



SATELLITE 6 PREREQUISITES

Prerequisites

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

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`

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

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- Red Hat Enterprise Linux 6.6 or later
- A minimum of two CPU cores, but four CPU cores are recommended.
- A minimum of 12 GB memory but ideally 16 GB of memory for each instance of Satellite. Use 4 GB of swap space where possible.
- A unique hostname. The hostname can have lower-case letters, numbers, dots (.) and hyphens (-).
- 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.

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.

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- 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. The following table details recommended storage requirements for specific directories. These values are based on expected use case scenarios and may vary according to individual environments.

Recommended Storage Considerations

Directory	Installation Size Requirement		Recommended
/var/cache/pulp	10GB minimum	20GB	
/var/lib/pulp	1 MB	200 GB	
/var/lib/mongodb	3.5 GB	25 GB	
/var/log	10 MB	250 MB	
/var/lib/pgsql	100 MB	250 MB	

Important

Several components of Red Hat Satellite are sensitive to network latency. Red Hat recommends local or SAN-based storage. Avoid NFS storage whenever possible.

The XFS file system is recommended for Red Hat Satellite 6. XFS is the default file system in Red Hat Enterprise Linux 7, which makes it the preferable base operating system.

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Required Network Ports

Specific network ports must be open and free on the base operating system, as well as open in any network-based firewalls, to enable the components of Satellite architecture to communicate. The tables in this section explain the need for the ports, and the corresponding firewall commands for host-based firewalls are given in the following section. The installation of a Capsule Server will fail if the ports between the Satellite Server and the Capsule Server have not been opened before installation is started.

The tables indicate the destination port and the direction of network traffic, use this information to configure any network-based firewalls. Note that some cloud solutions need to be specifically configured to allow communications between machines as they isolate machines similarly to network-based firewalls.

The Satellite Server has an integrated Capsule and any host that is directly connected to the Satellite Server is a Client of the Satellite in the context of these tables. This includes the base system on which a Capsule Server is running.

Required ports can change based on your configuration.

Table 2.2. Ports for Satellite to Red Hat CDN Communication

Port	Protocol	Service	Required For
443	TCP	HTTPS	Subscription Management Services (access.redhat.com) and connecting to the Red Hat CDN (cdn.redhat.com).

Table 2.3. Ports for Browser-based User Interface Access to Satellite

Port	Protocol	Service	Required For
443	TCP	HTTPS	Browser-based UI access to Satellite
80	TCP	HTTP	Redirection to HTTPS for web UI access to Satellite (Optional)

Table 2.4. Ports for Client to Satellite Communication

Port	Protocol	Service	Required For
80	TCP	HTTP	Anaconda, yum, for obtaining Katello certificates, templates, and for downloading iPXE firmware
443	TCP	HTTPS	Subscription Management Services, yum, Telemetry Services, and for connection to the Katello Agent
5647	TCP	amqp	The Katello Agent to communicate with the Satellite's Qpid dispatch router
8140	TCP	HTTPS	Puppet agent to Puppet master connections
9090	TCP	HTTPS	Sending SCAP reports to the Smart Proxy in the integrated Capsule and for the discovery image during provisioning

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Table 2.5. Ports for Client to Capsule Communication

Port	Protocol	Service	Required for
80	TCP	HTTP	Anaconda, yum, and for obtaining Katello certificate updates
443	TCP	HTTPS	Anaconda, yum, Telemetry Services, and Puppet
5647	TCP	amqp	The Katello agent to communicate with the Capsule's Qpid dispatch router
8000	TCP	HTTPS	Anaconda to download kickstart templates to hosts, and for downloading iPXE firmware
8140	TCP	HTTPS	Puppet agent to Puppet master connections
8443	TCP	HTTPS	Subscription Management Services and Telemetry Services
9090	TCP	HTTPS	Sending SCAP reports to the Smart Proxy in the Capsule and for the discovery image during provisioning

Table 2.6. Ports for Capsule to Satellite Communication

Port	Protocol	Service	Required For
443	TCP	HTTPS	Connections to Katello, Foreman, Foreman API, and Pulp
5646	TCP	amqp	Capsule's Qpid dispatch router to Qpid dispatch router in the Satellite
5647	TCP	amqp	The Katello agent to communicate with the Satellite's Qpid dispatch router

Table 2.7. Ports for Satellite to Capsule Communication

Port	Protocol	Service	Required For
443	TCP	HTTPS	Connections to the Pulp server in the Capsule
9090	TCP	HTTPS	Connections to the proxy in the Capsule
80	TCP	HTTP	Downloading a bootdisk (Optional)

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Table 2.8. Optional Network Ports

Port	Protocol	Service	Required For
53	TCP and UDP	DNS	Client to Capsule DNS queries to a Capsule's DNS service
67	UDP	DHCP	Client to Capsule broadcasts, DHCP broadcasts for Client provisioning from a Capsule
68	UDP	DHCP	Capsule to Client broadcasts, DHCP broadcasts for Client provisioning from a Capsule
69	UDP	TFTP	Clients downloading PXE boot image files from a Capsule for provisioning
8443	TCP	HTTP	Capsule to Client "reboot" command to a discovered host during provisioning
7911	TCP	DHCP	<ul style="list-style-type: none"> ● Capsule originated commands for orchestration of DHCP records (local or external) ● If DHCP is provided by an external service, you must open the port on the external server.
5000	TCP	HTTP	Satellite originated communications, for compute resources in OpenStack or for running Docker containers
22, 16514	TCP	SSH, SSL/TLS	Satellite originated communications, for compute resources in libvirt
389, 636	TCP	LDAP, LDAPS	Satellite originated communications, for LDAP and secured LDAP authentication sources
5900 to 5930	TCP	SSL/TLS	Satellite originated communications, for NoVNC console in web UI to hypervisors

Additional detailed information on the port requirements and system firewall configuration is available at the following link:

[chapter-2-preparing-your-environment-for-installation](#)

(as of release 6.2.1)

SELinux Policy on Satellite 6

Red Hat recommends that SELinux on Satellite 6 systems be set to enforcing.

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Virt-Who

Mandatory: Acquire read-only credentials for VMWare Esx API.

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