updates that must be installed

For more information about system groups, see [**Client-configuration** › **System-groups** ›].

System Set Manager

The **Systems** › **System Set Manager** section allows you to manage clients that you have added to the system set manager.

For more information about the system set manager, see [**Client-configuration** › **System-set-manager** ›].

System Set Manager Overview

The **Systems** › **System Set Manager** › **Overview** section allows you to manage clients that you have added to the system set manager (SSM). You can also access this page by clicking the `systems selected` icon in the top menu bar.

For more information about SSM, see [**Client-configuration** › **System-set-manager** ›].

The **Systems** › **Systems Set Manager** menu is split into tabs:

Overview

This section provides quick access to all the of the SSM tabs.

Systems

This section lists all clients currently in the SSM. It provides information about the updates available, when thew client last checked in, the registered base channel, and system type. Click the client name to see more information.

Patches

This section lists all patches available for upgrade on clients currently in the SSM. Click the number in the `Affected` column to see which clients a patch applies to. To perform upgrades, check the patches to apply and click **[Apply Patches]**.

For more information about patch management, see [**Client-configuration › Patch-management ›**].

Packages

This section is split into subtabs.

The **Packages › Upgrade** subtab lists all packages available for upgrade on clients currently in the SSM. To perform upgrades, check the packages to upgrade and click **[Upgrade Selected Packages]**.

The **Packages › Install** subtab allows you to install new packages on all clients currently in the SSM. To install packages, click the base channel that contains the package, check the packages to install, and click **[Install Selected Packages]**.

The **Packages › Remove** subtab allows you to remove packages from all clients currently in the SSM. If clients in the SSM have different versions of a package installed, multiple versions are available in the list. To remove packages, select the packages to remove, and click **[Remove Selected Packages]**.

On traditional clients, the **Packages › Verify** subtab allows you to verify packages against the package repository. To verify a package, check the package in the list and click **[Verify Selected Packages]**. When the verification is complete, navigate to **Systems › Events › History** to see the results.

For more information about package management, see [**Client-configuration › Package-management ›**].

Groups

This section lists all system groups clients currently available in your organization. Click **[Create Group]** to create a new system group. For each group in the list, check `Add` to add all clients in the SSM to the group, check `Remove` to remove all clients in the SSM from the group, or check `No Change` to leave group assignments as they are. Click **[Alter Membership]** to change group assignments.

For more information about system groups, see [**Client-configuration › System-groups ›**].

Channels

This section lists all base channels clients currently subscribed to by clients currently in the SSM. You can change all clients subscribed to a current base channel to a new base channel, by selecting the new base channel and following the prompts.

For more information about software channels, see [**Client-configuration › Channels ›**].

For more information about using the SSM to change base channels, see [**Client-configuration › System-set-manager ›**].

Configuration

This section is split into subtabs.

The **Configuration › Deploy Files** subtab lists all configuration files available for deployment. Click the number in the `Systems` column to see which clients are currently subscribed to the configuration file. To assign a configuration file to the clients currently in the SSM, check the configuration file, and click **[Schedule File Deploy]**.

The **Configuration › Compare Files** subtab lists all configuration files available for comparison. This compares the configuration file deployed on a client with the configuration file stored on the SUSE Manager Server. Click the number in the `Systems` column to see which clients are currently subscribed to the configuration file. To compare configuration files, check the configuration files to compare, and click **[Schedule File Comparison]**.

The **Configuration › Subscribe to Channels** subtab lists all configuration channels available for subscription. To subscribe the clients in the SSM to a new configuration channel, check the configuration channel, click **[Continue]**, and follow the prompts.

The **Configuration › Unsubscribe from Channels** subtab lists all configuration channels clients in the SSM are currently subscribed to. To unsubscribe the clients in the SSM from a configuration channel, check the configuration channel and click **[Unsubscribe Systems]**.

The **Configuration › Enable Configuration** subtab lists clients in the SSM that are capable of using configuration management, but have not yet been enabled. To enable clients in the SSM to use configuration management, check the client and click **[Enable Configuration Management]**.

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

Provisioning

This section is split into subtabs.

The **Provisioning › Autoinstallation** subtab lists all clients in the SSM available for autoinstallation, with their base channel. To schedule autoinstallation, select an autoinstallable type, click `[Continue]` and follow the prompts.

On traditional clients, the **Provisioning › Tag Systems** subtab allows you to add descriptions the most recent snapshots of clients currently in the SSM. To tag the most recent snapshots, enter a description in the `Tag name` field and click `[Tag Current Snapshots]`. For more information about snapshots, see [**Client-configuration › Snapshots ›**].

On traditional clients, the **Provisioning › Rollback** subtab allows you to roll clients currently in the SSM back to a previous snapshot. To roll back to a previous snapshot, click the name of the snapshot to roll back to, and click `[Rollback Systems]`. For more information about snapshots, see [**Client-configuration › Snapshots ›**].

The **Provisioning › Power Management Configuration** subtab allows you to configure power management for the clients in the SSM. For more information about power management, see [**Client-configuration › Power-management ›**].

The **Provisioning › Power Operations** subtab allows you to power on, power off, or reboot the clients in the SSM. For more information about power management, see [**Client-configuration › Power-management ›**].

For more information about autoinstallation, see [**Client-configuration › Autoinst-intro ›**].

States

For Salt clients, the **States › Highstate** subtab allows you to apply the highstate to all clients in the SSM.

Audit

For traditional clients, this section allows you to schedule a new XCCDF scan on all clients in the SSM. For more information about auditing, see [**Administration › Auditing ›**].

Misc

This section is split into subtabs.

The **Misc › Preferences** subtab allows you to configure the custom information, system types, and system preferences for the clients in the SSM.

The **Misc › Hardware** subtab allows you to schedule a hardware profile refresh for the clients in the SSM.

The **Misc › Software** subtab allows you to schedule a package profile refresh for the clients in the SSM.

The **Misc › Remote Command** subtab allows you to schedule a remote command to be executed on the clients in the SSM.

The **Misc › Custom Values** subtab allows you to set or remove custom key values for the clients in the SSM.

For traditional clients, the **Misc › Lock/Unlock** subtab allows you to lock or unlock clients in the SSM.

The **Misc › Reboot** subtab allows you to schedule a reboot for the clients in the SSM.

The **Misc › Migrate** subtab allows you to move clients in the SSM to a new organization.

The **Misc › Delete** subtab allows you to delete the system profiles of clients in the SSM.

System Set Manager Task Log

The **Systems › System Set Manager › Task Log** section shows all actions applied to clients that you have added to the system set manager (SSM). The SSM Task Log lists all actions performed against clients currently in SSM. Click an entry to see more information about the action.

This section is divided into tabs:

The `All` tab lists all actions that have been performed. The `In Progress` tab lists all actions that are currently in progress. The `Completed` tab lists all actions that have been completed.

For more information about SSM, see [**Client-configuration › System-set-manager ›**].

Bootstrapping

The **Systems › Bootstrapping** section allows you to register a single Salt client.

Table 12. Bootstrap Options

Option	Description	Default
Host	The hostname of the client to be registered	-
SSH port	The port on the client that allows SSH access	22
User	The user name to use to log in to the client	root

Option	Description	Default
Authentication Method	Choose `Password` for simple authentication, or `SSH Private Key` to use SSH authentication.	Password
Password	The password to use to log in to the client	-
SSH Private Key	Upload the SSH Private Key to use to log in to the client	-
SSH Private Key Passphrase	The passphrase for the SSH Private Key, or leave blank for no password.	-
Activation Key	The activation key to use to register the client. Leave blank to use the universal default activation key, or select `None` for no activation key.	None
Proxy	The proxy to which the client should be registered. Leave blank if you are not using a proxy.	None
Disable SSH strict host key checking	Automatically adds the host key to the known hosts file	Checked
Manage system completely via SSH	Uses only the SSH contact method	Unchecked

SSH private keys are stored only for the duration of the bootstrapping process. They are deleted from the SUSE Manager Server as soon as bootstrapping is complete.

When you have completed the details of the client you want to register, click **[Bootstrap]**. When the client has completed registering, navigate to **Systems › System List** to see details.

For more information about bootstrapping, see [**Client-configuration › Registration-webui ›**].

Visualization Menu

The **Systems › Visualization** section displays a visual representation of your clients, virtualized clients, and proxies.

Click an element on any visualization to see more information about the selection. Click **[Show** filters] to see additional controls and filters.

The **Systems › Visualization** section is split into submenus:

Virtualization Hierarchy

The **Systems › Visualization › Virtualization Hierarchy** section displays a graphical representation of your virtualized clients. It shows the virtual hosts registered to the SUSE Manager Server, with the clients registered to each host.

Proxy Hierarchy

The **Systems › Visualization › Proxy Hierarchy** section displays a graphical representation of your SUSE Manager Proxies. It shows the proxies registered to the SUSE Manager Server, with the clients registered to each proxy.

Systems Grouping

The **Systems › Visualization › Systems Grouping** section displays a graphical representation of all clients registered to the SUSE Manager Server.

By default, clients are shown arranged by systems groups. Click [Show filters] to change how they are arranged.

Advanced Search

The **Systems › Advanced Search** section allows you to perform global searches within your SUSE Manager environment. Searches can include network information, hardware devices, location, activity, packages, details, DMI information, and hardware.

Type your search term in the Search For field. Select the criterion to search by, use the radio buttons to specify whether you want to query all systems or only those in the System Set Manager, and click the [Search] button. Check Invert Result to list only results that do not match the specified criteria.

When you add a distribution, synchronize channels, or register a client, it can take several minutes for it to be indexed and appear in search results. To force a rebuild of the search index, use this command at the command prompt:

```
rhn-search cleanindex
```

Activation Keys

The **Systems › Activation Keys** section lists the current activation keys for your organization.

The universal default activation key, if set, is automatically used for all clients registered to your organization, unless you specify a different activation key.

The list of activation keys shows the name and description for each key, and how many times the key has been used. It also shows if the key is currently enabled for your organization. Click the key description to see more information about the activation key.

Click **[Update Activation Keys]** to refresh the list with recent changes.

Click **[Create Key]** to create a new activation key.

For more information about activation keys, see [**Client-configuration** › **Activation-keys** ›].

Stored Profiles

The **Systems** › **Stored Profiles** section lists the stored profiles for your organization. Profiles can be used to compare packages installed on clients.

Click the name of a profile to see more information about the packages in the profile, or to edit the name or description.

For more information about using profiles to compare packages, see [**Client-configuration** › **Package-management** ›].

Custom System Information

The **Systems** › **Custom System Info** section lists the custom system information available to clients in your organization.

Click **[Create Key]** to create a new custom system key. Click the key label to see more information, and to edit the value.

For more information about custom system information, see [**Client-configuration** › **Custom-info** ›].

Autoinstallation Menu

The **Systems** › **Autoinstallation** section allows you to manage clients for autoinstallation.

For more information about autoinstallation, see [**Client-configuration** › **Autoinst-intro** ›].

Autoinstallation Overview

The **Systems** › **Autoinstallation** › **Overview** section displays an overview of your autoinstallation settings, including clients that are autoinstalling, or scheduled to be autoinstalled.

The **Systems › Details › Overview** subtab is split into sections:

Autoinstallation Summary

This section lists the AutoYaST and Kickstart profiles currently available, and the number of clients installed with each profile.

Autoinstallation Actions

This section provides links to actions related to autoinstallation. You can also access these using the **Systems › Autoinstallation** menu.

Systems Currently Autoinstalling

This section lists all clients that are currently autoinstalling, along with their status.

Systems Scheduled to be Autoinstalled

This section lists all clients that are scheduled for autoinstallation, along with their status.

Click `[Create Kickstart Profile]` to create a new Kickstart profile. Click `[Upload Kickstart/Autoyast File]` to upload a new autoinstallation file.

For more information about autoinstallation, see [**Client-configuration › Autoinst-intro ›**].

Autoinstallation Profiles

The **Systems › Autoinstallation › Profiles** section lists all profiles currently available. The list includes information about if the profile is active, the distribution it is based on, and if it being managed with SUSE Manager.

Click the name of a profile to see more information.

Click `[Create Kickstart Profile]` to create a new Kickstart profile. Click `[Upload Kickstart/Autoyast File]` to upload a new autoinstallation file.

For more information about autoinstallation profiles, see [**Client-configuration › Autoinst-profiles ›**].

Unprovisioned

The **Systems › Autoinstallation › Unprovisioned** section lists the IP ranges currently associated with bare metal autoinstallation. When a bare metal client is assigned an IP within this range, it will be autoinstalled.

Click the IP range or profile name to see more information.

For more information about bare metal provisioning, see [**Client-configuration › Autoinst-provisioning ›**].

GPG and SSL Keys

The **Systems** › **Autoinstallation** › **GPG and SSL Keys** section lists all GPG public keys and SSL certificates currently available. Click the name of a key to see more information.

Click **`[Create Stored Key/Cert]`** to store a new GPG key or SSL certificate.

For more information about GPG keys and SSL certificates, see [**Client-configuration** › **Gpg-keys** ›].

Distributions

The **Systems** › **Autoinstallation** › **Distributions** section lists the available autoinstallable distributions.

Click the distribution name to see more information. Click **`[Create Distribution]`** to create a new autoinstallable distribution.

For more information about autoinstallable distributions, see [**Client-configuration** › **Autoinst-setup** ›].

File Preservation

The **Systems** › **Autoinstallation** › **File Preservation** section allows you to store lists of files, to use them in Kickstart profiles later on.

Click **`[Create File Preservation List]`** to create a new list.

For more information about Kickstart file preservation, see [**Client-configuration** › **Autoinst-profiles** ›].

Autoinstallation Snippets

The **Systems** › **Autoinstallation** › **Autoinstallation Snippets** section allows you to store code snippets, to use them in autoinstallation profiles later on.

Click **`[Create Snippet]`** to create a new code snippet.

For more information about autoinstallation code snippets, see [**Client-configuration** › **Autoinst-setup** ›].

Virtual Host Managers

The **Systems** › **Virtual Host Managers** section lists the active virtual host managers (VHMs).

VHMs can be used to collect private or public cloud instances and organize them into virtualization groups.

For more information about VHMs, see [**Client-configuration** › **Vhm** ›].

Clusters Menu

In the `Clusters` section, you can add and manage your SUSE CaaS Platform clusters. For more information about clusters, see [**Client-configuration** › **Virt-clusters** ›].

Clusters Overview

The **Clusters** › **Overview** section displays a list of all current clusters in your organization. Each cluster in the list shows the name and type of cluster, and the name of the management node. Click the cluster name to see more information about the cluster.

For more information about clusters, see [**Client-configuration** › **Virt-clusters** ›].

Cluster Details

The **Clusters** › **Details** section displays detailed information about the selected cluster.

The `Cluster Properties` section contains information about the cluster. This includes the label, name, description, cluster provider, and system group.

The list shows all nodes currently registered to the cluster, and displays system information about each node. Click the name of the node to see more information.

Navigate to the `Provider Settings` tab to update settings related to the cluster provider. These values will change depending on your provider. For SUSE CaaS Platform clusters, you can change the path to the skuba directory, and adjust SSH settings.

For more information about clusters, see [**Client-configuration** › **Virt-clusters** ›].

Add Cluster

The **Clusters** › **Add** section allows you to add new clusters to your SUSE Manager Server. Select from the available cluster providers, and click **[Next]** to begin the installation.

