Oracle® Solaris Cluster Data Service for Oracle External Proxy Guide

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Using This Documentation

- **Overview** – Explains how to install and configure Oracle Solaris Cluster HA for Oracle External Proxy (HA for Oracle External Proxy).
- **Audience** – Experienced system administrators with extensive knowledge of Oracle software and hardware.
- **Required knowledge** – Knowledge of the Oracle Solaris operating system, of Oracle Solaris Cluster software, and expertise with the volume manager software that is used with Oracle Solaris Cluster software.

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♦ ♦ ♦ CHAPTER 1

Installing and Configuring HA for Oracle External Proxy

This chapter describes the steps to install and configure HA for Oracle External Proxy on your Oracle Solaris Cluster servers.

Note - You can install and configure this data service to run in either the global zone or a zone cluster. For updated information about supported configurations of this data service, see the *Oracle Solaris Cluster 4 Compatibility Guide*.

This chapter contains the following sections:

- "Overview" on page 9
- "Planning the Installation and Configuration" on page 10
- "Overview of the Installation and Configuration Process for HA for Oracle External Proxy" on page 14
- "Installing the HA for Oracle External Proxy Package" on page 15
- "Registering and Configuring HA for Oracle External Proxy" on page 16
- "Operations By HA for Oracle External Proxy" on page 21
- "Upgrading the `ORCL.oracle_external_proxy` Resource Type" on page 22

You can configure HA for Oracle External Proxy as a failover or a scalable data service. See Chapter 1, "Planning for Oracle Solaris Cluster Data Services," in "Oracle Solaris Cluster Data Services Planning and Administration Guide " and the "Oracle Solaris Cluster Concepts Guide " document for an overview of failover and scalable data services.

Overview

The `ORCL.oracle_external_proxy` resource type interrogates the Oracle Database or the Oracle Real Application Clusters (Oracle RAC) services and interprets the availability of those services as an Oracle Solaris Cluster resource state or status in an Oracle Solaris Cluster configuration.

If the Oracle Database or the Oracle RAC services are unavailable, the Oracle Solaris Cluster resource state will be offline. Similarly, if the Oracle Database or the Oracle RAC services are

available, the Oracle Solaris Cluster resource state will be online. Additionally, appropriate Oracle Solaris Cluster status messages will also be displayed.

For example:

```
# clrs status oep-rs
=== Cluster Resources ===

Resource Name       Node Name       State       Status Message
-------------       ---------       -----       --------------
oep-rs              oephost1         Online      Online - Service orcl is UP
                    oephost2         Online      Online - Service orcl is UP
```

Furthermore, if the Oracle Database and the Oracle RAC services are unavailable, the Oracle Solaris Cluster resource status message will also display the ORA error number and some part of the error message, if known.

For example:

```
# clrs status oep-rs
=== Cluster Resources ===

Resource Name       Node Name       State       Status Message
-------------       ---------       -----       --------------
oep-rs              oephost1         Offline      Offline - Service orcl is DOWN /
[ORA-12514, TNS:listener does not currently ...]
                    oephost2         Offline      Offline - Service orcl is DOWN /
[ORA-12514, TNS:listener does not currently ?]
```

Planning the Installation and Configuration

To register and configure HA for Oracle External Proxy, you must consider or provide information on the following points.

- Decide whether to run HA for Oracle External Proxy as a failover or scalable data service.
- Decide which extension properties to set. See the "Oracle Solaris Cluster Data Services Planning and Administration Guide " for information about the standard properties and Appendix A, "HA for Oracle External Proxy Extension Properties" for information about the extension properties.
- Provide the name of the resource type for HA for Oracle External Proxy. This name is `ORCL.oracle_external_proxy`.
- Provide the names of the cluster nodes that will master the data service.

Configuration Requirements

The following sections describe the configuration requirements for Oracle External Proxy.

- “Remote Database User” on page 11
- “Secure Remote Database Password” on page 12
- “`tnsnames.ora` File” on page 13
- “Remote Oracle Notification Service” on page 14

Remote Database User

On the Oracle Database or the Oracle RAC database, create a user that will be used by the Oracle External Proxy resource.

