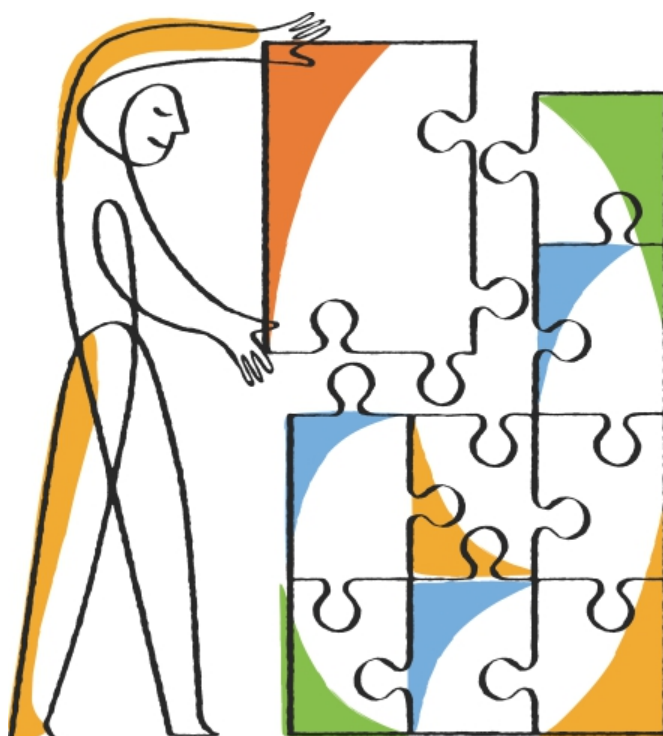




NetApp®

NetApp® SANtricity Plug-in for Oracle® EM 3.2

Plug-in Installation Guide



NetApp, Inc.
495 East Java Drive
Sunnyvale, CA 94089
U.S.

Telephone: +1 (408) 822-6000
Fax: +1 (408) 822-4501
Support telephone: +1-(888) 463-8277
Web: <http://www.netapp.com>
Feedback: doccomments@netapp.com

Part number: 215-10642_A0
Release date: October 2015

Table of Contents

About This Guide	1
Overview of the NetApp SANtricity Plug-in	1
Oracle EM version differences	1
Abbreviations, Acronyms, Terms, and Definitions	1
System Requirements for the NetApp SANtricity Plug-in	2
Web Browsers	2
Storage Arrays	2
Controller Firmware.....	2
Software	3
Operating Systems.....	3
Failover Driver Considerations.....	3
Linux Automatic Storage Management Support	4
In-Band Management.....	4
Configuring Operating System Files for the NetApp SANtricity Plug-in	4
Configuring the Red Hat Operating System.....	4
Editing the Red Hat sudoers Configuration File	4
Adding the User oracle to the Disk Group.....	5
Configuring the SUSE 11 Operating System	5
Editing the SUSE sudoers Configuration File.....	5
Adding the User oracle to the Disk Group.....	5
Installing the NetApp SANtricity Plug-in for Oracle Enterprise Manager	6
Prerequisites	6
Obtaining the NetApp SANtricity Plug-in for NetApp Storage.....	6
Copying the NetApp SANtricity Plug-in from the OPAR to the Management Server.....	6
Importing the NetApp SANtricity Plug-in to Oracle EM	7
Verifying That the NetApp SANtricity Plug-in Is Available for Deployment	7
Upgrading the NetApp SANtricity Plug-in	9
Deploying the NetApp SANtricity Plug-in	9
Deploying the NetApp SANtricity Plug-in on the Management Server	9
Monitoring the Deployment of the NetApp SANtricity Plug-in on the Management Server	12
Deploying the NetApp SANtricity Plug-in on Management Agents.....	13
Monitoring the Deployment of the NetApp SANtricity Plug-in on a Management Agent	16
Creating a Target Instance	17
Adding Targets	17
Defining Target Monitoring Properties	19
Testing the Connection between Oracle EM and the Target.....	22
Adding the Target to Oracle EM	24
Verifying That Targets Were Added to Oracle EM	26
Deploying NetApp SANtricity Storage Reports on Oracle Business Intelligence Publisher Enterprise	27
Deploying the NetApp SANtricity Storage Reports	27
Viewing the NetApp SANtricity Storage Reports	27
Viewing Reports in Oracle EM.....	27
Viewing Reports in Oracle BI Publisher Enterprise	30
Changing Report Periods.....	31
Database Performance Page	32
Storage Array Performance Page	33
Accessing the Array Performance Page	35
Viewing storage array performance data	35
Customizing the graphical chart display	36
Accessing the All Metrics page	37
AutoSupport (ASUP)	39
Enabling AutoSupport under the Monitoring Configuration page	40
Accessing the AutoSupport dialog box	41

Removing the NetApp SANtricity Plug-in from Oracle EM.....	42
Undeploying the NetApp SANtricity Plug-in	42
Undeploying the NetApp SANtricity Plug-in from the Management Agents	42
Undeploying the NetApp SANtricity Plug-in from the Management Server	49
Deleting the NetApp SANtricity Plug-in from Oracle EM	52
Deleting NetApp SANtricity Storage Reports from BI Publisher Enterprise	54
Deleting the NetApp SANtricity Storage Reports.....	54
Deleting EM Datamodels from Oracle BI Publisher Enterprise	56
Appendix A – Frequently Asked Questions.....	58
How Do I Set up Preferred Credentials for the NetApp SANtricity Plug-in?	58
What Do I Do If the Deployment Process Fails?.....	60
What Do I Do When the NetApp SANtricity Plug-in Instance Does Not Appear on the All Targets List on the All Targets Page?.....	60
Why Does the Oracle BI Publisher Enterprise Reports Page Not Show All Data?	60
What Do I Do When the Host Does Not Contact the Target Array during Instance Creation?	60
How Do I Validate That NetApp SANtricity Plug-in Scripts Are Running Correctly?	61
How Do I Troubleshoot ASM Report Issues?	62
Appendix B – AutoSupport and WebLogic 12 Server Installation	63
Installing the Java Development Kit (JDK).....	63
Creating a WebLogic Installation Directory.....	63
Accessing the WebLogic 12 Installation file.....	64
Installing the WebLogic Server	64
Configuring the WebLogic Server	69
Starting the WebLogic Server	78
Loading the ASUP.war file to the WebLogic Server	82
Configuring Users and Roles	86
Configuring Roles	86
Adding Roles	87
Adding Users	89
Adding User Conditions.....	92
Deinstalling the WebLogic Server	97

About This Guide

This installation guide describes how to install, configure, deploy, and uninstall the NetApp® SANtricity Plug-in for Oracle® Enterprise Manager 3.2 and Business Information (BI) Publisher reports. This guide describes how to access BI Publisher reports and how to provision and manage NetApp storage arrays with the NetApp SANtricity Plug-in. The NetApp SANtricity Plug-in is designed to be used primarily by database administrators and storage administrators.

Overview of the NetApp SANtricity Plug-in

Oracle Enterprise Manager (EM) is the main management application for Oracle products. The Oracle EM is a web application hosted on the Oracle application server. The NetApp SANtricity Plug-in is an Oracle Plug-in Archive (OPAR) file installed on the Oracle EM 12c management server. The NetApp SANtricity Plug-in bridges the gap between a file system and its Automatic Storage Management (ASM) volumes and the underlying NetApp SANtricity Plug-in storage. An ASM volume consists of multiple logical unit numbers (LUNs) presented to the database as a single volume.

The NetApp SANtricity Plug-in adds support for managing NetApp SANtricity storage array controllers. The NetApp SANtricity Plug-in provides detailed information about NetApp SANtricity Storage Plug-in components, such as volumes, volume groups, disk pools, snapshots, and thin volumes. Combining NetApp storage monitoring capabilities with Oracle Enterprise Manager Cloud Control 12c reduces the cost and complexity of managing applications that rely on NetApp storage and Oracle technologies.

The NetApp SANtricity Plug-in provides accurate performance charting on an individual database and volume level that includes read-write response times, inputs-outputs (IOPs) and latency information.

Oracle EM version differences

- If you are using Oracle EM release 12.1.0.4 with this release of the NetApp SANtricity Plug-in, you will see that some of the Oracle EM graphical interfaces and corresponding procedures are slightly different from the interfaces and corresponding procedures shown in this document. These changes do not affect the features or functionality of the NetApp SANtricity Plug-in.
- If you are using Oracle EM release 12.1.0.3 with this release of the NetApp SANtricity Plug-in, you will not see any changes in the Oracle EM interfaces and corresponding procedures shown in this document.

Abbreviations, Acronyms, Terms, and Definitions

The following list displays the abbreviations, acronyms, and terms used in this document and their definitions:

Abbreviations, Acronyms, Terms	Definitions
ASM	Automatic Storage Management
BI Publisher	Business Intelligence Publisher
IP	Internet Protocol
LUN	Logical Unit Number
LVM	Logical Volume Manager
*MB	See the definition below
OPAR	Oracle Plug-in Archive
Oracle EM	Oracle Enterprise Manager
OS	Operating System

Abbreviations, Acronyms, Terms	Definitions
SQL	Structured Query Language
UTM	Universal Transport Mechanism
WWN	World Wide Name

*1 MB = 1000000 bytes (= 1000 B = 106 B) is the definition recommended by the International System of Units (SI) and the International Electrotechnical Commission (IEC). This definition is used in networking contexts and most storage media, particularly hard drives, flash-based storage, and DVDs, and is also consistent with the other uses of the SI prefix in computing, such as CPU clock speeds or measures of performance. NetApp SANtricity Storage Manager varies from the SI/IEC standard with this alternate definition: "A kilobyte is equal to 1024 bytes, and a megabyte is equal to 1024 x 1024 bytes (1,048,576 bytes)"

System Requirements for the NetApp SANtricity Plug-in

This section describes the requirements that your system must meet to use the NetApp SANtricity Plug-in.

Web Browsers

The minimum supported screen resolution is 1280x1024 (SXGA). The recommended resolution is 1600x1200 (UXGA) or higher.

Storage Arrays

The NetApp SANtricity Plug-in supports the following NetApp storage arrays.

Supported NetApp Storage Arrays

E-Series Storage Arrays	EF-Series Storage Arrays
E2600	EF540
E2700	EF550
E5400	EF560
E5500	
E5600	

Controller Firmware

The NetApp SANtricity Plug-in supports the following controller firmware versions.

- 7.84
- 7.86
- 8.10
- 8.20

NOTE: The NetApp SANtricity Plug-in does not support single-controller (simplex) arrays. When you create a target instances, both controllers must be accessible.

Software

The NetApp SANtricity Plug-in is compatible with the following software.

Compatible Software

Software	Version
Oracle Enterprise Manager	- OEM 12.1.0.2 - OEM 12.1.0.3 - OEM 12.1.0.4 - OEM 12.1.0.5 NOTE: Refer to Oracle EM version differences for further information about the compatibility of OEM release 12.1.0.4 and this release of NetApp SANtricity Plug-in.
BI Publisher	- OEM versions 12.1.0.2 and 12.1.0.3 support BI Publisher version 11.1.0.6. - OEM version 10.1.0.4 supports <i>only</i> BI Publisher version 11.1.0.7.
Java	1.6 compiled version

Operating Systems

This section provides specific information about setting up the NetApp SANtricity Plug-in for different OSs.

- x86 32-bit OS versions have not been verified as compatible with the NetApp SANtricity Plug-in.
- The NetApp SANtricity Plug-in is not recommended in a virtualized environment. The host scripts rely on direct access to the storage from the OS.

You can deploy and run the NetApp SANtricity Plug-in on the following platforms and operating systems.

Compatible Operating Systems

Platform	Operating System	Architecture	Version
Oracle Linux	Oracle Linux (OL)	64(x86_64)	6.7
Redhat Linux	Redhat Enterprise Linux (RHEL)	64(x86_64)	6.4, 7.1
SuSE Linux	SuSE Linux Enterprise Server (SLES)	64(x86_64)	11 sp3
Windows Server 2008	Windows Server 2008	64(x86_64)	W2K8
Windows Server 2008 R2	Windows Server 2008 R2 NOTE: PowerShell 3.0 is required for this platform.	64(x86_64)	W2K8R2
Windows Server 2012	Windows Server 2012	64(x86_64)	W2K12
Windows Server 2012 R2	Windows Server 2012 R2 NOTE: Available only for OEM version 12.1.0.4	64(x86_64)	W2K12R2

Failover Driver Considerations

Device driver implementation is important for end-to-end OS disk-to-storage volume mapping. The following device drivers are supported:

- Linux Device Mapper Multipath (Linux DM Multipath)
- Windows Multipath I/O (Windows MPIO)

Linux Automatic Storage Management Support

Linux has several different methods for making disks available to Oracle ASM. The NetApp SANtricity Plug-in works with the following methods:

- ASMLib
- udev

In-Band Management

For in-band management, you must install the SMagent utility and the SMutils utility. These utilities are installed with the Storage Management Software.

- **SMagent** – Required for in-band management of the storage array
- **SMutils** – Collection of utilities to verify what the host sees from the storage array

Configuring Operating System Files for the NetApp SANtricity Plug-in

This section describes how you can configure the files for the Red Hat OS, the SUSE OS, and the Windows OS.

Configuring the Red Hat Operating System

This section describes how you can edit the sudoers configuration file and add the user oracle to the disk group.

Editing the Red Hat sudoers Configuration File

1. Open a terminal window, and run the following command to verify that sudo is installed:

```
rpm -q sudo
```

- When sudo is installed, the terminal window returns the following information:

```
sudo-1.8.6p3-7.el6.x86_64
#
```

- If sudo is not installed, install it from the OS vendor's CD.

2. Run visudo to edit the sudoers configuration file to add the following lines:

```
## Allow oracle user to run specific commands for the Oracle NetApp SANtricity
Plug-in
Defaults:oracle !authenticate
Defaults:oracle !requiretty
oracle ALL=NOPASSWD:/sbin/blkid,/sbin/multipath,/bin/raw,/bin/su -l oracle sh -c *
```

Example

```
## Allow oracle user to run specific commands for the Oracle NetApp SANtricity
Plug-in
Defaults:oracle !authenticate
Defaults:oracle !requiretty
oracle ALL=NOPASSWD:/sbin/blkid,/sbin/multipath,/bin/raw,/bin/su -l oracle sh -c *
```

Adding the User oracle to the Disk Group

From the Linux shell, type the following information:

```
# id oracle
uid=500(oracle) gid=500(dba) groups=500(dba)
# usermod -G disk oracle
# id oracle
uid=500(oracle) gid=500(dba) groups=500(dba),6(disk)
[root@bvr-challenger ~]#
```

Configuring the SUSE 11 Operating System

This section describes how you can edit the sudoers configuration file and add the user oracle to the disk group.

Editing the SUSE sudoers Configuration File

1. Open a terminal window, and run the following command to verify that sudo is installed:

```
rpm -q sudo
```

- When sudo is installed, the terminal window returns the following information:

```
sudo-1.8.6p3-7.el6.x86_64
#
```

- If sudo is not installed, install it from the OS vendor's CD.

2. Run visudo to edit the sudoers configuration file to add the following lines:

```
## Allow oracle user to run specific commands for the Oracle NetApp SANtricity
Plug-in Defaults:oracle !authenticate
Defaults:oracle !requiretty
oracle ALL=NOPASSWD:/sbin/blkid,/sbin/multipath,/bin/raw,/bin/su -l oracle sh -c *
```

Example

```
## Allow oracle user to run specific commands for the Oracle NetApp SANtricity
Plug-in
Defaults:oracle !authenticate
Defaults:oracle !requiretty
oracle ALL=NOPASSWD:/sbin/blkid,/sbin/multipath,/bin/raw,/bin/su -l oracle sh -c *
```

Adding the User oracle to the Disk Group

From the Linux shell, type the following information:

```
# id oracle
uid=500(oracle) gid=500(dba) groups=500(dba)
# usermod -G disk oracle
# id oracle
uid=500(oracle) gid=500(dba) groups=500(dba),6(disk)
[root@bvr-challenger ~]#
```

Installing the NetApp SANtricity Plug-in for Oracle Enterprise Manager

This section describes how to install the NetApp SANtricity Plug-in on Oracle EM.

Prerequisites

Before you install the NetApp SANtricity Plug-in, verify the following prerequisites have been met:

- The host user name and host password for the agent are set.
 - o To set the user name and password, select **Preferences >> Preferred Credentials >> Set Credentials** in Oracle Enterprise Manager.
 - o To change the user name or password, go to [How Do I Setup Preferred Credentials for the NetApp SANtricity Plug-In](#).
- One of the following Oracle EM versions is running:
 - o 12.1.0.2
 - o 12.1.0.3
 - o 12.1.0.4
 - o 12.1.0.5
- The Oracle EM host agent is running on the host.
- One or more Oracle agent servers with NetApp storage arrays are attached.
- Business Information Publisher is installed on the management server.
 - o Business Information Publisher version BI-11.1.0.6 is *not* included with OEM version 2.1.0.2 or OEM version 12.1.0.3. Therefore, make sure that Business Information Publisher version BI-11.1.0.6 is installed and configured on the management server.
 - o Business Information Publisher version BI-11.1.0.7 is included with OEM version 12.1.0.4. Therefore, make sure that Business Information Publisher is configured on the management server.

NOTE: You can install either the complete package or the software-only package. The minimum installation is software-only.

Obtaining the NetApp SANtricity Plug-in for NetApp Storage

This section describes how you can copy the NetApp SANtricity Plug-in from the OPAR and import it to Oracle EM.

Copying the NetApp SANtricity Plug-in from the OPAR to the Management Server

1. Open a terminal window, and log in as `oracle`.
2. Change the directory to the location where the NetApp SANtricity Plug-in is stored.

Example

```
cd /u01/oracle-software-lib
```

3. Run the following command to log in to `emcli`, and press **Enter**.

```
/<xxx>/<xxx>/<xxxx>/<xxxxxxxxxx>/oms/bin/emcli login -username=sysman -  
password=<password>
```

Example

```
/u01/app/oracle/Middleware/oms/bin/emcli login -username=sysman -password=<password>
```

If the emcli login was successful, the following message appears in the terminal window:

```
Login successful
```

Importing the NetApp SANtricity Plug-in to Oracle EM

In the terminal window, run the following command, and press **Enter**.

```
/<xxx>/<xxx>/<xxxxxx>/<xxxxxxxxxxxx>oms/bin/emcli import_update -omslocal -  
file=/u01/oracle-software-lib/SANtricity-plug-  
in/<nn.n.n.nn.n>_netapp.estorage.sys_2000_0.opar
```

Example

```
/u01/app/oracle/Middleware/oms/bin/emcli import_update -omslocal -file=/u01/oracle-  
software-lib/SANtricity-plug-in/12.1.0.9.1_netapp.estorage.sys_2000_0.opar
```

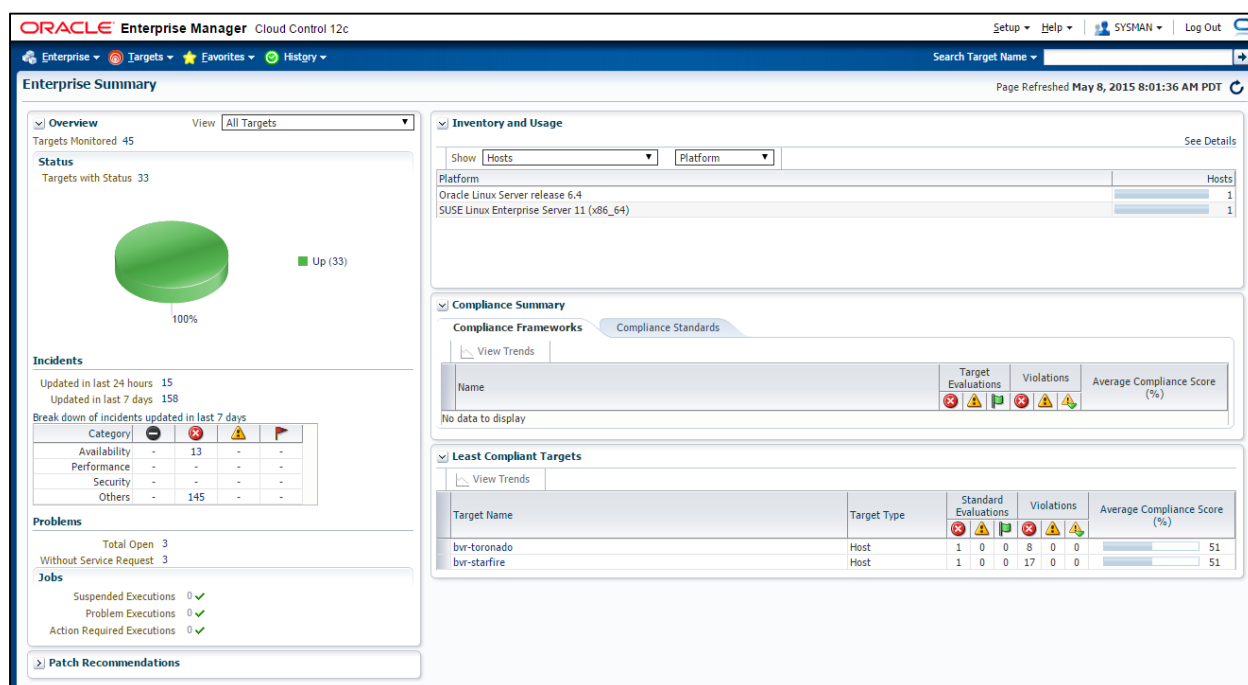
If the NetApp SANtricity Plug-in was successfully uploaded, the following message appears in the terminal window:

```
Successfully uploaded the update to Enterprise Manager. Use the Self Update Console to  
manage this update.
```

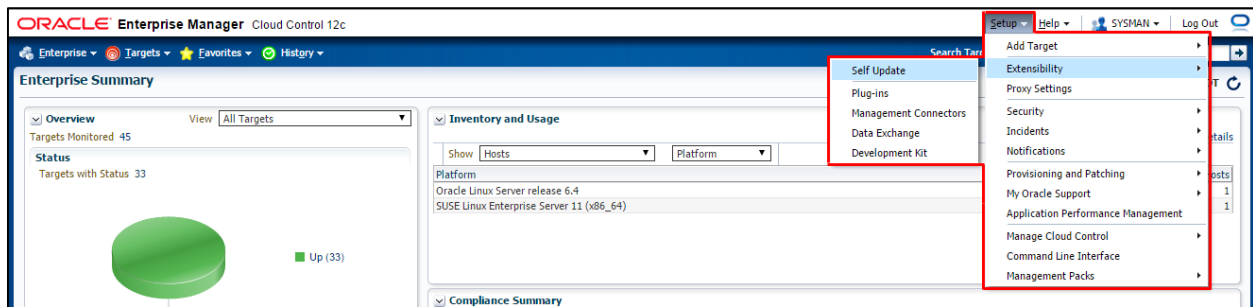
Verifying That the NetApp SANtricity Plug-in Is Available for Deployment

1. In a web browser, open Oracle Enterprise Manager Cloud Control 12c.
2. Log in to Oracle EM.

The Enterprise Summary dashboard is displayed.



3. In the upper-right corner of the Enterprise Summary dashboard, select **Setup >> Extensibility >> Self Update**.



The Self Update page opens.

The Status table on the Self Update page shows the plug-ins currently available, downloaded and applied.

Type	Available Updates	Downloaded Updates	Applied Updates	Description
Agent Software	29	0	1	Agent software has to be installed on hosts for managing the host.
BI Publisher Reports	0	0	0	BI Publisher Reports can be run again Enterprise Manager data in a variety of output formats. These reports can also be scheduled and sent via e-mail.
Compliance Content	0	0	0	Compliance Content contains Frameworks, Standard, Rules with support of add and delete on these entities.
Diagnostic Checks	0	0	0	Target side policy checks that identify conditions that may require the attention of target administrators.
EM Deployment Prerequisite Resources	0	0	0	EM Deployment Prerequisite Checks are the installable used for checking prerequisites for install, upgrade, patching of EM Platform and Plug-ins.
Extensibility Development Kit	1	0	1	Extensibility Development Kit (EDK) is a standalone tool designed to help development of Enterprise Manager extensions (for example: Plug-ins)
Management Connector	19	0	1	Management Connectors are components that integrate different enterprise frameworks into the Enterprise Manager Console.
Middleware Profiles and Gold Images	1	0	0	A collection of Software Components used for provisioning of Oracle Application Server homes.
Monitoring Templates	0	0	0	Monitoring Templates can be used to standardize monitoring across your enterprise by applying a subset of monitoring settings to targets.
Oracle Database Provisioning Profiles and	0	0	0	A collection of Software Components used for provisioning of Oracle Database, Clusterware and Grid Infrastructure homes.
Plug-in	46	20	8	Plug-in extends Enterprise Manager to manage newer target type as well as to bring vertical functionality.
Provisioning Bundle	0	0	0	Provisioning bundle is a collection of deployment procedures, software library entities, and other related artifacts that cater to the provisioning and patching of various Oracle and non-Oracle Products.
Test Data Management templates	7	0	0	Templates for Data Masking, Application data modeling and Subsetting.

4. In the Type column, click the **Plug-in** link.

Type	Available Updates	Downloaded Updates	Applied Updates	Description
Agent Software	29	0	1	Agent software has to be installed on hosts for managing the host.
BI Publisher Reports	0	0	0	BI Publisher Reports can be run again Enterprise Manager data in a variety of output formats. These reports can also be scheduled and sent via e-mail.
Compliance Content	0	0	0	Compliance Content contains Frameworks, Standard, Rules with support of add and delete on these entities.
Diagnostic Checks	0	0	0	Target side policy checks that identify conditions that may require the attention of target administrators.
EM Deployment Prerequisite Resources	0	0	0	EM Deployment Prerequisite Checks are the installable used for checking prerequisites for install, upgrade, patching of EM Platform and Plug-ins.
Extensibility Development Kit	1	0	1	Extensibility Development Kit (EDK) is a standalone tool designed to help development of Enterprise Manager extensions (for example: Plug-ins)
Management Connector	19	0	1	Management Connectors are components that integrate different enterprise frameworks into the Enterprise Manager Console.
Middleware Profiles and Gold Images	1	0	0	A collection of Software Components used for provisioning of Oracle Application Server homes.
Monitoring Templates	0	0	0	Monitoring Templates can be used to standardize monitoring across your enterprise by applying a subset of monitoring settings to targets.
Oracle Database Provisioning Profiles and	0	0	0	A collection of Software Components used for provisioning of Oracle Database, Clusterware and Grid Infrastructure homes.
Plug-in	46	20	8	Plug-in extends Enterprise Manager to manage newer target type as well as to bring vertical functionality.
Provisioning Bundle	0	0	0	Provisioning bundle is a collection of deployment procedures, software library entities, and other related artifacts that cater to the provisioning and patching of various Oracle and non-Oracle Products.
Test Data Management templates	7	0	0	Templates for Data Masking, Application data modeling and Subsetting.

5. The Plug-in Updates table within the Self Update page is displayed.

Status	Plug-in Name	Re-Use Vendor	Size(MB)	Description
Applied	OS Platform	0 1. ORACLE	0.478	Client System Analyzer
Downloaded	Generic Platform	0 1. ORACLE	5.133	Enterprise Manager for Big Data Appliance provides comprehensive management for Oracle Big Data Appliance and related target...
Applied	Generic Platform	0 1. ORACLE	134.627	Oracle Beacon plugin is required on the Managed Hosts to support beacon test monitoring capability
Available	Generic Platform	0 1. ORACLE	0.919	Enterprise Manager for Oracle Axiom
Downloaded	Generic Platform	0 1. ORACLE	2.244	Enterprise Manager for Oracle Audit Vault and Database Firewall (AVDF) provides monitoring and management of AVDF system.
Available	Generic Platform	0 1. ORACLE	3.704	Oracle Audit Vault Plugin provides monitoring and management of Oracle Audit Vault Server and its components.
Downloaded	Generic Platform	0 1. ORACLE	11.741	Enterprise Manager for Oracle Audit Vault provides monitoring and management of Oracle Audit Vault Server and its components.
Applied	Generic Platform	0 1. NETAPP	9.999	NetApp Storage System Plug-in
Applied	Generic Platform	0 1. NETAPP	2.750	NetApp SANtricity Storage Plug-in
Available	Generic Platform	0 1. ORACLE	24.284	Enterprise Manager for MySQL Database
Downloaded	Generic Platform	0 1. ORACLE	4.991	Enterprise Manager for Microsoft SQL Server
Available	Generic Platform	0 1. ORACLE	6.546	Enterprise Manager for Microsoft SQL Server
Downloaded	Generic Platform	0 1. ORACLE	0.909	Enterprise Manager for Microsoft IIS is for monitoring of Microsoft Internet Information Services.
Downloaded	Generic Platform	0 1. ORACLE	0.482	Enterprise Manager for Microsoft Biz Talk Server is for monitoring of Microsoft BizTalk Server

- In the Plug-in Name column in the Plug-in Updates table, select **NetApp SANtricity Storage Plug-in**.
 - To sort the Plug-in names in either ascending or descending alphabetical order, select the up arrow or the down arrow in the Plug-in Name column heading.
 - The Past Activities: Plug-in list shows that the NetApp SANtricity Plug-in was successfully downloaded and is available for deployment.

Past Activities								
Actions	Status	OS Platform	Plug-in Name	Revision	Version	Administrator	Start Time	Elapsed Time(Sec)
Apply	Succeeded	Generic Platform	NetApp SANtricity Storage Plug-in	0	12.1.0.8.0	SYZMAN	Sep 26, 2014 2:39:16 PM PDT	174.94
Download	Succeeded	Generic Platform	NetApp SANtricity Storage Plug-in	0	12.1.0.8.0	SYZMAN	Sep 26, 2014 2:37:10 PM PDT	3.25
Available	Succeeded	Generic Platform	NetApp SANtricity Storage Plug-in	0	12.1.0.8.0	SYZMAN	Sep 26, 2014 2:37:10 PM PDT	2.01

- If the Self Update table does not show the Plug-in as available for deployment, perform the procedures again to upload the NetApp SANtricity Plug-in and to verify that the files and other configurations are accurate.

Upgrading the NetApp SANtricity Plug-in

You cannot upgrade the NetApp SANtricity Plug-in from previous versions to version 3.2. You must first uninstall the previous and then install version 3.2. [Removing the NetApp SANtricity Plug-in from Oracle EM](#) describes how to uninstall a previous version of the NetApp SANtricity Plug-in from Oracle EM.

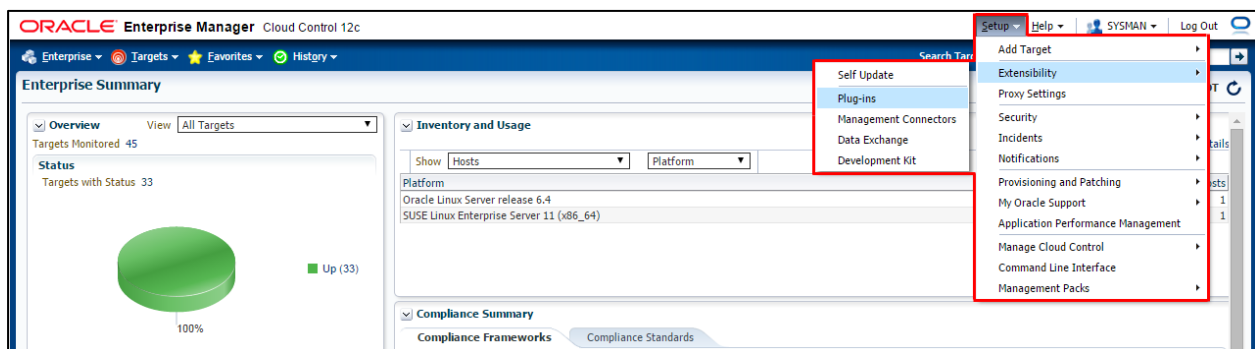
Deploying the NetApp SANtricity Plug-in

This section describes how to deploy the NetApp SANtricity Plug-in on the Oracle EM management server and the Oracle EM agent servers.

Deploying the NetApp SANtricity Plug-in on the Management Server

You must deploy the NetApp SANtricity Plug-in on the management server *before* you deploy the NetApp SANtricity Plug-in on management agents. You can deploy NetApp SANtricity storage reports on Oracle BI Publisher Enterprise any time *after* you have deployed the NetApp SANtricity Plug-in on the management server.

- In the upper-right corner of the Enterprise Summary dashboard, select **Setup >> Extensibility >> Plug-ins**.

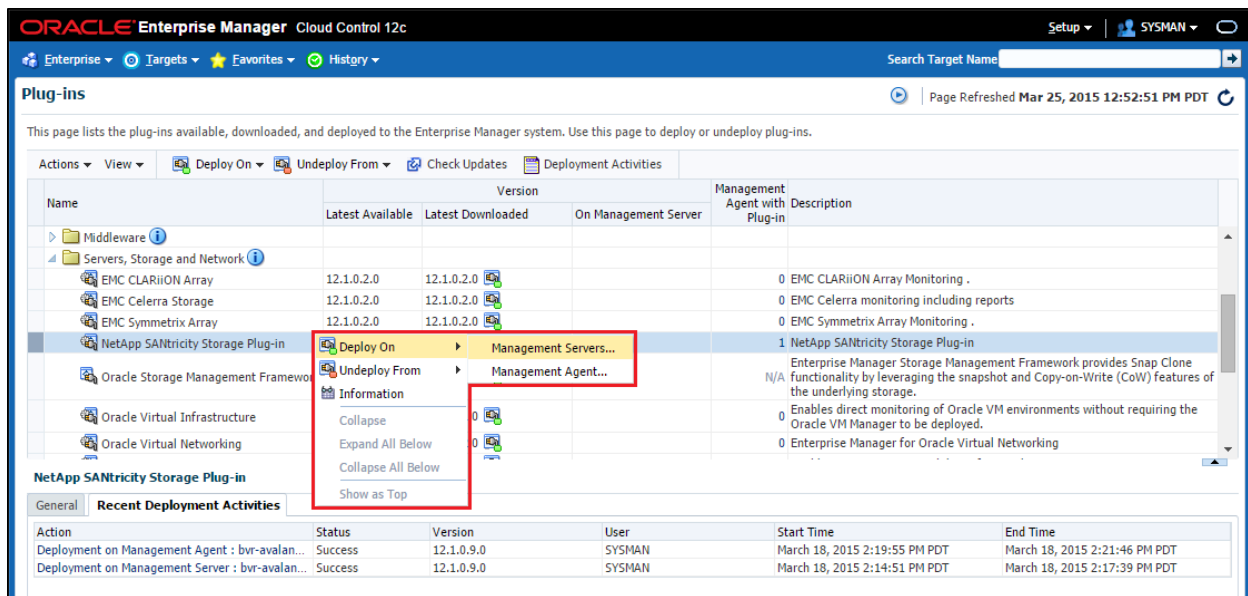


The Plug-ins page appears and shows the plug-ins that were downloaded to Oracle EM and that are available for deployment to the management server and agent servers.

- Expand the Servers, Storage and Network folder.
- Right-click **NetApp SANtricity Storage Plugin**.

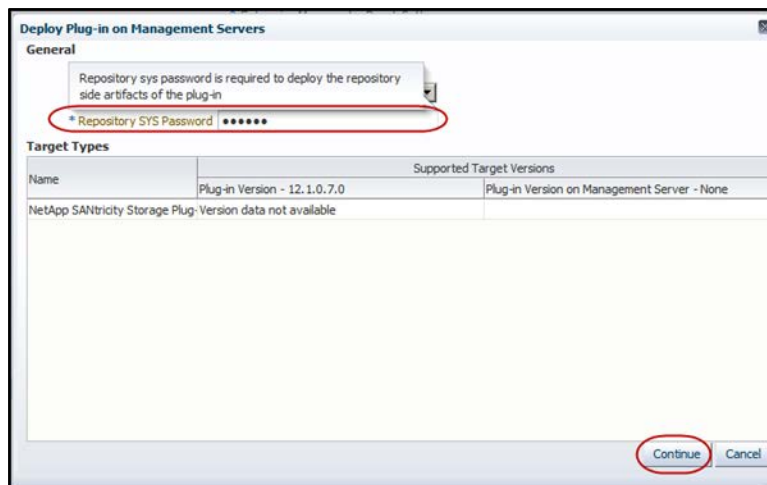
A side menu is displayed.

4. Select **Deploy On >> Management Servers**.



The Deploy Plug-in on Management Servers - General dialog box is displayed.

5. In the Repository SYS Password text box, type the repository SYS password.

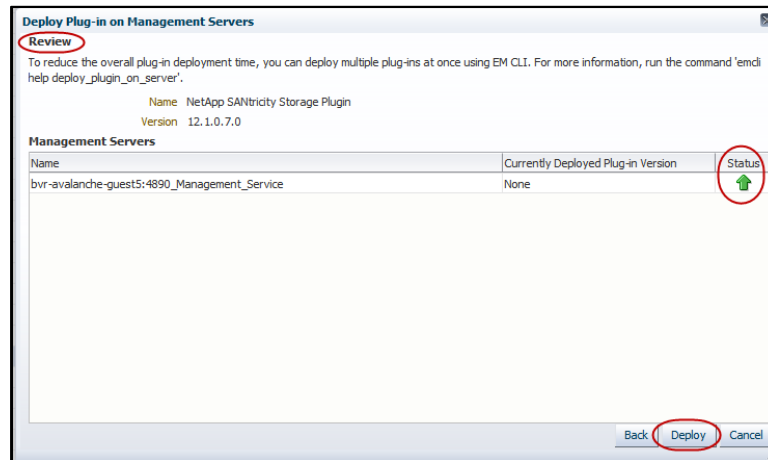


6. Click **Continue**.

The Deploy Plug-in on Management Servers >> Prerequisite Checks - Waiting for prerequisite checks to start dialog box is displayed.

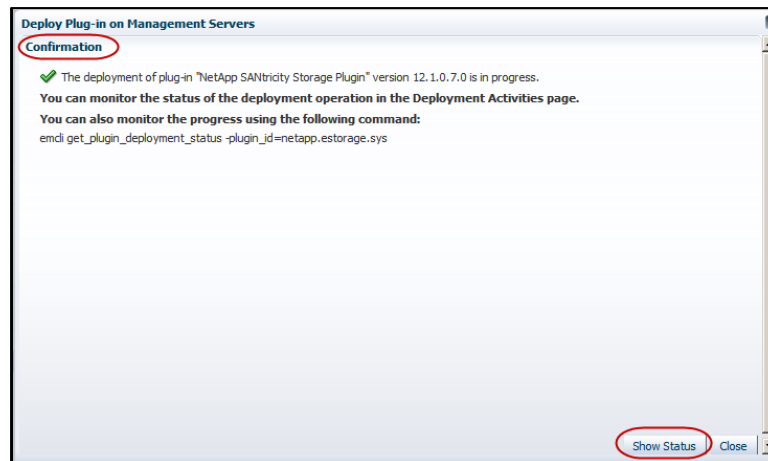
7. Click **Next**.

The Deploy Plug-in on Management Servers - Review dialog box is displayed.



8. Click **Deploy**.

The Deploy Plug-in on Management Servers - Confirmation dialog box is displayed.



Monitoring the Deployment of the NetApp SANtricity Plug-in on the Management Server

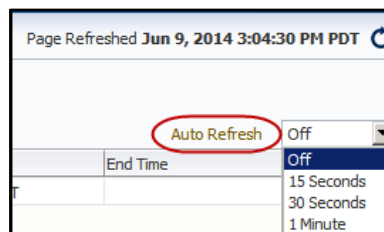
To monitor the deployment of the NetApp SANtricity Plug-in on the management agent, click **Show Status** in the Deploy Plug-in on Management Servers – Confirmation dialog box.

- The Plug-ins page is displayed.

