



Sun N1 System Manager 1.2 Command Line Reference Manual

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Part No: 819-4144
November 2005

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Preface

The Sun N1™ System Manager Command Line Reference Manual provides the same online help provided by the `n1sh help` command, in either interactive or non-interactive mode. Use this book as a reference for all the commands available for the N1 System Manager.

Who Should Use This Book

This guide is intended for system administrators who are responsible for managing provisionable servers running the N1 System Manager software. The system administrators are expected to have the following background:

- Knowledge of Linux and Solaris™ operating systems, and the network administration tools provided by each operating system
 - Knowledge of network equipment and network devices from a variety of vendors such as Sun Microsystems and Cisco
 - Knowledge of network device interconnections and cabling
-

Related Books

The following books and help provide useful information for installing and using the N1 System Manager.

- *Sun N1 System Manager 1.2 Introduction*
- *Sun N1 System Manager 1.2 Site Preparation Guide*
- *Sun N1 System Manager 1.2 Installation and Configuration Guide*

- *Sun N1 System Manager 1.2 Administration Guide*
- *Sun N1 System Manager 1.2 Release Notes*

Documentation, Support, and Training

The Sun web site provides information about the following additional resources:

- Documentation (<http://www.sun.com/documentation/>)
- Support (<http://www.sun.com/support/>)
- Training (<http://www.sun.com/training/>)

Typographic Conventions

The following table describes the typographic changes that are used in this book.

TABLE P-1 Typographic Conventions

Typeface or Symbol	Meaning	Example
AaBbCc123	The names of commands, files, and directories, and onscreen computer output	Edit your .login file. Use <code>ls -a</code> to list all files. machine_name% you have mail.
AaBbCc123	What you type, contrasted with onscreen computer output	machine_name% su Password:
<i>aabbcc123</i>	Placeholder: replace with a real name or value	The command to remove a file is <i>rm filename</i> .
<i>AaBbCc123</i>	Book titles, new terms, and terms to be emphasized	Read Chapter 6 in the <i>User's Guide</i> . Perform a <i>patch analysis</i> . Do <i>not</i> save the file. [Note that some emphasized items appear bold online.]

Shell Prompts in Command Examples

The following table shows the default system prompt and superuser prompt for the C shell, Bourne shell, and Korn shell.

TABLE P-2 Shell Prompts

Shell	Prompt
C shell prompt	machine_name%
C shell superuser prompt	machine_name#
Bourne shell and Korn shell prompt	\$
Bourne shell and Korn shell superuser prompt	#

Command Line Help

This chapter provides the same help that you can access by using the `help` command in the command line.

Command Help

`help` Command

You can get help in the following ways:

- Type `help command` to describe the command and list the available *command object* commands. For example, `help show`.
- Type `help command object` to display detailed usage information for the *command object* tuple. For example, `help show server`.
- Type `help object` to display detailed information for the object. For example, `help server`.

The available commands are listed in the following table.

Command	Description
<code>add</code>	Add a member to an object or group.
<code>connect</code>	Connect to a provisionable server's serial console.
<code>create</code>	Create (or copy) a new object in the N1 System Manager.

Command	Description
delete	Delete an object from the N1 System Manager.
discover	Discover new servers to be managed.
exit	Exit user from the N1-ok> shell.
help	Get help about a command or object. You can also use ? for the help command. Note that help help is not a valid command.
load	Install software on a server or group of servers.
remove	Remove a member from an object or group.
reset	Power off and power on a server or group of servers.
set	Change attributes on a server, a group of servers, or other object.
show	List summary or detailed information about an object or group.
start	Enable an object or issue a command, for example, power on and boot a server.
stop	Disable an object, for example, shut down and power off a server.
unload	Uninstall software from a server or group of servers.

The available objects are described in [“Object Help” on page 72](#).

add

This command adds a member to an object or group.

Description

The add command can be used on the following objects: group, osprofile, role, server, and user.

Type `help add object` for details.

add group

This command adds provisionable servers to an existing server group so you can more easily perform management operations on multiple servers. See [“create group” on page 21](#) on how to create a new server group.

Synopsis

- Add one or more servers to a server group:

```
add group group server server [,server...]
```

- Add all the available servers to a server group:

```
add group group server all
```

Parameters

- *all* – Add all servers to a server group.
- *group* – The name of a server group.
- *server* – The management name of a server to be added.

add osprofile

This command adds a distribution group, disk partition, OS update, or custom installation script to an existing OS profile.

Description

If a distribution group is not specified in an OS profile, the following distribution group is installed by default: Entire Distribution plus OEM Support (Solaris), Everything (Red Hat), or Default Installation (SUSE). At least one partition (root) is required for a valid Solaris profile, and at least two partitions (root and swap) are required for a valid Linux profile.

Synopsis

- Add a distribution group to an OS profile:

```
add osprofile osprofile distributiongroup distributiongroup
```

- Add disk partition information to an OS profile:

```
add osprofile osprofile partition partition device device maxsize maxsize  
size size sizeoption sizeoption type type
```

- Add an OS update to an OS profile:

```
add osprofile osprofile update update
```

- Add a custom installation script to an OS profile:

```
add osprofile osprofile script script type type
```

Parameters

- *device* – The disk slice for the partition. Examples: *c1t1d0s1* (Solaris) or *sda* (Linux).

- *distributiongroup* – The name of a distribution group (group of packages) to install. If you do not specify a distribution group, the following is installed by default: Entire Distribution plus OEM Support (Solaris), Everything (Red Hat), or Default Installation (SUSE). You can display the distribution group list for an OS by using the `show os os` command.
- *maxsize* – (Red Hat only) The maximum size for the file system in Mbytes. This option enables you to put a limit on the `free` value for *sizeoption*.
- *osprofile* – The name of an OS profile.
- *partition* – The mount point name for the partition. Default value is `/` (root).
- *script* – The name of a custom installation script. A fully qualified path is required.
- *size* – The size of the file system in Mbytes. This option must be specified with the `fixed` value for *sizeoption*.
- *sizeoption* – The way to size the file system. Valid values are:
 - `fixed` – The file system is set to a specific size, which is set by the *size* attribute.
 - `free` – The remaining unused space on the disk is used for the file system. With a Red Hat profile, you can specify *maxsize* to limit the size of the file system.
- *type* (adding partition) – The type of file system. Default values are `ufs` (Solaris) and `ext3` (Linux). Valid values are:
 - Solaris: `swap` or `ufs`
 - Red Hat: `ext2`, `ext3`, `swap`, or `vfat`
 - SUSE: `ext2`, `ext3`, `jfs`, `reiser`, `swap`, or `xfs`
- *type* (adding script) – The time when the custom script will run during the installation. Valid values are:
 - `pre` – Run the script before the installation (for example, drivers).
 - `post` – Run the script after the installation.
 - `postnochroot` – Run the script after the installation. The script does not have to be run as superuser (root).
- *update* – The name of an OS update.

add role

This command adds privileges to an existing role. See “[create role](#)” on page 26 on how to create a new role.

Synopsis

- Add all privileges to a role:


```
add role role privilege all
```
- Add one or more privileges to a role:


```
add role role privilege privilege [, privilege ...]
```

Parameters

- *all* – Add all privileges to the role.
- *role* – The name of a role. You cannot add privileges to the system default roles: Admin, SecurityAdmin, and ReadOnly. These roles are predefined and cannot be modified.
- *privilege* – The name of a privilege to add to the role. Use the `show privilege all` command to list all available privileges.

add server

This command adds the N1 System Manager features to a provisionable server.

Description

To benefit from some of the N1 System Management functionality, you must add features to the provisionable servers. The two types of features are base management, which is required for OS updates and remote commands, and OS monitoring, which is required to monitor the OS resource health on the server. When a feature is added, the feature is installed on the provisionable server, the specified agent credentials are set, and the feature becomes supported on the server. In the case of the OS monitoring feature, monitoring is also enabled if not already. The Base Management Supported and OS Monitoring Supported fields in the `show server` output provide the current support status on a server's features.

After you upgrade the Sun N1 System Manager from a previous release, you can use this command with the `upgrade` keyword to upgrade the existing features on a provisionable server.

Synopsis

- Add the OS monitoring and base management features to a provisionable server:

```
add server server feature osmonitor agentip agentip agentssh agentssh  
[agentsnmp agentsnmp] [agentsnmpv3 agentsnmpv3]
```

- Add the base management feature to a provisionable server:

```
add server server feature basemanagement agentip agentip agentssh agentssh
```

- Upgrade a feature on a provisionable server:

```
add server server feature feature upgrade [agentip agentip agentssh agentssh]
```

Parameters

- *agentip* – Specify the IP address used for the management features on the provisionable server, including OS monitoring. The *agentip* is usually the IP address of the provisioning network interface on the server.
- *agentsnmp* – Specify the SNMP credentials used for OS monitoring on the provisionable server. The *agentsnmp* format is a read community string. The default SNMP read community string is `public`.
- *agentsnmpv3* – Specify the SNMP Version 3 credentials used for OS monitoring on the provisionable server. The *agentsnmpv3* format is a user name/password pair: *snmpv3-username/snmpv3-password*.
- *agentssh* – Specify the SSH credentials used for the management features on the provisionable server, including OS monitoring. The SSH user must have root access on the provisionable server. The *agentssh* format is a user name/password pair for SSH credentials: *ssh-username/ssh-password*.
- *basemanagement* – Add or upgrade the base management feature, which is required for OS update deployment and remote commands.
- *feature* – Valid values are *basemanagement* and *osmonitor*.
- *osmonitor* – Add or upgrade the OS monitoring feature, which also includes the base management feature. The OS monitoring feature is required to monitor a server's OS resource health state. See the `show server` command for more details.
- *server* – The management name of a server.
- *upgrade* – Upgrade the feature to the latest version.

add user

This command adds roles to a user. Once added, the user will be able to assume each role and gain the associated privileges.

Synopsis

- Add a role to a user:
`add user user role role [, role ...]`

Parameters

- *role* – The name of a role to add to the user. Use the `show role all` command to list all available valid roles.
- *user* – The name of a user.

connect

This command connects you to the serial console of a provisionable server.

Description

The `connect` command can be used on the `server` object.

Type `help connect server` for details.

connect server

This command connects you to the serial console of a provisionable server.

Description

You can use the `connect server` command to monitor installations or perform administration tasks. For most hardware platforms, the first user to log in is given read and write privileges on the serial console, and subsequent user sessions are read-only mode. Some platforms don't allow multiple serial console sessions on the same server. You can exit the serial console at any time through the following escape sequences:

ALOM-based systems – `# .`

Sun Fire(TM) X4000 series systems – `ESC (`

Sun Fire V20z and V40z systems – `^E c .`

Note that this command is not available in the browser interface's command line, but you can access a server's serial console in the browser interface by choosing Open Serial Console in the Actions menu on a Server's Details page. Also, because this command requires user input, do not use it in a custom N1 System Manager script through the `n1sh -f` command.

Synopsis

- Connect to a provisionable server's serial console.

```
connect server server
```

Parameters

- *server* – The management name of a provisionable server.

create

This command creates a new object in the N1 System Manager. You can also use this command to copy objects that already exist outside N1 System Manager.

Description

The `create` command can be used on the following objects: `firmware`, `group`, `notification`, `os`, `osprofile`, `role`, `update`, and `user`.

