

Red Hat Satellite 6.1 Beta

Installation Guide

Installing and Configuring Satellite



Red Hat Satellite Documentation Team

Red Hat Satellite 6.1 Beta Installation Guide

Installing and Configuring Satellite

Author Red Hat Satellite Documentation Team

Copyright © 2015 Red Hat.

The text of and illustrations in this document are licensed by Red Hat under a Creative Commons Attribution–Share Alike 3.0 Unported license ("CC-BY-SA"). An explanation of CC-BY-SA is available at <http://creativecommons.org/licenses/by-sa/3.0/>. In accordance with CC-BY-SA, if you distribute this document or an adaptation of it, you must provide the URL for the original version.

Red Hat, as the licensor of this document, waives the right to enforce, and agrees not to assert, Section 4d of CC-BY-SA to the fullest extent permitted by applicable law.

Red Hat, Red Hat Enterprise Linux, the Shadowman logo, JBoss, MetaMatrix, Fedora, the Infinity Logo, and RHCE are trademarks of Red Hat, Inc., registered in the United States and other countries.

Linux® is the registered trademark of Linus Torvalds in the United States and other countries.

Java® is a registered trademark of Oracle and/or its affiliates.

XFS® is a trademark of Silicon Graphics International Corp. or its subsidiaries in the United States and/or other countries.

MySQL® is a registered trademark of MySQL AB in the United States, the European Union and other countries.

All other trademarks are the property of their respective owners.

1801 Varsity Drive
Raleigh, NC 27606-2072 USA
Phone: +1 919 754 3700
Phone: 888 733 4281
Fax: +1 919 754 3701

This document describes how to install Red Hat Satellite. It also steps through the basic configuration requirements to get Satellite running in your environment.

1. Introduction	1
1.1. Red Hat Satellite 6 System Architecture	1
1.2. Red Hat Satellite 6 Layout and Topology	2
1.3. Red Hat Satellite 6 Supported Usage	6
1.4. Prerequisites	8
1.4.1. Base Operating System	8
1.4.2. Supported Browsers	10
1.4.3. Storage	10
1.4.4. Application Specifications	11
1.4.5. Required Network Ports	11
1.4.6. Advanced Firewall Considerations	13
1.4.7. SELinux Policy on Satellite 6	14
1.4.8. Troubleshooting	15
2. Installing Red Hat Satellite Server	17
2.1. Obtaining the Required Packages	17
2.1.1. Downloading from a Connected Network	17
2.1.2. Downloading from a Disconnected Network	19
2.2. Running the Installation and Configuration Program	20
2.2.1. Configuring Red Hat Satellite Manually	20
2.2.2. Configuring Red Hat Satellite with an Answer File	22
2.2.3. Other Configuration Options	23
3. Logging in to Red Hat Satellite	29
3.1. Organizations	31
3.1.1. Creating an Organization	32
3.1.2. Editing an Organization	33
3.1.3. Removing an Organization	33
3.2. Changing Your Account Preferences	33
3.3. Configuring LDAP Authentication for Red Hat Satellite	34
4. Populating Red Hat Satellite with Content	37
4.1. Connected Satellite	37
4.1.1. Using Red Hat Content Providers	37
4.1.2. Using Products	40
4.1.3. Synchronizing Content from Source Repositories to Red Hat Satellite	43
4.2. Disconnected Satellite	45
4.2.1. Configuring the Synchronization Host	46
4.2.2. Synchronizing Content	48
4.2.3. Exporting Content	50
4.2.4. Importing Content to a Disconnected Satellite Server	51
5. Installing Red Hat Satellite Capsule Server	53
5.1. Red Hat Satellite Capsule Server Scalability	53
5.1.1. Capsule Scalability with Puppet Clients	53
5.2. Red Hat Satellite Capsule Server Prerequisites	54
5.2.1. Base Operating System	55
5.2.2. Application Specifications	56
5.2.3. Required Network Ports	56
5.2.4. Red Hat Satellite Server	57
5.3. Obtaining the Required Packages for the Capsule Server	57
5.4. Running the Installation and Configuration Program for Capsule Server	59
5.4.1. Other Configuration Options	61
5.5. Adding Life Cycle Environments to a Red Hat Satellite Capsule Server	65
5.6. Removing Life Cycle Environments from the Red Hat Satellite Capsule Server	67
5.7. Registering Host Systems to a Red Hat Satellite Capsule Server	68

6. Upgrading Red Hat Satellite Server and Capsule Server	69
6.1. Upgrading Red Hat Satellite	69
6.2. Upgrading Red Hat Capsule	70
7. Next Steps	73
8. Uninstalling Red Hat Satellite Server and Capsule Server	75
A. Glossary of Terms	77
B. Revision History	81

Introduction

Red Hat Satellite 6 is the evolution of Red Hat's life cycle management platform. It provides the capabilities that administrators have come to expect in a tool focused on managing systems and content for a global enterprise. Satellite 6 covers the use cases requested by Satellite 5 customers, but also includes functionality that enables larger scale, federation of content, better control of systems during the provisioning process, and a much more simplified approach to life cycle management. Satellite 6 also further evolves the inherent approach to certificate-based entitlements and integrated subscription management. Satellite 6 is based on years of customer feedback and is an evolution of previous versions.

[Report a bug](#)¹

1.1. Red Hat Satellite 6 System Architecture

Red Hat Satellite 6 consists of several open source projects which are brought together, verified, and delivered as Satellite 6. It is often important to understand which upstream versions of these projects are delivered. This information is maintained and regularly updated on the Red Hat Customer Portal at <https://access.redhat.com/articles/1343683>.

The following diagram represents the Satellite system architecture:

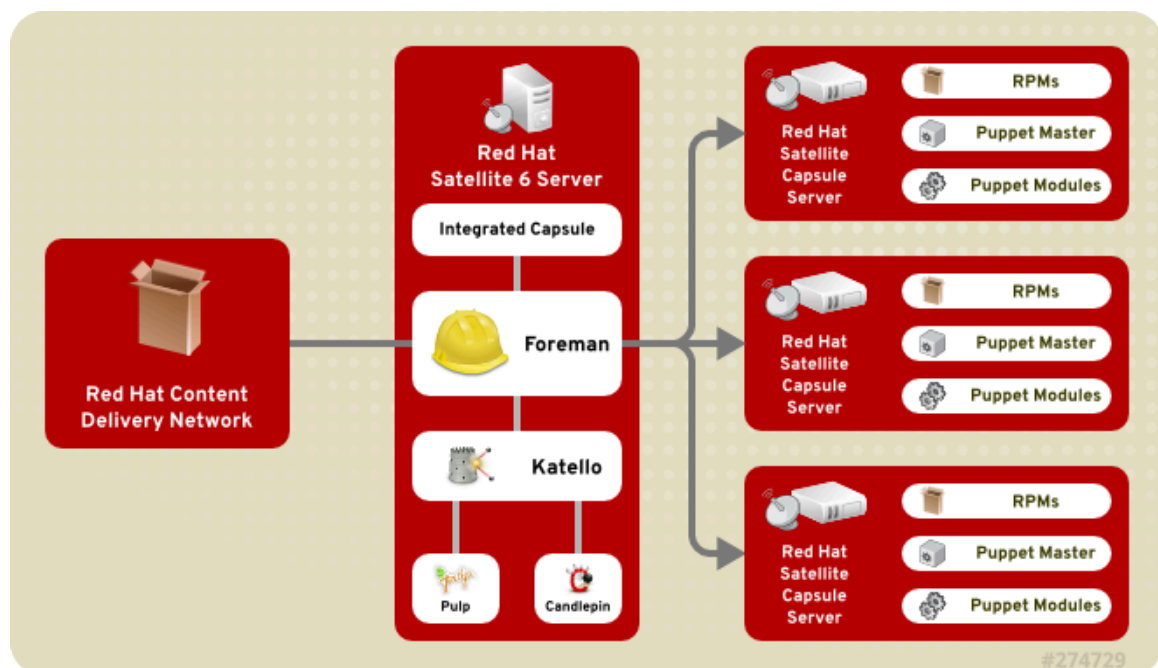


Figure 1.1. Red Hat Satellite 6 System Architecture

Foreman

Foreman is an open source application used for provisioning and life cycle management of physical and virtual systems. Foreman automatically configures these systems using various methods, including kickstart and Puppet modules. Foreman also provides historical data for reporting, auditing, and troubleshooting.

¹ https://bugzilla.redhat.com/enter_bug.cgi?product=Red+Hat+Satellite+6&component=Docs+Install+Guide

Katello

Katello is a subscription and repository management application. It provides a means to subscribe to Red Hat repositories and download content. You can create and manage different versions of this content and apply them to specific systems within user-defined stages of the application life cycle.

Candlepin

Candlepin is a service within Katello that handles subscription management.

Pulp

Pulp is a service within Katello that handles repository and content management.

Hammer

Hammer is a CLI tool that provides command line and shell equivalents of most Web UI functions.

REST API

Red Hat Satellite 6 includes a RESTful API service that allows system administrators and developers to write custom scripts and third-party applications that interface with Red Hat Satellite.

Capsule

Red Hat Satellite Capsule Server acts as a proxy for some of the main Satellite functions including repository storage, DNS, DHCP, and Puppet Master configuration. Each Satellite Server also contains integrated Capsule Server services.

[Report a bug²](#)

1.2. Red Hat Satellite 6 Layout and Topology

The Red Hat Satellite infrastructure layout has to be considered prior to installing Red Hat Satellite 6. Determining the organization of your infrastructure helps align the Satellite Server and Satellite Capsule Servers to best serve your requirements. The following topology diagrams provide examples of infrastructure layout.

² https://bugzilla.redhat.com/enter_bug.cgi?cf_environment=Build+Name%3A+22922%2C+Installation+Guide-6.0-1%0ABuild+Date%3A+07-10-2014+15%3A39%3A35%0ATopic+ID%3A+30919-708735+%5BLatest%5D&comment=Title%3A+Red%26nbsp%3BHat+Satellite+6+System+Architecture%0A%0ADescribe+the+issue%3A%0A%0A%0ASuggestions+for+improvement%3A%0A%0A%0AAdditional+information%3A&cf_build_id=30919-708735+12+Sep+2014+12%3A53+en-US+%5BLatest%5D&product=Red+Hat+Satellite+6&component=Docs+Install+Guide

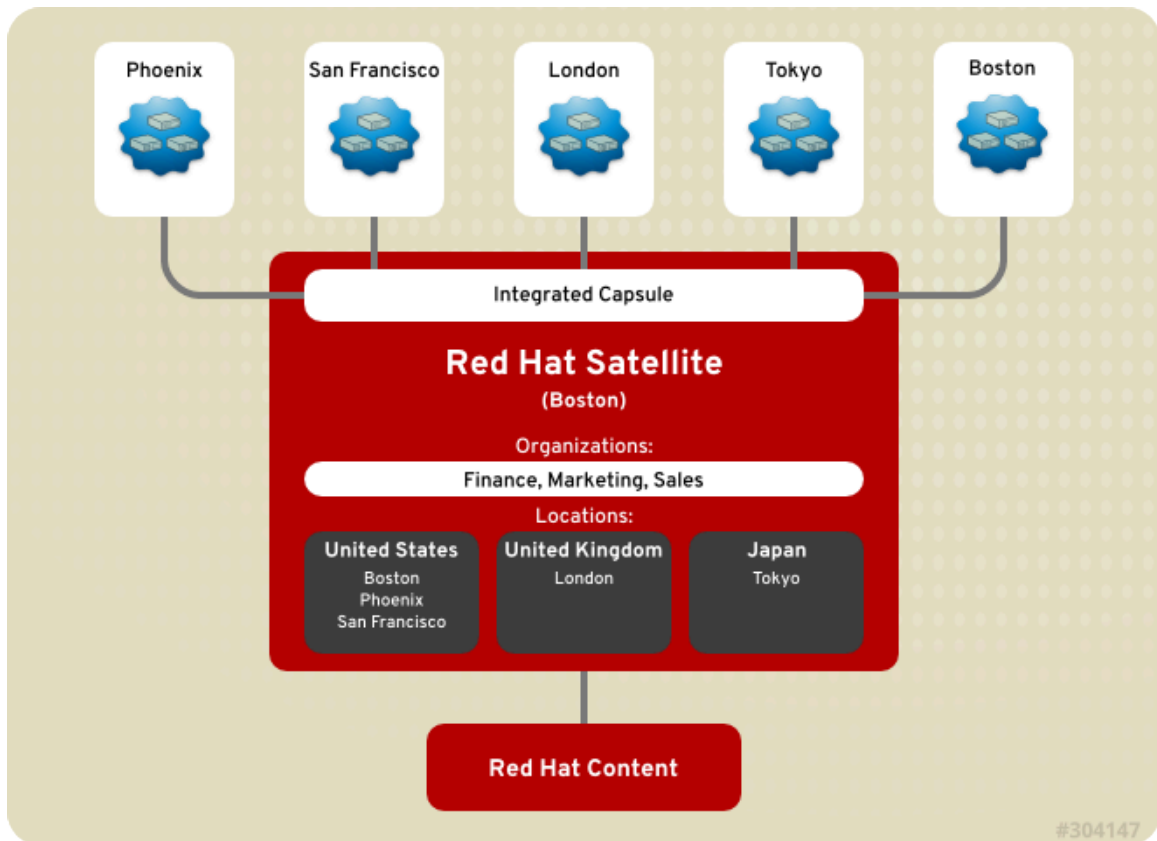


Figure 1.2. Single Satellite with Integrated Capsule

This topology demonstrates the basic use of Red Hat Satellite 6. In this example, there are five pools of hosts registered to the Satellite Server. Red Hat Satellite 6 categorizes these pools into three locations: United States, United Kingdom, and Japan. In addition, each department uses a distinct organization: Finance, Marketing, and Sales. All Satellite Server functions are shared among these Locations and Organizations.

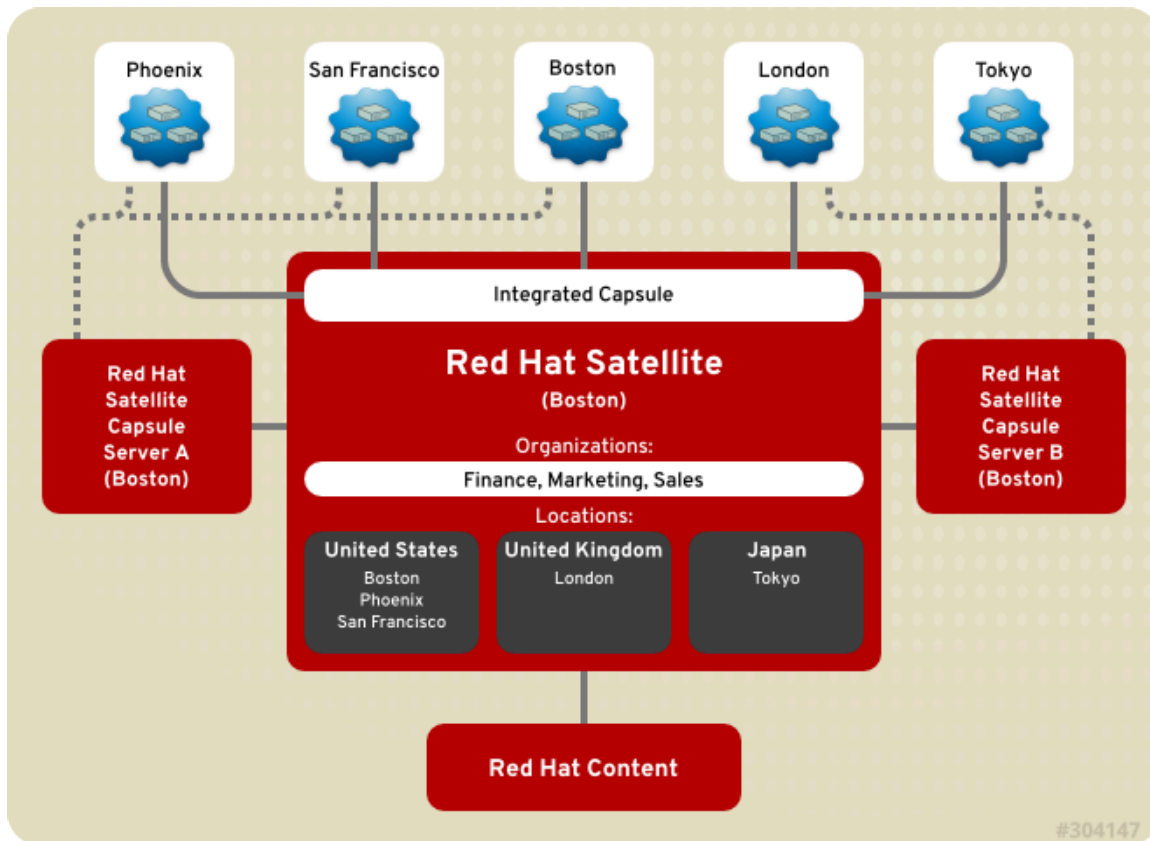


Figure 1.3. Single Satellite with Integrated Capsule and Backup Capsules

This topology shows the addition of two backup Satellite Capsule Servers based in Boston. One Capsule Server caters to the three US-based offices: Phoenix, San Francisco, and Boston. The other caters to the international offices: London and Tokyo. Assigning one backup Capsule Server to the United States location and the other to the United Kingdom and Japan locations, the load reduces on the main Satellite Server and its integrated Capsule. As new offices are created in these locations, the Satellite Server can add them to their location categories and the Capsule Server services the new offices.

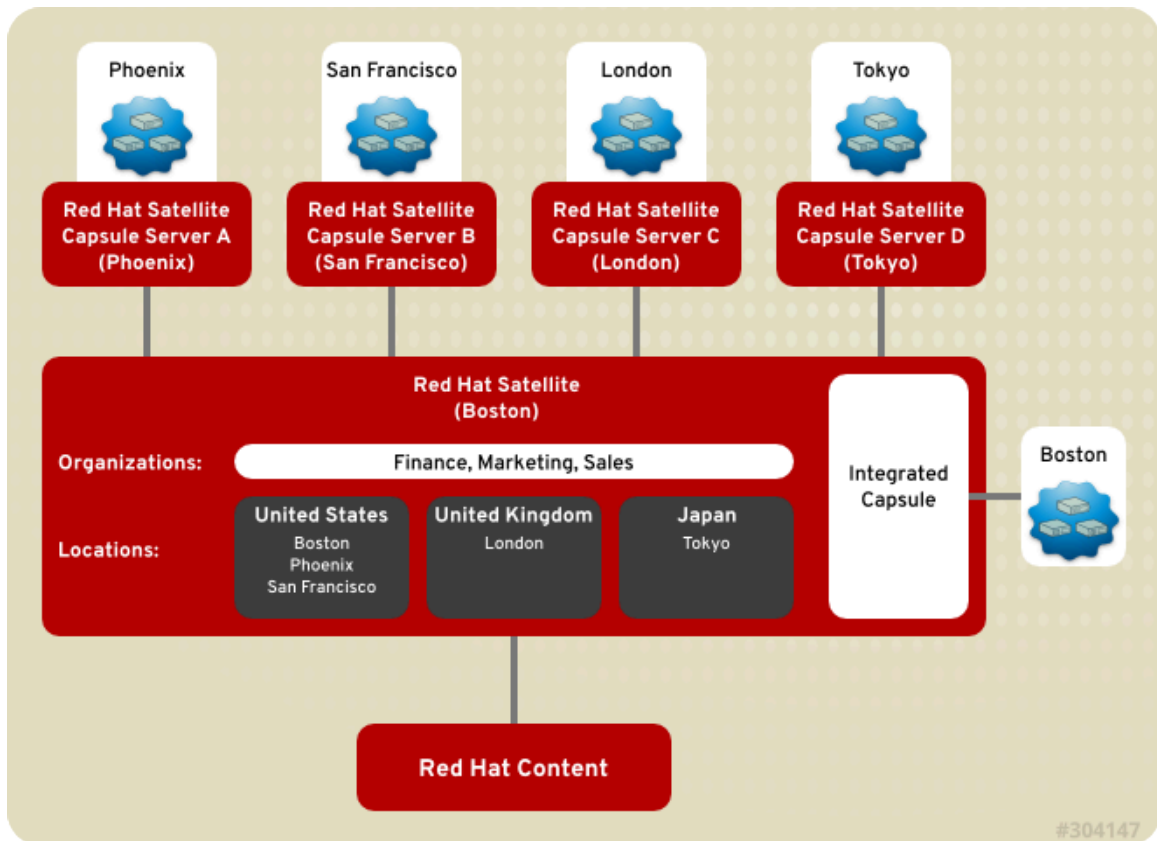


Figure 1.4. Remote Capsules Based on Location

This topology assigns Satellite Capsule Servers to specific locations. The Satellite Server can create a hierarchy of locations; for example, having cities attached to a country. The Satellite Capsule Servers based in these locations are registered to the central Satellite Server in Boston and assigned to their respective locations. Each Capsule services all hosts in each respective location.