Name	Status	Version	Content Type	Destination	Job Name	Start Time	End Time
NetApp SANtricity Storage Plug-in	Success	12.1.0.7.0	Plug-in	lbr-availability-guests-4890_Management_Service	PLUGIN_DEPLOYMENT_75_NETAPP_STORAGE.SYS	June 9, 2014 3:03:45 PM PDT	

Step	Status	Start Time	End Time	Job Step Name	Log File
Submit job for deployment	Success	June 9, 2014 3:03:45 PM PDT	June 9, 2014 3:03:45 PM PDT	DeployPlugInPrimaryCMS	emoms.log
Install software	Success	June 9, 2014 3:04:00 PM PDT	June 9, 2014 3:04:00 PM PDT	DeployPlugInPrimaryCMS	configlog_all_2014-06-09_15-03-53.log
Validate plug-in home	Success	June 9, 2014 3:04:04 PM PDT	June 9, 2014 3:04:05 PM PDT	DeployPlugInPrimaryCMS	configlog_all_2014-06-09_15-03-53.log
Perform custom preconfiguration	Success	June 9, 2014 3:04:05 PM PDT	June 9, 2014 3:04:05 PM PDT	DeployPlugInPrimaryCMS	configlog_all_2014-06-09_15-03-53.log
Check mandatory patches	Success	June 9, 2014 3:04:05 PM PDT	June 9, 2014 3:04:05 PM PDT	DeployPlugInPrimaryCMS	configlog_all_2014-06-09_15-03-53.log
Generate metadata SQL	Success	June 9, 2014 3:04:05 PM PDT	June 9, 2014 3:04:05 PM PDT	DeployPlugInPrimaryCMS	configlog_all_2014-06-09_15-03-53.log
Preconfigure Management Repository	Success	June 9, 2014 3:04:05 PM PDT	June 9, 2014 3:04:05 PM PDT	DeployPlugInPrimaryCMS	configlog_all_2014-06-09_15-03-53.log
OPSS java policy migration	Success	June 9, 2014 3:04:06 PM PDT	June 9, 2014 3:04:06 PM PDT	DeployPlugInPrimaryCMS	configlog_all_2014-06-09_15-03-53.log
Configure Management Repository	Success	June 9, 2014 3:04:06 PM PDT	June 9, 2014 3:04:06 PM PDT	DeployPlugInPrimaryCMS	configlog_all_2014-06-09_15-03-53.log

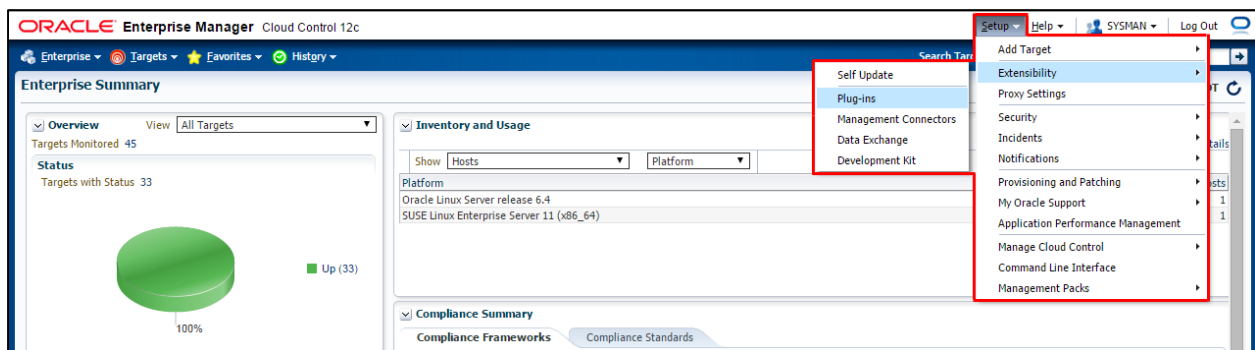
- The Job Name column in the Deployment Activities table shows the Plug-in name.
- The Status column in the Deployment Activities table shows the deployment status.
- The Deployment Steps: NetApp SANtricity Storage Plug-in table shows the deployment steps and their statuses.
 - When Auto Refresh is set to Off, the page does not show the most recent steps and statuses until you manually refresh the page. To see the updated deployment steps, click the **Refresh** icon in the upper-right corner of the page next to the Page Refreshed date.
 - To set the time increment for automatically refreshing the page, select the .time increment on the Auto Refresh drop-down list.



Deploying the NetApp SANtricity Plug-in on Management Agents

Deploy the NetApp SANtricity Plug-in on management agents only after you have deployed the NetApp SANtricity Plug-in on the management server.

1. In the upper-right corner of the Enterprise Summary dashboard, select **Setup >> Extensibility >> Plug-ins**.

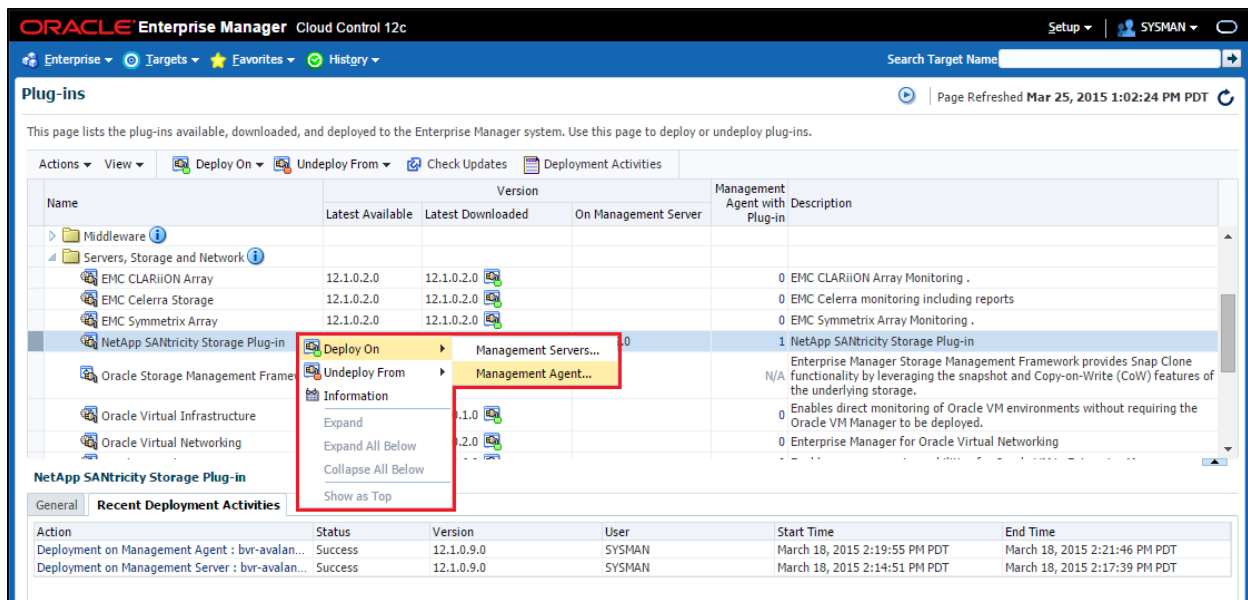


The Plug-ins page appears and shows the plug-ins that were downloaded to Oracle EM and that are available for deployment to the management server and management agents.

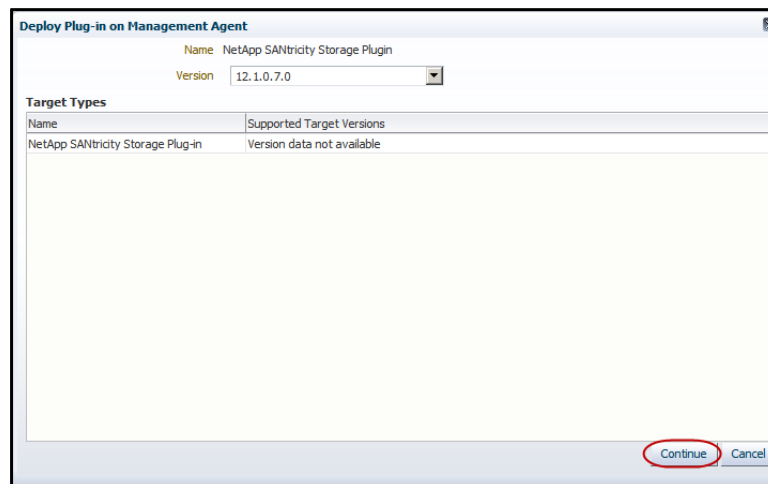
2. Expand the Servers, Storage and Network folder.
3. Locate and right-click **NetApp SANtricity Storage Plug-in**.

A side menu is displayed.

4. Select **Deploy On >> Management Agent**.



The Deploy Plug-in on Management Agent dialog box is displayed.

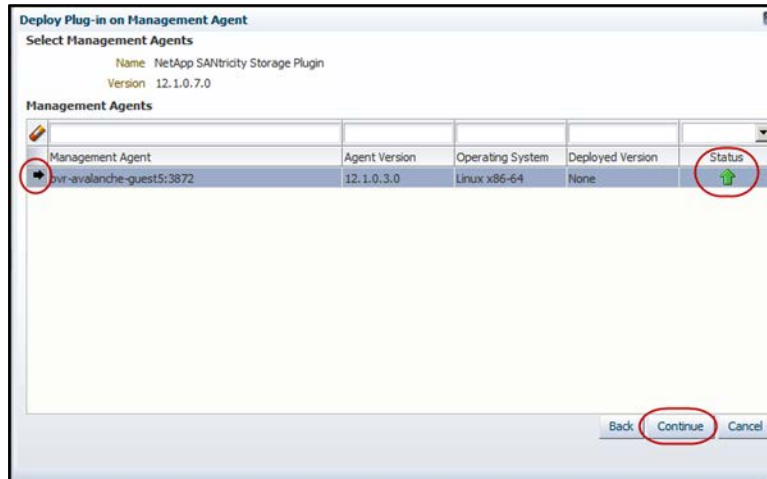


5. Click **Continue**.

The Deploy Plug-in on Management Agent – Select Management Agent dialog box is displayed.

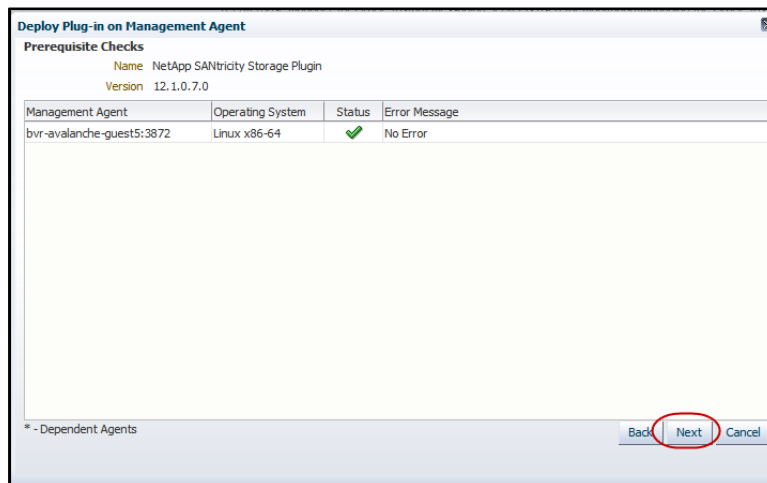
6. Select the management agent on which to deploy the NetApp SANtricity Plug-in.

Make sure that the Status column shows the arrow as green and is pointed up.



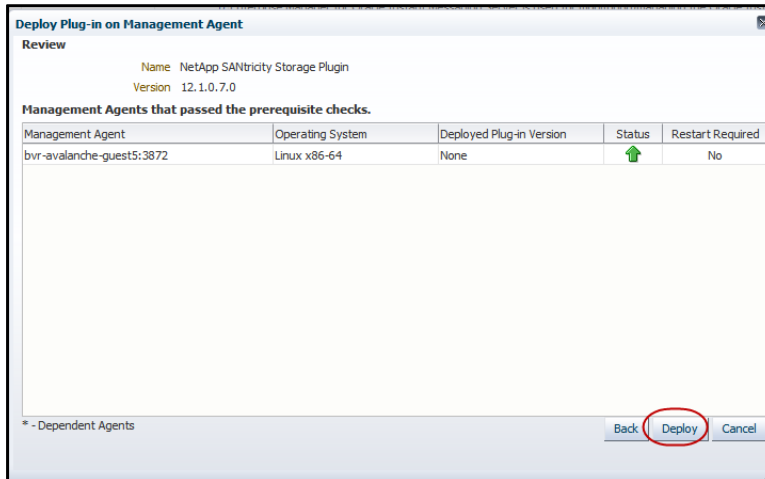
7. Click **Continue**.

The Deploy Plug-in on Management Agent – Prerequisite Checks dialog box is displayed.



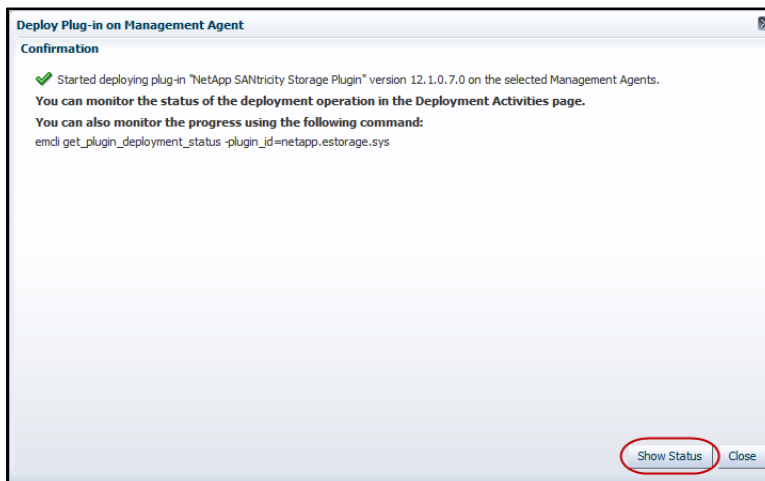
8. Click **Next**.

The Deploy Plug-in on Management Agent – Review dialog box appears and shows the management agents that passed the prerequisite checks.



- Click **Deploy**.

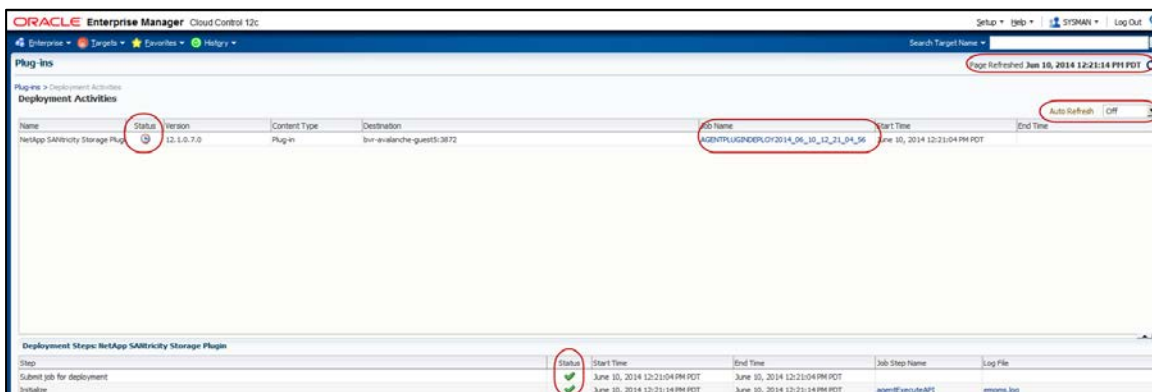
The Deploy Plug-in on Management Agent – Confirmation dialog box is displayed.



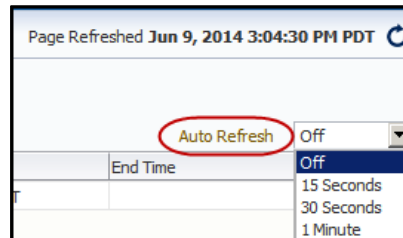
Monitoring the Deployment of the NetApp SANtricity Plug-in on a Management Agent

To monitor the deployment of the NetApp SANtricity Plug-in on a management agent, click **Show Status** in the Deploy Plug-in on Management Agent – Confirmation dialog box.

- The Plug-ins page is displayed.



- The Job Name column in the Deployment Activities table shows the Plug-in name.
- The Status column in the Deployment Activities table shows the deployment status.
- The Deployment Steps: NetApp SANtricity Storage Plugin table shows the deployment steps and their statuses.
 - o When Auto Refresh is set to Off, the page does not show the most recent steps and statuses until you manually refresh the page. To see the updated deployment steps, click the **Refresh** icon in the upper-right corner of the page next to the Page Refreshed date.
 - o To set the time increment for automatically refreshing the page, select the .time increment on the Auto Refresh drop-down list.



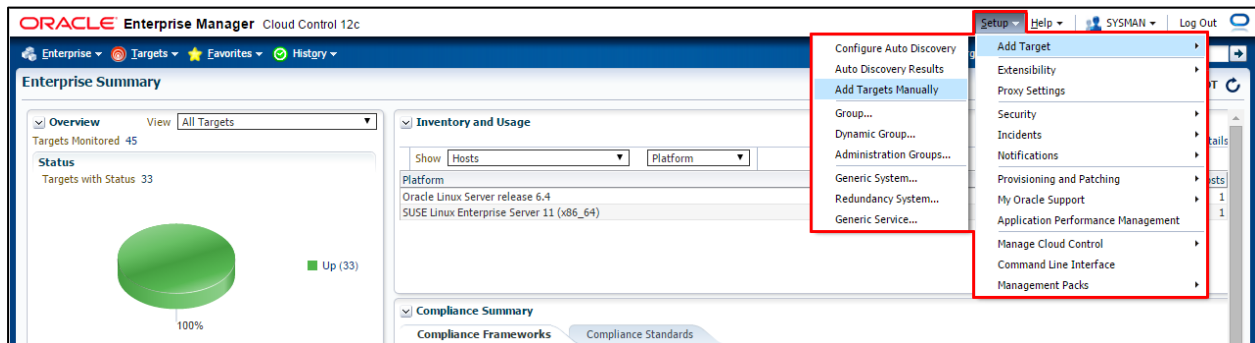
Creating a Target Instance

After you have deployed the Plug-in on both the management server and a management agent, create a target instance. You can add five storage arrays simultaneously when you create a target instance. Target instances can be defined to group arrays by workload, physical locations, or the specific applications that are supported.

Adding Targets

You must add targets manually when you create a target instance.

1. In the upper-right corner of the Enterprise Summary dashboard, select **Setup >> Add Target >> Add Targets Manually**.



The Add Targets Manually page is displayed.

2. Select **Add Non-Host Targets by Specifying Target Monitoring Properties**.

The Target Type drop-down list and the Monitoring Agent text box appear on the Add Targets Manually page.

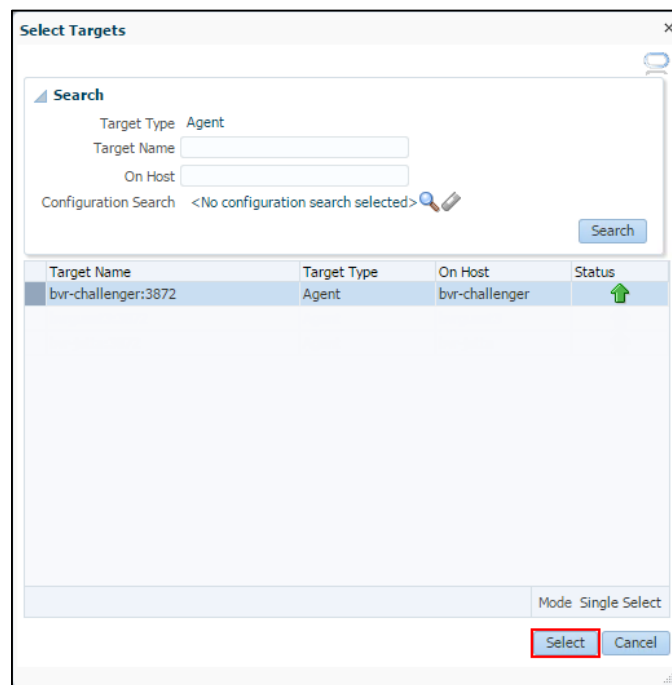
3. On the Target Type drop-down list, select **NetApp SANtricity Plug-in Storage Plug-in**.

The target types are listed alphabetically on the Target Type drop-down list.

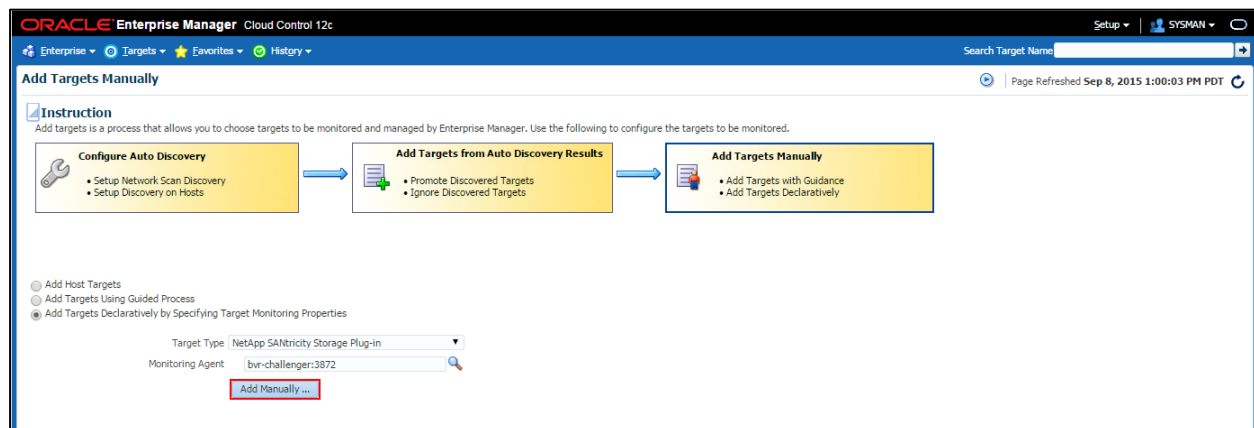
4. To find the monitoring agent, click the **Search** icon to the right of the Monitoring Agent text box.

The Select Targets dialog box is displayed.

5. Select the target name.
6. Click **Select**.



- The Select Targets dialog box disappears.
 - The Monitoring Agent field under the Add Targets Manually page displays the monitoring agent.
7. Click **Add Manually**.



The Add NetApp SANtricity Storage Plug-in dialog box is displayed.

Defining Target Monitoring Properties

You can add either one in-band host or multiple out-of-band storage arrays, but you cannot add both in-band and out-of-band storage arrays.

1. In the Target Name text box, type a name for the NetApp storage array target.
2. If needed, enter the following AutoSupport credential information for the storage array target:
 - a. Enter **True** under the Enable AutoSupport field.
 - b. Enter the WebLogic username under the WebLogic Username field.
 - c. Enter the WebLogic password under the WebLogic Password field.
 - d. Reconfirm the WebLogic password entry under the Confirm WebLogic Password field.
 - e. Enter the WebLogic port number under the WebLogic Port field.

NOTE: Configuration of the AutoSupport credentials under the Target Creation page is required to enable the AutoSupport (ASUP) feature. The ASUP feature is optional and requires a previous installation of a standalone WebLogic Server instance. Refer to the [Appendix B – AutoSupport and WebLogic Server Installation](#) for detailed on how to install AutoSupport and the WebLogic Server. For an overview on the AutoSupport feature, please refer to the [AutoSupport \(ASUP\)](#) section.

3. If necessary, change the BI Publisher port number.

NOTE: The BI Publisher is installed on the base Enterprise Manager WebLogic Server, not the WebLogic Server used to implement AutoSupport.

ORACLE Enterprise Manager Cloud Control 12c SYSMAN

Add: NetApp SANtricity Storage Plug-in

Add a target to be monitored by Enterprise Manager by specifying target monitoring properties.

Test Connection OK Cancel

Target

Target Name: NetApp_WIC_SDL

Target Type: NetApp SANtricity Storage Plug-in

Agent: https://bvr-challenger:3872/emd/main/

Optional AutoSupport Credentials

Credential type: NetApp SANtricity AutoSupport Properties

Enable Auto Support (true or false default: false): true

WebLogic user: sysman

WebLogic password: *****

Confirm WebLogic password: *****

WebLogic port: 7014

Properties

BI Publisher Port (default: 9702): 9903

In-Band Host IP Address:

In-Band Storage Array WWN / Storage Array Name:

Storage Array 1 Addresses:

Storage Array 2 Addresses:

Storage Array 3 Addresses:

Storage Array 4 Addresses:

Storage Array 5 Addresses:

Global Properties

Comment:

Contact:

Cost Center:

Department:

Lifecycle Status: ▼

Line of Business:

Location:

4. Specify the storage array addresses.

- **In-band management only** – Type the IP address of the host in the In-Band Host IP Address text box.

Normally, the NetApp SANtricity Plug-in detects and monitors all storage arrays attached to the host system. You can type either the name or the WWN of the storage array to provide an additional filter so that the NetApp SANtricity Plug-in monitors only the storage arrays with this host's matching name or WWN and disregards all other storage arrays.

ORACLE Enterprise Manager Cloud Control 12c SYSMAN

Add: NetApp SANtricity Storage Plug-in

Add a target to be monitored by Enterprise Manager by specifying target monitoring properties.

Test Connection OK Cancel

Target

* Target Name: NetApp_WIC_SDL
 Target Type: NetApp SANtricity Storage Plug-in
 Agent: https://bvr-challenger:3872/emd/main/

Optional AutoSupport Credentials

Credential type: NetApp SANtricity AutoSupport Properties
 Enable Auto Support (true or false default: false): true
 WebLogic user: sysman
 WebLogic password: *****
 Confirm WebLogic password: *****
 WebLogic port: 7014

Properties

BI Publisher Port (default: 9902): 9903
 In-Band Host IP Address: 100.000.000.000 (Required)
 In-Band Storage Array WWN / Storage Array Name: A0010B0000ABC0C000000F0000A000 (optional additional filter)

Storage Array 1 Addresses:
 Storage Array 2 Addresses:
 Storage Array 3 Addresses:
 Storage Array 4 Addresses:
 Storage Array 5 Addresses:

Global Properties

Comment:
 Contact:
 Cost Center:
 Department:
 Lifecycle Status:
 Line of Business:
 Location:

- **Out-of-band management** – Type the IP addresses of all the controllers belonging to a storage array as a comma-separated list. You can add up to five storage arrays.

ORACLE Enterprise Manager Cloud Control 12c SYSMAN

Add: NetApp SANtricity Storage Plug-in

Add a target to be monitored by Enterprise Manager by specifying target monitoring properties.

Test Connection OK Cancel

Target

* Target Name: NetApp_WIC_SDL
 Target Type: NetApp SANtricity Storage Plug-in
 Agent: https://bvr-challenger:3872/emd/main/

Optional AutoSupport Credentials

Credential type: NetApp SANtricity AutoSupport Properties
 Enable Auto Support (true or false default: false): true
 WebLogic user: sysman
 WebLogic password: *****
 Confirm WebLogic password: *****
 WebLogic port: 7014

Properties

BI Publisher Port (default: 9702): 9903
 In-Band Host IP Address:
 In-Band Storage Array WWN / Storage Array Name:
 Storage Array 1 Addresses: 000.000.000.000.000.000.001
 Storage Array 2 Addresses: 000.000.000.000.000.000.002
 Storage Array 3 Addresses:
 Storage Array 4 Addresses:
 Storage Array 5 Addresses:

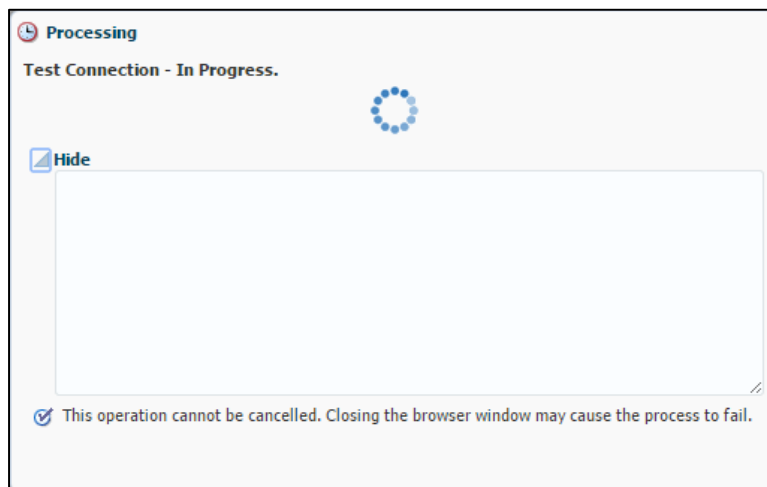
Global Properties

Comment:
 Contact:
 Cost Center:
 Department:
 Lifecycle Status:
 Line of Business:
 Location:

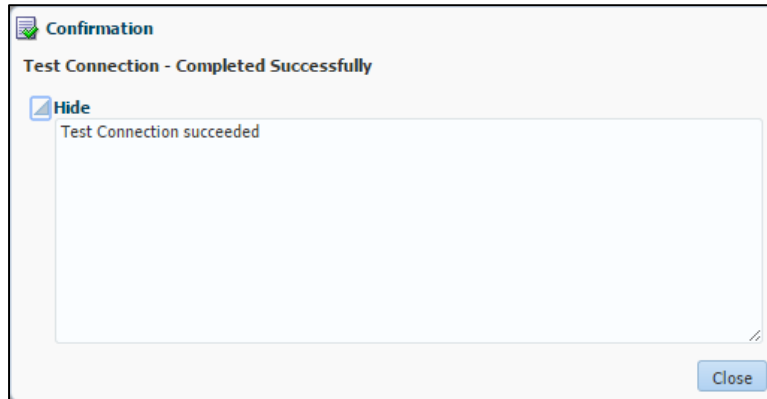
Testing the Connection between Oracle EM and the Target

To confirm the success of the Plug-in installation or to find and correct errors before continuing with the Plug-in installation, you must perform the following to test the connection:

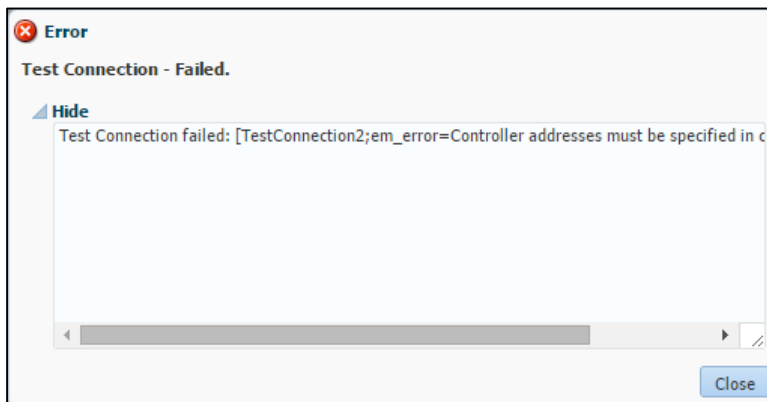
1. In the upper-right corner of the Add NetApp E-Series Storage Array page, click **Test Connection**.
 - The Processing - Test Connection – In Progress message is displayed.



- When the connection test is successful, the Confirmation - Test Connection – Completed Successfully message is displayed. The connection test can take several minutes.



- If the connection test failed, the Error - Test Connection - Failed message is displayed. The message identifies the reason that the connection failed.



2. Click **Close**.

The Add NetApp SANtricity Storage Plug-in page is displayed.

NOTE: You must test configurations to prevent incorrectly configured targets from being added to the Enterprise Manager.

Adding the Target to Oracle EM

1. In the upper-right corner of the Add NetApp SANtricity Storage Plug-in page, click **OK**.

ORACLE Enterprise Manager Cloud Control 12c SYSMAN

Add: NetApp SANtricity Storage Plug-in
Add a target to be monitored by Enterprise Manager by specifying target monitoring properties.

Test Connection **OK** Cancel

Target

* Target Name: NetApp_WIC_SDL
Target Type: NetApp SANtricity Storage Plug-in
Agent: https://bvr-challenger:3872/emd/main/

Optional AutoSupport Credentials

Credential type: NetApp SANtricity AutoSupport Properties
Enable Auto Support (true or false default: false): true
WebLogic user: sysman
WebLogic password: *****
Confirm WebLogic password: *****
WebLogic port: 7014

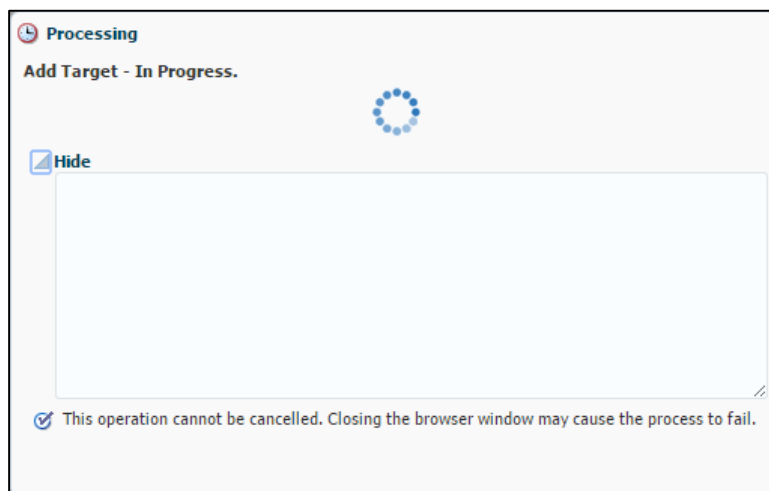
Properties

BI Publisher Port (default: 9702): 9903
In-Band Host IP Address:
In-Band Storage Array WWN / Storage Array Name:
Storage Array 1 Addresses: 000.000.000.000.000.000.001
Storage Array 2 Addresses:
Storage Array 3 Addresses:
Storage Array 4 Addresses:
Storage Array 5 Addresses:

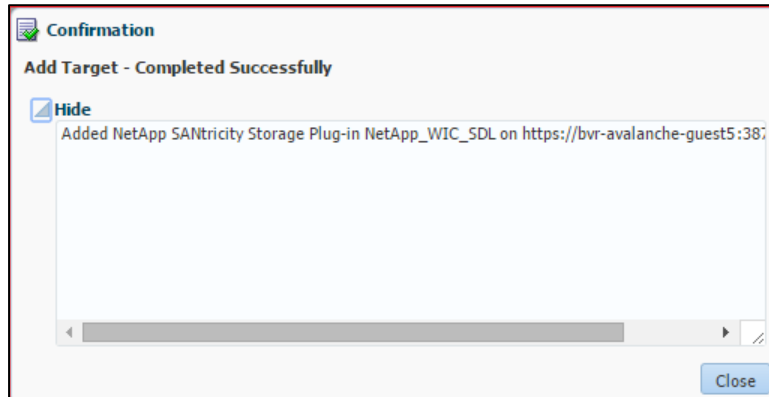
Global Properties

Comment:
Contact:
Cost Center:
Department:
Lifecycle Status:
Line of Business:
Location:

- The Processing >> Add Target – In Progress message is displayed.



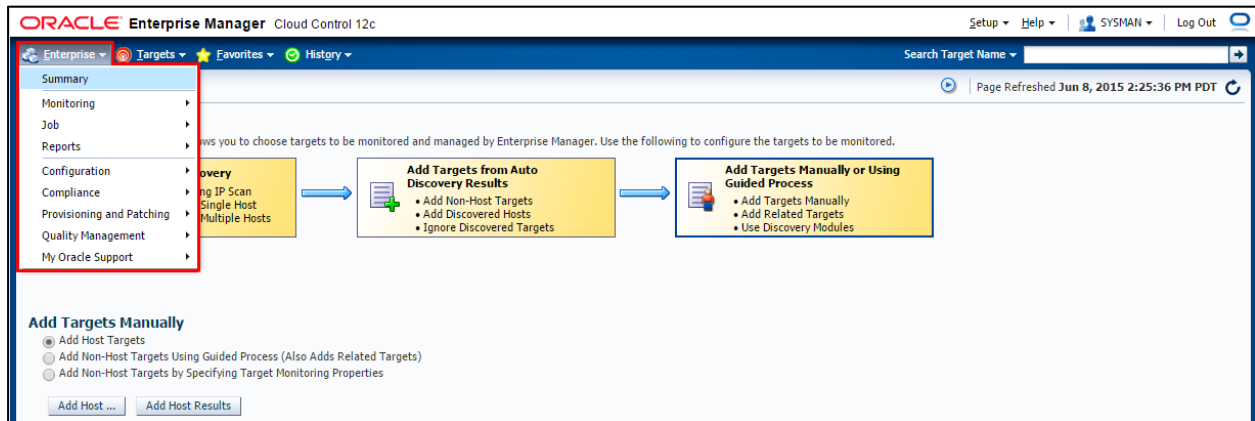
- When the target has been added to Oracle EM, the Confirmation >> Add Target – Completed Successfully message is displayed.



2. Click **Close**.

The Add Targets Manually page opens.

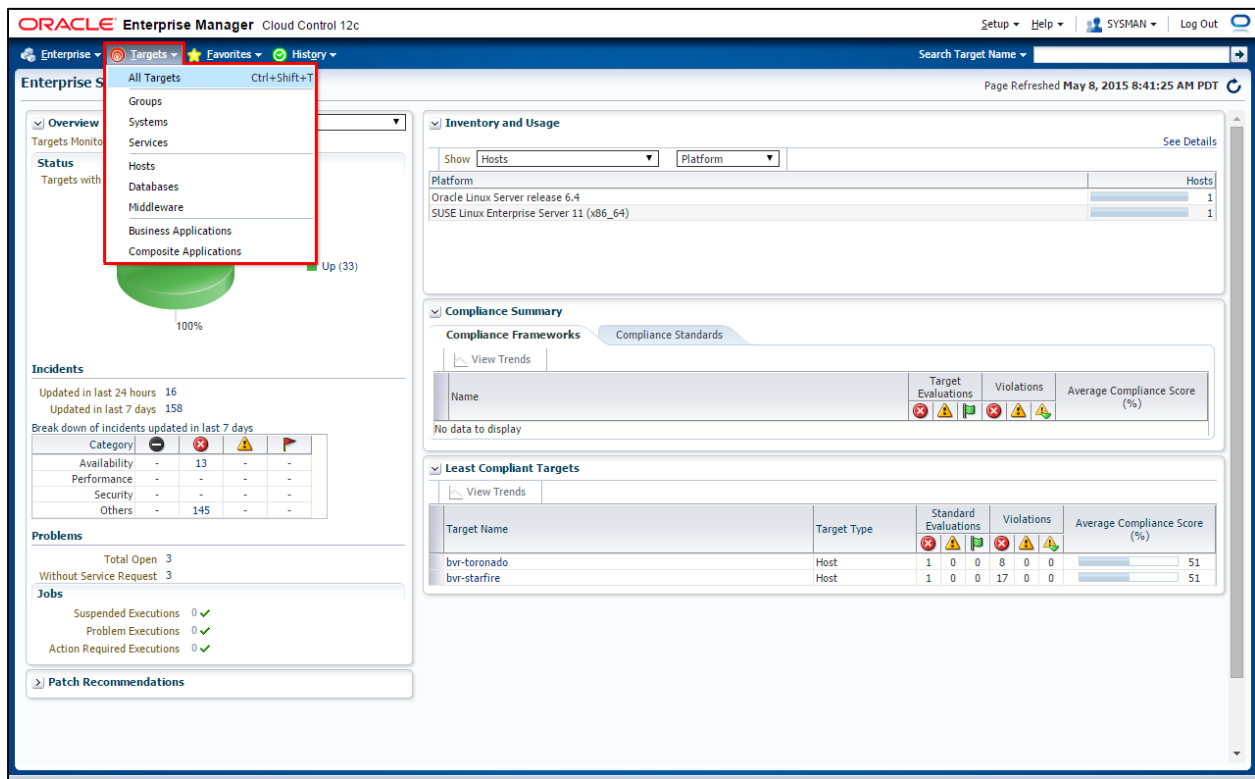
3. In the upper-left corner of the page, select **Enterprise >> Summary**.



The Enterprise Summary page displays.