Type `help create object` for details.

See “[discover](#)” on page 33 for information on adding provisionable servers to the N1 System Manager.

create firmware

This command copies a firmware update to the N1 System Manager. You can then install the firmware update on the provisionable servers.

Synopsis

- Copy a firmware update to the N1 System Manager:

```
create firmware firmware [description description] model model [, model]  
[type type] url url vendor vendor [version version]
```

Parameters

- *description* – A description for the firmware update.
- *firmware* – A unique name for the firmware update.
- *model* – The model name of a valid hardware system for the firmware update. Valid values are:
 - NETRA-240 – Netra(TM) 240
 - NETRA-440 – Netra 440
 - SF-T1000 – Sun Fire T1000
 - SF-T2000 – Sun Fire T2000
 - SF-V210 – Sun Fire V210
 - SF-V240 – Sun Fire V240
 - SF-V250 – Sun Fire V250
 - SF-V440 – Sun Fire V440
 - V20z – Sun Fire V20z

- V40z – Sun Fire V40z
- X4100 – Sun Fire X4100
- X4200 – Sun Fire X4200
- *type* – The type of firmware update. This attribute is required only for the Sun Fire V20z and Sun Fire V40z system firmware updates. Valid values are:
 - BIOS – Server platform BIOS
 - PIC – Service processor operator panel
 - SP – Service processor
- *url* – The URL path to a firmware update to copy. Use `file:///` for a file accessible from the management server or `http://` for a file located on a web site.
- *vendor* – The name of the firmware update vendor. Valid value is Sun.
- *version* – The version number of the firmware update.

create group

This command creates a new server group, which enables you to group provisionable servers by business or management needs.

Synopsis

- Create a new server group and add servers to it:


```
create group group server server [, server]
```
- Create a new server group and add all servers to it:


```
create group group server all
```

Parameters

- *all* – Add all servers to server group.
- *group* – A name for the new server group.
- *server* – The management name of a provisionable server.

create notification

This command creates a new notification rule.

Synopsis

- Create a new notification rule:

```
create notification notification destination destination topic topic  
type type [description description]
```

Parameters

- *description* – A description for the notification rule.
- *destination* – Where to send the notification. This value must match the specified *type*. Valid values are:
 - *email-addresses* – One or more email addresses separated by commas.
 - *snmp-host[:port]* – An SNMP host. *snmp-host* is a valid SNMP host name and *port* is a valid port on the host.
- *notification* – A name for the notification rule.
- *topic* – The type of event to trigger the notification. Valid values are:
 - `Action.Logical.FirmwareCreate` (firmware created)
 - `Action.Logical.FirmwareDelete` (firmware deleted)
 - `Action.Logical.JobCompleted` (job completed)
 - `Action.Logical.JobStarted` (job started)
 - `Action.Logical.JobTimedOut` (job timed out)
 - `Action.Logical.ProfileCreate` (OS profile created)
 - `Action.Logical.ProfileDelete` (OS profile deleted)
 - `Action.Logical.OSDeployComplete` (OS deployment completed)
 - `Action.Logical.OSDeployStart` (OS deployment started)
 - `Action.Physical.AddCoreJobSuccess` (Base management feature added)
 - `Action.Physical.AgentIPJobSuccess` (Management feature configuration modified)
 - `Action.Physical.AlreadyKnown` (server discovery already known)
 - `Action.Physical.Discovered` (server discovered)
 - `Action.Physical.DriverNotFound` (server discovery driver not found)
 - `Action.Physical.FWNotCompatible` (firmware level is not compatible or supported)
 - `Action.Physical.InitialAddOsmJobSuccess` (OS monitoring and base management feature added)
 - `Action.Physical.IPUnreachable` (server discovery IP address unreachable)
 - `Action.Physical.LoadUpdateSuccess` (OS update deployment succeeded)
 - `Action.Physical.LoadUpdateFailure` (OS update deployment failed)
 - `Action.Physical.LoadUpdateCanceled` (OS update deployment canceled)

- `Action.Physical.MultipleAuths` (server discovery multiple authorizations)
- `Action.Physical.MultipleIPs` (server discovery multiple IP addresses)
- `Action.Physical.RemoteCmdFailure` (remote command failed)
- `Action.Physical.RemoteCmdSuccess` (remote command succeeded)
- `Action.Physical.RemoteCmdTimedOut` (remote command timed out)
- `Action.Physical.RemoteCmdUnauthorized` (remote command unauthorized)
- `Action.Physical.RemoveOsmJobSuccess` (OS monitoring feature removed)
- `Action.Physical.ServerDelete` (server deleted)
- `Action.Physical.ServerStateChange` (server changed)
- `Action.Physical.Unauthorized` (server discovery unauthorized)
- `Action.Physical.UnloadUpdateSuccess` (OS update unload succeeded)
- `Action.Physical.UnloadUpdateFailure` (OS update unload failed)
- `Action.Physical.UnloadUpdateCanceled` (OS update unload canceled)
- `EReport.Logical.ThresholdExceeded` (OS resource threshold exceeded)
- `EReport.Physical.DomainException` (domain exception)
- `EReport.Physical.Exception` (remote command exception)
- `EReport.Physical.FWMgmtException` (firmware update exception)
- `EReport.Physical.IOException` (IO exception)
- `EReport.Physical.OpGrpException` (server discovery operation group exception)
- `EReport.Physical.RemoteCmdUnknownOS` (remote command unknown OS)
- `EReport.Physical.RemoteCmdUnknownServer` (remote command unknown server)
- `EReport.Physical.ThresholdExceeded` (hardware health threshold exceeded)
- `Lifecycle.Logical.AddServer` (server added to group)
- `Lifecycle.Logical.ChangeSessionRole` (session role changed)
- `Lifecycle.Logical.CreateGroup` (group created)
- `Lifecycle.Logical.CreateUpdate` (OS update created)
- `Lifecycle.Logical.DeleteGroup` (group deleted)
- `Lifecycle.Logical.DeleteUpdate` (OS update deleted)
- `Lifecycle.Logical.RemoveServer` (server removed from group)
- `Lifecycle.Physical.DBUpdateFailed` (firmware update database update failed)

- `Lifecycle.Physical.InvalidState` (firmware update invalid device state)
- `Lifecycle.Physical.ObjectJobNotFound` (server not found for operation)
- `Lifecycle.Physical.UpdateSucceeded` (firmware updated)
- *type* – How to send the notification. Valid values are `email` (send to email address) or `snmp` (send to SNMP host).

create os

This command copies an OS image to the management server so it can be installed on the provisionable servers.

Description

You can copy an OS image, called an OS distribution, from ISO files, CDs, or a DVD. Note that N1 System Manager does not support copying Solaris OS CDs and CD ISO files. You must copy a Solaris DVD or DVD ISO file.

A minimum of 3.0 Gbytes should be allocated for each OS distribution you plan to provision.

On a Solaris-based management server, OS distributions are stored as follows:

- Linux OS distributions are stored in `/var/opt/SUNWscs/share/allstart`
- Solaris OS distributions are stored in `/var/js`

On a Linux-based management server, OS distributions are stored as follows:

- Linux OS distributions are stored in `/var/opt/sun/scs/share/allstart/`
- Solaris OS distributions are stored in `/var/opt/sun/scs/share/allstart/jumpstart/`

When copying an OS distribution from multiple installation CDs, you need to run the `create os` command multiple times with the same OS distribution name. For example, if you are trying to copy an OS distribution that is provided on two CDs, you must insert the first CD, run the `create os` command, and wait for the job to complete. Once the first job completes, you then must insert the second CD, run the `create os` command again, and wait for the job to complete. The OS distribution is successfully installed when the second job completes.

When copying the SUSE Linux Enterprise Server 9 SP1 distribution, you must run the `create os` command multiple times. First, copy the SLES 9 base distribution. When that job finishes, you can then copy the SLES 9 Update 1 distribution.

A default OS profile is automatically created for each newly created OS distribution, with the same name as the OS distribution. The default profile is provided as an example. Most of the time, you will have to update the default profile to match your hardware or it may be easier to just create a new profile. Use the `show osprofile osprofile` command to see the configuration of an OS profile.

Synopsis

- Copy an OS distribution from ISO files:

```
create os os file file [,file...]
```

- Copy an OS distribution from an installation CD/DVD:

```
create os os cdrom cdrom
```

Parameters

- *file* – The name of an ISO file accessible from the management server. A fully qualified path is required.
- *cdrom* – The fully qualified path to the installation CD/DVD. For Solaris DVDs, the slice must be specified as part of the path. For example, `/cdrom/cdrom/s2`.
- *os* – A name for the OS distribution.

create osprofile

This command creates a new OS profile.

Description

In addition to the `create osprofile` command, you must use the `add osprofile` command to add distribution groups, partition information, resources, and scripts to the OS profile to make it usable.

You can also use this command to clone (copy) an existing profile. This command must be used if you want to modify or copy a profile that has been used to install a provisionable server.

Synopsis

- Create a new OS profile:

```
create osprofile osprofile os os rootpassword rootpassword  
[description description] [flar flar] [language language]  
[timezone timezone]
```

- Copy an existing OS profile:

```
create osprofile osprofile clone oldprofile
```

Parameters

- *os* – The name of the OS distribution to install.
- *description* – A description for the new OS profile.
- *flar* – (Solaris only) The name of a Flash archive file. A fully qualified path must be specified.
- *language* – The default language for the installation. Default value is en_US (English).

Valid values for a Linux profile are cs_CZ, da_DK, de_DE, en_US, es_ES, fr_FR, is_IS, it_IT, ja_JP.eucJP, ko_KR.eucKR, nl_NL, no_NO, pt_PT, ru_RU.kOI8r, sl_SI, sv_SE, uk_UA, zh_CN.GB2312, and zh_TW.Big5.

Valid values for a Solaris profile are C, en_US.ISO8859-15, en_US.ISO8859-1, and en_US.

- *rootpassword* – The root password for the server after installation.
- *osprofile* – A name for the new OS profile.
- *oldprofile* – The name of the OS profile to be copied.
- *timezone* – The time zone for the installation. Default value is gmt.

Valid values for a Linux profile are any of the time zones listed by the `timeconfig` command.

Valid values for a Solaris profile are provided by the directories and files in the `/usr/share/lib/zoneinfo` directory on a Solaris system. The `timezone` value is the name of the path relative to the `/usr/share/lib/zoneinfo` directory. For example, the `timezone` value for Mountain Standard Time in the United States is `US/Mountain`. The `timezone` value for Japan is `Japan`.

create role

This command creates a new role. Unless privileges are specified, a new role has no privileges added to it by default.

Synopsis

- Create a new role with one or more privileges:

```
create role role [description description]  
[privilege privilege [, privilege ...]]
```

Parameters

- *description* – A description for the new role.

- *privilege* – The name of a privilege to add to the role. Use the `show privilege all` command to list all the available privileges. You can also use the `add role` command to add more privileges later.
- *role* – A name for the new role.

create update

This command copies an OS update to the N1 System Manager. You can then install the OS update on the provisionable servers.

Description

You can copy various types of OS updates: RPMs for the Linux operating systems and packages or patches for the Solaris Operating System. By default, the `load` command installs an OS update using the corresponding native OS commands. However, you can specify an installation script to override the default installation and perform a customized installation. See *Managing Packages, Patches and RPMs* in the *Sun N1 System Manager Administration Guide* for more details.

