NetApp® SANtricity® Web Services Proxy 1.4

Installation Guide

n NetApp®

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About This Guide

This guide describes how to install, configure, and uninstall the NetApp SANtricity Web Services Proxy.

Overview of the NetApp SANtricity Web Services Proxy

The NetApp SANtricity Web Services Proxy provides access through standard HTTPS mechanisms to configuring management services for NetApp storage arrays. You can install Web Services Proxy on either a Linux machine or a Windows machine. As Web Services Proxy satisfies the client request by collecting data or executing configuration change requests to a target storage array, the Web Services Proxy module issues SYMbol requests to the target storage arrays.

Web Services Proxy provides a Representative State Transfer (REST) Application Programming Interface (API) for managing NetApp controllers. The API enables you to integrate storage array management into other applications or ecosystems.

New in this Release

This release of the Web Services Proxy features the following enhancements:

- Failure data through Failure endpoint
- Premium Feature enable/disable functionality for users with valid license keys only
- Feature Pack enable/disable functionality for users with valid license keys only
- FDE key management support for import and export
- DNS/NTP settings for Ethernet interface configuration
- Drive Firmware download

- Hardware and firmware

  - E5600, EF550, EF560 storage arrays
  - Dual Port FDR 56-Gb InfiniBand
  - Support for controller firmware 8.25

Abbreviations, Acronyms, Terms, and Definitions

The following table shows the abbreviations and acronyms used in this document and their definitions.

Abbreviations, Acronyms, Terms	Definitions
API	Application Programming Interface
CORS	Cross-Origin Resource Sharing
FDR	Fourteen Date Rate
LSB	Linux Standard Base
JSON	JavaScript Object Notation
REST	Representational State Transfer

System Requirements

Make sure that your system meets the following compatibility requirements before you install Web Services Proxy.

Compatible Operating Systems

For a complete and up-to-date listing of all compatible server operating systems and firmware for the SANtricity plug-in, refer to the [NetApp Interoperability Matrix Tool](#).

Linux Standard Base

The Linux Standard Base (LSB) package for your Linux distribution must be installed to properly start up and shut down the Web Services Proxy.

Installing and Maintaining Web Services Proxy

Capacity Planning for Web Services Proxy

Web Services Proxy requires adequate space for logging. Ensure that your system has adequate available disk space for Web Services Proxy. You can use a disk-space monitoring tool to verify available disk drive space for persistent storage and logging.

- Required Installation Space - 194 MB
- Minimum Logging Space - 200 MB

Installing Multiple Instances of Web Services Proxy

You can install only one instance of Web Services Proxy on a server, but you can install multiple instances of Web Services Proxy on multiple servers within a network. Installing multiple instances of Web Services Proxy on multiple servers within a network provides several advantages.

- Configuring multiple instances of Web Services Proxy with the same set of storage arrays can achieve high-availability service for a common set of storage arrays.
- Creating multiple instances of Web Services Proxy allows you to manage separate storage management domains independently. Management domains can have different sets of user accounts.

Installation Modes

You can install Web Services Proxy in the following operating systems and modes. The [Compatible Operating System section](#) identifies the compatible operating systems and versions.

- Windows
- Linux

    o Graphical mode
    o Console mode
    o Silent mode

Web Services Proxy License

Web Services Proxy is a standalone product. The Proxy itself is free and does not require a license key. However, applicable copyrights and terms of service apply. During the graphical mode installation and the console mode installation, you must accept the End User License Agreement (EULA).

- Linux Installation

    o On a Linux operating system, the `eula.html` file is installed in the default directory.

        `/opt/netapp/santricity_web_services_proxy`

- o To open the `eula.html` file, type the following file name and directory path in the address bar of a web browser:

  `file:///opt/netapp/santricitywebservicesproxy/eula.html`

- Windows Installation

  - o On a Windows operating system, the `eula.html` file is installed in the default directory.

    `C:\Program Files\NetApp\SANtricity Web Services Proxy`

  - o To open the `eula.html` file, either type the following file name and directory path in the address bar of a web browser or use a web browser to search for the file.