Verifying That Targets Were Added to Oracle EM

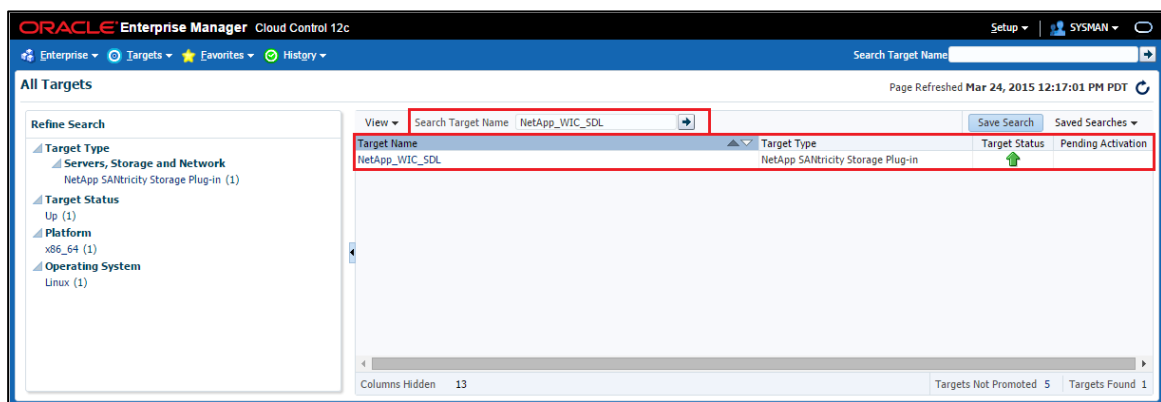
1. In the upper-left corner of the page, select **Targets >> All Targets**.



The All Targets page is displayed.

2. Find the target name.

You can either sort the Target Name column or use the Search Target Name feature to find the target name.



3. Make sure that the Target Status column displays an up green arrow.

Deploying NetApp SANtricity Storage Reports on Oracle Business Intelligence Publisher Enterprise

You can deploy NetApp SANtricity storage reports on BI Publisher Enterprise before you deploy the NetApp SANtricity Plug-in on management *agents*, but make sure that the NetApp SANtricity Plug-in is installed on the management *server* before you deploy NetApp SANtricity storage reports to Oracle BI Publisher.

NOTE: If NetApp SANtricity Plug-in is not already installed on the management server, Oracle BI Publisher cannot show any NetApp SANtricity storage reports.

Deploying the NetApp SANtricity Storage Reports

1. In a terminal window, run the following command to log in to `emcli`, and press **Enter**.

```
<nxx>/<xxx>/<xxxxx>/<xxxxxxxxxxxx>oms/bin/emcli login -username=sysman -  
password=<password>
```

Example

```
/u01/app/oracle/Middleware/oms/bin/emcli login -username=sysman -password=password
```

2. Run the following command to upload NetApp SANtricity storage reports.

```
<nxx>/<xxx>/<xxxxx>/<xxxxxxxxxxxx>oms/bin/emcli deploy_bipublisher_reports -  
pluginid="netapp.estorage.sys" -pluginversion=<nn.n.n.nn>
```

Example

```
/u01/app/oracle/Middleware/oms/bin/emcli deploy_bipublisher_reports -  
pluginid="netapp.estorage.sys" -pluginversion=12.1.0.9.0
```

- The terminal window returns the following message:

```
<n> reports have been deployed to the BI Publisher catalog
```
- Allow one or two hours for BI Publisher Enterprise to populate the report data on the Oracle BI Publisher Enterprise Reports page.

Viewing the NetApp SANtricity Storage Reports

You can view NetApp SANtricity storage reports in two ways:

- In Oracle EM
- In Oracle BI Publisher Enterprise

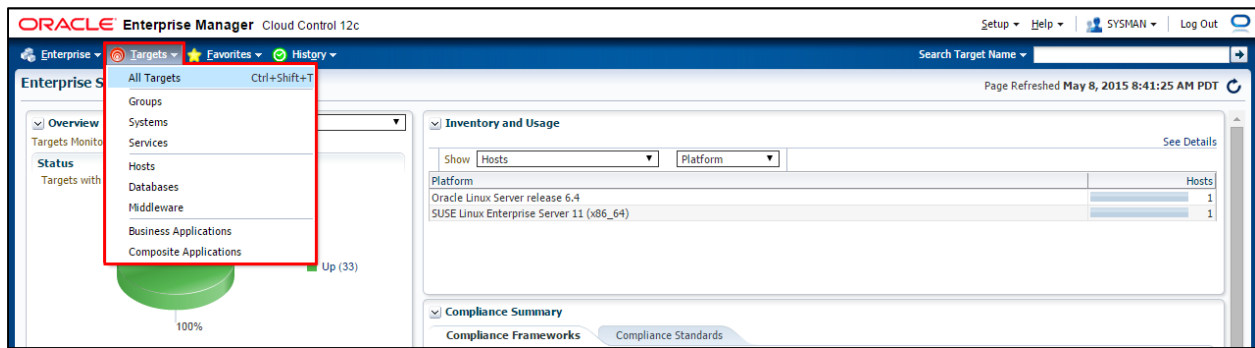
When viewing reports on the Windows Server OS, the following reports may contain no data:

- Non-ASM Database File and LUN Mapping report
- Host File System and LUN Mapping report

Viewing Reports in Oracle EM

Viewing the Report

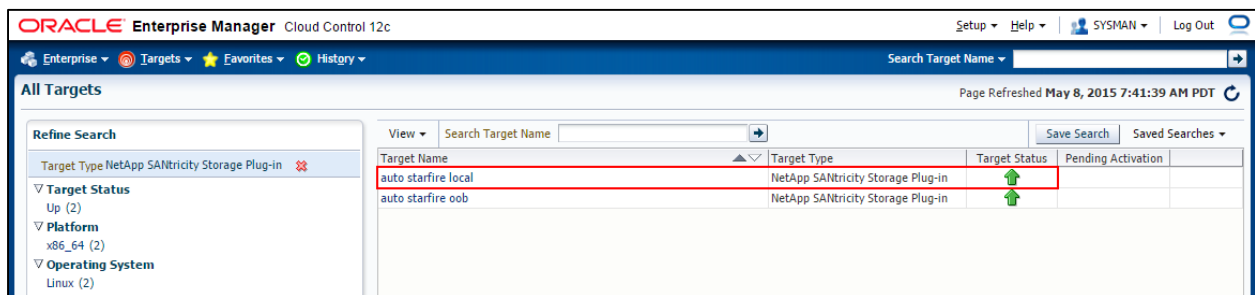
1. In Oracle EM, select **Targets >> All Targets**.



The All Targets page opens. The Target Name list shows all Oracle EM targets.

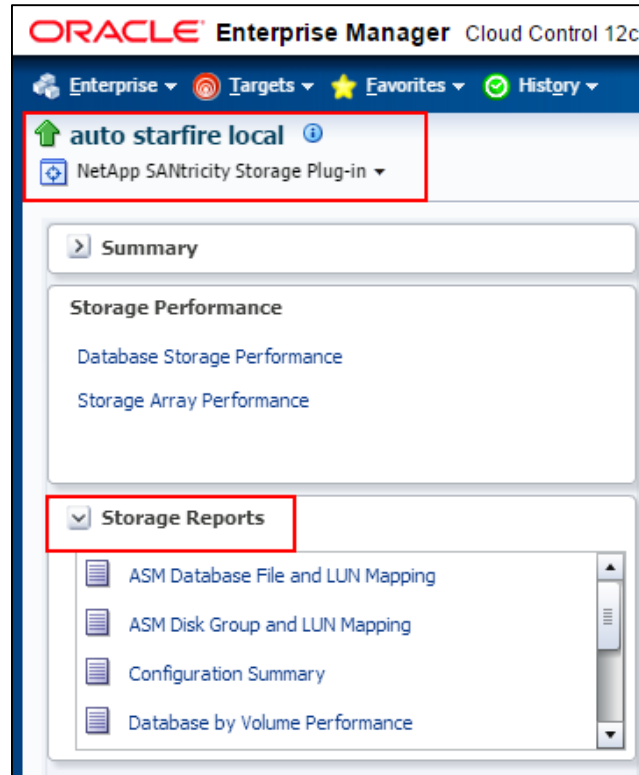


2. To filter for only NetApp storage arrays, click **NetApp SANtricity Storage Plug-in**.



3. Select the target for which to view the BI Publisher Reports.

The Oracle EM shows the Summary page for the target.

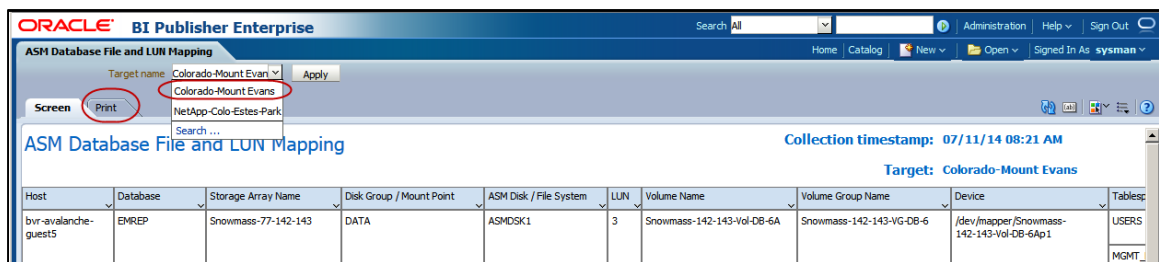


4. In the list of Storage Reports, select a report to view.

The BI Publisher Enterprise Sign In page opens.

5. Sign in to BI Publisher Enterprise.

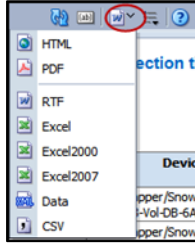
The BI Publisher Enterprise viewer appears and shows the screen view of the report.



Printing the Report

You can print the report in several formats.

1. In the upper-left corner of the report page, click **Print**.
2. In the upper-right corner of the report page, click the **print** icon.
3. On the drop-down list, select the print format.



4. Follow the normal print procedure for printing the report in the selected format.

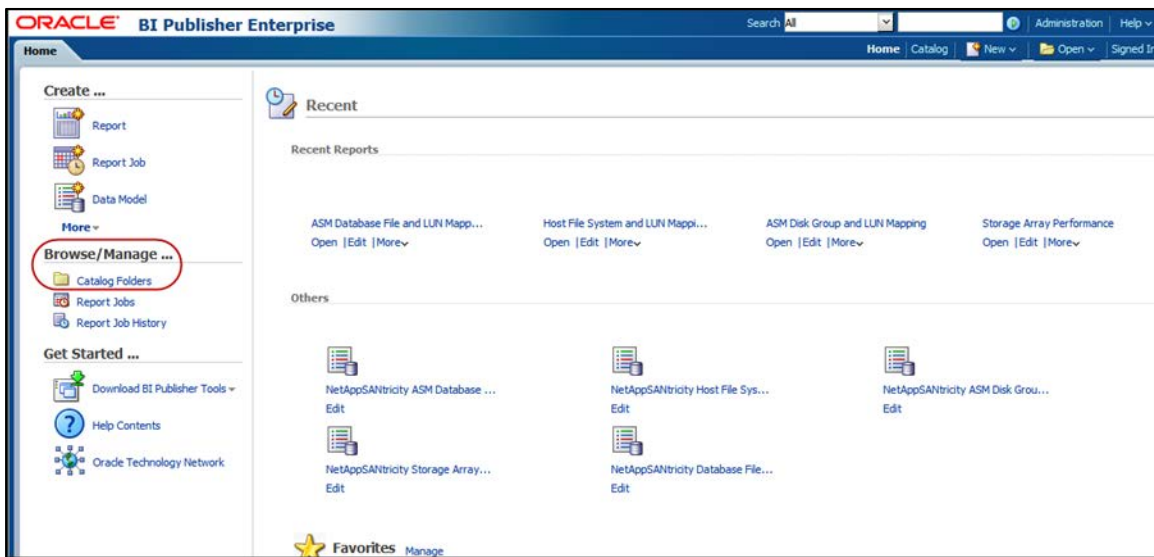
Viewing Reports in Oracle BI Publisher Enterprise

To view reports in Oracle BI Publisher Enterprise, perform the following actions:

1. In a web browser, open Oracle BI Publisher Enterprise.
2. Sign in to Oracle BI Publisher Enterprise.

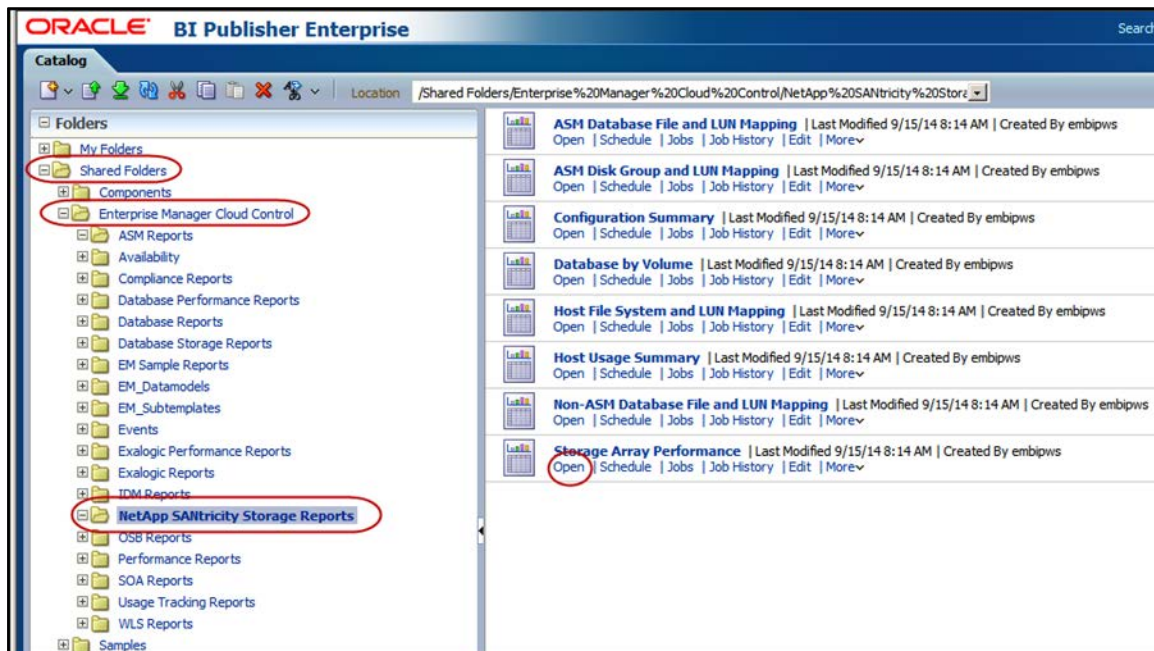
The Oracle BI Publisher Enterprise is displayed. The Home tab is active.

3. In the left pane, click **Catalog Folders**.



The Oracle BI Publisher Enterprise Catalog page is displayed.

4. Open the Shared Folders folder and the Enterprise Manager Cloud Control folder.



5. Open the NetApp SANtricity Storage Reports folder to see the list of reports.

If necessary, click the **Refresh** icon in the upper-right corner of the Catalog page to update the reports in the NetApp SANtricity Storage Reports folder.

6. To view a report, click **Open** below the report title.

Changing Report Periods

This procedure applies only when you are using Oracle EM version 12.1.0.4. When you are using Oracle EM version 12.1.0.3, you can change the date and time combination for a report in Oracle BI Publisher Enterprise only in the Select Date and Time calendar you open first. You cannot change the date and time information in the other calendar.

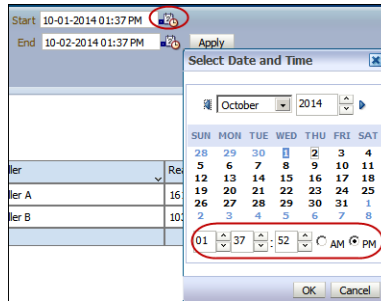
- After you open the Start calendar first and change the date and time information, you cannot change the date and time information in the End calendar.
- After you open the End calendar first and change the date and time information, you cannot change the date and time information in the Start calendar.

1. Under the report title in the Catalog, click **Open**.

The viewer opens.

2. Change the start time, the end time or both the start time and the end time.

- a. Click the **Start Select Date and Time calendar** icon.



- b. Change the date and time information.
- c. Click the **End Select Date and Time calendar** icon.
- d. Change the date and time information.

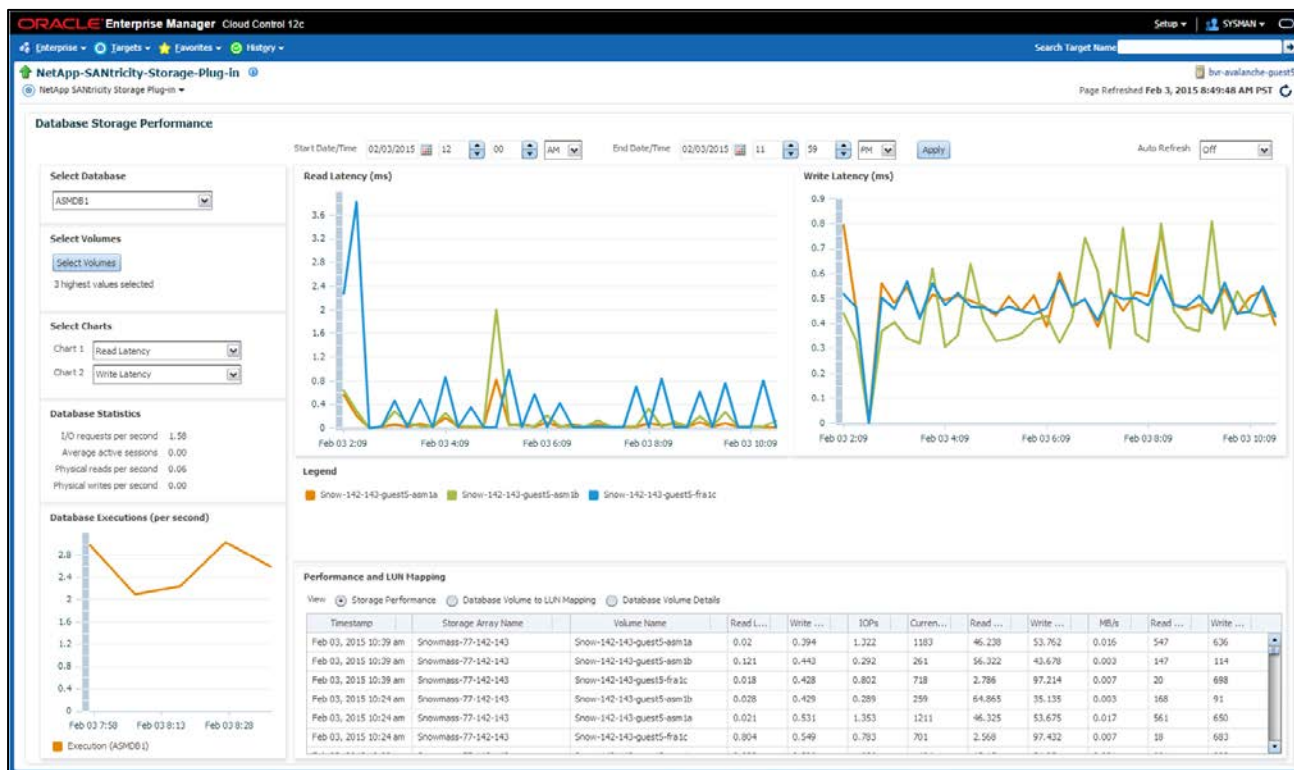
Database Performance Page

Accessible through the Storage Management and Performance panel on the Home page, the Database Performance page allows you to display an overview of database volume performance through a graphical chart interface. If the target has multiple databases, you can select the desired database through the Select Database field. After you select a database, you can select the corresponding volumes through the Select Volumes field. The Select Volumes field allows you to select and view graphs for a specific volume or by highest and lowest values. Based on the selection under the Select Volume field, the Database Performance page displays the volume performance statistics under two unique, customizable graphical charts. You can customize the displayed chart type through the Select Charts section. Containing separate Chart 1 and Chart 2 fields, the Select Charts section allows you to select the following chart types:

Chart 1 Field	
IOPs	Write Latency
Read Latency	Write Requests
Read Requests	

Chart 2 Field	
IOPs	Read/Write Throughput
Read Latency	Write Latency
Read Requests	Write Requests
Read/Write Percentage	

All graphical statistical data displays on an X/Y Axis. The Y-Axis displays the chart type selected under the Select Charts field while volume data over a specific date range displays on the X-Axis. Each graphical chart displays separate, color-coded lines for the selected volumes. You can customize the date range for the graphical charts through the Start Date/Time and End Date/Time fields. In addition to the customizable graphical charts, the Database Performance page displays a Database Statistics listing and a Database Executions (per second) chart. Performance data for the selected database volumes display under the Performance and LUN Mapping table within the Database Performance page. You can customize the displayed data under the Performance and LUN Mapping table through the Storage Performance, Database Volume to LUN Mapping and Database Volume view options.



Storage Array Performance Page

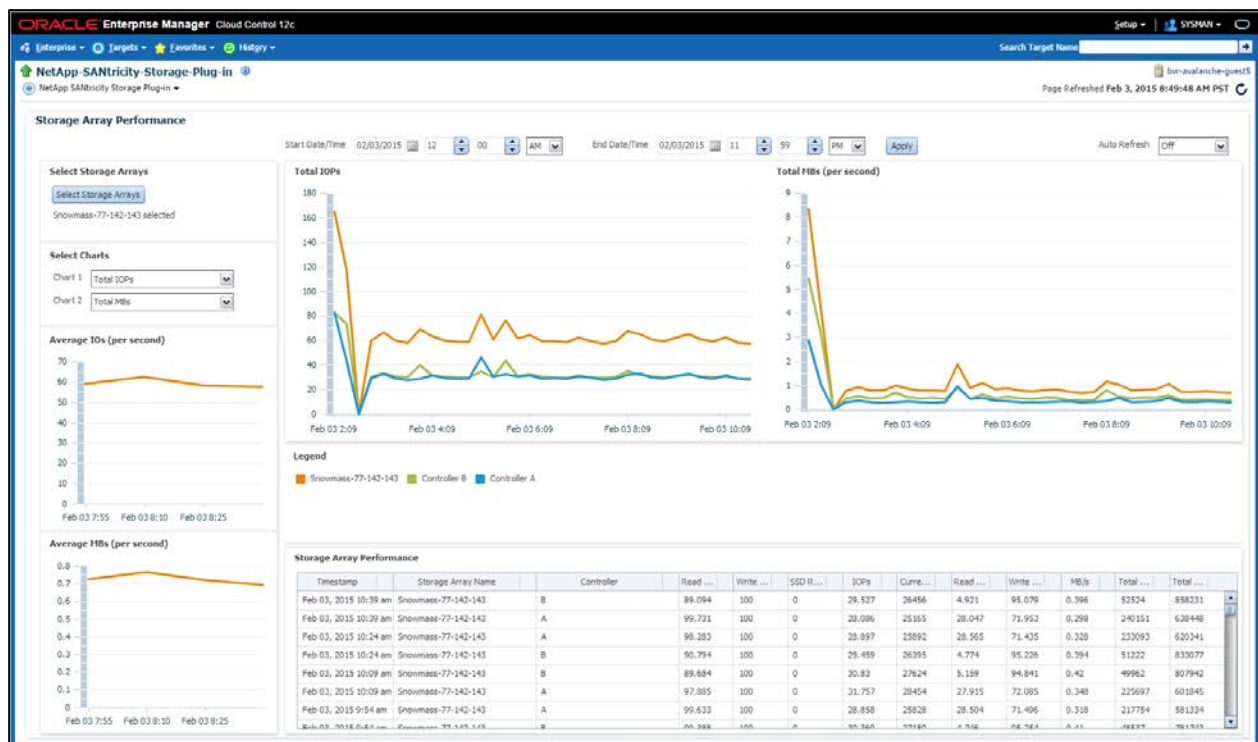
Accessible through the Storage Management and Performance panel on the Home Page, the Storage Array Performance page allows you to display an overview of storage array performance through a graphical chart interface. You can view performance statistics for a specific storage array by selecting the item through the Select Storage Array field. Multiple storage arrays can be selected under the Select Storage Arrays fields, allowing you to view a performance comparison under the graphical charts. Based on the selections under the Select Array field, the Storage Array Performance page displays the array performance statistics under two unique, customizable graphical charts. You can customize the displayed chart type through the Select Charts section. Containing separate Chart 1 and Chart 2 fields, the Select Charts sections allows you to select the following chart types:

Chart 1 Field	
Total IOPs	Write MBs
Read IOPs	Read Cache Hit Percentage
Write IOPs	Write Cache Hit Percentage

Chart 1 Field	
Total MBs	SSD Read Cache Hit Percentage
Read MBs	

Chart 1 Field	
Total IOPs	Write MB/s
Read IOPs	Read/Write Percentage
Write IOPs	Read Cache Hit Percentage
Total MB/s	Write Cache Hit Percentage
Read MB/s	SSD Read Cache Hit Percentage

All graphical statistical data displays on an X/Y Axis. The Y-Axis displays the chart type selected under the Select Charts field while controller data over a specific date range displays on the X-Axis. Each graphical chart displays a separate, color-coded line for the selected arrays. You can customize the date range for the graphical charts through the Start Date/Time and End Date/Time fields. In addition to the customizable graphical charts, the Storage Array Performance page displays Average I/Os (per second) and Average MBs (per second) statistical average charts. Finally, performance data for the selected arrays display under the array performance table within the Storage Array Performance page.



Accessing the Array Performance Page

Perform the following to access the Array Performance Page:

1. Under the Enterprise Manager Summary page, click the  **Targets** toolbar option and select **All Targets**.

The All Targets page appears, displaying all target names for the NetApp SANtricity Storage Plug-in.

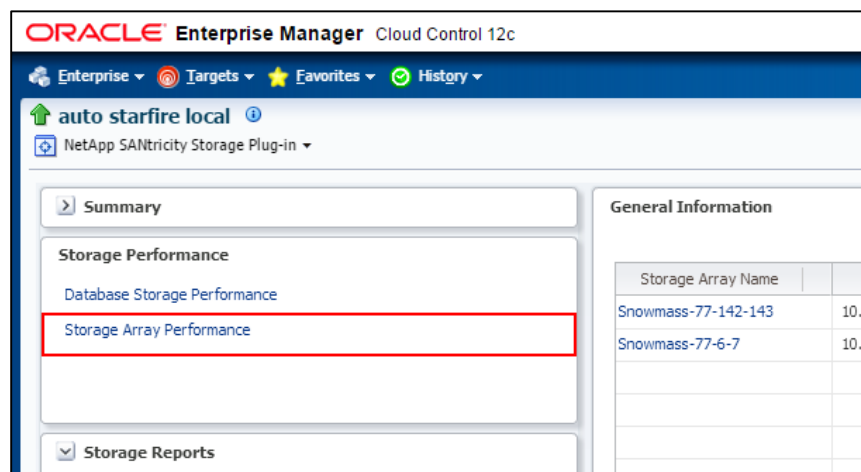
2. Under the Target Type list within the All Targets page, click **NetApp SANtricity Storage Plug-in** to filter results by NetApp SANtricity plug-in items.

All available NetApp SANtricity targets display under the Target Name table within the All Targets page.

3. Click the desired NetApp SANtricity target under the Target Name table.

The target homepage for the selected NetApp storage array is displayed.

4. Under the Storage Management and Performance section of the target homepage page, click **Storage Array Performance**.



The Storage Array Performance page displays.

Viewing storage array performance data

Perform the following to view performance data for a specific storage array under the Storage Array Performance page:

1. Within the Storage Array Performance page, click **Select Storage Arrays**.

The Select Storage Arrays window containing a list of available storage arrays for the selected target is displayed.

2. Under the Select Storage Arrays window, check the box next to the desired storage array(s), and click **OK**.

Performance data for the selected storage array(s) displays under the graphical chart section of the Storage Array Performance page. Single array selections display information on Total Array and on each controller. Conversely, multiple array selections only display Total Array information.

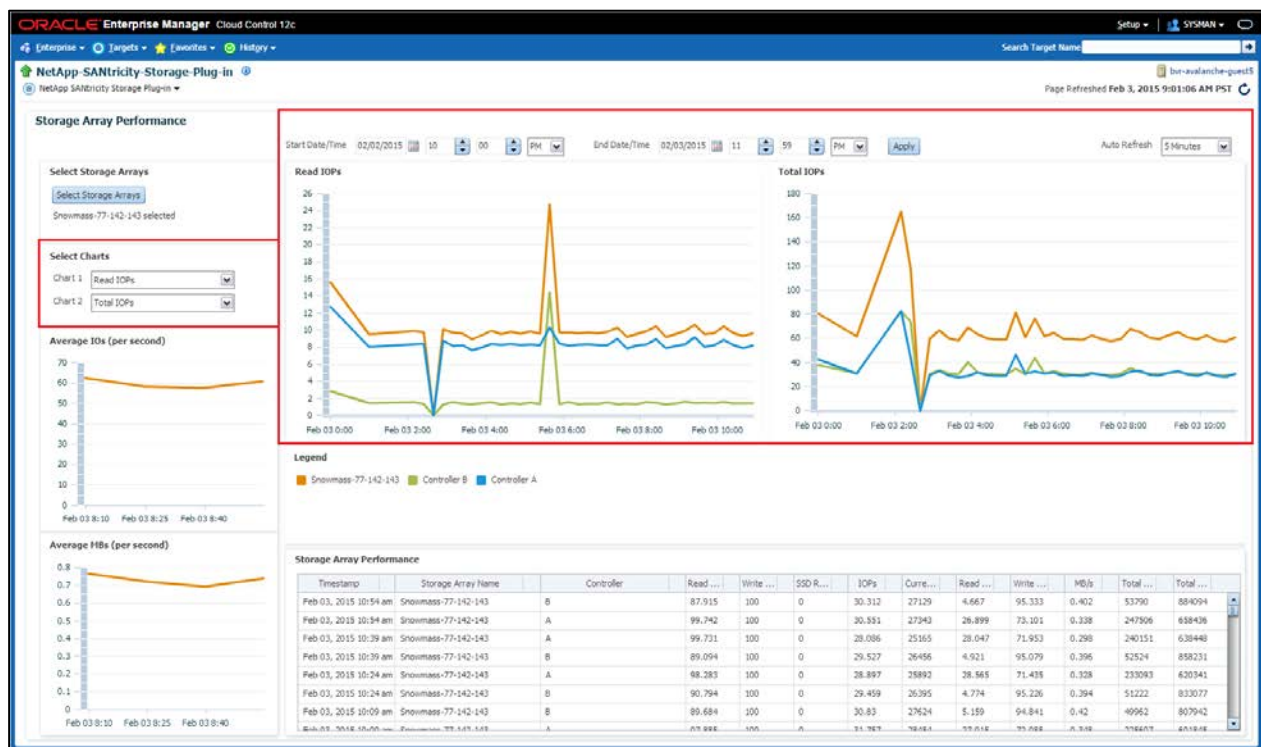
NOTE: At least one storage array must be selected under the Select Storage Array window.

The selected start and end date/time is applied to the graphical charts under the Storage Array Performance page.

10. To automatically update the data displayed under the graphical charts, select one of the following increment options under the Auto Refresh field:

- **5 Minutes** – Automatically updates the graphical charts once every five minutes.
- **10 Minutes** – Automatically updates the graphical charts once every 10 minutes.
- **15 Minutes** – Automatically updates the graphical charts once every 15 minutes.
- **Off** – Disables automatic updates of the graphical charts.

NOTE: If the metric collection period is set to greater than the auto refresh rate, the data does not change until the metric collection cycle occurs.



Accessing the All Metrics page

You can use the All Metrics page to view various system and performance metrics for a select target. Perform the following to access the All Metrics page:

1. From the target homepage, click the plug-in menu, and select **Monitoring >> All Metrics**.

The All Metrics page displays.

Oracle Enterprise Manager Cloud Control 12c

Enterprise Targets Favorites History

Search Target Name

auto starfire local

NetApp SANtricity Storage Plug-in

Page Refreshed Apr 14, 2015 9:19:47 AM PDT

auto starfire local > All Metrics

All Metrics

Search

View

View By Metrics

auto starfire local

- Auto Support Information
- Controller Information
- Controller Performance
- Critical MELs
- Device Volume Map
- Drive Channel Statistics
- Drive Information
- Major Event Log
- Response
- Storage Array Information**
- Storage Array Performance
- Tray Information
- Volume Group Information
- Volume Information
- Volume Map Information
- Volume Performance

Storage Array Information

Collection Schedule Every 15 Minutes [Modify](#)

Upload Interval Every 96 Collections

Last Upload Apr 13, 2015 9:38:54 AM PDT

Storage Array WWN	Array Status	Auto-Support Enabled	Disk Pool Count	Disk Pool Volume Count	Drive Count	Firmware Version	NVSRAM	Stand Count
> 60080E50001B50...	NEEDS ATTENTION	true	0	0	36	08.10.01.00	N26X0-810800-013	13
> 60080E50002E6D...	NEEDS ATTENTION	true	1	9	65	08.20.01.00	N26X0-820800-008	57

Data shown in above table is collected in real time.

2. To view data for a specific metric, select one of the following metrics under the left panel of the All Metrics page:

- Controller Information
- Controller Performance
- Critical Performance
- Critical MELs
- Device Volume Map
- Drive Channel Statistics
- Drive Information
- Major Event Log
- Response
- Storage Array Information
- Tray Information
- Volume Group Information
- Volume Information
- Volume Map Information
- Volume Performance

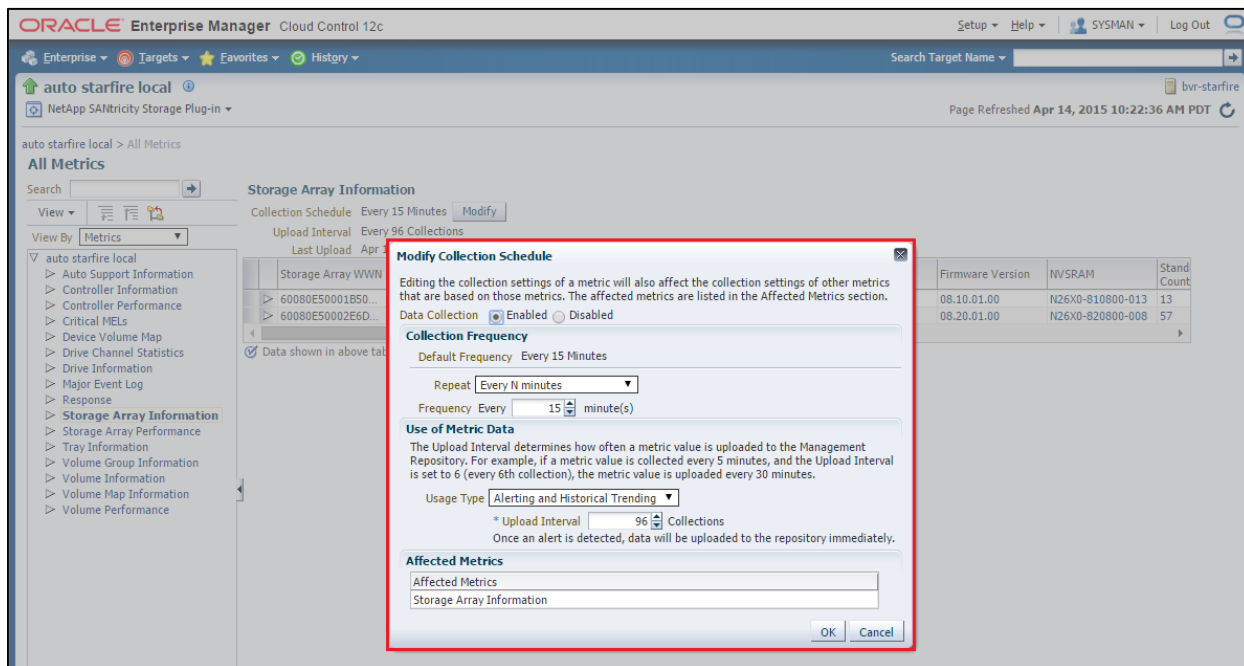
The selected metric displays within the All Metrics page.

3. If needed, click **Modify** to modify the collection schedule for the selected metric.

The Modify Collection Schedule dialog box is displayed.

4. Within the Modify Collection Schedule dialog box, configure the collection schedule as needed through the provided settings, and click **OK**.

The Modify Collection Schedule dialog box closes and the specified collection schedule settings are applied to the selected metric.



AutoSupport (ASUP)

The AutoSupport (ASUP) feature collects data in a customer support bundle and automatically sends the message file to technical support for remote troubleshooting and problem analysis. ASUP automatically transmits messages to NetApp based on a combination of event and schedule based criteria. Each ASUP message is a collection of log files, configuration data, state data, and performance metrics.

The ASUP feature transmits the following files to the NetApp technical support team:

File Name	Description
x-headers-data.txt	A .txt file containing the X-header information
manifest.xml	An .xml file detailing the contents of the message
arraydata.txt	An .xml file containing the list of storage arrays being managed and client persisted data
appserver64.ini	An .ini file containing webserver configuration data
wsconfig.xml	An .xml file containing webserver configuration data, including passwords
host-info.txt	A .txt file containing information about each storage array and the host environment
server-logs.7z	A .7z file containing every available webserver log file

Configuration of the AutoSupport credentials under the [Target Creation page](#) or [Monitoring Configuration page](#) is required to enable the AutoSupport feature. Refer to the [Appendix B – AutoSupport and WebLogic Server Installation](#) for detailed on how to install AutoSupport and the WebLogic Server.

Enabling AutoSupport under the Monitoring Configuration page

Perform the following to enable AutoSupport feature under the Monitoring Configuration page:

1. From the target homepage, click the plug-in menu and select **Target Setup >> Monitoring Configuration**.

The Monitoring Configuration page is displayed.

2. Under the Enable AutoSupport (true or false; default: false) field, enter **true**.
3. Click **OK**.

The AutoSupport feature is now enabled for the selected target.

NOTE: The WebLogic username, password, and port information for the target must be specified under the Target Creation page in conjunction with the AutoSupport setting under the Monitoring Configuration page to fully enable the AutoSupport feature within the Enterprise Manager.

4. If needed, click **Test Connection** to test the connection of the data specified within the Monitoring Configuration page.

NOTE: Testing the connection verifies the WebLogic Server connectivity in addition to the array connectivity tests.

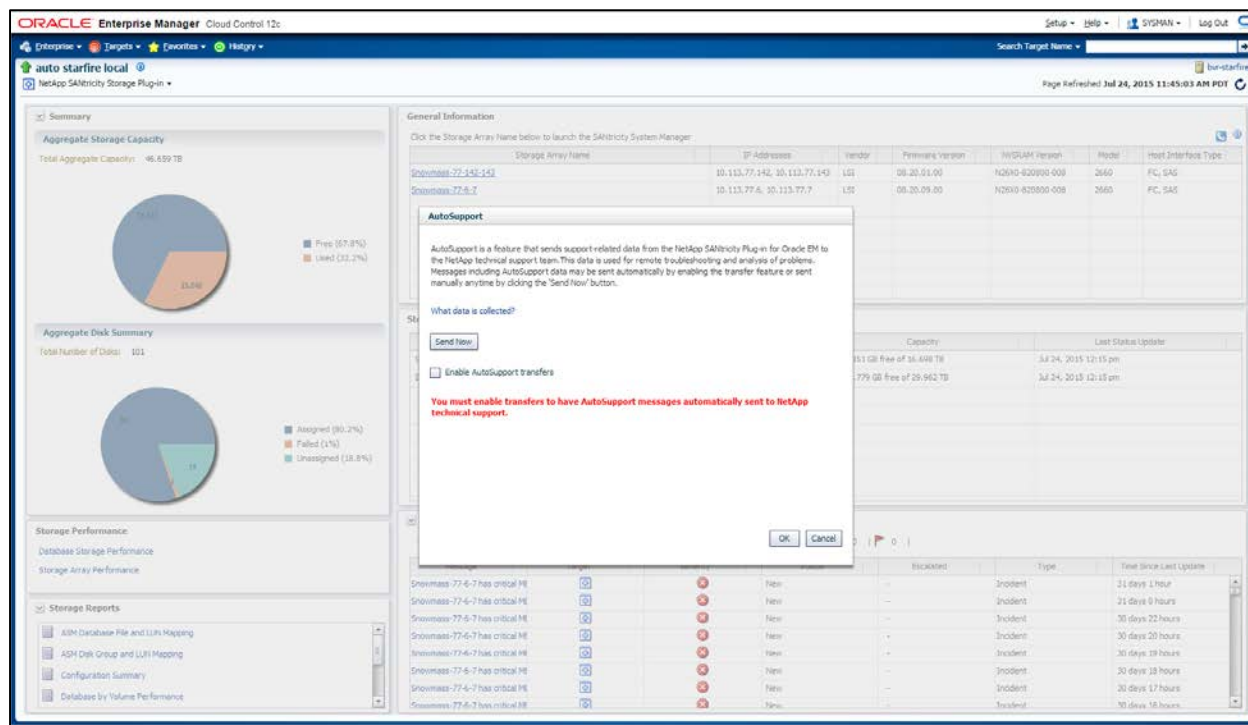
The screenshot shows the Oracle Enterprise Manager Cloud Control 12c interface. The top navigation bar includes 'Enterprise', 'Targets', 'Favorites', and 'History'. The main content area is titled 'Monitoring Configuration' for the target 'NetApp-SANtricity-Plug-In-rc1-Challenger-IB'. The page is refreshed on Sep 9, 2015 7:29:20 AM PDT. The configuration fields include: Storage Array 1 Addresses, Storage Array 2 Addresses, Storage Array 3 Addresses, Storage Array 4 Addresses, Storage Array 5 Addresses, In-Band Storage Array WWN / Storage Array Name, BI Publisher Port (default: 9702), In-Band Host IP Address (10.113.77.103), Enable AutoSupport (true or false; default: false) set to true, WebLogic Username (santricityrw), WebLogic password (masked with dots), and WebLogic port (7014). There are buttons for 'OK', 'Cancel', and 'Test Connection'. Below the configuration fields, a 'Monitoring' section states: 'Oracle has automatically enabled monitoring for this target's availability and performance, so no further monitoring configuration is necessary. You can edit the metric thresholds from the target's homepage.'