Synopsis

- Copy a Linux RPM, Solaris package, or Solaris patch:

```
create update update file file ostype ostype[,ostype...] [adminfile adminfile]
[installscriptfile installscriptfile] [responsefile responsefile]
```

Parameters

- *adminfile* – (Solaris package only) A fully qualified path to an admin file.
- *file* – A fully qualified path to a file accessible from the management server or a URL location to a Linux RPM, Solaris package, or Solaris patch.
 - Linux RPM – A single `.rpm` file.
 - Solaris package – A `.pkg` file in a valid datastream format, which may include one or more packages. The `.pkg` extension is not required. You can also specify a `.tar` file, which may include one or more packages. An installation script must be specified for a `.tar` file that contains more than one package.

If an installation script is not used, the `.tar` file must match the top-level directory name after the tar expansion. For example, if the tar file is `SUNWstade.tar`, the top-level directory of the tar expansion must be `SUNWstade`.
 - Solaris patches – A `*.zip` file, which may include one patch, or a `.tar` file, which may contain one or more patches. An installation script must be specified for a `.tar` file.

Examples: `/tmp/test-i386.rpm` or
`http://updatesite1/rpms/test-i386.rpm`

- *ostype* – A list of OS versions compatible with the OS update. The specified OS type must match the type of OS updates being added. Typically, only one OS type is valid for Solaris OS updates. Valid values are:
 - `redhat-as3` – Red Hat Enterprise Linux AS 3.0
 - `redhat-as3-64` – Red Hat Enterprise Linux AS 3.0, 64-bit
 - `redhat-as4` – Red Hat Enterprise Linux AS 4.0
 - `redhat-as4-64` – Red Hat Enterprise Linux AS 4.0, 64-bit
 - `redhat-es3` – Red Hat Enterprise Linux ES 3.0
 - `redhat-es3-64` – Red Hat Enterprise Linux ES 3.0, 64-bit
 - `redhat-es4` – Red Hat Enterprise Linux ES 4.0
 - `redhat-es4-64` – Red Hat Enterprise Linux ES 4.0, 64-bit
 - `redhat-ws3` – Red Hat Enterprise Linux WS 3.0
 - `redhat-ws3-64` – Red Hat Enterprise Linux WS 3.0, 64-bit
 - `redhat-ws4` – Red Hat Enterprise Linux WS 4.0
 - `redhat-ws4-64` – Red Hat Enterprise Linux WS 4.0, 64-bit
 - `solaris9sparc` – Solaris 9 7/05 on SPARC
 - `solaris9x86` – Solaris 9 7/05 on x86
 - `solaris10sparc` – Solaris 10 on SPARC
 - `solaris10x86` – Solaris 10 on x86
 - `suse-es9` – SUSE Linux Enterprise Server 9
 - `suse-es9-64` – SUSE Linux Enterprise Server 9, 64-bit
 - `suse-pro92` – SUSE Professional Edition 9.2
 - `suse-pro92-64` – SUSE Professional Edition 9.2, 64-bit
 - `suse-pro93` – SUSE Professional Edition 9.3
 - `suse-pro93-64` – SUSE Professional Edition 9.3, 64-bit
- *installscriptfile* – (Solaris only) A fully qualified path to an executable Bourne (`/bin/sh`) shell script used to install Solaris packages or patches. When you specify an installation script and you use the `load server|group update` command to install the update, the `load` command copies both the update file and the installation script to the provisionable server's `/tmp` directory for the installation.
- *responsefile* – (Solaris package only) A fully qualified path to a response file.
- *update* – A name for the OS update.

create user

This command creates a new N1 System Manager user. The user must already exist on the OS of the management server. Unless roles are specified, a new user has no roles added to it by default.

Synopsis

- Create a new N1 System Manager user with one or more roles:

```
create user user [role role [, role...]]
```

Parameters

- *role* – The name of a role to add to the user. Use the `show role all` command to list all available valid roles. You can also use the `add user` command to add more roles later.
- *user* – The name for the new user. The name must be the same as the corresponding user on the management server's operating system.

delete

This command deletes an object from the N1 System Manager.

Description

The `delete` command can be used on the following objects: `firmware`, `group`, `job`, `notification`, `os`, `osprofile`, `role`, `server`, `update`, and `user`.

Type `help delete object` for details.

delete firmware

This command deletes a firmware update from the N1 System Manager.

Synopsis

- Delete a firmware update.

```
delete firmware firmware
```

Parameters

- *firmware* – The name of a firmware update.

delete group

This command deletes a server group. This command will not delete the provisionable servers from the N1 System Manager.

Synopsis

- Delete a server group:

```
delete group group
```

Parameters

- *group* – The name of a server group to delete.

delete job

This command deletes jobs.

Synopsis

- Delete a job:

```
delete job job
```

- Delete all jobs:

```
delete job all
```

Parameters

- *all* – Delete all jobs.
- *job* – A job identification number.

delete notification

This command deletes a notification rule.

Synopsis

- Delete a notification rule:

```
delete notification notification
```

Parameters

- *notification* – The name of a notification rule to delete.

delete os

This command deletes an OS distribution from the N1 System Manager.

Description

An OS distribution can be deleted if it is currently deployed on a provisionable server. However, you cannot delete an OS distribution until all of its associated OS profiles are deleted from the management server by using the `delete osprofile` command.

Synopsis

- Delete an OS distribution:

```
delete os os
```

Parameters

- *os* – The name of an OS distribution to delete.

delete osprofile

This command deletes an OS profile.

Description

An OS profile can be deleted even if it is currently deployed on a provisionable server. However, you cannot delete a profile that is currently in use, which means it is actively being deployed on a server. The `show osprofile` command displays if an OS profile is in use or not.

Synopsis

- Delete an OS profile:

```
delete osprofile osprofile
```

Parameters

- *osprofile* – The name of an OS profile to delete.

delete role

This command deletes a role. You cannot delete a role if it is assigned to a user.

Synopsis

- Delete a role:
`delete role role`

Parameters

- *role* – The name of a role to delete.

delete server

This command deletes servers from the N1 System Manager. The server will no longer appear in the list displayed using the `show server all` command.

Synopsis

- Delete all servers from the N1 System Manager:
`delete server all`
- Delete a server from the N1 System Manager:
`delete server server`

Parameters

- *all* – Delete all servers from the N1 System Manager.
- *server* – The management name of a server.

delete update

This command deletes an OS update from the N1 System Manager.

Synopsis

- Delete an OS update:
`delete update update`

Parameters

- *update* – The name of an OS update to delete.

delete user

This command deletes an N1 System Manager user. This command does not delete the user from the OS of the management server.

Synopsis

- Delete a N1 System Manager user:

```
delete user user
```

Parameters

- *user* – The name of a user to delete.

discover

This command discovers and adds new provisionable servers to be managed by the N1 System Manager.

Description

See Chapter 2 in the *Sun N1 System Manager Site Preparation Guide* for details on setting up a new provisionable server for discovery.

Each hardware platform requires a minimum set of credentials to be discovered: ALOM-based systems require telnet; Sun Fire V20z and V40z servers require SSH, IPMI, and SNMP; Sun Fire X4000 series systems require SSH and IPMI; and the Sun Fire X2100 server requires IPMI.

Before a server can be discovered, the following conditions must be met:

- You must specify the known authentication credentials for the provisionable server, the server must be in a factory-default state (Sun Fire V20z or V40z servers only), or the server must be configured with the default credentials used by the discovery process. See *Setting Up Provisionable Servers* in the *Sun N1 System Manager Site Preparation Guide* for the list of system-specific default credentials that the discovery process uses if you do not specify credentials.

- The management network IP address for the provisionable server is configured and is network accessible by the N1 System Manager.

Synopsis

- Discover and add servers to the N1 System Manager:

```
discover ip [, ip...] [group group] [ipmi ipmi] [snmp snmp] [ssh ssh]
[telnet telnet]
```

Parameters

- *ip* – Specify the management network IP addresses of the provisionable servers you want to discover. You can specify multiple instances of *ip* in one of the following ways, separated by commas:
 - *ip-address* – A single management network IP address.
 - *ip-address–ip-address* – A range of management network IP addresses. Example: 10.5.10.1-10.5.10.100
 - *subnet/mask-length* – A subnet with a mask length. Example: 10.0.8/24 or 10.0.8.128/28
- *group* – The name of a server group in which to add the discovered servers. If the server group does not exist, it will be created during the discovery.
- *ipmi* – Specify the IPMI credentials used to authenticate the discovery process based on the server's management network IP address. The *ipmi* value is an IPMI user name/password pair. If IPMI credentials are not specified and a Sun Fire V20z ore V40z server is in the factory default state, the discovery process sets the server's IPMI user/password to `Null/admin`. The default IPMI credentials used for discovery depend on your server model.
- *snmp* – Specify the SNMP credentials used to authenticate the discovery process based on the server's management network IP address. The *snmp* format is a read community string for the SNMP credentials. The default SNMP read community string is `public`.
- *ssh* – Specify the SSH credentials used to authenticate the discovery process based on the server's management network IP address. The *ssh* format is a user name/password pair for SSH credentials: *ssh-username/ssh-password*. If SSH credentials are not specified and a Sun Fire V20z ore V40z server is in the factory default state, the discovery process sets the server's SSH user name/password to `admin/admin`. The default SSH credentials used for discovery depend on your server model.
- *telnet* – Specify the telnet credentials used to authenticate the discovery process based on server's management network IP address. The telnet credential is used only by ALOM-based systems. The *telnet* format is a user name/password pair for telnet credentials: *telnet-username/telnet-password*. The default telnet credentials

used for discovery depend on your server model.

exit

This command exits you out of the `N1-ok>` shell. If the `N1-ok>` shell is your default shell, you will be logged out of the N1 System Manager completely; otherwise, you will be returned to your previous shell on the management server.

Synopsis

- Exit the `N1-ok>` shell.

```
exit
```

load

This command installs software on provisionable servers.

Description

The `load` command installs an OS distribution (using an OS profile), firmware update, or OS update (packages, patches, and RPMs). The `load` command can be used on the following objects: `group` and `server`.

Type `help load object` for details.

load group

This command installs software on a group of provisionable servers, such as an OS distribution (through an OS profile), OS update, or firmware update.