    `C:\Program Files\NetApp\SANtricity Web Services Proxy\eula.html`

Web Services Proxy Readme File

- Linux Installation

  - o On a Linux operating system, the `readme.html` file is installed in the default directory.

    `/opt/netapp/santricity_web_services_proxy`

  - o To open the `readme.html` file, type the following file name and directory path in the address bar of a web browser.

    `file:///opt/netapp/santricity web services proxy/readme.html`

- Windows Installation

  - o On a Windows operating system, the `readme.html` file is installed in the default directory.

    `C:\Program Files\NetApp\SANtricity Web Services Proxy`

  - o To open the `readme.html` file, either type the following file name and directory path in the address bar of a web browser, or use a web browser to search for the file.

    `C:\Program Files\NetApp\SANtricity Web Services Proxy\readme.txt`

Auto Update Notice

After you accept accepting the End User License Agreement (EULA) during the installation process, the following Auto Update notice appears:

```
This version of the software has the ability to check for software updates and
download those updates automatically to be installed when:
    • The application is restarted
    • On demand by the user with the application
This feature is enabled by default and requires internet connectivity to the NetApp
software update server to be able to fetch the update allowing your client side IP
address to be revealed. It can be disabled by selecting the "Disabling Auto Updates"
option during installation or by editing the configuration file after installation.
No user data or customer data is provided during the download process.
```

For details on editing the configuration file and how to restore to the previous software version, refer to the "Managing Auto Updates" section of the NetApp SANtricity Web Services Proxy 1.4 User Guide.

Installing Web Services Proxy

Installing Web Services Proxy on a Windows Operating System

The Web Services Proxy installation file for Windows is `webservice-01.nn.nnnn.nnnn.exe`, where `nn.nnnn.nnnn` is the version number of Web Services Proxy.

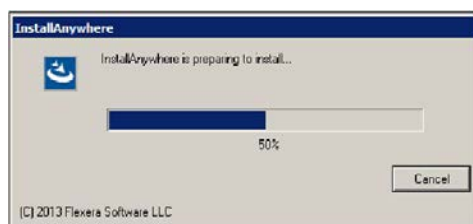The default destination path on a Windows operating system is at the following location:

`C:\Program Files\NetApp\SANtricity Web Services Proxy`

NOTE: You cannot change the destination path.

To install Web Services Proxy on a Windows operating system, perform the following actions:
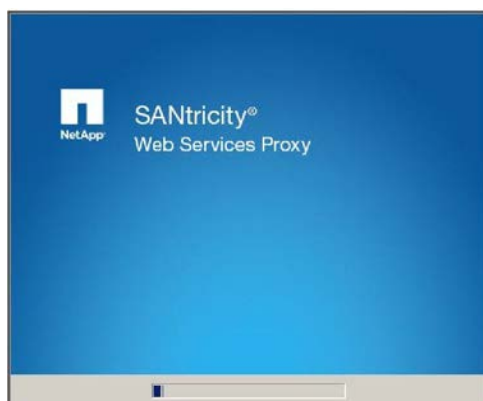
1. Download the installation file to the location on your server from which to install Web Services Proxy.
2. Download the Web Services Proxy installation file to your local computer.
3. Go to the directory that contains the downloaded Web Services Proxy installation file.
4. Double-click the Web Services Proxy installation file.

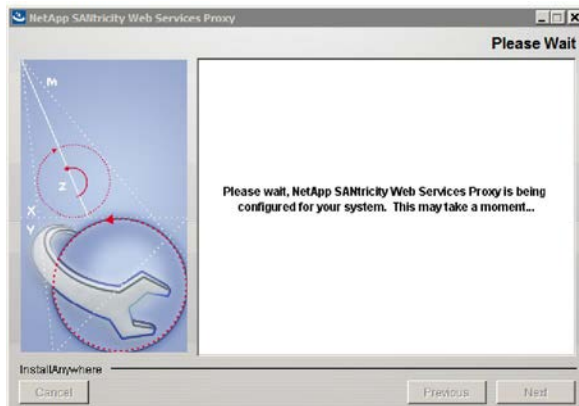   The InstallAnywhere message with the progress bar appears.