Accessing the AutoSupport dialog box

Perform the following to access and use the AutoSupport feature:

1. From the target homepage, click the  **AutoSupport** icon.

The AutoSupport dialog box is displayed.



2. To transmit AutoSupport data manually, click **Send Now**.

Oracle EM-related AutoSupport data is transmitted to technical support.

3. To enable AutoSupport to transmit data automatically based on the metric collection schedule, click the **Enable AutoSupport transfers** box, and then click **OK**.

AutoSupport

AutoSupport is a feature that sends support-related data from the NetApp SANtricity Plug-in for Oracle EM to the NetApp technical support team. This data is used for remote troubleshooting and analysis of problems. Messages including AutoSupport data may be sent automatically by enabling the transfer feature or sent manually anytime by clicking the 'Send Now' button.

[What data is collected?](#)

☒ Enable AutoSupport transfers

AutoSupport messages will automatically be sent to NetApp technical support bi-weekly.

To change the interval of the metric collection schedule, go to the plug-in instance menu and select Monitoring > Metric and Collection Settings.

Removing the NetApp SANtricity Plug-in from Oracle EM

Removing the Plug-in completely from Oracle EM requires four tasks:

- Undeploying the NetApp SANtricity Plug-in from the management agents
- Undeploying the NetApp SANtricity Plug-in from the management server
- Removing the NetApp SANtricity Plug-in from the Self Update
- Removing NetApp SANtricity storage reports from Oracle BI Publisher Enterprise

NOTE: Make sure that you undeploy the NetApp SANtricity Plug-in from the management agents before you undeploy the NetApp SANtricity Plug-in from the management server.

Undeploying the NetApp SANtricity Plug-in

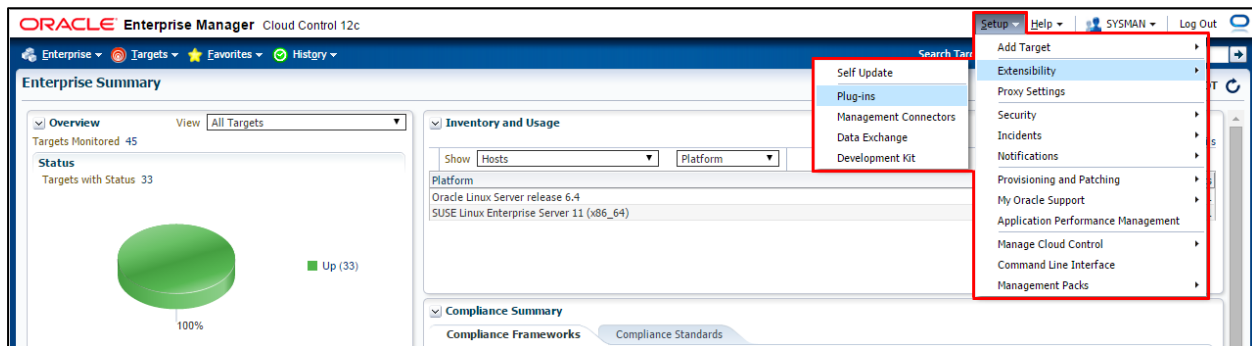
After you have undeployed the NetApp SANtricity Plug-in from the management server and the management agents, and you have deleted the NetApp SANtricity storage reports, the NetApp SANtricity Plug-in stays in Oracle EM until you manually delete it. You can redeploy the NetApp SANtricity Plug-in and use it again. To use the NetApp SANtricity Plug-in, you must redeploy it to both the management server and the management agents. You must also redeploy the NetApp SANtricity storage reports.

Undeploying the NetApp SANtricity Plug-in from the Management Agents

1. Open Oracle Enterprise Manager Cloud Control 12c in a web browser.
2. Log in to Oracle EM.

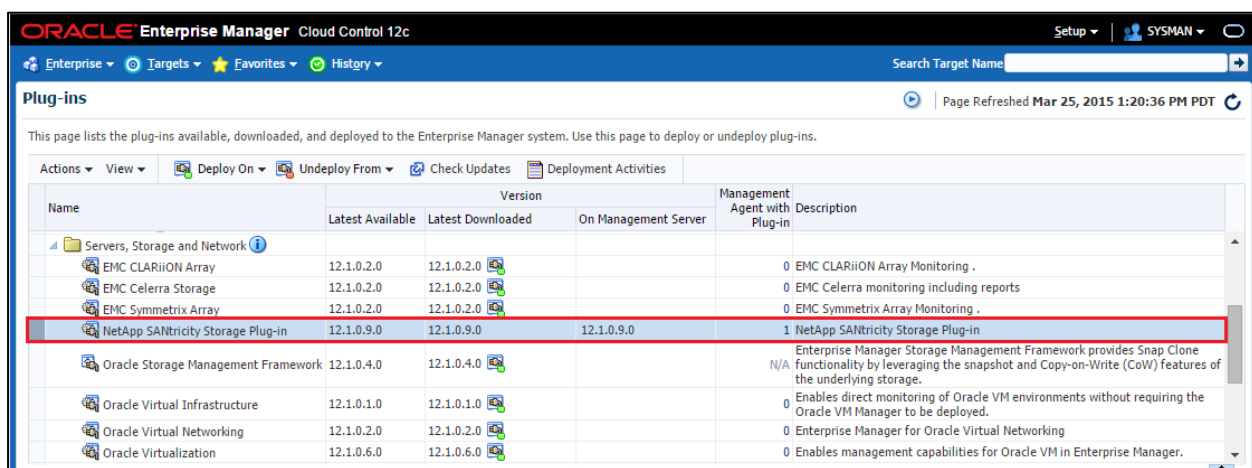
The Enterprise Summary dashboard is displayed.

3. In the upper-right corner of Enterprise Summary dashboard, select **Setup >> Extensibility >> Plug-ins**.



The Plug-ins page is displayed. The Management Agent with Plug-in column shows the number of agents on which the NetApp SANtricity Plug-in is installed.

4. Expand the Servers, Storage and Network folder.

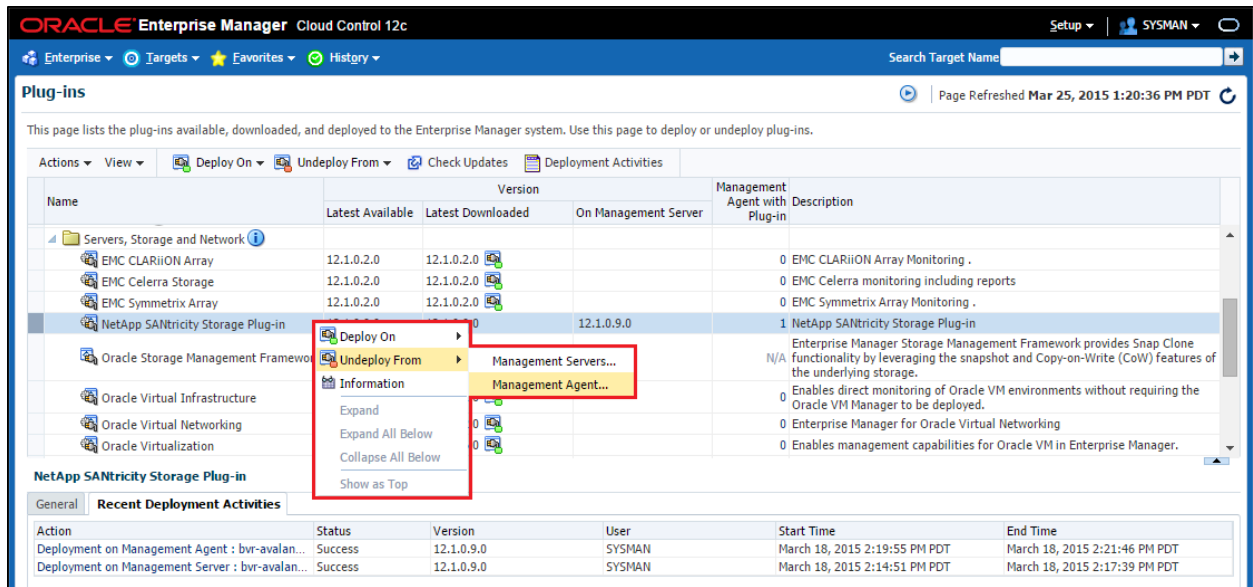


- The Latest Downloaded column shows the latest version of the Plug-in that was downloaded to Oracle EM.
- The On Management Server column shows the version of the NetApp SANtricity Storage Plug-in installed on the management server.
- The Management Agent with Plug-in shows the number of NetApp SANtricity Storage Plug-ins installed on management agents.

5. Right-click **NetApp SANtricity Storage Plug-in**.

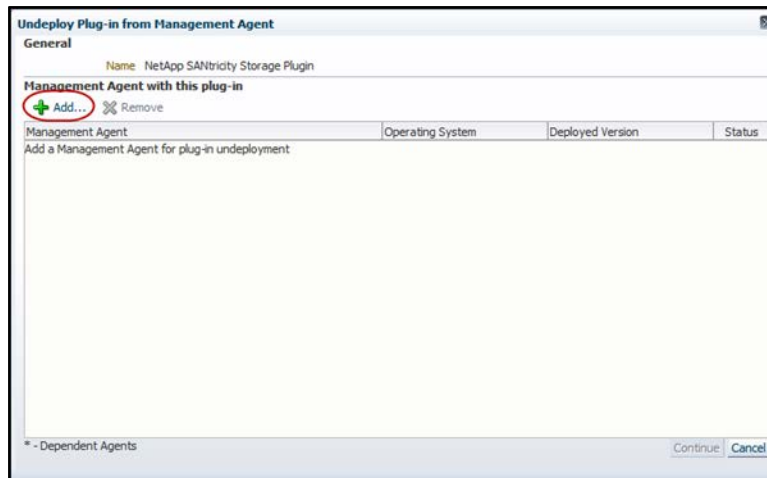
A side menu is displayed.

6. Select **Undeploy From >> Management Agent**.



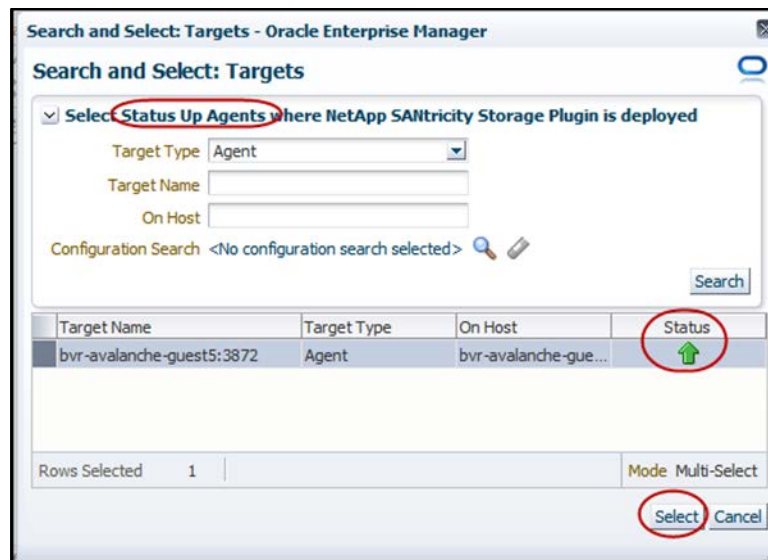
The Undeploy Plug-in from Management Agent >> General dialog box is displayed.

7. Click **Add**.



The Search and Select: Targets dialog box appears superimposed on the Undeploy Plug-in from Management Agent >> General dialog box.

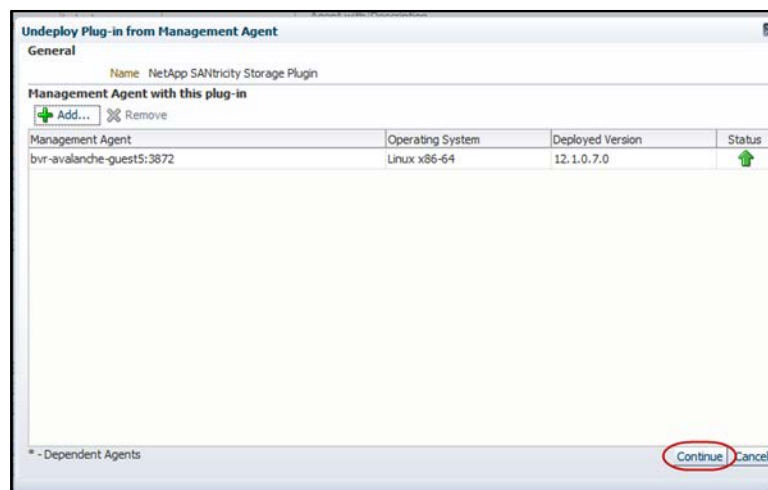
8. Select the agent to undeploy.



9. Click **Select**.

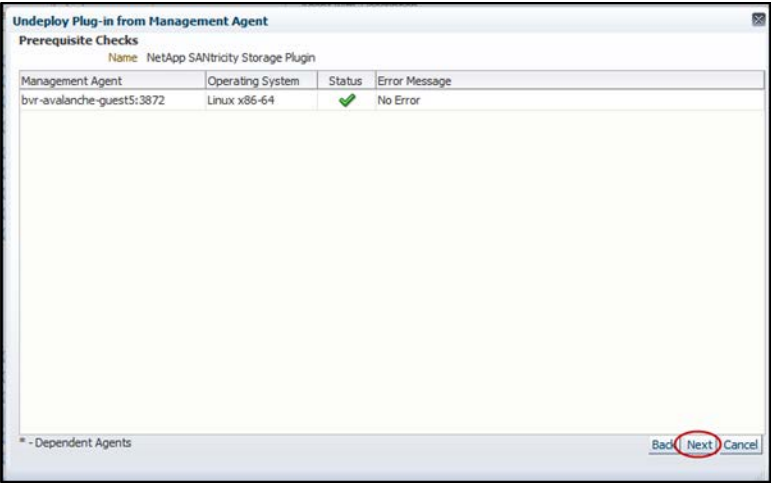
- Select only green, status up agents.
- The Undeploy Plug-in from Management Agent >> General dialog box is displayed.

10. Click **Continue**.



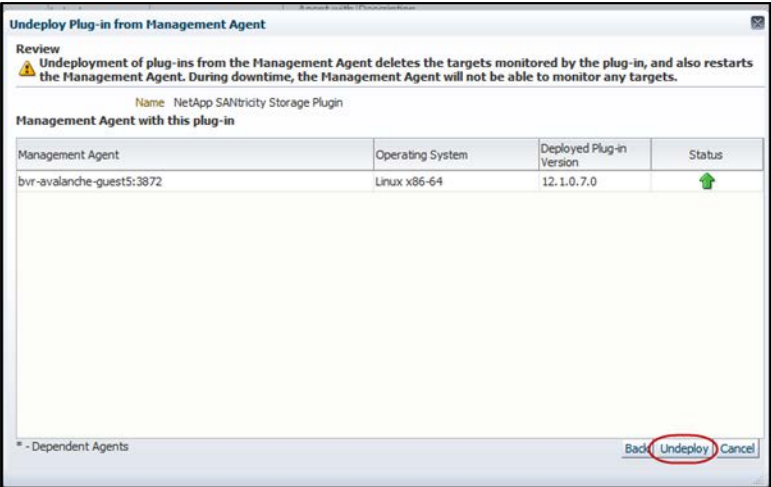
The Undeploy Plug-in from Management Agent >> Prerequisite Checks dialog box is displayed.

11. Click **Next**.

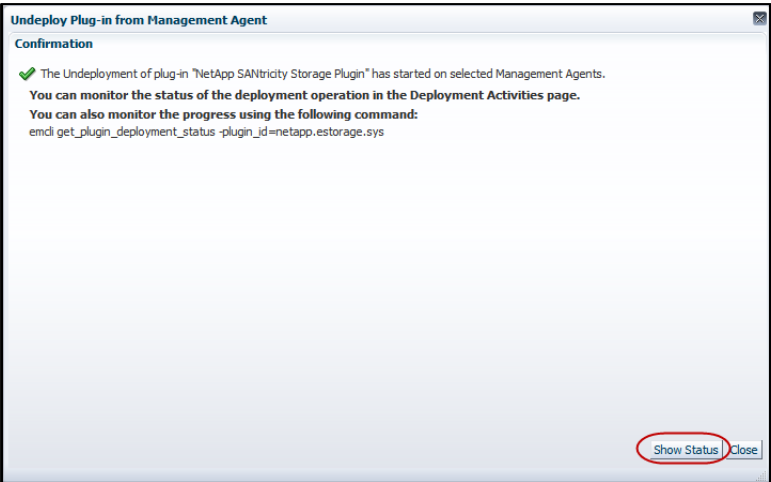


The Undeploy Plug-in from Management Agent >> Review dialog box is displayed.

12. Click **Undeploy**.



The Undeploy Plug-in from Management Agent >> Confirmation dialog box is displayed.



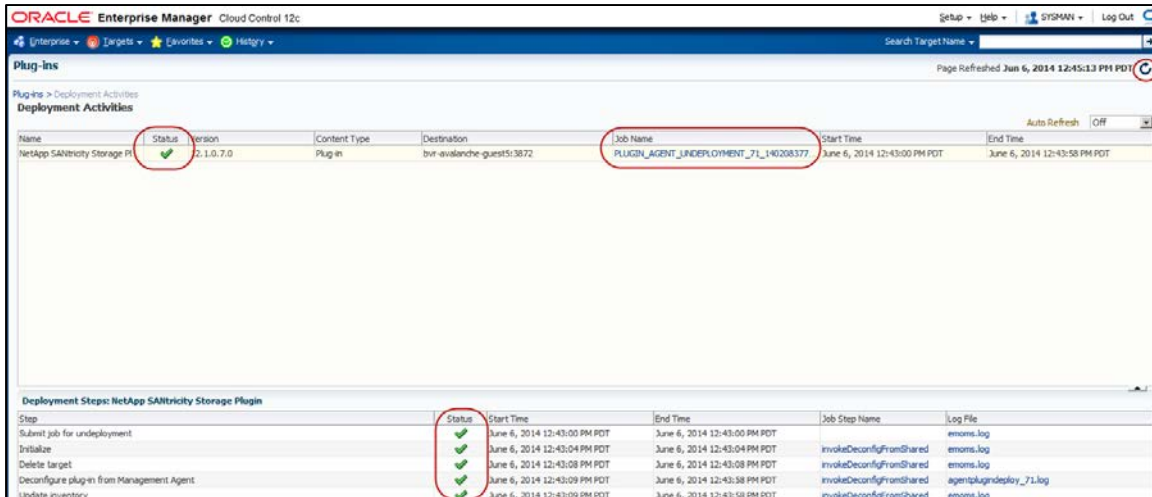
Monitoring the Status of the Management Agent Undeployment Process

1. Click **Show Status**.

The Plug-ins page is displayed. The Status column in the Deployment Steps: NetApp SANtricity Storage Plugin table shows the undeployment progress.

2. Click the **Refresh** icon in the upper-right corner of the Plug-ins page.

The default Auto Refresh is Off, so the Status column in the Deployment Activities table does not show the status as completed until you manually refresh the page.



Name	Status	Version	Content Type	Destination	Job Name	Start Time	End Time
NetApp SANtricity Storage Plugin	Success	2.1.0.7.0	Plug-in	bnr-avalanche-guest5:3872	PLUGIN_AGENT_UNDEPLOYMENT_71_140208377	June 6, 2014 12:43:00 PM PDT	June 6, 2014 12:43:58 PM PDT

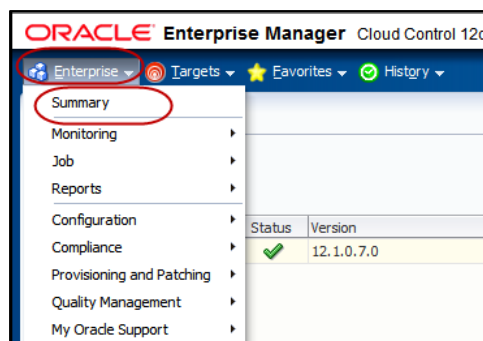
Step	Status	Start Time	End Time	Job Step Name	Log File
Submit job for undeployment	Success	June 6, 2014 12:43:00 PM PDT	June 6, 2014 12:43:00 PM PDT		emoms.log
Initialize	Success	June 6, 2014 12:43:04 PM PDT	June 6, 2014 12:43:04 PM PDT	invokeDeconfigFromShared	emoms.log
Delete target	Success	June 6, 2014 12:43:08 PM PDT	June 6, 2014 12:43:08 PM PDT	invokeDeconfigFromShared	emoms.log
Deconfigure plugin from Management Agent	Success	June 6, 2014 12:43:09 PM PDT	June 6, 2014 12:43:38 PM PDT	invokeDeconfigFromShared	agentplugndeploy_71.log
Update inventory	Success	June 6, 2014 12:43:09 PM PDT	June 6, 2014 12:43:58 PM PDT	invokeDeconfigFromShared	emoms.log

3. If necessary, perform repeat [Step 5 through Step 12 under Undeploying the NetApp SANtricity Plug-in from the Management Agents](#) to undeploy the Plug-in from additional management agents.

Verifying that the NetApp SANtricity Plug-in Was Removed from All Management Agents

You must remove the NetApp SANtricity Plug-in Storage Plug-in from all management agents before you remove the NetApp SANtricity Plug-in Storage Plug-in from the management server.

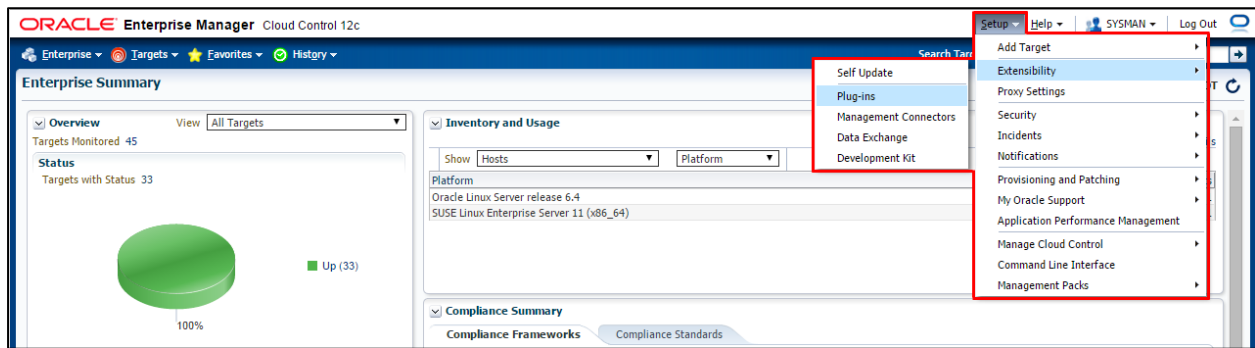
1. In the upper-right corner of the Oracle Enterprise Manager page, select **Enterprise >> Summary** to go to the Oracle Enterprise Manager Summary page.



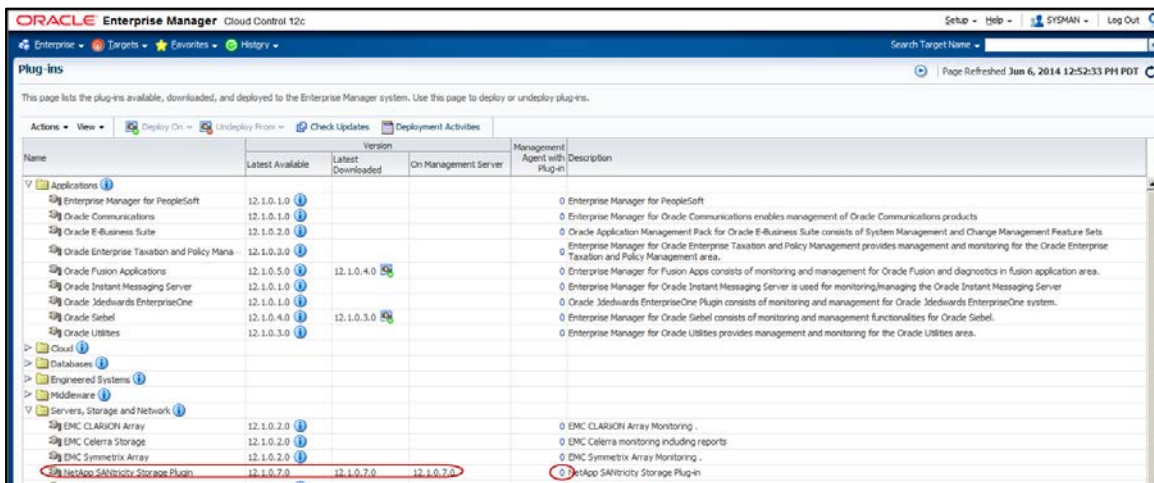
Status	Version
Success	12.1.0.7.0

The Oracle Enterprise Manager Summary page is displayed.

2. In the upper-right corner of Enterprise Summary dashboard, select **Setup >> Extensibility >> Plug-ins**.



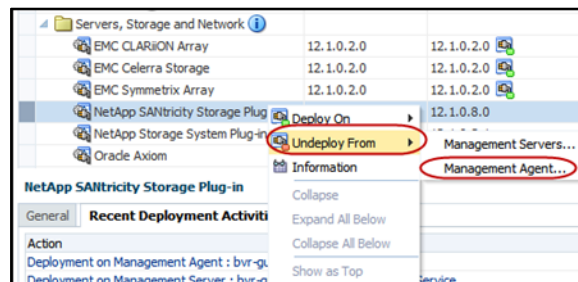
The Plug-ins page appears and shows whether the Plug-in is still deployed on the management server and agent servers.



- To verify that the NetApp SANtricity Plug-in was removed from all management agents, right-click NetApp SANtricity Storage Plug-in.

A side menu is displayed.

- Select **Undeploy From >> Management Agent**.



When the Plug-in has been removed from all management agents, the Undeploy Plug-in from Management Agent - Error message is displayed.



- Click **Close** to return to the Plug-ins page.

Undeploying the NetApp SANtricity Plug-in from the Management Server

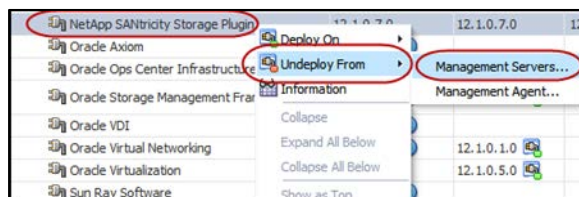
After you have undeployed the NetApp SANtricity Plug-in from the management server and management agents, the Plug-in stays in Oracle EM and is available to be deployed and used again, as described in [Deploying the NetApp SANtricity Plug-in](#).

NOTE: Undeploy the NetApp SANtricity Plug-in from the management server only *after* you have undeployed the NetApp SANtricity Plug-in from all management agents.

1. Right-click **NetApp SANtricity Storage Plugin**.

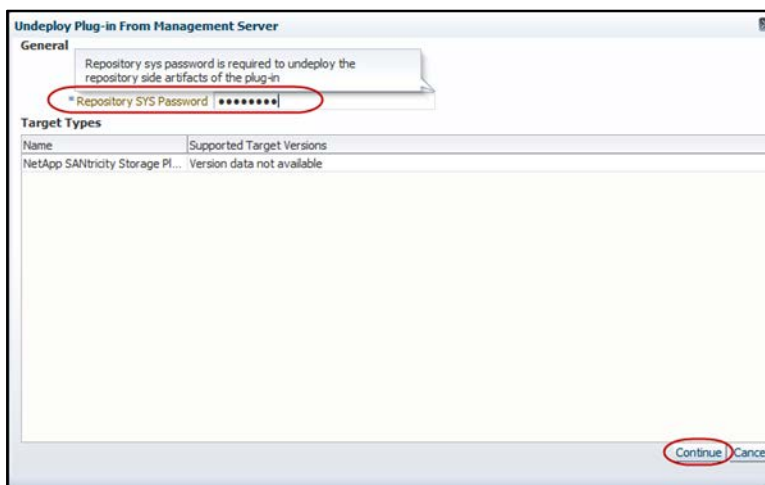
A side menu is displayed.

2. Select **Undeploy From >> Management Servers**.



The Undeploy Plug-in From Management Server dialog box is displayed.

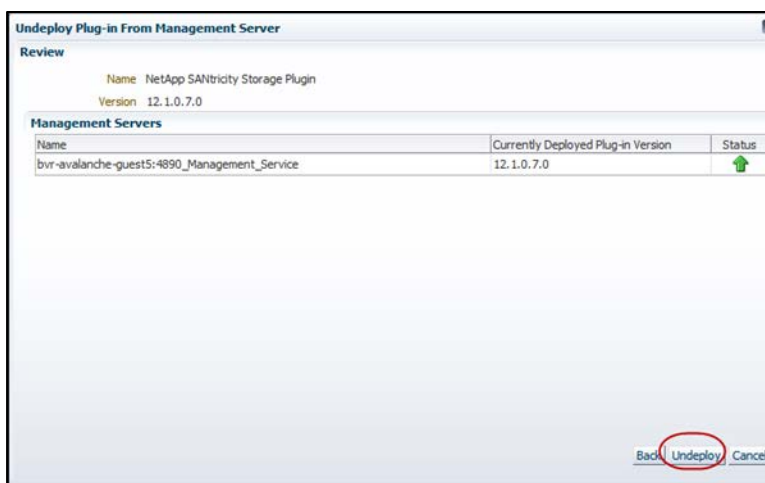
3. In the Repository SYS Password text box, type the repository sys password.



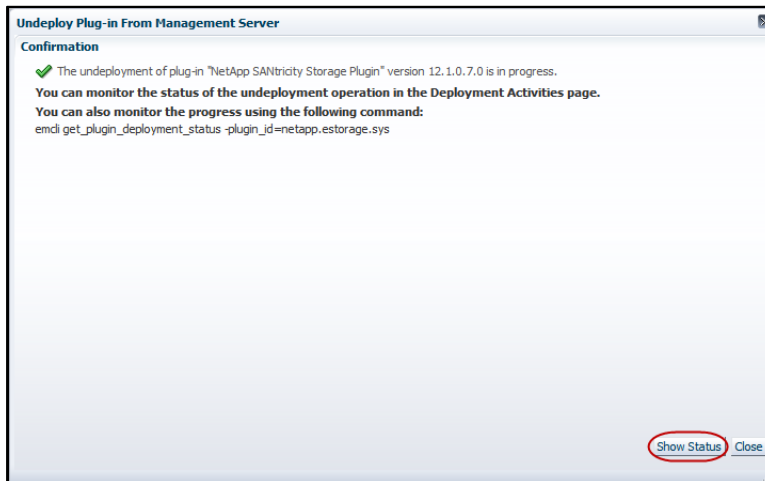
4. Click **Continue**.

The Undeploy Plug-in From Management Server >> Review dialog box is displayed.

5. Click **Undeploy**.



6. The Undeploy Plug-in From Management Server >> Confirmation dialog box is displayed.



Monitoring the Status of the Management Server Undeployment Process

1. Click **Show Status**.

The Plug-ins page appears. The Status column in the Deployment Steps: NetApp SANtricity Storage Plugin table shows the undeployment progress.

2. Click the **Refresh** icon in the upper-right corner of the Plug-ins page.

The default Auto Refresh is Off, so the Status column in the Deployment Activities table does not show the status as completed until you manually refresh the page.

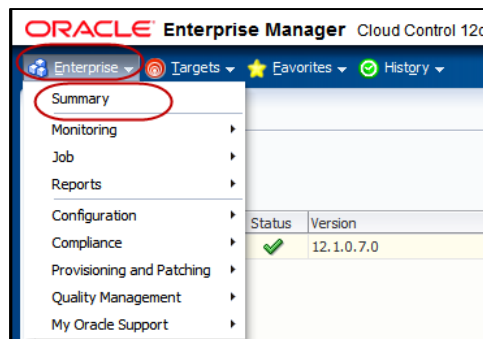
Name	Status	Version	Content Type	Destination	Job Name	Start Time	End Time
NetApp SANtricity Storage Plug-in	Up	12.1.0.7.0	Plug-in	lur-avalancheguest15-4890_Management_Sc	PLUGIN_UNDEPLOYMENT_TO_NETAPP_STORAGE	June 6, 2014 3:13:01 PM PDT	

Step	Status	Start Time	End Time	Job Step Name	Log File
Submit job for undeployment	✓	June 6, 2014 3:13:01 PM PDT	June 6, 2014 3:13:01 PM PDT	UndeployPlugInPrimaryO...	emoms.log
Initialize	✓	June 6, 2014 3:13:19 PM PDT	June 6, 2014 3:13:20 PM PDT	UndeployPlugInPrimaryO...	configplug_deconfig_2014-06-06_13-13-12.log
Validate plug-in home	✓	June 6, 2014 3:13:22 PM PDT	June 6, 2014 3:13:24 PM PDT	UndeployPlugInPrimaryO...	configplug_deconfig_2014-06-06_13-13-12.log
Delete plug-in's metadata	✓	June 6, 2014 3:13:24 PM PDT	June 6, 2014 3:13:27 PM PDT	UndeployPlugInPrimaryO...	configplug_deconfig_2014-06-06_13-13-12.log
Deconfigure plug-in from Management Repository	✓	June 6, 2014 3:13:27 PM PDT	June 6, 2014 3:13:52 PM PDT	UndeployPlugInPrimaryO...	schemadep_2014-06-06_13-13-12.log
Update inventory	✓	June 6, 2014 3:13:52 PM PDT		UndeployPlugInPrimaryO...	configplug_deconfig_2014-06-06_13-13-12.log

Verifying That the NetApp SANtricity Plug-in Was Removed from the Management Server

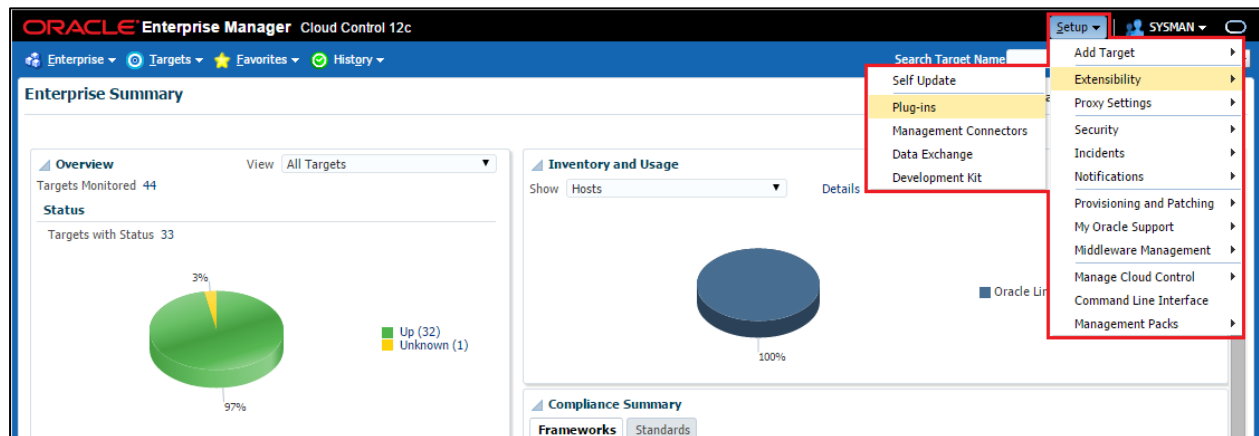
The Plug-ins page still shows the NetApp SANtricity Plug-in Storage Plug-in. Therefore, you must verify that it was removed from the Oracle EM management server.

1. In the upper-right corner of the Oracle Enterprise Manager page, select **Enterprise >> Summary** to go to the Oracle Enterprise Manager Summary page.



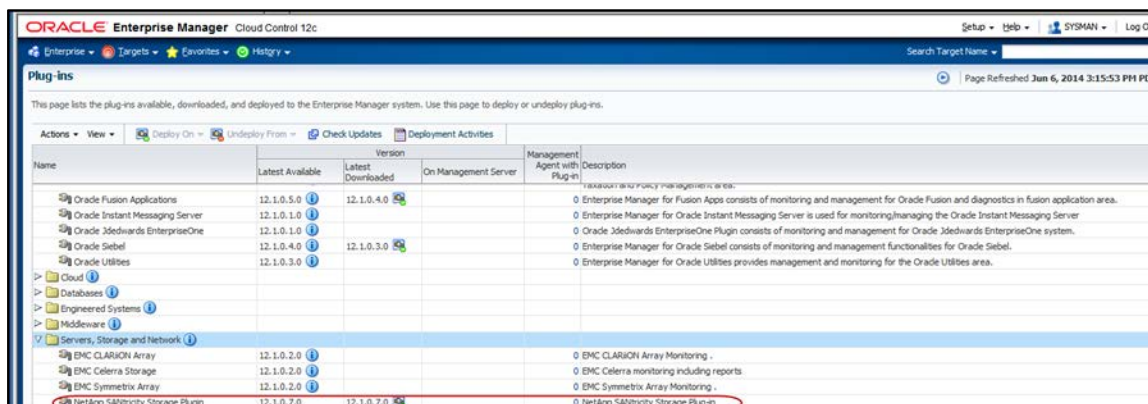
The Oracle Enterprise Manager Summary page is displayed.

2. In the upper-right corner of Enterprise Summary dashboard, select **Setup >> Extensibility >> Plug-ins**.



The Plug-ins page is displayed.

- Expand the Servers, Storage and Network folder.

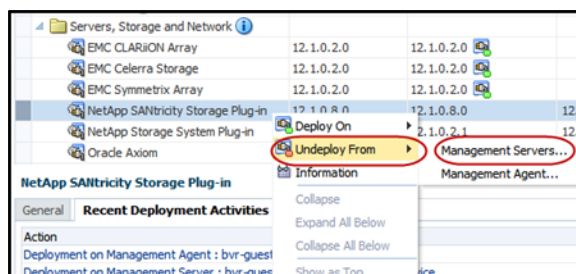


- The Latest Downloaded column shows the latest version of the Plug-in that was downloaded to Oracle EM.
- The On Management Server column shows the version of the NetApp SANtricity Plug-in installed on the management server.
- When the NetApp SANtricity Plug-in has been removed from the management server, the On Management Server field is empty.

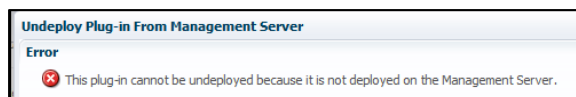
- Right-click NetApp SANtricity Storage Plug-in.

A side menu is displayed.

- Select **Undeploy From >> Management Servers**.