Synopsis

- Install a Solaris OS profile on a group of servers:

```
load group group osprofile osprofile ip ip networktype static  
[excludeserver server[,server...]]  
[feature feature agentssh agentssh [agentsnmp agentsnmp] [agentsnmpv3 agentsnmpv3]]  
[server-configuration-attributes]
```

- Install a Red Hat Linux or SUSE Linux OS profile on a group of servers:

```
load group group osprofile osprofile bootip bootip networktype networktype
[ip ip] [excludeserver server[,server...]]
[feature feature agentssh agentssh [agentsnmp agentsnmp] [agentsnmpv3 agentsnmpv3]]
[install-attributes] [server-configuration-attributes]
```

- Install an OS update on a group of servers:

```
load group group update update[,update...]
```

- Install a firmware update on a group of servers:

```
load group group firmware firmware [force]
```

Parameters

- *agentssh* – Specify the SSH credentials used for the management features on the provisionable server, including OS monitoring. The SSH user must have root access on the provisionable servers. The *agentssh* format is a user name/password pair for SSH credentials: *ssh-username/ssh-password*.
- *agentsnmp* – Specify the SNMP credentials used for OS monitoring on the provisionable server. The *agentsnmp* format is a read community string.
- *agentsnmpv3* – Specify the SNMP Version 3 credentials used for OS monitoring on the provisionable server. The *agentsnmpv3* format is a user name/password pair: *snmpv3-username/snmpv3-password*.
- *bootip* – (Linux only) The IP address for the server's provisioning network interface used to install the server, also known as the Provisioning IP. You can specify a range of IP addresses or a subnet mask. Specify a range of IP addresses as follows: *ip-address-ip-address*. Example: *10.0.0.1-10.0.0.3*
- *excludeserver* – Exclude one or more servers from the installation. *server* is the management name of a provisionable server.
- *feature feature* – Add management features to the provisionable servers as part of the installation. The *agentssh* attribute must be specified with the *feature* attribute. The server's agentip is set automatically to the *ip* attribute value during the load process. Valid values are:
 - *basemanagement* – Add the base management feature, which is required for OS update deployment and remote commands.
 - *osmonitor* – Add the OS monitoring feature, which also includes the base management feature. The OS monitoring feature is required to monitor a server's OS resource health state. See the *show server* command for more details.
- *firmware* – The name of a firmware update. By default, the firmware update's model and vendor settings must match every provisionable server selected for installation. If the settings do not match, the update fails.
- *force* – Force the firmware update installation without server validation.
- *group* – The name of a server group.

- *ip* – The IP address assigned to the server’s provisioning network interface after the server is installed. This IP address is automatically used as the *bootip* (Provisioning IP) when installing the Solaris operating system. This attribute is required only if *networktype* is set to *static*. You can specify a range of IP addresses or a subnet mask. Specify a range of IP addresses as follows: *ip-address-ip-address* (Example: 10.0.0.1-10.0.0.3).
- *networktype* – Specify how to assign an IP address to the server’s provisioning network interface after the server is installed. Valid values are *static* or *dhcp*. If *networktype* is set to *static*, the *ip* attribute must be specified.
- *osprofile* – The name of an OS profile used to install the OS.
- *update* – The name of an OS update. If you specify more than one OS update, they must be the same OS type and ordered properly for any dependency issues. The OS updates will be installed in the order listed.

Install Attributes

The following attributes are temporarily used to boot and install the servers. The N1 System Manager provides default values for all of these attributes. These attributes are only required for a Red Hat Linux or SUSE Linux installation.

- *bootgateway bootgateway* – A gateway used to install the servers.
- *bootnameserver bootnameserver* – A name server used to install the servers.
- *bootnetmask bootnetmask* – A netmask used to install the servers.

Server Configuration Attributes

The following attributes are used to configure the server’s network information during the installation. The N1 System Manager provides default values for all of these attributes.

- *domainname domainname* – (Solaris only) A domain assigned to the installed servers. If you do not specify this attribute, the management server domain will be used or *sun.com*.
- *gateway gateway* – A gateway assigned to the installed servers.
- *kernelparameter kernelparameter* – (Linux only) A parameter passed to the kernel during the install process.
- *nameserver nameserver* – A name server assigned to the installed servers.
- *netmask netmask* – A netmask assigned to the installed servers.

load server

This command installs software on provisionable servers, such as an OS distribution (through an OS profile), OS update, or firmware update.

Synopsis

- Install a Solaris OS profile on one or more servers:

```
load server server[,server...] osprofile osprofile ip ip networktype static  
[feature feature agentssh agentssh [agentsnmp agentsnmp] [agentsnmpv3 agentsnmpv3]]  
[install-attributes] [server-configuration-attributes]
```

- Install a Red Hat OS Linux or SUSE Linux profile on one or more servers:

```
load server server[,server...] osprofile osprofile bootip bootip  
networktype networktype [ip ip]  
[feature feature agentssh agentssh [agentsnmp agentsnmp] [agentsnmpv3 agentsnmpv3]]  
[install-attributes] [server-configuration-attributes]
```

- Install OS updates on one or more servers:

```
load server server[,server...] update update [,update...]
```

- Install a firmware update on one or more servers:

```
load server server[,server...] firmware firmware [force]
```

Parameters

- *agentssh* – Specify the SSH credentials used for the management features on the provisionable server, including OS monitoring. The SSH user must have root access on the provisionable server. The *agentssh* format is a user name/password pair for SSH credentials: *ssh-username/ssh-password*.
- *agentsnmp* – Specify the SNMP credentials used for OS monitoring on the provisionable server. The *agentsnmp* format is a read community string.
- *agentsnmpv3* – Specify the SNMP Version 3 credentials used for OS monitoring on the provisionable server. The *agentsnmpv3* format is a user name/password pair: *snmpv3-username/snmpv3-password*.
- *bootip* – (Linux only) The IP address for the server's provisioning network interface used to install the server, also known as the Provisioning IP. You can specify a single IP address, or a range of IP addresses or subnet mask if you are installing more than one server. Specify a range of IP addresses as follows:
ip-address-ip-address Example: 10.0.0.1–10.0.0.3
- *feature feature* – Add management features to the provisionable server as part of the installation. The *agentssh* attribute must be specified with the *feature* attribute. The server's agentip is set automatically to the *ip* attribute value during the load process. Valid values are:
 - *basemanagement* – Add the base management feature, which is required for OS update deployment and remote commands.
 - *osmonitor* – Add the OS monitoring feature, which also includes the base management feature. The OS monitoring feature is required to monitor a server's OS resource health state. See the `show server` command for more details.

- *firmware* – The name of a firmware update. By default, the firmware update’s model and vendor settings must match every provisionable server selected for installation; otherwise, the update fails.
- *force* – Force the firmware update installation without server validation.
- *ip* – The IP address assigned to the server’s provisioning network interface after the server is installed. This IP address is automatically used as the *bootip* (Provisioning IP) when installing the Solaris operating system. This attribute is required only if *networktype* is set to *static*. You can specify a single IP address, or a range of IP addresses or a subnet mask if you are installing more than one server. Specify a range of IP addresses as follows: *ip-address-ip-address* (Example: 10.0.0.1–10.0.0.3).
- *networktype* – Specify how to assign an IP address to the server’s provisioning network interface after the server is installed. Valid values are *static* or *dhcp*. If *networktype* is set to *static*, the *ip* attribute must be specified.
- *osprofile* – The name of an OS profile used to install the OS.
- *server* – The management name of a provisionable server.
- *update* – The name of an OS update. If you specify more than one OS update, they must be the same OS type and ordered properly for any dependency issues. The OS updates will be installed in the order listed.

Installation Attributes

The following attributes are temporarily used to install one or more servers. Some attributes can be specified only when installing a single server. The N1 System Manager provides default values for all the attributes that are not single-server specific.

- *bootgateway bootgateway* – (Linux only) A gateway used to install the server.
- *boothostname boothostname* – (Single server and Linux only) A host name used to install the server.
- *bootnameserver bootnameserver* – (Linux only) A name server used to install the server.
- *bootnetmask bootnetmask* – (Linux only) A netmask used to install the server.
- *bootnetworkdevice bootnetworkdevice* – (Single server only) The server’s provisioning network interface is used to install the server. Valid Solaris values are *bge0* (default), *bge1*, *bge2*, and *bge3*. Valid Linux values are *eth0* (default), *eth1*, *eth2*, *eth3*, and *eth4*.
- *bootpath bootpath* – (Single server, Solaris x86 only) The server’s provisioning boot device used to install the server. This attribute supersedes the *bootnetworkdevice* value, if specified. Valid values are:
 - */pci@0,0/pci1022,7450@a/pci17c2,10@2* – Sun Fire V20z, *bge0* (default)
 - */pci@0,0/pci1022,7450@a/pci17c2,10@3* – Sun Fire V20z, *bge1*
 - */pci@0,0/pci1022,7450@a/pci17c2,20@2* – Sun Fire V40z, *bge0* (default)

- `/pci@0,0/pci1022,7450@a/pci17c2,20@3` – Sun Fire V40z, bge1
- `/pci@0,0/pci1022,7450@1/pci8086,1011@1` – Sun Fire X4000 series, bge0 (default)
- `/pci@0,0/pci1022,7450@1/pci8086,1011@1,1` – Sun Fire X4000 series, bge1
- `/pci@0,0/pci1022,7450@1/pci8086,1011@2` – Sun Fire X4000 series, bge2
- `/pci@0,0/pci1022,7450@1/pci8086,1011@2,1` – Sun Fire X4000 series, bge3
- `/pci@0,0/pci108e,5348@a` – Sun Fire X2100, bge0 (default)
- `console console` – (Single server only) The device name for the server's system console, which may be used to monitor the installation. Default is `ttys0` (Linux) and `ttysa` (Solaris).
- `consolebaud consolebaud` – (Single server only) The baud rate for the server's system console. Default is 9600.
- `kernelparameter kernelparameter` – (Linux only) A parameter passed to the kernel during the install process.

Server Configuration Attributes

The following attributes are used to configure the server's network information during the installation. Some attributes can be specified only when installing a single server. The N1 System Manager provides default values for all the attributes that are not single-server specific.

- `domainname domainname` – (Solaris only) A domain assigned to the installed server. If you do not specify this attribute, the management server domain will be used or `sun.com`.
- `gateway gateway` – A gateway assigned to the installed server.
- `hostname hostname` – (Single server only) A host name assigned to the installed server.
- `nameserver nameserver` – A name server assigned to the installed server.
- `netmask netmask` – A netmask assigned to the installed server.
- `networkdevice networkdevice` – (Single server and Linux only) The server's provisioning network interface after the server is installed. Default is `eth0`.

remove

This command removes a member from an object or group.

Description

The `remove` command can be used on the following objects: `group`, `osprofile`, `role`, `server`, and `user`.

Type `help remove object` for details.

remove group

This command removes servers from a server group.

Synopsis

- Remove one or more servers from a server group:

```
remove group group server server [, server...]
```

- Remove all servers from a server group:

```
remove group group server all
```

Parameters

- *all* – Remove all servers from a server group.
- *group* – The name of a server group.
- *server* – The management name of a provisionable server to remove.

remove osprofile

This command removes a distribution group, disk partition, OS update, or a custom installation script from an OS profile.

Description

You cannot run this command against a profile that is currently in use, which means it is actively being deployed on a server. The `show osprofile` command displays if an OS profile is in use or not.

Synopsis

- Remove a distribution group from an OS profile:

```
remove osprofile osprofile distributiongroup distributiongroup
```

- Remove a disk partition information from an OS profile:

```
remove osprofile osprofile partition partition
```

- Remove an OS update from an OS profile:

```
remove osprofile osprofile update update
```

- Remove a custom installation script from an OS profile:

```
remove osprofile osprofile script script
```

Parameters

- *distributiongroup* – The name of a distribution group (group of packages) to remove.
- *osprofile* – The name of an OS profile.
- *partition* – The mount point name for the disk partition to remove.
- *script* – The name of the custom installation script to remove.
- *update* – The name of the OS update to remove.

remove role

This command removes privileges from a role.