    NOTE: If the User Account Control message appears before the InstallAnywhere message appears, click **Yes**.
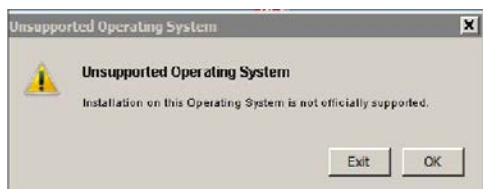
    The NetApp SANtricity Web Services Proxy splash screen appears.

    The NetApp SANtricity Web Services Proxy splash screen disappears, and the Please Wait message appears.

NOTE: If the operating system is not compatible with Web Services Proxy, the Unsupported Operating System message appears superimposed on the Please Wait dialog box.

- To continue the installation process on an unsupported operating system, click **OK**.
- To exit the installation process, click **Exit**.

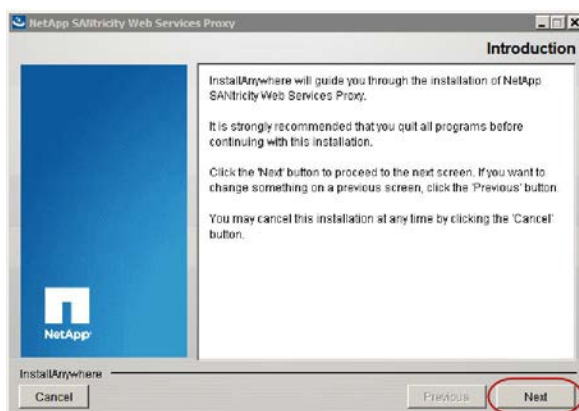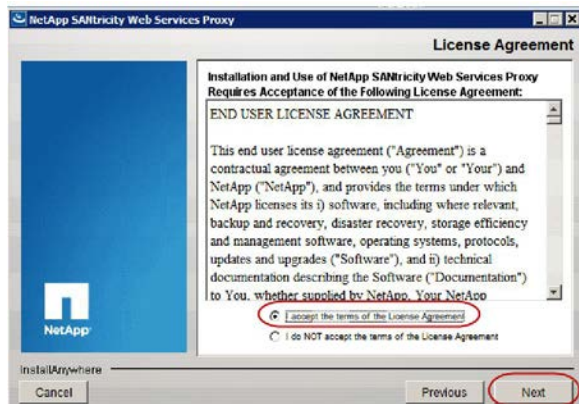 The NetApp SANtricity Web Services Proxy Installer dialog box appears.

- To continue the installation process on an unsupported operating system, click **OK**.
- To exit the installation process, click **Exit**.

  The NetApp SANtricity Web Services Proxy Installer dialog box appears.

5. Click **Next**.

The License Agreement appears.

6. Select I accept the terms of the License Agreement and then click **Next**.

   The Choose Install Folder dialog box appears.

- To change the installation location, delete the path in the Where Would You Like to Install? text box and then type the new path.
- To search for the installation folder, click **Choose** and then select the folder in the Browse for Folder dialog box.

NetApp SANtricity Web Services Proxy 1.4 Installation Guide

7. Click **Next**.

   The Auto Update Feature dialog box appears.

   - To enable Auto Update functionality, select **Enable Auto Updates**.
   - To disable Auto Update functionality, select **Disable Auto Updates**.

8. Click **Next**.

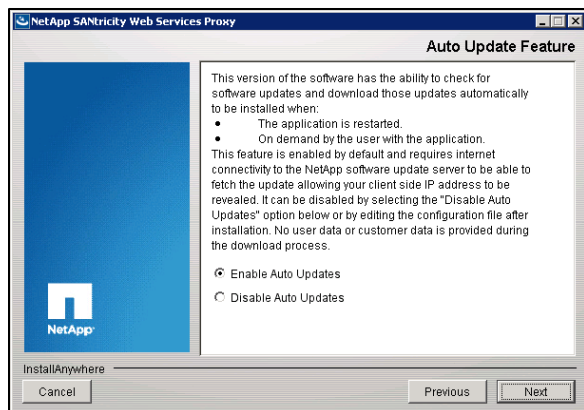   The ASUP Enabled dialog box appears.