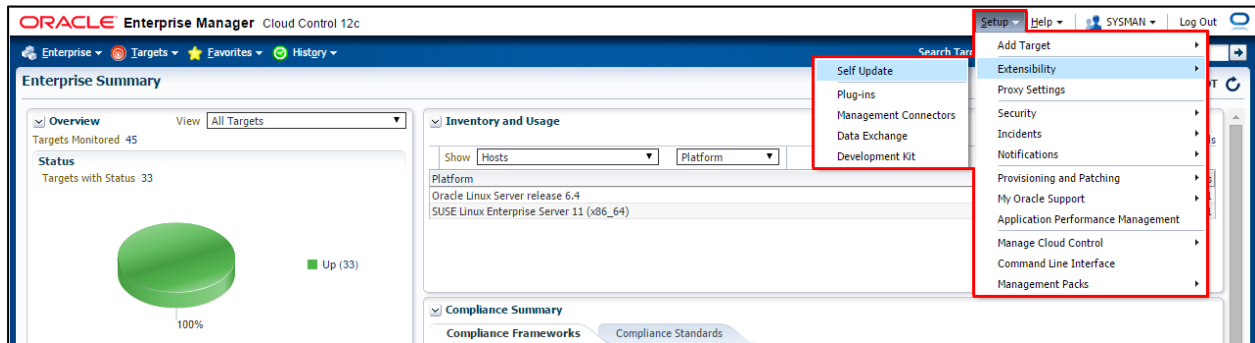
The Undeploy Plug-in From Management Server >> Error message is displayed.



Deleting the NetApp SANtricity Plug-in from Oracle EM

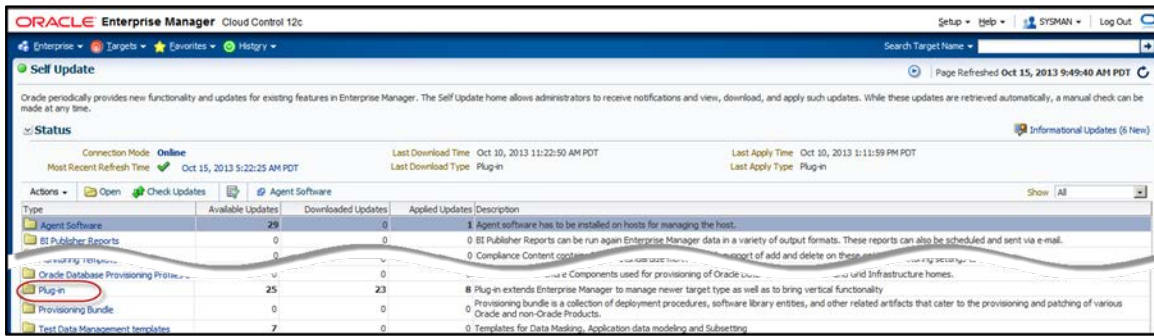
After you have deleted the NetApp SANtricity Plug-in from the Oracle EM, you must reinstall the NetApp SANtricity Plug-in, deploy it to both the management server and the agent servers, and deploy the NetApp SANtricity storage reports on Oracle BI Publisher Enterprise.

1. In the upper-right corner of the Enterprise Summary dashboard, select **Setup >> Extensibility >> Self Update**.



The Self Update page opens.

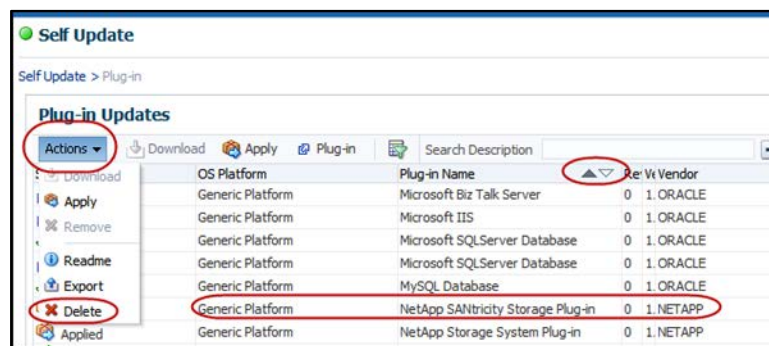
2. Click the **Plug-in** link to expand the folder.



The Plug-in Updates table is displayed.

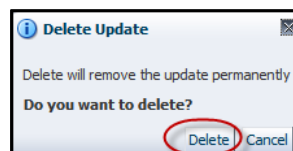
3. In the Plug-in Name column, select **NetApp SANtricity Storage Plug-in**.

To sort the Plug-in Name column in either ascending or descending order, place the cursor in the right side of the column heading. The up and down arrows appear.



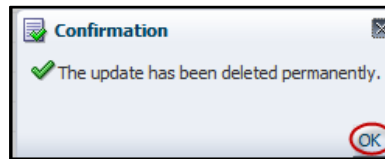
4. Select **Actions >> Delete**.

The Delete Update dialog box is displayed.



5. Click **Delete**.

The Confirmation message is displayed.



6. Click **OK**.

The NetApp SANtricity Plug-in is deleted from the Plug-in Name column in the Plug-in Updates table and from Oracle EM.

Deleting NetApp SANtricity Storage Reports from BI Publisher Enterprise

After you have removed, deleted, or both removed and deleted the NetApp SANtricity Plug-in from Oracle EM, the NetApp SANtricity storage reports stay on Oracle BI Publisher Enterprise until you manually delete them. This section describes how to delete NetApp SANtricity storage reports manually.

After you have deleted the NetApp SANtricity storage reports, you must manually delete the EM datamodels from BI Publisher Enterprise. [Deleting EM Datamodels from Oracle BI Publisher Enterprise](#) describes how to delete EM datamodels manually.

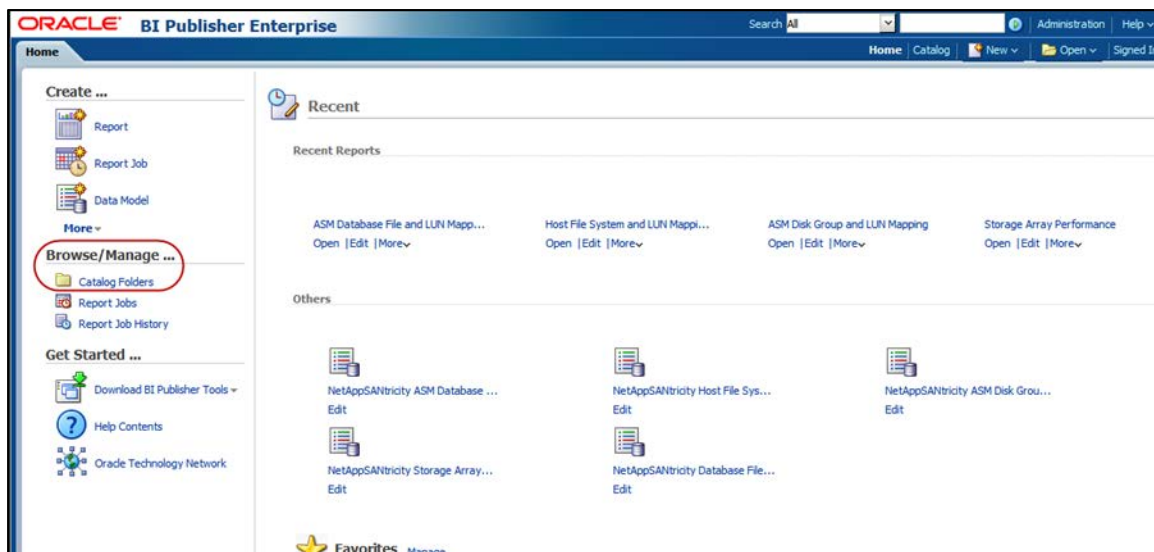
Deleting the NetApp SANtricity Storage Reports

1. In a web browser, open Oracle BI Publisher Enterprise.

2. Sign in to Oracle BI Publisher Enterprise.

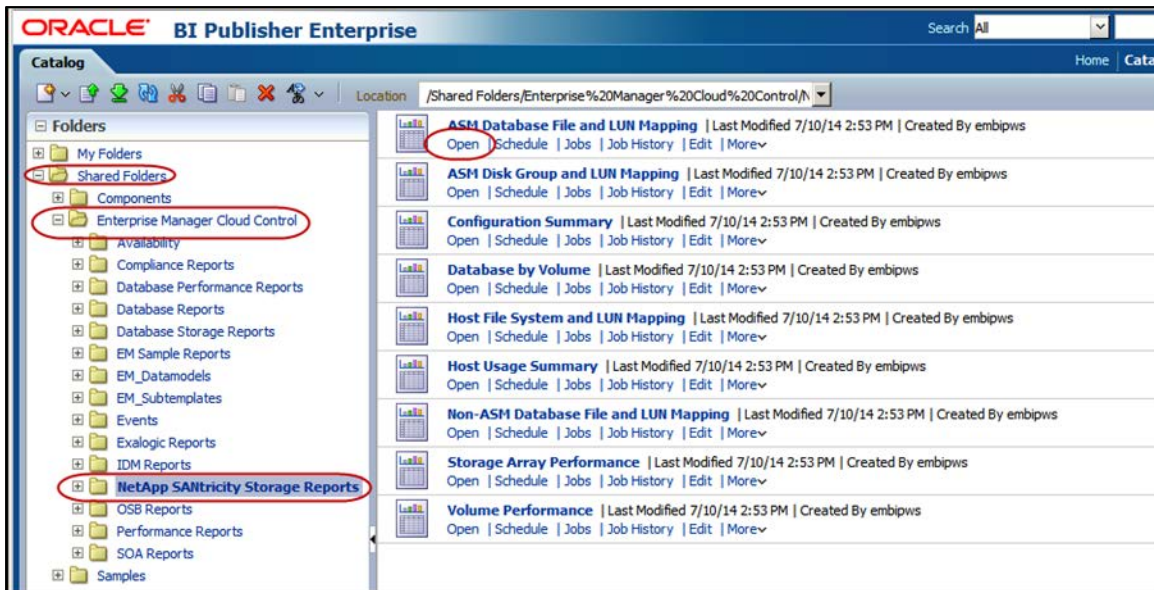
The Oracle BI Publisher Enterprise is displayed. The Home tab is active.

3. In the left pane, click **Catalog Folders**.



The Oracle BI Publisher Enterprise Catalog page is displayed.

4. Open the Shared Folders folder and the Enterprise Manager Cloud Control folder.
5. Click the **NetApp SANtricity Storage Reports** folder to see the list of reports.



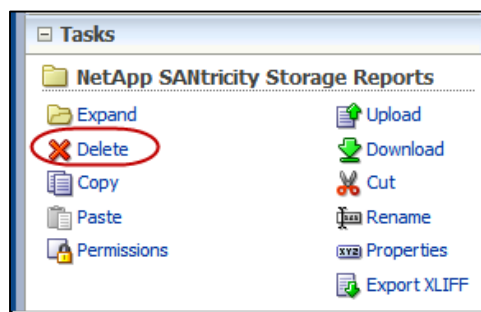
If necessary, click the **Refresh** icon in the upper-right corner of the Catalog page to update the reports in the NetApp SANtricity Storage Reports folder.

- To delete one report, click the **report** icon in the right pane.

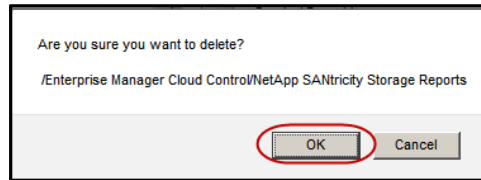
NOTE: If you click the report name or any other link, the report opens in the report viewer.

- To delete all reports and the NetApp SANtricity Storage Reports folder, click the folder.

6. In the Tasks pane in the lower-left corner of the page, click the **Delete** icon.



The Are you sure you want to delete? dialog box is displayed.



7. Click **OK**.

The individual report or the NetApp SANtricity Storage Reports folder and contents are deleted from Oracle BI Publisher Enterprise.

Deleting EM Datamodels from Oracle BI Publisher Enterprise

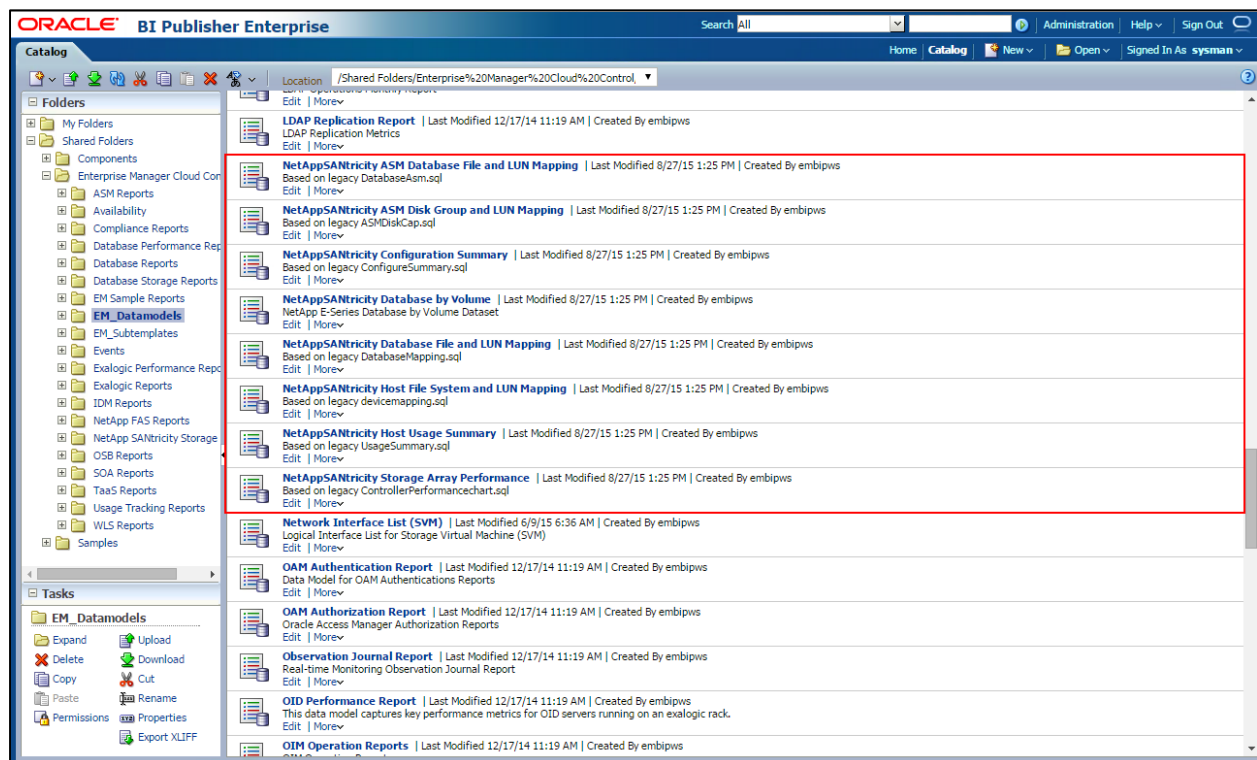
When you delete EM datamodels, the EM_Datamodels folder and its contents stay on Oracle BI Publisher Enterprise until you manually delete them. You must select and delete the datamodels one-at-a-time. The right pane shows all datamodels for all reports generated by all plug-ins on Oracle EM.

1. Open the Shared Folders folder and the Enterprise Manager Cloud Control folder.
2. Click the **EM_Datamodels** folder.

NOTE: The datamodels appear in the right pane in alphabetical sequence, so make sure you find and select only NetApp datamodels.

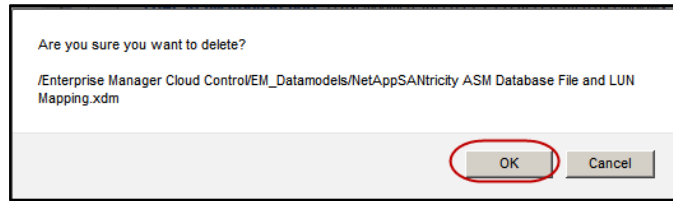
3. In the right pane, click the **NetAppSANtricity EM datamodel** icon to delete.

If you click the datamodel name or any other link, the datamodel opens to the Properties dialog box.



4. Click the **Delete** icon above the Folders pane.

The Are you sure you want to delete? dialog box is displayed.



5. Click **OK**.

The EM datamodel is deleted from BI Publisher Enterprise.

6. Perform Step 3 through Step 5 again until all EM datamodels have been deleted.

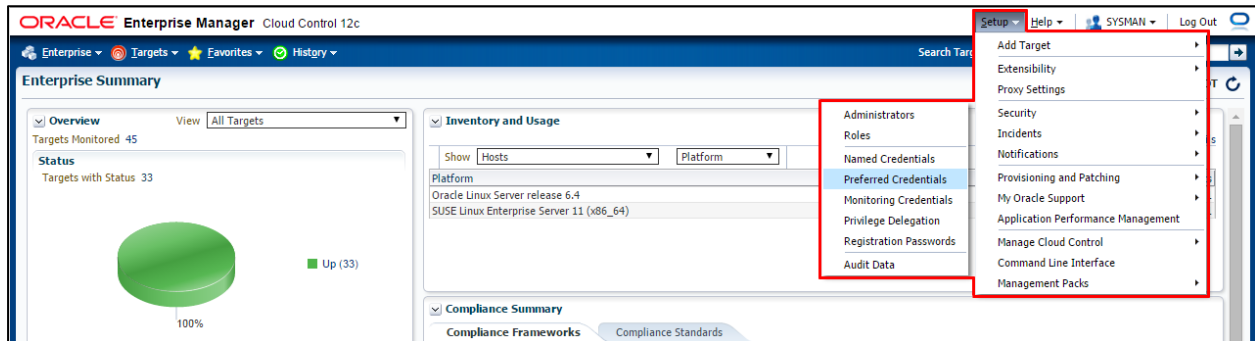
NOTE: Make sure that you find, select, and delete only the NetAppSANtricity datamodels.

Appendix A – Frequently Asked Questions

This section answers some frequently asked questions and provides solutions to some common problems.

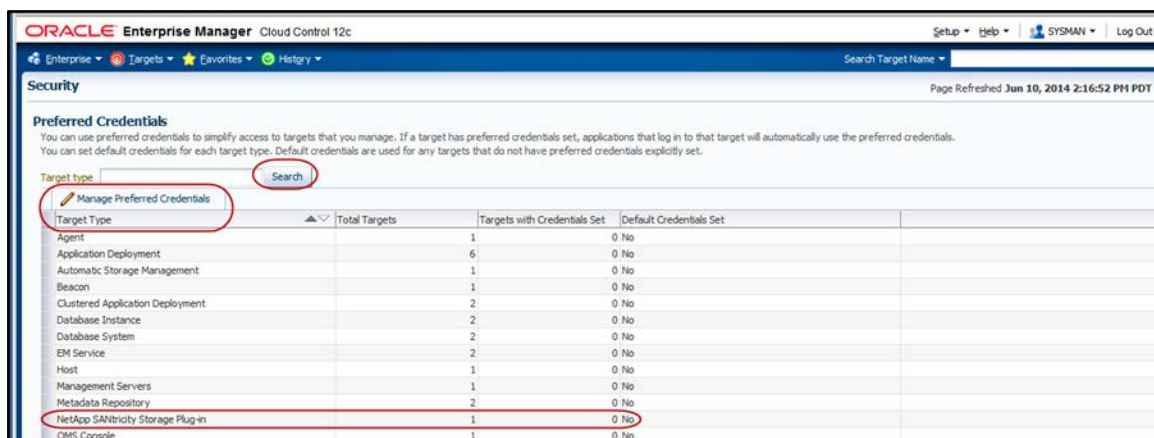
How Do I Set up Preferred Credentials for the NetApp SANtricity Plug-in?

1. In the upper-right corner of Enterprise Summary dashboard, select **Setup >> Security >> Preferred Credentials**.



The Security page is displayed.

2. In the Target Type column, select **NetApp SANtricity Storage Plug-in**.

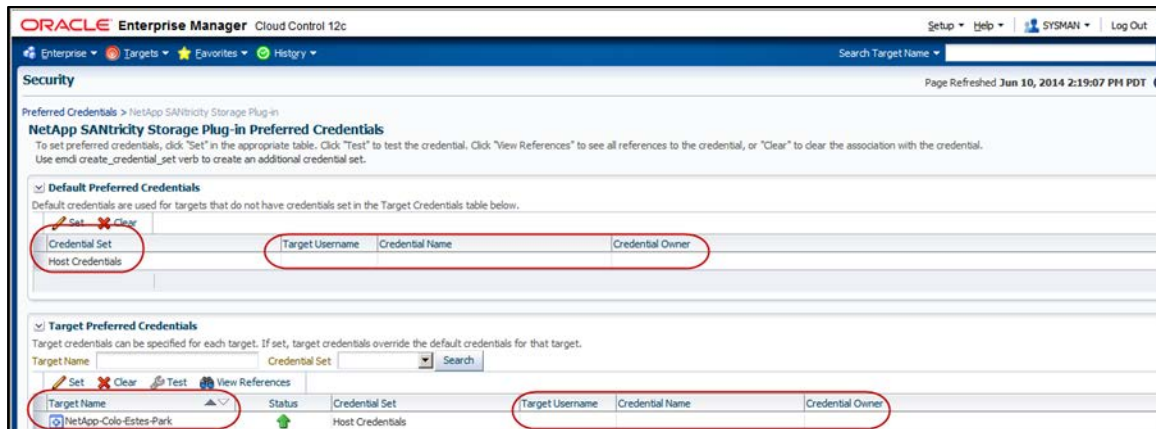


- You can sort the Target Type column in ascending or descending alphabetical order.
- You can use the Target Type search text box to locate the NetApp SANtricity Storage Plug-in target type.

3. Click **Manage Preferred Credentials**.

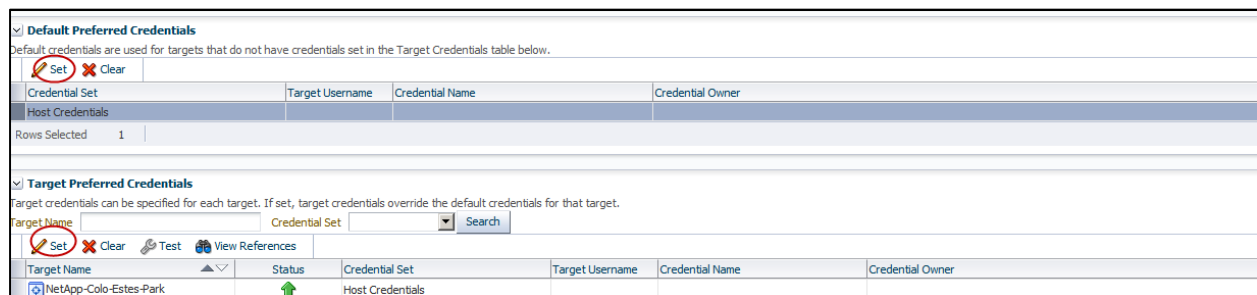
The Security - NetApp SANtricity Storage Plug-in Preferred Credentials page is displayed.

4. Select the preferred credentials.



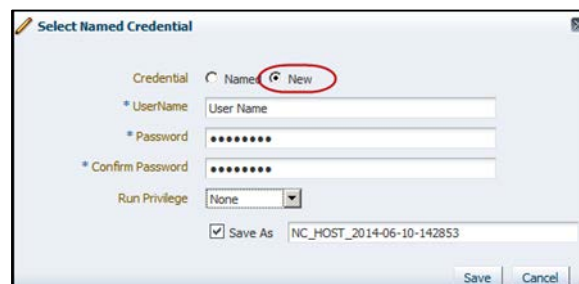
- To set the default preferred credentials, select Host Credentials in the Credential Set column.
- To set the credentials for individual targets, select the target in the Target Name column.

5. Click **Set**.

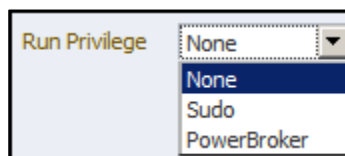


The Select Named Credential dialog box is displayed.

6. Select **New**.



7. In the Username text box, type the new username.
8. In the Password text box, type the new password.
9. On the Run Privilege drop-down list, select the run privilege level.



10. In the Save As text box, type a new credential name.

By default, Save As is selected.

11. Click **Save**.

- To test the new credential and save it, click **Test and Save**.
- The new credential name is saved.

What Do I Do If the Deployment Process Fails?

If the NetApp SANtricity Plug-in fails to deploy, refer to the Oracle EM agent log files to determine the cause.

What Do I Do When the NetApp SANtricity Plug-in Instance Does Not Appear on the All Targets List on the All Targets Page?

1. Log out from Oracle EM, and log in again.
2. On the Summary page, select **Targets >> All Targets**.
3. If the NetApp SANtricity Plug-in is not listed in the Target Name column, go to [Deploying the NetApp SANtricity Plug-in on Management Agents](#) to verify that the NetApp SANtricity Plug-in was correctly deployed on management agents.
4. If the NetApp SANtricity Plug-in was not correctly deployed on the management agents, perform the deployment procedure again.

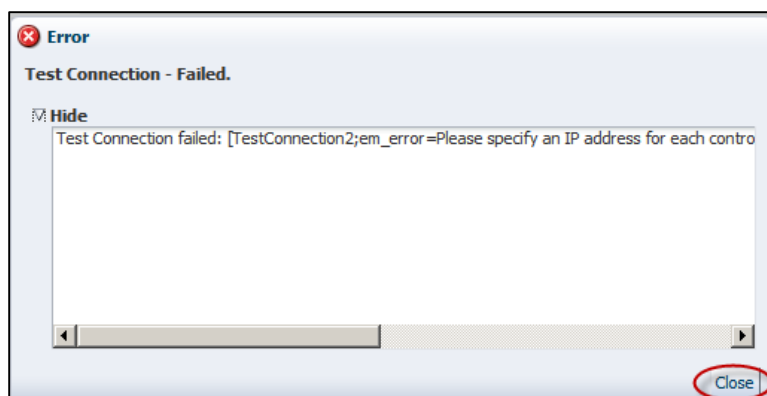
Why Does the Oracle BI Publisher Enterprise Reports Page Not Show All Data?

After the NetApp SANtricity Plug-in instance was created on the agent, enough time might not have elapsed for the NetApp SANtricity Plug-in to have collected and displayed all the data on the Oracle BI Publisher Enterprise Reports page. The NetApp SANtricity Plug-in requires up to two hours before all the data is collected and displayed.

What Do I Do When the Host Does Not Contact the Target Array during Instance Creation?

When you use the host IP address to create an instance of the NetApp SANtricity Plug-in, the NetApp SANtricity Plug-in uses in-band management. An in-band connection requires that the SMruntime/SMagent and the access LUNs are configured.

- If the In-Band Storage Array WWN / Storage Array Name text box on Add NetApp SANtricity Storage Plug-in page is empty, an instance of the NetApp SANtricity Plug-in is created for all the storage arrays connected to this host.
- If the In-Band Storage Array WWN / Storage Array Name text box on Add NetApp SANtricity Storage Plug-in page contains a valid name, the NetApp SANtricity Plug-in looks for that string. However, if the In-Band Storage Array WWN / Storage Array Name text box contains an invalid name, the NetApp SANtricity Plug-in searches all access LUNs trying to find a match. When it does not find a match, the Error >> Test Connection - Failed message appears.



- If the host cannot connect to the storage array, perform the following actions to verify that the storage array is accessible from the host.
 1. In a Linux or UNIX OS, open a terminal page, and log in as root.
 2. At the shell prompt, type the following command:

```
# SMagent stop
```

- The following information is displayed:

```
stopping agent process 6916
# SMagent start
smagent started
checking device /dev/sday (/dev/sg57) : skipping checking device /dev/sdaz
(/dev/sg58) : skipping checking device /dev/sdba (/dev/sg59) : skipping
checking device <n/a> (/dev/sg6) : activating
checking device /dev/sdbb (/dev/sg60) : skipping
agentserver: ioexception occurred on rpcclientUTM for UTM device <n/a>
(/dev/sg6), native ioexception
from SMdevices:
# SMdevices |grep sg6
<n/a> (/dev/sg6) [storage array xxxxxx_Oracle EM, volume access, LUN 7,
volume id <600a0b800029e9f00000294b4ae5c7fd>]
```

- If a message similar to this one appears, there might be a problem with the storage array. Contact your Technical Support Representative before you try to restart SMagent.

How Do I Validate That NetApp SANtricity Plug-in Scripts Are Running Correctly?

The NetApp SANtricity Plug-in runs several scripts in the background to gather storage information for the NetApp SANtricity Plug-in to work correctly.

- The `ASMdevice.log` indicates that access to the ASM database was successful. The `ASMdevice.log` contains the following information:
 - o `ASMDiskgroup Name`
 - o `ASMDisk Name`
 - o `ASMPath`
- The `ASMdevice.log` is in the following location:

```
$AGENT_HOME/sysman/admin/scripts/emx/<NetApp_SANtricity_Storage_Plugin>
```

How Do I Troubleshoot ASM Report Issues?

1. Run the following command to make sure that the Oracle OEMDevices script can be run as the user oracle from sudo.

```
sudo /<agent_home_dir>/sysman/admin/scripts/emx/<NetApp_SANtricity_Storage_Plugin>/
Oracle OEMDevices/<agent_home_dir>/sysman/admin/scripts/emx/
<NetApp_Storage_System>/
```

2. Verify that the Oracle OEMDevices script works correctly:

```
oracle@server:~> sudo /<agent_home_dir>
/sysman/admin/scripts/emx//<NetApp_Storage_Array>/Oracle OEMDevices
/<agent_home_dir> /sysman/admin/scripts/emx/<netapp_storage_array>/
Built Tue Oct 12 04:39:05
Copyright (c) 2010 Netapp Corporation. All rights reserved.
/dev/sdd:0:0:17:Netapp:VirtualDisk:600a0b800029e9f00000000004ae5c063:000000000000:
600a0b80006e049000002ff44ceee1ed:FS_LOG_SUSE_RD5_XBB2
/dev/sde:0:1:2:Netapp:VirtualDisk:60080e500017c188000000004c744d90:000000000000:6
0080e500017be900000f6d74ceb4268:MH_Suse10_ASM
/dev/sdf:0:1:6:Netapp:VirtualDisk:60080e500017c188000000004c744d90:000000000000:6
0080e500017c1880000f8a84ceda022:SUSEASM_FLASH_MH
/dev/sdg:0:1:16:Netapp:VirtualDisk:60080e500017c188000000004c744d90:000000000000:
60080e500017be900000f7a24ceedeea:FS_CTL_SUSE_RD10
```

3. If the output does not show any ASM devices, verify that the sudoers file and the user oracle has been added to the disk group.

Appendix B – AutoSupport and WebLogic 12 Server Installation

This section provides an overview on how to install a standalone WebLogic 12 Server and the AutoSupport (ASUP) application. In order to utilize the AutoSupport feature, a separate installation of the WebLogic Server running Java 1.7 or later is required. Oracle EM 12 runs on Java 1.6 and is incompatible with the ASUP/REST application.

Installing the Java Development Kit (JDK)

Java Development Kit (JDK) 1.7 or later is required to install a standalone WebLogic Server. Perform the following to install a JDK:

1. Obtain a Java Development Kit 1.7 or greater from Oracle.
2. Open a terminal page and log in as root.
3. At the command prompt, enter the following command:

```
# rpm -uvh ./jdk-<xxxx>-<xxxxxx>-<xxx>.rpm
```

Example

```
# rpm -uvh ./jdk-7u67-linux-x64.rpm
```

- The following message is displayed:

```
Preparing... ##### [100%]  
Package jdk-<xxxx>:<xxxx>-<xxx>.<xxx>_<xx> is already installed
```

4. At the command prompt, enter the following command:

NOTE: Before entering the command below, you should first ensure the operation does not affect other running applications.

```
# ls -la /usr/java  
total 12  
drwxr-xr-x  3 root root 4096 <xxx> <xx> <xxxx> .  
drwxr-xr-x 14 root root 4096 <xxx> <xx> <xxxx> ..  
lrwxrwxrwx  1 root root  16 <xxx> <xx> <xxxx> default -> /usr/java/latest  
drwxr-xr-x  8 root root 4096 <xxx> <xx> <xxxx> jdk1.<xxxx>  
lrwxrwxrwx  1 root root  21 <xxx> <xx> <xxxx> latest -> /usr/java/jdk<xxxx>
```

Creating a WebLogic Installation Directory

After the Java Development Kit is installed, perform the following to create a dedicated installation directory for the WebLogic installation file:

1. Open a terminal window and log in as oracle.
2. At the command prompt, enter the following command:

```
[oracle@<xxxxxx> <xxx>]$ cd /<xxx>/app  
[oracle@<xxxxxx> <xxx>]$ pwd  
/<xxx>  
[oracle@<xxxxxx> <xxx>]$ mkdir WebLogic12  
[oracle@<xxxxxx> <xxx>]$ ls  
app  WebLogic12
```

Example

```
[oracle@bvr-jetta u01]$ cd /u01/app
[oracle@bvr-jetta u01]$ pwd
/u01
[oracle@bvr-jetta u01]$ mkdir WebLogic12
[oracle@bvr-jetta u01]$ ls
app  WebLogic12
```

Accessing the WebLogic 12 Installation file

After you have installed the Java Development Kit installed and created the WebLogic Installation directory, perform the following to access the WebLogic installation file:

1. Obtain the latest WebLogic.jar file from Oracle.
2. Place the WebLogic.jar file outside the WebLogic installation directory.

NOTE: For information on how to create a WebLogic installation directory, refer to [Creating a WebLogic Installation Directory](#).

3. Within a graphical application, open a terminal window, and log in as `oracle`.
4. At the command prompt, enter the following command:

Example

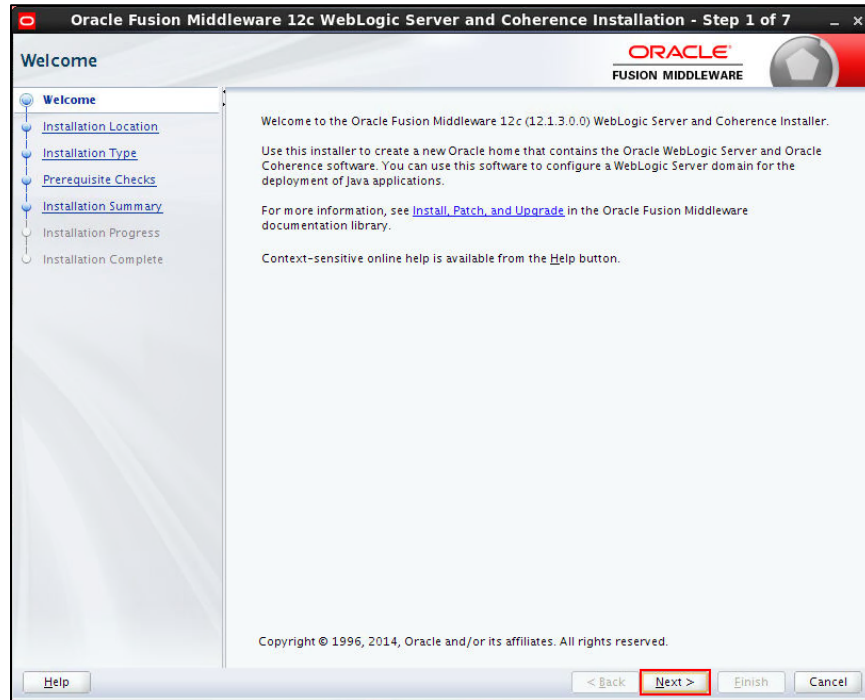
```
[oracle@<xxxx> <xxx>]$ cd /<u01>/oracle-bits//WLS12/12.1.3.0/
[oracle@<xxxx> <xxx>]$ ls
fmw_12.1.3.0.0_wls.jar
[oracle@<xxxx> <xxx>] java -jar ./fmw_12.1.3.0.0_wls.jar
```

The Oracle Fusion Middleware 12c WebLogic Server and Coherence Installation dialog box launches.

Installing the WebLogic Server

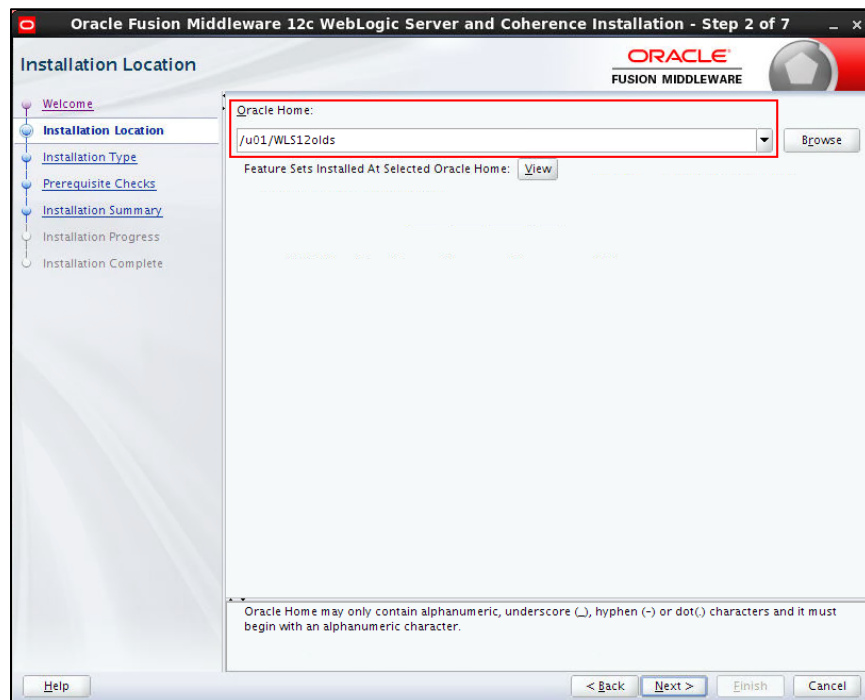
After launching the Oracle Fusion Middleware 12c WebLogic Server and Coherence Installation dialog box, perform the following to install the WebLogic Server:

1. Click **Next** under the Welcome screen of the WebLogic Server and Coherence Installation dialog box.



The Installation Location screen displays.

2. Enter the desired location for the installation under the Oracle Home field of the Installation Location screen.
NOTE: To ensure easier indication and deletion of the instance, pick a location outside the Oracle Enterprise Manager Home.

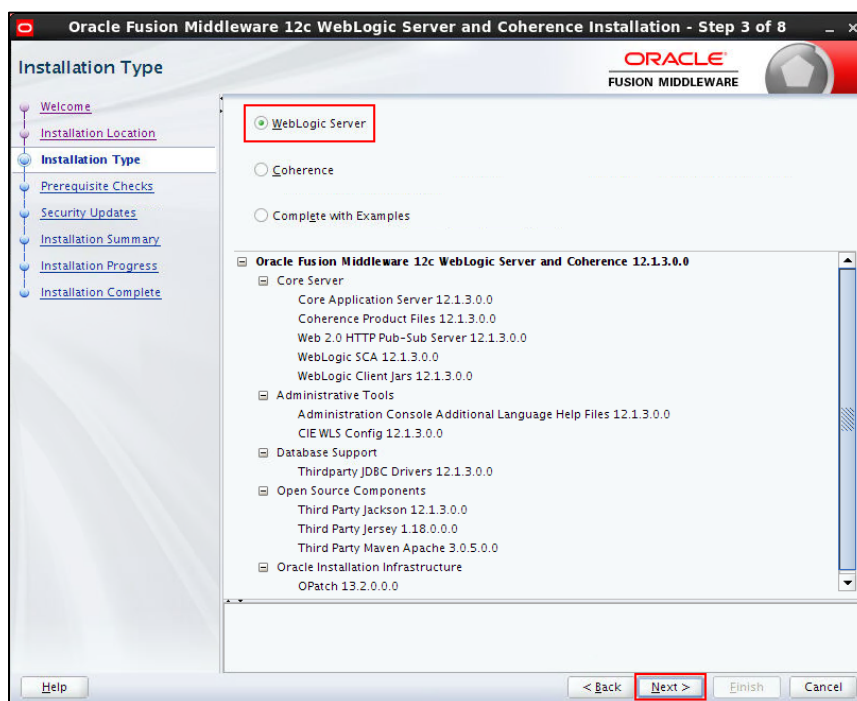


3. Click **Next**.

The Installation Type screen displays within the WebLogic Server and Coherence Installation dialog box.