Synopsis

- Remove one or more privileges from a role:

```
remove role role privilege privilege [, privilege ...]
```

- Remove all privileges from a role:

```
remove role role privilege all
```

Parameters

- *all* – Remove all privileges from the role.
- *role* – The name of a role. You cannot remove privileges from the system default roles: Admin, SecurityAdmin, and ReadOnly. These roles are predefined and cannot be modified.
- *privilege* – The name of a privilege to remove from the role.

remove server

This command removes the OS monitoring or base management feature from a provisionable server.

Description

There are two levels of removing the OS monitoring feature with this command. If you don't specify the `uninstall` keyword, the OS monitoring feature remains installed on the provisionable server, but the feature is no longer supported and the server's OS

can no longer be monitored with N1 System Manager. If you specify the `uninstall` keyword, the OS monitoring feature is uninstalled from the provisionable server and consequently the OS monitoring feature is no longer supported. Once removed in either instance, the OS resource health state for the server becomes uninitialized.

When you remove the base management feature, the feature is uninstalled from the provisionable server and it is no longer supported. The OS monitoring feature must be uninstalled from a server before the base management feature can be removed.

After you remove a feature, you can always use the `add server` command to add it back again. The Base Management Supported and OS Monitoring Supported fields in the `show server` output provide the current status on a server's features.

Synopsis

- Remove the OS monitoring feature from a provisionable server:

```
remove server server feature osmonitor [uninstall]
```
- Remove the base management feature from a provisionable server:

```
remove server server feature basemanagement
```

Parameters

- `basemanagement` – Uninstall the base management feature from the server. The OS monitoring feature must be uninstalled on a server before the base management feature can be removed.
- `osmonitor` – Remove support for the OS monitoring feature on the server. The OS resource health state for the server becomes uninitialized.
- `server` – The management name of a server.
- `uninstall` – Uninstall the OS monitoring feature from the provisionable server.

remove user

This command removes roles from a user.

Synopsis

- Remove one or more roles from a user:

```
remove user user role role [,role...]
```
- Remove all roles from a user:

```
remove user user role all
```

Parameters

- *all* – Remove all the roles from the specified user.
- *role* – The name of a role to remove from the user. Use the `show user user` command to list all the roles currently assigned to a user.
- *user* – The name of a user.

reset

This command reboots provisionable servers.

Description

The `reset` command can be used on the following objects: `group` and `server`.

Type `help reset object` for details.

reset group

This command reboots (power off and power on) a group of provisionable servers. A boot of the operating system typically occurs and is dependant on the server's configuration.

Synopsis

- Reboot a group of provisionable servers:
`reset group group [force] [netboot]`

Parameters

- *force* – Force a power off without a graceful shutdown. If not specified, a graceful shutdown is attempted by default. This option must be used to power off provisionable servers without an OS installed or servers without the base management feature added.
- *group* – The name of a server group.
- *netboot* – Force the servers in the group to boot from their default network boot interface. This option enables you to install your servers over the network using an install server setup, which must be configured outside of the N1 System Manager environment.

reset server

This command reboots (power off and power on) provisionable servers. A boot of the operating system typically occurs and is dependent on the server's configuration.

Synopsis

- Reboot one or more provisionable servers:

```
reset server server [,server...] [force] [netboot]
```
- Reboot all provisionable servers:

```
reset server all [force] [netboot]
```

Parameters

- *all* – Reboot all provisionable servers.
- *force* – Force a power off without a graceful shutdown. If not specified, a graceful shutdown is attempted by default. This option must be used to power off provisionable servers without an OS installed or servers without the base management feature added.
- *netboot* – Force the servers to boot from their default network boot interface. This option enables you to install your servers over the network using an install server setup, which must be configured outside of the N1 System Manager environment.
- *server* – The management name of a provisionable server.

set

This command changes the attributes on an object or group.

Description

The `set` command can be used on the following objects: `firmware`, `group`, `notification`, `os`, `osprofile`, `role`, `server`, `session`, and `user`.

Type `help set object` for details.

set firmware

This command changes the attributes of a firmware update.

Synopsis

- Change various attributes of a firmware update:

```
set firmware firmware [description description] [model model [,model]]  
[name name] [type type] [vendor vendor] [version version]
```

Parameters

- *description* – A description for the firmware update.
- *firmware* – The name of a firmware update.
- *model* – The model name of a valid hardware system for the firmware update. Valid values are:
 - NETRA-240 – Netra 240
 - NETRA-440 – Netra 440
 - SF-T1000 – Sun Fire T1000
 - SF-T2000 – Sun Fire T2000
 - SF-V210 – Sun Fire V210
 - SF-V240 – Sun Fire V240
 - SF-V250 – Sun Fire V250
 - SF-V440 – Sun Fire V440
 - V20z – Sun Fire V20z
 - V40z – Sun Fire V40z
 - X4100 – Sun Fire X4100
 - X4200 – Sun Fire X4200
- *name* – A new name for the firmware update.
- *type* – Specify the type of firmware update. This attribute is required only for the Sun Fire V20z and Sun Fire V40z system firmware updates. Valid values are:
 - BIOS – Server platform BIOS
 - PIC – Service processor operator panel
 - SP – Service processor
- *vendor* – The name of the firmware update vendor. Valid value is Sun.
- *version* – The version number of the firmware update.

set group

This command changes the name of a server group, or changes the locator lights or monitoring status on a group of servers.

Synopsis

- Change the name of a server group:

```
set group group name name
```

- Refresh the N1 System Manager with the latest settings and status of the group of servers:
`set group group refresh`
- Enable or disable monitoring on a group of servers:
`set group group monitored monitored-state`
- Turn the locator light on or off on a group of servers:
`set group group locator locator-state`
- Set the threshold values for one or more OS monitoring attributes on a group of provisionable servers:
`set group group threshold threshold
[criticallow value] [criticalhigh value] [warninglow value] [warninghigh value]`
- Set the threshold values for the `fsusage.kbpacefree` file system monitoring attribute on a group of provisionable servers:
`set group group [filesystem filesystem] threshold fsusage.kbpacefree
[criticallow value] [criticalhigh value] [warninglow value] [warninghigh value]`
- Set the threshold values for the `fsusage.pctused` file system monitoring attribute on a group of provisionable servers:
`set group group [filesystem filesystem] threshold fsusage.pctused
[criticallow value] [criticalhigh value] [warninglow value] [warninghigh value]`

Parameters

- *filesystem* – Choose a file system for which to set one or more threshold values. Only the `fsusage.pctused` and `fsusage.kbpacefree` monitored attribute thresholds can be set for file systems. If no file system is specified, the thresholds are set for all file systems on the server. Example values are `/` and `/usr`.
- *group* – The name of a server group.
- *locator-state* – Turn the locator light on or off on the group of servers. Valid values are `true` (on) and `false` (off).
- *monitored-state* – Enable or disable monitoring on the group of servers. Valid values are `true` (enable) and `false` (disable).
- *name* – A new name for the server group.
- *refresh* – Refresh the management server with the latest settings and status of the group of servers. This status includes monitoring information, currently installed software, and other details.
- *threshold* – Choose OS or file system monitoring attribute for which to set one or more threshold values. Valid values are:
 - `cpustats.loadavg1min` – System load expressed as average number of queued processes over 1 minute.
 - `cpustats.loadavg5min` – System load expressed as average number of queued processes over 5 minutes.

- `cpustats.loadavg15min` – System load expressed as average number of queued processes over 15 minutes.
- `cpustats.pctusage` – Overall CPU usage percentage.
- `cpustats.pctidle` – Overall CPU idle percentage.
- `fsusage.kbpacefree` – Free file system space (Kbytes). Can be used with the `filesystem` attribute to set thresholds for a specific file system.
- `fsusage.pctused` – Percentage of file system space in use. Can be used with the `filesystem` attribute to set thresholds for a specific file system.
- `memusage.pctmemused` – Percentage of memory in use.
- `memusage.pctmemfree` – Percentage of memory free.
- `memusage.mbmempused` – Memory in use (MBytes).
- `memusage.mbmempfree` – Memory free (MBytes).
- `memusage.pctswapused` – Percentage of swap space in use.
- `memusage.mbswapfree` – Free swap space (MBytes).
- `memusage.kbswapused` – Used swap space (Kbytes).
- *value* – Set a threshold value for an OS or file system monitoring attribute on the group of servers. Valid values for the `criticallow`, `criticalhigh`, `warninglow`, and `warninghigh` thresholds depend on the attribute. For attributes measuring percentages, the valid value range is 0–100. A value of `none` disables monitoring of the attribute for that threshold.

set notification

This command changes the name, description, or notification destination for a notification rule.

Synopsis

- Change the name, description, or notification destination for a notification group:

```
set notification notification [name name] [description description]
[destination destination]
```

Parameters

- *description* – A new description for the notification rule.
- *destination* – A new destination where the notification should be sent. The new destination must match the notification rule's *type*, which was set when the rule was created. Valid values are:
 - *email-addresses* – One or more email addresses separate by commas.

- *snmp-host[:port]* – An SNMP host. *snmp-host* is a valid SNMP host name and *port* is a valid port on the host.
- *name* – A new name for the notification rule.
- *notification* – The name of a notification rule.

set os

This command changes the name of an OS distribution.

Synopsis

- Change the name of an OS distribution.

```
set os os name name
```

Parameters

- *name* – A new name for the OS distribution.
- *os* – The name of an OS distribution.

set osprofile

This command changes the configuration of an OS profile.

Synopsis

- Change the configuration of a Solaris OS profile.

```
set osprofile osprofile [solaris-profile-attributes]
```

- Change the configuration of a Red Hat Linux OS profile.

```
set osprofile osprofile [redhat-profile-attributes]
```

- Change the configuration of a SUSE Linux OS profile.

```
set osprofile osprofile [SUSE-profile-attributes]
```

Parameters

- *osprofile* – The name of an OS profile.

A specific list of OS profile attributes is provided separately for each OS, since each OS is different.

Solaris Profile Attributes

- `description` *description* – Specify a description for the OS profile.
- `flar` *flar* – Specify the name of a Flash archive file. A fully qualified path is required.
- `language` *language* – Specify the default language for the installation. Default value is `en_us`. Valid values for a Solaris profile are `C`, `en_US.ISO8859-15`, `en_US.ISO8859-1`, and `en_US`.
- `ldap` *ldap* – Configure LDAP on the server. Valid values are `true` and `false`.
- `ldapserver` *ldapserver* – Specify the name of an LDAP server.
- `ldapbasename` *ldapbasename* – Specify the base name of an LDAP server.
- `name` *name* – Change the name of the OS profile.
- `nis` *nis* – Enable NIS on the installed server. Valid values are `enabled` and `disabled`.
- `nisdomain` *nisdomain* – Specify a NIS domain for the installed server.
- `nissserver` *nissserver* – Specify a NIS server for the installed server, or set to `broadcast` for the installation to automatically find an available NIS server.
- `rootpassword` *rootpassword* – Change the root password for the installed server.
- `timezone` *timezone* – Specify the time zone for the installation. Default value is `gmt`. Valid values for a Solaris profile are provided by the directories and files in the `/usr/share/lib/zoneinfo` directory on a Solaris system. The `timezone` value is the name of the path relative to the `/usr/share/lib/zoneinfo` directory. For example, the `timezone` value for Mountain Standard Time in the United States is `US/Mountain`. The `timezone` value for Japan is `Japan`.