   - To enable AutoSupport functionality, select **Enable ASUP (Recommended)**.
   - To disable AutoSupport functionality, select **Disable ASUP**.

9. Click **Next.**

   The Pre-Installation Summary dialog box appears.

10. Review the information.

   NOTE: If you do not accept the summary information, click **Previous** to return to the Choose Install Folder dialog box.

11. Click **Install** to accept the summary information.

The Installing NetApp SANtricity Web Services Proxy message appears and shows the installation progress bar.

The Installing NetApp SANtricity Web Services Proxy message disappears, and the Please Wait dialog box appears.

When the NetApp SANtricity Web Services Proxy configuration is complete, the Webserver Started message appears superimposed on the Please Wait message.

12. On the Webserver Started message, click **OK** to complete the installation.

    When the installation is complete, the Install Complete dialog box appears.

13. Click **Done**.

    The NetApp SANtricity Web Services Proxy is installed in the Services (Local) window and automatically starts.

Installing Web Services Proxy on a Linux Operating System

You can install Web Services Proxy on a Linux operating system in the following three ways:

- Graphical
- Console
- Silent

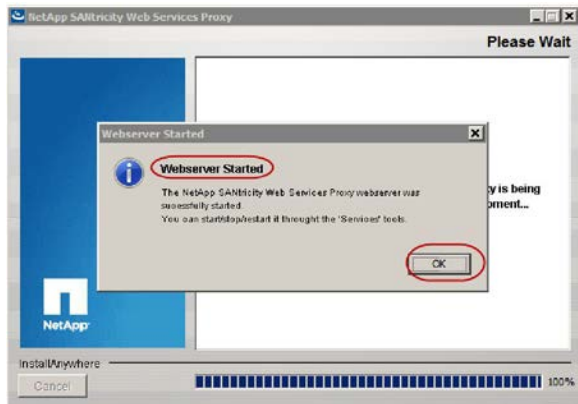Web Services Proxy installation file for Linux is *webservice-01.nn.nnnn.nnnn.bin*, where *nn.nnnn.nnnnn* is the version number of the Web Services Proxy. The default destination path on a Linux operating system is `opt/netapp/santricity_web_service_proxy`.

To install Web Services Proxy, perform the following actions:

1. Download the installation file to the location on your server from which to install Web Services Proxy.
2. Download the Web Services Proxy installation file to your local computer.

3. Open a terminal window, and log in.
4. Go to the directory that contains the Web Services Proxy installation file.
5. Refer to the appropriate instructions for installing Web Services Proxy.

- [Installing Web Services Proxy in the Graphical Mode](#)
- [Installing Web Services Proxy in the Console Mode](#)
- [Installing Web Services Proxy in the Silent Mode](#)

Installing Web Services Proxy in the Graphical Mode

The graphical mode is the default installation mode. The default location for the graphical installation is `/opt/netapp/santricity_web_services_proxy`.

1. Run the following command, where `nn.nnnn.nnnn` is the version number of the application:

   `./webservice-01.nn.nnnn.nnnn.bin`

   - The installation process starts.
   - The NetApp SANtricity Web Services Proxy splash screen appears.

   - The NetApp SANtricity Web Services Proxy splash screen disappears, and the Please Wait message appears and then disappears.

   - The Please Wait message disappears and the Introduction dialog box appears.

2. Click **Next**.

   The License Agreement appears.

3. Select I accept the terms of the License Agreement and click **Next**.

   The Choose Install Folder dialog box appears.

- To change the installation location, delete the path in the Where Would You Like to Install? text box and then type the new path.
- To search for the installation folder, click **Choose** and then select the folder in the Browse for Folder dialog box.

4. Click **Next**.

The Auto Update Feature dialog box appears.

- To enable Auto Update functionality, select **Enable Auto Updates**.
- To disable Auto Update functionality, select **Disable Auto Updates**.

5. Click **Next**.
   The ASUP Enabled dialog box appears

- To enable AutoSupport functionality, select **Enable ASUP (Recommended)**.
- To disable AutoSupport functionality, select **Disable ASUP**.