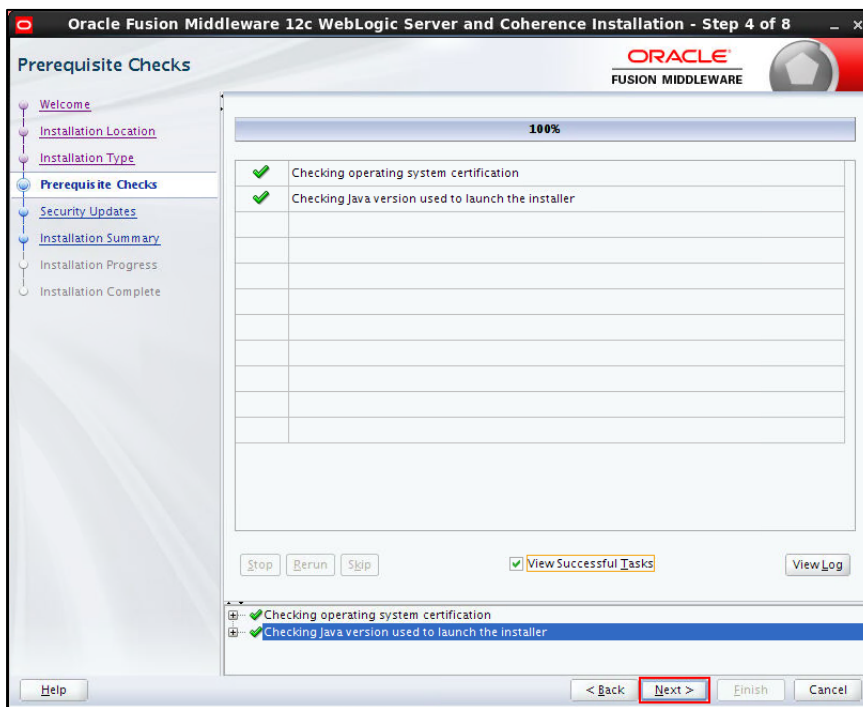
4. Under the Installation Type screen, select the WebLogic Server radio option and click **Next**.

NOTE: The WebLogic Server radio button should be selected by default under the Installation Type screen.



The Prerequisite Checks screen displays and performs a check of prerequisite tasks for the WebLogic Server installation.

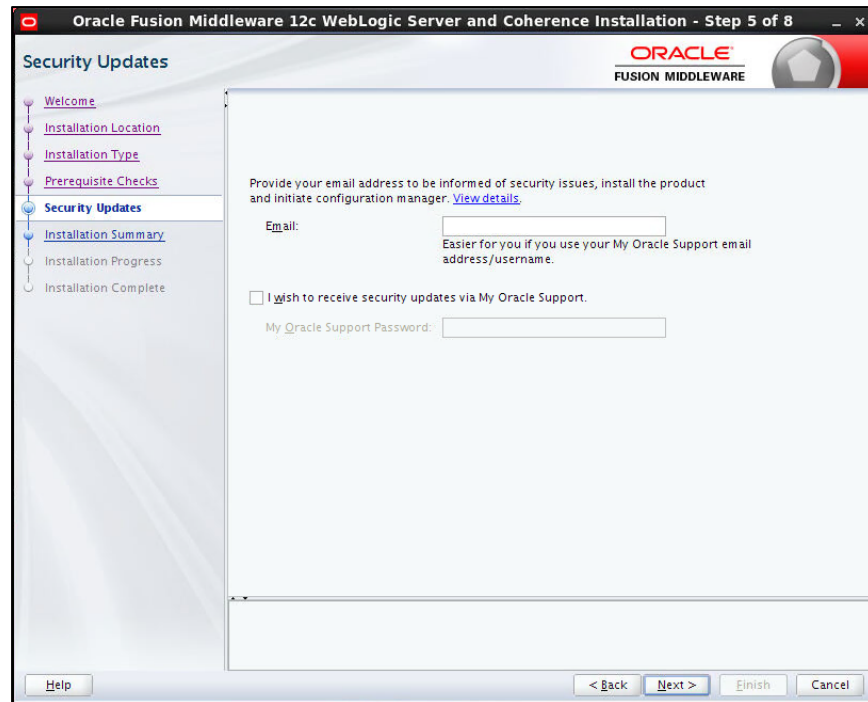
5. Upon successful check of the prerequisite tasks, click **Next**.



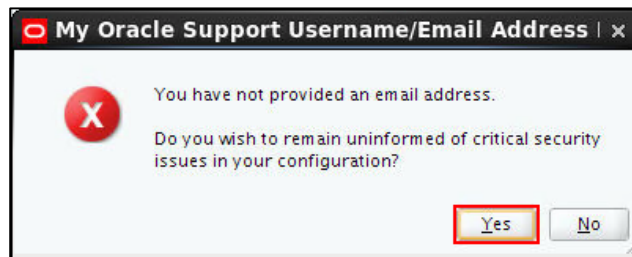
The Security Updates screen displays.

6. Under the Security Updates screen, perform the following to configure the optional Security Update preferences:
 - a. If needed, enter your email address under the Email field to receive security updates from Oracle.

- b. To receive security updates through your My Oracle Support, account, enter your Oracle Support password under the My Oracle Support Password field.

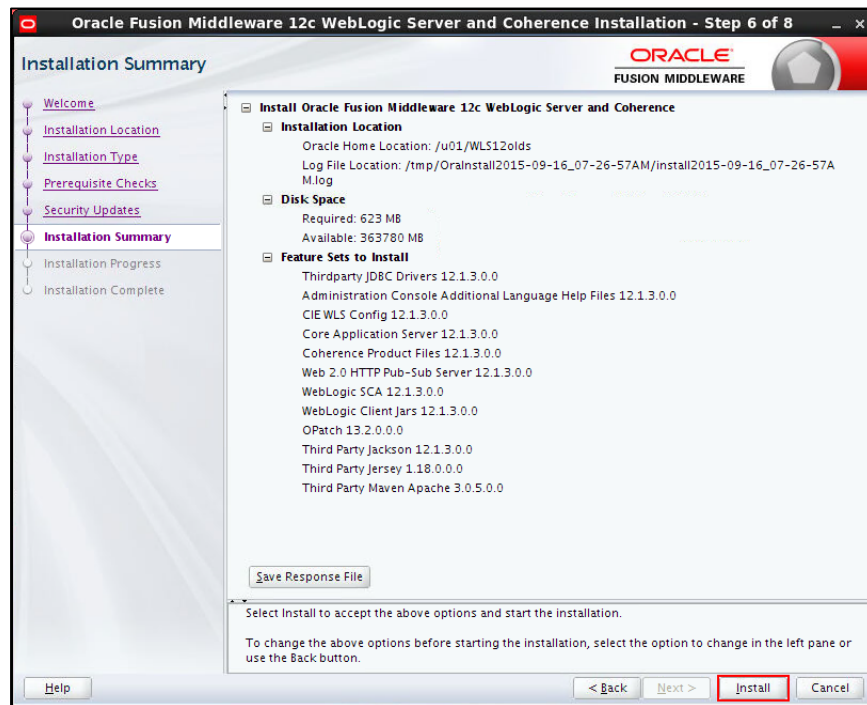


- 7. Click **Next** under the Security Updates screen.
 - a. If you did not enter Security Update preferences under the Security Update screen, a pop-up confirmation window displays.
 - b. Click **Yes** under the pop-up confirmation window.



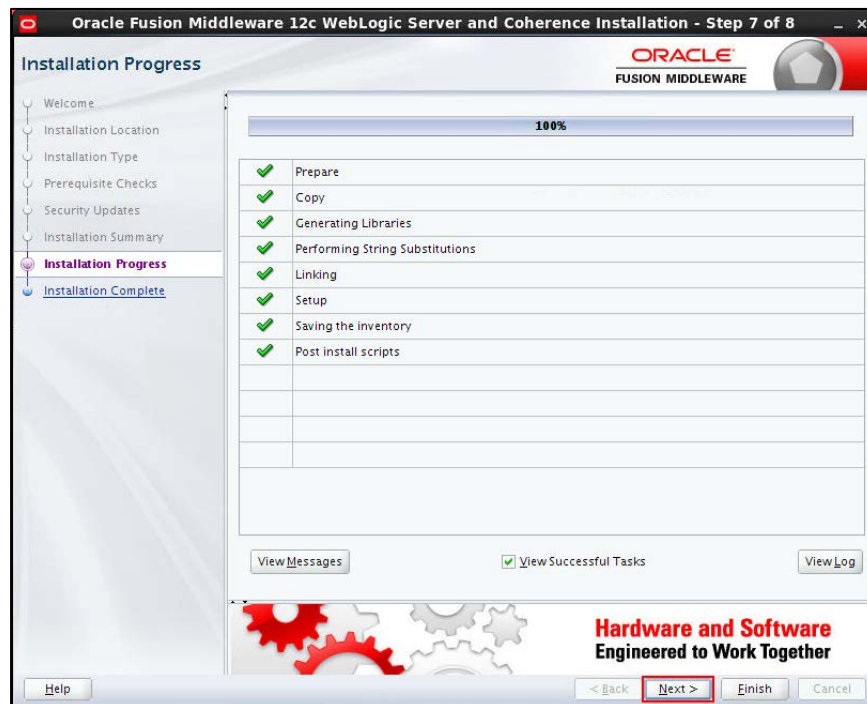
The Installation Summary screen displays.

- 8. Verify the displayed installation summary and click **Install**.



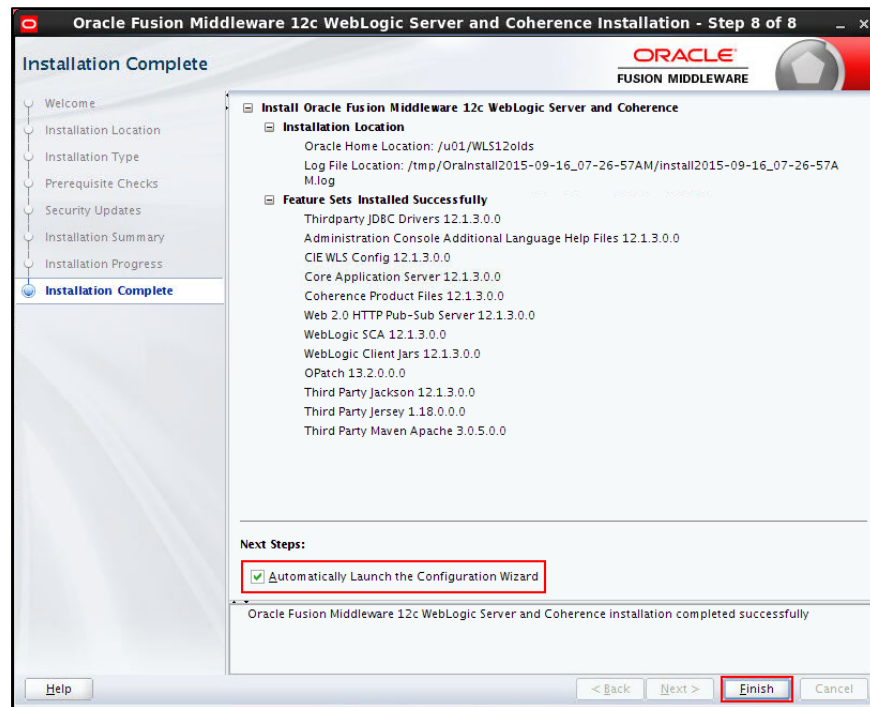
The Installation Progress screen displays and installation of the WebLogic Server begins.

9. Upon successful installation, click **Next**.



The Installation Complete screen displays.

10. Under the Installation Complete screen, check the **Automatically Launch the Configuration Wizard** option, and click **Finish**.



The Oracle Fusion Middleware Configuration Wizard displays.

Configuring the WebLogic Server

Perform the following to configure the WebLogic Server installation:

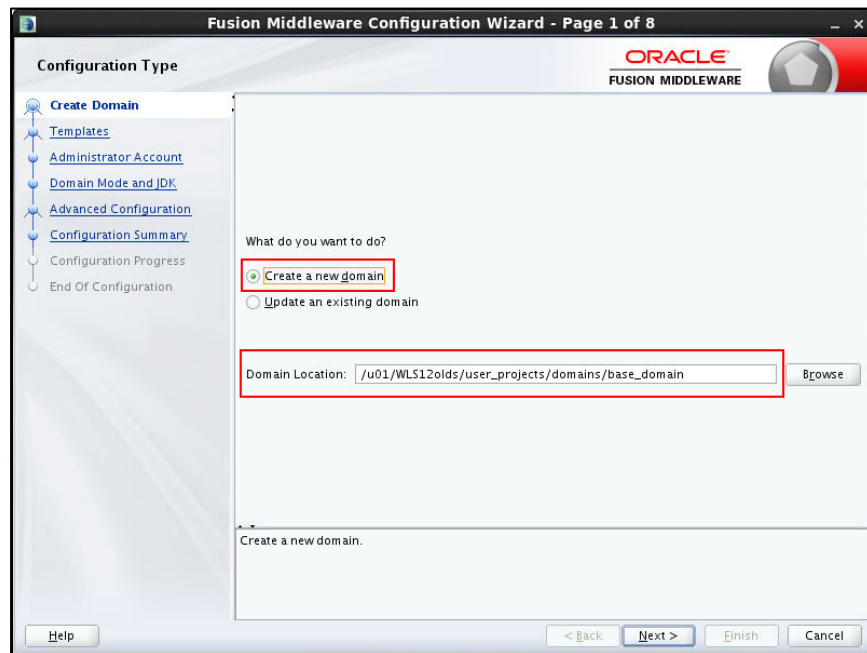
1. Launch the Oracle Fusion Middleware Configuration Wizard.

The Fusion Middleware Configuration Wizard dialog box displays.

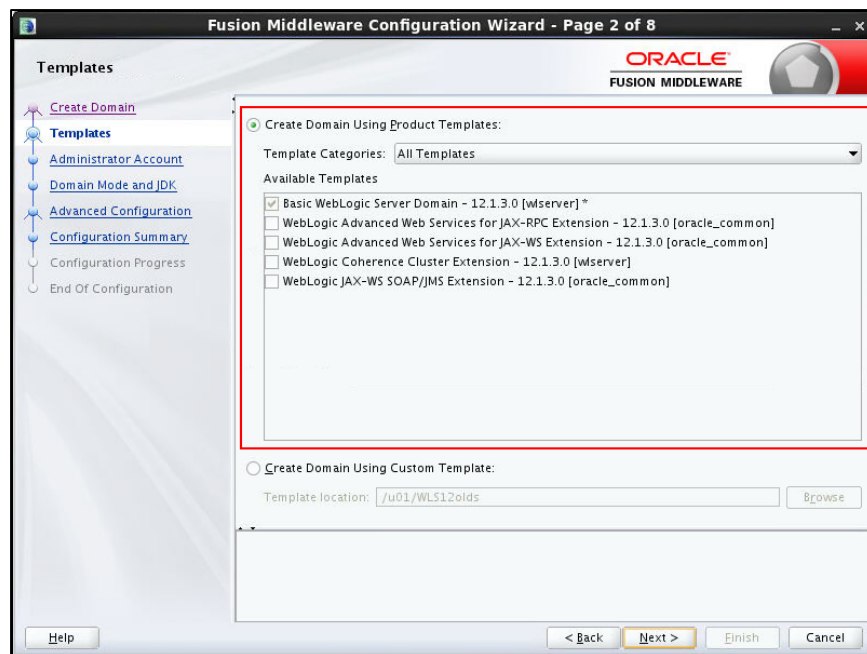
NOTE: You can launch the Oracle Fusion Middleware Configuration Wizard automatically after successfully installing the WebLogic Server. For detailed information on how to install the WebLogic Server, refer to [Installing the WebLogic Server](#).

2. Under the Create Domain screen, select the **Create a new domain** radio option, and enter the desired domain location under the Domain Location field.

NOTE: When specifying a domain location, pick a location outside the Oracle Enterprise Manager Home to ensure for easier deletion of the WebLogic Server directories.



3. Click **Next**.
The Templates screen is displayed.
4. Under the Templates screen, perform the following:
 - a. Select the **Create Domain Using Product Templates** option.
 - b. Under the Template Categories field, select **All Templates**.
 - c. Under the Available Templates field, select **Basic WebLogic Server Domain - 12.1.3.0 (wlserver)**.



5. Click **Next**.
The Administrator Account screen is displayed.

6. Under the Administrator Account screen, enter a unique username and password for the WebLogic Server administrator account within the appropriate fields.

Fusion Middleware Configuration Wizard - Page 3 of 8

Administrator Account

ORACLE
FUSION MIDDLEWARE

Create Domain
Templates
Administrator Account
Domain Mode and JDK
Advanced Configuration
Configuration Summary
Configuration Progress
End Of Configuration

Name: wls_admin
Password:
Confirm Password:

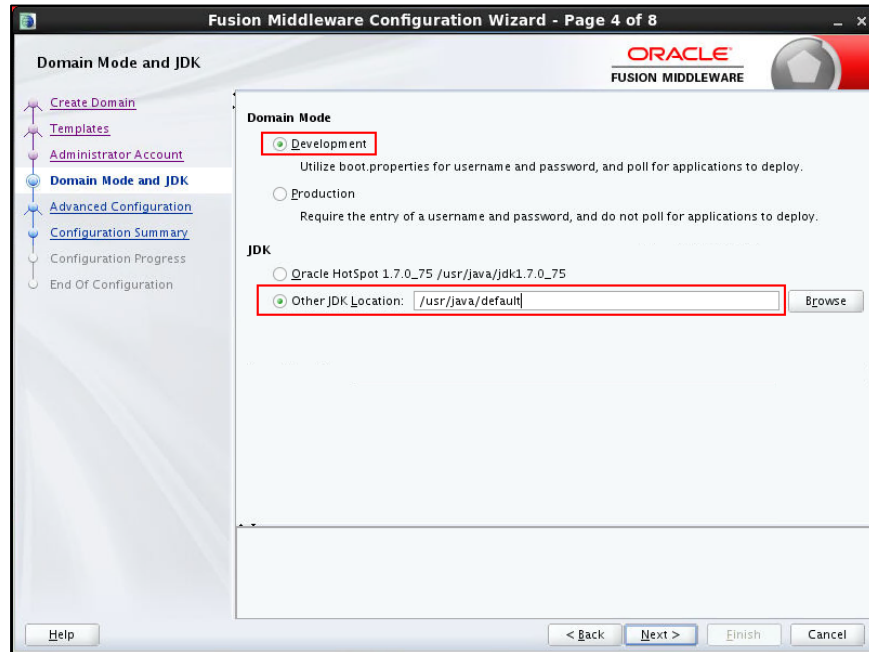
Must be the same as the password. Password must contain at least 8 alphanumeric characters with at least one number or special character.

Help < Back Next > Finish Cancel

7. Click **Next**.
The Domain Mode and JDK screen is displayed.
8. Under the Domain Mode and JDK screen, perform the following:
 - a. Select the **Development** option under the Domain Mode section.
 - b. Select the **Other JDK Location** option under the JDK section, and enter the following under the corresponding field:

```
/usr/java/default
```

NOTE: By specifying the default location under the Other JDK location field, you can change the JDK without having to reconfigure. Before specifying the default location, you should ensure the operation does not affect other running applications.

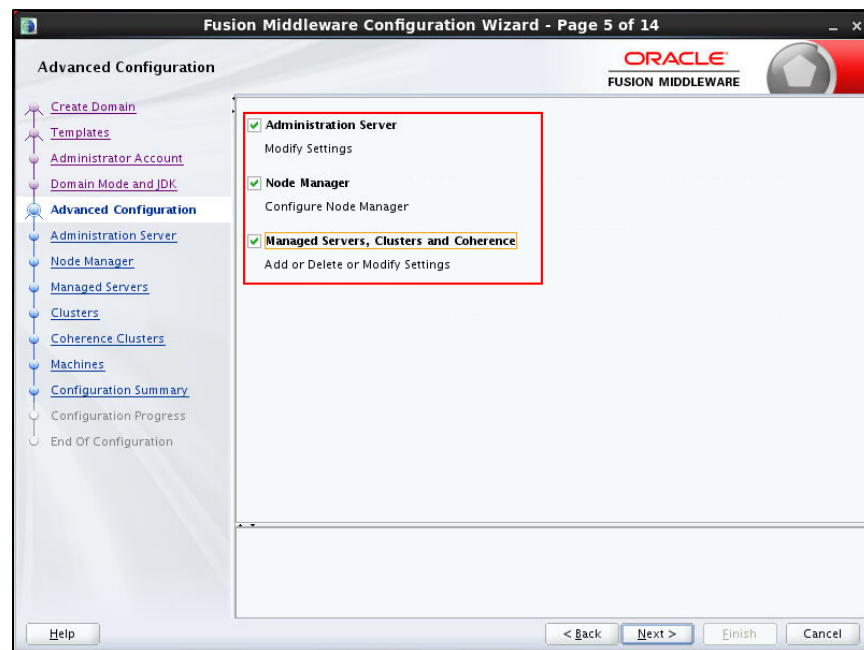


9. Click **Next**.

The Advanced Configuration screen is displayed.

10. Under the Advanced Configuration screen, perform the following:

- Select the **Administration Server** option.
- Select the **Node Manager** option.
- Select the **Managed Servers, Clusters and Coherence** option.



11. Click **Next**.

The Administration Server screen displays.

12. Under the Administration Server screen, perform the following:

- a. Enter the name of the server under the Server Name field.
- b. Enter the listen address under the Listen Address field.
NOTE: For easier identification, enter a unique name.
- c. Check the **Enable SSL** option.

Fusion Middleware Configuration Wizard - Page 6 of 14

ORACLE
FUSION MIDDLEWARE

Administration Server

Create Domain
Templates
Administrator Account
Domain Mode and JDK
Advanced Configuration
Administration Server
Node Manager
Managed Servers
Clusters
Coherence Clusters
Machines
Configuration Summary
Configuration Progress
End Of Configuration

Server Name: WLS12-AdminServer
Listen Address: bvr-olds
Listen Port: 7011
Enable SSL: ☒
SSL Listen Port: 7012

The name must not be null or empty and may not contain any : , = * ? % _ cloned.

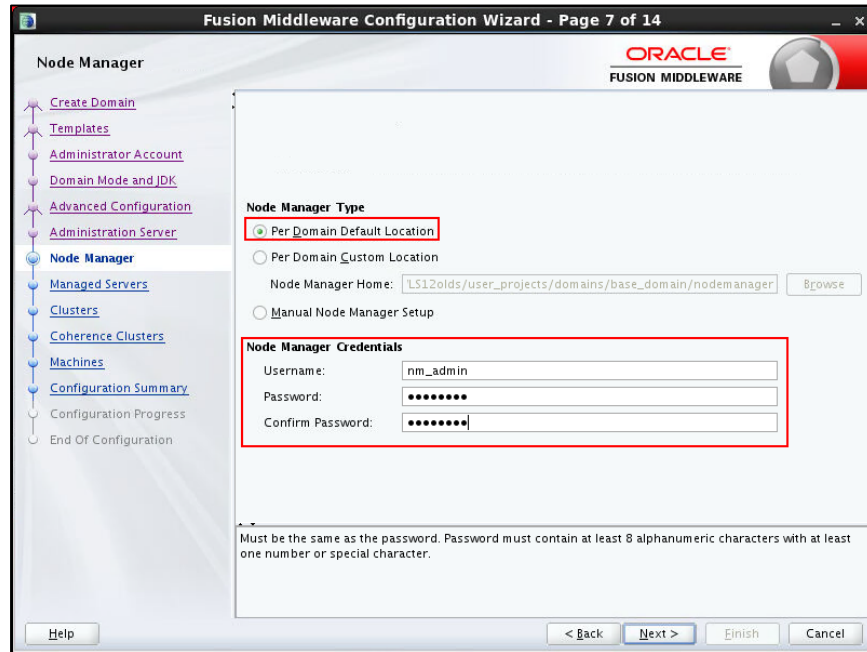
Help < Back Next > Finish Cancel

13. Click **Next**.

The Node Manager screen is displayed.

14. Under the Node Manager screen, perform the following:

- a. Select **Per Domain Default Location** under the Node Manager Type section.
- b. Enter a unique username and password under the appropriate fields within the Node Manager Credentials section.



15. Click **Next**.

The Managed Servers screen is displayed.

16. Click **Add**.

A line item entry appears under the list section of Managed Servers screen.

17. Under the line item entry, perform the following:

a. Enter ASUPserver under the Server Name column.

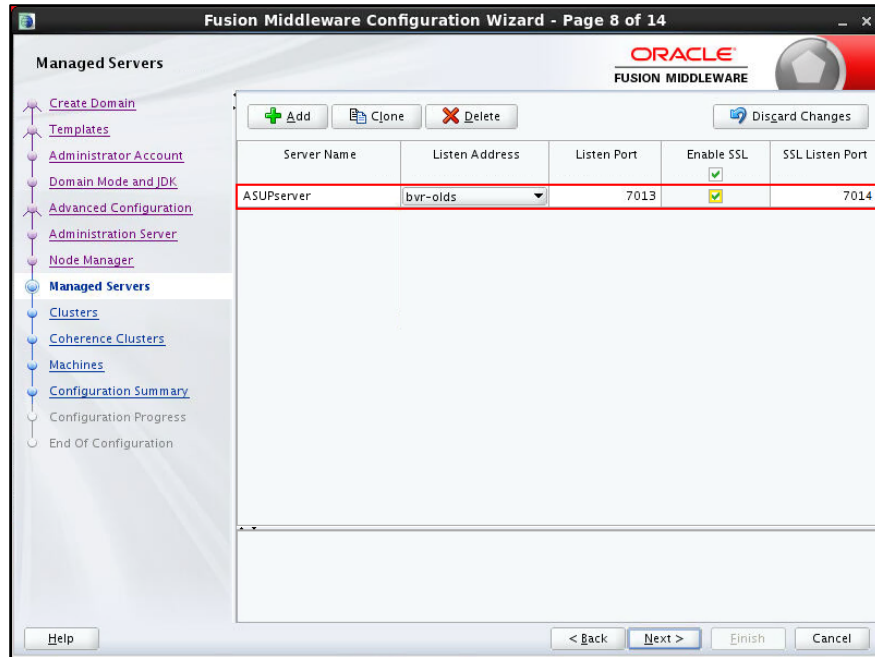
b. Enter the listen address under the Listen Address column.

NOTE: The listen address specified under the Listen Address column must be identical to the listen address specified under the Address Server screen.

c. Check the **Enable SSL** column.

d. Enter the desired ports under the Listen Port and SSL Listen Port columns.

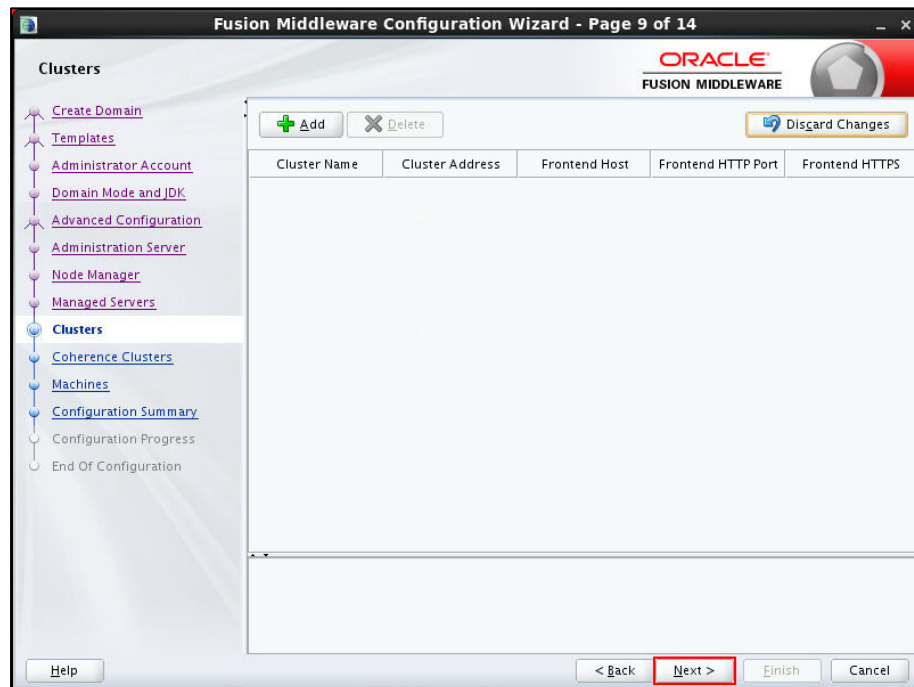
NOTE: Make sure to specify unused ports under the Listen Port and SSL Listen Port columns.



18. Click **Next**.

The Clusters screen is displayed.

19. Click **Next**.



The Machines screen is displayed.

20. Click **Add**.

A line item entry appears under the list section of the Machines screen.

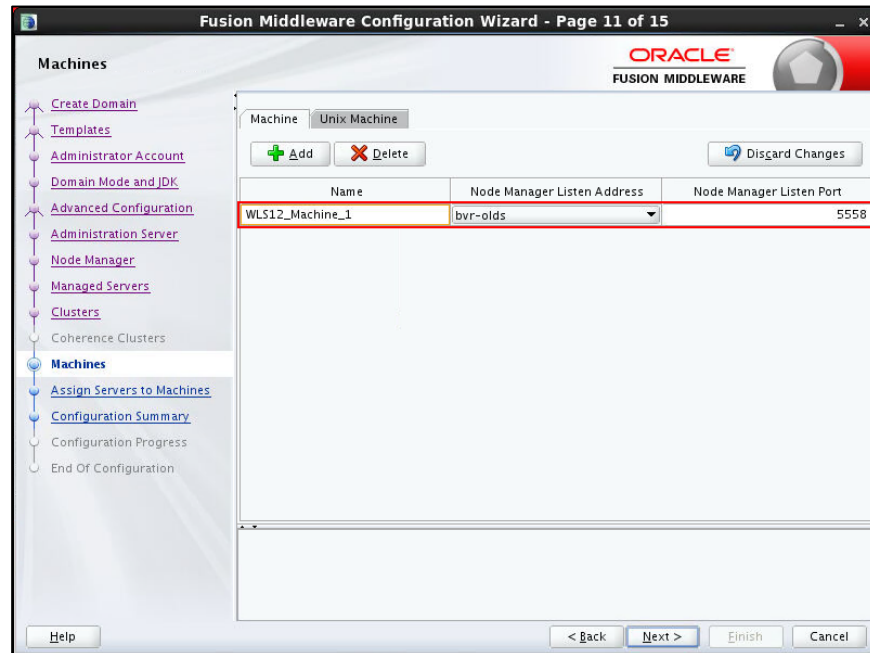
21. Under the line item entry, perform the following:

- a. Enter a unique machine name under the Name column.

- b. Enter the listen address under the Node Manager Listen Address column.

NOTE: The listen address specified under the Node Manager Listen Address column must be identical to the listen address specified under the Address Server and Managed Servers screens.

- c. Enter the desired port under the Node Manager Listen Port column.

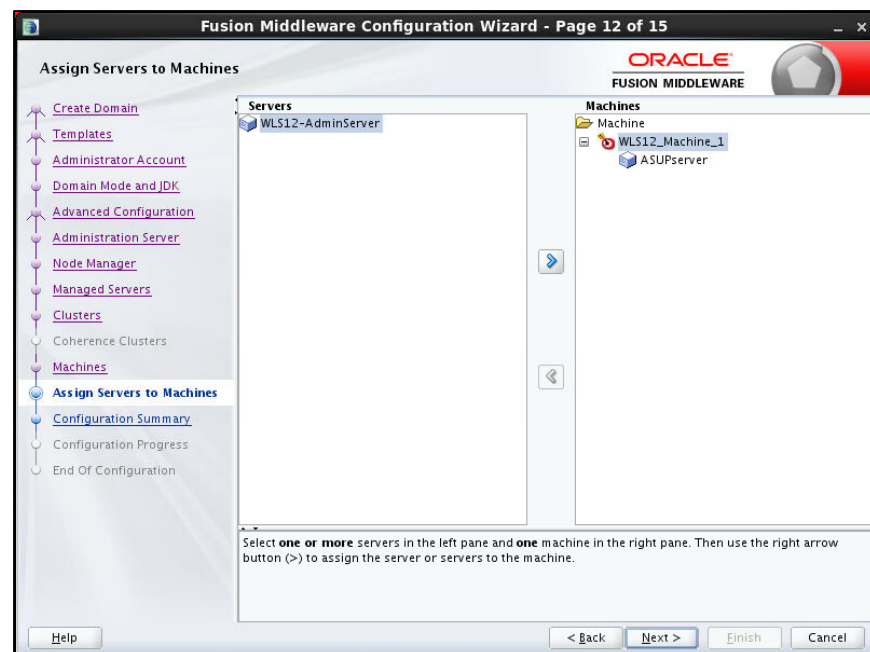


22. Click **Next**.

The Assign Servers to Machines screen displayed.

23. Select a server listed under the Servers panel and click the **right arrow**.

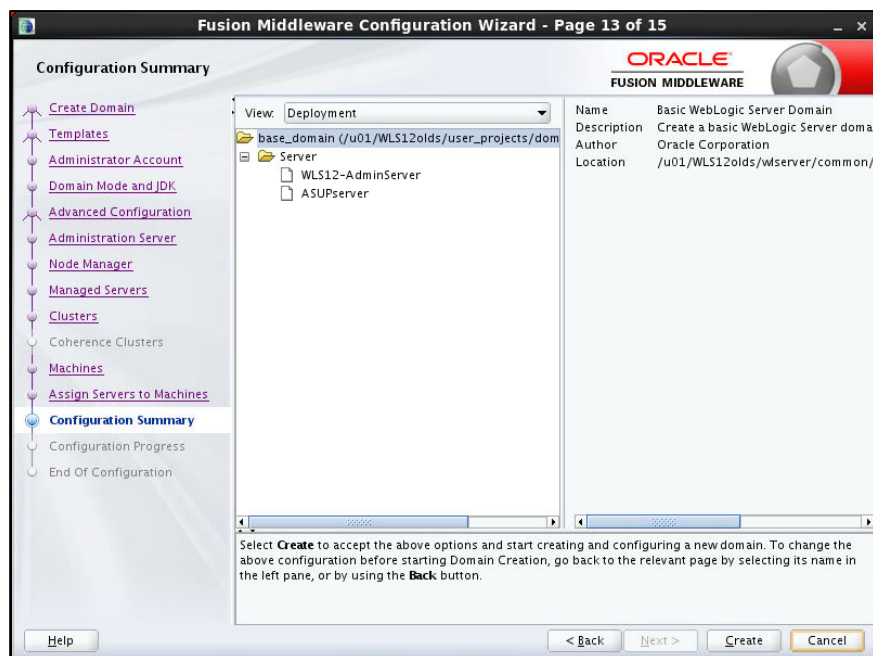
The selected server displays under the Machines panel.



24. Repeat Step 23 for the remaining server under the Servers panel.

25. Click **Next**.

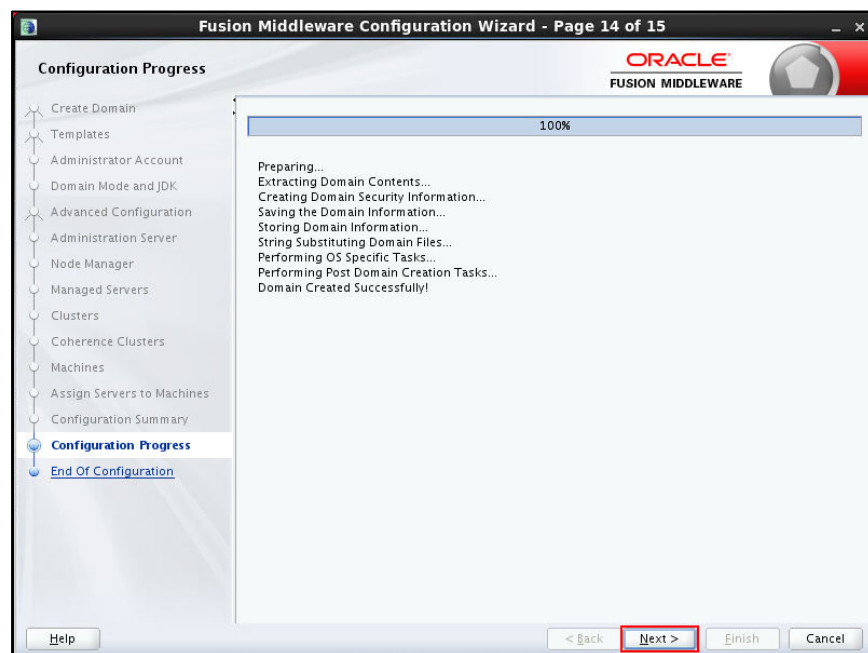
The Configuration Summary screen is displayed.



26. Click **Create**.

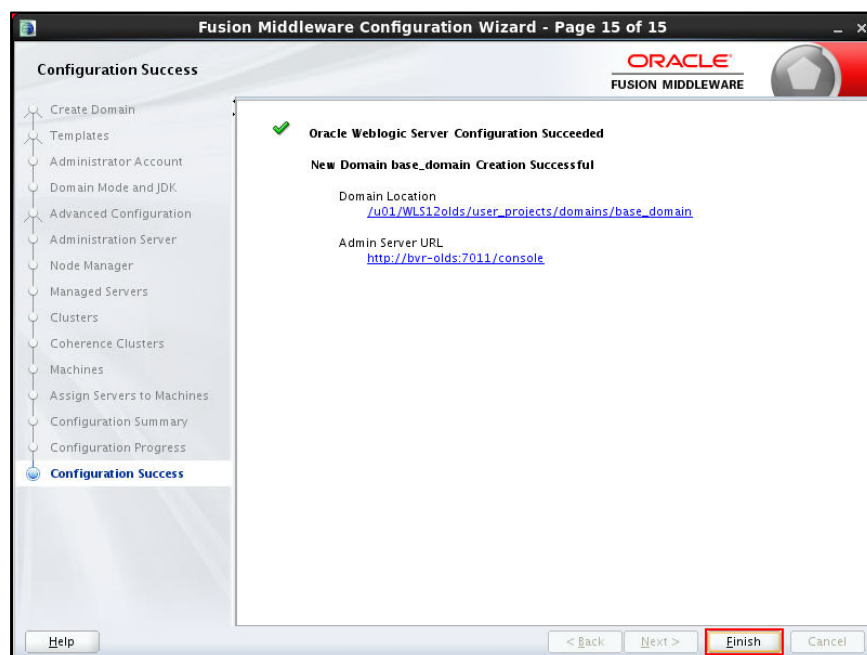
The Configuration Progress screen displays and the configuration process begins.

27. Upon successful installation, click **Next**.



The Configuration Success screen is displayed.

28. The Domain Location and Admin Server URL displays within the Configuration Success screen.



29. Click **Finish** to complete the configuration and close the Oracle Fusion Middleware Configuration Wizard dialog box.

Starting the WebLogic Server

After you complete configuration the WebLogic Server, perform the following to start the WebLogic Server:

1. Open a terminal window and log in as oracle.
2. Go to the WebLogic Server domain location.
3. At the command prompt, enter the following command:

```
[oracle@<xxxx>]$ cd /[xxx]/app/[xxxx]/user_projects/domains/base_domain/bin
[oracle@<xxxx> bin]$ ls
nodemanager          setDomainEnv.sh      startManagedWebLogic.sh  startWebLogic.sh
stopNodeManager.sh
server_migration      setStartupEnv.sh     startNodeManager.sh      stopComponent.sh
stopRSDaemon.sh
service_migration     startComponent.sh    startRSDaemon.sh
stopManagedWebLogic.sh stopWebLogic.sh
[oracle@<xxxx> bin]$ ./startNodeManager.sh
NODEMGR_HOME is already set to
/u01/app/WLS12test/user_projects/domains/base_domain/nodemanager
CLASSPATH=/usr/java/jdk1.7.0_67/lib/tools.jar:/u01/app/WLS12test/wlserver/server/lib/weblogic_sp.jar:/u01/app/WLS12test/wlserver/server/lib/weblogic.jar:/u01/app/WLS12test/wlserver/./oracle_common/modules/net.sf.antcontrib_1.1.0.0_1-0b3/lib/ant-contrib.jar:/u01/app/WLS12test/wlserver/modules/features/oracle.wls.common.nodemanager_2.0.0.0.jar::/u01/app/WLS12test/wlserver/..

base_domain -> /u01/app/WLS12test/user_projects/domains/base_domain
```

The node manager starts.

