

Oracle® Auto Service Request

Quick Installation Guide for Oracle Exadata Database Machine

Release 5.7

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This document describes how to install and configure Oracle Auto Service Request (ASR) for Oracle Exadata Database Machine.

Topics:

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Oracle Auto Service Request (ASR) includes third-party products.
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About Oracle ASR

Oracle Auto Service Request (ASR) is a secure, scalable, customer-installable software feature of warranty and Oracle Support Services. Oracle ASR provides auto-case generation for common hardware component faults.

Oracle ASR simplifies support operations by automatically generating support records for common component faults. Oracle ASR auto-case generation also accelerates problem resolution by eliminating the need for you to contact Oracle Support Services for common failures. Auto-case generation reduces both the number of phone calls that you make to obtain support and the phone time required for problem resolution. Oracle ASR does not provide system management or monitoring. Oracle ASR is designed to generate Oracle service requests automatically when certain types of faults are detected on Oracle products that are qualified for Oracle ASR.

Oracle ASR works only for specific component faults. Most of the common components, such as disks, fans, and power supplies, are covered. However, some components are not covered. For example, Oracle ASR does not cover InfiniBand events; there are specific images and specific InfiniBand switch firmware that you must use. You cannot upgrade these components independently.

Oracle ASR is easy to install and deploy. To ensure security, you have complete control over Oracle ASR.

Note:

Oracle recommends that you implement a system management and monitoring solution in addition to Oracle ASR, such as Oracle Enterprise Manager Cloud Control or Oracle Enterprise Manager Ops Center.

Caution:

The commands in this document are provided for your convenience. However, the copy and paste functionality can paste different content than what is published in the guide. To ensure that the command text that you paste is identical to the text that you copy, confirm that your console session is set to receive data as UTF-8.

Recommended Configuration for Oracle ASR

This section describes the Oracle ASR configuration.

Oracle recommends that you install Oracle ASR Manager on an external, standalone server. This server receives fault telemetry information from Oracle Exadata Database Machine servers. This server must run an Oracle Solaris or Oracle Linux operating system.

 **Note:**

While not recommended, you can install Oracle ASR Manager on one of the Oracle Exadata Database Machine servers.

Prerequisites for Oracle ASR

This section describes the prerequisites for Oracle Auto Service Request (ASR).

Topics:

- [Server and Network Requirements for Oracle ASR](#)
Ensure that the following conditions are met before installing Oracle Auto Service Request (ASR).
- [Oracle Auto Service Request \(ASR\) Software Requirements](#)
You need `root` access to install the software and to configure Oracle ASR Manager.
- [Qualified Exadata Products](#)
Oracle Exadata Database Machine is qualified for Oracle Auto Service Request (ASR).

Server and Network Requirements for Oracle ASR

Ensure that the following conditions are met before installing Oracle Auto Service Request (ASR).

- Ensure that you have access to My Oracle Support. Also ensure that your contact information is current and correct.
- Ensure that all of your assets have an assigned contact and that the contact information is current and correct.
- Identify and designate a system to serve as the Oracle ASR Manager.
- Identify and verify all of your Oracle ASR assets.
- Ensure connectivity to the Internet using HTTPS.
- Ensure the network connectivity of the operating system to the designated Oracle ASR Manager. Network connectivity is required for Oracle Exadata assets, ILOM, and `eth0`.
- For IPv6, enable the Oracle ASR Manager server for dual stack IPv6 and IPv4. Oracle ASR Manager supports using IPv6 connections to and from assets that are configured for Oracle ASR. The traffic that is outbound from the Oracle ASR Manager to `transport.oracle.com` currently only supports IPv4 traffic.

- If you are using SNMP V3, you must be using Oracle ASR release 4.3 or higher.

Related Topics

- [My Oracle Support](#)

Oracle Auto Service Request (ASR) Software Requirements

You need `root` access to install the software and to configure Oracle ASR Manager.

- **Oracle ASR Manager:** To install Oracle ASR Manager on a standalone server that is running either Linux or Solaris, refer to "Installing and Registering Oracle ASR Manager Software" in *Oracle Auto Service Request (ASR) Manager User's Guide*.
- **Database Server:** Oracle Exadata System Software release 11.2.1.3.1 or later.
- **Oracle Exadata System Software:**
 - Release 12.1.2.1.1 and later
 - Release 11.2.1.3.1 and later
- To configure trap destinations, use one of the following options:
 - **Oracle Exadata Deployment Assistant (OEDA):** OEDA prompts you for information used to configure Oracle ASR. OEDA configures the traps and activates the Oracle ASR assets.
 - **dcli Utility:** Refer to the `dcli` utility chapter in *Oracle Exadata System Software User's Guide* for instructions about enabling SSH for the `dcli` utility.
- **Port 162 Availability:** Port 162 is the SNMP port. Use the SNMP port to configure fault telemetry destinations. You can assign this port to a different port address based on your network requirements. In a managed environment, you may need to must the port from the default port assignment for Oracle ASR to work correctly.
- **The dcli Utility:** While not required for Oracle ASR, the `dcli` utility enables you to simultaneously configure all of the servers. You can also use `dcli` to configure the storage servers at the same time.

Refer to the topic "Setting User Equivalence" in *Oracle Exadata Database Machine Extending and Multi-Rack Cabling Guide* for instructions about enabling SSH for the `dcli` utility. Depending on your environment restrictions, it is possible that the `dcli` utility is not configured. See *Oracle Exadata System Software User's Guide* for more information about the `dcli` utility.

The `dcli` utility commands in this document run commands that require equivalency with the `root` or `celladmin` user, depending on the command. Ensure that the user account that runs the `dcli` utility command is configured with the correct equivalency.