6. Click **Next**.

   The Pre-Installation Summary dialog box appears.

7. Review the Information.

   NOTE: If you do not accept the summary information, click **Previous** to return to the Choose Install Folder dialog box.

8. Click **Install**.

- The Installing NetApp SANtricity Web Services Proxy message appears and shows the installation progress bar.

- The Installing NetApp SANtricity Web Services Proxy message disappears, and the Please Wait message appears.

- When the NetApp SANtricity Web Services Proxy configuration is complete, the Webserver Started message appears superimposed on the Please Wait message.
- For more information about the web_services_proxy webserver go to Stopping and Restarting the Web Services Proxy Webserver.

9. On the Webserver Started message, click **OK** to complete the installation.

    When the installation is complete, the Install Complete message appears.

10. Click **Done**.

- The NetApp SANtricity Web Services Proxy installs successfully.
- The Install closes.

Installing Web Services Proxy in the Console Mode

The default location for the console installation is `/opt/netapp/santricity_web_services_proxy`.

1. Run the following command, where `nn.nnnn.nnnn` is the version number of the application:

    `./webservice-01.nn.nnnn.nnnn.bin -i console`

- The installation process starts. The Launching Installer – Introduction message appears.

```
[root@localhost Downloads]# ./webservice-01.00.7020.0011.bin -i console
Preparing to install...
Extracting the JRE from the installer archive...
Unpacking the JRE...
Extracting the installation resources from the installer archive...
Configuring the installer for this system's environment...

Launching installer...

===============================================================================
NetApp SANtricity Web Services Proxy            (created with InstallAnywhere)
-------------------------------------------------------------------------------

Preparing CONSOLE Mode Installation...




===============================================================================
Introduction
------------

InstallAnywhere will guide you through the installation of NetApp SANtricity
Web Services Proxy.

It is strongly recommended that you quit all programs before continuing with
this installation.

Respond to each prompt to proceed to the next step in the installation.  If you
want to change something on a previous step, type 'back'.

You may cancel this installation at any time by typing 'quit'.

PRESS <ENTER> TO CONTINUE:
```

- To cancel the installation at any time during the installation process, type Quit at the command prompt.

2. Press **Enter**.

   The License Agreement appears.

```
===============================================================================
License Agreement
-----------------

Installation and Use of NetApp SANtricity Web Services Proxy Requires
Acceptance of the Following License Agreement:

END USER LICENSE AGREEMENT

This end user license agreement ("Agreement") is a contractual agreement
between you ("You" or "Your") and NetApp ("NetApp"), and provides the terms
under which NetApp licenses its i) software, including where relevant, backup
and recovery, disaster recovery, storage efficiency and management software,
operating systems, protocols, updates and upgrades ("Software"), and ii)
technical documentation describing the Software ("Documentation") to You,
whether supplied by NetApp, Your NetApp distributor, reseller or partner. Any
support is provided under a separate agreement.

1. Acceptance. By downloading, installing, copying, accessing or using the
Software and Documentation, or by clicking the "I ACCEPT" button below, You
agree that this Agreement will exclusively govern NetApp's license and Your use
of the Software and Documentation unless You have a separate applicable written
agreement with NetApp which governs NetApp's license and Your use of the
Software and Documentation.

If You are accepting this Agreement on behalf of another person, company or
other legal entity (whether as an employee, contractor, distributor, reseller,
partner, agent or otherwise), You represent and warrant that You have full
authority to bind them. If You do not agree to the above, do not download,
install, copy, access, or use the Software and Documentation, or click the "I

PRESS <ENTER> TO CONTINUE:
```

   NOTE: The License Agreement displays on multiple pages.

3. After each page, press **Enter** to go to the next page.

   The last page contains the License Agreement acceptance statement.

4. Type Y to accept the License Agreement.

```
Version: 5 February 2013



DO YOU ACCEPT THE TERMS OF THIS LICENSE AGREEMENT? (Y/N): y
```

If you do not accept the License Agreement, a warning message appears. If you again do not accept the License Agreement, the installation process terminates and returns you to the installation location.