4. Press **Ctrl+C**.

The node manager closes.

5. Within the terminal window, enter the following command:

```
[oracle@<xxxx> bin]$ ./startNodeManager.sh >/dev/null 2>&1 &  
[1] 23448
```

The node manager starts in the background.

6. Within the terminal window, enter the following command:

```
[oracle@<xxxx>]$ cd /[xxx]/app/[xxxx]/user_projects/domains/base_domain/bin  
[oracle@<xxxx>base_domain]$ ./startWebLogic.sh
```

The WebLogic Server starts.

7. Press **Ctrl+C**.

The WebLogic Server closes.

8. Within the terminal window, enter the following command:

```
[oracle@<xxxx>base_domain]$ ./startWebLogic.sh > /dev/null 2>&1 &
```

The WebLogic Server starts in the background.

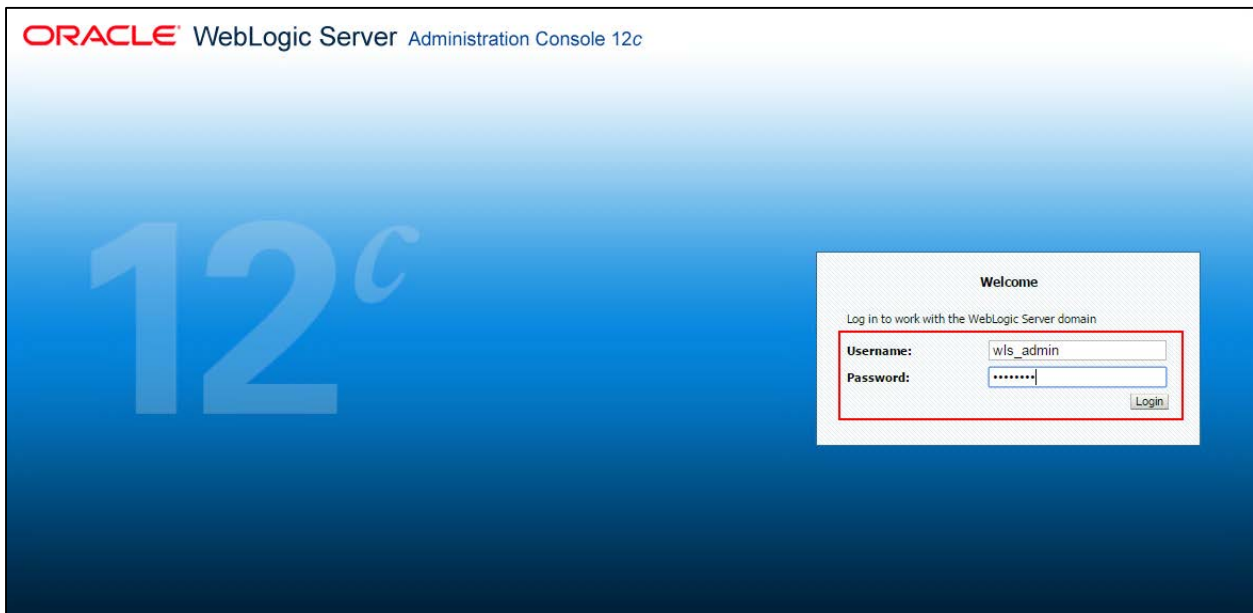
9. Through a web browser, enter the Admin Server URL.

Example

```
http://<xxxxxxxx>:<xxxx>/console/login/LoginForm.jsp
```

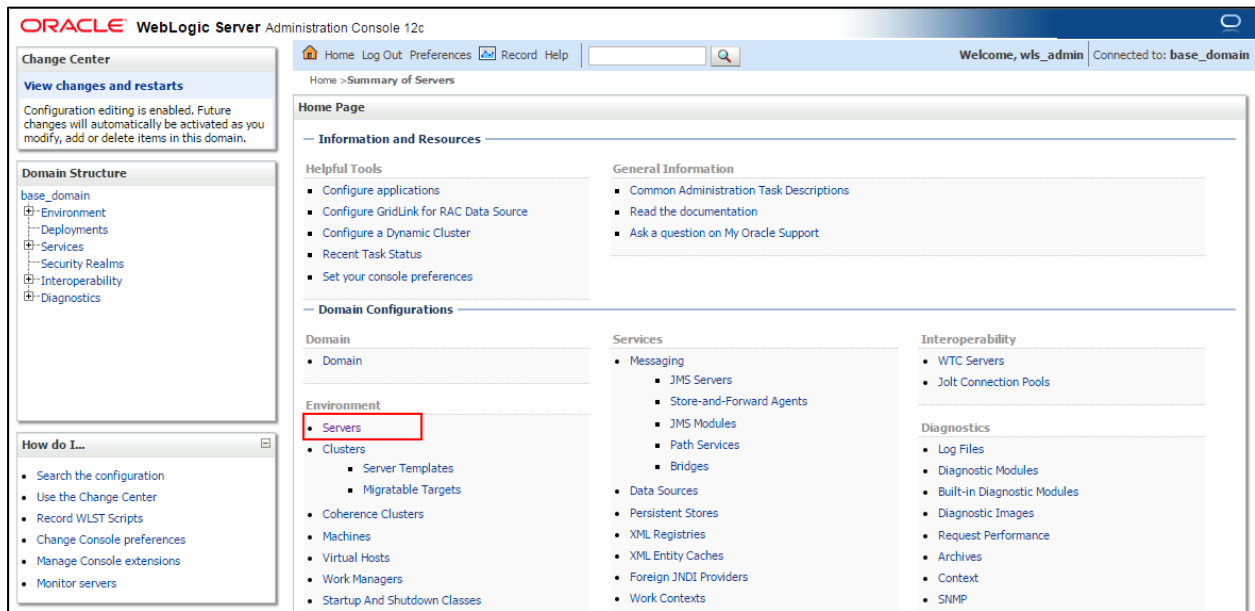
The login screen for the Oracle WebLogic Server Administration Console 12c is displayed.

10. Under the login screen, enter your username and password (as specified under the [Administrator Account screen within the Configuration wizard](#)), and click **Login**.



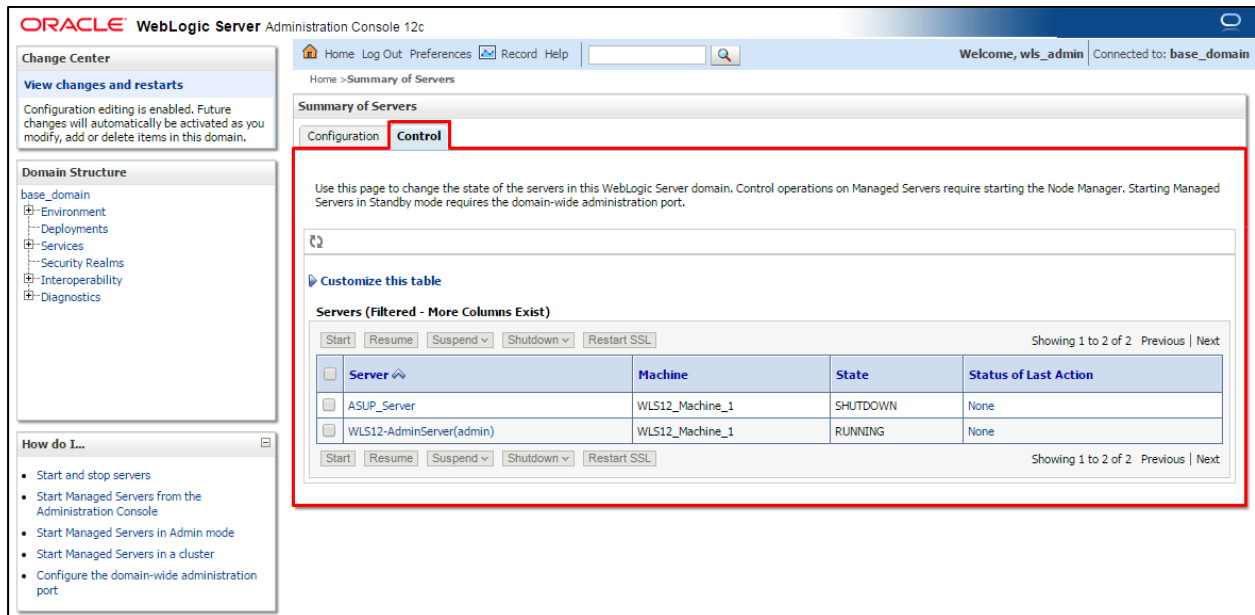
The homepage of the Oracle WebLogic Server Administration Console 12c is displayed.

11. From the homepage of the Administration Console, click **Servers** under the Environment section.



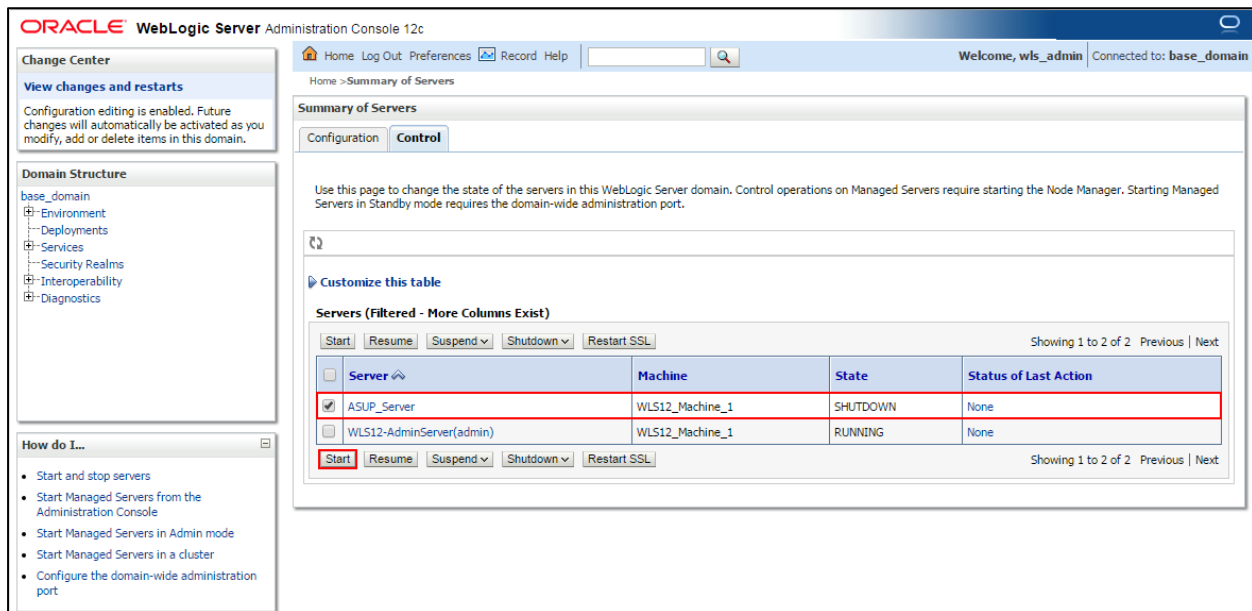
The Summary of Servers screen is displayed.

12. Under the Summary of Servers screen, click the **Control** tab.

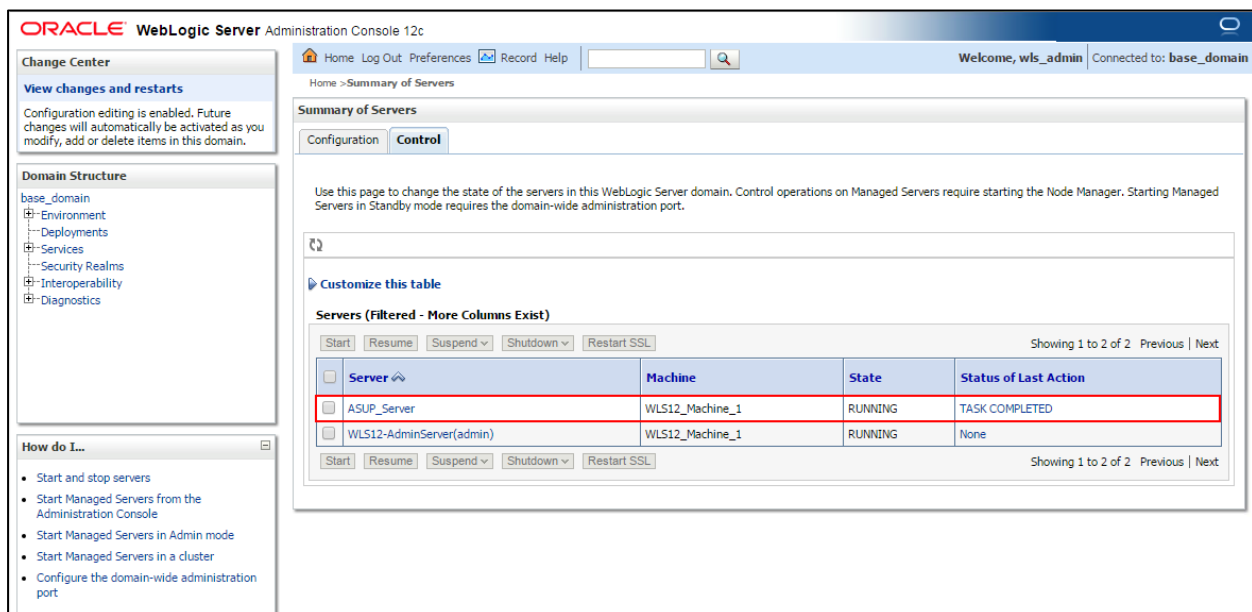


The control table for the servers is displayed.

13. Under the control table, select the ASUP server, and click **Start**.



The state of the ASUP server changes from SHUTDOWN to RUNNING under the control table.



- If you have created a file to assist with automating the startup of the WebLogic Server, enter the following command from a terminal window:

```
[oracle@<xxxx> ~]$ cat ./start<xxxx>
## Starting up the Node Manager
nohup
/<xxx>/<xxx>/<xxxx>/user_projects/domains/base_domain/bin/startNodeManager.sh >./<W
LSTest>.log 2>&1 &
## Starting up the WebLogic Server
nohup
/<xxx>/<xxx>/<xxxx>/user_projects/domains/base_domain/startWebLogic.sh >> ./<xxxx>.
log 2>&1 &
[oracle@bvr-jetta ~]$
```

Example

```
[oracle@bvr-olds442 ~]$ cat ./startWLS12olds
## Starting up the Node Manager
nohup
/u01/app/WLS12olds/user_projects/domains/base_domain/bin/startNodeManager.sh >./WLS
Test.log 2>&1 &
## Starting up the WebLogic Server
nohup
/u01/app/WLS12olds/user_projects/domains/base_domain/startWebLogic.sh >> ./WLSTest.
log 2>&1 &
[oracle@bvr-olds442 ~]$
```

The domain location for the WebLogic Server starts.

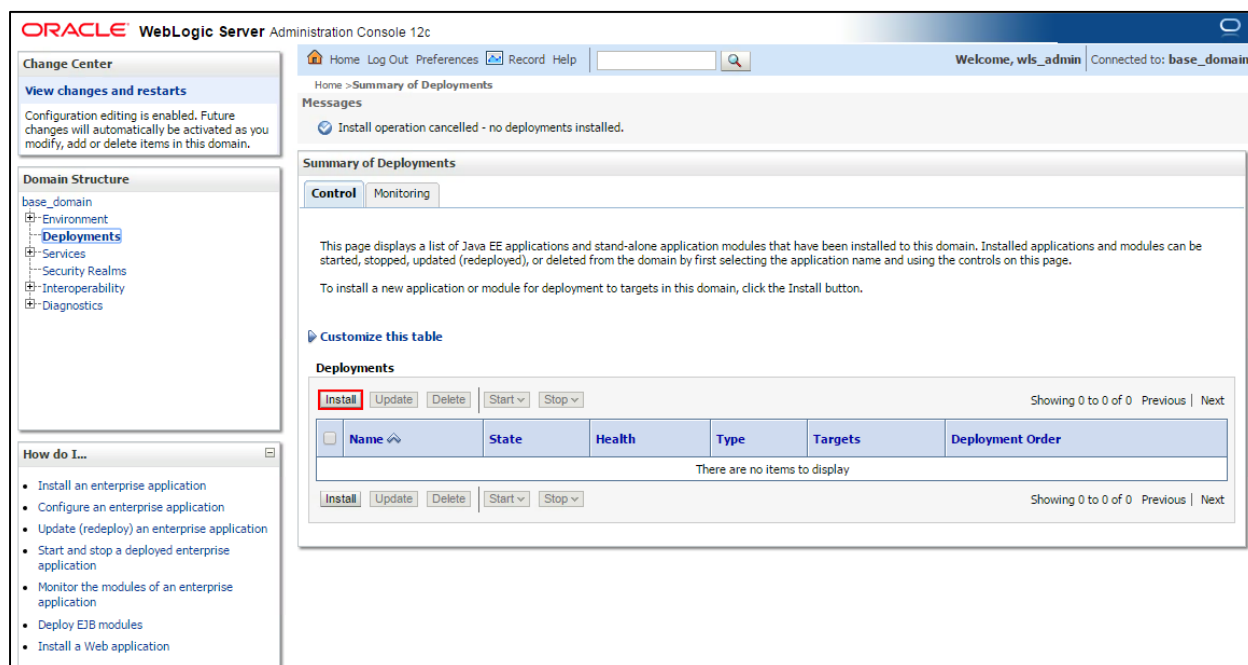
Loading the ASUP.war file to the WebLogic Server

After you start the WebLogic Server, perform the following to load the ASUP.war file to the WebLogic Server:

1. Within the Oracle WebLogic Server Administration Console, click **Deployments**.

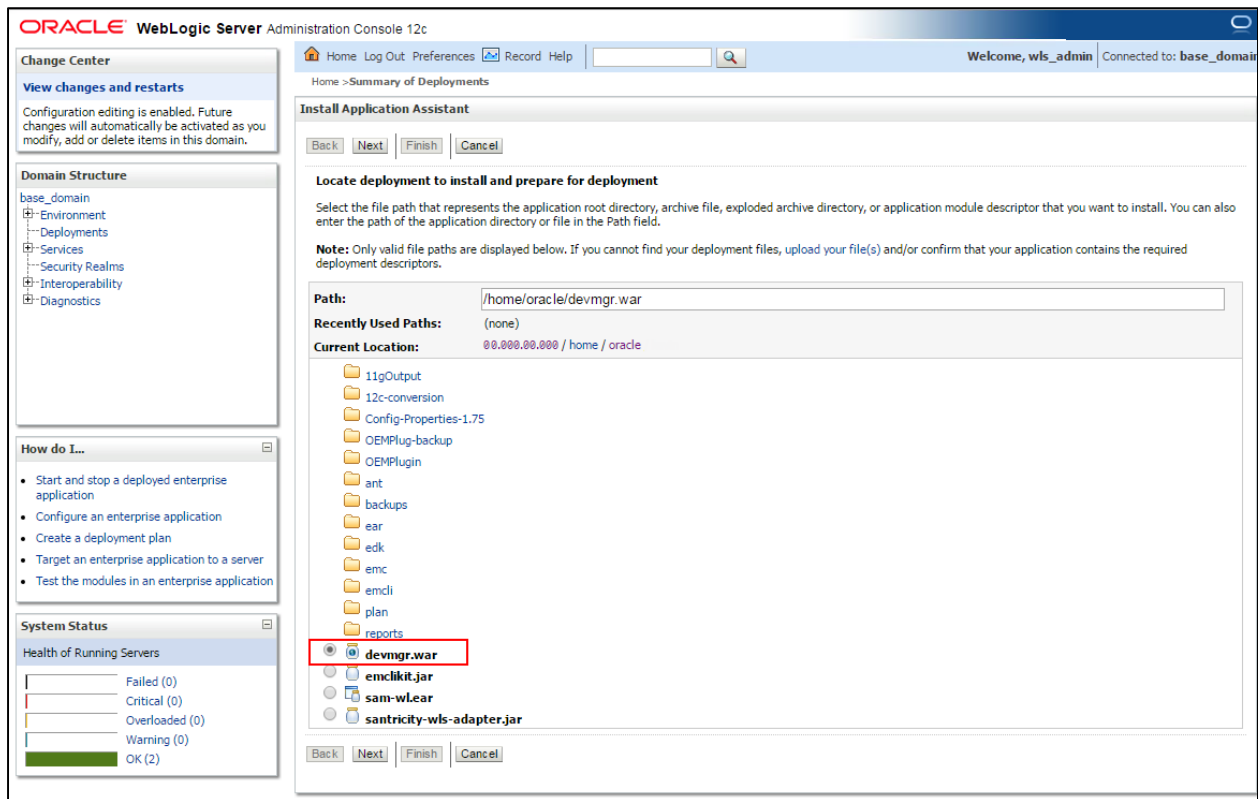
The Deployment table is displayed.

2. Click **Install**.



The Install Installation Application screen is displayed.

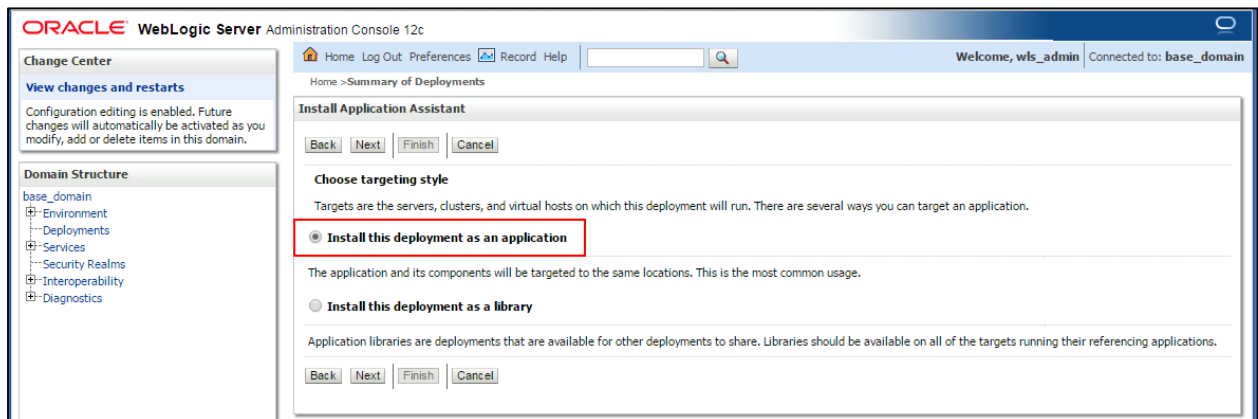
3. Under the Path field, enter the location for the unzipped Oracle 3.2 NetApp SANtricity Management Plug-in folder.
The unzipped files for Oracle 3.2 NetApp SANtricity Management Plug-in are displayed.
4. Select **devmgr.war**.



5. Click **Next**.

The Install Application Assistant-Choose targeting style dialog box is displayed.

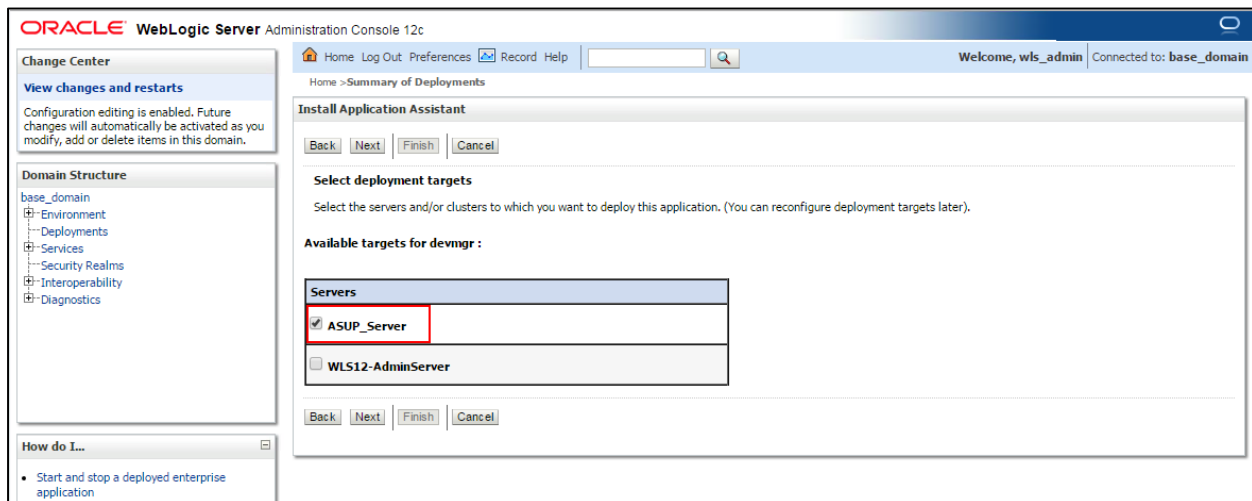
6. Select **Install this deployment as an application**.



7. Click **Next**.

The Install Application Assistant – Select deployment targets dialog box is displayed.

8. Select the **ASUP_Server**.

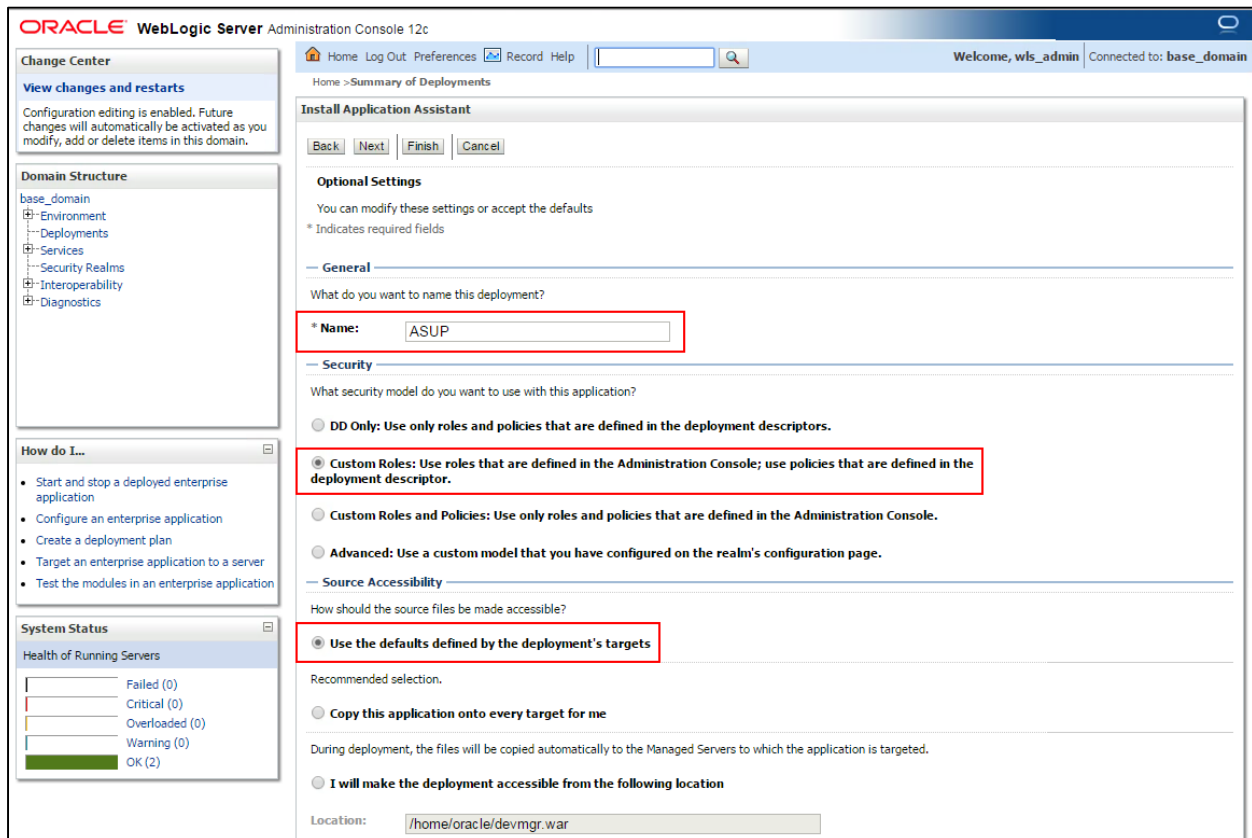


9. Click **Next**.

The Install Application Assistant – Optional Settings dialog box is displayed.

10. Within the Install Application Assistant – Optional Settings dialog box, perform the following:

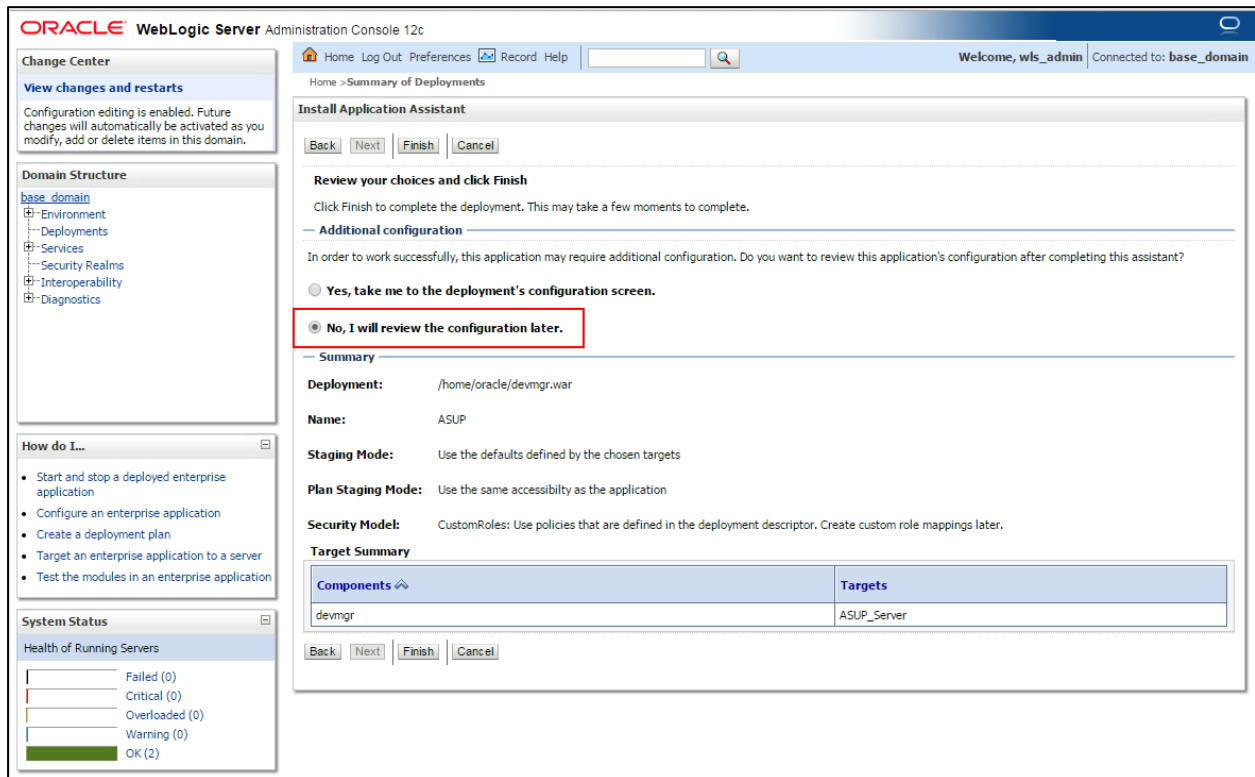
- If needed, enter a customized name for the deployment under the Name field.
- Under the Security section, select **Custom Roles: Use roles that are defined in the Administration Console; use policies that are defined in the deployment descriptor**.
- Under the Source Accessibility section, select **Use the defaults defined by the deployment's targets**.



11. Click **Next**.

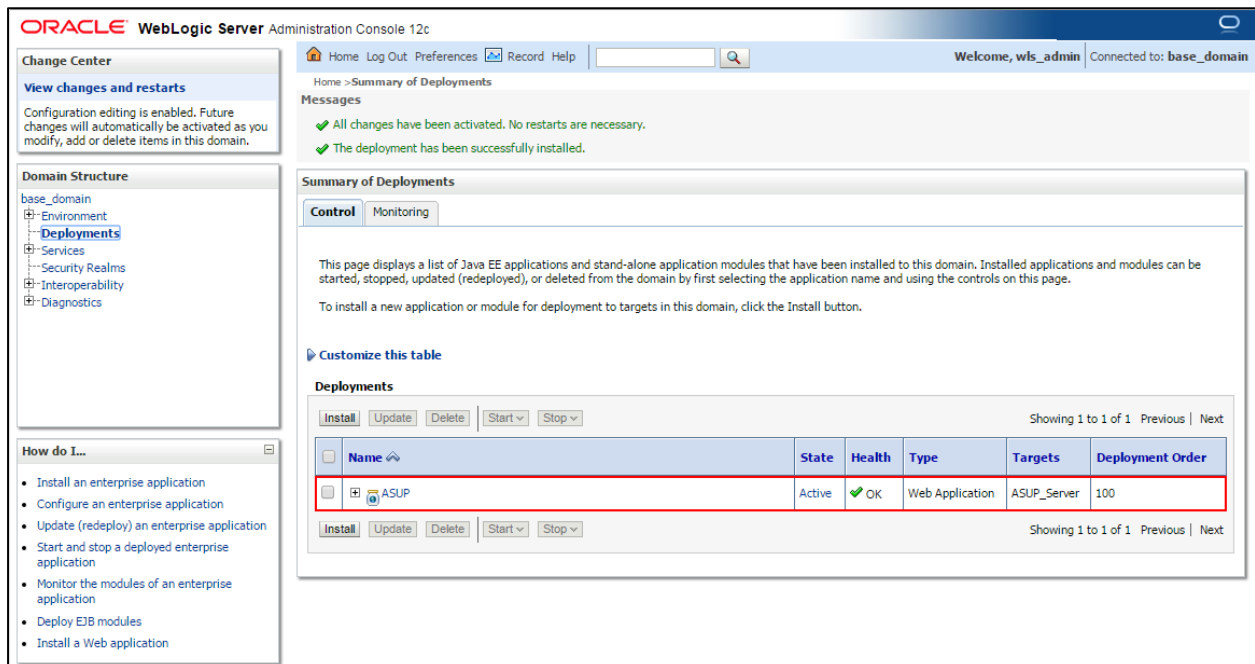
The Install Application Assistant – Review your choices and click Finish dialog box is displayed.

12. Under the Additional configuration section, select **No, I will review the configuration later**.



13. Click **Finish**.

Upon successful installation, the Summary of Deployments screen is displayed, and the devmgr.war file (under the name specified during the install process) is listed under the Deployments table.



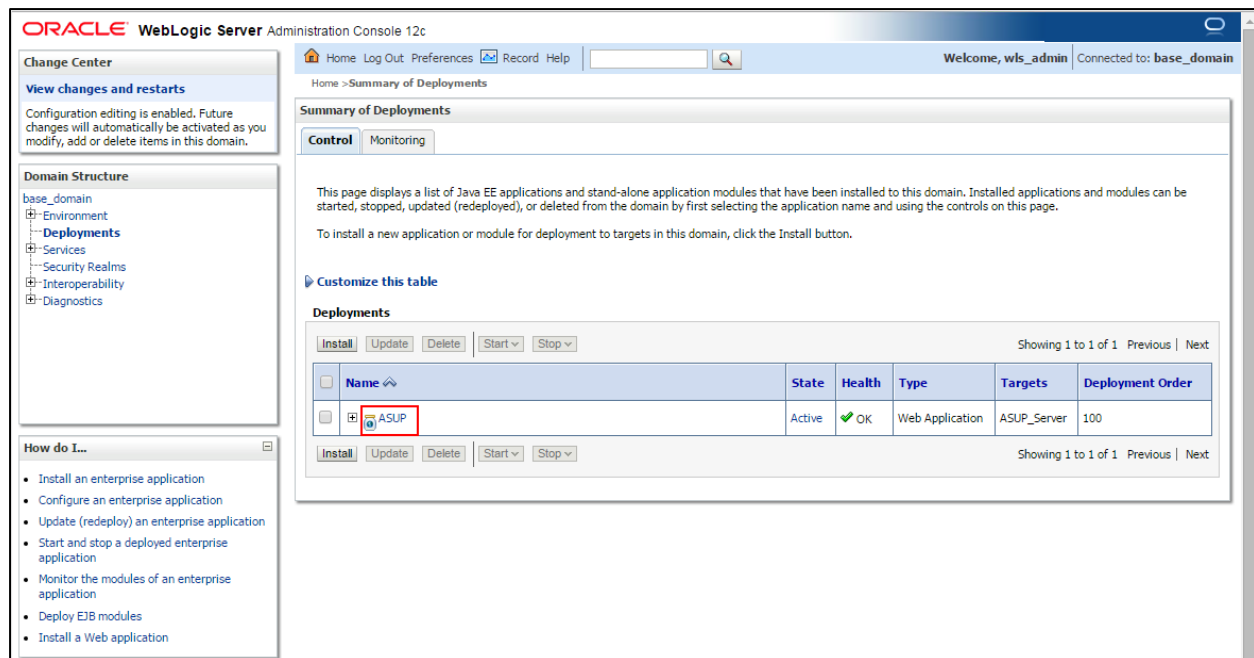
Configuring Users and Roles

The standalone WebLogic Server has two required roles. The following roles must be created and assigned to users in order to utilize the standalone WebLogic Server:

- storage.ro [Read Only]
- storage.rw [Read Write]

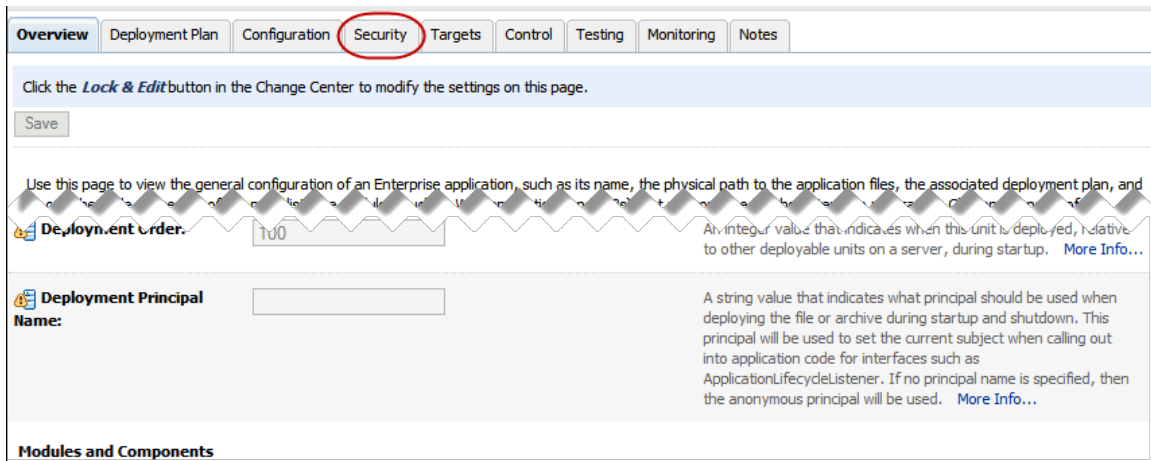
Configuring Roles

1. On the WebLogic Server Administration Console, click **Deployments**.
The Deployment table is displayed.
2. Under the Deployments table, click **ASUP** to open the Settings page.



The Settings page for the application opens. The Overview tab is active.

3. Click the **Security** tab.



The Enterprise Applications Scoped Roles table is displayed. The Roles tab is active.

Adding Roles

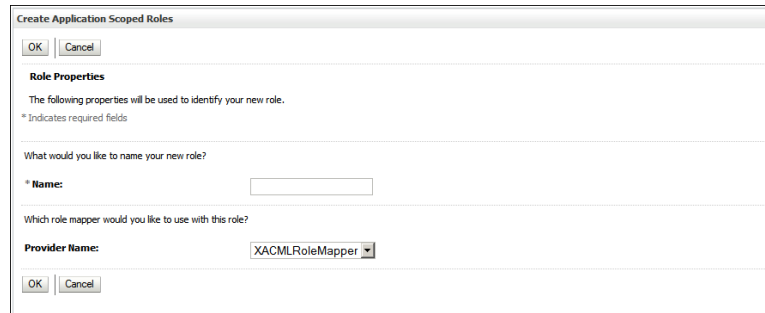
You can assign roles to any existing user. You can add roles to any current WebLogic user.