Related Topics

- *Oracle Auto Service Request (ASR) Manager User's Guide*
- *Oracle Exadata Database Machine Extending and Multi-Rack Cabling Guide*
- *Oracle Exadata System Software User's Guide*

Qualified Exadata Products

Oracle Exadata Database Machine is qualified for Oracle Auto Service Request (ASR).

The following additional Oracle Exadata Database Machine products are qualified for Oracle ASR:

- Oracle Exadata Storage Expansion Rack X2-2, X2-8, X2-2
- Oracle Exadata Storage Expansion Rack X3-2, X3-8, X3-2
- Oracle Exadata Storage Expansion Rack X4-2, X4-8, X4-2, Oracle Zero Data Loss Recovery Appliance X4
- Oracle Exadata Storage Expansion Rack X5-2, X5-8, X5-2, Oracle Zero Data Loss Recovery Appliance X5
- All newer versions of Oracle Exadata Database Machine, Oracle Exadata Storage Expansion Rack, and Oracle Zero Data Loss Recovery Appliance

InfiniBand switches are supported for the following Oracle Exadata System Software releases:

- 11.2.3.3.0 or later
- 12.1.1.1.0 or later

Configure Fault Notification Destinations

Use the following procedures to configure fault telemetry destinations on Oracle Exadata Storage Server and Oracle Exadata Database Server.

Topics:

- [Fault Telemetry Options](#)
You can configure the fault notification destinations using various methods.
- [Adding SNMP Trap Destinations Using OEDA](#)
You can add SNMP trap destinations using Oracle Exadata Deployment Assistant (OEDA).
- [Configuring the SNMP Subscriber for Fault Notification on Release 12.x or Later](#)
Use the `ALTER CELL` or `ALTER DBSERVER` commands to configure SNMP trap destinations for servers running Oracle Exadata System Software release 12.x or later.
- [Configuring the SNMP Subscriber on Release 11.x](#)
Use the `dcli` utility to configure SNMP trap destinations for servers running Oracle Exadata System Software release 11.x.

Fault Telemetry Options

You can configure the fault notification destinations using various methods.

Adding SNMP trap destinations using Oracle Exadata Deployment Assistant (OEDA) is the recommended method for new installations. After the initial configuration with

OEDA, you can modify or add new fault notification destinations using the command line utilities, such as DBMCLI, CellCLI, `dcli`, or `exadcli`.

To configure fault notification destinations, modify the SNMP subscriber attribute on the database or storage servers. The information you provide defines the SNMP trap destination.

 **Note:**

Oracle ASR can only use the management network. Ensure that the management network is configured to enable Oracle ASR to run on either `eth0` on the interfaces, or `net0` on the rear of the server.

SNMP Subscriber Options

When configuring the SNMP subscriber, you set some or all of the following options:

- **host=[ASR Manager host name or IP]** is the Oracle ASR Manager host name or IP address. The Oracle ASR Manager host name can be used when DNS is enabled for the site. If DNS is not running, then the IP address is preferred. However, you can use the Oracle ASR Manager host name if the entry is added to the `/etc/hosts` file.
- **type=asr represents** the Oracle ASR Manager being a special type of SNMP subscriber.
- **community=public** is the required value of the community string. This value varies for each implementation because you can modify it to be a different string based on your network requirements.
- **port=162** is the SNMP port. This port value is customer-dependent. You can configure it as a different port based on your network requirements. Or, you may need to change the port value in order for Oracle ASR to work correctly in a managed environment.
- **asrmPort** is an optional element that supports automatic diagnostic package uploads for Service Requests (SR). The default value is 16161. If you plan to use HTTP for upload, then the value should match the HTTP port configured on Oracle ASR Manager. If you plan to use HTTPS for upload, then the value should match the HTTPS port configured on Oracle ASR Manager. The value should be set to the same value as displayed for "HTTP Port" or "HTTPS/SSL Port" in the output of the command `asr show_http_receiver` on the Oracle ASR Manager host.
- **fromIP** enables you to specify an IP address from which the trap is sent. If this field is not specified, then it defaults to the IP address associated with `eth0`. To support automatic diagnostic package uploads, you must set `fromIP` on the database nodes to the value of the IP address of the `eth0` network interface. Otherwise, use this field if the default IP address is not registered with Oracle ASR Manager. Oracle ASR Manager only processes SNMP traps that are sent from IP addresses that Oracle ASR Manager recognizes.

The **fromIP** field is allowed only for `snmpSubscribers` whose `type` is either `ASR` or `v3ASR`.

Related Topics

- [How to configure Datacenter InfiniBand Switch 36 & QDR InfiniBand Gateway Switches for ASR \(My Oracle Support ID 1902710.1\)](#)

Adding SNMP Trap Destinations Using OEDA

You can add SNMP trap destinations using Oracle Exadata Deployment Assistant (OEDA).

If this is your initial deployment of Oracle Exadata Database Machine, then OEDA automatically configures SNMP settings when you run the latest version of OEDA.