EXAMPLE 1-1 Creating a User `hauser` Using the SQL Commands

This example shows how to create a user `hauser` with a password `hauser` by using the SQL commands. You can choose a different username and password. The username and password that you choose will be used later by the Oracle Solaris Cluster resource.

```
-bash-3.00$ sqlplus "/as sysdba"

SQL*Plus: Release 11.2.0.2.0 Production on Fri Nov 4 05:23:31 2011

Copyright (c) 1982, 2010, Oracle.  All rights reserved.

Connected to:
Oracle Database 11g Enterprise Edition Release 11.2.0.2.0 - 64bit Production
With the Partitioning, Real Application Clusters, Automatic Storage Management, OLAP,
Data Mining and Real Application Testing options

SQL> create user hauser identified by hauser;

User created.

SQL> grant create session to hauser;

Grant succeeded.

SQL> grant execute on dbms_lock to hauser;

Grant succeeded.

SQL> grant select on v_$instance to hauser;

Grant succeeded.

SQL> create profile hauser limit PASSWORD_LIFE_TIME UNLIMITED;

Profile created.

SQL> alter user hauser identified by hauser profile hauser;
```

```
User altered.

SQL>
```

If the Oracle database or the Oracle RAC database is being used as a standby database, then include the following command to Example 1-1.

```
SQL> grant sysdba to hauser;
```

Secure Remote Database Password

The `ORCL.oracle_external_proxy` resource type verifies a connection to the remote Oracle database. There is no requirement for any Oracle Client software on the nodes where the `ORCL.oracle_external_proxy` resource type will execute. You will need to create a secure password to connect to a remote database. Example 1-2 shows how to encrypt the database user password. The example uses `hauser` as the password. However, this password must correspond to the password you used when creating the database user in "Remote Database User" on page 11.

Note - Create `/var/cluster/scoep_key` only once on each node. If you intend to create multiple resources of the `ORCL.oracle_external_proxy` type, use the same key for encryption and decryption. If `/var/cluster/scoep_key` is recreated after an encrypted password has been created, it will not be possible to decrypt the encrypted password using the newly created `/var/cluster/scoep_key`. Consequently, the `ORCL.oracle_external_proxy` resource type will fail to connect to the remote database. Also, the resource will go OFFLINE and you will get the `ORA-01017: invalid username/password; logon denied` message.

If you have recreated `/var/cluster/scoep_key`, you will need to recreate the encrypted password again, and then disable and enable the `ORCL.oracle_external_proxy` resource type for the change to be effective.

EXAMPLE 1-2 Encrypting the Database User Password

Assuming a `root` role on all Oracle Solaris Cluster nodes, do the following:

```
bash-3.00# dd if=/dev/urandom of=/var/cluster/scoep_key bs=8 count=1
1+0 records in
1+0 records out
bash-3.00#
bash-3.00# echo hauser | /usr/sfw/bin/openssl enc -aes128 -e -pass \
file:/var/cluster/scoep_key -out /opt/ORCLscoep/.oep-rs_passwd
bash-3.00#
```

`oep-rs` in `oep-rs_passwd` represents the resource name that you will create later. However, you can choose a different resource name. Now verify that the password can be decrypted.

```
bash-3.00# /usr/sfw/bin/openssl enc -aes128 -d -pass \
```

```
 file:/var/cluster/scoep_key -in /opt/ORCLscoep/.oep-rs_passwd
hauser
bash-3.00# chmod 400 /var/cluster/scoep_key
bash-3.00# chmod 400 /opt/ORCLscoep/.oep-rs_passwd
```

`tnsnames.ora` File

A valid `tnsnames` entry for the Oracle Database or Oracle RAC service is required within a `tnsnames.ora` file. By default, the Oracle External Proxy resource uses the `/var/opt/oracle/tnsnames.ora` file to determine the `tnsnames` entry. However, if the default value is not acceptable, then specify the `Tns_admin` extension property as follows:

`-p TNS_ADMIN=`*`${ORACLE_HOME}`***`/network/admin`**
`-p TNS_ADMIN=`*`your path to tnsnames.ora`*