For more information about clusters, see [**Client-configuration** › **Virt-clusters** ›].

Salt Menu

The `Salt` section displays details of your Salt clients. You can use this menu to perform remote commands or define a state catalog for your Salt clients.

For more information about using Salt with SUSE Manager, see [**Salt › Salt-overview ›**].

Keys

The **Salt › Keys** section displays the key fingerprints of your current Salt clients.

Key fingerprints are exchanged between the SUSE Manager Server and Salt clients to verify the identity of the server and the client. This prevents Salt clients from connecting to the wrong server.

Click **[Refresh]** to update the list. Click the name of a client to go to **Systems › Details** for that client.

Table 13. Salt Keys List Columns

Column	Description
Name	Name of the Salt client.
Fingerprint	Key fingerprint of the Salt client.
State	The status of the key exchange: `accepted` indicates that the client key has been verified by the SUSE Manager Server.
Actions	Click the **Delete** icon to delete the client key from the server. Clients that have had their key deleted will need to be onboarded again.

Remote Commands

The **Salt › Remote Commands** section allows you to perform remote commands on one or more of your Salt clients. Remote commands allows you to issue commands to individual Salt clients, or to all clients that match a search term.

For more information about remote commands, see [**Administration › Actions ›**].

Formula Catalog

The **Salt › Formula Catalog** section allows you to see which formulas are currently installed on your SUSE Manager Server, and are available to be used on your Salt clients. Install and configure formulas by navigating to **Systems › Details** for the client you want to configure, and navigate to the guimenu **Formulas** tab.

For more information about SUSE Manager formulas, see [**Salt › Formulas-intro ›**].

Images Menu

The **Images** › **Image List** section displays your current operating system images.

For more information about images, see [**Administration** › **Image-management** ›].

Image List

The **Images** › **Image List** section displays your current operating system images.

Click **[Import]** to import a new Docker image. You can only import new images created from a Docker image using this mechanism. To import images based on Kiwi instead, see [**Administration** › **Image-management** ›].

Click **[Refresh]** to update the list.

Perform bulk actions by checking images in the list. Click **[Delete]** to bulk delete images.

Table 14. Image List Columns

Column	Description
Name	Name of the image.
Version and Revision	Version and revision of the image.
Updates	Any updates that are currently available for the image.
Patches and Packages	Any patches or packages that are currently available for the image.
Build	The current status of the build: `Built`, `Scheduled`, `Building` or `Failed`.
Last Modified	The time and date the image was last modified.

For more information about images, see [**Administration** › **Image-management** ›].

Images Build

The **Images** › **Build** section allows you to build operating system images for installing on clients.

Table 15. Image Build Options

Option	Description	Default
Image Profile	Select the image profile to use. Manage image profiles at **Images › Profiles**.	Blank.
Build Host	Select the build host for the new image.	Blank.
Earliest	Schedule the time and date for the build to begin.	Current system time and date.
Add to	Select which action chain to add the build task to.	New action chain.

Built images are listed in **Images › Image List**.

For more information about images, see [**Administration › Image-management ›**].

Images Profiles

The **Images › Profiles** section displays your current image profiles.

Click **[Create]** to create a new image profile. Click **[Refresh]** to update the list.

Perform bulk actions by checking profiles in the list. Click **[Delete]** to bulk delete profiles.

For more information about images, see [**Administration › Image-management ›**].

Images Stores

The **Images › Stores** section displays your current image stores.

Click **[Create]** to create a new image store. Click **[Refresh]** to update the list.

Perform bulk actions by checking images in the list. Click **[Delete]** to bulk delete image stores.

For more information about images, see [**Administration › Image-management ›**].

Patches Menu

The **Patches** menu helps you find and manage available patches for your clients.

For more information about patching, see [**Client-configuration › Patch-management ›**].

Patch Details

The **Patches › Patch List › Patch Details** section displays the details of a selected patch. Click the advisory number of a patch in the `Patch List` to see more information about the patch.

This section is divided into tabs.

Details

The `Details` tab shows the patch report provided by SUSE.

In the `Affected Channels` section, all channels that contain the affected package are listed. Click the channel name to go to **Software › Channel Details**.

For security patches, additional information is shown about the vulnerability, including the CVE and OVAL details.

For more information about SUSE Update Advisories, see https://www.suse.com/support/update/.

Packages

The `Packages` tab provides links to each of the updated packages by channel. Click the name of a package to go to **Software › Channel Details**.

Affected Systems

The `Affected Systems` tab provides a list of installed clients that the patch affects. You can install updates from this tab.

Click the name of a client to go to **Systems › System Details**.

Each client in the list shows the current status of the patch on that client. This column identifies only the most recent action. Click the name of a status in the list to go to the `Action Details` page.

Table 16. Client Update Status Icons

Description	Action Required	N/A
Check the status manually.	Pending	The client will be updated at the next synchronization.
Picked Up	The client is in the progress of updating.	Completed

Description	Action Required	N/A
The client successfully installed the patch.	Failed	The client attempted to install the patch, but encountered an error.

Patch List

Relevant Patches

The **Patches** › **Patch List** › **Relevant** section displays a list of all patches released by SUSE that apply to your installed clients.

Each patch in the list shows a patch type, an advisory number, a short description, the number of clients in your network affected, and the date the patch was last updated. Click the advisory number to see more information about the patch. For more information about the **Patches** › **Patch List** › **Patch Details** section, see xref:reference:patches/patch-details.adoc

Table 17. Patch Status Icons

Icon	Description	Action Required
	Bug fix	Recommended
image:spacewalk-icon-enhancement.svg	Product enhancement advisory	Optional
	Security update	Essential
	Affects package management stack	Recommended

To receive email when new patches are available, navigate to **Home** › **My Preferences** and check `Receive email notifications`.

All Patches

The **Patches** › **Patch List** › **All** section displays a list of all patches released by SUSE. Not all of the patches will apply to your clients.

Each patch in the list shows a patch type, an advisory number, a short description, the number of clients in your network affected, and the date the patch was last updated. Click the advisory number to see more information about the patch.

Table 18. Patch Status Icons

Icon	Description	Action Required
	Bug fix	Recommended
image:spacewalk-icon-enhancement.svg	Product enhancement advisory	Optional
	Security update	Essential
	Affects package management stack	Recommended

For more information about patching, see [**Client-configuration** › **Patch-management** ›].

Advanced Search for Patches

The **Patches** › **Advanced Search** section allows you to use advanced criteria to search for patches.

You can search for patches by looking for your search term in different fields:

Table 19. Patch Advanced Search Options

Option	Description	Example
All Fields	Search in all fields	`glibc`
Patch Advisory	Search within the name or label fields	`slessp1-glibc`
Package Name	Search within the package name field only	`kernel`
CVE	Search within the CVE name or number field only	`CVE-2006-4535`

You can also search within different types of patches, or within a range of issue dates.

For more information about patching, see [**Client-configuration** › **Patch-management** ›].

Manage Patches

The **Patches** › **Manage Patches** section shows you all custom patches.

Each patch in the list shows a patch type, an advisory name, a short description, and the date the patch was last updated. Click the advisory name to go to **Patches** › **Patch List** › **Patch Details** for the patch.

To create a new patch, click `[Create Patch]`. To delete a patch, select it in the list, and click `[Delete Patches]`.

If you use SUSE Manager with a proxy, manage patches only on the SUSE Manager Server. The SUSE Manager Proxy will receive updates from the server directly. If you manage patches on a proxy, the servers will be unable to synchronize correctly.

For more information about patching, see [**Client-configuration › Patch-management ›**].

Clone Patches

The **Patches › Clone Patches** section allows you to create copies of existing patches to distribute to your clients.

To clone a patch, the patch must apply to one of your existing software channels. If the patch was part of a software channel that was cloned, then you can clone the patch from the cloned channel.

See all patches that are available for cloning by selecting the channel name in the **View patches potentially applicable to:** field, and click `[View]`. From the list, check the patch to clone, and click `[Clone Patch]`. You need to confirm the details to perform the clone.

Software Menu

The **Software** section allows you to view and manage software channels, repositories, and packages.

For more information about software channels, see [**Client-configuration › Channels ›**].

Channel Details

The **Software › Channel List › Channel Details** section displays the details of a selected channel. Click the advisory number of a channel in the **Channel List** to see more information about the channel.

This section is divided into tabs.

Details

The **Details** tab shows the basic channel details, including a description of the channel, and the dates it was last modified and built. This tab also provides contact information for the maintainer of the product and the GPG key details, where available.

Managers

The `Managers` tab shows which users are authorized to manage the selected channel. The list shows the username, real name, and email address of the channel manager, as well as the current status of the user.

Organization and Channel administrators can manage any channel. SUSE Manager Administrators can change roles for specific users by clicking the username.

For more information about user management, see [**Administration** › **Users** ›].

Patches

The `Patches` tab shows all available patches for packages in the selected channel. The list displays the advisory type, names, synopsis, and the date the patch was last updated. Click the advisory name to go to the `Patch Details` page.

For more information about managing patches and packages, see [**Client-configuration** › **Patch-management** ›].

Packages

The `Packages` tab shows all packages in the selected channel. The list shows the package name, summary, and the provider of the package. Click the package name to go to the `Package Details` page.

For more information about managing patches and packages, see [**Client-configuration** › **Patch-management** ›].

Subscribed Systems

The `Subscribed Systems` tab shows the clients currently subscribed to the selected channel. The list shows the client name and type. Check a client in the list to add it to the system set manager. Click the client name to go to the `System Details` page.

For more information about the system set manager, see [**Client-configuration** › **System-set-manager** ›].

Target Systems

The `Target Systems` tab shows the clients eligible for subscription to the selected channel. This tab is only available if the selected channel is a child channel. The list shows the client name and type, and the associated base channel.

To subscribe a client to the selected channel, check the client in the list, and click `[Confirm]`.

For more information about software channels, see [**Client-configuration › Channels ›**].

Channel List Menu

The **Software › Channel List** section allows you to view and manage software channels and packages on your clients.

For more information about software channels, see [**Client-configuration › Channels ›**].

The **Software › Channel List › All** section displays a list of all software channels that are available to your organization.

Each software channel in the list shows a channel name, a provider, the number of packages and patches in the channel, and the number of clients currently subscribed to the channel. Click the plus sign next to the name of a parent channel to expand the entry and see all the related child channels. Click the channel name to see more information about the channel.

Within the **Software › Channel List** section you can select which subset of channels you would like to see by navigating to tabs, or the sub-menu items.

Table 20. Channel List Filters

Filter	Description
All	All channels available to your organization.
SUSE	Channels provided by SUSE.
Popular	Channels most subscribed to by clients in your organization.
My Channels	Software channels that belong to your organization, including custom channels.
Shared	Channels shared with others in the organizational trust.
Retired	Channels that have reached end-of-life and no longer receive updates.

For more information about software channels, see [**Client-configuration › Channels ›**].

Package Search

The **Software › Package Search** section allows you to search all packages.

Enter your search term in the `Search For` field.

Table 21. What to Search Options

Option	Description
Free form	Performs a general search. Use keywords with this option to perform more specific searches.
Name only	Searches only in the names of packages.
Name and Summary	Searches within the name and one-line summary of packages.
Name and Description	Searches within names and long descriptions of packages.

Check the `Channels relevant to your systems` option to search only channels available for your existing clients. Check the `Specific channel you have access to` option to search within a specific channel. Check the `Packages of a specific architecture` to search only for a particular hardware architecture.

You can perform more specific searches by using keywords in the `Search For` field and selecting the `Free Form` option.

Table 22. Keyword Search Options

Keyword	Description	Example
name	Search package names	`name:SUSE`
version	Search for a package version	`version:15`
filename	Search within package file names	`filename:sles`
description	Search within the long description	`description:java`
summary	Search within the one-line summary	`summary:java`
arch	Search for a package architecture	`arch:x86_64`

For example, if you want to search all SUSE Linux Enterprise packages that include `java` in the description and the summary, use this search:

```
summary:java and description:java
```

For more information about software channels, see [**Client-configuration › Channels ›**].

Manage Menu

The **Software › Manage** section allows you to manage custom channels, packages, and repositories.

For more information about custom channels, see [**Administration › Custom-channels ›**].

Manage Channels

The **Software › Manage › Channels** section allows you to manage custom channels.

Click `[Create Channel]` to create a new custom channel.

To clone an existing channel, click `[Clone Channel]` and select the channel to clone. You can choose to clone channel with or without all current patches, or select specific patches for inclusion.

For more information about custom channels, see [**Administration › Custom-channels ›**].

Manage Packages

The **Software › Manage › Packages** section allows you to manage packages that are owned by your organization.

Select a channel from the drop-down box to see all packages related to that channel. If you have administration privileges within your organization, you can also delete packages.

For more information about custom channels, see [**Administration › Custom-channels ›**].

Manage Repositories

The **Software › Manage › Repositories** section allows you to manage custom or third-party package repositories and link the repositories to an existing channel.

Click `[Create Repository]` to create a new repository.

For more information about custom repositories and channels, see [**Administration › Custom-channels ›**].

Distribution Channel Mapping

The **Software › Distribution Channel Mapping** section lists your defined default base channels. When you register a client for the first time, they will automatically be assigned to these software channels, in accordance with their architecture and operating system. Default channel mappings can be edited, but not deleted.

Click `[Create Distribution Channel Mapping]` to create a new channel map.

Table 23. Distribution Channel Mapping Columns

Column	Description
Operating System	The client operating system this mapping applies to.
Release	The operating system release this mapping applies to.
Architecture	The client system architecture architecture this mapping applies to.
Channel Label	The label of the channel.
Organization Specific	Checked if this mapping applies only to the current organization.

For more information about software channels, see [**Client-configuration** › **Channels** ›].

Content Lifecycle Management Menu

In the `Content Lifecycle` section, you can customize and test packages before updating production clients.

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.

For more information about content lifecycle management, see [**Administration** › **Content-lifecycle** ›].

Projects

In the **Content Lifecycle** › **Projects** section, you can create new content lifecycle management projects, and edit existing projects.

For more information about content lifecycle management, see [**Administration** › **Content-lifecycle** ›].

Filters

In the **Content Lifecycle** › **Filters** section, you can create various types of filters. With the filters you control the content that is used when a content lifecycle project is built.

For more information about content lifecycle management, see [**Administration** › **Content-lifecycle** ›].

Audit Menu

The `Audit` menu provides access to features for managing security updates on your clients. Audit tasks include finding and updating clients with the latest CVE patches, subscription matching, and managing OpenSCAP scans.

CVE Audit

The **Audit** › **CVE Audit** section shows you which CVEs have been applied to your clients. A CVE (common vulnerabilities and exposures) is a fix for a publicly known security vulnerability. It is important that you apply CVEs to your clients as soon as they become available.

Each CVE contains an identification number, a description of the vulnerability, and links to further information. CVE identification numbers use the form `CVE-YEAR-XXXX`.

Clients are listed with a patch status icon.

Table 24. Patch Status Icons

Icon	Description	Action Required
	Affected, patches are available in channels that are not assigned	The client is affected by a vulnerability and SUSE Manager has patches for it, but the channels offering the patches are not assigned to the client.
	Affected, at least one patch is available in an assigned channel	The client is affected by the vulnerability and SUSE Manager has patches available in a channel that is directly assigned to the client.
	Not affected	There are no available CVE patches for this client.
	Patched	A patch has been successfully installed on the client.