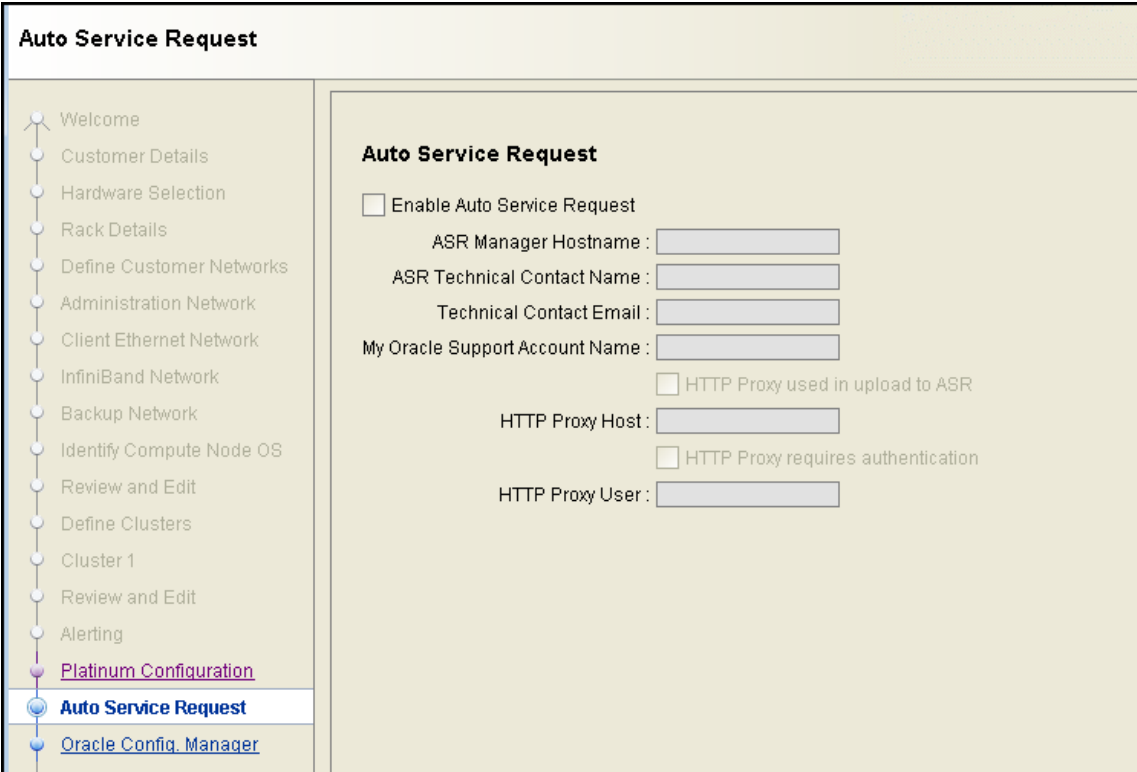
To

1. Download the latest OEDA zip file for your platform.

[Oracle Exadata Deployment Assistant Downloads on Oracle Technology Network](#)

2. Run the `config` program.

OEDA performs the SNMP configuration for Oracle ASR using the information you provide on the Automatic Service Request page of OEDA.



The screenshot shows the 'Auto Service Request' configuration page. On the left is a navigation menu with the following items: Welcome, Customer Details, Hardware Selection, Rack Details, Define Customer Networks, Administration Network, Client Ethernet Network, InfiniBand Network, Backup Network, Identify Compute Node OS, Review and Edit, Define Clusters, Cluster 1, Review and Edit, Alerting, **Platinum Configuration**, **Auto Service Request** (highlighted), and Oracle Config. Manager. The main content area is titled 'Auto Service Request' and contains the following fields and options:

- Enable Auto Service Request
- ASR Manager Hostname:
- ASR Technical Contact Name:
- Technical Contact Email:
- My Oracle Support Account Name:
- HTTP Proxy used in upload to ASR
- HTTP Proxy Host:
- HTTP Proxy requires authentication
- HTTP Proxy User:

3. Confirm that OEDA has correctly configured the trap destinations after the configuration has been deployed on your Exadata rack.

Verify that the host and ports point to the Oracle ASR server.

- a. If you are running Oracle Exadata System Software release 12.1.2.x or later, then use the following command to check the database servers:

Run this command as `root` or an equivalent user on all of the database servers.

```
# dbmcli -e list dbserver attributes snmpSubscriber
```

- b.** To check the configuration on the storage servers, use `dcli` and the `LIST CELL` command.

Run this command as `celladmin` or an equivalent user on the storage servers.

```
# dcli -g cell_group -l celladmin "cellcli -e list cell attributes snmpsubscriber"
```

Related Topics

- Using Oracle Exadata Deployment Assistant

Configuring the SNMP Subscriber for Fault Notification on Release 12.x or Later

Use the `ALTER CELL` or `ALTER DBSERVER` commands to configure SNMP trap destinations for servers running Oracle Exadata System Software release 12.x or later.

- 1.** Configure the SNMP subscriber on each database server.

- a.** Log in to the first database server as the `root` user.
- b.** Retrieve the current SNMP subscriber configuration for the server.

If the SNMP subscriber has not been configured, the operating system prompt reappears without displaying any information.

```
# dbmcli -e list dbserver attributes snmpsubscriber
```

```
#
```

Caution:

When modifying the `snmpSubscriber` attribute for a server, the value you specify replaces the current value. If `snmpSubscriber` is already configured, and you want to add to the list of SNMP targets, then ensure that you include the already configured values in your command.

- c.** Modify the `snmpSubscriber` attribute for the server.

If you want to add only a single ASR SNMP subscriber, enter a command similar to the following:

```
# dbmcli -e alter dbserver  
snmpSubscriber=((host='asrm1.example.com',port=162,
```



```
community=public,type=asr,fromIP=eth0_IP_addr,
asrmPort=ASR_Mgr_http_or_https_port))
```

 **Note:**

To support automatic diagnostic package uploads, you must set `fromIP` on the database nodes to the value of the IP address of the `eth0` network interface.