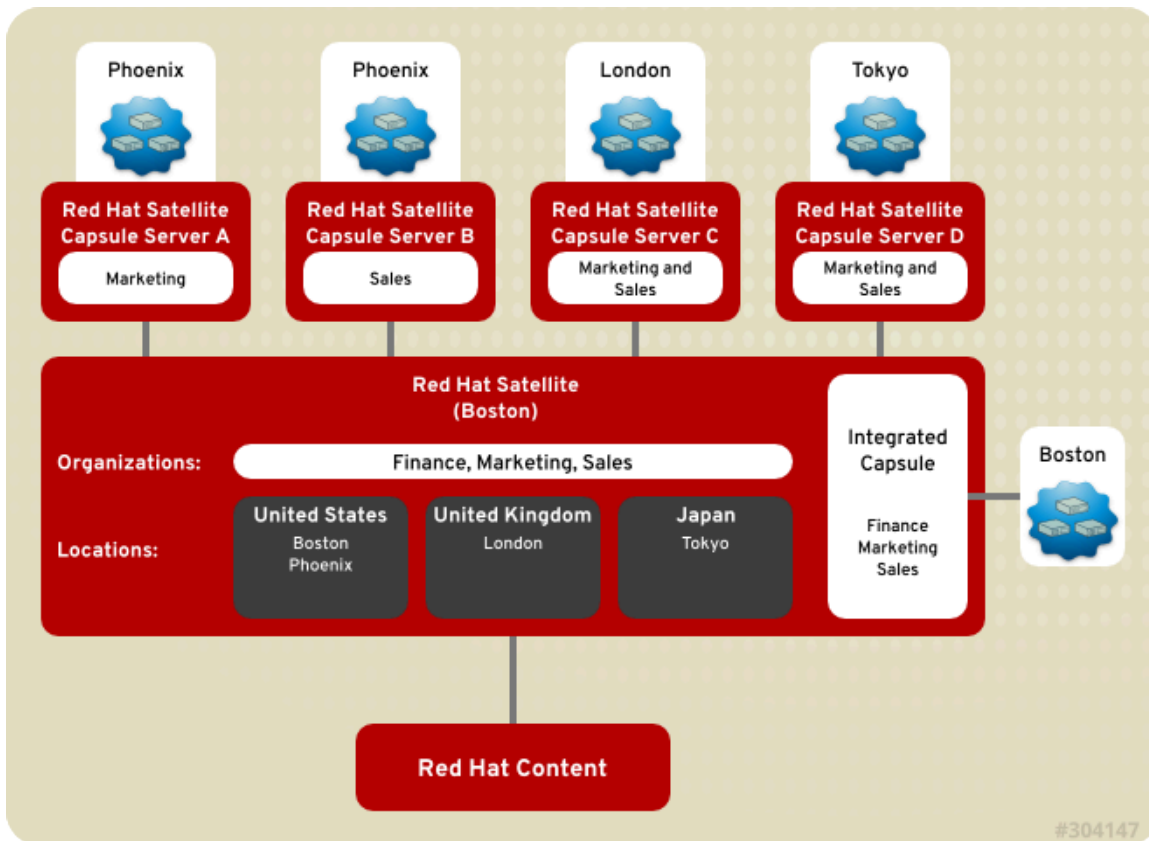


Figure 1.5. Remote Capsules Based on Location and Organization

This topology demonstrates Satellite Capsule Servers assignment to organizations. For example, two Capsule servers are assigned to the Phoenix location, but to different organizations: one for Marketing and the other for Sales. Likewise, two Satellite Capsule Servers are assigned to two organizations: one for both the Sales and Marketing organizations in London, and the other for both the Sales and Marketing organizations in Tokyo. This shows how the combination of Satellite Server and associated Satellite Capsule Servers can manage the layout of multiple organizations in multiple locations working together.

[Report a bug](#)³

1.3. Red Hat Satellite 6 Supported Usage

Each purchased Red Hat Satellite product includes one supported instance of Red Hat Enterprise Linux Server. Install Red Hat Satellite on a fresh installation of Enterprise Linux where Red Hat Satellite is the only application and service provided by the Operating System (OS). Using the Red Hat Enterprise Linux OS included with Satellite to run other daemons, applications, or services within your environment is not supported.

³ https://bugzilla.redhat.com/enter_bug.cgi?cf_environment=Build+Name%3A+22922%2C+Installation+Guide-6.0-1%0ABuild+Date%3A+07-10-2014+15%3A39%3A35%0ATopic+ID%3A+31364-708736+%5BLatest%5D&comment=Title%3A+Red%26nbsp%3BHat+Satellite+6+Layout+and+Topology%0A%0ADescribe+the+issue%3A%0A%0A%0ASuggestions+for+improvement%3A%0A%0A%0AAdditional+information%3A&cf_build_id=31364-708736+12+Sep+2014+12%3A53+en-US+%5BLatest%5D&product=Red+Hat+Satellite+6&component=Docs+Install+Guide



Note

All Red Hat Satellite components and their usage are supported within the context of Red Hat Satellite only. Third party usage of any components falls beyond supported usage.

Red Hat Satellite components' supported use are as follows:

Puppet

Red Hat Satellite 6 includes supported puppet packages. The installation program allows users to install and configure Puppet Masters as a part of Red Hat Satellite Capsule Servers. The server installs hiera, which can be used to refine how puppet modules are applied. A puppet module, running on a puppet master on the Red Hat Satellite Server or Satellite Capsule Server, using hiera, is supported by Red Hat.

Red Hat supports many different scripting and other frameworks, including puppet modules. The support of these frameworks are supported based on this article "[How does Red Hat support scripting frameworks?](#)"⁴

Installation and configuration of Puppet is left up to the Satellite administrator's discretion.

Pulp

Pulp is the content management subsystem within Red Hat Satellite 6. Pulp usage is only supported via the Satellite Server WebUI, CLI and API. Direct modification or interaction with Pulp's local API or database is not within Red Hat's scope of support.

Red Hat does not support direct modification with Pulp as this can cause irreparable damage to the Red Hat Satellite 6 databases.

Foreman

Foreman is an upstream component that makes up a large amount of Red Hat Satellite's core functionality including the WebUI container, users, organizations, security and other significant functions. Foreman can be extended using plug-ins. However, only Red Hat Satellite packaged plug-ins are supported. Red Hat does not support plug-ins in the Red Hat Satellite Optional channel.

Red Hat Satellite also includes components, configuration and functionality to provision and configure operating systems other than Red Hat Enterprise Linux. While these features are included and can be employed, Red Hat only provides support for their application towards Red Hat Enterprise Linux.

Katello

Katello is the upstream component for Red Hat Satellite 6's Content and Subscription user interface and API. The only supported method of using Katello is through the Red Hat Satellite 6 WebUI, API and database. Red Hat does not support direct interactions and modifications to Katello.

⁴ <https://access.redhat.com/articles/369183>

Candlepin

Candlepin is the subscription management subsystem within Red Hat Satellite 6. The only supported method of using Candlepin is through the Red Hat Satellite 6 WebUI, CLI and API only.

Red Hat does not support direct modification and interactions with Candlepin, its local API or database, as this can cause irreparable damage to the Red Hat Satellite 6 databases.

Embedded Tomcat Application Server

The only supported method of using the embedded tomcat application server is through the Red Hat Satellite 6 WebUI, API and database. Red Hat does not support direct interactions and modifications of the embedded tomcat application server's local API or database.

[Report a bug](#)⁵

1.4. Prerequisites

The following conditions must be met before installing Red Hat Satellite 6:

1.4.1. Base Operating System

Red Hat Satellite is only supported on either:

- Red Hat Enterprise Linux 6.6 Server or Later
- Red Hat Enterprise Linux 7 Server or Later

Install the operating system from disc, local ISO image, kickstart, or any other method that Red Hat supports and update the system to the latest set of packages in Red Hat Enterprise Linux.

When registering your host system through Red Hat Subscription Manager (RHSM), specify the type as a Red Hat Satellite server:

```
subscription-manager register
```

⁵ https://bugzilla.redhat.com/enter_bug.cgi?cf_environment=Build+Name%3A+22922%2C+Installation+Guide-6.0-1%0ABuild+Date%3A+07-10-2014+15%3A39%3A35%0ATopic+ID%3A+41094-708807+%5BLatest%5D&comment=Title%3A+Red%26nbsp%3BHat+Satellite+6+Supported+Usage%0A%0ADescribe+the+issue%3A%0A%0ASuggestions+for+improvement%3A%0A%0AAdditional+information%3A&cf_build_id=41094-708807+12+Sep+2014+12%3A58+en-US+%5BLatest%5D&product=Red+Hat+Satellite+6&component=Docs+Install+Guide



Important

- Red Hat Satellite Server requires Red Hat Enterprise Linux installations with the @Base package group with no other package-set modifications, and without third-party configurations or software that is not directly necessary for the direct operation of the server. This restriction includes hardening or other non-Red Hat security software. If such software is required in your infrastructure, install and verify a complete working Satellite Server first, then create a backup of the system before adding any non-Red Hat software.
- Your subscription-manager 'Release' field must be set to 6Server or 7Server in order to receive the latest version of Red Hat Enterprise Linux and Red Hat Satellite during the installation. Set the field by using the command:

```
# subscription-manager release --set=Release
```

Only release versions 6Server and 7Server are supported by Red Hat Satellite.

- Red Hat recommends that the Satellite Server be a freshly provisioned system that serves no other function except as a Satellite Server.
- There should be at least one networked host with the following minimum specifications:
 - 64-bit architecture
 - Red Hat Enterprise Linux 6.6 or later
 - A minimum of two CPU cores, but four CPU cores are recommended.
 - A minimum of 8 GB memory but ideally 12 GB of memory for each instance of Satellite. Use 4 GB of swap space where possible.
 - No Java virtual machine installed on the system, remove any if they exist.
 - No *Puppet* RPM files installed on the system.
 - No third-party unsupported yum repositories enabled. Third-party repositories may offer conflicting or unsupported package versions that may cause installation or configuration errors.
 - A current Red Hat Network subscription.
 - Administrative user (root) access.
 - Full forward and reverse DNS resolution using a fully qualified domain name. Ensure that *hostname* and *localhost* resolve correctly, using the following commands:

```
# ping -c1 localhost
# ping -c1 `hostname -s` # my_system
# ping -c1 `hostname -f` # my_system.domain.com
```



Important

Ensure that the host system is fully updated before installing Red Hat Satellite. Attempts to install on host systems that are not fully updated may lead to difficulty in troubleshooting, as well as unpredictable results.

1.4.2. Supported Browsers

Browser support is divided into 4 levels:

1. Level 1: Fully supported preferred browsers for ideal experience.
2. Level 2: Mostly supported. The interface functions but some design elements may not align correctly, UI controls and layout may be misaligned and there maybe degraded performance experienced.
3. Level 3: Design elements may not align correctly.
4. Level 4: Unsupported

The table below outlines the supported browsers and their level of support:

Table 1.1. Supported Browser Matrix

Browser	Version	Support Level
Firefox	3.6	L3
Firefox	17, 18, 19, 20	L4
Firefox	21	L2
Firefox	22, 23, 24	L1
Firefox	Latest	L1
Chrome	19, 20	L4
Chrome	21, 27	L2
Chrome	Latest	L1
Internet Explorer	7, 8	L4
Internet Explorer	9, 10, 11	L2
Safari	ALL	L4



Note

The web UI and command-line interface for Satellite Server supports English, Portuguese, Simplified Chinese, Traditional Chinese, Korean, Japanese, Italian, Spanish, Russian, French, and German.

1.4.3. Storage

Satellite Server storage specifications are as follows:

- A minimum of 6 GB storage for base operating system installation of Red Hat Enterprise Linux
- A minimum of 400 MB storage for the Red Hat Satellite 6 software installation
- A minimum of 20 GB storage for each unique software repository. Packages that are duplicated in different channels are only stored once on the disk. Additional repositories containing duplicate packages will require less additional storage. The bulk of storage resides on the **/var/lib/mongodb** and **/var/lib/pulp** directories. These end points are not manually configurable. Make sure that storage is available on the /var file system to prevent storage issues.
- A minimum of 2 GB of available storage in **/var/lib/pgsql** with the ability to grow the partition containing this directory as data storage requirements grow.



Note

Most Satellite Server data is stored within the /var directory. It is strongly recommended to mount /var on LVM storage that the system can scale to meet data storage requirements.



Important

Several components of Red Hat Satellite are sensitive to network latency. Local or SAN-based storage are recommended. NFS storage should be avoided.

1.4.4. Application Specifications

Satellite Server application installation specifications are as follows:

It is recommended that a time synchronizer such as **ntp** is installed and enabled on Satellite as Satellite is susceptible to time drift. Run the following command to start the ntpd service and have it persist across restarts:

```
# service ntpd start; chkconfig ntpd on
```

In Red Hat Enterprise Linux 7 **chrony** is the default time synchronizer. Run the following command to start the chronyd service and have it persist across restarts:

```
systemctl start chronyd; systemctl enable chronyd
```

1.4.5. Required Network Ports

The following network ports need to be open and free before continuing with the installation:

Table 1.2. Required Network Ports

Port	Protocol	Service
443	tcp	HTTPS
5671	tcp	amqp

Port	Protocol	Service
80	tcp	HTTP
8080	tcp	Tomcat6
8140	tcp	Puppet
9090	tcp	Foreman Smart Proxy
69	udp	TFTP
53	tcp/udp	DNS
67/68	udp	DHCP
5671	tcp	amqp
5674	tcp	amqp

You can use either the **iptables** command to configure the firewall, or the **system-config-firewall-tui** command-line utility. To modify the firewall with the **iptables** command:

- Port 443 for HTTPS (secure WWW) must be open for incoming connections.
- Port 5671 must be open for advanced message queueing protocol (amqp).
- Port 80 for HTTP (WWW) must be open to download the bootstrap files.
- Port 8080 for TCP must be free for java connections.
- Port 8140 must be open for incoming Puppet connections with the managed systems.
- Port 9090 must be open for Foreman Smart Proxy connections with the managed systems.
- Port 69, 53 and 67/68 must be open for TFTP, DNS and DHCP connections, respectively. These are required for the internal capsule and provisioning.
- Port 5674 must be open for advanced message queueing protocol (amqp) connections with managed systems.
- Run the following commands to configure the firewall with the **iptables** command and to make these rules persistent during reboots:



Note

Run the firewall commands as the root user.

1. For Red Hat Enterprise Linux 6:

```
iptables -I INPUT -m state --state NEW -p tcp --dport 443 -j ACCEPT \  
&& iptables -I INPUT -m state --state NEW -p tcp --dport 5671 -j ACCEPT \  
&& iptables -I INPUT -m state --state NEW -p tcp --dport 80 -j ACCEPT \  
&& iptables -I INPUT -m state --state NEW -p tcp --dport 8140 -j ACCEPT \  
&& iptables -I INPUT -m state --state NEW -p tcp --dport 9090 -j ACCEPT \  
&& iptables -I INPUT -m state --state NEW -p tcp --dport 8080 -j ACCEPT \  
&& iptables -I INPUT -m state --state NEW -p udp --dport 69 -j ACCEPT \  
&& iptables -I INPUT -m state --state NEW -p tcp --dport 53 -j ACCEPT \  
&& iptables -I INPUT -m state --state NEW -p udp --dport 67 -j ACCEPT \  

```



```
&& iptables -I INPUT -m state --state NEW -p udp --dport 68 -j ACCEPT \
&& iptables -I INPUT -m state --state NEW -p tcp --dport 5674 -j ACCEPT \
iptables-save > /etc/sysconfig/iptables
```

2. For Red Hat Enterprise Linux 7:

```
firewall-cmd --permanent --add-port="443/tcp" --add-port="5671/tcp" --add-port="80/tcp"
--add-port="8140/tcp" --add-port="9090/tcp" --add-port="8080/tcp" --add-port="69/udp"
--add-port="53/tcp" --add-port="67/udp" --add-port="68/udp" --add-port="5674/tcp" \
&& firewall-cmd --complete-reload
```

1.4.6. Advanced Firewall Considerations

The following tables provide details about the network connections made to and from the Red Hat Satellite Server.

Table 1.3. Advanced Firewall Considerations with a Red Hat Satellite Server

Flow	Action	Initiator	Initiator Detail	Endpoint	Endpoint Detail	Port	Protocol	SELinux Type
Capsule Registration	Capsule Registration (Content Host)	Capsule	subscription manager	Satellite Server	Apache	443	https	http_port_t
	Capsule Registration (Smart Proxy)	Capsule	Smart Proxy	Satellite Server	Passenger	8443/9090	https	http_port_t, websm_port_t
	Broker Connections	Capsule	AMQP Broker	Satellite Server	AMQP Broker	5671	amqp	amqp_port_t
Broker Connections	Server	AMQP Broker	Client	AMQP Broker	5674	amqp	amqp_port_t	
Content Promotion	Initiation	Server	AMQP Broker	Capsule	AMQP Broker	5671	amqp	amqp_port_t
	Content Mirroring	Capsule	Pulp Node	Server	Apache	443	https/http	http_port_t
Puppet Run	Manifest Request	Client	Puppet Agent	Capsule	Puppet Master	8140	https	puppet_port_t
	External Node Classification	Capsule	Puppet Master	Server	Passenger	443	https	http_port_t
	Run Report	Capsule	Puppet Master	Server	Passenger	443	https	http_port_t
Provisioning	HTTP/FTP/ Etc	Server	Passenger	Capsule	Smart Proxy	8140/8443/9090	https	puppet_port_t, http_port_t, websm_port_t
	Installation	Client	Anaconda/Yum	Capsule	Pulp Node	8443/80	https/http	http_port_t
	Installation Templates	Client	Anaconda	Server	Passenger	443/80	https/http	http_port_t

Flow	Action	Initiator	Initiator Detail	Endpoint	Endpoint Detail	Port	Protocol	SELinux Type
Orchestration	DNS records	Capsule	nsupdate	DNS server	bind	53	dns	dns_port_t
	DHCP records	Capsule	omapi	DHCP server	ISC dhcp	7911	omapi	dhcp_port_t
Yum Run	Yum Execution	Client	Yum	Capsule	Apache	8443/80	https/http	http_port_t
Power Management	BMC On/Off/Cycle/Status	Capsule	User Initiated API/UI	Client	IPMI Device	n/a	ipmi	n/a

Table 1.4. Advanced Firewall Considerations without a Red Hat Satellite Capsule Server

Flow	Action	Initiator	Initiator Detail	Endpoint	Endpoint Detail	Port	Protocol	SELinux Type
Subscription Management	Subscription Manager-Execution	Client	subscription manager	Satellite Server	Passenger	443	https	http_port_t
Action Initiation	Server	AMQP Broker	Client	katello-agent		5671	amqp	amqp_port_t
	Installation/Removal/Update	Client	Anaconda/Yum	Capsule	Apache	8443/80	https/http	http_port_t
Provisioning	Installation Templates	Client	Anaconda	Server	Passenger	443/80	https/http	http_port_t
Compute Resources	Fog interactions (query/create/destroy/etc)	Server	Fog	Compute Resource	Openstack	5000	http	complex_main_port_t
					EC2	443	https	http_port_t
					oVirt	443	https	https_port_t
					Libvirt	22/16514	ssh/tls	ssh_port_t, virt_port_t

1.4.7. SELinux Policy on Satellite 6

Red Hat Satellite 6 uses a set of predefined ports, as described in [Table 1.2, “Required Network Ports”](#). Because Red Hat recommends that SELinux on Satellite 6 systems be set to enforcing, if you need to change the port for any service, you also need to change the associated SELinux port type to allow access to the resources. For example, if you change the web UI ports (HTTP/HTTPS) to 8018/8019, you need to add these port numbers to the httpd_port_t SELinux port type.

[Table 1.5, “SELinux Commands to Change Default Port Assignments”](#) lists the required commands to change the Satellite 6 default ports to a user-specified port. These examples use port 99999 for demonstration purposes; ensure you change this value to suit your deployment.



Note

This change is also required for target ports; for example, when Satellite 6 connects to an external source, such as Red Hat Enterprise Virtualization Manager or OpenStack.

Table 1.5. SELinux Commands to Change Default Port Assignments

Default Port	SELinux Command
80, 443, 8443	<code>semanage port -a -t http_port_t -p tcp 99999</code>
9090	<code>semanage port -a -t websm_port_t -p tcp 99999</code>
5671	<code>semanage port -a -t amqp_port_t -p tcp 99999</code>
8150	<code>semanage port -a -t puppet_port_t -p tcp 99999</code>
53 (tcp)	<code>semanage port -a -t dns_port_t -p tcp 99999</code>
53 (udp)	<code>semanage port -a -t dns_port_t -p udp 99999</code>
7911	<code>semanage port -a -t dhcpd_port_t -p tcp 99999</code>
5000 (OpenStack)	<code>semanage port -a -t complex_main_port_t -p tcp 99999</code>
22	<code>semanage port -a -t ssh_port_t -p tcp 99999</code>
16514 (libvirt)	<code>semanage port -a -t virt_port_t -p tcp 99999</code>
5674 (amqp)	<code>semanage port -a -t amqp_port_t -p tcp 99999</code>

To allow Satellite 6 to connect to a service that is on a different port, for example, EC2 or an external repository served by an Apache `httpd` server, you need to add this port to the `virt_port_t` SELinux type, as follows:

```
# semanage port -a -t virt_port_t -p tcp 99999
```



Important

If SELinux was *disabled* (as compared to enabled and running in permissive mode), when you installed Satellite, then you need to run the following commands after you have completed the installation:

```
# foreman-selinux-enable
# foreman-selinux-relabel
```

Failure to run these commands can result in mislabeled files, AVC denials when attempting to access the web UI, and difficult troubleshooting.

1.4.8. Troubleshooting

Red Hat recommends that the `sos` package be installed on Satellite. The `sos` packages provides the **`sosreport`** command. The **`sosreport`** command collects configuration and diagnostic information from a Red Hat Enterprise Linux system and is used to provide the initial analysis of a system required when opening a service request with Red Hat Technical Support.

Chapter 1. Introduction

To install the sos package run the following command:

```
# yum install sos
```

[Report a bug](#)⁶

⁶ https://bugzilla.redhat.com/enter_bug.cgi?product=Red+Hat+Satellite+6&component=Docs+Install+Guide

Installing Red Hat Satellite Server

This chapter will take you through obtaining the required packages for installing Red Satellite Server whether you are in a connected network or a disconnected one. After which, you will install and configure the Satellite Server through the installation program, **katello-installer**. There are a variety of configuration options that can be used with **katello-installer** and they are documented in the [Section 2.2.3, “Other Configuration Options”](#) section in this chapter.

2.1. Obtaining the Required Packages

In order to install Satellite Server, the packages required for installation must be obtained. This can be accomplished in two methods:

- Downloading the packages directly from the Red Hat Content Delivery Network (CDN) to the host system
- Downloading an ISO image of the packages required from an external computer

Both methods are outlined in this section. However, for host systems that have network connectivity, Red Hat recommends downloading the packages directly from the CDN. Using ISO images is only recommended for host systems in a disconnected environment since ISO images may not contain the latest updates to Satellite.