The Oracle External Proxy resource can query a remote Oracle data base or a local Oracle database and has the following requirements:

- **Querying a remote Oracle database** - If the Oracle database is a remote Oracle database, then the `ADDRESS` and the `HOST` entry in the `tnsnames.ora` file must specify the `SCAN` name for either Oracle Database 11g Release 2 or Oracle Database 12c. For Oracle Database 10g Release 2 and Oracle Database 11g Release 1, specify the appropriate listener address entries for each node that runs an instance of the database.
- **Querying a local Oracle database** - If the Oracle database is a local Oracle database then the `HOST` entry can be omitted. Instead, the `PROTOCOL` and `KEY` entries are required within the `ADDRESS` statement.
- The `tnsnames` entry and `SERVICE_NAME` entry must be the same.

The following examples show how to use Oracle External Proxy to query a remote Oracle database and a local Oracle database.

EXAMPLE 1-3 Querying a Remote Oracle Database

In this example, the `/var/opt/oracle/tnsnames.ora` file is used.

```
bash-3.00# cat /var/opt/oracle/tnsnames.ora
ORCL =
 (DESCRIPTION =
   (ADDRESS = (PROTOCOL = TCP)(HOST = dbhost-scan-lh)(PORT = 1521))
      (CONNECT_DATA =
        (SERVER = DEDICATED)
          (SERVICE_NAME = ORCL)
  )
)
bash-3.00#
```

The hostname `dbhost-scan-lh` must be resolvable and within the `/etc/hosts` file on each node.

```
bash-3.00# grep dbhost-scan-lh /etc/hosts
10.134.84.58 dbhost-scan-lh.us.oracle.com dbhost-scan-lh
bash-3.00#
```

EXAMPLE 1-4 Querying a Local Oracle Database

In this example, the `/var/opt/oracle/tnsnames.ora` file is used.

```
bash-3.00# cat /var/opt/oracle/tnsnames.ora
SALES =
 (DESCRIPTION =
   (ADDRESS = (PROTOCOL = IPC)(KEY = LISTENER))
      (CONNECT_DATA =
        (SERVER = DEDICATED)
          (SERVICE_NAME = SALES)
  )
)
bash-3.00#
```

Remote Oracle Notification Service

Running Oracle Notification Service on every database node reduces the time it takes for the `ORCL.oracle_external_proxy` resource type to connect to the database and to determine the state of the database. To verify that Oracle Notification Service is running on the database nodes, run the following command.

```
bash-3.00# su - oragrid
Oracle Corporation  5.11 11.0 November 2011
-bash-3.00$ crsctl stat res ora.ons -t
--------------------------------------------------------------
NAME TARGET STATE SERVER STATE_DETAILS Local Resources
--------------------------------------------------------------
ora.ons
ONLINE ONLINE dbhost1
ONLINE ONLINE dbhost2
bash-3.00$
```

If Oracle Notification Service fails or stops running on a database node, the `ORCL.oracle_external_proxy` resource will still continue to monitor the remote database. However, it will take longer to connect to the database and determine the state of the database.

Overview of the Installation and Configuration Process for HA for Oracle External Proxy

The following table lists the sections that describe the installation and configuration tasks.

TABLE 1-1 Task Map: Installing and Configuring HA for Oracle External Proxy

Task	Instructions
Install the HA for Oracle External Proxy package	"How to Install the HA for Oracle External Proxy Package" on page 15
Configure and start HA for Oracle External Proxy	"How to Register and Configure HA for Oracle External Proxy" on page 17

Installing the HA for Oracle External Proxy Package

If you did not install the HA for Oracle External Proxy package during your initial Oracle Solaris Cluster installation, perform this procedure to install the package.

▼ How to Install the HA for Oracle External Proxy Package

Perform this procedure on each cluster node where you want the HA for Oracle External Proxy software to run.

1. **On the cluster node where you are installing the data service package, assume the `root` role.**

2. **Ensure that the data service package is available from the configured publisher and that the `solaris` and `ha-cluster` publishers are valid.**

```
# pkg list -a ha-cluster/data-service/oracle-external-proxy
# pkg publisher
PUBLISHER                             TYPE     STATUS   P  LOCATION
solaris                               origin   online   F  solaris-repository
ha-cluster                            origin   online   F  ha-cluster-repository
```

For information about setting the `solaris` publisher, see "Adding, Modifying, or Removing Package Publishers" in "Adding and Updating Software in Oracle Solaris 11.2".