If you need to add multiple fault notification destinations, then specify multiple SNMP subscribers using a comma-delimited list.

```
# dbmcli -e alter dbserver
snmpSubscriber=((host='asrm1.example.com',port=162,
community=public,type=asr,fromIP=eth0_IP_addr,asrmPort=ASR_Mgr_http_
or_https_port),
(host='asrm2.example.com',
port=162,community=public,type=asr,fromIP=eth0_IP_addr,
asrmPort=ASR_Mgr_http_or_https_port))
```

- d. Verify the SNMP subscriber attribute has been updated on the server.

```
# dbmcli -e list dbserver attributes snmpsubscriber
```

- e. Repeat the previous substeps on each database server.

2. Configure the SNMP subscriber on each Oracle Exadata Storage Server.

- a. Log in to a storage server as `celladmin`, or an equivalent user.
- b. Retrieve the current SNMP subscriber configuration for the server.

If the SNMP subscriber has not been configured, the operating system prompt reappears without displaying any information.

```
# cellcli -e list cell attributes snmpsubscriber
```

```
#
```

 **Caution:**

When modifying the `snmpSubscriber` attribute for a server, the value you specify replaces the current value. If `snmpSubscriber` is already configured, and you want to add to the list of SNMP targets, then ensure that you include the already configured values in your command.

- c. Modify the `snmpSubscriber` attribute for the server.

If you want to add only a single ASR SNMP subscriber, enter a command similar to the following:

```
# cellcli -e alter cell
snmpSubscriber=((host='asrm1.example.com',port=162,
community=public,type=asr,fromIP=eth0_IP_addr,
asrmPort=ASR_Mgr_http_or_https_port))
```

 **Note:**

To support automatic diagnostic package uploads, you must set `fromIP` on the database nodes to the value of the IP address of the `eth0` network interface.

If you need to add multiple fault notification destinations, then specify multiple SNMP subscribers using a comma-delimited list.

```
# cellcli -e alter cell
snmpSubscriber=((host='asrm1.example.com',port=162,
community=public,type=asr,fromIP=eth0_IP_addr,asrmPort=ASR_Mgr_http_
or_https_port),
(host='asrm2.example.com',
port=162,community=public,type=asr,fromIP=eth0_IP_addr,
asrmPort=ASR_Mgr_http_or_https_port))
```

- d. Verify the SNMP subscriber attribute has been updated on the server.

```
# cellcli -e list cell attributes snmpsubscriber
```

- e. Repeat the previous substeps on each storage server.

Alternatively, you can use the `exadcli` utility to run the command on a specified group of servers. If you have not used `exadcli` before, see [Using exadcli for the First Time](#).

For example, you might use the following `exadcli` commands to query or update all database servers with a single command:

```
# exadcli -c dbnode01,dbnode02 -l dbnodeadmin list dbserver attributes
snmpsubscriber
```

```
# exadcli -c dbnode01,dbnode02 -l dbnodeadmin alter dbserver
snmpSubscriber=
((host='asrm2.example.com',port=162,community=public,type=asr,
fromIP=10.1.1.1,asrmPort=16161),(host='asrm1.example.com',port=162,
community=public,type=asr,fromIP=10.1.1.1,asrmPort=16161))
```

```
# exadcli -c cell01,cell02,cell03 -l celladmin list cell attributes
snmpsubscriber
```

```
# exadcli -c cell01,cell02,cell03 -l celladmin alter cell snmpSubscriber=
((host='asrm1.example.com',port=162,community=public,type=asr,
fromIP=10.1.1.1,asrmPort=16161),(host='asrm2.example.com',port=162,
community=public,type=asr,fromIP=10.1.1.1,asrmPort=16161))
```

Configuring the SNMP Subscriber on Release 11.x

Use the `dcli` utility to configure SNMP trap destinations for servers running Oracle Exadata System Software release 11.x.

1. Log into a database server as `root`.
2. Run one of the following commands, depending on your environment, where the `dbs_group` file identifies the database servers to configure:

- Oracle Exadata System Software release 11.2.2.4.0 or earlier:

```
# dcli -g dbs_group -l root "/opt/oracle.cellos/compmon/
exadata_mon_hw_asr.pl -set_snmp_subscribers \"\
(type=asr,host=
ASR Manager host name or IP,port=162,community=public)\
\""
```

- Oracle Exadata System Software later than Release 11.2.2.4.0:

```
# dcli -g dbs_group -l root "fromip=\$(ifconfig eth0 | awk '/inet
addr/
{print \$2}' | cut -d: -f2);/opt/oracle.cellos/compmon
/exadata_mon_hw_asr.pl -set_snmp_subscribers \"(type=asr,host=[ASR
Manager host name or IP],fromip=\$fromip,port=162,community=public)
\
\""
```

Note:

ILOMs are set up by Oracle Exadata utilities. Do not configure ILOMs manually.

3. Log in to a storage server as `celladmin` or an equivalent user.
4. Review the current setting of the `snmpSubscriber` attribute on all of the storage servers.

In the following example, the `cell_group` file identifies the storage servers you plan to configure:

```
# dcli -g cell_group -l celladmin "cellcli -e list cell attributes
snmpSubscriber"
```

In some cases, SNMP entries can already be configured for monitoring. (For example: SNMPS configured for Oracle Enterprise Manager Cloud Control).