2.1.1. Downloading from a Connected Network

This section describes how to use Subscription Manager to download the required packages for Red Hat Satellite Server from the repository.

Procedure 2.1. To Download Satellite Server on a Certificate-managed System:

1. List all the available subscriptions to find the correct Red Hat Satellite and Red Hat Enterprise Linux product to allocate to your system:

```
subscription-manager list --available --all
```

This command displays output similar to the following:

```
+-----+
  Available Subscriptions
+-----+

Subscription Name: Red Hat Satellite Subscription
Provides:          Red Hat
                  Red Hat Satellite Capsule 6
                  Red Hat Enterprise Linux 7
                  Red Hat Satellite 6
SKU:              SKU123456
Pool ID:          e1730d1f4eaa448397bfd30c8c7f3d334bd8b
Available:        6
Suggested:        1
Service Level:    Self-Support
Service Type:     L1-L3
Multi-Entitlement: No
Ends:             01/01/2022
System Type:      Physical
```



Note

The SKU and Pool ID depend on the Red Hat Satellite product type that corresponds to your system version and product type. Take note of the pool IDs for Red Hat Satellite 6.1 Beta, Red Hat Enterprise Linux and Red Hat Software collections that correspond to your system version and product type.

2. Attach a subscription to the registered system:

```
subscription-manager subscribe --pool=Red_Hat_Satellite_Pool_Id
subscription-manager subscribe --pool=Red_Hat_Enterprise_Linux_Pool_Id
subscription-manager subscribe --
pool=Red_Hat_Enterprise_Linux_Software_Collections_Pool_Id
```

3. Disable all existing repositories:

```
subscription-manager repos --disable "*" 
```

4. Enable the Red Hat Satellite and Red Hat Enterprise Linux and Red Hat Software Collections repositories. Ensure the Red Hat Enterprise Linux repository matches the specific version you are using.

For Red Hat Enterprise Linux 6:

```
subscription-manager repos --enable rhel-6-server-rpms \
--enable rhel-server-rhsc1-6-rpms \
--enable rhel-server-6-satellite-6-beta-rpms
```

For Red Hat Enterprise Linux 7 and later:

```
subscription-manager repos --enable rhel-7-server-rpms --enable rhel-server-rhsc1-7-rpms
--enable rhel-server-7-satellite-6-beta-rpms
```



Note

The commands above are based on Red Hat Enterprise Linux 6 and 7. If you are using a different version of Red Hat Enterprise Linux, change the repository based on your specific version.

5. Install the *katello* package:

```
yum install katello
```



Important

The required packages are now installed. Proceed to [Section 2.2, “Running the Installation and Configuration Program”](#) to run the installation and configuration program.

[Report a bug](#)¹

2.1.2. Downloading from a Disconnected Network



Note

When the intended host for the Red Hat Satellite server is in a disconnected environment, it is possible to install the Satellite Server by using an ISO image. This method is not recommended for any other situation as ISO images may not contain the latest updates to Satellite; therefore, by installing Red Hat Satellite with an ISO Image you may be installing older versions of Satellite. Older versions may be missing bug fixes and functions.

Prerequisites

Before installing, you must have a repository configured with Red Hat Enterprise Linux 6.6 or later. See the solution titled [Need to set up yum repository for locally-mounted DVD on Red Hat Enterprise Linux 6](#)².

ISO installations require imported Red Hat GPG keys before installation. Run the following command as root before running the installation script:

```
# rpm --import /etc/pki/rpm-gpg/RPM-GPG-KEY-redhat-release
```

The following procedure details how to install Satellite Server on a host through ISO.

1. Download the ISO image from the Red Hat Satellite 6 Channel in the Red Hat Customer Portal.
2. As the root user, mount the ISO image to a directory:

```
# mkdir /media/iso
# mount -o loop iso_filename /media/iso
```

3. Change to the `/media/iso` directory.

¹ https://bugzilla.redhat.com/enter_bug.cgi?cf_environment=Build+Name%3A+22922%2C+Installation+Guide-6.0-1%0ABuild+Date%3A+07-10-2014+15%3A39%3A35%0ATopic+ID%3A+9711-714936+%5BLatest%5D&comment=Title%3A+Installing+Red%26nbsp%3BHat+Satellite%0A%0ADescribe+the+issue%3A%0A%0A%0ASuggestions+for+improvement%3A%0A%0A%0AAdditional+information%3A&cf_build_id=9711-714936+03+Oct+2014+10%3A32+en-US+%5BLatest%5D&product=Red+Hat+Satellite+6&component=Docs+Install+Guide

² <https://access.redhat.com/solutions/328863>

4. Run the installer script in the mounted directory:

```
# ./install_packages
```



Important

The required packages are now installed. Proceed to [Section 2.2, “Running the Installation and Configuration Program”](#) to run the installation and configuration program.

[Report a bug](#)³

2.2. Running the Installation and Configuration Program

Now that the required packages have been downloaded, the installation and configuration program, **katello-installer** must be run to install the Satellite Server. There are two main methods to do so:

- Manual Configuration - manually run the command and configuration options on the command-line interface (CLI).
- Automatic Configuration - most of the installation and configuration process can be automated by using an answer file.

Both methods are supported and available in this chapter. Choosing one or the other would depend on your organization's requirements.

Other configuration options are also documented in this chapter to assist in installing the Satellite Server. For example, if there is an HTTP Proxy in the host system's network, or if the organization uses customised server certificates.

2.2.1. Configuring Red Hat Satellite Manually

Satellite Server has an automatic initial configuration that prepares the Satellite Server for use. The **katello-installer** script supports the ability to override various default settings within the different components of Satellite Server. For example, for organizations that have an existing HTTP proxy, additional configuration options need to be passed to the Satellite Server installer. See [Section 2.2.3, “Other Configuration Options”](#) for other configuration options that can be used based on your environment's requirements.

Procedure 2.2. Running the Installer Script

1. As the root user, configure Red Hat Satellite Server manually by running the **katello-installer** script:

```
katello-installer --foreman-initial-organization "desired_organization_name" \  
--foreman-initial-location "desired_default_location" \  
--foreman-admin-username admin-username \  
--foreman-admin-password admin-password
```

³ https://bugzilla.redhat.com/enter_bug.cgi?product=Red+Hat+Satellite+6&component=Docs+Install+Guide

Additional configuration options can be passed to the **katello-installer** command to adjust various aspects of the configuration. View a complete list of options using the command:

```
# katello-installer --help
```

This script can be run multiple times without any issues.



Important

If no admin username or admin password is defined at installation, the default username is *admin*. The default organization name is *Default Organization*. It is strongly recommended that you override these default settings once you log in to the Satellite Server interface and navigate to **Administer** → **Users** and **Administer** → **Organizations**.

When the configuration script has completed successfully, it displays:

```
# katello-installer
Installing          Done
  [100%] [.....]
Success!
* Katello is running at https://sat6.example.com
  Default credentials are 'admin:changeme'
* Capsule is running at
https://sat6.example.com:9090
* To install additional capsule on separate machine continue by running:"

  capsule-certs-generate --capsule-fqdn "$CAPSULE" --certs-tar
  "~/ $CAPSULE-certs.tar"

The full log is at /var/log/katello/installer/katello-installer.log
```

- After configuration, run the following commands to configure the firewall to limit **elasticsearch** to the **foreman**, **katello** and **root** users and make these rules persistent during reboots:

- For Red Hat Enterprise Linux 6:

```
iptables -A OUTPUT -o lo -p tcp -m tcp --dport 9200 -m owner --uid-owner foreman -j
ACCEPT \
&& iptables -A OUTPUT -o lo -p tcp -m tcp --dport 9200 -m owner --uid-owner katello -j
ACCEPT \
&& iptables -A OUTPUT -o lo -p tcp -m tcp --dport 9200 -m owner --uid-owner root -j
ACCEPT \
&& iptables -A OUTPUT -o lo -p tcp -m tcp --dport 9200 -j DROP
iptables-save > /etc/sysconfig/iptables
```

- For Red Hat Enterprise Linux 7:

```
firewall-cmd --permanent --direct --add-rule ipv4 filter OUTPUT 0 -o lo -p tcp -m tcp
--dport 9200 -m owner --uid-owner foreman -j ACCEPT \
```

```
&& firewall-cmd --permanent --direct --add-rule ipv6 filter OUTPUT 0 -o lo -p tcp -m
tcp --dport 9200 -m owner --uid-owner foreman -j ACCEPT \
&& firewall-cmd --permanent --direct --add-rule ipv4 filter OUTPUT 0 -o lo -p tcp -m
tcp --dport 9200 -m owner --uid-owner katello -j ACCEPT \
&& firewall-cmd --permanent --direct --add-rule ipv6 filter OUTPUT 0 -o lo -p tcp -m
tcp --dport 9200 -m owner --uid-owner katello -j ACCEPT \
&& firewall-cmd --permanent --direct --add-rule ipv4 filter OUTPUT 0 -o lo -p tcp -m
tcp --dport 9200 -m owner --uid-owner root -j ACCEPT \
&& firewall-cmd --permanent --direct --add-rule ipv6 filter OUTPUT 0 -o lo -p tcp -m
tcp --dport 9200 -m owner --uid-owner root -j ACCEPT \
&& firewall-cmd --permanent --direct --add-rule ipv4 filter OUTPUT 1 -o lo -p tcp -m
tcp --dport 9200 -j DROP \
&& firewall-cmd --permanent --direct --add-rule ipv6 filter OUTPUT 1 -o lo -p tcp -m
tcp --dport 9200 -j DROP
```

The Red Hat Satellite Server is initially populated with an initial organization and location named "Default Organization" and "Default Location", respectively. These organizations can be used within the Satellite Server as they are. However, additional organizations and locations can be created in the Satellite Server after initial configuration. The default location and organization can be deleted after new organizations and locations have been created.

[Report a bug](#)⁴

2.2.2. Configuring Red Hat Satellite with an Answer File

The following task shows how to configure Red Hat Satellite Server with an answer file.

Procedure 2.3. Configuration Using an Answer File

Answer files are used for automated installations with customized options. To configure and use an answer file for installation:

1. Copy the default answer file located at `/etc/katello-installer/answers.katello-installer.yaml` to a location on your local filesystem:

```
# cp /etc/katello-installer/answers.katello-installer.yaml /etc/katello-installer/my-
answer-file.yaml
```



Note

The initial answer file will be sparsely populated. However, once **katello-installer** is run for the first time, the answer file is populated with the standard parameter values for installation.

2. Open your copy of the answer file in your preferred text editor and edit the values to suit your environment. Save your answer file once you have finished editing it.

⁴ https://bugzilla.redhat.com/enter_bug.cgi?cf_environment=Build+Name%3A+22922%2C+Installation+Guide-6.0-1%0ABuild+Date%3A+07-10-2014+15%3A39%3A35%0ATopic+IDs%3A%0A9695-714909+%5BLatest%5D&comment=Title%3A+Configuring+Red+Hat+Satellite+Manually%0A%0ADescribe+the+issue%3A%0A%0ASuggestions+for+improvement%3A%0A%0AAdditional+information%3A&product=Red+Hat+Satellite+6&component=Docs+Install+Guide

**Note**

The parameters for each module are specified in the module's **params.pp** file. Available modules with parameter files can be viewed by executing the command:

```
# rpm -ql katello-installer | grep params.pp
```

3. Open the `/etc/katello-installer/katello-installer.yaml` file in your preferred text editor and edit the answer file entry to point to your custom answer file:

```
:answer_file: /etc/katello-installer/my-answerfile.yaml
```

4. Run the **katello-installer** command.

```
# katello-installer
```

[Report a bug](#)⁵

2.2.3. Other Configuration Options

2.2.3.1. Configuring Red Hat Satellite with an HTTP Proxy

For networks that go through an HTTP Proxy, use the following **katello-installer** options:

```
katello-installer --katello-proxy-url=http://myproxy.example.com \
--katello-proxy-port=8080 \
--katello-proxy-username=proxy_username \
--katello-proxy-password=proxy_password
```

Where:

- **--katello-proxy-url**: URL of the HTTP proxy server.
- **--katello-proxy-port**: Port the HTTP proxy server is listening on.
- **--katello-proxy-username**: - (optional) HTTP proxy username for authentication. If your HTTP proxy server does not require a username, you are not required to specify the username.
- **--katello-proxy-password**: - (optional) the HTTP proxy password for authentication. If your HTTP proxy server does not require a password, you are not required to specify the password.

⁵ https://bugzilla.redhat.com/enter_bug.cgi?cf_environment=Build+Name%3A+22922%2C+Installation+Guide-6.0-1%0ABuild+Date%3A+07-10-2014+15%3A39%3A35%0ATopic+ID%3A+11160-708814+%5BLatest%5D&comment=Title%3A+Configuring+Red%26nbsp%3BHat+Satellite+with+an+Answer+File%0A%0ADescribe+the+issue%3A%0A%0ASuggestions+for+improvement%3A%0A%0AAdditional+information%3A&cf_build_id=11160-708814+12+Sep+2014+12%3A58+en-US+%5BLatest%5D&product=Red+Hat+Satellite+6&component=Docs+Install+Guide

After configuring the Satellite Server to go through the HTTP Proxy, make sure that **yum** or **subscription-manager** can connect to the Red Hat Content Delivery Network (CDN) and that the Satellite Server can synchronize its repositories to the CDN by following these steps:

Procedure 2.4. Configuring Satellite Server to Allow Red Hat Subscription Manager Access to the CDN

1. On the network gateway and the HTTP Proxy, open the following hostnames, ports and protocols:

Table 2.1. Required Hostnames, Ports and Protocols

Hostname	Port	Protocol
subscription.rhn.redhat.com	443	https
cdn.redhat.com	443	https
*.akamaiedge.net	443	https

2. In the Satellite Server, complete the following details in the `/etc/rhsm/rhsm.conf` file:

```
# an http proxy server to use (enter server FQDN)
proxy_hostname = http_proxy.example.com

# port for http proxy server
proxy_port = 3128

# user name for authenticating to an http proxy, if needed
proxy_user =

# password for basic http proxy auth, if needed
proxy_password =
```

[Report a bug](#)⁶

2.2.3.2. Configuring Red Hat Satellite with a Custom Server Certificate

katello-installer comes with a default CA used both for the server ssl certificates as well as the client certificates used for authentication of the subservices. These certificates can be replaced with custom ones.

There are two instances wherein you can configure the Satellite Server to use a custom CA certificate:

1. When **katello-installer** is run the first time
2. After **katello-installer** has already been run

Procedure 2.5. Setting a Custom Server Certificate while running katello-installer for the first time

- Run this command on the Red Hat Satellite Server:

```
katello-installer --certs-server-cert ~/path/to/server.crt\  
--certs-server-cert-req ~/path/to/server.crt.req\  
--certs-server-key ~/path/to/server.crt.key\  

```

⁶ https://bugzilla.redhat.com/enter_bug.cgi?cf_environment=Build+Name%3A+22922%2C+Installation+Guide-6.0-1%0ABuild+Date%3A+07-10-2014+15%3A39%3A35%0ATopic+ID%3A+41324-708812+%5BLatest%5D&comment=Title%3A+Configuring+Red%26nbsp%3BHat+Satellite+Manually+with+an+HTTP+Proxy%0A%0ADescribe+the+issue%3A%0A%0ASuggestions+for+improvement%3A%0A%0AAdditional+information%3A&cf_build_id=41324-708812+12+Sep+2014+12%3A58+en-US+%5BLatest%5D&product=Red+Hat+Satellite+6&component=Docs+Install+Guide

```
--certs-server-ca-cert ~/path/to/cacert.crt
```

Where:

- **certs-server-cert** is the path to your certificate, signed by your certificate authority (or self signed)
- **certs-server-cert-req** is the path to your certificate signing request file that was used to create the certificate.
- **certs-server-key** the private key used to sign the certificate
- **certs-server-ca-cert** ~/path/to/cacert.crt the path to the CA certificate on this system.

Procedure 2.6. Setting a Custom Server Certificate after running katello-installer

1. The initial run of **katello-installer** uses the default CA for both server and client certificates. To enforce custom certificates deployment, set the `--certs-update-server` parameter and the `--certs-update-server-ca` parameter to update the CA certificate:

```
katello-installer --certs-server-cert ~/path/to/server.crt\  
--certs-server-cert-req ~/path/to/server.crt.req\  
--certs-server-key ~/path/to/server.crt.key\  
--certs-server-ca-cert ~/path/to/cacert.crt\  
--certs-update-server --certs-update-server-ca
```

This will regenerate the `katello-ca-consumer` package and the server CA certificate.

2. After the server CA changes, install the new version of the `consumer-ca-consumer` package on the client systems:

```
rpm -Uvh http://katello.example.com/pub/katello-ca-consumer-latest.noarch.rpm
```



Important

Use the same custom server certificate on both the Red Hat Satellite Server and the Red Hat Satellite Capsule Server to ensure that the trusted relationship between the two hosts is maintained.

[Report a bug](#)⁷

2.2.3.3. Configuring DNS, DHCP, and TFTP

This section describes how to configure Satellite to run BIND (named) to provide authoritative DNS services for the `example.org` domain and the `172.17.13.x` subnet. This requires setting up a DNS zone for forward lookups, which will be contained in the `example.org` zone file. Additionally, a DNS

⁷ https://bugzilla.redhat.com/enter_bug.cgi?cf_environment=Build+Name%3A+22922%2C+Installation+Guide-6.0-1%0ABuild+Date%3A+07-10-2014+15%3A39%3A35%0ATopic+ID%3A+41339-708813+%5BLatest%5D&comment=Title%3A+Configuring+Red%26nbsp%3BHat+Satellite+with+a+Custom+Server+Certificate%0A%0ADescribe+the+issue%3A%0A%0A%0ASuggestions+for+improvement%3A%0A%0A%0AAdditional+information%3A&cf_build_id=41339-708813+12+Sep+2014+12%3A58+en-US+%5BLatest%5D&product=Red+Hat+Satellite+6&component=Docs+Install+Guide

zone for reverse lookups will be created for the 172.17.13.x subnet, which will be contained in the **13.17.172.in-addr.arpa** reverse zone file. This ensures that hosts provisioned from Satellite use the correct name resolution parameters. This section also describes how to configure the TFTP proxy so that hosts can boot using PXE.

Clients on this network will have the following characteristics:

- Have access to IP addresses in the range 172.17.13.100 to 172.17.13.150 for DHCP.
- Use the Satellite (`satellite.example.org` at 172.17.13.2) for DNS.
- Receive a **pxelinux.0** file from Satellite (`satellite.example.org` at 172.17.13.2) to enable PXE-booting.
- Have host names of `hostname.example.org`, where `hostname` is configured when the host is provisioned.



Important

This example enables DHCP services on the Satellite server. Consult your network administrator before proceeding.

Run the following **katello-installer** command as root, using the specified options to configure the required services on the Satellite server. Remember to substitute your desired administrator user name and password.



Important

- If you have created an admin user and password by running **katello-installer** previously, do not include the **--foreman-admin-username** and **--foreman-admin-password** options in the following command.
- If you do not specify the administrator user name and password, the default user `admin` is created, and the password is automatically generated. The credentials are displayed at the end of the installation process. Make a note of this password. You can also retrieve the password from `admin_password` parameter in the `/etc/katello-installer/answers.katello-installer.yaml` file.

```
katello-installer -v \  
--foreman-admin-username admin-username \  
--foreman-admin-password admin-password \  
--capsule-dns true \  
--capsule-dns-interface eth0 \  
--capsule-dns-zone example.org \  
--capsule-dns-forwarders 172.17.13.1 \  
--capsule-dns-reverse 13.17.172.in-addr.arpa \  
--capsule-dhcp true \  
--capsule-dhcp-interface eth0 \  
--capsule-dhcp-range "172.17.13.100 172.17.13.150" \  
--capsule-dhcp-gateway 172.17.13.1 \  
--capsule-dhcp-nameservers 172.17.13.2 \  
--capsule-tftp true \  

```

```
--capsule-tftp-servername $(hostname) \
--capsule-puppet true \
--capsule-puppetca true
```

At the end of the installation process, **katello-installer** outputs the status of the installation.

```
Success!
* Katello is running at https://satellite.example.org
  Default credentials are 'admin:*****'
* Capsule is running at https://satellite.example.org:9090
* To install additional capsule on separate machine continue by running:"

  capsule-certs-generate --capsule-fqdn "$CAPSULE" --certs-tar "~/$CAPSULE-certs.tar"

The full log is at /var/log/katello-installer/katello-installer.log
```

Use a web browser to navigate to <https://satellite.example.org> to display the Satellite home page. This example uses the default organization (Default_Organization) and the default location.

[Report a bug](#)⁸

2.2.3.3.1. Additional DNS, DHCP and TFTP Options

The following table describes the various options and the values required to correctly configure the Satellite server. The **katello-installer** command uses Puppet; consequently, it will install additional packages (bind, dhcp, xinetd, and so on) and configure them to add the requested functionality.

For a complete list of available options, run **katello-installer --help**.