Red Hat Linux Profile Attributes

- `clearmbr` *clearmbr* – Clear the master boot record on server. Valid values are `true` and `false`.
- `description` *description* – Specify a description for the OS profile.
- `existingpartition` *existingpartition* – Action to take on existing partitions on the server during the installation. Valid values are:
 - `all` – Default value. Remove all existing partitions.
 - `linux` – Remove all Linux partitions.
 - `preserve` – Preserve all existing partitions.
- `initdisklabel` *initdisklabel* – Initialize disk label. If enabled, the first sector of disk that contains geometry and partition information will be initialized during the installation. Valid values are `true` and `false`.
- `language` *language* – Specify the default language for the installation. Default value is `en_us`. Valid values for a Red Hat profile are `cs_CZ`, `da_DK`, `de_DE`, `en_US`, `es_ES`, `fr_FR`, `is_IS`, `it_IT`, `ja_JP.eucJP`, `ko_KR.eucKR`, `nl_NL`, `no_NO`, `pt_PT`, `ru_RU.kOI8r`, `sl_SI`, `sv_SE`, `uk_UA`, `zh_CN.GB2312`, and `zh_TW.Big5`.

- `ldap ldap` – Configure LDAP on the server. Valid values are `true` and `false`.
- `ldapservice ldapservice` – Specify the name of an LDAP server.
- `ldapbasename ldapbasename` – Specify the base name of an LDAP server.
- `md5 md5` – Enable MD5 checksum. If enabled, the integrity of the files and messages will be verified during the installation. Valid values are `true` and `false`.
- `name name` – Change the name of the OS profile.
- `nis nis` – Enable NIS on the installed server. Valid values are `enabled` and `disabled`.
- `nisdomain nisdomain` – Specify a NIS domain for the installed server.
- `nisservice nisservice` – Specify a NIS server for the installed server, or set to `broadcast` for the installation to automatically find an available NIS server.
- `rebootafterinstall rebootafterinstall` – Reboot system after install. Valid values are `true` and `false`.
- `rootpassword rootpassword` – Change the root password for the installed server.
- `shadowpassword shadowpassword` – Enable a shadow password. Valid values are `true` and `false`.
- `timezone timezone` – Specify the time zone for the installation. Default value is `gmt`. Valid values for a Red Hat profile are any of the time zones listed by the `timeconfig` command.

SUSE Linux Profile Attributes

- `description description` – Specify a description for the OS profile.
- `ftp proxy ftp proxy` – Specify an FTP proxy server for the installed server. The proxy attribute must be enabled for this attribute to be recognized. You can specify an IP address or host name of the HTTP proxy server and you must include the port number. If you specify a proxy server by its host name, your name server must be set up accordingly. Examples: `http://129.101.1.240:3128` or `http://proxy.provider.com:3128`
- `http proxy http proxy` – Specify an HTTP proxy server for the installed server. The proxy attribute must be enabled for this to be recognized. You can specify an IP address or hostname of the HTTP proxy server. You must include the port number. If you specify a proxy server by its host name, your name server must be set up accordingly. Examples: `http://129.101.1.240:3128` or `http://proxy.provider.com:3128`
- `language language` – Specify the default language for the installation. Default value is `en_us`. Valid values for a SUSE profile are `cs_CZ`, `da_DK`, `de_DE`, `en_US`, `es_ES`, `fr_FR`, `is_IS`, `it_IT`, `ja_JP.eucJP`, `ko_KR.eucKR`, `nl_NL`, `no_NO`, `pt_PT`, `ru_RU.kOI8r`, `sl_SI`, `sv_SE`, `uk_UA`, `zh_CN.GB2312`, and `zh_TW.Big5`.
- `ldap ldap` – Configure LDAP on server. Valid values are `true` and `false`.
- `ldapservice ldapservice` – Specify the name of an LDAP server.
- `ldapbasename ldapbasename` – Specify the base name of an LDAP server.
- `name name` – Change the name of the OS profile.

- `nis nis` – Enable NIS on the installed server. Valid values are `enabled` and `disabled`.
- `nisdomain nisdomain` – Specify a NIS domain for the installed server.
- `nissserver nissserver` – Specify a NIS server for the installed server, or set to `broadcast` for the installation to automatically find an available NIS server.
- `proxy proxy` – Enable or disable proxy servers on the installed server. Valid values are `enabled` (default) and `disabled`. Use the `ftpproxy` and `httpproxy` attributes to specify the proxy servers.
- `rebootafterinstall rebootafterinstall` – Reboot the system after install. Valid values are `true` and `false`.
- `rootpassword rootpassword` – Change the root password for the installed server.
- `timezone timezone` – Specify the time zone for the installation. Default value is `gmt`. Valid values for a SUSE profile are any of the time zones listed by the `timeconfig` command.

set role

This command changes the description of a role.

Synopsis

- Change the description for a role:

```
set role role description description
```

Parameters

- *role* – The name of a role.
- *description* – A new description for the role.

set server

This command changes the configuration information of a provisionable server or refreshes the N1 System Manager with the server's current settings and status.

Synopsis

- Change the configuration of a provisionable server:

```
set server server configuration-attributes
```
- Refresh the N1 System Manager with a server's current settings and status:

```
set server server refresh
```

- Change the IP address and the SSH credentials used for the management features on the provisionable server, including OS monitoring:

```
set server server agentip agentip agentssh agentssh
```

- Set the SNMP credentials used for OS monitoring on the provisionable server:

```
set server server agentsnmp agentsnmp  
set server server agentsnmpv3 agentsnmpv3
```

- Enable or disable monitoring on a provisionable server:

```
set server server monitored monitored-state
```

- Turn the locator light on or off on a provisionable server:

```
set server server locator locator-state
```

- Set the threshold values for an OS monitoring attribute on a provisionable server:

```
set server server threshold threshold  
[criticallow value] [criticalhigh value] [warninglow value] [warninghigh value]
```

- Set the threshold values for the `fsusage.kbpacefree` file system monitoring attribute on a provisionable server:

```
set server server [filesystem filesystem] threshold fsusage.kbpacefree  
[criticallow value] [criticalhigh value] [warninglow value] [warninghigh value]
```

- Set the threshold values for the `fsusage.pctused` file system monitoring attribute on a provisionable server:

```
set server server [filesystem filesystem] threshold fsusage.pctused  
[criticallow value] [criticalhigh value] [warninglow value] [warninghigh value]
```

Parameters

- *agentip* – Change the IP address used for the management features on the provisionable server, including OS monitoring. The *agentip* is usually the IP address of the provisioning network interface on the server.
- *agentsnmp* – Specify the SNMP credentials used for OS monitoring on the provisionable server. The *agentsnmp* format is a read community string for the SNMP credentials.
- *agentsnmpv3* – Specify the SNMP Version 3 credentials used for OS monitoring on the provisionable server. The *agentsnmpv3* format is a user name/password pair: *snmpv3-username/snmpv3-password*.
- *agentssh* – Specify the SSH credentials used for the management features on the provisionable server, including OS monitoring. The SSH user must have root access on the provisionable server. The *agentssh* format is a user name/password pair for SSH credentials: *ssh-username/ssh-password*.
- *filesystem* – Choose a file system for which to set one or more threshold values. Only the `fsusage.pctused` and `fsusage.kbpacefree` monitored attribute thresholds can be set for file systems. If no file system is specified, the thresholds

are set for all file systems on the server. Example values are `/` and `/usr`

- *locator-state* – Turn the server’s locator light on or off. Valid values are `true` (on) and `false` (off).
- *monitored-state* – Enable or disable monitoring on the provisionable server. Valid values are `true` (enable) and `false` (disable).
- *refresh* – Refresh the management server with the server’s current settings and status. This includes monitoring information, currently installed software, and other details.
- *server* – The management name of a server.
- *threshold* – Choose an OS or file system monitoring attribute for which to set one or more threshold values. Valid values are:
 - `cpustats.loadavg1min` – System load expressed as average number of queued processes over 1 minute.
 - `cpustats.loadavg5min` – System load expressed as average number of queued processes over 5 minutes.
 - `cpustats.loadavg15min` – System load expressed as average number of queued processes over 15 minutes.
 - `cpustats.pctusage` – Overall CPU usage percentage.
 - `cpustats.pctidle` – Overall CPU idle percentage.
 - `fsusage.kbpacefree` – Free file system space (Kbytes). Can be used with the `filesystem` attribute to set thresholds for a specific file system.
 - `fsusage.pctused` – Percentage of file system space in use. Can be used with the `filesystem` attribute to set thresholds for a specific file system.
 - `memusage.pctmemused` – Percentage of memory in use.
 - `memusage.pctmemfree` – Percentage of memory free.
 - `memusage.mbmused` – Memory in use (MBytes).
 - `memusage.mbmfree` – Memory free (MBytes).
 - `memusage.pctswapused` – Percentage of swap space in use.
 - `memusage.kbswapused` – Used swap space (Kbytes).
- *value* – Set a threshold value for an OS or file system monitoring attribute on a provisionable server. Valid values for the `criticallow`, `criticalhigh`, `warninglow`, and `warninghigh` thresholds depend on the attribute. For attributes measuring percentages, the valid value range is 0–100. A value of `none` disables monitoring of the attribute for that threshold.

Configuration Attributes

- *agentsnmp agentsnmp* – Specify the SNMP credentials for OS monitoring on the provisionable server. The *agentsnmp* format is a read community string for the SNMP credentials: *read-community*.
- *ip ip* – Change the management network IP address for the server.

- `ipmi ipmi` – Change the IPMI credentials for the server’s management network IP address. The *ipmi* value is an IPMI password.
- `name name` – Change the name of the server.
- `note note` – Change the notes for the server. The notes must be in quotes and the new notes will overwrite the current notes.
- `snmp snmp` – Change the SNMP credentials for the server’s management network IP address. The *snmp* format is a read community string for the SNMP credentials: *read-community*.
- `ssh ssh` – Change the SSH credentials for the server’s management network IP address. The *ssh* format is a user name/password pair for SSH credentials: *ssh-username/ssh-password*.

set session

This command changes the user’s role or the output format for the current session.

Synopsis

- Change the user’s role for the current session:
`set session role role`
- Change the output format for the current session:
`set session output output`

Parameters

- *output* – The output format for the current session. Valid values are `text` (default), `html`, or `xml`.
- *role* – The name of the new role.

set user

This command changes the default role for a user.

Synopsis

- Change the default role for a user:
`set user user defaultrole defaultrole`

Parameters

- *defaultrole* – The name of the new default role for the user.
- *user* – The name of a user.

show

This command lists summary or detailed information about an object or group.

Description

The show command can be used on the following objects: *firmware*, *group*, *job*, *log*, *notification*, *os*, *osprofile*, *privilege*, *role*, *server*, *session*, *update*, and *user*.

Type `help show object` for details.

show firmware

This command lists all the copied firmware updates or detailed information about a firmware update.