5. Modify the `snmpSubscriber` attribute on the storage servers.

If the `snmpSubscriber` attribute was already configured, include the previous information in the following command:

```
# dcli -g cell_group -l celladmin "cellcli -e alter cell snmpsubscriber=
\\(\(prior_configuration_information),\(\(host='ASR-Manager-host-name-or-
IP',
port=162,community=public,type=asr\)\)\)"
```

6. Verify the `snmpSubscriber` attribute was modified on the servers.

For storage servers:

```
# dcli -g cell_group -l celladmin "cellcli -e list cell attributes
snmpSubscriber"
```

Related Topics

- Overview of the `dcli` Utility

Enabling Automatic DiagPack Upload for Oracle ASR

You can upload diagnostic packages to ASR automatically.

In Oracle Exadata System Software release 12.2.1.1.0, Management Server (MS) communicates with Oracle ASR Manager to upload a diagnostic package containing information relevant to the Oracle ASR automatically. MS provides support to automatically upload diagpacks over HTTPS starting with Oracle Exadata System Software release 19.1.0.

For Oracle ASR Manager release 5.7 or later, the `http_receiver` is enabled by default, but the HTTPS/SSL configuration might not be. If you want to use HTTP to upload the diagnostic packages, then verify that `HTTP Port` has the same value as `asrmPort` on database and storage servers. If you want to use HTTPS to upload the diagnostic packages, then verify that HTTPS/SSL configuration is enabled and that `HTTPS/SSL Port` has the same value as `asrmPort` on database and storage servers. If you are using a release earlier than Oracle ASR Manager release 5.7, then you must upgrade to release 5.7 or later to use the Automatic DiagPack Upload feature.

1. Verify the `http_receiver` is enabled and determine the port being used.

Run the following command from Oracle ASR Manager:

```
asr show_http_receiver
```

The following example shows the output with HTTPS enabled:

```
HTTP Receiver configuration:
```

```
HTTP Receiver Status: Enabled
Host Name: exa-asr.example.com
SFB forward: true
```

```
HTTP Port: 16161
HTTPS/SSL Port: 8701
HTTPS/SSL: Enabled
```

To register an ASR Manager or Solaris 11 server to this ASR Manager Relay, use:

```
ASR Manager: asr register -e http://exa-asr.example.com:16161/
asr
```

```
Solaris: asradm register -e http://exa-asr.example.com:16161/
asr
```

```
ASR Manager: asr register -e https://exa-asr.example.com:8701/
asr
```

```
Solaris: asradm register -e https://exa-asr.example.com:8701/
asr
```

The following example shows the output with only HTTP enabled:

```
HTTP Receiver configuration:
```

```
HTTP Receiver Status: Enabled
Host Name: 10.65.41.141
HTTP Port: 16161
HTTPS/SSL configuration is not enabled.
```

To register an ASR Manager or Solaris 11 server to this ASR Manager Relay, use:

```
ASR Manager: asr register -e http://10.65.41.141:16161/asr
Solaris: asradm register -e http://10.65.41.141:16161/asr
```

2. Verify the port used by `http_receiver` for Oracle ASR is the same as the `asrmPort` set for the `snmpSubscriber` on the database servers and storage servers.

- a. Check the `asrmPort` for the `snmpSubscriber` on the database servers:

```
dbmcli -e list dserver attributes snmpSubscriber
```

The output will be similar to the following:

```
((host=engsys-asr1.example.com,port=162,community=public,
type=asr,fromIP=10.242.00.55,asrmPort=16161))
```

- b. Check the `asrmPort` for the `snmpSubscriber` on the storage servers:

```
cellcli -e list cell attributes snmpSubscriber
```

The output will be similar to the following:

```
((host=engsys-asr1.example.com,port=162,community=public,
type=asr,fromIP=10.242.00.55,asrmPort=16161))
```

3. If necessary, enable the `http_receiver` or change the port to match the `asrmPort` value.

Oracle Exadata Deployment Assistant (OEDA) automatically enables HTTPS/SSL for Oracle ASR Manager and imports the certificate on database and storage servers. However, it is still possible that you may need to manually enable HTTPS/SSL for Oracle ASR Manager under some circumstances. Refer to [Enabling HTTPS/SSL on Oracle ASR Manager](#) for instructions on how to configure HTTPS uploads for Oracle ASR Manager.

If the `http_receiver` port is not the same, you can either disable `http_receiver` and enable it again using the same port as `asrmPort`, or you can set the `asrmPort` of `snmpSubscriber` to match that of `http_receiver`.

To enable `http_receiver`, use a command similar to the following, where *port* is the port the `http_receiver` listens on for either HTTP or HTTPS.

```
asr enable_http_receiver -p port
```

 **Note:**

The port specified for the `http_receiver` has to be the same as the `asrmPort` specified for the `snmpSubscriber` on the database servers and storage servers for the automatic DiagPack upload feature to work.

4. If the `snmpSubscriber` was configured on the database or storage server before enabling HTTPS/SSL for Oracle ASR Manager, then restart MS.

The MS on the database and storage servers need to be restarted before you can use HTTPS to upload the diagnostic packages. If HTTPS/SSL was enabled on for Oracle ASR Manager before configuring `snmpSubscriber` on the database and storage servers, then you do not need to restart MS.

- [Enable HTTP Access on Oracle ASR Manager](#)
You can send Oracle Auto Service Request (ASR) fault events and telemetry to Oracle Support Services using XML over HTTP to the Oracle ASR Manager.
- [Enabling HTTPS/SSL on Oracle ASR Manager](#)
You can use either a root-signed certificate or a self-signed certificate to enable HTTPS/SSL on Oracle ASR Manager.

Related Topics

- [Oracle Exadata Database Machine System Overview](#)

Enable HTTP Access on Oracle ASR Manager

You can send Oracle Auto Service Request (ASR) fault events and telemetry to Oracle Support Services using XML over HTTP to the Oracle ASR Manager.