For more information about CVE auditing, see [**Administration** › **Auditing** ›].

Subscription Matching

The **Audit › Subscription Matching** section provides reports that match your currently installed clients to your existing product subscriptions. Subscription matching reports provide information about clients that do not have a subscription, and subscription start and end dates.

Table 25. Subscription Matching Options

Column	Description
Part Number	Identifier of the matched product
Description	Description of the matched product
Policy	The type of subscription matched to the product
Matched/Total	The number of clients currently using the subscription, of the total available. If the subscription is fully matched, the quantity column value is highlighted.
Start Date	Start date of the subscription
End Date	End date of the subscription

Table entries are highlighted if they are due to expire within three months. Table entries that have already expired are shown in grayscale.

For messages relating to subscription matching, navigate to the `Messages` tab.

Table 26. Subscription Matching Statuses

Status	Description	Action
Unsupported Part Number	The detected part number is unknown or unsupported.	Call SUSE support and open a Service Request ticket to have the part number added to the product.
Physical Guest	A client is reporting as virtual, but could be a physical client.	Check the client hardware data.

Status	Description	Action
Guest with Unknown Host	A virtual client has an unknown host.	Check the virtual host manager (VHM) configuration to ensure it is reporting correctly. For Linux-based hosts using `libvirt`, check that the host is registered, and that the virtual host system type is set correctly.
Unknown CPU Count	Unable to determine how many CPUs a client has. SUSE Manager will default to 16 CPUs.	Schedule a hardware refresh on this client.

To pin clients to a particular subscription, navigate to the `Pins` tab.

Table 27. Pin Statuses

Status	Description
Satisfied	The client and subscription were matched correctly.
Not satisfied	The client was not successfully matched with a subscription.
Pending next run	Waiting for the next matcher run.

For more information about subscription matching, see [**Administration › Subscription-matching ›**].

OpenSCAP Menu

The **Audit › OpenSCAP** section displays the results of OpenSCAP scans that you have performed on your clients.

The Security Certification and Authorization Package (SCAP) is a standardized compliance checking solution for enterprise-level Linux infrastructures. SUSE Manager uses OpenSCAP to implement the SCAP specifications.

For more information about OpenSCAP, see [**Administration › Openscap ›**].

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For more information about OpenSCAP, see [**Administration › Openscap ›**].

All Scans

The **Audit › OpenSCAP** section displays the results of OpenSCAP scans that you have performed on your clients.

The Security Certification and Authorization Package (SCAP) is a standardized compliance checking solution for enterprise-level Linux infrastructures.

Table 28. OpenSCAP Scan Details

Name	Description	Evaluation Results
System	The name of the scanned client.	
XCCDF Profile	The evaluated profile.	
Completed	The time that the scan was completed.	
Satisfied	The total number of rules that have been satisfied.	A rule is satisfied if the result of the evaluation is `Pass` or `Fixed`.
Dissatisfied	The total number of rules that are not satisfied.	A rule is dissatisfied if the result of the evaluation is `Fail`.
Unknown	The total number of rules that were not able to be evaluated.	A rule is unknown if the result of the evaluation is `Error`, `Unknown` or `Not checked`.

Rules can also return other results, including `Informational`, `Not Applicable`, or `Not Selected`. Rules that return these results are not shown in the scan results.

For more information about OpenSCAP, see [**Administration › Openscap ›**].

XCCDF Diff

The **Audit › OpenSCAP › XCCDF Diff** section allows you to compare two OpenSCAP XCCDF scans.

For more information about OpenSCAP, see [**Administration › Openscap ›**].

Advanced Search

The **Audit › OpenSCAP › Advanced Search** section allows you to search through OpenSCAP scans and results.

For more information about OpenSCAP, see [**Administration › Openscap ›**].

Configuration Menu

The `Configuration` section provides access to features for managing the configuration of SUSE Manager clients.

> The `Configuration` menu is only available if you are signed in with a configuration administrator or SUSE Manager administrator account.

Within the configuration pages, you can manage clients using configuration files, and configure channels offering configuration files, and configuration files themselves. Centrally managed files are available to multiple clients, while locally managed files are available to individual clients only.

> Configuration Management is available for both traditional and Salt clients. Some traditional features are not suitable for Salt clients, and thus not available for Salt clients and excluded from the Web UI.

Configuration Overview

The **Configuration › Overview** section is a dashboard that contains a summary of the configuration files that are managed by your organization in SUSE Manager. There are different panes listing files that are managed centrally in configuration channels and files that are managed locally with individual system profiles.

For more information about managing configuration files, see [**Client-configuration › Configuration-management ›**].

Configuration Summary

Provides quick information about your configuration files. Click the blue text to the right to display:

- Systems with managed configuration files
- Configuration channels
- Centrally managed configuration files
- Locally managed configuration files

Configuration Actions

`Configuration Actions` offers direct access to the most common configuration management tasks:

- View clients with managed configuration files
- View all managed configuration files
- View all managed configuration channels
- Create a new configuration channel
- Enable configuration management on clients

Recently Modified Configuration Files

The list shows which files have changed when and to which channel they belong. If no files have been changed, no list appears.

Table 29. Recently Modified Configuration Files Columns

Column	Description
Filename	Absolute filename of the configuration file.
Configuration Channel	Name of the configuration channel.
Modified	The time and date the file was modified.

Click the name of a file to see its `Details` page. Click the channel name to see its `Channel Details` page.

Recently Scheduled Configuration File Deployments

Each scheduled action is listed along with the status of the action. Any scheduled configuration task, from enabling configuration management on a system to deploying a specific configuration file, is displayed. Here you can quickly assess if all tasks have been successfully carried out or fix any problems.

Table 30. Scheduled Configuration File Deployments Columns

Column	Description
System	Host name of the system where you want to deploy the configuration file.

Column	Description
Files to be Deployed	Number of files to be deployed.
Scheduled By	The user who scheduled the job.
Scheduled For	The time and date the file deployment will happen.
Status	Status of the deployment: `Queued`

Clicking the blue status text displays the **System Details › Schedule** page for the specified system.

Channels

SUSE Manager manages both central and local configuration channels and files. Central configuration management allows you to deploy configuration files to multiple systems, and is available for both traditional and salt clients. For traditional clients, use local configuration management. For salt clients, use state channels. For traditional clients, local configuration management is also available. Local configuration management allows you to specify overrides, and select configuration files that are not changed when the system is subscribed to a central channel.

A state channel is a type of a configuration channel used only for Salt clients. In state channels, the `init.sls` file is not automatically generated, you must manually create and edit it. State channels can contain arbitrary configuration files that you can reference from within the `init.sls` file.

You must reference configuration files with the `salt://` prefix, the organization ID, and the channel name. For example, to reference `/etc/motd` use:

```
file.managed:
  - source: salt://manager_org_1/<channel_name>/etc/motd
```

Central configuration or state channels must be created via the links on this page.

Click the name of the configuration channel to see the details page for that channel. If you click the number of files in the channel, you are taken to the `List/Remove Files` page of that channel. If you click the number of systems subscribed to the configuration channel, you are taken to the **Configuration Channel Details › Systems › Subscribed Systems** page for that channel.

Configuration Channel Details

Overview

The Overview page of the Configuration Channel Details page is divided into several panels:

Channel Properties [Management]

Edit the name, label, and description of the channel by clicking **[Edit Properties]**.

Channel Information

Provides status information for the contents of the channel.

Configuration Actions

Provides access to the most common configuration tasks. For Salt clients, there is a link to edit the init.sls file.

This panel allows you to deploy, compare, and add and create files. Some action are only availalble if you have files created and clients assigned to configuration channels.

List/Remove Files

This page only appears if there are files in the configuration channel. You can remove files or copy the latest versions into a set of local overrides or into other central configuration channels. Check the box next to files you want to manipulate, then click the action button at the bottom.

Add Files

The Add Files page has three subtabs of its own, which allow you to Upload, Import, or Create configuration files to be included in the channel.

Upload File

To upload a file into the configuration channel, browse for the file on your local system, populate all fields, and click the **[Upload Configuration File]** button. The Filename/Path field is the absolute path where the file will be deployed.

You can set the Ownership via the user name and group name and the Permissions of the file when it is deployed.

If the client has SELinux enabled, you can configure SELinux contexts to enable the required file attributes (such as user, role, and file type).

If the configuration file includes a macro (a variable in a configuration file), enter the symbol that marks the beginning and end of the macro. For more information on using macros, see reference:configuration/files-locally-managed.pdf.

Import Files

To import files from other configuration channels, including any locally managed channels, check the box to the left of any file you want to import. Then click **[Import Configuration Files]**.

> A sandbox icon ([Spacewalk Icon Sandbox]) indicates that the listed file is currently located in a local sandbox. Files in a system's sandbox are considered experimental and could be unstable. Use caution when selecting them for a central configuration channel.

Create File

Create a configuration file, directory, or symbolic link to be included in the configuration channel.

Deploy Files

This page only appears when there are files in the channel and a system is subscribed to the channel. Deploy all files by clicking the **[Deploy All Files]** button or check selected files and click the **[Deploy Selected Files]** button. Select to which systems the files should be applied. All systems subscribed to this channel are listed. If you want to apply the file to a different system, subscribe it to the channel first. To deploy the files, click **[Confirm & Deploy to Selected Systems]**.

Systems

Manage systems subscribed to the configuration channel with two subtabs:

Subscribed Systems

All systems subscribed to the current channel are displayed. Click the name of a system to see the `System Details` page. To unsubscribe a system from the configuration channel, check the box to the left of the system name and click **[Unsubscribe systems]**.

Target Systems

This subtab displays a list of systems enabled for configuration management but not yet subscribed to the channel. To add a system to the configuration channel, check the box to the left of the system name and click **[Subscribe systems]**.

Files

This page allows you to manage your configuration files independently. Both centrally managed and locally managed files can be reached from sub-pages.

> By default, the maximum file size for configuration files is 128 KB (131072 bytes). SUSE supports a configuration file size up to 1 MB. Larger files are not guaranteed to work.

The default maximum file size is set on the SUSE Manager Server in these files:

```
# /usr/share/rhn/config-defaults/rhn_web.conf
web.maximum_config_file_size = 131072

# /usr/share/rhn/config-defaults/rhn_server.conf
maximum_config_file_size = 131072
```

Copy these variables to `/etc/rhn/rhn.conf` and edit them. Values are specified in bytes, for example:

```
# /etc/rhn/rhn.conf
web.maximum_config_file_size = 262144
server.maximum_config_file_size = 262144
```

Then restart `spacewalk`:

```
spacewalk-service restart
```

Centrally Managed Configuration Files

Centrally managed files are available to multiple systems. Changing a file within a centrally managed channel may result in changes to several systems. Locally managed files supersede centrally managed files. For more information about locally managed files, see [**Reference › Configuration › Locally Managed Configuration Files**].

This page lists all files currently stored in your central configuration channel.

Table 31. Centrally Managed Files Columns

Column	Description
Path	Absolute filename of the configuration file.
Configuration Channel	Name of the configuration channel.
Systems Subscribed	Number of systems subscribed.
Systems Overriding	

Click the **Path** of a file to see **Details** tab of the file. Click the name of the **Configuration Channel** to see the **Overview** tab of the channel. Clicking **Systems Subscribed** shows you all systems currently subscribed to the channel containing that file. Click `Systems Overriding` to see all systems that have a local (or override) version of the configuration file. The centrally managed file will not be deployed to those systems.

Locally Managed Configuration Files

Locally managed configuration files apply to only one system. They may be files in the system's sandbox or files that can be deployed to the system at any time. Local files have higher priority than centrally managed files. If a system is subscribed to a configuration channel with a given file and additionally has a locally managed version of that file, the locally managed version will be deployed.

The list of all local (override) configuration files for your systems includes the local configuration channels and the sandbox channel for each Provisioning-entitled system.

Click the `Path` of the file to see its `Config File Details`. Click the name of the system to which it belongs to see its **System Details › Configuration › Overview** page.

Including Macros in your Configuration Files

Being able to store one file and share identical configurations is useful, but in some cases you might need many variations of the same configuration file, or configuration files that differ only in system-specific details, such as host name and MAC address. In this case, you can use macros, or variables, within the configuration files. This allows you to upload and distribute a single file, with hundreds or even thousands of variations. In addition to variables for custom system information, the following standard macros are supported:

```
rhn.system.sid
rhn.system.profile_name
rhn.system.description
rhn.system.hostname
rhn.system.ip_address
rhn.system.custom_info(key_name)
rhn.system.net_interface.ip_address(eth_device)
rhn.system.net_interface.netmask(eth_device)
rhn.system.net_interface.broadcast(eth_device)
rhn.system.net_interface.hardware_address(eth_device)
rhn.system.net_interface.driver_module(eth_device)
```

To use this powerful feature, either upload or create a configuration file via the `Configuration Channel Details` page. Then open its `Configuration File Details` page and include the supported macros of your choice. Ensure that the delimiters used to offset your variables match those set in the `Macro Start Delimiter` and `Macro End Delimiter` fields and do not conflict with other characters in the file. We recommend that the delimiters be two characters in length and do not contain the percent (`%`) symbol.

For example, you may have a file applicable to all of your servers that differs only in IP address and host name. Rather than manage a separate configuration file for each server, you can create a single file, such as `server.conf`, with the IP address and host name macros included.

```
hostname={| rhn.system.hostname |}
ip_address={| rhn.system.net_interface.ip_address(eth0) |}
```

When the file is delivered to individual systems, whether through a scheduled action in the SUSE Manager Web UI or at the command line with the SUSE Manager Configuration Client (`mgrcfg-client`), the variables will be replaced with the host name and IP address of the system as recorded in SUSE Manager’s system profile. In this example, the deployed version will look similar to this:

```
hostname=test.example.domain.com
ip_address=177.18.54.7
```

To capture custom system information, insert the key label into the custom information macro (`rhn.system.custom_info`). For example, if you developed a key labeled "asset" you can add it to the custom information macro in a configuration file to have the value substituted on any system containing it. The macro would look like this:

```
asset={@ rhn.system.custom_info(asset) @}
```

When the file is deployed to a system containing a value for that key, the macro gets translated, resulting in a string similar to this:

```
asset=Example#456
```

To include a default value (for example, if one is required to prevent errors), you can append it to the custom information macro, like this:

```
asset={@ rhn.system.custom_info(asset) = 'Asset #' @}
```

This default is overridden by the value on any system containing it.

The SUSE Manager Configuration Manager (`mgrcfg-manager`) is available on SUSE Manager client machines to assist with system management. It will not translate or alter files, as the tool is system agnostic. The `mgrcfg-manager` command does not depend on system settings. Binary files cannot be interpolated.

Systems Menu

Displays status information about your system in relation to configuration. There are two sub-pages: `Managed Systems` and `Target Systems`.

Managed Systems

By default the `Managed Systems` page is displayed. The listed systems have been fully prepared for configuration file deployment. The number of locally managed and centrally managed files is displayed.

Click the name of a system to show the relevant **System Details › Configuration › Overview** page.

Click the number of local files to show the **System Details › Configuration › View/Modify Files › Locally Managed Files** page, where you can manage which local (override) files apply to the system.

Click the number of centrally managed files to show the **System Details › Configuration › Manage Configuration Channels › List/Unsubscribe from Channels** page. On this page, you can unsubscribe from channels.