Synopsis

- List all the firmware updates:
`show firmware [all]`
- Filter the list of firmware updates:
`show firmware [model model] [type type] [vendor vendor]`
- List detailed information about a firmware update:
`show firmware firmware`

Parameters

- *all* – List all the firmware updates.
- *firmware* – The name of a firmware update.
- *model* – Filter the list of firmware updates by model name. Valid values are:
 - NETRA-240 – Netra 240
 - NETRA-440 – Netra 440

- SF-T1000 – Sun Fire T1000
- SF-T2000 – Sun Fire T2000
- SF-V210 – Sun Fire V210
- SF-V240 – Sun Fire V240
- SF-V250 – Sun Fire V250
- SF-V440 – Sun Fire V440
- V20z – Sun Fire V20z
- V40z – Sun Fire V40z
- X4100 – Sun Fire X4100
- X4200 – Sun Fire X4200
- *type* – Filter the list of firmware updates. This filter is available only for the Sun Fire V20z and Sun Fire V40z system firmware updates. Valid values are:
 - BIOS – Server platform BIOS
 - PIC – Service processor operator panel
 - SP – Service processor
- *vendor* – Filter the list of firmware updates based on the vendor.

show group

This command lists all server groups or detailed information about a specific server group.

Synopsis

- List all the server groups:


```
show group [all]
```
- List detailed information about a server group:


```
show group group
```

Parameters

- *all* – List all the server groups.
- *group* – The name of a server group.

show job

This command lists all jobs, detailed information about a specific job, or jobs based on a specified filter.

Synopsis

- List detailed information about a specific job:

```
show job job
```

- List all the jobs in descending order:

```
show job all
```

- Filter the listing of the jobs:

```
show job [count count] [endbefore endbefore] [endafter endafter]  
[owner owner] [startbefore startbefore] [startafter startafter]  
[state state] [target server] [type type]
```

Parameters

- *all* – List all the jobs in descending order.
- *count* – A number specifying how many jobs to list in descending order. Default is 500.
- *endafter* – List jobs finished after a specific date. See the detailed date format below. Example: 2005-07-20T11:53:04
- *endbefore* – List jobs finished before a specific date. See the detailed date format below. Example: 2005-07-20T11:53:04
- *job* – A job identification number.
- *server* – The management name of a server. List all jobs based on a specific server.
- *startafter* – List jobs started after a specific date. See the detailed date format below. Example: 2005-07-20T11:53:04
- *startbefore* – List jobs started before a specific date. See the detailed date format below. Example: 2005-07-20T11:53:04
- *state* – List all jobs based on a specific job state:
 - *completed* – List completed jobs.
 - *error* – List jobs that ended with errors.
 - *notstarted* – List jobs that have not started.
 - *preflight* – List jobs that are in a pre-run, test state.
 - *pendingstop* – List jobs that a user has canceled. A job must finish the current step on all servers before it can be canceled, so a job is in this state during that time period.
 - *running* – List currently running jobs.
 - *stopped* – List canceled or stopped jobs.
 - *timedout* – List jobs that have timed out and not finished.
 - *warning* – List jobs completed with warnings.
- *type* – List all jobs based on a specific job type:

- `addbase` – Add base management feature
- `addosmonitor` – Add OS monitoring feature
- `createos` – Create OS distribution from CD/DVD media or ISO files
- `deletejob` – Job deletion
- `discover` – Server discovery
- `loadfirmware` – Load firmware update
- `loados` – Load OS
- `loadupdate` – Load OS update
- `refresh` – Server refresh
- `removeosmonitor` – Remove OS monitoring feature
- `reset` – Server reboot
- `setagentip` – Modify management feature configuration
- `start` – Server power on
- `startcommand` – Remote command execution
- `stop` – Server power off
- `unloadupdate` – Unload OS update
- *owner* – The name of a user. List all jobs based on a specific user.

Date Format

The following date format is used for the `endbefore`, `endafter`, `startbefore`, and `startafter` options:

[CC]YY[-MM[-DD[Thh[:mm[:ss[Z]]]]]]]

- *CC* – Century (a year divided by 100 and truncated to an integer) as a decimal number [00-99]. For example, *CC* is 19 for the year 1988 and 20 for the year 2007.
- *YY* – Last two digits of the year number. If century (*CC*) is not specified, then values in the range 69-99 shall refer to years 1969 to 1999 inclusive, and values in the range 00-68 shall refer to years 2000 to 2068, inclusive.
- *MM* – Month number.
- *DD* – Day number in the month. The *DD* format can have values from 1 to 31 depending on the month and year.
- *T* – Date/time separator.
- *hh* – Hour number (24 hour system). The *hh* format can have values from 0 to 23.
- *mm* – Minute number. The *mm* format can have values from 0 to 59.
- *ss* – Second number. The *ss* format can have values from 0 to 60.
- *Z* – Indicates a time zone. You can specify a general time zone such as `Pacific Standard Time` or `PST`, or an RFC 822 time zone such as `-0800`.

show log

This command lists all known events from the N1 System Manager or provisionable servers, detailed information about a specific event, or events based on a specified filter.

Synopsis

- List detailed information about a specific event:

```
show log log
```

- List the events in descending order. By default, the last 500 events are listed:

```
show log [count count]
```

- Filter the listing of the events:

```
show log [after after] [before before] [count count] [severity severity]
```

Parameters

- *after* – List events after a specified date. See the detailed date format below.
Example: 2005-07-20T11:53:04
- *before* – List events before a specified date. See the detailed date format below.
Example: 2005-07-20T11:53:04
- *count* – A number specifying how many events to list in descending order. The default is 500.
- *log* – An event identification number.
- *severity* – List events with a specific event severity. Valid values are:
 - unknown
 - other
 - information
 - warning
 - minor
 - major
 - critical
 - fatal

Date Format

The following date format is used for the *after* and *before* options:

```
[CC]YY[-MM[-DD[Thh[:mm[:ss[Z]]]]]]]
```

- CC – Century (a year divided by 100 and truncated to an integer) as a decimal number [00-99]. For example, CC is 19 for the year 1988 and 20 for the year 2007.
- YY – Last two digits of the year number. If century (CC) is not specified, then values in the range 69-99 shall refer to years 1969 to 1999 inclusive, and values in the range 00-68 shall refer to years 2000 to 2068, inclusive.
- MM – Month number.
- DD – Day number in the month. The DD format can have values from 1 to 31 depending on the month and year.
- T – Date/time separator.

- *hh* – Hour number (24 hour system). The *hh* format can have values from 0 to 23.
- *mm* – Minute number. The *mm* format can have values from 0 to 59.
- *ss* – Second number. The *ss* format can have values from 0 to 60.
- *Z* – Indicates a time zone. You can specify a general time zone such as `Pacific Standard Time` or `PST`, or an RFC 822 time zone such as `-0800`.

show notification

This command lists all notification rules or detailed information about a specific notification rule.

Synopsis

- List all the notification rules:
`show notification [all]`
- List detailed information about a specific notification rule:
`show notification notification`

Parameters

- *all* – List all the notification rules.
- *notification* – The name of a notification rule.

show os

This command lists all available OS distributions from the N1 System Manager or detailed information about a specific OS distribution.

Synopsis

- List all the available OS distributions:
`show os [all]`
- List the available OS distributions of a specific OS type:
`show os type`
- List detailed information about a specific OS distribution, which includes the list of distribution groups.
`show os os`

Parameters

- *all* – List all the available OS distributions.
- *os* – The name of an OS distribution.
- *type* – The type of OS distribution. Valid values are *redhat*, *solaris*, and *suse*.

show osprofile

This command lists all available OS profiles or detailed information about a specific OS profile.

Synopsis

- List all the available OS profiles:

```
show osprofile [all]
```
- List the available OS profiles for a specific OS distribution:

```
show osprofile os os
```
- List details about a specific OS profile:

```
show osprofile osprofile
```

Parameters

- *all* – List all the available OS profiles.
- *osprofile* – The name of an OS profile.
- *os* – The name of an OS distribution to filter on.

show privilege

This command lists all available privileges or detailed information about a specific privilege.

Synopsis

- List all the available privileges:

```
show privilege [all]
```
- List detailed information about a specific privilege:

```
show privilege privilege
```

Parameters

- `all` – List all the available privileges.
- `privilege` – The name of a privilege.

show role

This command lists all available roles or the privileges for a specific role.

Synopsis

- List all the available roles and the privileges assigned to them:

```
show role [all]
```

- List the privileges for a specific role:

```
show role role
```

Parameters

- `all` – List all the available roles and the privileges assigned to them.
- `role` – The name of a role.

show server

This command lists all the available provisionable servers, a filtered list of provisionable servers, or detailed information for a specific server.

Synopsis

- List all the available provisionable servers:

```
show server [all]
```

- List details for a provisionable server:

```
show server server
```

- Filter the list of provisionable servers based on various attributes or states:

```
show server [ip ip[,ip...]] [jobcount jobcount] [model model]  
[name name] [runningos runningos]  
[hardwarehealth hardwarehealth] [oshealth oshealth] [power power]
```

Parameters

- `all` – List all the available provisionable servers.

- *ip* – Filter based on a provisionable server’s management network IP address. You can specify multiple instances of *ip* in one of the following ways, separated by commas:
 - *ip-address* – A single management network IP address.
 - *ip-address–ip-address* – A range of management network IP addresses. Example: 10.5.10.1–10.5.10.100
 - *subnet/mask-length* – A subnet with a mask length. Example: 10.0.8/24 or 10.0.8.128/28
- *jobcount* – Filter based on a number of jobs currently running on the provisionable server. *jobcount* can be 0 or any positive integer.
- *model* – Filter based on the provisionable server’s model name. The server’s model name is displayed in the Hardware column of the `show server` command. Wildcard matching is implicit and quotes must be used around a value with spaces. Valid values are:
 - NETRA-240 – Netra 240
 - NETRA-440 – Netra 440
 - SF-T1000 – Sun Fire T1000
 - SF-T2000 – Sun Fire T2000
 - SF-V210 – Sun Fire V210
 - SF-V240 – Sun Fire V240
 - SF-V250 – Sun Fire V250
 - SF-V440 – Sun Fire V440
 - V20z – Sun Fire V20z
 - V40z – Sun Fire V40z
 - X4100 – Sun Fire X4100
 - X4200 – Sun Fire X4200
- *name* – Filter based on a provisionable server’s management name. Wildcard matching is implicit and quotes must be used around a value with spaces.
- *runningos* – Filter based on the provisionable server’s running OS. The server’s running OS is displayed in the OS Usage column of the `show server` command. Wildcard matching is implicit and quotes must be used around a value with spaces.
- *hardwarehealth* – Filter the provisionable servers based on a hardware health state. Valid values are:
 - *critical* – A fault condition has occurred on the server and corrective action is required.
 - *good* – The server hardware is working properly.
 - *nonrecoverable* – The server has completely failed; recovery is not possible.
 - *monitored* – Monitoring is enabled on the server.
 - *unknown* – The server is not returning any hardware health information.
 - *unmonitored* – The server is not returning hardware health information because monitoring has been disabled.