Table 2.2. Satellite Configuration Options

Option	Description	Value
--foreman-admin-username	The user name for the initial administrator.	User specified.
--foreman-admin-password	The password for the initial administrator.	User specified.
--capsule-dns	Enable DNS proxy capability	yes
--capsule-dns-interface	Which interface named should listen on	eth0
--capsule-dns-zone	The Forward DNS zone that the Satellite will host	example.org
--capsule-dns-forwarders	The DNS server that unknown queries are forwarded to	172.17.13.1
--capsule-dns-reverse	The Reverse DNS zone the Satellite hosts. This is usually the first three octets of the IP address (172.17.13) reversed , and appended with ".in-addr.arpa".	13.17.172.in-addr.arpa
--capsule-dhcp	Enable DHCP proxy capability	yes
--capsule-dhcp-interface	The interface that DHCP listens on	eth0
--capsule-dhcp-range	The range of IP addresses to issue to clients.	172.17.13.100 172.172.13.150
--capsule-dhcp-gateway	The default gateway IP to issue to clients.	172.17.13.1

⁸ https://bugzilla.redhat.com/enter_bug.cgi?product=Red+Hat+Satellite+6&component=Docs+Install+Guide

Option	Description	Value
--capsule-dhcp-nameservers	The host that the clients should use for name resolution. This should be configured with the Satellite's IP in this deployment model.	172.17.13.2
--capsule-tftp	Enable TFTP proxy capability. This is needed to PXE boot the clients.	yes
--capsule-tftp-servername	Sets the TFTP host name. Set this to match the server's host name (satellite.example.org).	\$(hostname)
--capsule-puppet	Enable the Puppet Master.	yes
--capsule-puppetca	Enable the Puppet CA.	yes

Logging in to Red Hat Satellite

After **Red Hat Satellite** has been installed and configured use the web user interface to log in to **Satellite** for further configuration.

These steps show how to log in to Red Hat Satellite.

1. Access the **Satellite** server using a web browser pointed to the following address:

`https://HOSTNAME/`

To identify your hostname, use the **hostname** command at the prompt:

```
# hostname
```



Important

An untrusted connection warning appears on your web browser when accessing **Satellite** for the first time. Accept the self-signed certificate and add the **Satellite** URL as a security exception to override the settings. This procedure might differ depending on the browser being used.

Only do this if you are sure that the **Satellite** URL is a trusted source.



This Connection is Untrusted

You have asked Firefox to connect securely to [redacted] but we can't confirm that your connection is secure.

Normally, when you try to connect securely, sites will present trusted identification to you that you are going to the right place. However, this site's identity can't be verified.

What Should I Do?

If you usually connect to this site without problems, this error could mean that someone is trying to impersonate the site, and you shouldn't continue.

Get me out of here!

- ▶ **Technical Details**
- ▶ **I Understand the Risks**

Figure 3.1. Untrusted Connection Warning

2. Enter the user name and password created during the configuration process. If a user was not created during the configuration process, the default user name is *admin*.

Result

When you have successfully logged in, you are taken to the **Satellite** dashboard. The dashboard contains an overview of the **Satellite** and the hosts registered.

The main navigation tabs are as follows:

Table 3.1. Navigation Tabs

Navigation Tabs	Description
Organization@Location	Clicking this tab changes the organization and location. If no organization or location is selected, the default organization is <i>Any Organization</i> and the default location is <i>Any Location</i> . Use this tab to change to different values.
Monitor	Provides summary dashboards and reports.
Content	Provides content management tools. This includes Content Views, Activation Keys, and life cycle Environments.
Hosts	Provides host inventory and provisioning configuration tools.
Configure	Provides general configuration tools and data including Host Groups and Puppet data.
Infrastructure	Provides tools on configuring how Satellite 6 interacts with the environment.
Administer	Provides advanced configuration for settings such as Users and RBAC, as well as general settings.
User Name	Provides user administration where users can edit their personal information.



Note

If you have forgotten the administrative password, log on to the **Satellite** command-line interface to reset the administration user and password:

```
# foreman-rake permissions:reset
Reset to user: admin, password: qwJxBptxb7Gfcjj5
```

This will reset the password of the default user *admin* to the one printed on the command line. Change this password upon logging in to prevent any security issues from occurring.

[Report a bug](#)¹

3.1. Organizations

Organizations divide hosts into logical groups based on ownership, purpose, content, security level, or other divisions.

Multiple organizations can be viewed, created, and managed within the web interface. Software and host entitlements can be allocated across many organizations, and access to those organizations controlled.

Each organization must be created and used by a single Red Hat customer account, however each account can manage multiple organizations. Subscription manifests can only be imported into a single

¹ https://bugzilla.redhat.com/enter_bug.cgi?cf_environment=Build+Name%3A+22922%2C+Installation+Guide-6.0-1%0ABuild+Date%3A+07-10-2014+15%3A39%3A35%0ATopic+IDs%3A%0A11163-708738+%5BLatest%5D&comment=Title%3A+Logging+in+to+Red+Hat+Satellite%0A%0ADescribe+the+issue%3A%0A%0A%0ASuggestions+for+improvement%3A%0A%0A%0AAdditional+information%3A&product=Red+Hat+Satellite+6&component=Docs+Install+Guide

organization and Satellite will not upload a certificate that has already been uploaded into a different organization.

By default, **Red Hat Satellite** will have one organization already created, called *Default Organization*, which can be modified to suit your own installation, or deleted.



Important

If a new user is not assigned a default organization their access will be limited. To grant the user systems rights, assign them a default organization and have them log out and log back in again.

[Report a bug²](#)

3.1.1. Creating an Organization

These steps show how to create a new organization.

Procedure 3.1. Creating an Organization

1. Click the **Administer** → **Organizations** menu on the top right hand corner.
2. Click the **New Organization** button.
3. Type in the name of the new organization in the **Name** field.
4. Type in the label of the new organization in the **Label** field.
5. Type in a description of the new organization in the **Description** field.
6. Click the **Submit** button.
7. Select the hosts to assign to the new organization.
 - Click the **Assign All** button to assign all hosts with no organization to the new organization.
 - Click the **Manually Assign** button to manually select and assign the hosts with no organization.
 - Click the **Proceed to Edit** button to skip assigning hosts.

[Report a bug³](#)

² https://bugzilla.redhat.com/enter_bug.cgi?cf_environment=Build+Name%3A+22922%2C+Installation+Guide-6.0-1%0ABuild+Date%3A+07-10-2014+15%3A39%3A35%0ATopic+IDs%3A%0A9570-714910+%5BLatest%5D&comment=Title%3A+Organizations%0A%0ADescribe+the+issue%3A%0A%0A%0ASuggestions+for+improvement%3A%0A%0A%0AAdditional+information%3A&product=Red+Hat+Satellite+6&component=Docs+Install+Guide

³ https://bugzilla.redhat.com/enter_bug.cgi?cf_environment=Build+Name%3A+22922%2C+Installation+Guide-6.0-1%0ABuild+Date%3A+07-10-2014+15%3A39%3A35%0ATopic+ID%3A+9700-698354+%5BLatest%5D&comment=Title%3A+Creating+an+Organization%0A%0ADescribe+the+issue%3A%0A%0A%0ASuggestions+for+improvement%3A%0A%0A%0AAdditional+information%3A&cf_build_id=9700-698354+15+Aug+2014+16%3A02+en-US+%5BLatest%5D&product=Red+Hat+Satellite+6&component=Docs+Install+Guide

3.1.2. Editing an Organization

Procedure 3.2. Editing an Organization

1. Click the **Administer** → **Organizations** menu on the top right hand corner.
2. Click the name of the organization to be edited.
3. Select the resource to edit from the list on the left.
4. Click the name of the desired items to add them to the **Selected Items** list.
5. Click the **Submit** button.

Result

The organization is updated and saved.

[Report a bug](#)⁴

3.1.3. Removing an Organization

Procedure 3.3. Removing an Organization

1. Click the **Administer** → **Organizations** menu on the top right hand corner.
2. Select **Delete** from the drop down menu to the right of the name of the organization you want to remove.
3. An alert box appears:

Delete *Organization Name*?

4. Click the **OK** button.

Result

The organization is removed from **Red Hat Satellite**.

[Report a bug](#)⁵

3.2. Changing Your Account Preferences

Setting up default account preferences ensures that subsequent logins will enable the correct context within the Red Hat Satellite Server for a specific user. It also allows changes in user preferences.

⁴ https://bugzilla.redhat.com/enter_bug.cgi?cf_environment=Build+Name%3A+22922%2C+Installation+Guide-6.0-1%0ABuild+Date%3A+07-10-2014+15%3A39%3A35%0ATopic+ID%3A+40852-697792+%5BLatest%5D&comment=Title%3A+Editing+an+Organization%0A%0ADescribe+the+issue%3A%0A%0A%0ASuggestions+for+improvement%3A%0A%0A%0AAdditional+information%3A&cf_build_id=40852-697792+12+Aug+2014+16%3A31+en-US+%5BLatest%5D&product=Red+Hat+Satellite+6&component=Docs+Install+Guide

⁵ https://bugzilla.redhat.com/enter_bug.cgi?cf_environment=Build+Name%3A+22922%2C+Installation+Guide-6.0-1%0ABuild+Date%3A+07-10-2014+15%3A39%3A35%0ATopic+ID%3A+12024-708743+%5BLatest%5D&comment=Title%3A+Removing+an+Organization%0A%0ADescribe+the+issue%3A%0A%0A%0ASuggestions+for+improvement%3A%0A%0A%0AAdditional+information%3A&cf_build_id=12024-708743+12+Sep+2014+12%3A53+en-US+%5BLatest%5D&product=Red+Hat+Satellite+6&component=Docs+Install+Guide

The following preferences can be changed:

1. **User** - Change personal data about your login name, as well as your password and default location/organization.
 - a. First Name
 - b. Surname
 - c. Email Address
 - d. Default Location
 - e. Default Organization
 - f. Password
2. **Locations** - Add or remove locations on your account based on the locations created within the Red Hat Satellite Server.
3. **Organizations** - Add or remove organizations on your user account based on the organizations created within the Red Hat Satellite Server.
4. **Roles** - Add or remove roles on your user account based on a set of roles created within the Red Hat Satellite Server.

Procedure 3.4. Changing your Account Preferences

To change these preferences:

1. At the upper right corner, hover your mouse over the **admin** user and on the drop-down menu that appears, click on **My Account**.
2. Choose the subtab of the preference you wish to change and click on the subtab.
3. Change the preferences you wish to change and click on **Submit**.



Note

Set your default location/organization in the **User** subtab after your initial login. This will make sure that subsequent logins will set you in the correct context for your user.

[Report a bug](#)⁶

3.3. Configuring LDAP Authentication for Red Hat Satellite

Red Hat Satellite includes the option to use a Lightweight Directory Access Protocol (LDAP) service for user information and authentication, using one or more LDAP directories.

⁶ https://bugzilla.redhat.com/enter_bug.cgi?cf_environment=Build+Name%3A+22922%2C+Installation+Guide-6.0-1%0ABuild+Date%3A+07-10-2014+15%3A39%3A35%0ATopic+ID%3A+41437-711737+%5BLatest%5D&comment=Title%3A+Changing+Your+Account+Preferences%0A%0ADescribe+the+issue%3A%0A%0ASuggestions+for+improvement%3A%0A%0A%0AAdditional+information%3A&cf_build_id=41437-711737+22+Sep+2014+16%3A11+en-US+%5BLatest%5D&product=Red+Hat+Satellite+6&component=Docs+Install+Guide

Procedure 3.5. To Configure LDAP Authentication:

1. Log in as the Satellite administrator.
2. Click **Administer** → **LDAP Authentication** on the upper right of the page.
3. Click **New LDAP source** on the upper right of the page.
4. Fill in the information in the following tabs:
 - a. **LDAP Server** Tab. For the LDAP server tab, enter the following information:
 - Name - LDAP server's name.
 - Server - the LDAP server's hostname.
 - Port - the LDAP port. This defaults to port 389.
 - TLS - Enables Transport Layer Security. Tick the check box to enable encryption.
 - b. **Account** Tab. For the Account Tab, enter the following information:
 - Account Username - an LDAP user who has read access to the LDAP server. This field cannot remain blank. Use the full path to the user's object. For example:

```
uid=$login,cn=users,cn=accounts,dc=example,dc=com
```

- Account password - the LDAP password for the user defined in the Account username field. This field can remain blank if the Account username is using the "\$login" variable.
- Base DN - the top level domain name of your LDAP directory. For example:

```
cn=users,cn=accounts,dc=redhat,dc=com
```

- LDAP filter
 - Automatically create accounts in Foreman - creates Satellite accounts automatically for LDAP users who log in for the first time in Satellite. Tick the check box to enable this feature.
- c. **Attribute mappings** tab. LDAP attributes such as login, name, and email addresses, need to be mapped to Satellite attributes for LDAP to work on Satellite. The following attributes can be mapped to Satellite:
 - Login name attribute
 - First Name attribute
 - Surname attribute
 - Email address attribute

⁷ https://bugzilla.redhat.com/enter_bug.cgi?cf_environment=Build+Name%3A+22922%2C+Installation+Guide-6.0-1%0ABuild+Date%3A+07-10-2014+15%3A39%3A35%0ATopic+ID%3A+31214-712456+%5BLatest%5D&comment=Title%3A+Configuring+LDAP+Authentication+for+Red%26nbsp%3BHat+Satellite%0A%0ADescribe+the+issue%3A%0A%0ASuggestions+for+improvement%3A%0A%0AAdditional+information%3A&cf_build_id=31214-712456+24+Sep+2014+08%3A39+en-US+%5BLatest%5D&product=Red+Hat+Satellite+6&component=Docs+Install+Guide

[Report a bug⁷](#)

Populating Red Hat Satellite with Content

Red Hat Satellite provides different types of content to subscribed client hosts. Content types include packages, errata updates, kickstart trees, and installation images.

Satellite Server requires a source to provide this content. The content is configured by uploading a *subscription manifest* file to the Satellite. This file can be obtained through the Red Hat Customer Portal, or by contacting Red Hat Support. Manifests provide subscriptions to client hosts through the Red Hat Satellite rather than through Red Hat Network.

This chapter outlines the process of populating your Red Hat Satellite Server, whether it is a connected Red Hat Satellite Server or a disconnected Red Hat Satellite Server, with the content it requires so client hosts can be subscribed to it and receive updates.

[Report a bug](#)¹

4.1. Connected Satellite

4.1.1. Using Red Hat Content Providers

4.1.1.1. Setting up a Manifest

A *subscription manifest* can be obtained through the method below or by contacting Red Hat Support. The manifest is used to set up Red Hat content providers and contains repository information and subscriptions. It is used as a basis of dispensing subscriptions and Red Hat Network (RHN) content to client systems from **Red Hat Satellite**.

Prerequisites

You must meet the following conditions before continuing with this task:

- A Customer Portal user name and password.
- Sufficient subscriptions to add to the manifest.

These steps show how to obtain the subscription manifest from the Customer Portal:

1. Log in to the [Customer Portal](#)².
2. Click **Subscriptions** on the top left-hand corner of the page. On the Red Hat Subscription Management Page, scroll down to Subscription Management Applications, then, click **Satellite**.
3. On the upper right corner of the Subscriptions Management Applications page, click **Register a Satellite**.

¹ https://bugzilla.redhat.com/enter_bug.cgi?cf_environment=Build+Name%3A+22922%2C+Installation+Guide-6.0-1%0ABuild+Date%3A+07-10-2014+15%3A39%3A35%0ATopic+IDs%3A%0A9566-708747+%5BLatest%5D&comment=Title%3A+Populating+Red+Hat+Satellite+with+Content%0A%0ADescribe+the+issue%3A%0A%0ASuggestions+for+improvement%3A%0A%0AAdditional+information%3A&product=Red+Hat+Satellite+6&component=Docs+Install+Guide

² <https://access.redhat.com/home>

4. Use your organization's name in the **Name** field to distinguish your Satellite from the other Satellite systems in your account.



Note

Since manifests are generated for every unique organization, using the organization's name for the manifest makes multi-organization environments manageable.

5. Select **Satellite 6.0** from the drop-down menu as the **Satellite version**. It is important to select the correct version as each version requires a certain subset of packages.
6. Click **Register**.
7. Click **Attach a subscription**, add the subscriptions for Red Hat Satellite to manage, and then click **Attach Selected**. See [How to generate a certificate](#)³ for more information.

The minimum requirements for generating a manifest are:

- A valid Red Hat Satellite subscription on your Customer Portal account. This is not attached to the manifest.
- At least one Red Hat Enterprise Linux subscription to attach to the manifest.



Warning

If there are no valid subscriptions in the account, the **Download Manifest** button will not be clickable.

8. Click **Download manifest** to generate an archive in .zip format that contains the manifest for Red Hat Satellite.

[Report a bug](#)⁴

4.1.1.2. Uploading a Subscription Manifest

This section describes how to upload a subscription manifest to an organization. Because subscription manifests are assigned to an organization, ensure you select an organization before you try to upload a subscription manifest. Failing to do so will cause a permission denied error (Error 403).

³ <https://access.redhat.com/site/articles/477863>

⁴ https://bugzilla.redhat.com/enter_bug.cgi?cf_environment=Build+Name%3A+22922%2C+Installation+Guide-6.0-1%0ABuild+Date%3A+07-10-2014+15%3A39%3A35%0ATopic+ID%3A+9579-708748+%5BLatest%5D&comment=Title%3A+Setting+up+a+Manifest%0A%0ADescribe+the+issue%3A%0A%0ASuggestions+for+improvement%3A%0A%0AAdditional+information%3A&cf_build_id=9579-708748+12+Sep+2014+12%3A53+en-US+%5BLatest%5D&product=Red+Hat+Satellite+6&component=Docs+Install+Guide

Procedure 4.1. To Upload a Subscription Manifest

1. Log in to the **Satellite** server.
2. Click **Any Context** → **Any Organization** and select the organization that you want to assign the subscription manifest to.
3. Click **Content** → **Red Hat Subscriptions** and then click **Manage Manifest** at the upper right of the page.
4. In the **Subscription Manifest** section, click **Actions** and under the **Upload New Manifest** subsection, click **Browse**.
5. Select the manifest file to upload, and then click **Upload**.

[Report a bug](#)⁵

4.1.1.3. Enabling Red Hat Repositories

The Red Hat Satellite manifest file provides access to Red Hat products and repositories. Because most products have several architectures and product versions, Red Hat Satellite Server allows the Satellite administrators to choose which repositories are required by their organizations. You need to enable the repositories in Red Hat Satellite Server to prepare them for synchronization.

Procedure 4.2. To Enable Red Hat Repositories:

1. On the main menu, click **Content** → **Red Hat Repositories** and then click the tab for the type of content that you want to enable.
2. Click the product name for which you want to add repositories. This expands the list of available repository sets.
3. Click each repository set from which you want to select repositories, and select the check box for each required repository. The repository is automatically enabled.

**Important**

Ensure you enable the Satellite Tools repository. This repository provides the *katello-agent* and *puppet-agent* packages for clients registered to the Satellite Server.

The following is an example set of subscriptions that contain repositories with the latest packages for Red Hat Enterprise Linux 6:

- Red Hat Enterprise Linux 6 Server Kickstart x86_64 6Server Repository
- Red Hat Enterprise Linux 6 Server RPMs x86_64 6Server Repository

⁵ https://bugzilla.redhat.com/enter_bug.cgi?cf_environment=Build+Name%3A+22922%2C+Installation+Guide-6.0-1%0ABuild+Date%3A+07-10-2014+15%3A39%3A35%0ATopic+ID%3A+9726-708749+%5BLatest%5D&comment=Title%3A+Uploading+a+Subscription+Manifest%0A%0ADescribe+the+issue%3A%0A%0A%0ASuggestions+for+improvement%3A%0A%0A%0AAdditional+information%3A&cf_build_id=9726-708749+12+Sep+2014+12%3A53+en-US+%5BLatest%5D&product=Red+Hat+Satellite+6&component=Docs+Install+Guide

- Red Hat Enterprise Linux 6 Server - Satellite Tools RPMs x86_64 Repository

[Report a bug](#)⁶

4.1.2. Using Products

4.1.2.1. Creating a Product

These steps show how to create a new product in **Red Hat Satellite**.

Procedure 4.3. Creating a Product

1. Click **Content** → **Products**.
2. Click the **+ New Product** link.
3. Type in the name of the new product in the **Name** field.
4. Type in label for the new product in the **Label** field.
5. Select a GPG key from the **GPG Key** drop down menu.
6. Select a synchronization plan from the **Sync Plan** drop down menu. Alternatively select the **+ New Sync Plan** link to create a new synchronization plan.
7. Type in a description of the new product in the **Description** field.
8. Click the **Save** button to save your new product.

[Report a bug](#)⁷

4.1.2.2. Adding Repositories to a Product

These steps show how to add repositories to a product in **Red Hat Satellite**.

Procedure 4.4. Adding Repositories to a Product

1. Click **Content** → **Products**.
2. Click the product you wish to add a repository to.
3. Click the **Repositories** subtab.
4. Click the **Create Repository** button.
5. Type in the name of the new repository in the **Name** field.
6. Type in a label for the new repository in the **Label** field.
7. Select the type of the repository from the **Type** drop down menu.
8. Type in the URL of the repository in the **URL** field.

⁶ https://bugzilla.redhat.com/enter_bug.cgi?product=Red+Hat+Satellite+6&component=Docs+Install+Guide

⁷ https://bugzilla.redhat.com/enter_bug.cgi?cf_environment=Build+Name%3A+22922%2C+Installation+Guide-6.0-1%0ABuild+Date%3A+07-10-2014+15%3A39%3A35%0ATopic+ID%3A+9702-712458+%5BLatest%5D&comment=Title%3A+Creating+a+Product%0A%0ADescribe+the+issue%3A%0A%0A%0ASuggestions+for+improvement%3A%0A%0A%0AAdditional+information%3A&cf_build_id=9702-712458+24+Sep+2014+08%3A52+en-US+%5BLatest%5D&product=Red+Hat+Satellite+6&component=Docs+Install+Guide

9. Choose whether to publish the repository via HTTP by clicking the **Publish via HTTP** checkbox.
10. Select a GPG key for the repository from the **GPG Key** drop down menu.
11. Click the **Create** button to save your new repository.

[Report a bug](#)⁸

4.1.2.3. Using Bulk Actions for Products

This section describes how to use bulk actions to synchronize or remove products in Red Hat Satellite. The procedure described here requires that at least one product be available.

Procedure 4.5. To Perform Tasks on Multiple Products:

1. Click **Content** → **Products**.
2. Select the check box for the products you want to work with.
3. Click **Bulk Actions**.
4. To synchronize all selected products, click the **Product Sync** tab and then click **Sync Now**.
To remove all selected products, click **Remove Products** and then click **Remove**.