Target Systems

This page shows the systems that are not prepared for configuration file deployment, or are not yet subscribed to a configuration channel.

The table has three columns:

- The system name
- If the system is prepared for configuration file deployment
- The steps necessary to prepare the system.

To prepare a system, check the box to the left of the profile name then click the **[Enable SUSE Manager Configuration Management]** button. All of the preparatory steps that can be automatically performed are scheduled by SUSE Manager.

You will need to perform some manual tasks to enable configuration file deployment. Follow the on-screen instructions provided to assist with each step.

Schedule Menu

The `Schedule` section allows you to view actions and action chains.

Actions include:

- Package alterations, including installation, upgrade, removal, and rolling back of packages
- Client reboots

- Patch installation
- Configuration file alterations, including deploy, upload, and diff
- Hardware profile updates
- Package list profile updates
- Automated installation initiation
- Service pack migrations
- Remote commands

For more information about actions, see [**Administration** › **Actions** ›].

Pending Actions

The **Schedule** › **Pending Actions** section shows actions that are in progress, or that have not yet started. Use the `Filter by Action` field to search the list.

Cancel pending actions by checking the action in the list, and clicking **[Cancel Actions]**. If you archive a pending action, it is not canceled, but the action item moves from the `Pending Actions` list to the `Archived Actions` list.

Table 32. Actions List Columns

Column	Description
Action	Type of action to perform. Click the action to go to `Action Details`.
Scheduled Time	The earliest time to perform the action.
Succeeded	Number of clients on which this action was successful.
Failed	Number of clients on which this action has failed.
Pending	Number of clients on which this action is currently running
Total	Total number of clients on which this action has been scheduled.

For more information about actions, see [**Administration** › **Actions** ›].

Recurring Actions

The **Schedule** › **Recurring Actions** section shows all recurring actions that you have permissions for.

Recurring Action Details

View the details about an action from the action list. In the `Actions` column, click the **[Details]** icon for the action you are interested in.

Disabling Recurring Actions

Disabling an action stops the action recurring, but does not delete it. To disable a recurring action toggle the `Active` switch off. Enable them again by toggling the `Active` switch on. Disabled recurring actions remain in the list, but are not executed.

Edit Recurring Actions

Edit an existing recurring action. In the `Actions` column, click the **[Edit]** icon for the action you want to change. On the `Schedule Recurring Highstate` page, the existing properties are pre-filled. Make your changes, and click **[Update Schedule]**.

Delete Recurring Actions

Deleting an action permanently removes it. To start using the action again, you will need to create a new action. In the `Actions` column, click the **[Delete]** icon for the action you want to delete, and confirm the deletion.

For more information about recurring actions, see [**Administration › Actions ›**].

Completed Actions

The **Schedule › Completed Actions** section shows actions that have been successfully completed. Use the `Filter by Action` field to search the list. Archive completed actions by checking the action in the list, and clicking **[Archive Actions]**.

Table 33. Completed Actions List Columns

Column	Description
Action	Type of action to perform. Click the action to go to `Action Details`.
Scheduled Time	The earliest time to perform the action.
Succeeded	Number of clients on which this action was successful.
Failed	Number of clients on which this action has failed.
Pending	Number of clients on which this action is currently running

Column	Description
Total	Total number of clients on which this action has been scheduled.

For more information about actions, see [**Administration** › **Actions** ›].

Archived Actions

The **Schedule** › **Archived Actions** section shows actions that you have marked as archived. Use the `Filter by Action` field to search the list. Completed or failed actions can be archived.

For more information about actions, see [**Administration** › **Actions** ›].

Action Chains

The **Schedule** › **Action Chains** If you need to perform a number of sequential actions on your clients, you can create an action chain to automate them. You can use action chains on both traditional and Salt clients.

For more information about action chains, see [**Administration** › **Actions** ›].

Maintenance Windows

The **Schedule** › **Maintenance Windows** section allows you to manage your maintenance window schedules. To create a maintenance schedule, you need to have an existing `.ical` file that contains the calendar. Upload the calendar, create a new schedule, and assign the schedule to a client. When a schedule is applied to a client, you are prevented from executing some actions outside of the specified period.

Navigate to **Schedule** › **Maintenance Windows** › **Schedules** to see a list of all current schedules. Click **[Create]** to create a new schedule. Click **[Edit]** to change the schedule.

Navigate to **Schedule** › **Maintenance Windows** › **Calendars** to see a list of all current calendars. Click **[Create]** to create a new calendar. Click **[Edit]** to change the calendar.

For more information about maintenance windows, see [**Administration** › **Maintenance-windows** ›].

Users Menu

The `Users` menu provides access to grant and edit permissions for those who administer your system groups. You can create new users, and edit user details, roles, and system groups.

The **Users** menu is only available if you are signed in with a SUSE Manager or organization administrator account.

For more information about managing users, see [**Administration › Users ›**].

User Details

The **User Details** section provides additional details about the user account, and allows you to manage permissions for the user. You can also deactivate or delete users from this section.

Configure preference settings for users by navigating to the **Preferences** tab.

Table 34. User Preferences

Option	Description	Default
Email Notification	Receive email for client and Taskomatic notifications, including a daily summary email.	Checked
SUSE Manager List Page Size	Maximum number of items that can appear in a list on a single page.	25 entries
"Overview" Start Page	Select the information panes to display on the **Home › Overview** page.	All checked
Time Zone	Set your local timezone.	System timezone
CSV Files	Select whether to use comma or semi-colon delimiters when producing downloadable CSV files.	Comma

For more information about managing users, see [**Administration › Users ›**].

User List

The **Users › User List** section provides access to the lists of users.

Active Users

The **Users › User List › Active** section shows all active users in your SUSE Manager Server.

Each user in the list shows the username, real name, assigned roles, and the date the user last signed in. Click btn: Create User to create a new user account. Click the username to go to the User Details page.

For more information about managing users, see [**Administration** › **Users** ›].

Deactivated Users

The **Users** › **User List** › **Deactivated** section shows all deactivated users in your SUSE Manager Server.

Each user in the list shows the username, real name, assigned roles, the date the user last signed in, the user who deactivated the account, and the date the account was deactivated. Click **[Create User]** to create a new user account. Click the username to go to the User Details page.

To reactivate a user, check the username in the list and click **[Reactivate]**.

For more information about managing users, see [**Administration** › **Users** ›].

All Users

The **Users** › **User List** › **All** section shows all activated and deactivated users in your SUSE Manager Server. Deleted users are not shown in the list.

Each user in the list shows the username, real name, assigned roles, the date the user last signed in, and the current status of the user. Click btn: Create User to create a new user account. Click the username to go to the User Details page.

For more information about managing users, see [**Administration** › **Users** ›].

System Group Configuration

The **Users** › **System Configuration** section allows you to configure system groups for your users.

System groups allow you to grant permissions to a group of users, instead of granting permissions to individuals. This is particularly useful if you have many users.

You can also configure system groups for users that have been externally authenticated.

For more information about managing users with system groups, see [**Administration** › **Users** ›].

Admin Menu

The Admin menu provides access to features for managing SUSE Manager configuration. Configuration tasks include creating and managing organizations, users, and tasks. You can also use the setup wizard to help configure SUSE Manager.

The `Admin` menu is only available if you are logged in with a SUSE Manager administrator account.

Setup Wizard

The **Admin › Setup Wizard** section helps you configure SUSE Manager. It is the default page when you use the SUSE Manager Web UI for the first time.

Table 35. Setup Wizard Options

Option	Description
HTTP Proxy	Configure an HTTP proxy connection.
Organization Credentials	Configure an organization for accessing SUSE Customer Center.
Products	View product entitlements and subscribe to product channels.

For more information about the setup wizard, see [**Installation › Setup-wizard ›**].

Organizations

The **Admin › Organizations** section allows you to create and manage your SUSE Manager organizations. Click an organization in the list to see details.

For more information about organizations, see [**Administration › Organizations ›**].

Users

The **Admin › Users** section allows you to view and manage all users of the organization you are logged in to. Every user shows the username, real name, the organization they are associated with, and whether the user is an organization or SUSE Manager administrator.

Click a username to modify the user account details, and adjust administrator privileges.

For more information, see [**Reference › Users ›**].

Manager Configuration

The **Admin › Manager Configuration** section contains tabs to allow you to configure SUSE Manager.

Table 36. Configuration Options

Option	Description
General	Configure your SUSE Manager installation.
Bootstrap Script	Generate a custom bootstrap script.
Organizations	Create and configure organizations and users.
Restart	Restart SUSE Manager. You will need to do this after making configuration changes.
Cobbler	Run a Cobbler synchronization.
Bare-metal systems	Allow bare metal clients to be provisioned in preparation for autoinstallation.
Monitoring	Enable server monitoring.

General

On the **Admin › Manager Configuration › General** page you can configure your SUSE Manager installation.

Table 37. Bootstrap Script Options

Option	Description	Default
Administrator Email Address	Email address of the SUSE Manager administrator.	Pre-populated
SUSE Manager Hostname	Hostname of the SUSE Manager Server.	Pre-populated
HTTP Proxy	The hostname and port of the proxy, if you are using one. Use syntax `<hostname>:<port>`, for example: `<example.com>:8080`.	None
HTTP Proxy username	The username to use on the proxy server, if you are using one.	None
HTTP Proxy password	The password to use on the proxy server, if you are using one.	None
Confirm HTTP Proxy password	The directory where RPM packages are mirrored.	`/var/spacewalk/`

Option	Description	Default
RPM repository mount point	The hostname of the proxy server, if you are using one.	None
Default to SSL	Check to use SSL as the default value for communications.	Checked

Bootstrap Script

In the **Admin › Manager Configuration › Bootstrap Script** section you can generate a custom bootstrap script. Bootstrap scripts are used to register clients with SUSE Manager. The generated script will be placed in `/srv/www/htdocs/pub/bootstrap/` on your SUSE Manager Server.

Table 38. Bootstrap Script Options

Option	Description	Default
SUSE Manager Server hostname	The hostname for the SUSE Manager Server to register the client to	Pre-populated
SSL cert location	Location and name of the SSL certificate	Pre-populated
Bootstrap using Salt	Check to bootstrap Salt clients, uncheck to bootstrap traditional clients.	Checked
Enable SSL	Check to use the corporate public CA certificate on the client, uncheck to use self-managed CA certificates.	Checked
Enable Client GPG checking	Check to use GPG, uncheck to disable GPG checking	Checked
Enable Remote Configuration	Check to allow configuration from a remote server.	Unchecked
Enable Remote Commands	Check to allow commands from a remote server.	Unchecked
Client HTTP Proxy	The hostname of the proxy server, if you are using one.	Unpopulated

Option	Description	Default
Client HTTP Proxy Username	The username to use on the proxy server, if you are using one.	Unpopulated
Client HTTP Proxy Password	The password to use on the proxy server, if you are using one.	Unpopulated

Do not disable SSL in your bootstrap script. Ensure that `Enable SSL` is checked in the Web UI, or that the setting `USING_SSL=1` exists in the bootstrap script. If you disable SSL, the registration process requires custom SSL certificates. For more about custom certificates, see [**Administration** › **Ssl-certs** ›].

Configure Organizations

The **Admin** › **Manager Configuration** › **Organizations** section contains details about organizations in SUSE Manager, and provides links to create and configure organizations and users.

For more information about organizations, see [**Installation** › **Server-setup** ›].

Restart

The **Admin** › **Manager Configuration** › **Restart** section allows you to restart SUSE Manager. You will need to do this after making configuration changes. It will take some time for SUSE Manager to become available again after a restart.

Cobbler

The **Admin** › **Manager Configuration** › **Cobbler** page allows you to run a Cobbler synchronization. You can repair or rebuild the contents of the `/srv/tftpboot/` and `/srv/www/cobbler/` directories after a manual modification of the Cobbler setup.

For more information about Cobbler, see [**Client-configuration** › **Cobbler** ›].

Bare Metal Systems

In the **Admin** › **Manager Configuration** › **Bare-metal systems** section, you can turn on the bare metal feature. This allows you to provision bare metal clients in preparation for autoinstallation.

For more information about bare metal provisioning, see [**Client-configuration** › **Autoinst-intro** ›].

ISS Configuration

The **Admin › ISS Configuration** section is used to configure inter-server synchronization (ISS). ISS allows you to connect two or more SUSE Manager Servers and keep them up-to-date.

To set up ISS, you need to define one SUSE Manager Server as a master, with the other as a slave. If conflicting configurations exist, the system will prioritize the master configuration.

For more information about ISS, see [**Administration › Iss ›**].

ISS Master Setup

The **Admin › ISS Configuration › Master Setup** section is used to configure an inter-server synchronization (ISS) master.

If you are logged in to an ISS master, this page lists all slaves that can receive content from this master.

To add new slaves to the master, click `[Add new slave]`. You will need the slave's Fully Qualified Domain Name (FQDN).

Check the `Allow Slave to Sync?` checkbox to enable the slave to synchronize with the master.

Check the `Sync All Orgs to Slave?` checkbox to synchronize all organizations to this slave.

For more information about ISS, see [**Administration › Iss ›**].

ISS Slave Setup

The **Admin › ISS Configuration › Slave Setup** section is used to configure an inter-server synchronization (ISS) slave.

If you are logged in to an ISS slave, this page lists all masters that the slave has previously synchronized with.

To add a new master, click `[Add new master]`. You will need the master's Fully Qualified Domain Name (FQDN), and the full path to the CA Certificate. For example:

```
/etc/pki/trust/anchors
```

For more information about ISS, see [**Administration › Iss ›**].

Task Schedules

The **Admin › Task Schedules** section lists all predefined task bunches. Tasks can be grouped together in bunches to simplify managing them.

This page shows the schedule for each bunch of tasks. Every schedule shows how frequently it runs using `cron` notation, the time it became active, and the bunch that it belongs to.

Click a schedule to change its frequency, disable, or delete it.

Do not disable or delete a schedule if you are not certain what it does. Some schedules are essential for SUSE Manager to work properly.

For more information about task schedules, see [**Administration** › **Task-schedules** ›].

Task Engine Status

The **Admin** › **Task Engine Status** section shows all running tasks by the SUSE Manager task engine.

Navigate to the **Last Execution Times** tab to see the task list. Each task shows the time it was last run, and the current status of the task.

Navigate to the **Runtime Status** tab to see all tasks that have run in the past five minutes. Each task shows the start and end time, the amount of time the task ran for, and the current status. Some tasks will also provide further data, if available.

Show Tomcat Logs

The **Admin** › **Show Tomcat Logs** section shows the Apache Tomcat log file. You can also view the Tomcat log from the command prompt at `/var/log/rhn/rhn_web_ui.log`.

The **Admin** › **Show Tomcat Logs** section is only available if you are signed in with a SUSE Manager administrator account.

Help Menu

The **Help** section opens the current version of the SUSE Manager documentation in a new browser tab. This is the documentation installed locally on your SUSE Manager Server.

For all versions and formats of the SUSE Manager documentation, see https://documentation.suse.com/suma/.

Documentation

The **Help** › **Documentation 4.1** section opens the current version of the SUSE Manager documentation in a new browser tab. This is the documentation installed locally on your SUSE

Manager Server.

For all versions and formats of the SUSE Manager documentation, including API documentation, see https://documentation.suse.com/suma/.