5. Press **Enter**.

- The Choose Install Folder option appears.
- To change the installation location, type the absolute path to the new location after the colon.

```
=============================================================================
Choose Install Folder
---------------------

Please choose a destination folder for this installation.

Where would you like to install?

  Default Install Folder: /opt/netapp/santricity_web_services_proxy

ENTER AN ABSOLUTE PATH, OR PRESS <ENTER> TO ACCEPT THE DEFAULT
      :
```

- The Pre-Installation Summary appears.

6. Review the Pre-Installation Summary.
7. Press **Enter** to accept the Install folder.

```
=============================================================================
Pre-Installation Summary
------------------------

Please Review the Following Before Continuing:

Product Name:
    NetApp SANtricity Web Services Proxy

Install Folder:
    /opt/netapp/santricity_web_services_proxy

Disk Space Information (for Installation Target):
    Required:   181.58 MegaBytes
    Available: 42,444.09 MegaBytes

PRESS <ENTER> TO CONTINUE: █
```

NOTE: You cannot change the installation location. To install Web Services Proxy in a different location, you must quit the installation process and start the installation again.

The Installing and Webserver Started messages appear. For more information about the web_services_proxy webserver, see Stopping and Restarting the Web Services Proxy Webserver.

```
========================================================================
Installing...
-------------

    [===============|===============|================|===============]
    [---------------|---------------|----------------|---------------]



========================================================================
Webserver Started
-----------------

The web_services_proxy webserver was sucessfully started.
You can start/stop/restart it at /etc/init.d/web_services_proxy

PRESS <ENTER> TO ACCEPT THE FOLLOWING (OK): █
```

8. Press **Enter** to complete the installation.

    The Installation Complete message appears.

```
========================================================================
Installation Complete
---------------------

Congratulations. NetApp SANtricity Web Services Proxy has been successfully
installed to:

    /opt/netapp/santricity_web_services_proxy

PRESS <ENTER> TO EXIT THE INSTALLER:
[root@localhost Downloads]# █
```

9. Press **Enter** to exit the installation and return to the installation directory.

Installing Web Services Proxy in the Silent Mode

The default location for the silent location is `/opt/netapp/santricity_web_services_proxy`.

1. Run the following command, where `nn.nnnn.nnnn` is the version number of the application:

    `./webservice-01.nn.nnnn.nnnn.bin -i silent`

2. Press **Enter**.

    *   The installation process can take several minutes to complete.
    *   The installation process runs, but no return messages or script appear in the terminal window.
    *   After Web Services Proxy is successfully installed, a command prompt appears in the terminal window. The following screenshot displays an example of the Silent Installation Mode.
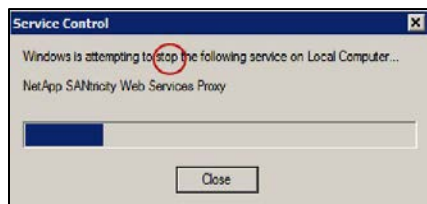
```
[root@localhost Downloads]# ./webservice-01.00.7020.0011.bin -i silent
[root@localhost Downloads]# █
```

Stopping and Restarting the NetApp SANtricity Web Services Proxy Application Server

1. In the start menu, select Administrative Tools > Services.

2. To stop the NetApp SANtricity Web Services Proxy, select Stop the Service.

3. To restart the NetApp SANtricity Web Services Proxy, select Restart the Service.
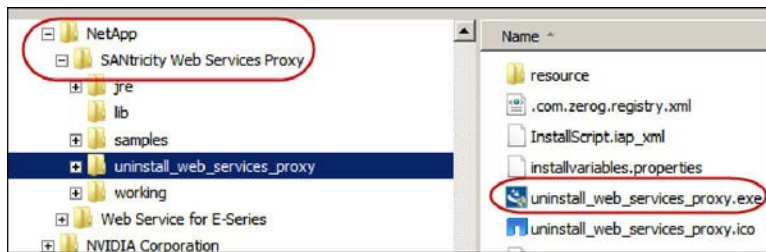
Stopping and Restarting the Web Services Proxy Webserver

1. Change to the `root` directory.
2. At the command prompt, type the appropriate command.

   - To stop the Web Services Proxy webserver type `/etc/init.d/ web_services_proxy stop` at the command prompt.
   - To start the Web Services Proxy webserver, type `/etc/init.d/ web_services_proxy start` at the command prompt.
   - To restart the Web Services Proxy webserver, type `/etc/init.d/ web_services_proxy restart` at the command prompt.