Updating Synchronization Plans

You can also update the synchronization plans for multiple products at the same time.

- To create a new synchronization plan, click **Create Sync Plan**.
- To remove the synchronization plans from the selected products, click **Unattach Sync Plan**.
- To update the synchronization plans for the selected products, click **Update Sync Plan**.

[Report a bug](#)⁹

4.1.2.4. Using Repository Discovery

Repository discovery allows you to search a URL to discover repositories available there to include in a product.

Procedure 4.6. Using Repository Discovery

1. Click the **Content** → **Products** menu.
2. Click the **Repo Discovery** button.
3. Enter the URL where the repositories are located in the **Yum Repo Discovery** field.

⁸ https://bugzilla.redhat.com/enter_bug.cgi?cf_environment=Build+Name%3A+22922%2C+Installation+Guide-6.0-1%0ABuild+Date%3A+07-10-2014+15%3A39%3A35%0ATopic+ID%3A+9690-708751+%5BLatest%5D&comment=Title%3A+Adding+Repositories+to+a+Product%0A%0ADescribe+the+issue%3A%0A%0A%0ASuggestions+for+improvement%3A%0A%0A%0AAdditional+information%3A&cf_build_id=9690-708751+12+Sep+2014+12%3A53+en-US+%5BLatest%5D&product=Red+Hat+Satellite+6&component=Docs+Install+Guide

⁹ https://bugzilla.redhat.com/enter_bug.cgi?cf_environment=Build+Name%3A+22922%2C+Installation+Guide-6.0-1%0ABuild+Date%3A+07-10-2014+15%3A39%3A35%0ATopic+ID%3A+31283-682597+%5BLatest%5D&comment=Title%3A+Using+Bulk+Actions+for+Products%0A%0ADescribe+the+issue%3A%0A%0A%0ASuggestions+for+improvement%3A%0A%0A%0AAdditional+information%3A&cf_build_id=31283-682597+09+Jul+2014+13%3A38+en-US+%5BLatest%5D&product=Red+Hat+Satellite+6&component=Docs+Install+Guide

4. Click the **Discover** button.
5. A list of the repositories at the URL is displayed under **Results**.
6. Click the **Discovered URLs** check box for the repositories to be added to a product.
7. Click the **Create selected** button.
8. Choose whether to add the repositories to an existing product or create a new product.
 - a. To add the repositories to an existing product:
 - i. Select the **Existing Product** radio button.
 - ii. Select the required product from the drop down menu.
 - b. To create a new product to add the repositories to:
 - i. Select the **New Product** radio button.
 - ii. Enter the **Name** and **Label** for the new product and select a **GPG Key** from the drop down menu.
9. Select the **Serve via HTTP** check box to serve the repository via HTTP.
10. Edit the **Name** and **Label** for the **Selected URLs**.
11. Click the **Create** button.

[Report a bug](#)¹⁰

4.1.2.5. Removing a Product

This section describes how to remove products from Red Hat Satellite.

Procedure 4.7. To Remove a Product from Satellite:

1. Click **Content** → **Products**.
2. Select the check box next to the products you want to remove.
3. Click **Bulk Actions** and then click **Remove Products**.
4. Click **Remove** to confirm that you want to remove the products.

[Report a bug](#)¹¹

¹⁰ https://bugzilla.redhat.com/enter_bug.cgi?cf_environment=Build+Name%3A+22922%2C+Installation+Guide-6.0-1%0ABuild+Date%3A+07-10-2014+15%3A39%3A35%0ATopic+ID%3A+31341-668885+%5BLatest%5D&comment=Title%3A+Using+Repository+Discovery%0A%0ADescribe+the+issue%3A%0A%0A%0ASuggestions+for+improvement%3A%0A%0A%0AAdditional+information%3A&cf_build_id=31341-668885+12+Jun+2014+14%3A37+en-US+%5BLatest%5D&product=Red+Hat+Satellite+6&component=Docs+Install+Guide

¹¹ https://bugzilla.redhat.com/enter_bug.cgi?cf_environment=Build+Name%3A+22922%2C+Installation+Guide-6.0-1%0ABuild+Date%3A+07-10-2014+15%3A39%3A35%0ATopic+ID%3A+31285-682852+%5BLatest%5D&comment=Title%3A+Removing+a+Product%0A%0ADescribe+the+issue%3A%0A%0A%0ASuggestions+for+improvement%3A%0A%0A%0AAdditional+information%3A&cf_build_id=31285-682852+10+Jul+2014+10%3A50+en-US+%5BLatest%5D&product=Red+Hat+Satellite+6&component=Docs+Install+Guide

4.1.3. Synchronizing Content from Source Repositories to Red Hat Satellite

Synchronization is the act of coordinating updates between the Red Hat Satellite repositories and the source repositories being used. It is a required step after enabling repositories, in order to populate the Red Hat Satellite with content from the source repositories.

Constant, scheduled synchronization will result in:

- Data integrity between packages
- Updated packages, security fixes, and errata

Satellite's synchronization management capabilities allow organization administrators to create synchronization plans to configure how often a host should look for and install updates. Synchronization plans are then paired with the product repositories to come up with a synchronization schedule that will allow products to be updated at specific intervals that are convenient for the organization's network.

[Report a bug](#)¹²

4.1.3.1. Synchronization Status



Important

The manual synchronization of repositories is required after enabling them. It is at this point that the local repository in the Satellite is populated by the required packages.

These steps show how to synchronize products in **Red Hat Satellite**.

Procedure 4.8. Synchronize Products

1. Click **Content** → **Sync Status**. Based on the subscriptions and repositories enabled, the list of product channels available for synchronization is displayed.
2. Click the arrow next to the product name to see available content.
3. Select the content you wish to synchronize.
4. Click the **Synchronize Now** button to starting synchronizing. The status of the synchronization process will appear in the **Result** column. If synchronization is successful, **Sync complete** will appear in the **Result** column. If synchronization failed, **Error syncing** will appear.

¹² https://bugzilla.redhat.com/enter_bug.cgi?cf_environment=Build+Name%3A+22922%2C+Installation+Guide-6.0-1%0ABuild+Date%3A+07-10-2014+15%3A39%3A35%0ATopic+IDs%3A%0A11168-708752+%5BLatest%5D&comment=Title%3A+Synchronizing+Content+from+Source+Repositories+to+Red+Hat+Satellite%0A%0ADescribe+the+issue%3A%0A%0A%0ASuggestions+for+improvement%3A%0A%0A%0AAdditional+information%3A&product=Red+Hat+Satellite+6&component=Docs+Install+Guide



Note

Content synchronization can take a long time. The length of time required is dependent on the speed of disk drives, network connection speed, and the amount of content selected for synchronization.

[Report a bug](#)¹³

4.1.3.2. Creating a Synchronization Plan

Regular, frequent synchronization is required to maintain data integrity between packages as well as making sure that packages are updated to the latest security fixes. Red Hat Satellite provides the ability to create scheduled synchronization plans that allow package updates at intervals convenient to the organization.

Procedure 4.9. To Create a Synchronization Plan:

1. Click **Content** → **Sync Plans**.
2. Click the **New Sync Plan** link to create a new synchronization plan.
3. Enter the **Name**, **Description** and other details for the plan.
4. Click **Save** to create the synchronization plan.

[Report a bug](#)¹⁴

4.1.3.3. Applying a Synchronization Schedule

After you have created a synchronization plan, you need to associate products with that plan to create a synchronization schedule. The following procedure describes how to create a synchronization schedule in Red Hat Satellite 6.

Procedure 4.10. To Create a Synchronization Schedule:

1. Click **Content** → **Sync Plans** and select the synchronization plan you want to implement.
2. Click **Products** → **Add** in the synchronization plan main page.
3. Select the check box of the product to associate with the synchronization plan.
4. Click **Add Selected**.

¹³ https://bugzilla.redhat.com/enter_bug.cgi?cf_environment=Build+Name%3A+22922%2C+Installation+Guide-6.0-1%0ABuild+Date%3A+07-10-2014+15%3A39%3A35%0ATopic+ID%3A+9724-708753+%5BLatest%5D&comment=Title%3A+Synchronization+Status%0A%0ADescribe+the+issue%3A%0A%0A%0ASuggestions+for+improvement%3A%0A%0A%0AAdditional+information%3A&cf_build_id=9724-708753+12+Sep+2014+12%3A53+en-US+%5BLatest%5D&product=Red+Hat+Satellite+6&component=Docs+Install+Guide

¹⁴ https://bugzilla.redhat.com/enter_bug.cgi?cf_environment=Build+Name%3A+22922%2C+Installation+Guide-6.0-1%0ABuild+Date%3A+07-10-2014+15%3A39%3A35%0ATopic+ID%3A+9699-698357+%5BLatest%5D&comment=Title%3A+Creating+a+Synchronization+Plan%0A%0ADescribe+the+issue%3A%0A%0A%0ASuggestions+for+improvement%3A%0A%0A%0AAdditional+information%3A&cf_build_id=9699-698357+15+Aug+2014+16%3A04+en-US+%5BLatest%5D&product=Red+Hat+Satellite+6&component=Docs+Install+Guide

[Report a bug](#)¹⁵

4.2. Disconnected Satellite

In high security environments where hosts are required to function in a closed network, disconnected from the internet, the Red Hat Satellite Server can provision systems with the latest security updates, errata, and packages. This is achieved by using two important components: the **katello-disconnected** utility and a synchronization host.

The diagram below illustrates how a disconnected Satellite is able to keep its content updated even without an internet connection. An intermediary system with an internet connection is needed to act as a synchronization host. This synchronization host is in a separate network from the Satellite server.

The synchronization host imports content from the Red Hat Content Delivery Network (CDN) through pulp. The content is then exported onto a media, such as DVDs, CDs, or external hard drives and transferred to the disconnected Satellite server. The following sections in this chapter will guide you through the whole process.

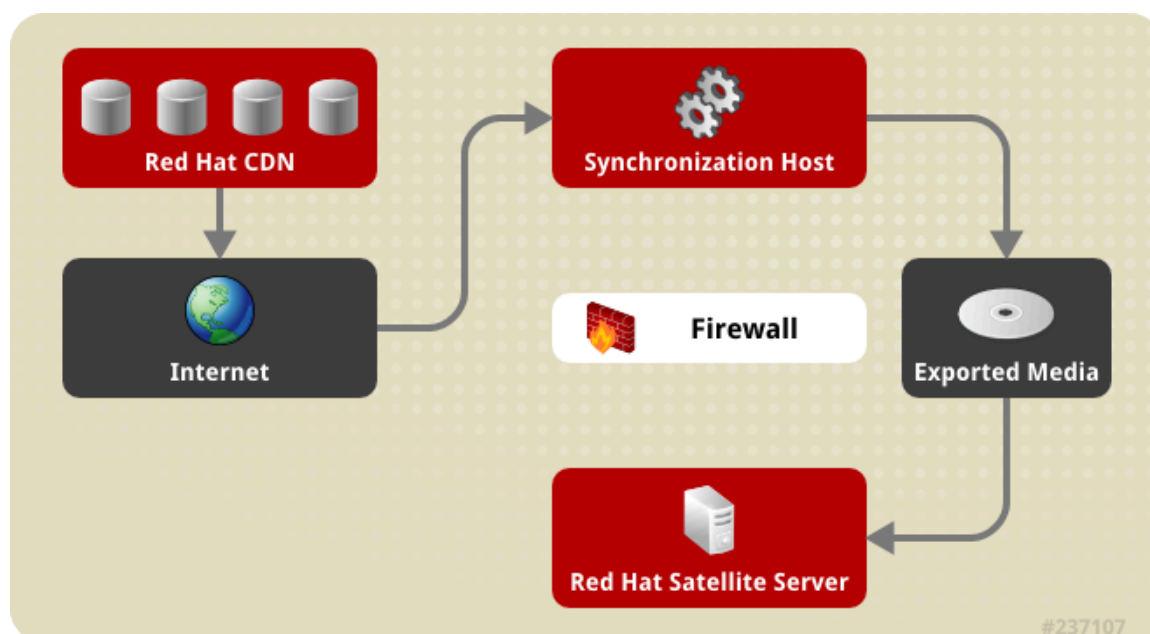


Figure 4.1. Disconnected Satellite

[Report a bug](#)¹⁶

¹⁵ https://bugzilla.redhat.com/enter_bug.cgi?cf_environment=Build+Name%3A+22922%2C+Installation+Guide-6.0-1%0ABuild+Date%3A+07-10-2014+15%3A39%3A35%0ATopic+ID%3A+9704-682638+%5BLatest%5D&comment=Title%3A+Applying+a+Synchronization+Schedule%0A%0ADescribe+the+issue%3A%0A%0A%0ASuggestions+for+improvement%3A%0A%0A%0AAdditional+information%3A&cf_build_id=9704-682638+09+Jul+2014+14%3A40+en-US+%5BLatest%5D&product=Red+Hat+Satellite+6&component=Docs+Install+Guide

¹⁶ https://bugzilla.redhat.com/enter_bug.cgi?cf_environment=Build+Name%3A+22922%2C+Installation+Guide-6.0-1%0ABuild+Date%3A+07-10-2014+15%3A39%3A35%0ATopic+ID%3A+20419-714415+%5BLatest%5D&comment=Title%3A+Disconnected+Satellite%0A%0ADescribe+the+issue%3A%0A%0A%0ASuggestions+for+improvement%3A%0A%0A%0AAdditional+information%3A&product=Red+Hat+Satellite+6&component=Docs+Install+Guide

4.2.1. Configuring the Synchronization Host

Prerequisites

To import content from the Red Hat Content Distribution Network (CDN), the synchronization host requires:

- An Internet connection
- Valid Red Hat Network subscriptions
- A valid manifest (See [Section 4.1.1.1, “Setting up a Manifest”](#) for instructions on how to obtain one.)

Procedure 4.11. To Configure a Host to Synchronize and Export Content from the Red Hat CDN:

1. Use Red Hat Subscription Manager to register the synchronization host to RHN.
2. List all the available subscriptions to find the correct Red Hat Satellite product to allocate to your system:

```
# subscription-manager list --available --all
```

This command displays output similar to the following:

```
+-----+
  Available Subscriptions
+-----+

ProductName:      Red Hat Satellite
ProductId:        SKU123456
PoolId:           e1730d1f4eaa448397bfd30c8c7f3d334bd8b
Quantity:         10
Multi-Entitlement: No
Expires:          08/20/2013
MachineType:     physical
```



Note

The SKU and Pool ID depend on the Red Hat Satellite product type that corresponds to your system version and product type.

3. Subscribe to the required pool IDs:

```
# subscription-manager subscribe \
--pool=Red_Hat_Satellite_Pool_ID \
--pool=Red_Hat_Enterprise_Linux_Pool_ID \
--pool=Red_Hat_Enterprise_Linux_Software_Collections_Pool_ID
```

4. Disable all existing repositories:

```
# subscription-manager repos --disable "*"

```

5. Enable the Red Hat Satellite and Red Hat Enterprise Linux and Red Hat Software Collections repositories. Ensure the Red Hat Enterprise Linux repository matches the specific version you are using.

```
# subscription-manager repos --enable rhel-6-server-rpms \
--enable rhel-server-rhsc1-6-rpms \
--enable rhel-6-server-satellite-6.0-rpms

```



Note

The commands above are based on Red Hat Enterprise Linux 6. If you are using a different version of Red Hat Enterprise Linux, change the repository based on your specific version.

6. Install *katello-utils* and associated RPM files:

```
# yum install python-qpidd-qmf python-qpidd qpidd-cpp-server katello-utils

```

katello-utils includes the **katello-disconnected** utility that is required to set up repositories for import while *qpidd* related packages are necessary for **pulp** configuration.

7. Generate a 32-character alphanumeric string for the *oauth_secret* entry in the */etc/pulp/server.conf* file:

```
$ tr -dc "[:alnum:]" < /dev/urandom | head -c 32

```

8. In the */etc/pulp/server.conf*, uncomment the *[oauth]* entry and add the randomly-generated value from the previous step as the *oauth_secret* value:

```
[oauth]
enabled: true
oauth_key: katello
oauth_secret: v8SeYqvS5QUfmg0dIrJOBG581AHDRZnN

```

9. Disable authentication in */etc/qpidd/qpidd.conf*:

```
# Configuration file for qpidd. Entries are of the form:
# name=value
#
# (Note: no spaces on either side of '=').
# Run "qpidd --help" or see "man qpidd" for more details.

auth=no

```

All incoming connections authenticate using the Satellite's default realm.

10. Configure the connection from **katello-disconnected** to Pulp with the previously generated value as your `--oauth-secret` option:

```
# katello-disconnected setup --oauth-key=katello --oauth-secret=v8SeYqvS5QUfmg0dIrJOBG58IAHDRZnN
```

This places a configuration value in `~/katello-disconnected`.

11. Configure Pulp on the synchronization server:

```
sudo service qpidd start
sudo chkconfig qpidd on
sudo service mongod start
sleep 10
sudo chkconfig mongod on
sudo -u apache pulp-manage-db
sudo service httpd restart
sudo chkconfig pulp_workers on
sudo service pulp_workers start
sudo chkconfig pulp_celerybeat on
sudo service pulp_celerybeat start
sudo chkconfig pulp_resource_manager on
sudo service pulp_resource_manager start
```

12. Import the manifest to set up the list of available repositories to synchronize based on the selected subscriptions:

```
# katello-disconnected import -m ./manifest.zip
```

The synchronization host is now ready to synchronize content from the Red Hat CDN.

[Report a bug](#)¹⁷

4.2.2. Synchronizing Content

By default, **katello-disconnected** enables all repositories that are included in the manifest for synchronization. Synchronization time is directly related to the amount of repositories to be synchronized. If the manifest has a large amount of repositories, the synchronization will take time and network resources.

katello-disconnected allows for the synchronization of specific repositories. This section will set up Pulp for synchronizing content.

1. Disable all repositories:

```
# katello-disconnected disable --all
```

¹⁷ https://bugzilla.redhat.com/enter_bug.cgi?product=Red+Hat+Satellite+6&component=Docs+Install+Guide

katello-disconnected enables all repositories by default.

2. Choose which repositories you wish to sync by listing all available repositories from the manifest:

```
# katello-disconnected list --disabled
rhel-5-server-debug-rpms-5Server-i386
rhel-5-server-debug-rpms-5Server-ia64
rhel-5-server-debug-rpms-5Server-x86_64
rhel-5-server-debug-rpms-5_7-i386
rhel-5-server-debug-rpms-5_7-ia64
rhel-5-server-debug-rpms-5_7-x86_64
rhel-5-server-debug-rpms-5_8-i386
rhel-5-server-debug-rpms-5_8-ia64
rhel-5-server-debug-rpms-5_8-x86_64
rhel-5-server-debug-rpms-5_9-i386
rhel-5-server-debug-rpms-5_9-ia64
rhel-5-server-debug-rpms-5_9-x86_64
rhel-5-server-isos-5Server-i386
```

3. Enable the chosen repositories for synchronization:

```
# katello-disconnected enable -r rhel-6-server-sam-rpms-6_4-x86_64
```

4. Create the repositories and push them to **Pulp** to allow synchronization:

```
# katello-disconnected configure
```



Note

The configure option for **katello-disconnected** reads the manifest, creates pulp repositories, and generates scripts before synchronization. It needs to be run each time a repository is enabled or disabled.

5. Synchronize the repositories:

```
# katello-disconnected sync
```

You can use the **watch** option to monitor the synchronization process.

```
# katello-disconnected watch
Watching sync... (this may be safely interrupted with Ctrl+C)
running:
rhel-6-server-sam-rpms-6_4-x86_64

running:
rhel-6-server-sam-rpms-6_4-x86_64
...
finished:
```

```
rhel-6-server-sam-rpms-6_4-x86_64
```

```
Watching finished
```

Content is now synchronized.

[Report a bug](#)¹⁸

4.2.3. Exporting Content

Prerequisites

An external export media such as a CD, DVD, or external hard drive.

The synchronized content needs to be exported to enable importing into the disconnected Red Hat Satellite. To do so:

1. Export the synchronized repositories:

```
# katello-disconnected export -t /var/tmp/export
```

The output will look similar to:

```
# katello-disconnected export -t /var/tmp/export
# katello-disconnected watch
Watching sync... (this may be safely interrupted with Ctrl+C)
running:
rhel-6-server-sam-rpms-6_4-x86_64

finished:
rhel-6-server-sam-rpms-6_4-x86_64
Watching finished
Done watching ...
  Copying content to /var/tmp/export
  Archiving contents of /var/tmp/export into 4600M tar archives.
  NOTE: This may take a while.
tar: Removing leading `/' from member names

Done exporting content, please copy /var/tmp/export/* to your disconnected host
```

This operation will create the following files in **/var/tmp/export**:

```
# ls /var/tmp/export/
content-export-00 content-export-01 content-export-02 expand_export.sh
```

2. Copy the files from **/var/tmp/export** into the external media.

¹⁸ https://bugzilla.redhat.com/enter_bug.cgi?cf_environment=Build+Name%3A+22922%2C+Installation+Guide-6.0-1%0ABuild+Date%3A+07-10-2014+15%3A39%3A35%0ATopic+ID%3A+20422-675536+%5BLatest%5D&comment=Title%3A+Synchronizing+Content%0A%0ADescribe+the+issue%3A%0A%0A%0ASuggestions+for+improvement%3A%0A%0A%0AAdditional+information%3A&cf_build_id=20422-675536+24+Jun+2014+10%3A35+en-US+%5BLatest%5D&product=Red+Hat+Satellite+6&component=Docs+Install+Guide

**Note**

If the files are too big for your external media, the files can be copied sequentially in a series of DVDs.

The synchronized content has now been exported and ready for importing to the disconnected Satellite server.

[Report a bug](#)¹⁹

4.2.4. Importing Content to a Disconnected Satellite Server

Prerequisites

Ensure that the directory and file system containing the exports has enough space to contain the extracted archives. For example, if your export is 40 GB, the disconnected Satellite Server directory and file system where you are importing the content will need an extra 40 GB of space to expand it on the same file system.