- `unreachable` – The server cannot be contacted for hardware health information. This state is most often caused by a network problem.
- `warning` – A potential or impending fault condition has been detected on the server. Action should be taken to prevent the problem from becoming more serious.
- `oshealth` – Filter the provisionable servers based on a specific OS resource health state. Valid values are:
 - `critical` – A fault condition has occurred on the server, and corrective action is required.
 - `good` – The server with booted OS is working properly.
 - `monitored` – Monitoring is enabled on the server.
 - `uninitialized` – The server is not sending OS resource health information because the OS monitoring feature has not been added.
 - `unknown` – The server is not returning any OS resource health information.
 - `unmonitored` – The server is not returning OS resource health information because monitoring has been disabled.
 - `unreachable` – The server cannot be contacted for OS resource health information. This state is most often caused by a network problem.
 - `warning` – A potential or impending fault condition has been detected on the server. Action should be taken to prevent the problem from becoming more serious.
- `power` – Filter the provisionable servers based on a specific power state. Valid values are:
 - `on` – The server is powered on and running.
 - `standby` – The server is powered down, but it is still responsive to commands, for example, booting.
 - `unknown` – The server is not returning any power status information.
 - `unreachable` – The server cannot be contacted for power status information. This state is most often caused by a network problem.
- `server` – The management name of a server.

show session

This command lists the user's current role in the session.

Synopsis

- List the user's current role in the session:

```
show session
```

show update

This lists all the OS updates or detailed information about a specific OS update.

Synopsis

- List all the available OS updates:

```
show update [all]
```

- Filter the list of OS updates available for a specific OS distribution:

```
show update os os
```

- List detailed information about a specific OS update:

```
show update update
```

Parameters

- *all* – List all the available OS updates.
- *os* – The name of an OS distribution by which to filter list.
- *update* – The name of an OS update.

show user

This command lists all the available users or detailed information about a specific user.

Synopsis

- List all the available users:

```
show user [all]
```

- List detailed information about a specific user, including the user's assigned roles and default role:

```
show user user
```

Parameters

- *all* – List all the available users.
- *user* – The name of a user.

start

This command enables an object or issues a command. For example, you can power on and boot provisionable servers or enable a notification rule.

Description

The `start` command can be used on the following objects: `group`, `notification`, and `server`.

Type `help start object` for details.

`start group`

This command powers on and boots a group of provisionable servers or issues a remote command on a group of servers. You can view the output of the remote command from the associated job that is started.

Synopsis

- Power on and boot a group of provisionable servers:

```
start group group [netboot]
```

- Issue a remote command on a group of servers:

```
start group group command "command" [agentssh agentssh] [timeout timeout]
```

Parameters

- *agentssh* – Override SSH credentials on the provisionable server for the remote command.
- *command* – A UNIX command to run on the group of servers. The command must be surrounded by quotes. You can view the output of the command from the associated job that is started.
- *group* – The name of a server group.
- *netboot* – Force the servers in the group to boot from their default network boot interface. This option enables you to install your servers over the network using an install server setup, which must be configured outside of the N1 System Manager environment.
- *timeout* – Number of seconds command can run before timing out.

`start notification`

This command enables or tests a notification rule.

Synopsis

- Enable a notification rule:

```
start notification notification
```

- Send a test notification message based on the destination and type of the rule:

```
start notification notification test
```

Parameters

- *notification* – The name of a notification rule.
- *test* – Test the notification rule.

start server

This command powers on and boots provisionable servers or issues a remote command remotely on the provisionable servers. You can view the output of the remote command from the associated job that is started.

Synopsis

- Power on and boot all provisionable servers:

```
start server all [netboot]
```

- Power on and boot one or more provisionable servers:

```
start server server [,server...] [netboot]
```

- Issue a remote command remotely on one or more servers:

```
start server server [,server] command "command" [agentssh agentssh]
[timeout timeout]
```

- Issue a remote command remotely on all servers:

```
start server all command "command" [agentssh agentssh] [timeout timeout]
```

Parameters

- *agentssh* – Override SSH credentials on the provisionable server for the remote command.
- *all* – Power on or issue a remote command on all provisionable servers.
- *command* – A UNIX command to run on the provisionable server. The command must be surrounded by quotes. You can view the output of the command from the associated job that is started.
- *netboot* – Force the servers to boot from their default network boot interface. This option enables you to install your servers over the network using an install server setup, which must be configured outside of the N1 System Manager environment.
- *server* – The management name of a provisionable server.

- *timeout*– Number of seconds the command can run before timing out.

stop

This command disables an object. For example, you can shut down and power off a provisionable server or cancel a job.

Description

The `stop` command can be used on the following objects: `group`, `job`, `notification`, and `server`.

Type `help stop object` for details.

stop group

This command shuts down and powers off a group of provisionable servers.

Synopsis

- Shut down and power off a group of provisionable servers:

```
stop group group [force]
```

Parameters

- *force* – Force a power off without a graceful shutdown. If not specified, a graceful shutdown is attempted by default. This option must be used to power off provisionable servers without an OS installed or servers without the base management feature added.
- *group* – The name of a server group.

stop job

This command stops a job from running. When a job is stopped, it is in the aborted state.

Synopsis

- Stop a single job from running.

```
stop job job
```

Parameters

- *job* – A job identification number.

stop notification

This command disables a notification rule.

Synopsis

- Disable a notification rule:
`stop notification notification`

Parameters

- *notification* – The name of a notification rule.

stop server

This command shuts down and powers off provisionable servers.

Synopsis

- Shut down and power off one or more servers:
`stop server server [, server ...] [force]`
- Shut down and power off all servers:
`stop server all [force]`

Parameters

- *all* – Shut down and power off all provisionable servers.
- *force* – Force a power off without a graceful shutdown. If not specified, a graceful shutdown is attempted by default. This option must be used to power off provisionable servers without an OS installed or servers without the base management feature added.
- *server* – The management name of a provisionable server.

unload

This command uninstalls software from provisionable servers or a group of servers.

Description

The `unload` command can be used on the following objects: `group` and `server`.

Type `help unload object` for details.

`unload group`

This command uninstalls an OS update from a group of provisionable servers.

Synopsis

- Uninstall an OS update from a group of provisionable servers:

```
unload group group update update
```

Parameters

- *group* – The name of a server group.
- *update* – The name of an OS update. Note that if this user-specified name is not found, the command will try to uninstall an OS update with a matching file name. The `show update` command enables you to list an OS update's corresponding file name.

`unload server`

This command uninstalls an OS update from provisionable servers.

Synopsis

- Uninstall an OS update from one or more provisionable servers:

```
unload server server [,server...] update update
```

Parameters

- *server* – The management name of one or more servers.
- *update* – The name of an OS update. If this user-specified name is not found, the command will try to uninstall an OS update with a matching file name. The `show update` command enables you to list an OS update's corresponding file name.

Object Help

This section describes the objects that can be managed by the N1 System Manager commands.

The available objects are listed in the following table.

Object	Definition
firmware	A firmware update for the provisionable servers.
group	A group of provisionable servers.
job	An asynchronous action initiated and tracked by a user to perform some management task.
log	An event generated from a provisionable server or the N1 System Manager.
notification	A notification rule created by a user to define when, where, and how to notify an external source, such as a user, of a N1 System Manager event.
os	An installable image of an OS, also known as an OS distribution.
osprofile	An OS profile, which is a configuration file that defines how to install an OS distribution.
privilege	A predefined set of permissions enabling a user to perform certain operations within the N1 System Manager. A privilege may be granted to a user by assigning it to a role and then assigning the role to the user.
role	A set of privileges that can be assigned to a N1 System Manager user. The N1 System Manager provides three predefined roles: <code>ReadOnly</code> , <code>SecurityAdmin</code> , and <code>Admin</code> . Authorized users may create customized roles, but users cannot modify the predefined roles.
server	A provisionable server, which is a server that has been discovered by and can be managed by the N1 System Manager.
session	The role and other contextual information that is associated with every active user session. A separate user session is created for each user logged into the browser interface and <code>n1sh</code> command line interface. The browser interface and the browser interface's command line share a common session and hence have a common session role.
update	An OS update, such as a patch or package for the Solaris operating system or an RPM for the Red Hat operating system.
user	A person who is authorized to log into the N1 System Manager.

firmware

The `firmware` object is a firmware update for the provisionable servers.

Description

The following commands are available for the `firmware` object: `create`, `delete`, `set`, and `show`. You must use the `load server` or `load group` commands to install a firmware update.

Type `help command object` for details on each command.

group

The `group` object is a group of provisionable servers.

Description

The following commands are available for the `group` object: `add`, `create`, `delete`, `load`, `remove`, `reset`, `set`, `show`, `start`, `stop`, and `unload`.

Type `help command object` for details on each command.

job

The `job` object is an asynchronous action that is initiated and tracked by a user to perform some management task.

Description

The following commands are available for the `job` object: `delete`, `show`, and `stop`.

Type `help command object` for details on each command.

log

The `log` object is an event generated from a provisionable server or the N1 System Manager.

Description

The following commands are available for the `log` object: `show`.

Type `help command object` for details on each command.

notification

The `notification` object is a notification rule created by a user to define when, where, and how to notify an external source, such as a user, of a N1 System Manager event.

Description

The following commands are available for the `notification` object: `create`, `delete`, `set`, `show`, `start`, and `stop`.

Type `help command object` for details on each command.

OS

The `os` object is an installable image of an OS, also known as an OS distribution.

Description

The following commands are available for the `os` object: `create`, `delete`, `set`, and `show`.

Type `help command object` for details on each command.

osprofile

The `osprofile` object is a configuration file that defines how to install an OS distribution.

Description

The following commands are available for the `osprofile` object: `add`, `create`, `delete`, `remove`, `set`, and `show`. You must use the `load server` or `load group` commands to install an OS profile.

Type `help command object` for details on each command.

privilege

The `privilege` object is a predefined set of permissions enabling a user to perform certain operations within the N1 System Manager. A privilege may be granted to a user by assigning it to a role and then assigning the role to the user.

Description

The following commands are available for the `privilege` object: `show`. You must use the `add role` and `remove role` commands to add and remove privileges from a role.

Type `help command object` for details on each command.

role

The `role` object is a set of privileges that can be assigned to a N1 System Manager user. The N1 System Manager provides three predefined roles: `ReadOnly`, `SecurityAdmin`, and `Admin`. Authorized users may create customized roles, but they cannot modify the predefined roles.

Description

The following commands are available for the `role` object: `add`, `create`, `delete`, `remove`, `set`, and `show`. You must use the `add user` and `remove user` commands to add and remove roles from a user.

Type `help command object` for details on each command.

server

The `server` object is a provisionable server, which is a server that has been discovered by and can be managed by the N1 System Manager.

Description

The following commands are available for the `server` object: `add`, `connect`, `delete`, `load`, `remove`, `reset`, `show`, `start`, `stop`, and `unload`. You must use the `discover` command to discover a provisionable server.

Type `help command object` for details on each command.

session

The `session` object is the role and other contextual information that is associated with every active user session. A separate user session is created for each user logged into the browser interface and `n1sh` command line interface. The browser interface and the browser interface's command line share a common session and hence have a common session role.

Description

The following commands are available for the `session` object: `set` and `show`.

Type `help command object` for details on each command.

update

The `update` object is an OS update, such as a patch or package for the Solaris operating system or an RPM for the Red Hat operating system.

Description

The following commands are available for the `update` object: `create`, `delete`, and `show`. You must use the `load server` or `load group` commands to install an OS update.

Type `help command object` for details on each command.

user

The `user` object is a person who is authorized to log in to the N1 System Manager.

Description

The following commands are available for the `user` object: `add`, `create`, `delete`, `remove`, `set`, and `show`.

Type `help command object` for details on each command.