Select a port for the HTTP receiver that is appropriate for your network environment and does not conflict with other network services.

1. View the current HTTP receiver configuration port and status.

```
asr> show_http_receiver
```

2. If HTTP is not already configured, enable the HTTP receiver.

```
asr> enable_http_receiver -p port_number
```

If you see the following error and DNS is not available, then you will need to configure the HTTP receiver manually:

```
Unable to determine the fully qualified domain name for this ASR
Manager via DNS. Please refer to the Oracle ASR Installation and
Operations
Guide for troubleshooting information.
```

To configure HTTP receiver manually, perform the following steps:

- a. Set the IP address of Oracle ASR Manager.

```
/opt/asrmanager/bin/asr set_property org.osgi.service.http.host
IP_address_of_ASR_manager
```

- b. Set the HTTP port.

```
/opt/asrmanager/bin/asr set_property org.osgi.service.http.port
http_port
```

- c. Enable HTTP.

```
/opt/asrmanager/bin/asr set_property org.apache.felix.http.enable
true
```

- d. Restart the Oracle ASR Manager.

3. Verify the HTTP receiver is up and running.

In a browser, enter the following address:

```
http://asr_manager_host:port_number/asr
```

You should see a message indicating that the HTTP receiver is up and running.

Enabling HTTPS/SSL on Oracle ASR Manager

You can use either a root-signed certificate or a self-signed certificate to enable HTTPS/SSL on Oracle ASR Manager.

Generate and install the SSL Certificate into the Key Store specific to the Java/JDK used by Oracle ASR Manager.

1. Generate the Certificate Signing Request.

- a.** Go to the `/java/bin` directory and create the keystore file.

```
# keytool -genkey -alias aliasName -keyalg keyAlgorithm
-keysize keySize -sigalg signatureAlgorithm
-keystore keyStoreFile.jks
```

- b.** Enter the valid key store password and specify the key password.

- c.** Enter the Country, Locality, Organization and Common Name.

If prompted for the first and last name, enter the host name of the machine where Oracle ASR Manager is installed.

- d.** Enter the following command:

```
# keytool -certreq -alias aliasName -keystore keyStoreFile.jks -
sigalg signatureAlgorithm
-file certRequestFile.cer
```

- e.** Enter the valid key store password and specify the key password.

- f.** Submit the Certificate Signing Request `certRequestFile.cer` to the Certificate Authority, and request a Certificate.

2. Install the Certificate after you receive it from the Certificate Authority.

```
# keytool -import -trustcacerts -alias aliasName -file certFileFromCA
-keystore keyStoreFile.jks
```

After running the `keytool -import` command, enter the valid key store password and specify the key password.

3. When the SSL certificate from a trusted authority has been loaded into keystore, perform the following tasks on Oracle ASR Manager:

Trust Store information is same as the Key Store information.

- a.** Set the IP address.

```
# asr
asr> set_property org.osgi.service.http.host
IP_address_of_ASR_manager
```

- b.** Set the HTTPS port.

 **Note:**

The value of `org.osgi.service.http.port.secure` should match the HTTPS port configured on Oracle ASR Manager. The value should be set to the same value as displayed for "HTTP Port" or "HTTPS/SSL Port" in the output of the command:

```
asr show_http_receiver
```

```
asr> set_property org.osgi.service.http.host set_property  
org.osgi.service.http.port.secure https_port
```

- c.** Set the path to the keystore file.

```
asr> set_property org.apache.felix.https.keystore https_keystore
```

- d.** Set keystore password.

```
asr> set_property org.apache.felix.https.keystore.password  
https_keystore_password
```

- e.** Set the key password.

```
asr> set_property org.apache.felix.https.keystore.key.password  
https_keystore_key_password
```

- f.** Set the path of the truststore to the same as the keystore file.

```
asr> set_property org.apache.felix.https.truststore https_truststore
```

- g.** Set the truststore password on the same keystore password value.

```
asr> set_property org.apache.felix.https.truststore.password  
https_truststore_password
```

- h.** Enable HTTPS for Oracle ASR Manager.

```
asr> set_property org.apache.felix.https.enable true
```

The passwords in the above commands can be plain text or obfuscated, as shown in the following example:

```
jar -xvf /opt/asrmanager/lib/com.oracle.asr.http.receiver.jar
```

```
java -classpath org.apache.felix.http.bundle-2.2.0.jar  
org.mortbay.jetty.security.Password plain-text-password
```

After running these Java commands, the output shows the obfuscated password. Obfuscated password values are denoted by the prefix `OBF:`. Copy and paste the output line starting with `OBF:` (including the text 'OBF:') into the above ASR commands instead of the plain text password. The following is an example of the output.

```
2018-05-04 09:34:17.429:INFO::main: Logging initialized @118ms
password
OBF:1v2j20771x1b206z
MD5:5f4dcc9ac6b3e1a84cebb7b40329cf99
```

4. Restart Oracle ASR Manager.

```
$ service asrm restart
```

5. Verify the SSL setup by accessing the following URL from a browser:

```
https://<asr_manager_host>/asr
```

6. Import the certificate used to enable HTTPS/SSL on each database and storage server.

```
keytool -import -trustcacerts -keystore /usr/java/default/jre/lib/
security/cacerts
-storepass keystore_password -noprompt -alias cert_alias_name -file
cert_file_path
```

7. Verify the certificate has been imported.

```
keytool -list -v -keystore /usr/java/default/jre/lib/security/cacerts
-storepass keystore_password
```

Activating Nodes on Oracle ASR Manager

Use this procedure to activate nodes on Oracle ASR Manager.