1. Copy ALL of the Satellite Content ISOs to a directory that the Satellite can access. This example uses `/root/isos`.
2. Create a local directory that will be shared via `httpd` on the Satellite. This example uses `/var/www/html/sat-import/`.

```
# mkdir -p /var/www/html/sat-import/
```

3. Recursively copy the contents of the first ISO to the local directory:

```
# mount -o loop /root/isos/first iso /mnt/iso
# cp -ruv /mnt/iso/* /var/www/html/sat-import/
# umount /mnt/iso
```

4. Repeat the above step for each ISO until you have copied all the data from the series of ISOs into the local directory `/var/www/html/sat-import/`.
5. Ensure that the SELinux contexts is correct:

```
# restorecon -rv /var/www/html/sat-import/
```

¹⁹ https://bugzilla.redhat.com/enter_bug.cgi?cf_environment=Build+Name%3A+22922%2C+Installation+Guide-6.0-1%0ABuild+Date%3A+07-10-2014+15%3A39%3A35%0ATopic+ID%3A+20636-698094+%5BLatest%5D&comment=Title%3A+Exporting+Content%0A%0ADescribe+the+issue%3A%0A%0ASuggestions+for+improvement%3A%0A%0AAdditional+information%3A&cf_build_id=20636-698094+14+Aug+2014+13%3A23+en-US+%5BLatest%5D&product=Red+Hat+Satellite+6&component=Docs+Install+Guide

- Change the CDN URL to reference the location that the ISOs were copied to. This example uses the Satellite fully qualified domain name (FQDN) `server.example.com`, so the URL is:

```
http://server.example.com/sat-import/
```



Note

The Satellite is now acting as its own CDN with the files located in `http://localhost/content`. This is not a requirement. The CDN can be hosted on a different machine inside the same disconnected network as long as it is accessible to the Satellite server via HTTP.

- Add the CDN address to the Satellite web interface:
 - Log in to the Satellite web interface.
 - Click **Content** → **Red Hat Subscriptions** and then click **Manage Manifest**.
 - On the **Subscription Manifest** information screen, scroll to **Red Hat Provider Details**. Click the edit icon on the **Repository URL** entry and change the entry to the CDN's repository URL.
 - Click **Browse** to choose the manifest file.
 - Click **Upload** to import your manifest.
- Enable the repositories from the local CDN:
 - Click **Content** → **Red Hat Repositories**
 - Enable the repositories that were enabled and synchronized in the Synchronizing Content section.
- Click **Content** → **Sync Status**.
- Select the repositories you want to synchronize and click **Synchronize Now**.

Once the synchronize finishes, the disconnected Satellite is now ready to serve the content to client systems.

[Report a bug](#)²⁰

²⁰ https://bugzilla.redhat.com/enter_bug.cgi?cf_environment=Build+Name%3A+22922%2C+Installation+Guide-6.0-1%0ABuild+Date%3A+07-10-2014+15%3A39%3A35%0ATopic+ID%3A+20637-712454+%5BLatest%5D&comment=Title%3A+Importing+Content+to+a+Disconnected+Satellite+Server%0A%0ADescribe+the+issue%3A%0A%0ASuggestions+for+improvement%3A%0A%0AAdditional+information%3A&cf_build_id=20637-712454+24+Sep+2014+08%3A26+en-US+%5BLatest%5D&product=Red+Hat+Satellite+6&component=Docs+Install+Guide

Installing Red Hat Satellite Capsule Server

The Red Satellite Capsule Server is a Satellite component that provides federated services to discover, provision, and configure hosts outside of the primary Satellite server. A Satellite Capsule Server provides the following features:

- Pulp Server/Content Node features, including:
 - Repository synchronization
 - Content delivery
- Red Hat Satellite Provisioning Smart Proxy features, including:
 - DHCP, including ISC DHCP servers
 - DNS, including Bind and MS DNS servers
 - Any UNIX-based TFTP server
 - Puppet Master servers from 0.24
 - Puppet CA to manage certificate signing and cleaning
 - Baseboard Management Controller (BMC) for power management

The Satellite Capsule Server is a means to scale out the Satellite installation. Organizations can create various capsules in different geographical locations where the data centers are located. These are centrally managed through the Satellite Server. When a Satellite user promotes content to the production environment, the Satellite Server will push the content from the Satellite Server to each of the Satellite Capsule Servers. Host systems pull content and configuration from the Satellite Capsule Servers in their location and not from the central Satellite Server.

Creating various Satellite Capsule Servers will decrease the load on the central server, increase redundancy, and reduce bandwidth usage.

[Report a bug¹](#)

5.1. Red Hat Satellite Capsule Server Scalability

The maximum number of Capsule Servers that the Satellite Server can support has no fixed limit but has been tested on a Satellite Server with a Red Hat Enterprise Linux 6.5 and 7 hosts. Currently, running fourteen capsules with two vCPUs have been tested without issues.

5.1.1. Capsule Scalability with Puppet Clients

Capsule scalability depends heavily on the following factors, especially when managing puppet clients:

- Number of CPUs
- Run-interval distribution

¹ https://bugzilla.redhat.com/enter_bug.cgi?product=Red+Hat+Satellite+6&component=Docs+Install+Guide

- Number of puppet classes

The Capsule Server has a concurrency limitations of 100 concurrent puppet agents running at any single point in time. Running more than 100 concurrent puppet agents will result in a 503 HTTP error.

For example, assuming that the puppet agent runs are evenly distributed with less than 100 concurrent puppet agents running at any single point during a run-interval, a Capsule Server with four CPUs can expect a maximum of 1250-1600 puppet clients with a moderate workload of 10 puppet classes assigned to each puppet client. Depending on the number of puppet clients required, the Satellite installation can scale out the number of Capsule Servers to support them.

Based on the following assumptions:

- There are no external puppet clients reporting directly to the Satellite 6 integrated capsule.
- All other puppet clients report directly to an external capsule.

Puppet scalability within Satellite on Red Hat Enterprise Linux 6.5 Capsules is as follows:

- With minimum number of CPUs (two CPUs):
 - At 1 puppet class per host: Not tested
 - At 10 puppet classes per host: Maximum of 1020-860
 - At 20 puppet classes per host: Maximum of 375-330
- With recommended number of CPUs (four CPUs):
 - At 1 puppet class per host: Maximum of 2250-1875
 - At 10 puppet classes per host: Maximum of 1600-1250
 - At 20 puppet classes per host: Maximum of 700-560



Note

The information above represents an evenly distributed run interval of all puppet agents. Any deviation runs the risk of filling the passenger request queue and is subject to the concurrency limitation of 100 concurrent requests.

[Report a bug](#)²

5.2. Red Hat Satellite Capsule Server Prerequisites

The Satellite Capsule's requirements are identical to the Satellite Server. These conditions must be met before installing Red Hat Satellite Capsule:

² https://bugzilla.redhat.com/enter_bug.cgi?product=Red+Hat+Satellite+6&component=Docs+Install+Guide

5.2.1. Base Operating System

Red Hat Satellite Capsule is supported on Red Hat Enterprise Linux 6.5 or later, as well as Red Hat Enterprise Linux 7. Install the operating system from disc, local ISO image, kickstart, or any other methods that Red Hat supports. Red Hat Satellite Capsule requires Red Hat Enterprise Linux installations with the `@Base` package group with no other package-set modifications, and without third-party configurations or software that is not directly necessary for the direct operation of the server. This restriction includes hardening or other non-Red Hat security software. If such software is required in your infrastructure, install and verify a complete working Red Hat Satellite Capsule first, then create a backup of the system before adding any non-Red Hat software.

When installing Red Hat Enterprise Linux from CD or ISO image, there is no need to select any package groups; Red Hat Satellite Capsule only requires the base operating system installation. When installing the operating system via kickstart, select the `@Base` package group.

- There should be at least one networked host with the following minimum specifications:
 - 64-bit architecture
 - Red Hat Enterprise Linux 6.5 or later
 - A minimum of two CPU cores, but four CPU cores are recommended
 - A minimum of 8 GB memory but ideally 12 GB of memory for each Satellite instance. It is also recommended to use 4 GB of swap space where possible.
 - A minimum of 5 GB storage for the base install of Red Hat Enterprise Linux, 300 MB for the installation of Red Hat Satellite Capsule and at least 10 GB storage for each unique software repository to be synchronized in the `/var` file system.

Packages that are duplicated in different channels are only stored once on the disk. Additional repositories containing duplicate packages will require less additional storage.



Note

The bulk of storage resides on the `/var/lib/mongodb` and `/var/lib/pulp` directories. These end points are not manually configurable. Ensure that storage is available on the `/var` file system to prevent storage issues.

- No Java virtual machine installed on the system, remove any if they exist.
- No *Puppet* RPM files installed on the system
- No third-party unsupported yum repositories enabled. Third-party repositories may offer conflicting or unsupported package versions that may cause installation or configuration errors.
- Administrative user (**root**) access
- Full forward and reverse DNS resolution using a fully qualified domain name. Check that `hostname` and `localhost` resolve correctly, using the following commands:

```
# ping -c1 localhost
```

```
# ping -c1 `hostname -s` # my_system
# ping -c1 `hostname -f` # my_system.domain.com
```

- Available subscriptions on the Red Hat Satellite Server.



Important

Make sure that the host system is fully updated before installing Red Hat Satellite Capsule Server. Attempts to install on host systems running Red Hat Enterprise Linux that are not fully updated may lead to difficulty in troubleshooting, as well as unpredictable results.

5.2.2. Application Specifications

Satellite application installation specifications are as follows:

It is recommended that a time synchronizer such as **ntpd** is installed and enabled on Satellite. Run the following command to start the **ntpd** service and have it persist across restarts:

```
# service ntpd start; chkconfig ntpd on
```

5.2.3. Required Network Ports

The following conditions must be met before continuing with this task:

- Port 443 for HTTPS (secure WWW) must be open for incoming connections.
- Port 5671 must be open for SSL communication with managed systems.
- Port 80 for HTTP (WWW) must be open to download the bootstrap files.
- Port 8080 for TCP must be free for java connections.
- Port 8140 must be open for incoming Puppet connections with the managed systems.
- Port 9090 must be open for Foreman Smart Proxy connections with the managed systems.

Run the following commands to configure the firewall with the **iptables** command and to make these rules persistent during reboots:

1. For Red Hat Enterprise Linux 6:

```
# iptables -I INPUT -m state --state NEW -p tcp --dport 443 -j ACCEPT \
&& iptables -I INPUT -m state --state NEW -p tcp --dport 5671 -j ACCEPT \
&& iptables -I INPUT -m state --state NEW -p tcp --dport 80 -j ACCEPT \
&& iptables -I INPUT -m state --state NEW -p tcp --dport 8140 -j ACCEPT \
&& iptables -I INPUT -m state --state NEW -p tcp --dport 9090 -j ACCEPT \
&& iptables -I INPUT -m state --state NEW -p tcp --dport 8080 -j ACCEPT \
# iptables-save > /etc/sysconfig/iptables
```

2. For Red Hat Enterprise Linux 7:

```
# firewall-cmd --permanent --add-port="443/tcp" --add-port="5671/tcp" --add-port="80/tcp"
--add-port="8140/tcp" --add-port="9090/tcp" --add-port="8080/tcp"
```

```
# firewall-cmd --reload
```

5.2.4. Red Hat Satellite Server

The Satellite Server must have the *Red Hat Software Collections* repositories enabled and synchronized prior to the Capsule Server installation.



Important

Red Hat recommends that the Satellite Capsule system be a freshly provisioned system that serves no other function except as a Satellite Capsule.

[Report a bug](#)³

5.3. Obtaining the Required Packages for the Capsule Server

Prerequisites

The Capsule Server must be registered to the Red Hat Satellite Server to use the Red Hat Satellite Server products and subscriptions:

1. Install the Red Hat Satellite Server's CA certificate in the Capsule Server:

```
rpm -Uvh http://satellite.example.com/pub/katello-ca-consumer-latest.noarch.rpm
```

2. Register the Capsule Server under your chosen organization's name:

```
subscription-manager register --org "Default Organization" --env [environment]/  
[content_view_name]
```

Procedure 5.1. To Install a Satellite Capsule Server on a Certificate-managed System:

1. List all the available subscriptions to find the correct Red Hat Satellite and Red Hat Enterprise Linux product to allocate to your system:

```
# subscription-manager list --available --all
```

The screen displays:

³ https://bugzilla.redhat.com/enter_bug.cgi?cf_environment=Build+Name%3A+22922%2C+Installation+Guide-6.0-1%0ABuild+Date%3A+07-10-2014+15%3A39%3A35%0ATopic+ID%3A+31303-714917+%5BLatest%5D&comment=Title%3A+Red%26nbsp%3BHat+Satellite+Capsule+Server+Prerequisites%0A%0ADescribe+the+issue%3A%0A%0A%0ASuggestions+for+improvement%3A%0A%0A%0AAdditional+information%3A&cf_build_id=31303-714917+03+Oct+2014+09%3A43+en-US+%5BLatest%5D&product=Red+Hat+Satellite+6&component=Docs+Install+Guide

```
Subscription Name: Red Hat Satellite Capsule Server
Provides:          Red Hat Satellite Proxy
                  Red Hat Satellite Capsule Beta
                  Red Hat Beta
                  Red Hat Software Collections (for RHEL Server)
                  Red Hat Satellite Capsule
                  Red Hat Enterprise Linux Server
                  Red Hat Enterprise Linux High Availability (for RHEL Server)
                  Red Hat Software Collections Beta (for RHEL Server)
                  Red Hat Enterprise Linux Load Balancer (for RHEL Server)
SKU:              MCT0369
Pool ID:          9e4cc4e9b9fb407583035861bb6be501
Available:        3
Suggested:        1
Service Level:    Premium
Service Type:     L1-L3
Multi-Entitlement: No
Ends:             10/07/2015
System Type:      Physical
```



Note

The SKU and Pool ID depend on the Red Hat Satellite product type that corresponds to your system version and product type.

2. Subscribe to the required pool IDs:

```
subscription-manager subscribe --pool=Red_Hat_Satellite_Capsule_Pool_Id
```

3. Disable all existing repositories:

```
# subscription-manager repos --disable "*"
```

4. Enable the Satellite and Red Hat Enterprise Linux repositories by running **subscription-manager**. You might need to alter the Red Hat Enterprise Linux repository to match the specific version you are using.

For Red Hat Enterprise Linux 6:

```
# subscription-manager repos --enable rhel-6-server-rpms \
--enable rhel-server-rhsc1-6-rpms \
--enable rhel-server-6-satellite-capsule-6-beta-rpms
```

For Red Hat Enterprise Linux 7 and later:

```
# subscription-manager repos --enable rhel-7-server-rpms \
--enable rhel-server-rhsc1-6-rpms \
--enable rhel-server-7-satellite-capsule-6-beta-rpms
```

5. Run the following command as the root user to install the *katello-installer* and *cyrus-sasl-plain* packages:

```
# yum install katello-installer cyrus-sasl-plain
```

The *katello-installer* package provides the **capsule-installer** functionality, and the *cyrus-sasl-plain* package is required for **pulp**.

[Report a bug](#)⁴

5.4. Running the Installation and Configuration Program for Capsule Server

Prerequisites

You must meet the following conditions before continuing on this task:

- Install the Red Hat Satellite Server.
- Set the SELinux permissions on the system designated as the Satellite Capsule Server as enforcing.

The following procedures configure a Satellite Capsule Server for use with your Red Hat Satellite Server. This includes the following types of Satellite Capsule Servers:

- Satellite Capsule Server with Smart Proxy
- Satellite Capsule Server as a Content Node
- Satellite Capsule Server as a Content Node with Smart Proxy

Procedure 5.2. To configure a Satellite Capsule Server:

1. On the Satellite Server:
 - a. Generate a Satellite Capsule Server certificate:

```
capsule-certs-generate --capsule-fqdn capsule_FQDN --certs-tar ~/capsule.example.com-certs.tar
```

Where:

- **capsule_FQDN** is the Satellite Capsule Server's fully qualified domain name. Mandatory.
- **certs-tar** is the name of the file to generate that will contain the certificate for the Satellite Capsule installer.

This command generates output similar to the following:

```
To finish the installation, follow these steps:
1. Ensure that the capsule-installer is available on the system.
   The capsule-installer comes from the katello-installer package and
   should be acquired through the means that are appropriate to your deployment.
2. Copy ~/capsule.example.com-certs.tar to the capsule system capsule.example.com
3. Run the following commands on the capsule (possibly with the customized
```

⁴ https://bugzilla.redhat.com/enter_bug.cgi?product=Red+Hat+Satellite+6&component=Docs+Install+Guide

```
parameters, see capsule-installer --help and
documentation for more info on setting up additional services):
rpm -Uvh http://master.com/pub/katello-ca-consumer-latest.noarch.rpm
subscription-manager register --org "Default Organization"
capsule-installer --parent-fqdn "sat6.example.com"\
  --register-in-foreman "true"\
  --foreman-oauth-key "xmmQCGYdkoCRcbviGfuPdX7ZiCsdExf"\
  --foreman-oauth-secret "w5ZDpyPJ24eSBNo53AFybcnqoDYXgLUA"\
  --pulp-oauth-secret "doajBEXqNcANY93ZbciFyyswaiwt6BWU"\
  --certs-tar "~/capsule.example.com-certs.tar"\
  --puppet "true"\
  --puppetca "true"\
  --pulp "true"
```

- b. Copy the resulting archive, **capsule.example.com-certs.tar**, from the Satellite Server to the Satellite Capsule Server.

2. On the Satellite Capsule Server:

- Depending on the desired Satellite Capsule Server type, choose one of the options described below. If you require BMC functionality in your deployment, append the following lines to the command in each option (use the BMC provider required for your deployment):

```
--bmc "enabled"\
--bmc_default_provider "freeipmi"
```

- i. Option 1: Satellite Capsule Server with Smart Proxy: This installs a Satellite Capsule Server with Smart Proxy features (DHCP, DNS, Puppet). Run the following commands as the root user on the Satellite Capsule Server:

```
# capsule-installer --parent-fqdn "satellite.example.com"\
--register-in-foreman "true"\
--foreman-oauth-key "xmmQCGYdkoCRcbviGfuPdX7ZiCsdExf"\
--foreman-oauth-secret "w5ZDpyPJ24eSBNo53AFybcnqoDYXgLUA"\
--pulp-oauth-secret "doajBEXqNcANY93ZbciFyyswaiwt6BWU"\
--certs-tar "/root/capsule.example.com-certs.tar"\
--puppet "true"\
--puppetca "true"\
--pulp "true"\
--tftp "true"\
--dhcp "true"\
--dhcp-interface "virbr1"\
--dns "true"\
--dns-forwarders "8.8.8.8"\
--dns-forwarders "8.8.4.4"\
--dns-interface "virbr1"\
--dns-zone "example.com"
```

- ii. Option 2 - Satellite Capsule Server as a Content Node with Smart Proxy: This installs a Satellite Capsule Server with all the features. Run the following commands as the root user on the Satellite Capsule Server:

```
# capsule-installer --parent-fqdn "sat6.example.com"\
--register-in-foreman "true"\
--foreman-oauth-key "xmmQCGYdkoCRcbviGfuPdX7ZiCsdExf"\
--foreman-oauth-secret "w5ZDpyPJ24eSBNo53AFybcnqoDYXgLUA"\
--pulp-oauth-secret "doajBEXqNcANY93ZbciFyyswaiwt6BWU"\
--certs-tar "/root/capsule.example.com-certs.tar"\
--puppet "true"
```



```
--puppetca           "true"\
--pulp               "true"\
--tftp               "true"\
--dhcp               "true"\
--dhcp-interface    "virbr1"\
--dns                 "true"\
--dns-forwarders    "8.8.8.8"\
--dns-forwarders    "8.8.4.4"\
--dns-interface     "virbr1"\
--dns-zone           "example.com"
```



Note

If the configuration is successful, run this command as the root user on the Satellite Capsule Server:

```
# echo $?
```

This command should return a "0" to indicate success. If it does not, check `/var/log/kafo` to debug the cause of failure. `/var/log/kafo` is the log file for the output generated by the commands `capsule-certs-generate` and `capsule-installer`.

The Satellite Capsule Server should also appear in the Satellite Server's User Interface under **Infrastructure** → **Capsules**.

[Report a bug](#)⁵

5.4.1. Other Configuration Options

5.4.1.1. Configuring Red Hat Satellite Capsule Server with a Custom Server Certificate

`katello-installer` comes with a default CA used both for the server SSL certificates as well as the client certificates used for authentication of the subservices. These certificates can be replaced with custom ones.

There are two instances wherein you can configure the Satellite Capsule Server to use a custom CA certificate:

1. When `capsule-certs-generate` is run the first time
2. After `capsule-certs-generate` has already been run

⁵ https://bugzilla.redhat.com/enter_bug.cgi?product=Red+Hat+Satellite+6&component=Docs+Install+Guide



Important

When using custom SSL certificates with chained trusts or issuers, include all certificates in the chain into a single file. Use the file as the CA certificate value to **katello-installer**. For example:

```
cat 1st_ca.cert 2nd_ca.cert 3th_ca.cert > ca.bundle
katello-installer --certs-server-ca-cert ~/ca.bundle --certs-update-server-ca
```

Procedure 5.3. Setting a Custom Server Certificate when you Run `capsule-certs-generate` for the First Time

1. Run this command on the Red Hat Satellite Server:

```
capsule-certs-generate --capsule-fqdn "$CAPSULE"\
--certs-tar "~/${CAPSULE}-certs.tar"\
--server-cert ~/path/to/server.crt\
--server-cert-req ~/path/to/server.crt.req\
--server-key ~/path/to/server.key\
--server-ca-cert ~/cacert.crt
```

Where:

- **capsule_FQDN** is the Satellite Capsule Server's fully qualified domain name. Mandatory.
 - **certs-tar** is the name of the tar file to be generated that contains the certificate to be used by the Satellite Capsule installer.
 - **server-cert** is the path to your certificate, signed by your certificate authority (or self signed)
 - **server-cert-req** is the path to your certificate signing request file that was used to create the certificate.
 - **server-key** is the private key used to sign the certificate
 - **server-ca-cert** `~/path/to/cacert.crt` the path to the CA certificate on this system.
2. Copy the generated archive, **capsule.example.com-certs.tar**, from the Satellite Server to the Satellite Capsule Server.
 3. On the Satellite Capsule Server:
 - a. Register your Satellite Capsule Server to the Satellite Server:

```
# rpm -Uvh http://sat6host.example.redhat.com/pub/katello-ca-consumer-
latest.noarch.rpm
# subscription-manager register --org "ACME_Corporation" --env [environment]/
[content_view_name]
```



Note

The Satellite Capsule Server must be assigned to an organization, because it requires an environment to synchronize content from the Satellite Server. Only organizations have environments.