NOTE: The names of the roles must be storage.ro and storage.rw, as these roles are integrated with the AutoSupport application. The storage.ro and storage.rw roles are required for the security to function properly. If needed, you can map from your existing pool of users and roles to these required roles.

1. Click **New**.



The Create Application Scoped Roles dialog box is displayed.



Create Application Scoped Roles

OK Cancel

Role Properties

The following properties will be used to identify your new role.

* Indicates required fields

What would you like to name your new role?

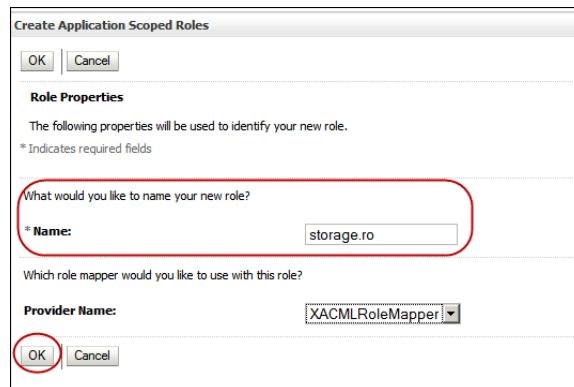
* Name:

Which role mapper would you like to use with this role?

Provider Name: XACMLRoleMapper

OK Cancel

2. Type a name for the new role.
3. Click **OK**.



Create Application Scoped Roles

OK Cancel

Role Properties

The following properties will be used to identify your new role.

* Indicates required fields

What would you like to name your new role?

* Name:

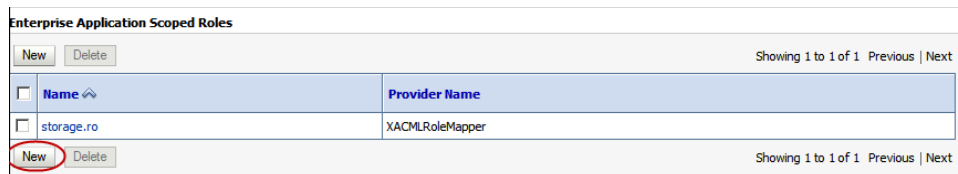
Which role mapper would you like to use with this role?

Provider Name: XACMLRoleMapper

OK Cancel

The role name appears in the Enterprise Application Scoped Roles table.

4. Click **New**.

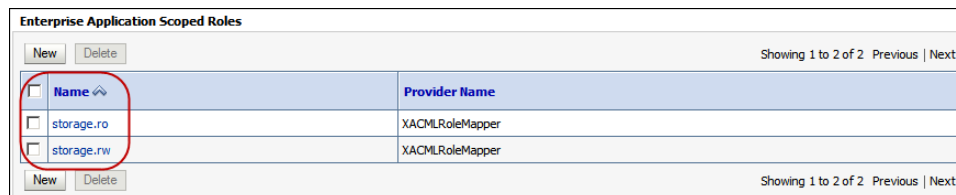


Enterprise Application Scoped Roles	
New Delete Showing 1 to 1 of 1 Previous Next	
Name	Provider Name
storage.ro	XACMLRoleMapper
New Delete Showing 1 to 1 of 1 Previous Next	

The Create Application Scoped Roles dialog box is displayed.

- a. In the Name text box, type a name for the new role.
- b. Click **New**.

Both role names appear in the Enterprise Application Scoped Roles table.



Enterprise Application Scoped Roles	
New Delete Showing 1 to 2 of 2 Previous Next	
Name	Provider Name
storage.ro	XACMLRoleMapper
storage.rw	XACMLRoleMapper
New Delete Showing 1 to 2 of 2 Previous Next	

Adding Users

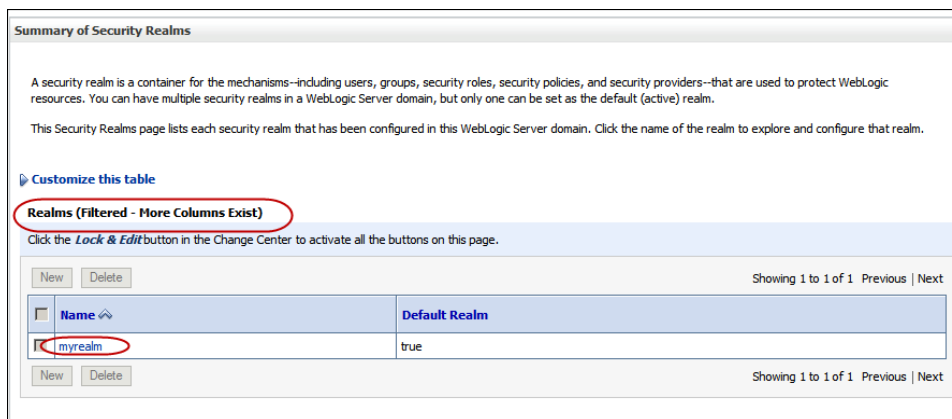
You must first create a user before you can assign a role to the user. You can add users from your existing pools of users or perform the following to create new users:

Add a Read Only User

1. In the Domain Structure pane, click **Security Realms**.

The Realms table is displayed.

2. Under the Realms table, click **myrealm**.



The Settings for myrealm dialog box is displayed.

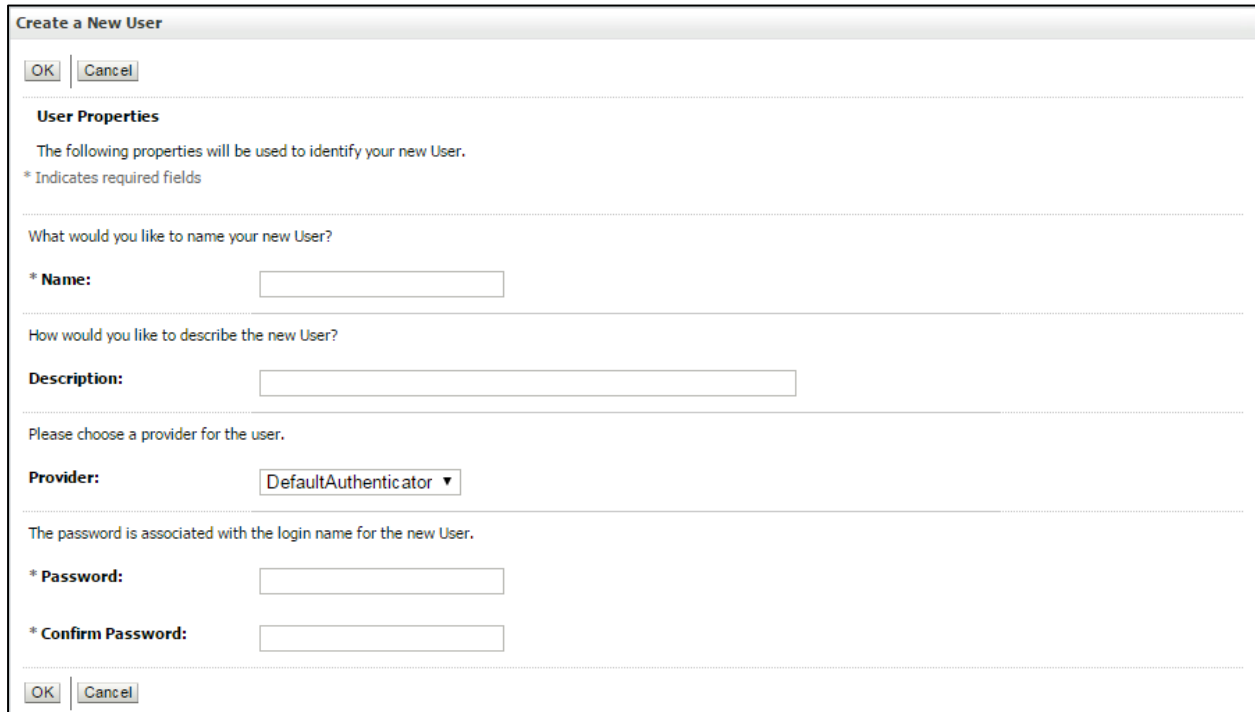
3. Click the **Users and Groups** tab.

The Users table is displayed.

4. Click the **Users** tab.

5. Click **New**.

The Create a New User dialog box is displayed.



Create a New User

OK Cancel

User Properties

The following properties will be used to identify your new User.

* Indicates required fields

What would you like to name your new User?

*** Name:**

How would you like to describe the new User?

Description:

Please choose a provider for the user.

Provider:

The password is associated with the login name for the new User.

*** Password:**

*** Confirm Password:**

OK Cancel

6. Assign the user properties.

An *(asterisk) next to the text box label indicates that the information is required.

- a. In the Name text box, type a name for the user.
- b. In the Description text box, type the user's password.
- c. In the Confirm Password text box, type the user's password again.

7. Click **OK**.

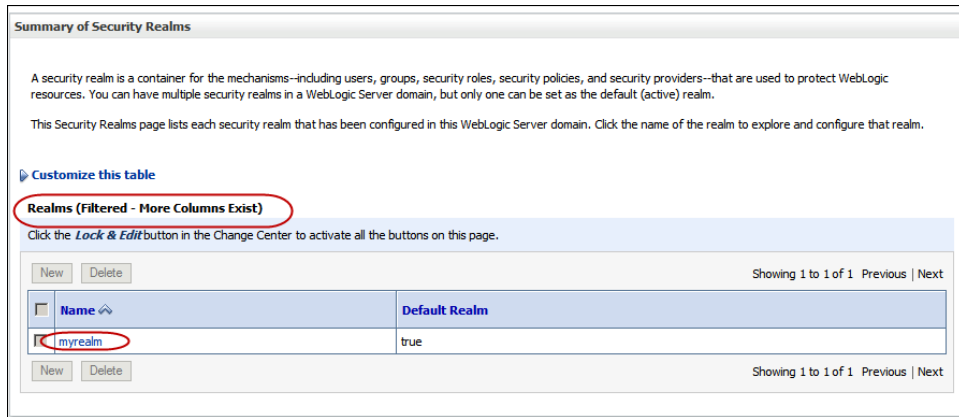
The Users table contains the user name.

Adding a Read/Writer User

1. In the Domain Structure in the WebLogic Server Administration Console, click **Security Realms**.

The Realms table is displayed.

2. Click **myrealm**.

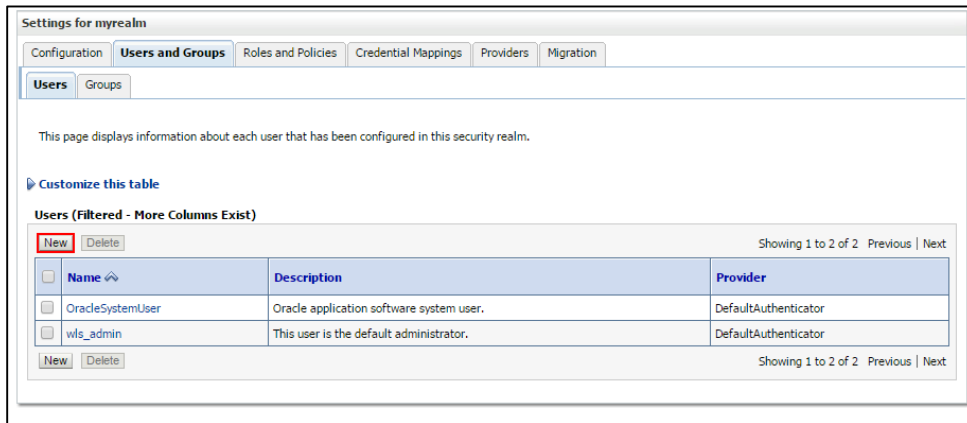


The Settings for myrealm page opens.

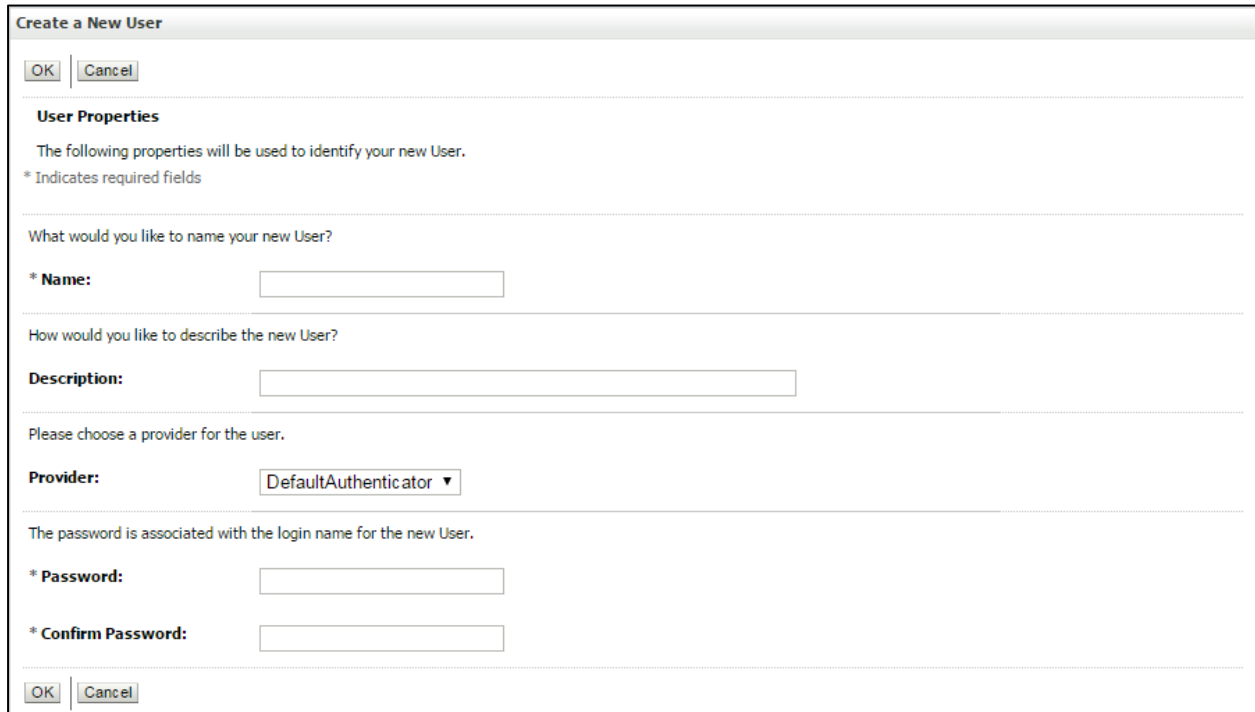
3. Click **Users and Groups** tab.

The Users table is displayed.

4. Click the **Users** tab.
5. Click **New**.



The Create a New User dialog box is displayed.



Create a New User

OK Cancel

User Properties

The following properties will be used to identify your new User.

* Indicates required fields

What would you like to name your new User?

*** Name:**

How would you like to describe the new User?

Description:

Please choose a provider for the user.

Provider:

The password is associated with the login name for the new User.

*** Password:**

*** Confirm Password:**

OK Cancel

6. Assign the user properties.

An *asterisk next to the text box label indicates that the information is required.

- In the Name text box, type a name for the user.
- In the Description text box, type a description of the user.
- In the Password text box, type the user's password.
- In the Confirm Password text box, type the user's password again.

7. Click **OK**.

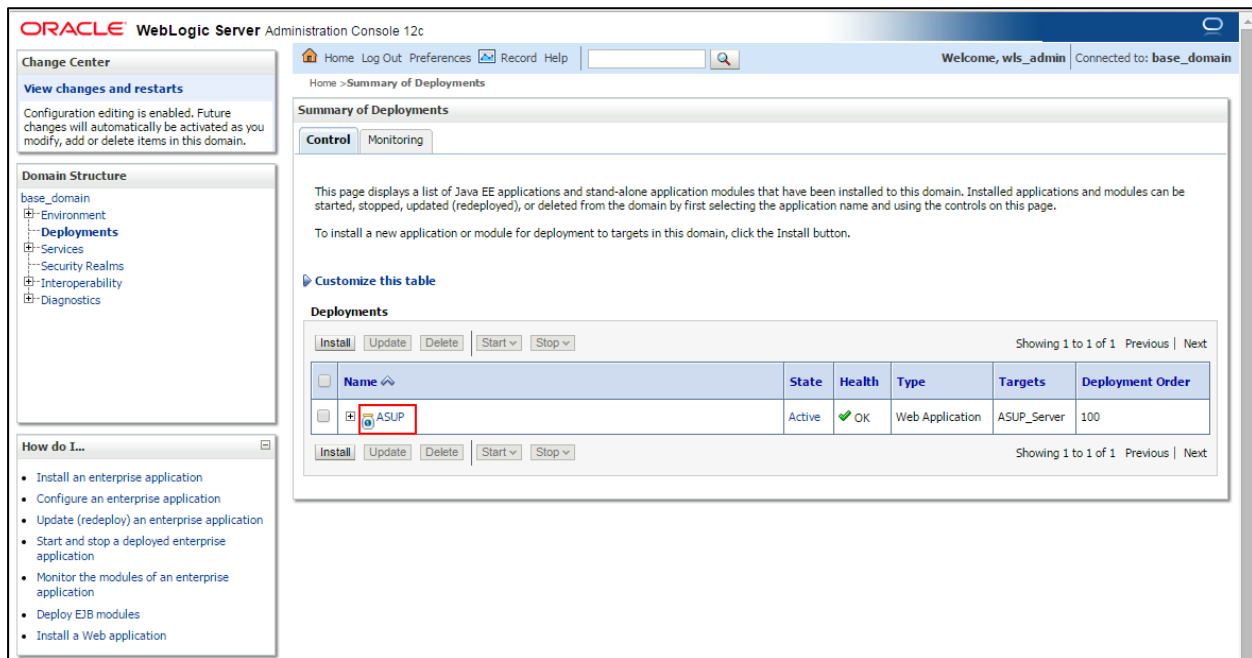
The Users table contains the user name.

Adding User Conditions

Add the Read-Only User Condition

- In the Domain Structure panel of the WebLogic Server Administration Console, click **Deployments**.
- In the Deployments table, click the **application**.

NOTE: You might need to scroll through the table or re-sort the table to find the application.



The Settings page for the application opens. The Overview tab is active.

3. Select the Security tab.

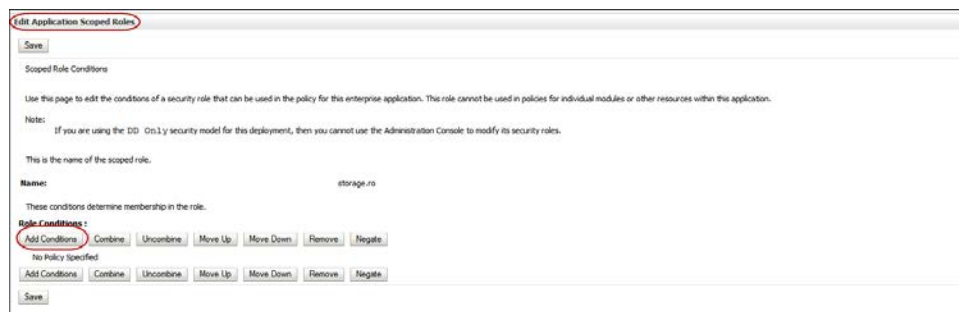
The Enterprise Application Scoped Roles table is displayed.

4. In the Enterprise Application Scoped Roles table, click **storage.ro**.



The Edit Application Scoped Roles dialog box is displayed.

5. Select **Add Conditions**.



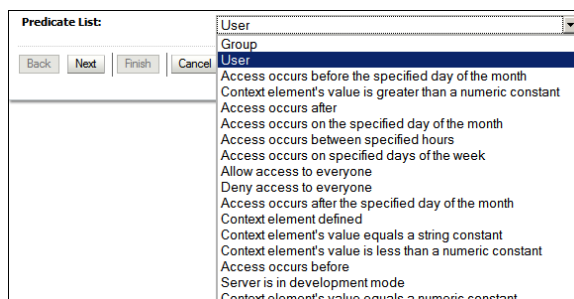
The Edit Application Scoped Roles Predicate List dialog box is displayed.



6. Select **Add Conditions**.

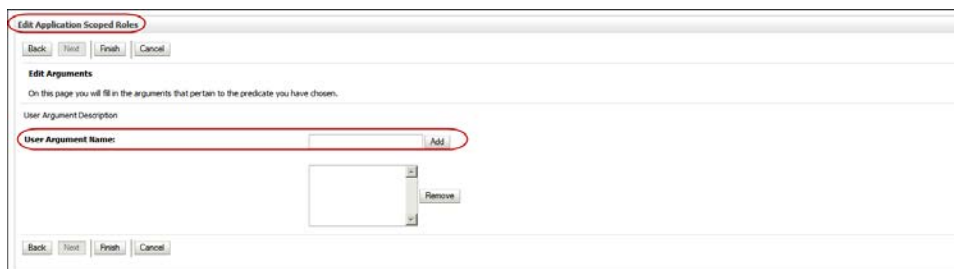
The Edit Application Scoped Roles Predicate List dialog box is displayed.

7. On the Predicate List drop down list, select **User**.



8. Click **Next**.

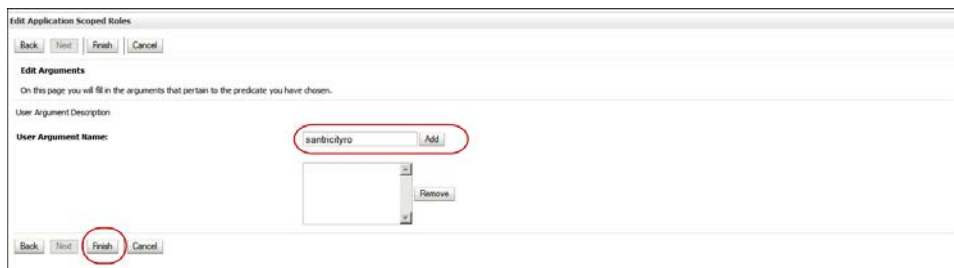
The Edit Application Scoped Roles User Argument Name dialog box is displayed.



9. In the User Argument Name text box, type the name of the read only user.
10. Click **Add**.

The user name moves from the Add list to the Remove list.

11. Click **Finish**.



The Edit Application Scoped Roles dialog box appears. The user name appears in the Role Conditions list.

12. Click **Save**.

Edit Application Scoped Roles

Save

Scoped Role Conditions

Use this page to edit the conditions of a security role that can be used in the policy for this enterprise application. This role cannot be used in policies for individual modules or other resources within the application.

Note:
If you are using the DD_CoL1 security model for this deployment, then you cannot use the Administration Console to modify its security roles.

This is the name of the scoped role:

Names: storage.rw

These conditions determine membership in the role.

Role Conditions:

Add Conditions **Combine** **Uncombine** **Move Up** **Move Down** **Remove** **Negate**

☐ **User: santricityns**

Add Conditions **Combine** **Uncombine** **Move Up** **Move Down** **Remove** **Negate**

Save

The user role condition is added.

Add the Read/Write User Condition

1. In the Domain Structure panel of the WebLogic Server Administration Console, click **Deployments**.
2. In the Deployments table, click the **application**.

NOTE: You might need to scroll through the table or re-sort the table to find the application.

ORACLE WebLogic Server Administration Console 12c

Home Log Out Preferences Record Help

Welcome, wls_admin Connected to: base_domain

Home > Summary of Deployments

Summary of Deployments

Control Monitoring

This page displays a list of Java EE applications and stand-alone application modules that have been installed to this domain. Installed applications and modules can be started, stopped, updated (redeployed), or deleted from the domain by first selecting the application name and using the controls on this page.

To install a new application or module for deployment to targets in this domain, click the Install button.

Customize this table

Deployments

Install **Update** **Delete** **Start** **Stop**

Showing 1 to 1 of 1 Previous Next

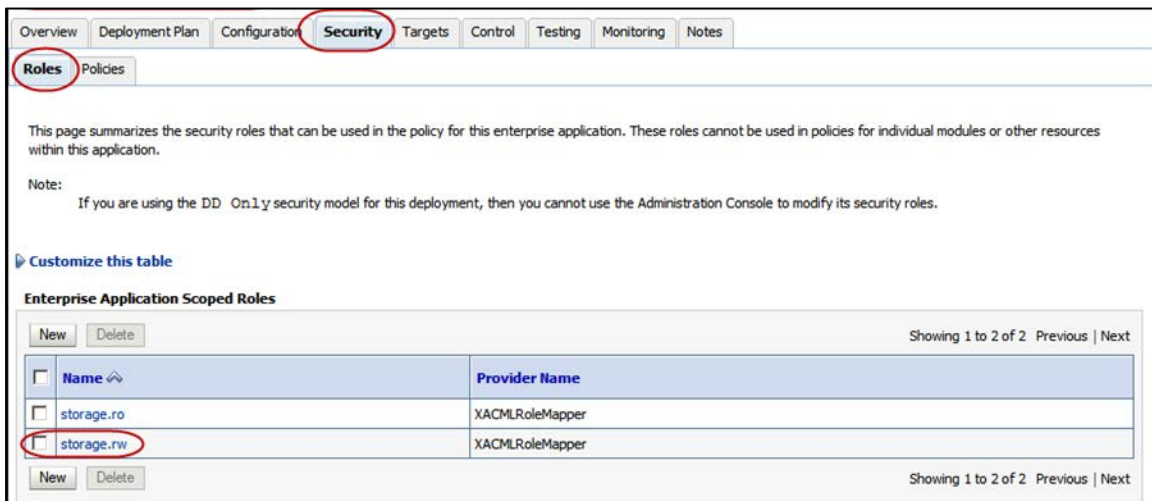
☐	Name	State	Health	Type	Targets	Deployment Order
☐	ASUP	Active	OK	Web Application	ASUP_Server	100

Install **Update** **Delete** **Start** **Stop**

Showing 1 to 1 of 1 Previous Next

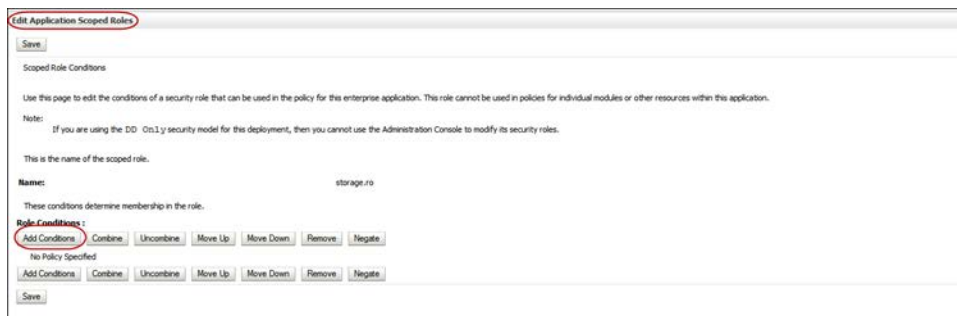
The Settings page for the application opens. The Overview tab is active.

3. Select the **Security** tab.
4. In the Enterprise Application Scoped Roles table, select the storage.rw role.



The Edit Application Scoped Roles dialog box is displayed.

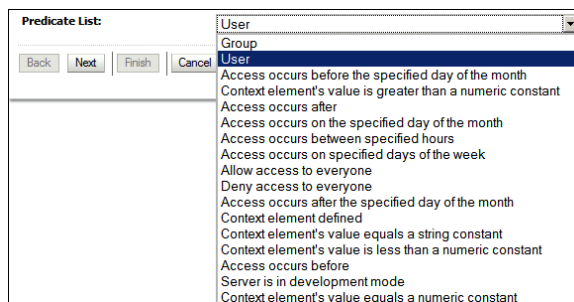
5. Select **Add Conditions**.



The Edit Application Scoped Roles Predicate List dialog box is displayed.



6. On the Predicate List drop down list, select **User**.



7. Click **Next**.

The Edit Application Scoped Roles User Argument Name dialog box is displayed.

8. In the User Argument Name text box, type the name of the read write user.
9. Click **Add**.

The user name moves from the Add list to the Remove list.

10. Click **Finish**.

The Edit Application Scoped Roles page opens. The user name appears in the Role Conditions list.

11. Click **Save**.

Deinstalling the WebLogic Server

Perform the following to deinstall the standalone WebLogic Server:

1. Open a terminal window, and log in as `oracle`.
2. At the command prompt, enter the following command:

```
[oracle@<xxxx> bin]$ pwd
/<xxxx>/<xxx>/<xxxx>/<xxx>/<xxx>
[oracle@<xxxx> bin]$ ./deinstall.sh
```

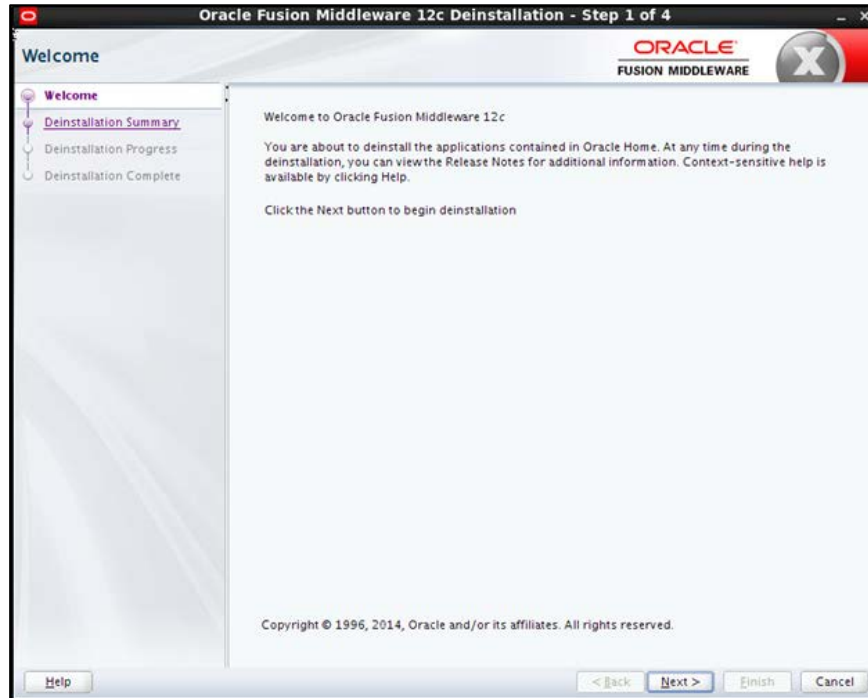
Example

```
[oracle@bvr-jetta bin]$ pwd
/u01/app/WLS12test/oui/bin
```

```
[oracle@bvr-jetta bin]$ ./deinstall.sh
```

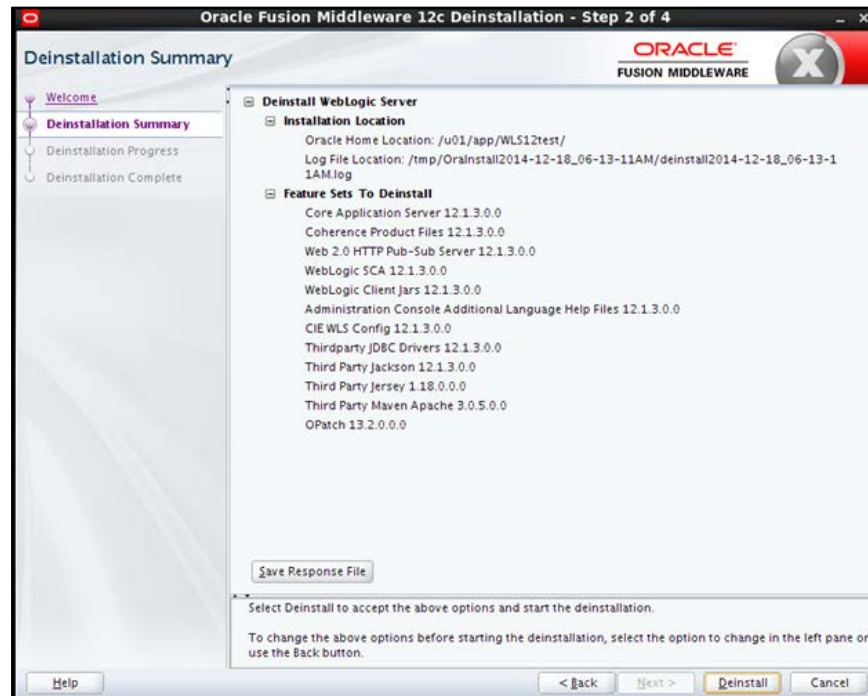
The Oracle Fusion Middleware 12c Deinstallation dialog box is displayed.

- Under the Welcome screen, click **Next**.



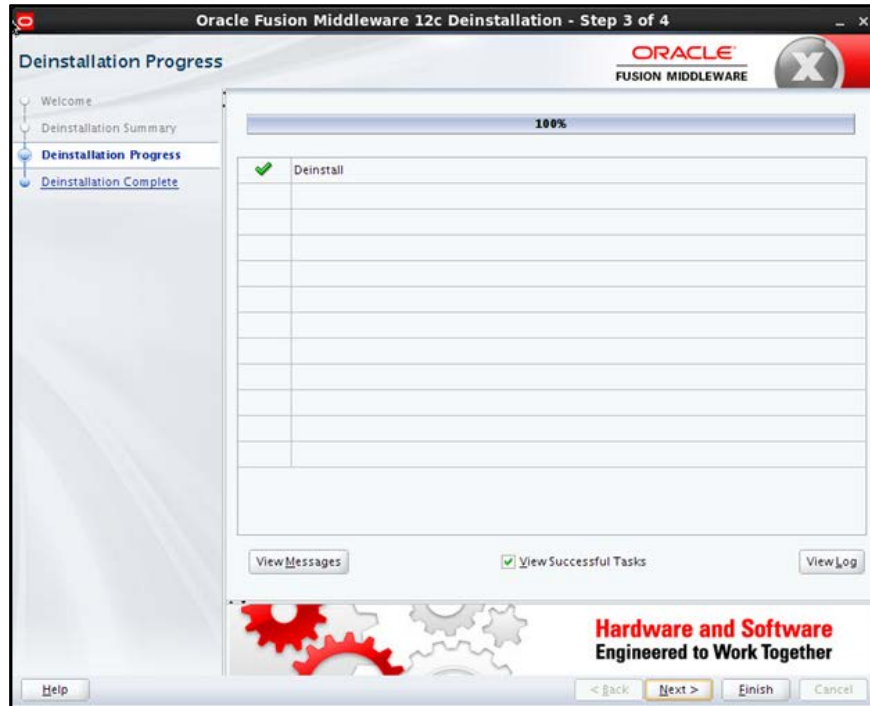
The Deinstallation Summary window is displayed.

- Click **Deinstall**.



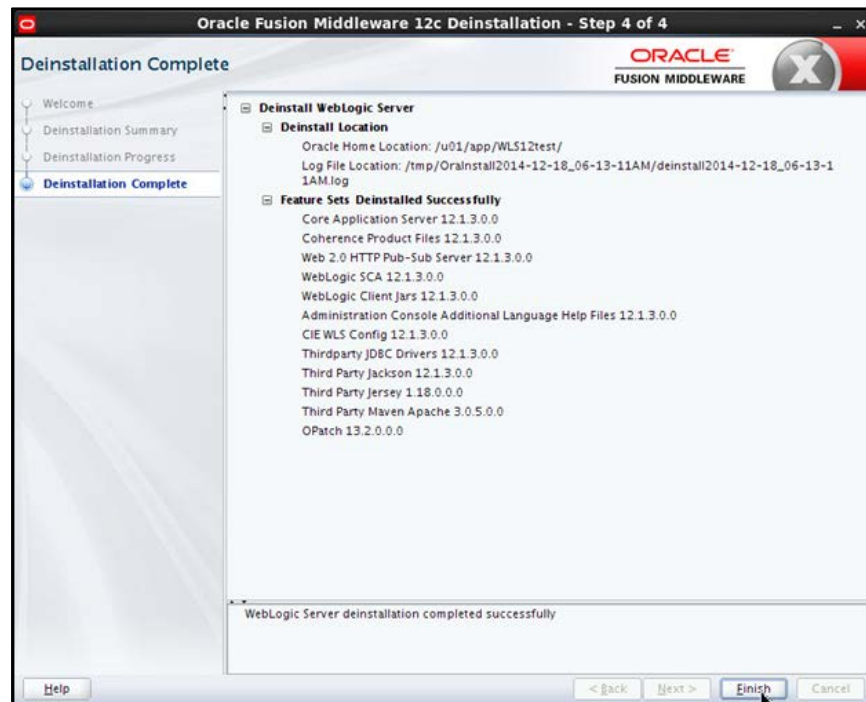
The deinstallation process begins, and the Deinstallation Progress screen is displayed.

- Upon successful completion of the deinstallation process, click **Next**.



The Deinstallation Complete screen is displayed.

6. Click **Finish**.



The Oracle Fusion Middleware 12c Deinstallation dialog box closes.

7. Under the terminal window, enter the following at the command prompt:

```
ps -ef|grep WLS12<xxx>
```

All processes associated with the WebLogic server are eliminated.

8. Delete the WebLogic directory where the instance was installed.

Trademark information

NetApp, the NetApp logo, Go Further, Faster, ASUP, AutoSupport, Campaign Express, Cloud ONTAP, clustered Data ONTAP, Customer Fitness, Data ONTAP, DataMotion, Fitness, Flash Accel, Flash Cache, Flash Pool, FlashRay, FlexArray, FlexCache, FlexClone, FlexPod, FlexScale, FlexShare, FlexVol, FPolicy, GetSuccessful, LockVault, Manage ONTAP, Mars, MetroCluster, MultiStore, NetApp Insight, OnCommand, ONTAP, ONTAPI, RAID-DP, SANtricity, SecureShare, Simplicity, Simulate ONTAP, Snap Creator, SnapCopy, SnapDrive, SnapIntegrator, SnapLock, SnapManager, SnapMirror, SnapMover, SnapProtect, SnapRestore, Snapshot, SnapValidator, SnapVault, StorageGRID, Tech OnTap, Unbound Cloud, and WAFL are trademarks or registered trademarks of NetApp, Inc. in the United States, and/or other countries. A current list of NetApp trademarks is available on the web at <http://www.netapp.com/us/legal/netapptmlist.aspx>.

Cisco and the Cisco logo are trademarks of Cisco in the U.S. and other countries. All other brands or products are trademarks or registered trademarks of their respective holders and should be treated as such.

Copyright information

Copyright © 1994-2015 NetApp, Inc. All rights reserved. Printed in the U.S.

No part of this document covered by copyright may be reproduced in any form or by any means—graphic, electronic, or mechanical, including photocopying, recording, taping, or storage in an electronic retrieval system—without prior written permission of the copyright owner.

Software derived from copyrighted NetApp material is subject to the following license and disclaimer:

THIS SOFTWARE IS PROVIDED BY NETAPP “AS IS” AND WITHOUT ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE HEREBY DISCLAIMED. IN NO EVENT SHALL NETAPP BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

NetApp reserves the right to change any products described herein at any time, and without notice. NetApp assumes no responsibility or liability arising from the use of products described herein, except as expressly agreed to in writing by NetApp. The use or purchase of this product does not convey a license under any patent rights, trademark rights, or any other intellectual property rights of NetApp.

The product described in this manual may be protected by one or more U.S. patents, foreign patents, or pending applications.

RESTRICTED RIGHTS LEGEND: Use, duplication, or disclosure by the government is subject to restrictions as set forth in subparagraph (c)(1)(ii) of the Rights in Technical Data and Computer Software clause at DFARS 252.277-7103 (October 1988) and FAR 52-227-19 (June 1987).

How to send your comments

You can help us to improve the quality of our documentation by sending us your feedback.

Your feedback is important in helping us to provide the most accurate and high-quality information. If you have suggestions for improving this document, send us your comments by email to doccomments@netapp.com. To help us direct your comments to the correct division, include in the subject line the product name, version, and operating system.

You can also contact us in the following ways:

- NetApp, Inc., 495 East Java Drive, Sunnyvale, CA 94089 U.S.
- Telephone: +1 (408) 822-6000
- Fax: +1 (408) 822-4501
- Support telephone: +1 (888) 463-8277