For all versions and formats of the Uyuni documentation, see https://www.uyuni-project.org/uyuni-docs/uyuni/index.html.

Release Notes

The **Help › Release Notes** section opens the current version of the SUSE Manager Release Notes in a new browser tab.

API Menu

The **Help › API** section contains links to the available API calls, and includes an API FAQ and sample scripts.

API Overview

The **Help › API › Overview** section provides a list of available API calls. Click the name of an API call to see the relevant documentation.

For the full API documentation, see https://documentation.suse.com/suma/.

API FAQ

The **Help › API › FAQ** section contains frequently asked questions related to SUSE Manager APIs.

API Sample Scripts

The **Help: › API › Sample Scripts** section contains example API calls for you to copy. The scripts are written in Ruby, Perl, and Python.

spacecmd Reference

The following section will help you become more familiar with the `spacecmd` command-line interface. This interface is available for SUSE Manager, Satellite and Spacewalk servers. spacecmd is written in Python and uses the XML-RPC API provided by the server.

What can spacecmd do for me?

- Manage almost all aspects of SUSE Manager from the command line with spacecmd
- Tab completion is available for all commands
- Single commands can be passed to spacecmd without entering the interactive shell (excellent for shell scripts)
- May also be accessed and used as an interactive shell
- Advanced search methods are available for finding specific systems, thus removing the need to create system groups (nevertheless groups are still recommended)
- Complete functionality through the Spacewalk API. Almost all commands that can be executed from the Web UI can be performed via the spacecmd command-line

Configuring spacecmd

The following section provides configuration tips for spacecmd.

Setup spacecmd Credentials

Normally spacecmd prompts you for a username and password each time you attempt to login to the interactive shell. Alternatively you can configure spacecmd with a credentials file to avoid this requirement.

Procedure: Creating a spacecmd Credentials File

1. Create a hidden spacecmd directory in your home directory and set permissions:

```
mkdir ~/.spacecmd
chmod 700 ~/.spacecmd
```

2. Create a `config` file in `~/.spacecmd/` and provide proper permissions:

```
touch ~/.spacecmd/config
chmod 600 ~/.spacecmd/config
```

3. Edit the `config` file and add the following configuration lines. (You can use either localhost or the FQDN of your SUSE Manager server):

```
[spacecmd]

server=FQDN-here

username=username-here
password=password-here
```

4. Check connectivity by entering `spacecmd` as root:

```
# spacecmd
```

spacecmd Quiet Mode

By default spacecmd prints server status messages during connection attempts. These messages can cause a lot of clutter when parsing system lists. The following alias will force spacecmd to use quiet mode thus preventing this behavior. Add the following line to your `~/.bashrc` file:

```
alias spacecmd='spacecmd -q'
```

spacecmd Help

spacecmd help can be access by typing spacecmd `-h --help`

```
Usage: spacecmd [options] [command]

Options:
  -c CONFIG, --config CONFIG
                        config file to use [default: ~/.spacecmd/config]
  -u USERNAME, --username=USERNAME
                        use this username to connect to the server
  -p PASSWORD, --password=PASSWORD
                        use this password to connect to the server
  -s SERVER, --server=SERVER
                        connect to this server [default: local hostname]
  --nossl               use HTTP instead of HTTPS
  --nohistory           do not store command history
  -y, --yes             answer yes for all questions
  -q, --quiet           print only error messages
  -d, --debug           print debug messages (can be passed multiple times)
  -h, --help            show this help message and exit
```

As root you can access available functions without entering the spacecmd shell:

```
# spacecmd -- help

        Documented commands (type help <topic>):
========================================
activationkey_addchildchannels          org_trustdetails
activationkey_addconfigchannels         package_details
activationkey_addentitlements           package_listdependencies
activationkey_addgroups                 package_listerrata
activationkey_addpackages               package_listinstalledsystems
activationkey_clone                     package_listorphans
activationkey_create                    package_remove
activationkey_delete                    package_removeorphans
activationkey_details                   package_search
activationkey_diff                      repo_addfilters
activationkey_disable                   repo_clearfilters
activationkey_disableconfigdeployment  repo_create

...
```

help

List all available spacecmd commands with the help function.

Check for additional help on a specific function by calling for example:

```
user_create --help
```

Listing 1. Full List of Available Help Commands

```
Documented commands (type help <topic>):
========================================
activationkey_addchildchannels          org_trustdetails
activationkey_addconfigchannels         package_details
activationkey_addentitlements           package_listdependencies
activationkey_addgroups                 package_listerrata
activationkey_addpackages               package_listinstalledsystems
activationkey_clone                     package_listorphans
activationkey_create                    package_remove
activationkey_delete                    package_removeorphans
activationkey_details                   package_search
activationkey_diff                      repo_addfilters
activationkey_disable                   repo_clearfilters
activationkey_disableconfigdeployment  repo_create
activationkey_enable                    repo_delete
activationkey_enableconfigdeployment   repo_details
activationkey_export                    repo_list
activationkey_import                    repo_listfilters
activationkey_list                      repo_removefilters
activationkey_listbasechannel           repo_rename
activationkey_listchildchannels         repo_setfilters
activationkey_listconfigchannels        repo_updatessl
activationkey_listentitlements          repo_updateurl
activationkey_listgroups                report_duplicates
activationkey_listpackages              report_errata
activationkey_listsystems               report_inactivesystems
activationkey_removechildchannels       report_ipaddresses
```

```
activationkey_removeconfigchannels      report_kernels
activationkey_removeentitlements        report_outofdatesystems
activationkey_removegroups              report_ungroupedsystems
activationkey_removepackages            scap_getxccdfscandetails
activationkey_setbasechannel            scap_getxccdfscanruleresults
activationkey_setconfigchannelorder     scap_listxccdfscans
activationkey_setcontactmethod          scap_schedulexccdfscan
activationkey_setdescription            schedule_cancel
activationkey_setuniversaldefault       schedule_details
activationkey_setusagelimit             schedule_getoutput
api                                     schedule_list
clear                                   schedule_listarchived
clear_caches                            schedule_listcompleted
configchannel_addfile                   schedule_listfailed
configchannel_backup                    schedule_listpending
configchannel_clone                     schedule_reschedule
configchannel_create                    snippet_create
configchannel_delete                    snippet_delete
configchannel_details                   snippet_details
configchannel_diff                      snippet_list
configchannel_export                    snippet_update
configchannel_filedetails               softwarechannel_adderrata
configchannel_forcedeploy               softwarechannel_adderratabydate
configchannel_import                    softwarechannel_addpackages
configchannel_list                      softwarechannel_addrepo
configchannel_listfiles                 softwarechannel_clone
configchannel_listsystems               softwarechannel_clonetree
configchannel_removefiles               softwarechannel_create
configchannel_sync                      softwarechannel_delete
configchannel_updatefile                softwarechannel_details
configchannel_verifyfile                softwarechannel_diff
cryptokey_create                        softwarechannel_errata_diff
cryptokey_delete                        softwarechannel_errata_sync
cryptokey_details                       softwarechannel_getorgaccess
cryptokey_list                          softwarechannel_list
custominfo_createkey                    softwarechannel_listallpackages
custominfo_deletekey                    softwarechannel_listbasechannels
custominfo_details                      softwarechannel_listchildchannels
custominfo_listkeys                     softwarechannel_listerrata
custominfo_updatekey                    softwarechannel_listerratabydate
distribution_create                     softwarechannel_listlatestpackages
distribution_delete                     softwarechannel_listpackages
distribution_details                    softwarechannel_listrepos
distribution_list                       softwarechannel_listsyncschedule
distribution_rename                     softwarechannel_listsystems
distribution_update                     softwarechannel_mirrorpackages
errata_apply                            softwarechannel_regenerateneededcache
errata_delete                           softwarechannel_regenerateyumcache
errata_details                          softwarechannel_removeerrata
errata_findbycve                        softwarechannel_removepackages
errata_list                             softwarechannel_removerepo
errata_listaffectedsystems              softwarechannel_removesyncschedule
errata_listcves                         softwarechannel_setorgaccess
errata_publish                          softwarechannel_setsyncschedule
errata_search                           softwarechannel_sync
errata_summary                          softwarechannel_syncrepos
filepreservation_create                 ssm_add
filepreservation_delete                 ssm_clear
filepreservation_details                ssm_intersect
filepreservation_list                   ssm_list
get_apiversion                          ssm_remove
get_certificateexpiration               system_addchildchannels
get_serverversion                       system_addconfigchannels
```

```
get_session                      system_addconfigfile
group_addsystems                     system_addcustomvalue
group_backup                       system_addentitlements
group_create                       system_addnote
group_delete                       system_applyerrata
group_details                      system_comparepackageprofile
group_list                       system_comparepackages
group_listsystems                    system_comparewithchannel
group_removesystems                    system_createpackageprofile
group_restore                      system_delete
help                         system_deletecrashes
history                        system_deletenotes
kickstart_addactivationkeys             system_deletepackageprofile
kickstart_addchildchannels              system_deployconfigfiles
kickstart_addcryptokeys                system_details
kickstart_addfilepreservations           system_getcrashfiles
kickstart_addoption                  system_installpackage
kickstart_addpackages                  system_list
kickstart_addscript                  system_listbasechannel
kickstart_addvariable                 system_listchildchannels
kickstart_clone                     system_listconfigchannels
kickstart_create                    system_listconfigfiles
kickstart_delete                    system_listcrashedsystems
kickstart_details                   system_listcrashesbysystem
kickstart_diff                    system_listcustomvalues
kickstart_disableconfigmanagement       system_listentitlements
kickstart_disableremotecommands        system_listerrata
kickstart_enableconfigmanagement       system_listevents
kickstart_enablelogging                system_listhardware
kickstart_enableremotecommands          system_listinstalledpackages
kickstart_export                    system_listnotes
kickstart_getcontents                 system_listpackageprofiles
kickstart_getsoftwaredetails            system_listupgrades
kickstart_getupdatetype                system_lock
kickstart_import                    system_reboot
kickstart_import_raw                  system_removechildchannels
kickstart_importjson                 system_removeconfigchannels
kickstart_list                    system_removecustomvalues
kickstart_listactivationkeys            system_removeentitlement
kickstart_listchildchannels             system_removepackage
kickstart_listcryptokeys               system_rename
kickstart_listcustomoptions             system_runscript
kickstart_listoptions                 system_schedulehardwarerefresh
kickstart_listpackages                 system_schedulepackagerefresh
kickstart_listscripts                system_search
kickstart_listvariables               system_setbasechannel
kickstart_removeactivationkeys          system_setconfigchannelorder
kickstart_removechildchannels           system_setcontactmethod
kickstart_removecryptokeys             system_show_packageversion
kickstart_removefilepreservations       system_syncpackages
kickstart_removeoptions                system_unlock
kickstart_removepackages                system_updatecustomvalue
kickstart_removescript                 system_upgradepackage
kickstart_removevariables               toggle_confirmations
kickstart_rename                     user_adddefaultgroup
kickstart_setcustomoptions               user_addgroup
kickstart_setdistribution              user_addrole
kickstart_setlocale                  user_create
kickstart_setpartitions                user_delete
kickstart_setselinux                  user_details
kickstartsetupdatetype                user_disable
kickstart_updatevariable                user_enable
list_proxies                      user_list
```

```
login                          user_listavailableroles
logout                          user_removedefaultgroup
org_addtrust                      user_removegroup
org_create                       user_removerole
org_delete                       user_setemail
org_details                      user_setfirstname
org_list                       user_setlastname
org_listtrusts                    user_setpassword
org_listusers                     user_setprefix
org_removetrust                      whoami
org_rename                         whoamitalkingto


Miscellaneous help topics:
==========================
time  systems  ssm
```

history

List recent commands using the `history` command.

```
spacecmd {SSM:0}> history
  1  help
  2  api
  3  exit
  4  help
  5  time --help
  6  quit
  7  clear
spacecmd {SSM:0}>
```

Troubleshooting spacecmd

This section provides troubleshooting solutions when working with spacecmd

Creating a Distribution With spacecmd Sets Localhost Instead of FQDN

The support article associated with this issue may be located at https://www.suse.com/support/kb/doc/?id=7018627

Situation

When creating a distribution with spacecmd it will automatically set localhost as the server name instead of the FQDN of SUSE Manager. This will result in the following kernel option being written:

```
install=http://localhost/ks/dist/<distributionname>
```

Resolution

Set the FQDN in `$HOME/.spacecmd/config` like the following:

```
test:~/.spacecmd # cat config

[spacecmd]
server=test.mytest.env
username=admin
password=password
nossl=0
```

Cause

This problem may be experienced if `$HOME/.spacecmd/config` has been created and the server name option was set to localhost.

Spacecmd not Accepting Commands or Options

When running `spacecmd` non-interactively, you must escape arguments passed to the command. Always put `--` before arguments, to avoid them being treated as global arguments. Additionally, make sure you escape any quotes that you pass to the functions so that they are not interpreted. An example of a well-formed `spacecmd` command:

```
spacecmd -s server1 -- softwarechannel_create -n \'My Channel\' -l channel1 -a x86_64
```

Spacecmd caching problems

The `spacecmd` command keeps a cache of the various systems and packages that you have installed. Sometimes, this can result in a mismatch between the system name and the system ID. To clear the `spacecmd` cache, use this command:

```
spacecmd clear_caches
```

spacecmd Functions

The following sections provide descriptions for all documented spacecmd commands. Each command is grouped by the function prefix. Keep in mind that all commands may also be called using scripts and passed to spacecmd as stand-alone commands.

activationkey_

The following spacecmd commands are available for use with activation keys.

activationkey_addchildchannels

Add child channels to an activation key.

```
usage: activationkey_addchildchannels KEY <CHANNEL ...>
```

activationkey_addconfigchannels

Add configuration channels to an activation key.

```
usage: activationkey_addconfigchannels KEY <CHANNEL ...> [options]

options:
  -t add channels to the top of the list
  -b add channels to the bottom of the list
```

activationkey_addentitlements

Add available entitlements to an activation key.