Assigning a location is optional, but recommended, to indicate proximity to the hosts that the Satellite Capsule Server is managing.

- b. Depending on the desired Satellite Capsule Server type, choose one of the following options:
- i. Option 1: Satellite Capsule Server with Smart Proxy: This installs a Satellite Capsule Server with Smart Proxy features (DHCP, DNS, Puppet). Run the following commands as the root user on the Satellite Capsule Server:

```
# capsule-installer --parent-fqdn "satellite.example.com"\
--register-in-foreman "true"\
--foreman-oauth-key "xmmQCGYdkoCRcbviGfuPdX7ZiCsdExf"\
--foreman-oauth-secret "w5ZDpyPJ24eSBNo53AFybcnqoDYXgLUA"\
--pulp-oauth-secret "doajBEXqNcANy93ZbciFyyswaiwt6BWU"\
--certs-tar "/root/capsule.example.com-certs.tar"\
--puppet "true"\
--puppetca "true"\
--pulp "true"\
--tftp "true"\
--dhcp "true"\
--dhcp-interface "virbr1"\
--dns "true"\
--dns-forwarders "8.8.8.8"\
--dns-forwarders "8.8.4.4"\
--dns-interface "virbr1"\
--dns-zone "example.com"
```

- ii. Option 2 - Satellite Capsule Server as a Content Node: This installs a Satellite Capsule Server with content management features and a Puppet Master. Run the following commands as the root user on the Satellite Capsule Server:

```
# capsule-installer --parent-fqdn "sat6.example.com"\
--register-in-foreman "true"\
--pulp-oauth-secret "doajBEXqNcANy93ZbciFyyswaiwt6BWU"\
--certs-tar "-/capsule.example.com-certs.tar"\
--puppet "false"\
--puppetca "false"\
--pulp "true"
```

- iii. Option 3 - Satellite Capsule Server as a Content Node with Smart Proxy: This installs a Satellite Capsule Server with all the features. Run the following commands as the root user on the Satellite Capsule Server:

```
# capsule-installer --parent-fqdn "sat6.example.com"\
```

```
--register-in-foreman "true"\
--foreman-oauth-key "xmmQCGYdkoCRcbviGfuPdX7ZiCsdExf"\
--foreman-oauth-secret "w5ZDpyPJ24eSBNo53AFybcnqoDYXgLUA"\
--pulp-oauth-secret "doajBEXqNcANY93ZbciFyyswaiwt6BWU"\
--certs-tar "/root/capsule.example.com-certs.tar"\
--puppet "true"\
--puppetca "true"\
--pulp "true"\
--tftp "true"\
--dhcp "true"\
--dhcp-interface "virbr1"\
--dns "true"\
--dns-forwarders "8.8.8.8"\
--dns-forwarders "8.8.4.4"\
--dns-interface "virbr1"\
--dns-zone "example.com"
```

Procedure 5.4. Setting a Custom Server Certificate after running capsule-certs-generate

Using custom server certificates for the Satellite Server means that the same custom server certificates need to be deployed in the Satellite Capsule Servers. Each Satellite Capsule Server will require the following steps:

1. Generate a new certificate based on your custom server certificate:

```
capsule-certs-generate --capsule-fqdn "satcapsule.example.com"\
--certs-tar "~/${CAPSULE-certs.tar}"\
--server-cert ~/path/to/server.crt\
--server-cert-req ~/path/to/server.crt.req\
--server-key ~/path/to/server.key\
--server-ca-cert ~/cacert.crt\
--certs-update-server --certs-update-server-ca
```

2. Copy the generated archive, **capsule.example.com-certs.tar**, from the Satellite Server to the Satellite Capsule host system.
3. On the Satellite Capsule Server, re-run the capsule-installer command to refresh the certificates. Depending on the desired Satellite Capsule Server type, choose one of the following options:
 - a. Option 1: Satellite Capsule Server with Smart Proxy: This installs a Satellite Capsule Server with Smart Proxy features (DHCP, DNS, Puppet). Run the following commands as the root user on the Satellite Capsule Server:

```
# capsule-installer --parent-fqdn "satellite.example.com"\
--register-in-foreman "true"\
--foreman-oauth-key "xmmQCGYdkoCRcbviGfuPdX7ZiCsdExf"\
--foreman-oauth-secret "w5ZDpyPJ24eSBNo53AFybcnqoDYXgLUA"\
--pulp-oauth-secret "doajBEXqNcANY93ZbciFyyswaiwt6BWU"\
--certs-tar "/root/capsule.example.com-certs.tar"\
--puppet "true"\
--puppetca "true"\
--pulp "true"\
--tftp "true"\
--dhcp "true"\
--dhcp-interface "virbr1"\
--dns "true"\
--dns-forwarders "8.8.8.8"\
--dns-forwarders "8.8.4.4"\
--dns-interface "virbr1"\
--dns-zone "example.com"
```

- b. Option 2 - Satellite Capsule Server as a Content Node: This installs a Satellite Capsule Server with content management features and a Puppet Master. Run the following commands as the root user on the Satellite Capsule Server:

```
# capsule-installer --parent-fqdn "sat6.example.com"\
--register-in-foreman "true"\
--pulp-oauth-secret "doajBEXqNcANy93ZbciFyysWaiwt6BWU"\
--certs-tar "~/capsule.example.com-certs.tar"\
--puppet "false"\
--puppetca "false"\
--pulp "true"
```

- c. Option 3 - Satellite Capsule Server as a Content Node with Smart Proxy: This installs a Satellite Capsule Server with all the features. Run the following commands as the root user on the Satellite Capsule Server:

```
# capsule-installer --parent-fqdn "sat6.example.com"\
--register-in-foreman "true"\
--foreman-oauth-key "xmmQCGYdkoCRcbviGfuPdX7ZiCsdExf"\
--foreman-oauth-secret "w5ZDpyPJ24eSBN053AFybcnqoDYXgLUA"\
--pulp-oauth-secret "doajBEXqNcANy93ZbciFyysWaiwt6BWU"\
--certs-tar "/root/capsule.example.com-certs.tar"\
--puppet "true"\
--puppetca "true"\
--pulp "true"\
--tftp "true"\
--dhcp "true"\
--dhcp-interface "virbr1"\
--dns "true"\
--dns-forwarders "8.8.8.8"\
--dns-forwarders "8.8.4.4"\
--dns-interface "virbr1"\
--dns-zone "example.com"
```



Important

Use the same custom server certificate on both the Red Hat Satellite Server and the Red Hat Satellite Capsule Server to ensure that the trusted relationship between the two hosts is maintained.

[Report a bug](#)⁶

5.5. Adding Life Cycle Environments to a Red Hat Satellite Capsule Server

If the newly created Red Hat Satellite Capsule Server has *Content Node* features enabled, the Satellite Capsule Server needs an environment added to the Satellite Capsule Server. Adding

⁶ https://bugzilla.redhat.com/enter_bug.cgi?product=Red+Hat+Satellite+6&component=Docs+Install+Guide

an environment to the Red Hat Satellite Capsule Server will allow the Satellite Capsule Server to synchronize content from the Satellite Server and provide content to host systems.



Important

The Satellite Capsule Server is configured through the Satellite Server's command line interface (CLI). Execute all **hammer** commands on the Satellite Server.

To add environments to your Satellite Capsule Server:

1. Log in to the Satellite Server CLI as root.
2. Choose the desired Red Hat Satellite Capsule Server from the list and take note of its **id**:

```
# hammer capsule list
```

The Satellite Capsule Server's details can be verified using the command:

```
# hammer capsule info --id capsule_id_number
```

3. Verify the list of life cycle environments available for the Red Hat Capsule Server and note down the **environment id**:

```
# hammer capsule content available-lifecycle-environments --id capsule_id_number
```

Where:

- **available-lifecycle-environments** are life cycle environments that are available to the Satellite Capsule but are currently not attached to the Satellite Capsule.

4. Add the life cycle environment to the Satellite Capsule Server:

```
# hammer capsule content add-lifecycle-environment --id capsule_id_number --lifecycle-environment-id environment_id_number
```

Where:

- **--id** is the Satellite Capsule Server's identification number.
- **--lifecycle-environment-id** is the life cycle environment's identification number.

Repeat this step for every life cycle environment to be added to the Capsule Server.

5. Synchronize the content from the Satellite Server's environment to the Satellite Capsule Server:

```
# hammer capsule content synchronize --id capsule_id_number
```

When an external Satellite Capsule Server has various life cycle environments, and only one life cycle environment needs to be synchronized, it is possible to target a specific environment by specifying the environment identification:

```
# hammer capsule content synchronize --id external_capsule_id_number --environment-id
environment_id_number
```

[Report a bug⁷](#)

5.6. Removing Life Cycle Environments from the Red Hat Satellite Capsule Server

There are multiple reasons to remove life cycle environments from the Red Hat Satellite Capsule Server. For example:

- When life cycle environments are no longer relevant to the host systems
- When life cycle environments have been incorrectly added to the Satellite Capsule Server

To remove a life cycle environment from the Satellite Capsule Server:

1. Log in to the Satellite Server CLI as the root user.
2. Choose the desired Red Hat Satellite Capsule Server from the list and take note of its **id**:

```
# hammer capsule list
```

The Satellite Capsule Server's details can be verified using the command:

```
# hammer capsule info --id capsule_id_number
```

3. Verify the list of life cycle environments currently attached to the Red Hat Capsule Server and note down the **environment id**:

```
hammer capsule content lifecycle-environments --id capsule_id_number
```

4. Remove the life cycle environment from the Satellite Capsule Server:

```
# hammer capsule content remove-lifecycle-environment --id capsule_id_number --
environment-id environment_id
```

Where:

- **--id** is the Satellite Capsule Server's identification number.
- **--environment-id** is the life cycle environment's identification number.

⁷ https://bugzilla.redhat.com/enter_bug.cgi?product=Red+Hat+Satellite+6&component=Docs+Install+Guide

Repeat this step for every life cycle environment to be removed from the Capsule Server.

5. Synchronize the content from the Satellite Server's environment to the Satellite Capsule Server:

```
# hammer capsule content synchronize --id capsule_id_number
```

[Report a bug](#)⁸

5.7. Registering Host Systems to a Red Hat Satellite Capsule Server

Prerequisite

Client system must be configured for registration. The following chapters in the *Red Hat Satellite User Guide* can assist with configuration:

1. *Configuring Hosts for Registration*
2. *Automated Configuration*
3. *Manual Configuration*
4. *Creating a New Activation Key*

Systems can be registered to the parent host while using a Satellite Capsule as a content source. Register the system to the Satellite 6 server through **subscription-manager** but reference the Satellite Capsule by using the **--baseurl** flag provided by Subscription Manager using `/pulp/repos` as the prefix.

```
# subscription-manager register --org [org_name] --activationkey [your_activation_key] --baseurl https://satcapsule.example.com/pulp/repos
```

[Report a bug](#)⁹

⁸ https://bugzilla.redhat.com/enter_bug.cgi?product=Red+Hat+Satellite+6&component=Docs+Install+Guide

⁹ https://bugzilla.redhat.com/enter_bug.cgi?cf_environment=Build+Name%3A+22922%2C+Installation+Guide-6.0-1%0ABuild+Date%3A+07-10-2014+15%3A39%3A35%0ATopic+ID%3A+24790-708788+%5BLatest%5D&comment=Title%3A+Registering+Host+Systems+to+a+Red%26nbsp%3BHat+Satellite+Capsule+Server%0A%0ADescribe+the+issue%3A%0A%0A%0ASuggestions+for+improvement%3A%0A%0A%0AAdditional+information%3A&cf_build_id=24790-708788+12+Sep+2014+12%3A53+en-US+%5BLatest%5D&product=Red+Hat+Satellite+6&component=Docs+Install+Guide

Upgrading Red Hat Satellite Server and Capsule Server

This chapter describes how to upgrade Red Hat Satellite and the Capsule server to the latest version. If you are running a Satellite server with no Capsule servers, you need only to upgrade the Red Hat Satellite software.

6.1. Upgrading Red Hat Satellite

To upgrade Red Hat Satellite software, follow these steps.

Procedure 6.1. Upgrading Red Hat Satellite Software

1. Backup. If Katello is running on a Virtual Machine, take a snapshot prior to upgrading. Otherwise, take a backup of the relevant databases by following the instructions here.
2. Ensure that the operating system up to date. Ensure your operating system is up to date by entering the following command:

```
# yum -y update
```

3. Enable the latest repositories. Ensure your system is pointed to the latest Satellite repositories by disabling the current repositories and enabling the new repositories. To disable the current repositories enter the following command using the *current repositories release number*:

```
# subscription-manager repos --disable rhel-6-server-satellite-current repositories  
release number-rpms
```

To enable the new repositories, enter the following command using the *new repositories release number*:

```
# subscription-manager repos --enable rhel-6-server-satellite-new repositories release  
number-rpms
```

The following example shows disabling the Satellite 6.0 repositories (the current repositories) and enabling the Satellite 6.1 repositories (the new repositories).

Example 6.1. Disabling current repositories and enabling new repositories

```
# subscription-manager repos --disable rhel-6-server-satellite-6.0-rpms  
Repo 'rhel-6-server-satellite-6.0-rpms' is disabled for this system.  
# subscription-manager repos --enable rhel-6-server-satellite-6.1-rpms  
Repo 'rhel-6-server-satellite-6.1-rpms' is enabled for this system.
```

4. Update the packages. This step consists of updating the packages with the **yum** command. The step consists of cleaning the yum cache and updating the packages. To clean the yum cache enter the following command:

```
# yum clean all
```

```
# yum clean all
```

To update the packages, enter the following command:

```
# yum update -y
```

5. Run the installer. For this step, run the **katello-installer** with the **-upgrade** flag as follows:

```
# katello-installer --upgrade
```

6. Discovery template update. In the Satellite 6 user interface, go to Provisioning Templates, edit the PXELinux global default template and modify the discovery menu entry as follows:
 - a. At the **Hosts** tab, select **Provisioning templates**.
 - b. At the **Provisioning Templates** page, select **PXELinux global default**. Selecting **PXELinux global default** causes the **Template editor** dialog box to be displayed.
 - c. At the **Template editor** dialog box, in the **Provisioning Template** tab, modify the **PXELinux global default** template discovery menu entry:

```
LABEL discovery
MENU LABEL Satellite 6 Discovery
MENU DEFAULT
KERNEL /var/lib/tftpboot/boot/fdi-image-rhel_7-vmlinux
APPEND initrd=boot/fdi-image-rhel_7-img rootflags=loop root=live://fdi.iso
      rootfstype=auto ro rd.live.image acpi=force rd.luks=0 rd.md=0 rd.dm=0 rd.lvm=0
      rd.bootif=0 rd.neednet=0 nomodeset proxy.url=https://SATELLITE_CAPSULE_URL:9090
      proxy.type=proxy
IPAPPEND 2
```

The `proxy.type` option can be either **proxy** or **foreman**. In the first case all communication goes through Satellite Capsule, in the latter case the communication goes directly to Satellite Server (behavior of Satellite 6.0 release).

The `proxy.url` specifies URL of the Satellite Capsule or Server depending on the previous setting. Both `http` and `https` schemes are supported.

6.2. Upgrading Red Hat Capsule

To upgrade Red Hat Capsule software, follow these steps.

Procedure 6.2. Upgrading Red Hat Capsule Software

1. Ensure that the operating system is up to date. Ensure your operating system is up to date by entering the following command:

```
# yum -y update
```

2. Enable the latest repositories. Ensure your system is pointed to the latest Capsule repositories by disabling the current repositories and enabling the new repositories. To disable the current repositories enter the following command using the *current repositories release number*:

```
# subscription-manager repos --disable rhel-6-server-satellite-capsule-current
repositories release number-rpms
```

To enable the new repositories, enter the following command using the *new repositories release number*:

```
# subscription-manager repos --enable rhel-6-server-satellite-capsule-new repositories
release number-rpms
```

The following example shows disabling the Satellite 6.0 repositories (the current repositories) and enabling the Satellite 6.1 repositories (the new repositories).

Example 6.2. Disabling current repositories and enabling new repositories

```
# subscription-manager repos --disable rhel-6-server-satellite-capsule-6.0-rpms
Repo 'rhel-6-server-satellite-capsule-6.0-rpms' is disabled for this system.
# subscription-manager repos --enable rhel-6-server-satellite-capsule-6.1-rpms
Repo 'rhel-6-server-satellite-capsule-6.1-rpms' is enabled for this system.
```

3. Update the packages. This step consists of updating the packages with the **yum** command. The step consists of cleaning the yum cache and updating the packages. To clean the yum cache enter the following command:

```
# yum clean all
```

To update the packages, enter the following command:

```
# yum update -y
```

4. Run the installer. For this step, run the **katello-installer** with the **-upgrade** flag as follows:

```
# capsule-installer --upgrade
```

5. Discovery image and plugin. To leverage Capsule as a proxy for discovered hosts (so no direct connection to Satellite Server is required), follow these steps:

- a. Install the following package (added in Satellite 6.1):

```
yum install rubygem-smart_proxy_discovery.noarch
```

- b. Check if `foreman_url` setting is present on the Capsule pointing to the Satellite Server correctly:

```
# grep foreman_url /etc/foreman-proxy/settings.yml :foreman_url: https://
fqdn.of.satellite.server.host
```

- c. Restart the foreman-proxy component on the Satellite Capsule server:
- For Red Hat Enterprise Linux 6:

```
# service foreman-proxy restart
```

- For Red Hat Enterprise Linux 7:

```
# systemctl restart foreman-proxy
```

- d. Upgrade the **foreman-discovery-image** package on the Satellite Server and reboot all discovered nodes via Satellite user interface or CLI.

Congratulations, you have successfully upgraded your Capsule! For information about what was added in the most current release, please refer to the release notes.

[Report a bug¹](#)

¹ https://bugzilla.redhat.com/enter_bug.cgi?cf_environment=Build+Name%3A+22922%2C+Installation+Guide-6.0-1%0ABuild+Date%3A+07-10-2014+15%3A39%3A35%0ATopic+IDs%3A%0A11162-708820+%5BLatest%5D&comment=Title%3A+Uninstalling+Red+Hat+Satellite+Server+and+Capsule+Server%0A%0ADescribe+the+issue%3A%0A%0ASuggestions+for+improvement%3A%0A%0AAdditional+information%3A&product=Red+Hat+Satellite+6&component=Docs+Install+Guide

Next Steps

The content of the Installation Guide takes you through installing Red Hat Satellite Server, Capsule Server and to set up the repositories so that client host systems can update from the Satellite Server. There are other configuration steps you will need to take to take full advantage of your Red Hat Satellite Server and Capsule Server. The *Red Hat Satellite User Guide* can assist in configuring life cycle environments, products, organizations, locations, and other components while the *Red Hat Satellite Provisioning Guide* can assist with setting up a working provisioning environment for your Red Hat Satellite Server.

Uninstalling Red Hat Satellite Server and Capsule Server



Warning

This procedure will erase all applications that are used with Red Hat Satellite Server or Red Hat Satellite Capsule Server on the target system. If you are using any of these applications or application data for any other purposes than Red Hat Satellite, backup the information before running this script.

The command to uninstall Red Hat Satellite Server or Red Hat Satellite Capsule Server is **katello-remove**. The uninstall script will issue a warning twice, requiring confirmation before it removes all packages and configuration files in the system. Below is a sample output of the command:

```
# katello-remove
WARNING: This script will erase many packages and config files.
Important packages such as the following will be removed:
* elasticsearch
* httpd (apache)
* mongod
* tomcat6
* puppet
* ruby
* rubygems
* All Katello and Foreman Packages
Once these packages and configuration files are removed there is no going back.
If you use this system for anything other than Katello and Foreman you probably
do not want to execute this script.
Read the source for a list of what is removed. Are you sure(Y/N)? y
ARE YOU SURE?: This script peramently deletes data and configuration.
Read the source for a list of what is removed. Type [remove] to continue? remove
Shutting down Katello services...
...
```

Result

All Red Hat Satellite packages and configuration files are removed from the system.

[Report a bug](#)¹

¹ https://bugzilla.redhat.com/enter_bug.cgi?cf_environment=Build+Name%3A+22922%2C+Installation+Guide-6.0-1%0ABuild+Date%3A+07-10-2014+15%3A39%3A35%0ATopic+IDs%3A%0A11162-708820+%5BLatest%5D&comment=Title%3A+Uninstalling+Red+Hat+Satellite+Server+and+Capsule+Server%0A%0ADescribe+the+issue%3A%0A%0ASuggestions+for+improvement%3A%0A%0AAdditional+information%3A&product=Red+Hat+Satellite+6&component=Docs+Install+Guide

Appendix A. Glossary of Terms

The following terms are used throughout this document. Familiarize yourself with these terms to help your understanding of Red Hat Satellite 6.

Activation Key

A registration token used in a Kickstart file to control actions at registration. These are similar to Activation Keys in Red Hat Satellite 5, but provide a subset of features because Puppet controls package and configuration management after registration.