3. After Web Services Proxy has restarted, start a Web Services Proxy web session and verify that the changes have taken effect.

Uninstalling Web Services Proxy

Uninstalling Web Services Proxy from a Windows Operating System

1. Go to the directory that contains the Web Services Proxy uninstall file. The default directory is at the following location:

   `C:/Program Files/NetApp/SANtricity Web Services Proxy/uninstall_web_services_proxy`

2. In the `uninstall_web_services_proxy` folder, double-click `uninstall_web_services_proxy.exe`.

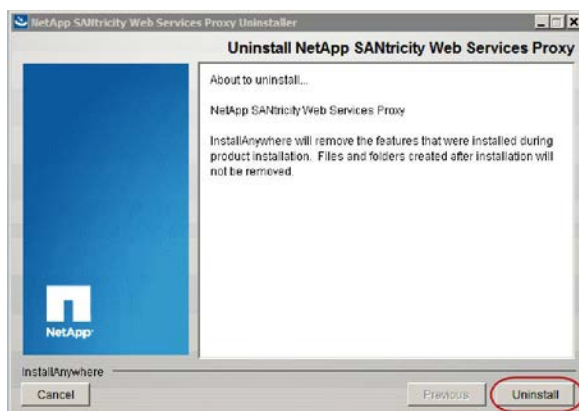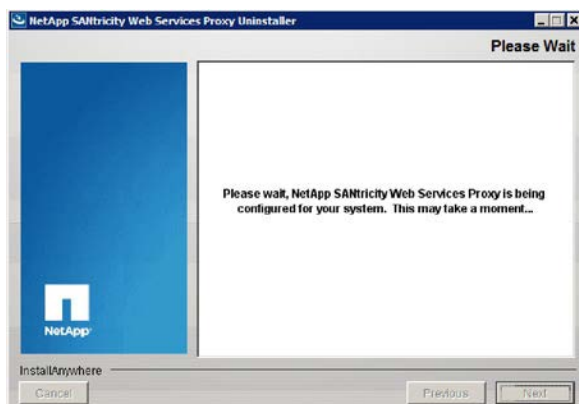The SANtricity Web Services Proxy splash screen appears.

NOTE: If the User Account Control message appears before the SANtricity Web Services Proxy splash screen appears, click **Yes**.

The Uninstall NetApp SANtricity Web Services Proxy dialog box appears.

3. Click **Uninstall**.

- The Uninstall NetApp SANtricity Web Services Proxy message disappears and the Please Wait message appears.

- The Please Wait message disappears and the Uninstall NetApp SANtricity Web Services Proxy message appears.

- The Uninstall NetApp SANtricity Web Services Proxy message disappears and the Uninstall Complete dialog box appears.

4. Select either Yes, restart my system or No, I will restart the system myself and then click **Done**.

Uninstalling Web Services Proxy from a Linux Operating System

The default uninstall mode is the same as the installation mode. However, you can specify any of the following modes to use for uninstalling Web Services Proxy.

- Graphical mode
- Console mode

NetApp SANtricity Web Services Proxy 1.4 Installation Guide

- Silent mode

To uninstall Web Services Proxy, perform the following actions:

1. Open a terminal window, and log in.
2. Go to the directory that contains the Web Services Proxy uninstall file.

   The default directory is at the following location:

   ```
   /opt/netapp/santricity_web_services_proxy/uninstall_web_services_proxy
   ```

3. Refer to the appropriate instructions for uninstalling Web Services Proxy.

   - Using the Graphical Mode to Uninstall Web Services Proxy
   - Using the Console Mode to Uninstall Web Services Proxy
   - Using the Silent Mode to Uninstall Web Services Proxy

Using the Graphical Mode to Uninstall Web Services Proxy

Regardless of the installation mode, you can use the graphical mode to uninstall Web Services Proxy. To uninstall Web Services Proxy, perform these actions:

1. Run the following command:

   ```
   uninstall_web_services_proxy -i gui
   ```

   The SANtricity Web Services Proxy splash screen appears.