WebUI Name Change

In the WebUI entitlements are known as System Types. Nevertheless the spacecmd backend still utilizes the entitlements term. Therefore any scripts you may be using can remain unchanged.

```
usage: activationkey_addentitlements KEY <ENTITLEMENT ...>
```

activationkey_addgroups

Add existing groups to an activation key.

```
usage: activationkey_addgroups KEY <GROUP ...>
```

activationkey_addpackages

Add packages to an activation key.

```
usage: activationkey_addpackages KEY <PACKAGE ...>
```

activationkey_clone

Clone an existing activation key.

```
usage examples:
                 activationkey_clone foo_key -c bar_key
                 activationkey_clone foo_key1 foo_key2 -c prefix
                 activationkey_clone foo_key -x "s/foo/bar"
                 activationkey_clone foo_key1 foo_key2 -x "s/foo/bar"

options:
  -c CLONE_NAME  : Name of the resulting key, treated as a prefix for multiple
                   keys
  -x "s/foo/bar" : Optional regex replacement, replaces foo with bar in the
                   clone description, base-channel label, child-channel
                   labels, config-channel names
```

activationkey_create

Create a new activation key.

```
usage: activationkey_create [options]

options:
  -n NAME
  -d DESCRIPTION
  -b BASE_CHANNEL
  -u set key as universal default
  -e [enterprise_entitled,virtualization_host]
```

activationkey_delete

Delete an existing activation key.

```
usage: activationkey_delete KEY
```

activationkey_details

Show details of an existing activation key.

```
usage: activationkey_details KEY ...
```

activationkey_diff

Check the difference between two activation keys.

```
usage: activationkey_diff SOURCE_ACTIVATIONKEY TARGET_ACTIVATIONKEY
```

activationkey_disable

Disable an existing activation key.

```
usage: activationkey_disable KEY [KEY ...]
```

activationkey_disableconfigdeployment

Disable configuration channel deployment for an existing activation key.

```
usage: activationkey_disableconfigdeployment KEY
```

activationkey_enable

Enable an existing activation key.

```
usage: activationkey_enable KEY [KEY ...]
```

activationkey_enableconfigdeployment

Enable configuration channel deployment for an existing activation key.

```
usage: activationkey_enableconfigdeployment KEY
```

activationkey_export

Export activation keys to a JSON formatted file.

```
usage: activationkey_export [options] [<KEY> ...]

options:
    -f outfile.json : specify an output filename, defaults to <KEY>.json
                      if exporting a single key, akeys.json for multiple keys,
                      or akey_all.json if no KEY specified (export ALL)

Note : KEY list is optional, default is to export ALL keys
```

activationkey_import

Import activation keys from JSON files

```
usage: activationkey_import <JSONFILE ...>
```

activationkey_list

List all existing activation keys.

```
usage: activationkey_list
```

activationkey_listbasechannel

List the base channel associated with an activation key.

```
usage: activationkey_listbasechannel KEY
```

activationkey_listchildchannels

List child channels associated with an activation key.

```
usage: activationkey_listchildchannels KEY
```

activationkey_listconfigchannels

List configuration channels associated with an activation key.

```
usage: activationkey_listconfigchannels KEY
```

activationkey_listentitlements

List entitlements associated with an activation key.

```
usage: activationkey_listentitlements KEY
```

activationkey_listgroups

List groups associated with an activation key

```
usage: activationkey_listgroups KEY
```

activationkey_listpackages

List packages associated with an activation key.

```
usage: activationkey_listpackages KEY
```

activationkey_listsystems

List systems registered with an activation key.

```
usage: activationkey_listsystems KEY
```

activationkey_removechildchannels

Remove child channels from an activation key.

```
usage: activationkey_removechildchannels KEY <CHANNEL ...>
```

activationkey_removeconfigchannels

Remove configuration channels from an activation key.

```
usage: activationkey_removeconfigchannels KEY <CHANNEL ...>
```

activationkey_removeentitlements

Remove entitlements from an activation key.

```
usage: activationkey_removeentitlements KEY <ENTITLEMENT ...>
```

activationkey_removegroups

Remove groups from an activation key.

```
usage: activationkey_removegroups KEY <GROUP ...>
```

activationkey_removepackages

Remove packages from an activation key.

```
usage: activationkey_removepackages KEY <PACKAGE ...>
```

activationkey_setbasechannel

Set the base channel for an activation key.

```
usage: activationkey_setbasechannel KEY CHANNEL
```

activationkey_setconfigchannelorder

Set the ranked order of configuration channels.

```
usage: activationkey_setconfigchannelorder KEY
```

activationkey_setcontactmethod

Set the contact method to use for systems registered with a specific key. (Use the XML-RPC API to access the latest contact methods.) The following contact methods are available for use with traditional spacecmd: ['default', 'ssh-push', 'ssh-push-tunnel']

```
usage: activationkey_setcontactmethod KEY CONTACT_METHOD
```

activationkey_setdescription

Add a description for an activation key.

```
usage: activationkey_setdescription KEY DESCRIPTION
```

activationkey_setuniversaldefault

Set a specific key as the universal default.

```
usage: activationkey_setuniversaldefault KEY
```

Universal Default Key

Using a universal default key is not a Best Practice recommendation.

activationkey_setusagelimit

Set the usage limit of an activation key, can be a number or `unlimited`.

```
usage: activationkey_setbasechannel KEY <usage limit>
usage: activationkey_setbasechannel KEY unlimited
```

Usage Limits

Usage limits are only applicable to traditionally managed systems. Currently usage limits do not apply to Salt or foreign managed systems.

api

The following API command and its options are available for calling the XML-RPC API directly. Calling the API directly allows you to use the latest features in SUSE Manager from the command-line using spacecmd as a wrapper for stand-alone commands or used from within scripts.

Use the api Command for Access to Latest Features

spacecmd is the traditional tool for spacewalk. It functions out of the box with SUSE Manager but you should know that latest features (for example, Salt) are often excluded from traditional spacecmd command-line tool. To gain access to the latest feature additions call `api api.getApiCallList` from within spacecmd to list all currently available API commands formatted in json. You can then call these commands directly.

api_

Call XML-RPC API with arguments directly.

```
usage: api [options] API_STRING

options:
  -A, --args  Arguments for the API other than session id in comma separated
              strings or JSON expression
  -F, --format   Output format
  -o, --output   Output file

examples:
  api api.getApiCallList
  api --args "sysgroup_A" systemgroup.listSystems
  api -A "rhel-i386-server-5,2011-04-01,2011-05-01" -F "%(name)s" \
     channel.software.listAllPackages
```

clear

Clears the terminal screen

clear_caches

Clear the internal caches kept for systems and packages

```
usage: clear_caches
```

configchannel_

The following spacecmd commands are available for use with configuration channels.

configchannel_addfile

Creates a configuration file.

```
usage: configchannel_addfile [CHANNEL] [options]

options:
  -c CHANNEL
  -p PATH
  -r REVISION
  -o OWNER [default: root]
  -g GROUP [default: root]
  -m MODE [defualt: 0644]
  -x SELINUX_CONTEXT
  -d path is a directory
  -s path is a symlink
  -b path is a binary (or other file which needs base64 encoding)
  -t SYMLINK_TARGET
  -f local path to file contents

  Note re binary/base64: Some text files, notably those containing trailing
  newlines, those containing ASCII escape characters (or other charaters not
  allowed in XML) need to be sent as binary (-b).  Some effort is made to auto-
  detect files which require this, but you may need to explicitly specify.
```

configchannel_backup

Backup a configuration channel.

```
usage: configchannel_backup CHANNEL [OUTDIR]

OUTDIR defaults to $HOME/spacecmd-backup/configchannel/YYYY-MM-DD/CHANNEL
```

configchannel_clone

Clone configuration channels.

```
usage examples:
                 configchannel_clone foo_label -c bar_label
                 configchannel_clone foo_label1 foo_label2 -c prefix
                 configchannel_clone foo_label -x "s/foo/bar"
                 configchannel_clone foo_label1 foo_label2 -x "s/foo/bar"

options:
  -c CLONE_LABEL : name/label of the resulting cc (note does not update
                   description, see -x option), treated as a prefix if
                   multiple keys are passed
  -x "s/foo/bar" : Optional regex replacement, replaces foo with bar in the
                   clone name, label and description
  Note : If no -c or -x option is specified, interactive is assumed
```

configchannel_create

Create a configuration channel.

```
usage: configchannel_create [options]

options:
  -n NAME
  -l LABEL
  -d DESCRIPTION
```

configchannel_delete

Delete a configuration channel.

```
usage: configchannel_delete CHANNEL ...
```

configchannel_details

Show the details of a configuration channel.

```
usage: configchannel_details CHANNEL ...
```

configchannel_diff

Find differences between configuration channels.

```
usage: configchannel_diff SOURCE_CHANNEL TARGET_CHANNEL
```

configchannel_export

Export configuration channels to a json formatted file.

```
usage: configchannel_export <CHANNEL>... [options]
options:
    -f outfile.json : specify an output filename, defaults to <CHANNEL>.json
                      if exporting a single channel, ccs.json for multiple
                      channels, or cc_all.json if no CHANNEL specified
                      e.g (export ALL)

Note : CHANNEL list is optional, default is to export ALL
```

configchannel_filedetails

Show the details of a file in a configuration channel.

```
usage: configchannel_filedetails CHANNEL FILE [REVISION]
```

configchannel_forcedeploy

Forces a redeployment of files within a channel on all subscribed systems.

```
usage: configchannel_forcedeploy CHANNEL
```

configchannel_import

Import configuration channels from a json file.

```
usage: configchannel_import <JSONFILES...>
```

configchannel_list

List all configuration channels.

```
usage: configchannel_list
```

configchannel_listfiles

List all files in a configuration channel.

```
usage: configchannel_listfiles CHANNEL ...
```

configchannel_listsystems

List all systems subscribed to a configuration channel.

```
usage: configchannel_listsystems CHANNEL
```

configchannel_removefiles

Remove configuration files.

```
usage: configchannel_removefile CHANNEL <FILE ...>
```

configchannel_sync

Sync configuration files between two configuration channels.

```
usage: configchannel_sync SOURCE_CHANNEL TARGET_CHANNEL
```

configchannel_updatefile

Update a configuration file.

```
usage: configchannel_updatefile CHANNEL FILE
```

configchannel_verifyfile

Verify a configuration file.

```
usage: configchannel_verifyfile CHANNEL FILE <SYSTEMS>

<SYSTEMS> may be substituted with any of the following targets:
name
ssm (see 'help ssm')
search:QUERY (see 'help system_search')
group:GROUP
channel:CHANNEL
```

cryptokey_

The following spacecmd commands are available for use with cryptographic keys.

cryptokey_create

Create a cryptographic key.

```
usage: cryptokey_create [options]

options:
  -t GPG or SSL
  -d DESCRIPTION
  -f KEY_FILE
```

cryptokey_delete

Delete a cryptographic key.

```
usage: cryptokey_delete NAME
```

cryptokey_details

Show the contents of a cryptographic key.

```
usage: cryptokey_details KEY ...
```

cryptokey_list

List all cryptographic keys (SSL, GPG).

```
usage: cryptokey_list
```

custominfo_

The following spacecmd commands are available for working with custom keys.

custominfo_createkey

Create a custom key.

```
usage: custominfo_createkey [NAME] [DESCRIPTION]
```

custominfo_deletekey

Delete a custom key.

```
usage: custominfo_deletekey KEY ...
```

custominfo_details

Show the details of a custom key.

```
usage: custominfo_details KEY ...
```

custominfo_listkeys

List all custom keys.

```
usage: custominfo_listkeys
```

custominfo_updatekey

Update a custom key.

```
usage: custominfo_updatekey [NAME] [DESCRIPTION]
```

distribution_

The following spacecmd commands are available for working with kickstart distributions.

distribution_create

Create a Kickstart tree.

```
usage: distribution_create [options]

options:
  -n NAME
  -p path to tree
  -b base channel to associate with
  -t install type [fedora|rhel_4/5/6|suse|generic_rpm]
```

distribution_delete

Delete a Kickstart tree.

```
usage: distribution_delete LABEL
```

distribution_details

Show the details of a Kickstart tree.

```
usage: distribution_details LABEL
```

distribution_list

List the available autoinstall trees.

```
usage: distribution_list
```

distribution_rename

Rename a Kickstart tree.

```
usage: distribution_rename OLDNAME NEWNAME
```

distribution_update

Update the path of a Kickstart tree.

```
usage: distribution_update NAME [options]

options:
  -p path to tree
  -b base channel to associate with
  -t install type [fedora|rhel_4/5/6|suse|generic_rpm]
```

errata_

The following spacecmd commands are available for use with errata data.

errata_apply

Apply an patch to all affected systems.

```
usage: errata_apply ERRATA|search:XXX ...
```

errata_delete

Delete an patch.

```
usage: errata_delete ERRATA|search:XXX ...
```

errata_details

Show the details of an patch.

```
usage: errata_details ERRATA|search:XXX ...
```

errata_findbycve

List errata addressing a CVE.

```
usage: errata_findbycve CVE-YYYY-NNNN ...
```

errata_list

List all patches.

```
usage: errata_list
```

errata_listaffectedsystems

List of systems affected by an patch.

```
usage: errata_listaffectedsystems ERRATA|search:XXX ...
```

errata_listcves

List of CVEs addressed by an patch.

```
usage: errata_listcves ERRATA|search:XXX ...
```

errata_publish

Publish a patch to a channel.

```
usage: errata_publish ERRATA|search:XXX <CHANNEL ...>
```

errata_search

List patches that meet user provided criteria

```
usage: errata_search CVE|RHSA|RHBA|RHEA|CLA ...

Example:
> errata_search CVE-2009:1674
> errata_search RHSA-2009:1674
```

errata_summary

Print a summary of all errata.

```
usage: errata_summary
```

filepreservation_

The following spacecmd commands are available for working with kickstart file preservation lists.

filepreservation_create

Create a file preservation list.

```
usage: filepreservation_create [NAME] [FILE ...]
```

filepreservation_delete

Delete a file preservation list.

```
filepreservation_delete NAME
```

filepreservation_details

Show the details of a file preservation list.

```
usage: filepreservation_details NAME
```

filepreservation_list

List all file preservations.

```
usage: filepreservation_list
```

get_

The following spacecmd commands are available for use with get.

get_apiversion

Display the API version of the server.

```
usage: get_apiversion
```

get_certificateexpiration

Print the expiration date of the server's entitlement certificate.

```
usage: get_certificateexpiration
```

get_serverversion

Display SUSE Manager server version.

```
usage: get_serverversion
```

get_session

Show the current session string.

```
usage: get_session
```

group_

group_addsystems

Add systems to a group.

```
usage: group_addsystems GROUP <SYSTEMS>

<SYSTEMS> can be any of the following:
name
ssm (see 'help ssm')
search:QUERY (see 'help system_search')
group:GROUP
channel:CHANNEL
```

group_backup

Backup a system group.

```
usage: group_backup NAME [OUTDIR]

OUTDIR defaults to $HOME/spacecmd-backup/group/YYYY-MM-DD/NAME
```

group_create

Create a system group.

```
usage: group_create [NAME] [DESCRIPTION]
```

group_delete

Delete a system group.

```
usage: group_delete NAME ...
```

group_details

Show the details of a system group.

```
usage: group_details GROUP ...
```

group_list

List available system groups.

```
usage: group_list
```

group_listsystems

List the members of a group.

```
usage: group_listsystems GROUP
```

group_removesystems

Remove systems from a group.

```
usage: group_removesystems GROUP <SYSTEMS>

<SYSTEMS> can be any of the following:
name
ssm (see 'help ssm')
search:QUERY (see 'help system_search')
group:GROUP
channel:CHANNEL
```

group_restore

Restore a system group.

```
usage: group_backup INPUTDIR [NAME] ...
```

kickstart_

The following spacecmd functions are available for use with kickstart.