Application Life Cycle Environment

An *Application Life Cycle Environment* represents a step, or stage, in a promotion path through the Software Development Life Cycle (SDLC). Promotion paths are also known as development paths. Content such as packages and Puppet modules move through life cycle environments by publishing and promoting Content Views. All Content Views have versions, which means you can promote a specific version through a typical promotion path; for example, from development to test to production. Channel cloning implements this concept in Red Hat Satellite 5.

Attach

The process of associating a Subscription to a Host that provides access to RPM content.

Capsule

A *Capsule* is an additional server that can be used in a Red Hat Satellite 6 deployment to facilitate content federation and distribution in addition to other localized services (Puppet Master, DHCP, DNS, TFTP, and more).

Catalog

A *Catalog* is a document that describes the desired system state for one specific computer. It lists all of the resources that need to be managed, as well as any dependencies between those resources.

Compute Profile

Compute Profiles specify default attributes for new virtual machines on a compute resource.

Compute Resource

A *Compute Resource* is virtual or cloud infrastructure, which Red Hat Satellite 6 uses for deployment of hosts and systems. Examples include Red Hat Enterprise Virtualization Manager, OpenStack, EC2, and VMWare.

Content

Content includes software packages (RPM files) and Puppet modules. These are synchronized into the Library and then promoted into Life Cycle Environments using Content Views so that they can be consumed by Hosts.

Content Delivery Network (CDN)

The *Content Delivery Network (CDN)* is the mechanism used to deliver Red Hat content in a geographically co-located fashion. For example, content that is synchronized by a Satellite in Europe pulls content from a source in Europe.

Content View

A *Content View* is a definition of content that combines products, packages, and Puppet modules with capabilities for intelligent filtering and creating snapshots. Content Views are a refinement of the combination of channels and cloning from Red Hat Satellite 5.

Appendix A. Glossary of Terms

External Node Classifier

An *External Node Classifier* is a Puppet construct that provides additional data for a Puppet Master to use when configuring Hosts. Red Hat Satellite 6 acts as an External Node Classifier to Puppet Masters in a Satellite deployment.

Facter

Facter is a program that provides information (facts) about the system on which it is run; for example, Facter can report total memory, operating system version, architecture, and more. Puppet modules enable specific configurations based on host data gathered by Facter.

Hammer

Hammer is a command line tool for Red Hat Satellite 6. Use Hammer to manage Red Hat Satellite 6 as a standard CLI, for scripts, and also through an interactive shell.

Hiera

Hiera is a key/value look-up tool for configuration data which allows keeping site-specific data out of puppet manifests.

Host

A *Host* refers to any system, either physical or virtual, that Red Hat Satellite 6 manages.

Host Collection

A *Host Collection* is equivalent to a Satellite 5 *System Group*, that is, a user defined group of one or more Hosts.

Host Group

A *Host Group* is a template for building a Host. This includes the content view (which defines the available RPM files and Puppet modules) and the Puppet classes to apply (which ultimately determines the software and configuration).

Location

A *Location* is collection of default settings that represent a physical place. These can be nested so that you can set up an hierarchical collection of locations. For example, you can set up defaults for "Middle East", which are refined by "Tel Aviv", which are further refined by "Data Center East", and then finally by "Rack 22".

Library

The *Library* contains every version, including the latest synchronized version, of the software that the user will ever deploy. For an Information Technology Infrastructure Library (ITIL) ¹ organization or department, this is the Definitive Media Library ² (previously named the Definitive Software Library).

Manifest

A *Manifest* transfers subscriptions from the Customer Portal to Red Hat Satellite 6. This is similar in function to certificates used with Red Hat Satellite 5.

For more information about certificates and subscription types, see:

- [RHN Classic, Red Hat Satellite, and Channel Entitlements](https://access.redhat.com/site/documentation/en-US/Red_Hat_Satellite,_and_Channel_Entitlements)^{3 4}

¹ http://en.wikipedia.org/wiki/Information_Technology_Infrastructure_Library

² http://en.wikipedia.org/wiki/Definitive_Media_Library

³ https://access.redhat.com/site/documentation/en-US/Red_Hat_Subscription_Management/1/html/MigratingRHN/sat-certs.html

⁴ https://access.redhat.com/site/documentation/en-US/Red_Hat_Subscription_Management/1/html/MigratingRHN/sat-certs.html

-
- [The Structure of Satellite Certificates \(Classic Style of Certificates\)](#)^{5 6}

Organization

An *Organization* is an isolated collection of systems, content, and other functionality within a Satellite 6 deployment.

Product

A collection of content repositories. Products can be Red Hat products or newly-created products made up of software and configuration content.

Promote

The act of moving a content view comprised of software and configuration content from one Application Life Cycle Environment to another, such as moving from development to QA to production.

Provisioning Template

A *Provisioning Template* is a user-defined template for Kickstart files, snippets, and other provisioning actions. In Satellite 6 they provide similar functionality to Kickstart Profiles and cobbler Snippets in Red Hat Satellite 5.

Pulp Node

A *Pulp Node* is a Capsule Server component that mirrors content. This is similar to the Red Hat Satellite 5 Proxy. The main difference is that content can be staged on the Pulp Node before it is used by a Host.

Puppet Agent

The *Puppet Agent* is an agent that runs on a Host and applies configuration changes to that Host.

Puppet Master

A *Puppet Master* is a Capsule Server component that provides Puppet manifests to Hosts for execution by the Puppet Agent.

Puppet Module

A *Puppet Module* is a self-contained bundle of code and data that you can use to manage resources such as users, files, and services.

Repository

A *Repository* provides storage for a collection of content. For example, a YUM repository or a Puppet repository.

Role

A *Role* specifies a collection of permissions that are applied to a set of resources, such as Hosts.

Smart Proxy

A *Smart Proxy* is a Capsule Server component that can integrate with external services, such as DNS or DHCP.

Smart Variable

A *Smart Variable* is a configuration value that controls how a Puppet Class behaves. This can be set on a Host, a Host Group, an Organization, or a Location.

⁵ https://access.redhat.com/site/documentation/en-US/Red_Hat_Subscription_Management/1/html/Subscription_Concepts_and_Workflows/index.html#subscr-legacy

⁶ https://access.redhat.com/site/documentation/en-US/Red_Hat_Subscription_Management/1/html/Subscription_Concepts_and_Workflows/index.html#subscr-legacy

Appendix A. Glossary of Terms

Standard Operating Environment (SOE)

A *Standard Operating Environment (SOE)* is a controlled version of the operating system on which applications are deployed.

Subscription

Subscriptions are the means by which you receive content and service from Red Hat.

Synchronizing

Synchronizing refers to mirroring content from external resources into the Red Hat Satellite 6 Library.

Synchronization Plans

Synchronization Plans provide scheduled execution of content synchronization.

User Group

A *User Group* is a collection of roles which can be assigned to a collection of users. This is similar to a Role in Red Hat Satellite 5.

User

A user is anyone registered to use Red Hat Satellite. Authentication and authorization is possible through built-in logic, through external LDAP resources, or with Kerberos.

[Report a bug⁷](#)

⁷ https://bugzilla.redhat.com/enter_bug.cgi?cf_environment=Build+Name%3A+22922%2C+Installation+Guide-6.0-1%0ABuild+Date%3A+07-10-2014+15%3A39%3A35%0ATopic+IDs%3A%0A30851-714926+%5BLatest%5D&comment=Title%3A+Glossary+of+Terms%0A%0ADescribe+the+issue%3A%0A%0A%0ASuggestions+for+improvement%3A%0A%0A%0AAdditional+information%3A&product=Red+Hat+Satellite+6&component=Docs+Install+Guide

Appendix B. Revision History

Revision 1-25 Fri April 1 2015

Athene Chan achan@redhat.com

Restructured the installation guide's table of contents.

Revision 1-24 Fri April 1 2015

Athene Chan achan@redhat.com

BZ#1166191 Added a note about chained certificates.

Changed the procedure to "Setting Up a Manifest" in accordance to the changes in the Customer Portal.

BZ#1145823 Changed a step to make sure that organization names are used for the "Satellite Name" when registering a Satellite for manifests.

BZ#1194392 Clarified that the Satellite subscription should not be attached to the manifest.

BZ#1185849 Changed the output if the subscription SKU and changed the second step in the procedure "To Install a Satellite Capsule Server on a Certificate-managed System"

BZ#1185836 Added "Capsule" to the note in the "Red Hat Satellite Capsule Server Prerequisites" section.

BZ#1174578 Removed duplicated capsule registration steps in "Installing a Red Hat Satellite Capsule Server" and "Configuring a Red Hat Satellite Capsule Server".

BZ#1173816 Removed the firewall rules on elasticsearch in the "Configuring a Red Hat Satellite Capsule Server" section as the Capsule server does not use elasticsearch.

Changed the repository names to correct Beta repositories for both the Satellite Server and Capsule.

BZ#1173680 Added a note on the Storage prerequisites section about latency and networked storage.

BZ#1176479 Added information on configuring DNS, DHCP, and TFTP to the Configuration Options.

Added firewall port 5674 for amqp connections and SELinux considerations for amqp in the prerequisites section.

Revision 1-23 Mon Mar 30 2015

David O'Brien daobrien@redhat.com

BZ 1203878: Update RH Common repository name to Satellite Tools.

Revision 1-22 Wed Mar 23 2015

Jo Somers jsomers@redhat.com

BZ#1201194 Added Red Hat Enterprise Linux 6.6 or higher to Section 1.5 Prerequisites

Revision 1-21 Wed Mar 23 2015

Jo Somers jsomers@redhat.com

BZ#1201193 Added Red Hat Enterprise Linux 6.6 or higher and reference to solution article to Section 2.2 Installing Red Hat Satellite with an ISO Image-Prerequisites

Revision 1-20 Wed Mar 18 2015

Jo Somers jsomers@redhat.com

BZ#1200617 New Steps 1-6 for section 4.2.4 Importing Content to a Disconnected Satellite Server.

Revision 1-19 Tue Mar 17 2015

Athene Chan achan@redhat.com

BZ#1170334 Added network ports to be opened as a prerequisite to installation.

Appendix B. Revision History

BZ#1193153 sentence structure change to procedure statement.

Revision 1-18 Thu Mar 12 2015

Jo Somers jsomers@redhat.com

BZ#1119934 Procedure 2.2 Running the Installer Script: Changed Step 1 katello-installer command

Revision 1-17 Mon Mar 09 2015

David O'Brien daobrien@redhat.com

BZ#1166642 Add comment to enable SELinux and relabel files after installation if SELinux was disabled during installation.

Revision 1-16 Wed Mar 03 2015

Jo Somers jsomers@redhat.com

Fix BZ 1170713 For RHEL7, add repo names before yum install

Revision 1-15 Fri Feb 27 2015

David O'Brien daobrien@redhat.com

BZ#1183657 Add "puppet module" and "catalog" to Glossary

Revision 1-14 Wed Feb 25 2015

Athene Chan achan@redhat.com

BZ#1180191 Corrected the required RPMs to install for synchronizing hosts in a disconnected Satellite Server.

Revision 1-13 Tue Feb 18 2015

Jo Somers jsomers@redhat.com

BZ#1180277 Corrected firewall command from complete reload to reload in 5.2 Red Hat Satellite Capsule Server Prerequisites.

BZ#1180277 Added firewall reload command in 5.4 Configuring a Red Hat Satellite Capsule Server.

Revision 1-12 Mon Feb 9 2015

Megan Lewis melewis@redhat.com

BZ#1178176 Further corrections in 4.2.4. Importing Content to a Disconnected Satellite Server.

BZ#1177574 Added line breaks to Procedure 2.5 in 2.3.2. Configuring Red Hat Satellite with a Custom Server Certificate.

Revision 1-11 Fri Jan 23 2015

Athene Chan achan@redhat.com

BZ#1184589 Emphasize what base operating system variants is required for Red Hat Satellite.

Revision 1-10 Fri Jan 23 2015

Megan Lewis melewis@redhat.com

BZ#1178176 Corrected 40G to 40GB in 4.2.4. Importing Content to a Disconnected Satellite Server.

BZ#1179022 Corrected errors in examples in 5.4. Configuring a Red Hat Satellite Capsule Server.

Revision 1-9 Fri Jan 23 2015

Athene Chan achan@redhat.com

BZ#1177568 Replaced the "service" and "chkconfig" command for chronyd to the recommended "systemctl" command instead.

Revision 1-8 **Wed Jan 21 2015** **David O'Brien** daobrien@redhat.com
BZ 1184306 - Make the requirement for a Base install more obvious.

Revision 1-7 **Thu Dec 18 2014** **Megan Lewis** melewis@redhat.com
BZ#1168273 Corrected package name for installing puppet agent.
BZ#1169499 Clarified supported Red Hat Enterprise Linux variants in Prerequisites.
BZ#1164251 Corrected example in Adding Lifecycle Environments to a Red Hat Satellite Capsule Server.
BZ#1167904 Added chrony and sos into the prerequisites for install.

Revision 1-6.2 **Thu Nov 19 2014** **Athene Chan** achan@redhat.com
Added additional admin and password options to the katello-installer.
Removed hashes on the firewall requirements.
Included references to support for scripting frameworks in the Puppet Supported Usage paragraph.

Revision 1-6.1 **Friday Nov 14 2014** **Athene Chan** achan@redhat.com
BZ#1153567 Added a "Capsule Scalability" section.

Revision 1-6 **Thu Nov 13 2014** **Athene Chan** achan@redhat.com
BZ#1153564 Added a "Next Steps" chapter.
BZ#1153772 Added firewall configuration and additional steps to ensure that the Satellite Server can go through the HTTP Proxy without issues.
BZ#1146574 Changed the gpg filename.

Revision 1-5 **Tue Nov 11 2014** **Athene Chan** achan@redhat.com
BZ#1132840 Added two advanced firewall consideration tables in the prerequisites.
BZ#1152630 Edited incorrect reference to Red Hat Enterprise Linux 7.
BZ#1150412 Added "--complete-reload" to the firewall-cmd firewall commands.
BZ#1143746 Changed incorrect certs-server-key in procedure 2.4.

Revision 1-4 **Mon Nov 10 2014** **Athene Chan** achan@redhat.com
BZ#1152630 Added RHEL7 firewall-cmd command examples for the firewall requirements.

Revision 1-3 **Fri Nov 7 2014** **Athene Chan** achan@redhat.com
BZ#1161254 Added a new firewall rule to the list of firewall rules to allow katello-installer to run after initial install. Moved the firewall rules to the "Configuring Red Hat Satellite" sections to prevent errors.

Appendix B. Revision History

Revision **Fri Oct 3 2014** **Athene Chan** achan@redhat.com
1-2.02

Various edits from translators' feedback.
BZ#1147673 Removed MS DHCP from supported DHCP features.
BZ#1140520 Changed all "ACME_Corporation" entries to the correct default organization entry "Default Organization".
BZ#1139806 Added a note in the Prerequisites sections for Red Hat Satellite Server and Red Hat Satellite Capsule Server that the host system has to be updated before installing Red Hat Satellite.
BZ#1138430 Changed "yum-config-manager" to "subscription-manager" to match the procedure description to the command block.
BZ#1141954 Added example repositories to the "Enabling Red Hat Repositories" section and a note to enable RH Common repositories for client systems.
BZ#1140722 Added note to highlight that the command needs to change if the repository is different from the example command.

Revision **Fri Sep 12 2014** **Athene Chan** achan@redhat.com
1-2.01

BZ#1140875 Added firewall rules after the Satellite Server and Capsule Server installation.

Revision 1-2 **Thu Sep 11 2014** **Athene Chan** achan@redhat.com

BZ#1140422 Changed the repository names for Red Hat Satellite Server and Red Hat Satellite Capsule Server.

Revision 1-1 **Wed Sep 10 2014** **Athene Chan** achan@redhat.com

Added additional ports in the Prerequisites section.

Revision 1-0 **Tue Sep 9 2014** **Athene Chan** achan@redhat.com

Red Hat Satellite 6.0 GA Release

Revision 0-34 **Thu Aug 21 2014** **Athene Chan** achan@redhat.com

BZ#1131360 Replaced an option on the command to reflect the correct one.

Revision 0-33 **Tue Aug 12 2014** **Athene Chan** achan@redhat.com

BZ#1130208 Added "Red Hat Software Collections" as a channel to enable.
BZ#1129104 Add requirement to make port 8080 available for katello installation. Update how to configure iptables accordingly.
BZ#1125241 Added a note that default location and default organization can be changed after initial configuration.
BZ#1044558 Added chapter on http proxy configuration options in katello-installer.
BZ#1120492 Added a note in "Red Hat Satellite Server Supported Usage" about embedded tomcat deployments.
BZ#1125299 Added references to "next steps" sections in the "Installing Red Hat Satellite" chapter.
BZ#1125357 Removed the deprecated repository directories.
BZ#1121814 Corrected the Satellite Capsule Server installer option.
BZ#1089086 Included filesize recommendations in the Prerequisites.

BZ#1119866 Added the Red Hat Software Collections package as a required package for the Satellite Capsule Server installation.
BZ#1118406 Added a table of ports, protocols and services in the Prerequisites section.
BZ#1120855 Various corrections on filenames and commands.
BZ#1121676 Added a note that all hammer commands are ran on the Satellite Server.
BZ#1113811 Created the section "Red Hat Satellite 6 Supported Usage".
BZ#1128922 Added a "Results" subsection.
BZ#754728 Added sections "Configuring Red Hat Satellite with a Custom Server Certificate" and "Configuring Red Hat Satellite Capsule Server with a Custom Server Certificate"
BZ#1122183 Changed the entry on Account Username and added an example for Base DN.
BZ#1129498 Group iptables commands for better readability.

Revision 0-32 Fri Jul 11 2014

Athene Chan achan@redhat.com

BZ#1157545, BZ#115047, BZ#1116471, BZ#1117052, BZ#1117052, BZ#1115065 Minor edits, spelling errors and revisions to text.

Revision 0-31 Mon Jun 30 2014

Athene Chan achan@redhat.com

Book published for Beta Release.

Revision 0-30 Tue Jun 24 2014

Dan Macpherson dmacpher@redhat.com

Second test brewing for Beta.

Revision 0-29 Tue Jun 24 2014

Dan Macpherson dmacpher@redhat.com

Test brewing for Beta.

Revision 0-28 Mon Nov 11 2013

Dan Macpherson dmacpher@redhat.com

Fixing minor error.

Revision 0-27 Mon 11 Nov 2013

Dan Macpherson dmacpher@redhat.com

Preparation for MDP2.

Revision 0-26 Mon 11 Nov 2013

Athene Chan achan@redhat.com

BZ#1024530, 1027466 Additional edits to steps for Satellite nodes.

Revision 0-25 Thu 7 Nov 2013

Megan Lewis melewis@redhat.com

BZ#1027461 Added steps to create activation key and retrieve oauth secret. Added note to verify nodes exist.

Revision 0-24 Thu 7 Nov 2013

Athene Chan achan@redhat.com

BZ#1027466 Added a small section on using Satellite nodes. Added synchronization step.

Appendix B. Revision History

- Revision 0-23** **Wed 30 Oct 2013** **Athene Chan** achan@redhat.com
BZ#1024438 changed procedures to accommodate yum-utils installation.
BZ#1024529 removed katello.yml instructions as this is not preferred way of LDAP configuration.
BZ#1024559 Added foreman-libvirt to the yum install command.
BZ#1024530 Added new information to the section on Satellite Nodes.
- Revision 0-22** **Tue 29 Oct 2013** **Athene Chan** achan@redhat.com
BZ#1024094 yum-utils command updated.
- Revision 0-21** **Wed 09 Oct 2013** **Dan Macpherson** dmacpher@redhat.com
Finalizing QE review implementation
- Revision 0-20** **Wed 2 Oct 2013** **Athene Chan** achan@redhat.com
BZ#1014402 Installation requirements updated.
- Revision 0-19** **Wed 2 Oct 2013** **Athene Chan** achan@redhat.com
BZ#1014402 Prerequisites for installation updated.
- Revision 0-18** **Tue 1 Oct 2013** **Athene Chan** achan@redhat.com
BZ#1009719, 971944 Minor spelling and grammar edits.
- Revision 0-17** **Thu 19 Sep 2013** **Athene Chan** achan@redhat.com
BZ#1009719 Updated the Prerequisites and the install instructions.
- Revision 0-16** **Tue 17 Sep 2013** **Athene Chan** achan@redhat.com
BZ#971944 Added storage requirements for Satellite.
- Revision 0-15** **Wed 11 Sep 2013** **Megan Lewis** melewis@redhat.com
Integrating QE feedback.
- Revision 0-14** **Mon 12 Aug 2013** **Dan Macpherson** dmacpher@redhat.com
Removing draft watermark.
- Revision 0-13** **Mon 12 Aug 2013** **Dan Macpherson** dmacpher@redhat.com
Preparing documentation for technical review.
- Revision 0-09** **Thu 20 June 2013** **Dan Macpherson** dmacpher@redhat.com
Correction to repo label for installation.

Revision 0-08 Thu 20 June 2013

Dan Macpherson dmacpher@redhat.com

Added MDP1 status.

Revision 0-07 Wed 19 June 2013

Athene Chan achan@redhat.com

Revised channel for installation.

Revision 0-06 Thu 13 June 2013

Athene Chan achan@redhat.com

Edited book for grammatical errors and sentence structure.

Revision 0-05 Tue 11 June 2013

Athene Chan achan@redhat.com

Added Chapters for manifests and for synchronization.

Edited sections based on technical review feedback.

Revision 0-04 Fri 31 May 2013

Athene Chan achan@redhat.com

Changed field names in the Satellite:Provisioning LDAP section.

Revision 0-03 Thu 30 May 2013

Athene Chan achan@redhat.com

Renamed all web application components to the rebranded names of "Red Hat Satellite: Content and Entitlement" and "Red Hat Satellite: Provisioning and Configuration".

Revision 0-02 Tue 28 May 2013

Athene Chan achan@redhat.com

Incorporated technical review edits.

Updated commands for installing Red Hat Satellite.

Standardized tagging of components.

Revision 0-01 Fri 17 May 2013

Athene Chan achan@redhat.com

Initial book creation