   - The SANtricity Web Services Proxy splash screen closes.
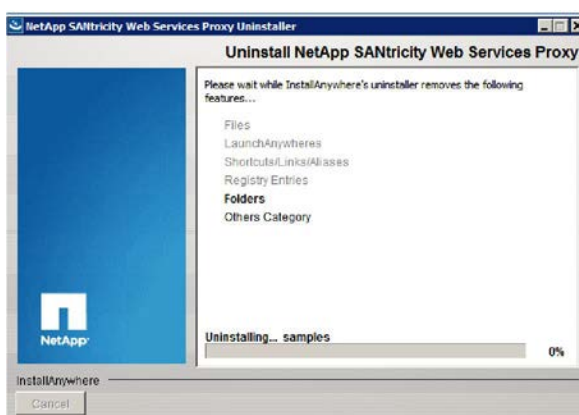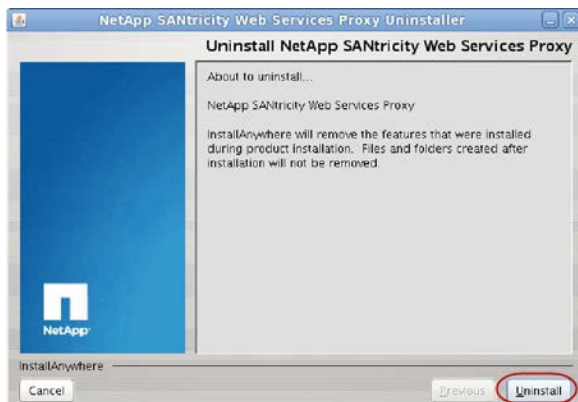   - The Uninstall NetApp SANtricity Web Services Proxy dialog box appears.

2. Click **Uninstall**.

- The Please Wait message appears and closes.
- The Uninstaller progress bar appears and shows the uninstall progress.

The Uninstall Complete – all items were successfully uninstalled message appears.

3. Click **Done**.

- Web Services Proxy is removed from the server.
- The Uninstall Complete dialog box closes.

Using the Console Mode to Uninstall Web Services Proxy

Regardless of the installation mode, you can use the console mode to uninstall Web Services Proxy. To uninstall Web Services Proxy, perform these actions:

1. Run the following command:

```
uninstall_web_services_proxy -i console
```

The uninstall process starts.

```
================================================================
NetApp SANtricity Web Services Proxy          (created with InstallAnywhere)
----------------------------------------------------------------

Preparing CONSOLE Mode Uninstallation...




================================================================
Uninstall NetApp SANtricity Web Services Proxy
-------------------------------------------------                    .

About to uninstall...

NetApp SANtricity Web Services Proxy

This will remove features installed by InstallAnywhere.  It will not remove
files and folders created after the installation.

PRESS <ENTER> TO CONTINUE: ▮
```

2. Press **Enter**.

```
*************************
*************************
...*
*
*************************
*************************
*************************
*************************
...*
*
*************************
*************************
*************************
*************************




================================================================
Uninstall Complete
------------------

All items were successfully uninstalled.
```

Using the Silent Mode to Uninstall Web Services Proxy

Regardless of the installation mode, you can use the silent mode to uninstall Web Services Proxy. To uninstall Web Services Proxy, run the following command:

`uninstall_web_services_proxy -i silent`

- The uninstall process runs, but no return messages or script appear in the terminal window.
- After Web Services Proxy is successfully uninstalled, a command prompt appears in the terminal window. The following screenshot displays an example of the Silent Installation Mode.

```
[root@localhost uninstall_web_services_proxy]# ./uninstall_web_services_proxy -i silent
[root@localhost uninstall_web_services_proxy]# ▮
```

Trademark information

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