 **Note:**

- Run the commands listed in this section only on Oracle ASR Manager hosts, not on Oracle Exadata Database Machine hosts.
- Repeat these commands for each Oracle Exadata Database Machine that you attach to Oracle ASR.

1. Run the following command to validate ILOM auto-activation, that is, to determine whether the network and ILOM are correctly configured:

```
# asr list_asset
```

The output should be similar to the following:

IP_ADDRESS	HOST_NAME	SERIAL_NUMBER	ASR	PROTOCOL
SOURCE	PRODUCT_NAME			
-----	-----	-----	-----	-----
10.111.44.111	scac01cel08-c	12345abcde	Enabled	SNMP
ILOM	SUN SERVER X4-2L			
10.222.33.111	scac01cel10-c	43315abcde	Enabled	SNMP
ILOM	SUN SERVER X4-2L			
10.333.11.111	scac01cel09-c	51423abcde	Enabled	SNMP
ILOM	SUN SERVER X4-2L			
10.133.22.111	scac01cel08	12345EDBCA	Enabled	SNMP,HTTP
EXADATA-SQ,ADR	SUN SERVER X4-2L			
10.133.11.111	scac01cel10	12345BACDE	Enabled	SNMP,HTTP
EXADATA-SQ,ADR	SUN SERVER X4-2L			
10.444.33.111	scac01db06	12345XXAAX	Enabled	SNMP,HTTP
EXADATA-SQ,ADR	SUN SERVER X4-2			

- If all of the ILOMs for Oracle Exadata Database Machine nodes are in the list, then skip to Step 3.
 - If some of the ILOMs are missing from the list, then proceed with Step 2.
2. Activate ILOM and run one of the following commands:

- ILOM IP address

```
# asr activate_asset -i Node ILOM IP
```

- ILOM host name

```
# asr activate_asset -h Node ILOM host name
```

 **Note:**

If the activation did not work verify you used the IP address of the ILOM and not the server.

3. Activate the Oracle Exadata Database Machine operating system side of Oracle ASR by running one of the following commands:

- # asr activate_exadata -i Node-IP-address -h Node-host-name -l Node-ILOM-IP

- `# asr activate_exadata -i Node-IP-address -h Node-host-name -n Node-ILOM-hostname`
4. Run the following command to verify that all of the Oracle Exadata Database Machine nodes are visible on Oracle ASR Manager:

```
# asr list_asset
```

5. Approve and assign contacts to the Oracle Exadata Database Machine nodes.

Related Topics

- [How To Manage and Approve Pending Oracle ASR Assets In My Oracle Support \(My Oracle Support ID 1329200.1\)](#)

Upgrading to Oracle ASR SNMP v3

Simple Network Management Protocol (SNMP) v3 is supported on Oracle Exadata Storage Servers and Oracle Exadata Database Servers starting with Oracle Exadata System Software release 12.1.2.1.0.

To use SNMP v3 you must be using Oracle ASR release 4.3 or later.

1. Choose a user or define a new user for SNMP v3.
2. Modify the user's SNMP subscriber information:
 - On a cell, use CellCLI commands similar to the following:

```
alter cell snmpUser=((name=v3user,authprotocol=SHA,
authpassword=*,privprotocol=AES,privpassword=*))
```

```
alter cell snmpsubscriber=((host=asrhost, port=162, SnmpUser=
v3user, type=v3asr))
```

- On a compute node, use DBMCLI commands similar to the following:

```
alter dbserver snmpUser=((name=v3user,authprotocol=SHA,
authpassword=*,privprotocol=AES,privpassword=*))
```

```
alter dbserver snmpsubscriber=((host=asrhost, port=162, SnmpUser=
v3user, type=v3asr))
```

CellCLI or DBMCLI prompts you for a password when adding the `snmpUser`.

The ILOM SNMP Oracle ASR user and notification rules are automatically set in the cell ILOM or compute node ILOM when `snmpSubscriber` is added with type `v3ASR`

3. From Oracle ASR Manager, reference the same user name , protocols and passwords to add the v3 user.

```
asr> add_snmpv3_user -u v3user_name -e engineId  
[,engineId2, ...] -pp AES
```

You must include both server (cell or compute) and ILOM engine IDs. By default, engine IDs are the cell name or compute node name. ILOM engine IDs are the cell name or compute node name with a `-m` suffix, for example, `mycell` and `mycell-m`.

You are prompted to create both authentication and privacy passwords for the v3 user. The passwords you specify must match the passwords set on the cells and compute nodes.

Oracle ASR Manager only supports the SHA protocol for authentication and the AES protocol for privacy and encryption with ILOM.

See Also:

- The ALTER CELL command of CellCLI in *Oracle Exadata System Software User's Guide*
- The ALTER DBSERVER command of DBMCLI in *Oracle Exadata Database Machine Maintenance Guide*
- *Oracle Auto Service Request ASR Manager User's Guide for Linux and Solaris*

Validating SNMP Trap Configurations on Oracle Exadata Database Machine

Run the following commands to validate SNMP trap configurations.