kickstart_addactivationkeys

Add activation keys to a Kickstart profile.

```
usage: kickstart_addactivationkeys PROFILE <KEY ...>
```

kickstart_addchildchannels

Add a child channels to a Kickstart profile.

```
usage: kickstart_addchildchannels PROFILE <CHANNEL ...>
```

kickstart_addcryptokeys

Add cryptography keys to a Kickstart profile.

```
usage: kickstart_addcryptokeys PROFILE <KEY ...>
```

kickstart_addfilepreservations

Add file preservations to a Kickstart profile.

```
usage: kickstart_addfilepreservations PROFILE <FILELIST ...>
```

kickstart_addoption

Set an option for a Kickstart profile.

```
usage: kickstart_addoption PROFILE KEY [VALUE]
```

kickstart_addpackages

Add packages to a Kickstart profile.

```
usage: kickstart_addpackages PROFILE <PACKAGE ...>
```

kickstart_addscript

Add a script to a Kickstart profile.

```
usage: kickstart_addscript PROFILE [options]

options:
  -p PROFILE
  -e EXECUTION_TIME ['pre', 'post']
  -i INTERPRETER
  -f FILE
  -c execute in a chroot environment
  -t ENABLING_TEMPLATING
```

kickstart_addvariable

Add a variable to a Kickstart profile.

```
usage: kickstart_addvariable PROFILE KEY VALUE
```

kickstart_clone

Clone a Kickstart profile.

```
usage: kickstart_clone [options]

options:
  -n NAME
  -c CLONE_NAME
```

kickstart_create

Create a Kickstart profile.

```
usage: kickstart_create [options]

options:
  -n NAME
  -d DISTRIBUTION
  -p ROOT_PASSWORD
  -v VIRT_TYPE ['none', 'para_host', 'qemu', 'xenfv', 'xenpv']
```

kickstart_delete

Delete kickstart profiles.

```
usage: kickstart_delete PROFILE
usage: kickstart_delete PROFILE1 PROFILE2
usage: kickstart_delete "PROF*"
```

kickstart_details

Show the details of a Kickstart profile.

```
usage: kickstart_details PROFILE
```

kickstart_diff

List differences between two kickstart files.

```
usage: kickstart_diff SOURCE_CHANNEL TARGET_CHANNEL
```

kickstart_disableconfigmanagement

Disable configuration management on a Kickstart profile.

```
usage: kickstart_disableconfigmanagement PROFILE
```

kickstart_disableremotecommands

Disable remote commands on a Kickstart profile.

```
usage: kickstart_disableremotecommands PROFILE
```

kickstart_enableconfigmanagement

Enable configuration management on a Kickstart profile.

```
usage: kickstart_enableconfigmanagement PROFILE
```

kickstart_enablelogging

Enable logging for a Kickstart profile.

```
usage: kickstart_enablelogging PROFILE
```

kickstart_enableremotecommands

Enable remote commands on a Kickstart profile.

```
usage: kickstart_enableremotecommands PROFILE
```

kickstart_export

Export kickstart profiles to json formatted file.

```
usage: kickstart_export <KSPROFILE>... [options]
options:
    -f outfile.json : specify an output filename, defaults to <KSPROFILE>.json
                      if exporting a single kickstart, profiles.json for multiple
                      kickstarts, or ks_all.json if no KSPROFILE specified
                      e.g (export ALL)

Note : KSPROFILE list is optional, default is to export ALL
```

kickstart_getcontents

Show the contents of a Kickstart profile as they would be presented to a client.

```
usage: kickstart_getcontents LABEL
```

kickstart_getsoftwaredetails

Gets kickstart profile software details.

```
usage: kickstart_getsoftwaredetails KS_LABEL
usage: kickstart_getsoftwaredetails KS_LABEL KS_LABEL2 ...
```

kickstart_getupdatetype

Get the update type for a kickstart profiles.

```
usage: kickstart_getupdatetype PROFILE
usage: kickstart_getupdatetype PROFILE1 PROFILE2
usage: kickstart_getupdatetype "PROF*"
```

kickstart_import

Import a Kickstart profile from a file.

```
usage: kickstart_import [options]

options:
  -f FILE
  -n NAME
  -d DISTRIBUTION
  -v VIRT_TYPE ['none', 'para_host', 'qemu', 'xenfv', 'xenpv']
```

kickstart_import_raw

Import a raw Kickstart or autoyast profile from a file.

```
usage: kickstart_import_raw [options]

options:
  -f FILE
  -n NAME
  -d DISTRIBUTION
  -v VIRT_TYPE ['none', 'para_host', 'qemu', 'xenfv', 'xenpv']
```

kickstart_importjson

Import kickstart profiles from json file.

```
usage: kickstart_import <JSONFILES...>
```

kickstart_list

List the available Kickstart profiles.

```
usage: kickstart_list
```

kickstart_listactivationkeys

List the activation keys associated with a Kickstart profile.

```
usage: kickstart_listactivationkeys PROFILE
```

kickstart_listchildchannels

List the child channels of a Kickstart profile.

```
usage: kickstart_listchildchannels PROFILE
```

kickstart_listcryptokeys

List the crypto keys associated with a Kickstart profile.

```
usage: kickstart_listcryptokeys PROFILE
```

kickstart_listcustomoptions

List the custom options of a Kickstart profile.

```
usage: kickstart_listcustomoptions PROFILE
```

kickstart_listoptions

List the options of a Kickstart profile.

```
usage: kickstart_listoptions PROFILE
```

kickstart_listpackages

List the packages for a Kickstart profile.

```
usage: kickstart_listpackages PROFILE
```

kickstart_listscripts

List the scripts for a Kickstart profile.

```
usage: kickstart_listscripts PROFILE
```

kickstart_listvariables

List the variables of a Kickstart profile.

```
usage: kickstart_listvariables PROFILE
```

kickstart_removeactivationkeys

Remove activation keys from a Kickstart profile.

```
usage: kickstart_removeactivationkeys PROFILE <KEY ...>
```

kickstart_removechildchannels

Remove child channels from a Kickstart profile.

```
usage: kickstart_removechildchannels PROFILE <CHANNEL ...>
```

kickstart_removecryptokeys

Remove crypto keys from a Kickstart profile.

```
usage: kickstart_removecryptokeys PROFILE <KEY ...>
```

kickstart_removefilepreservations

Remove file preservations from a Kickstart profile.

```
usage: kickstart_removefilepreservations PROFILE <FILE ...>
```

kickstart_removeoptions

Remove options from a Kickstart profile.

```
usage: kickstart_removeoptions PROFILE <OPTION ...>
```

kickstart_removepackages

Remove packages from a Kickstart profile.

```
usage: kickstart_removepackages PROFILE <PACKAGE ...>
```

kickstart_removescript

Add a script to a Kickstart profile.

```
usage: kickstart_removescript PROFILE [ID]
```

kickstart_removevariables

Remove variables from a Kickstart profile.

```
usage: kickstart_removevariables PROFILE <KEY ...>
```

kickstart_rename

Rename a Kickstart profile

```
usage: kickstart_rename OLDNAME NEWNAME
```

kickstart_setcustomoptions

Set custom options for a Kickstart profile.

```
usage: kickstart_setcustomoptions PROFILE
```

kickstart_setdistribution

Set the distribution for a Kickstart profile.

```
usage: kickstart_setdistribution PROFILE DISTRIBUTION
```

kickstart_setlocale

Set the locale for a Kickstart profile.

```
usage: kickstart_setlocale PROFILE LOCALE
```

kickstart_setpartitions

Set the partitioning scheme for a Kickstart profile.

```
usage: kickstart_setpartitions PROFILE
```

kickstart_setselinux

Set the SELinux mode for a Kickstart profile.

```
usage: kickstart_setselinux PROFILE MODE
```

kickstartsetupdatetype

Set the update type for a kickstart profiles.

```
usage: kickstartsetupdatetype [options] KS_LABEL

options:
    -u UPDATE_TYPE ['red_hat', 'all', 'none']
```

kickstart_updatevariable

Update a variable in a Kickstart profile.

```
usage: kickstart_updatevariable PROFILE KEY VALUE
```

list_proxies

The following spacecmd function is available for listing proxies.

list_proxies

List the proxies within the user’s organization.

```
usage: list_proxies
```

login

Connect as a specific user to the SUSE manager server.

```
# spacecmd -- login <USERNAME>
```

logout

Logout from server as the current user.

```
# spacecmd -- logout
```

org_

The following spacecmd functions are available for use with organizations.

org_addtrust

Add a trust between two organizations

```
usage: org_addtrust YOUR_ORG ORG_TO_TRUST
```

org_create

Create an organization.

```
usage: org_create [options]

options:
  -n ORG_NAME
  -u USERNAME
  -P PREFIX (Dr., Mr., Miss, Mrs., Ms.)
  -f FIRST_NAME
  -l LAST_NAME
  -e EMAIL
  -p PASSWORD
  --pam enable PAM authentication
```

org_delete

Delete an organization.

```
usage: org_delete NAME
```

org_details

Show the details of an organization.

```
usage: org_details NAME
```

org_list

List all organizations.

```
usage: org_list
```

org_listtrusts

List an organization’s trusts.

```
org_listtrusts NAME
```

org_listusers

List an organization’s users.

```
org_listusers NAME
```

org_removetrust

Remove a trust between two organizations.

```
usage: org_removetrust YOUR_ORG TRUSTED_ORG
```

org_rename

Rename an organization.

```
usage: org_rename OLDNAME NEWNAME
```

org_trustdetails

Show the details of an organizational trust.

```
usage: org_trustdetails TRUSTED_ORG
```

package_

The following spacecmd functions are available for working with packages.

package_details

Show the details of a software package.

```
usage: package_details PACKAGE ...
```

package_listdependencies

List the dependencies for a package.

```
usage: package_listdependencies PACKAGE
```

package_listerrata

List the errata that provide this package.

```
usage: package_listerrata PACKAGE ...
```

package_listinstalledsystems

List the systems with a package installed.

```
usage: package_listinstalledsystems PACKAGE ...
```

package_listorphans

List packages that are not in a channel.

```
usage: package_listorphans
```

package_remove

Remove a package from SUSE Manager/Satellite

```
usage: package_remove PACKAGE ...
```

package_removeorphans

Remove packages that are not in a channel.

```
usage: package_removeorphans
```

package_search

Find packages that meet the given criteria.

```
usage: package_search NAME|QUERY
```

```
Example: package_search kernel
```

Advanced Search

```
Available Fields: name, epoch, version, release, arch, description, summary

Example: name:kernel AND version:2.6.18 AND -description:devel
```

Command Line Tools

There are several command line tools available in SUSE Manager. Every action that can be completed using the Web UI can be performed at a command prompt instead. Additionally, there are some actions that can only be performed at the command prompt.

Manage configuration with:

- `mgrcfg-manager`
- `mgrcfg-client`
- `mgr-actions-control`

Manage package and channel synchronization with:

- `spacewalk-repo-sync`
- `mgr-sync`

Manage bootstrapping with:

- `mgr-create-bootstrap-repo`

Manage the database with:

- `smdba`

Some of these command line tools are installed by default. To install a command line tool, you can use the SUSE Manager Web UI, or use your package manager at the command prompt.

Procedure: Installing Command Line Tools with the WebUI

1. In the SUSE Manager Web UI, navigate to **Systems › System List**, select the client to install the tool on, and navigate to the **Software › Packages › Install** sub-tab.
2. Use the search tool to search for the command line tool you want to install.
3. Check the package to install, and click **[Install Selected Packages]**.
4. Click **[Confirm]** to begin installation.

Procedure: Installing Command Line Tools from the Command Prompt

1. On the client that you want to install the packages on, at the command prompt, as root, use zypper to install the package:

```
zypper in <CLI_TOOL_NAME>
```

Configuration CLI Tools

The `mgrcfg` CLI tool has three components:

Table 39. Configuration CLI Tool Components

Tool name	Installed on	Use for
`mgrcfg-client`	Client	Managing client configuration
`mgr-cfg-manager`	Server	Managing server configuration
`mgr-actions-control`	Server	Administer configuration settings

Clients do not have configuration management enabled by default. To get started, install the `mgr-actions-control` tool on the SUSE Manager Server, and use it to enable configuration management for your organization.

Actions Control (mgr-actions-control)

Use the `mgr-actions-control` tool to enable and disable configuration management on a client. Actions that can be performed with `mgr-actions-control` include:

- Deploy a configuration file on a client
- Upload a file from the client
- Compare the configuration tools available on a client, with what is being used
- Run remote commands

You must be logged in to a SUSE Manager administrator account to use `mgr-actions-control`.

This tool works by adding or removing files and directories on the client in the `/etc/sysconfig/rhn/allowed-actions/` directory. By default, this directory requires root permissions.

The available options for `mgr-actions-control` are listed in this table. Use this syntax for `mgr-actions-control` commands:

```
mgr-actions-control [-h] [--version] [-v] [--option]
```

Table 40. Action Control Options

Option	Abbreviated Option	Description
enable-all		Enable all options
disable-all		Disable all options.
enable-deploy		Allow mgrcfg-client to deploy files.
enable-diff		Allow mgrcfg-client to diff files.
enable-upload		Allow mgrcfg-client to upload files.
enable-mtime-upload		Allow mgrcfg-client to upload file modification time.
enable-run		Enable running scripts.
disable-deploy		Disable deployment.
disable-diff		Disable diff use.
disable-upload		Disable file uploads.
disable-mtime-upload		Disable modification time upload.
disable-run		Disable running scripts.
report		Report whether modes are enabled or disabled.
force	f	Force the operation without asking first.
help	h	Show help message and exit.

For more information about the available options for the `mgr-actions-control` tool, see the man page:

```
man mgr-actions-control
```

Client Configuration (mgrcfg-client)

Use the `mgrcfg-client` tool to manage configuration on a client. The `mgrcfg-client` has these primary modes:

- list

- get
- channels
- diff
- verify

The available commands and arguments for `mgrcfg-client` are listed in this section. Use this syntax for `mgrcfg-client` commands:

```
mgrcfg-client [-h] [--version] [-v] [--option] [mode]
```

List Configuration Files

The `list` mode lists the configuration files for the client, including the labels of the configuration channels containing them. To see a complete list of all the configuration files that are currently applied to the client, use this command:

```
mgrcfg-client list
```

The output looks like this:

```
DoFoS   Config Channel      File
F      config-channel-17   /etc/config-file
F      config-channel-17   /var/spool/aalib.rpm
F      config-channel-14   /etc/rhn/rhn.conf
```

In this output, `DoFoS` means `Directory, File, or Something else`. Each entry in the output will be marked with `D`, `F`, or `S`. These configuration files apply to the client.

Get more detail about a channel by specifying the channel name:

```
mgrcfg-manager list config-channel-14
```

The output looks like this:

```
Files in config channel 'config-channel-14'
/etc/config-file /etc/rhn/rhn.conf
```

It is possible that there are duplicate configuration files in different channels. In this case, the file listing for the channel shows files that are not present when listing channels applied to the client. This is a result of file ranking, which means that channels can contain files that are not applied to the client, because they are outranked by a different file from a different channel.

Get Configuration Files

The `get` mode displays the contents of the primary configuration file for the client. To see the configuration file with the highest rank within the channel, use this command:

```
mgrcfg-client get
```

To see a specific configuration file, use this command:

```
mgrcfg-client get <FILENAME>
```

The available options for `mgrcfg-client get` are listed in this table.

Table 41. Client Get Mode Options

Option	Abbreviated Option	Description
topdir=TOPDIR		Make all file operations relative to this string.
exclude=EXCLUDE		Exclude a file from being deployed with get. Can be used multiple times.
help	h	Show help message and exit.