Example Database node configuration validation

- To verify your node configuration using the `dcli` utility, run the following command on an Oracle Exadata Database Server host. Run this command from an account that has equivalency with the `root` user on the database nodes:

- Oracle Exadata System Software release 12.1.2.x or later:

```
# dcli -g dbs_group -l root -n "dbmcli -e list dbserver attributes  
snmpSubscriber"
```

- Oracle Exadata System Software release earlier than 12.1.2.x:

```
# dcli -g dbs_group -l root -n "/opt/oracle.cellos/commpmon/  
exadata_mon_hw_asr.pl -get_snmp_subscribers -type asr"
```

- To verify the configuration when the `dcli` utility is not available, run the following command on each Oracle Exadata Database Server host:

- If your Oracle Exadata System Software is release 12.1.2.x or later:

```
# dbmcli -e list dbserver attributes snmpSubscriber
```

- If your Oracle Exadata System Software release is earlier than 12.1.2.x:

```
# /opt/oracle.cellos/compmon/exadata_mon_hw_asr.pl -  
get_snmp_subscribers -type asr
```

Example Storage node configuration validation

- To validate your node configuration using the `dcli` utility, run the following command on the first Oracle Exadata Database Machine host. Run this command from an account that has equivalency with the `celladmin` user on the cells):

```
# dcli -g cell_group -l celladmin "cellcli -e list cell attributes  
snmpsubscriber"
```

- To validate your node configuration when the `dcli` utility is not available, log on as `celladmin` and run the following command on **each** Oracle Exadata Storage Server host:

```
# cellcli -e "list cell attributes snmpsubscriber"
```

Example Database node SNMP validation

- For a system with Oracle Exadata System Software release 12.1.2.x or later:

```
# dbmcli -e alter dbserver validate snmp type=asr
```

With Oracle Exadata System Software release 12.2.1.1.0, when `dbmcli` validates the SNMP trap configurations, it also validates whether an `snmpSubscriber` supports automatic diagnostic package uploads or not. A new message is displayed when the previous command is run if an `snmpSubscriber` is not accessible or doesn't support automatic diagnostic package uploads. The message is similar to the following:

```
ASR Manager(s) on Host01 are not accessible or do not support automatic  
diagnostic package upload.  
Diagnostic packages will not be automatically uploaded for Service  
Requests.  
DBServer db01 successfully altered
```

- For a system with Oracle Exadata System Software that is **earlier** than 12.1.2.x:

- To validate your node configuration using the `dcli` utility, run the following command on an Oracle Exadata Database Server host:

```
# dcli -g dbs_group -l root "/opt/oracle.cellos/compmon/  
exadata_mon_hw_asr.pl -validate_snmp_subscriber -type asr"
```

- To validate your node configuration when the `dcli` utility is not available, run the following command on **each** Oracle Exadata Database Server host:

```
# /opt/oracle.cellos/compmon/exadata_mon_hw_asr.pl -  
validate_snmp_subscriber -type asr
```

Example Storage node SNMP validation

- To validate your storage node SNMP using the `dcli` utility, run the following command on **each** Oracle Exadata Storage Server host:

```
dcli -g cell_group -l celladmin "cellcli -e alter cell validate snmp  
type=asr"
```

- To validate your storage node SNMP when the `dcli` utility is not available, run the following command on **each** Oracle Exadata Storage Server host:

```
# cellcli -e "alter cell validate snmp type=asr"
```

After validation, Oracle sends e-mail notifications from each of the nodes to:

- The Oracle ASR Manager registration user specified in the Oracle ASR Manager `asr register` command.
- The asset contact that is assigned in My Oracle Support.
- The distribution e-mail list that is assigned in My Oracle Support (optional).

When deploying Oracle ASR, you **must** run the `asrexachck` script as described in My Oracle Support Document 2103715.1 to verify the Oracle ASR deployment.

A Service Request (SR) **must** be filed with Oracle Support Services to validate that the Oracle ASR installation is correct from end-to-end. Include the output of the `asrexachck` script when you file the SR.

Related Topics

- [Engineered Systems ASR Configuration Check tool \(asrexacheck version 4.x\) \(Doc ID 2103715.1\)](#)

Configuring and Activating Switches for Oracle ASR

This topic describes how to configure and activate switches for Oracle ASR.

To configure Datacenter InfiniBand Switch 36 and QDR InfiniBand Gateway Switches for Oracle ASR, follow the instructions outlined in My Oracle Support Document 1902710.1.

Related Topics

- [How to configure Datacenter InfiniBand Switch 36 & QDR InfiniBand Gateway Switches for ASR \(My Oracle Support Doc ID 1902710.1\)](#)

Additional Resources for Oracle Auto Service Request (ASR)

Refer to these sections for additional resources to configure and run Oracle ASR.

Oracle ASR

- Oracle ASR product page:
<http://www.oracle.com/asr>
- Oracle Exadata products qualified for Oracle ASR:
Auto Service Request Qualified Engineered Systems Products
- Oracle ASR user documentation:
See the Oracle ASR documentation at http://docs.oracle.com/cd/E37710_01/nav/products.htm
- Download Oracle ASR software (My Oracle Support login required): [Oracle Auto Service Request \(ASR\) \[My Oracle Support Note 1185493.1\]](#)
- [How To Manage and Approve Pending ASR Assets In My Oracle Support \[My Oracle Support Note 1329200.1\]](#)

Oracle Exadata Database Machine Documentation

- CellCLI command reference: *Oracle Exadata System Software User's Guide*
- dcli command reference: *Oracle Exadata System Software User's Guide*
- DBMCLI command reference: *Oracle Exadata Database Machine Maintenance Guide*

My Oracle Support

- <https://support.oracle.com>

Third-Party Licenses for Oracle ASR

Oracle Auto Service Request (ASR) includes third-party products.

For a complete list of the licensed third-party products, refer to Appendix C, "Third-Party Licenses" in *Oracle Auto Service Request (ASR) Manager User's Guide*.

Related Topics

- *Oracle Auto Service Request (ASR) Manager User's Guide*

Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc>.

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Oracle® Auto Service Request Quick Installation Guide for Oracle Exadata Database Machine, Release 5.7

E97669-03

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