Channels

The `channels` mode lists the configuration channels for the client. To see a complete list of all the configuration channels that are currently applied to the client, use this command:

```
mgrcfg-client channels
```

The output looks like this:

```
Config channels:
Label                   Name
-----                   ----
config-channel-17       config chan 2
config-channel-14       config chan 1
```

Differentiating Configuration Files

The `diff` mode shows the differences between the configuration files deployed on the client and those stored by SUSE Manager. Use this command:

```
mgrcfg-client diff
```

The output looks like this:

```
rhncfg-client diff
--- /etc/test
+++ /etc/test 2020-08-28 00:14:49.405152824 +1000
@@ -1 +1,2 @@
This is the first line
+This is the second line added
```

You can use the `--topdir` option to compare configuration files with those located in an arbitrary unused location on the client, like this:

```
# mgrcfg-client diff --topdir /home/test/example/
```

Verify Configuration Files

The `verify` mode checks if the configuration file on the client is different to the configuration associated with it. Use this command:

```
mgrcfg-client verify
```

The output looks like this:

```
modified /etc/config-file /var/spool/aalib.rpm
```

The file `config-file` is locally modified, while `aalib.rpm` is not.

The available options for `mgrcfg-client verify` are listed in this table.

Table 42. Client Verify Mode Options

Option	Abbreviated Option	Description
verbose	v	Increase the amount of output detail.
only	o	Only show differing files.
help	h	Show help message and exit.

Server Configuration (mgrcfg-manager)

Use the `mgrcfg-manager` tool to manage the configuration files and channels on the SUSE Manager Server. It does not manage configuration on a client.

The `mgrcfg-manager` tool has these primary modes:

- add
- create-channel
- diff
- diff-revisions
- download-channel
- get
- list
- list-channels
- remove
- remove-channel
- revisions
- update
- upload-channel

Each mode has further options. See the available options using this syntax:

```
mgrcfg-manager <MODE> --help
```

The available commands and arguments for `mgrcfg-manager` are listed in this section. Use this syntax for `mgrcfg-manager` commands:

```
mgrcfg-manager [-h] [--version] [-v] [mode] [--option]
```

By default, the `mgrcfg-manager` tool times out after thirty minutes. You can change this value in the `/etc/rhn/rhn.conf` configuration file by adding or adjusting this line, with a value in minutes:

```
server.session_lifetime = <MINUTES>
```

Add Files to a Configuration Channel

The `add` mode adds a configuration file from your local filesystem to an existing channel. Use this command:

```
mgrcfg-manager add --channel=<channel-label> <local/path/to/file>
```

You can use options to modify the file during addition. For example, to change the path or file name, use this command:

```
mgrcfg-manager add --channel=<channel-label> \
  --dest-file=</new/path/to/file> <local/path/to/file>
```

The output looks like this:

```
Pushing to channel <channel-label>
Local file <local/path/to/file> -> remote file </new/path/to/file>
```

The available options for `mgrcfg-manager add` are listed in this table.

Table 43. Manager Add Mode Options

Option	Abbreviated Option	Description
channel	c	Upload files to this configuration channel.
dest-file	d	Upload the file to this path.
delim-start		Start delimiter for variable interpolation.
delim-end		End delimiter for variable interpolation.
ignore-missing	i	Ignore missing local files.
help	h	Show help message and exit.

By default, the maximum file size for configuration files is 128 KB. For information about changing the maximum file size value, see [**Reference › Configuration** ›].

Create a Configuration Channel

The `create-channel` mode creates a new configuration channel. Use this command:

```
mgrcfg-manager create-channel <channel-label>
```

When you have created a configuration channel, you can add configuration files to it with the `add` mode.

Differentiate Between Configuration Files

The `diff` mode shows the differences between the stored configuration files and the latest revisions in the associated channel. Use this command:

```
mgrcfg-manager diff --channel=<channel-label>
  --dest-file=</path/to/file> </local/path/to/file>
```

The output looks like this:

```
--- </path/to/file> config_channel: <channel-label> revision: 1
+++ /home/test/example/hello_world.txt 2020-12-14 19:08:59.000000000 -0500
@@ -1 +1 @@
-example
+hello, world
```

The available options for `mgrcfg-manager diff` are listed in this table.

Table 44. Manager Diff Mode Options

Option	Abbreviated Option	Description
channel	c	Get files from this configuration channel.
dest-file	d	Upload the file to this path.
revision	r	Use this revision.
topdir	t	Make all files relative to this string.
help	h	Show help message and exit.

Differentiate between Revisions

The `diff-revisions` mode shows the differences between the revisions of configuration files.

This command can compare revisions across different channels. Use the `-r` option to indicate which revision of the file should be compared and the `-n` option to indicate the two channels to be checked. In this case, specify only one file name, because the file is being compared to a different revision of itself. Use this command:

```
mgrcfg-manager diff-revisions -n=<channel-label-1> -r=1 \
  -n=<channel-label-2> -r=1 </path/to/file>
```

The output looks like this:

```
--- </path/to/file> 2020-01-13 14:36:41 \
config channel: <example-channel-1> revision: 1
--- </path/to/file> 2020-01-13 14:42:42 \
config channel: <example-channel-2> revision: 1
@@ -1 +1,20 @@
-example
+hello, world
```

The available options for `mgrcfg-manager diff-revision` are listed in this table.

Table 45. Manager Diff Revision Mode Options

Option	Abbreviated Option	Description
channel	c	Get files from this configuration channel.
revision	r	Use this revision.
help	h	Show help message and exit.

Download All Files in a Channel

The `download-channel` mode downloads all configuration files in a channel to local directory. Use this command:

```
mgrcfg-manager download-channel <channel-label> --topdir <local/directory/>
```

The output looks like this:

```
Copying </config-file> -> <local/directory/config-file>
```

The available options for `mgrcfg-manager download-channel` are listed in this table.

Table 46. Manager Download Channel Mode Options

Option	Abbreviated Option	Description
topdir	t	Make all files relative to this string.
help	h	Show help message and exit.

Get the Contents of a File

The `get` mode displays the contents of a configuration file. Use this command:

```
mgrcfg-manager get --channel=<channel-label> <config-file>
```

List All Files in a Channel

The `list` mode lists the configuration files contained in a channel. Use this command:

```
mgrcfg-manager list <channel-label>
```

The output looks like this:

```
Files in config channel <channel-label>:
/tmp/dest_path/config-file
```

The available options for `mgrcfg-manager list` are listed in this table.

Table 47. Manager List Mode Options

Option	Abbreviated Option	Description
channel	c	Get files from this configuration channel.
topdir	t	Make all files relative to this string.
revision	r	Use this revision.
help	h	Show help message and exit.

List All Configuration Channels

The `list` mode lists the configuration channels available in your organization. Use this command:

```
mgrcfg-manager list-channels
```

The output looks like this:

```
Available config channels:
example-channel example-channel2 example-channel3 config-channel-14 config-channel-17
```

The output of this command does not include `local_override` or `server_import` channels.

Remove Files From a Channel

The `remove` mode removes configuration files from a channel. Use this command:

```
mgrcfg-manager remove --channel=<channel-label> <config-file>
```

The available options for `mgrcfg-manager remove` are listed in this table.

Table 48. Manager Remove Mode Options

Option	Abbreviated Option	Description
channel	c	Get files from this configuration channel.
topdir	t	Make all files relative to this string.
help	h	Show help message and exit.

Delete a Config Channel

The `remove-channel` mode removes configuration channels from your organization. Use this command:

```
mgrcfg-manager remove-channel <channel-label>
```

The output looks like this:

```
Removing config channel example-channel
Config channel example-channel removed
```

Determine the Number of File Revisions

The **revisions** mode shows how many revisions of a configuration file exist in a channel. Use this command:

```
mgrcfg-manager revisions <channel-label> <config-file>
```

The output looks like this:

```
Analyzing files in config channel example-channel \
/tmp/dest_path/config-file: 1
```

Update a File in a Channel

The **update** mode creates a new revision of a configuration file. The new revision is added within the existing channel. Use this command:

```
mgrcfg-manager update --channel=<channel-label> \
--dest-file=</path/to/file.txt> </local/path/to/file>
```

The output looks like this:

```
Pushing to channel example-channel:
Local file example-channel /tmp/local/config-file -> \
remote file /tmp/dest_path/config-file
```

The available options for **mgrcfg-manager update** are listed in this table.

Table 49. Manager Update Mode Options

Option	Abbreviated Option	Description
channel	c	Upload the file to this configuration channel.
dest-file	d	Upload the file to this path.
topdir	t	Make all files relative to this string.
delim-start		Start delimiter for variable interpolation.
delim-end		End delimiter for variable interpolation.

Option	Abbreviated Option	Description
help	h	Show help message and exit.

Upload Multiple Files

The `upload-channel` mode allows you to upload multiple configuration files to a channel. Use this command:

```
mgrcfg-manager upload-channel --topdir=<topdir> <channel-label>
```

The output looks like this:

```
Using config channel example-channel4
Uploading config-file from /tmp/dest_path/
```

The available options for `mgrcfg-manager upload-channel` are listed in this table.

Table 50. Manager Upload Channel Mode Options

Option	Abbreviated Option	Description
channel	c	Upload the files to this configuration channel.
topdir	t	Directory containing the files to be uploaded.
help	h	Show help message and exit.

Synchronization CLI Tools

There are two tools for synchronizing clients to the server. For clients that are connected to the SUSE Customer Center, use `mgr-sync`. For all other clients, use `spacewalk-repo-sync`.

Synchronize SCC Repositories With mgr-sync

The primary use of `mgr-sync` is to connect to the SUSE Customer Center, retrieve product and package information, and prepare channels for synchronization with the SUSE Manager Server.

This tool is designed for use with a SUSE support subscription. It is not required for open source distributions, including openSUSE, CentOS, and Ubuntu.

The available commands and arguments for `mgr-sync` are listed in this table. Use this syntax for `mgr-sync` commands:

```
mgr-sync [-h] [--version] [-v] [-s] [-d {1,2,3}] {list,add,refresh,delete}
```

Table 51. mgr-sync Commands

Command	Description	Example Use
list	List channels, organization credentials, or products	`mgr-sync list channels`
add	Add channels, organization credentials, or products	`mgr-sync add channel <channel_name>`
refresh	Refresh the local copy of products, channels, and subscriptions	`mgr-sync refresh`
delete	Delete existing SCC organization credentials from the local system	`mgr-sync delete credentials`
sync	Synchronize specified channel or ask for it when left blank	`mgr-sync sync channel <channel_name>`

To see the full list of options specific to a command, use this command:

```
mgr-sync <command> --help
```

Table 52. mgr-sync Optional Arguments

Option	Abbreviated option	Description	Example Use
help	`h`	Display the command usage and options	`mgr-sync --help`
version	N/A	Display the currently installed version of `mgr-sync`	`mgr-sync --version`
verbose	`v`	Provide verbose output	`mgr-sync --verbose refresh`
store-credentials	`s`	Store credentials a local hidden file	`mgr-sync --store -credentials`

Option	Abbreviated option	Description	Example Use
debug	`d`	Log additional debugging information. Requires a level of 1, 2, 3. 3 provides the highest amnount of debugging information	`mgr-sync -d 3 refresh`
no-sync	N/A	Use with the `add` command to add products or channels without beginning a synchronization	`mgr-sync --no-sync add <channel_name>`

Logs for `mgr-sync` are located in:

- `/var/log/rhn/mgr-sync.log`
- `/var/log/rhn/rhn_web_api.log`

Synchronize Repositories with spacewalk-repo-sync

The `spacewalk-repo-sync` tool synchronizes software repositories into SUSE Manager channels. In most cases, this happens automatically, but you can use the tool to run it manually if required.

The `spacewalk-repo-sync` tool has these primary commands:

Table 53. spacewalk-repo-sync Options

Option	Description	Example Use
list	List all custom channels and the repositories assigned to them.	`spacewalk-repo-sync --list`
channel	Synchronize a single channel to all repositories assigned to it.	`spacewalk-repo-sync --channel <custom-channel>`
deep-verify	ignore cached package checksums.	`spacewalk-repo-sync --deep -verify`
force-all-errata	force re-importing all the patches.	`spacewalk-repo-sync --deep -verify`
no-packages	excludes packages from the operation.	`spacewalk-repo-sync --deep -verify --no-packages`

For a complete list of options, see the `spacewalk-repo-sync` manpage:

```
man spacewalk-repo-sync
```

Troubleshooting Synchronization

If you are having trouble synchronizing with `spacewalk-repo-sync` you can find out more by watching the HTTP log as the command runs.

Procedure: Troubleshooting Synchronization Problems

1. Log the HTTP output into `/var/log/zypper.log`:

   ```
   ZYPP_MEDIA_CURL_DEBUG=2 spacewalk-repo-sync --channel <channel-label>
   ```

2. Export the setting:

   ```
   export URLGRABBER_DEBUG=DEBUG
   ```

3. Start the synchronization:

   ```
   /usr/bin/spacewalk-repo-sync --channel <channel-label> --type yum
   ```

   ```
   You can increase the debug level, by adding the [option]``-vvv`` option to the command.
   ```

4. When the complete completes, or fails, disable debug mode:

   ```
   unset URLGRABBER_DEBUG
   ```

Add Custom Extra HTTP Headers

You can add custom HTTP headers to the requests made by `spacewalk-repo-sync` at the time of synchronization. The custom HTTP headers are defined in the `/etc/rhn/spacewalk-repo-sync/extra_headers.conf` configuration file. The headers can be defined by repository name or channel label. You can also define global headers by putting them in the `main` section. For example:

```
[testchannel]
X-MY-HEADER-1=VALUE
X-MY-HEADER-2=VALUE

[mychannel]
X-MY-HEADER-3=VALUE
X-MY-HEADER-4=VALUE

[main]
X-MYGLOBAL-HEADER=VALUE
```

This can be particularly useful when dealing with Red Hat Update Infrastructure (RHUI) repositories in the public cloud.

Bootstrapping Command Line Tools

The `mgr-create-bootstrap-repo` tool allows you to create a bootstrap repository.

Use the `mgr-create-bootstrap-repo` command on the SUSE Manager Server to create a new bootstrap repository. The `-l` option lists all available repositories:

```
mgr-create-bootstrap-repo -l
```

Give the repository name to create the bootstrap repository you require:

```
mgr-create-bootstrap-repo <repo-name>
```

You can also create a new bootstrap repository from a custom channel, with the `--with-custom-channels` option:

```
mgr-create-bootstrap-repo --with-custom-channels
```

If you create a bootstrap repository that contains custom channels, and later attempt to rebuild with the `mgr-create-bootstrap-repo` command, the custom channel information will remain in the bootstrap repository. To remove custom channel information from your bootstrap repository, use the `--flush` option when you rebuild:

```
mgr-create-bootstrap-repo --flush
```

Database CLI Tool

The `smdba` tool allows you to manage the installed PostgreSQL database. It allows you to backup and restore the database, as well as administration tasks like creating, verifying, and restarting the database. The tool works on local databases only.

> **!** The `smdba` tool replaces the older `db-control` tool. The `db-control` tool is now unsupported.

After you stop or restart the database, you need to restart the SUSE Manager services.

Table 54. Database Options

Option	Description
backup-hot	Enable continuous archiving backup
backup-restore	Restore the database from backup.
backup-status	Show backup status.
db-start	Start the database.
db-status	Show database status.
db-stop	Stop the database.
space-overview	Show database space report.
space-reclaim	Free disk space from unused objects in tables and indexes.
space-tables	Show space report for each table.
system-check	Perform a back-end health check.
help	Show help message and exit.

Each option has additional help available. See the help using this syntax:

```
smdba <OPTION> --help
```

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0. PREAMBLE

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