Tip - Use the `-nv` options whenever you install or update to see what changes will be made, such as which versions of which packages will be installed or updated and whether a new BE will be created. The `-v` option also shows any release notes that apply to this particular install or update operation.

If you do not get any error messages when you use the `-nv` options, run the command again without the `-n` option to actually perform the installation or update. If you do get error messages, run the command again with more `-v` options (for example, `-nvv`) or more of

the package FMRI to get more information to help you diagnose and fix the problem. For troubleshooting information, see Appendix A, “Troubleshooting Package Installation and Update,” in “Adding and Updating Software in Oracle Solaris 11.2”.

3. **Install the HA for Oracle External Proxy software package.**

```
# pkg install ha-cluster/data-service/oracle-external-proxy
```

4. **Verify that the package installed successfully.**

```
$ pkg info ha-cluster/data-service/oracle-external-proxy
```

Installation is successful if output shows that `State` is `Installed`.

5. **Perform any necessary updates to the Oracle Solaris Cluster software.**

For instructions on updating or upgrading your software, see Chapter 11, “Updating Your Software,” in “Oracle Solaris Cluster System Administration Guide”.

Registering and Configuring HA for Oracle External Proxy

The following sections describe how to register and configure HA for Oracle External Proxy.

- “Setting HA for Oracle External Proxy Extension Properties” on page 16
- “Tools for Registering and Configuring HA for Oracle External Proxy” on page 17
- “How to Register and Configure HA for Oracle External Proxy” on page 17
- “Setting up Dependencies on Oracle External Proxy Resources” on page 20
- “How to Verify Data Service Installation and Configuration” on page 21

You can configure HA for Oracle External Proxy as a failover service or as a scalable service.

Setting HA for Oracle External Proxy Extension Properties

The sections that follow contain instructions for registering and configuring HA for Oracle External Proxy resources. For information about the extension properties, see Appendix A, “HA for Oracle External Proxy Extension Properties”. The Tunable entry indicates when you can update a property.

See the `rt_properties`(5), `r_properties`(5), and `rg_properties`(5) man pages for details on all of the Oracle Solaris Cluster extension properties.

To set an extension property of a resource, include the following option in the `clresource` command that creates or modifies the resource:

-p *property***=***value*

-p *property*

Identifies the extension property that you are setting.

value

Specifies the value to which you are setting the extension property.

You can also use the procedures in Chapter 2, "Administering Data Service Resources," in "Oracle Solaris Cluster Data Services Planning and Administration Guide " to configure resources after the resources are created.

Tools for Registering and Configuring HA for Oracle External Proxy

Oracle Solaris Cluster provides the following tool for registering and configuring HA for Oracle External Proxy:

- **Oracle Solaris Cluster maintenance commands.** For more information, see "How to Register and Configure HA for Oracle External Proxy" on page 17.

▼ How to Register and Configure HA for Oracle External Proxy

Complete the registration and configuration on any cluster member.

Before You Begin Ensure that you have completed the requirements as described in "Configuration Requirements" on page 10.

1. **On a cluster member, become an administrator that provides `solaris.cluster.admin` authorization.**

2. **Register the `ORCL.oracle_external_proxy` resource type for the data service.**

```
# clresourcetype register ORCL.oracle_external_proxy
```

3. **Create either a scalable or a failover resource group for the Oracle External Proxy resource.**

For example, to create a scalable resource group, do the following:

```
# clresourcegroup create -S [-n node-zone-list]  resource-group
```

resource-group

Specifies the name of the scalable service resource group to add.

`-n` *node-zone-list*

Specifies a comma-separated, ordered list of nodes that can master this resource group. This list is optional. If you omit this list, then all the nodes of the global cluster or zone cluster are used to master the resource group.

4. Create an Oracle External Proxy resource in the resource group that you created.

```
# clresource create -g resource-group \
-t ORCL.oracle_external_proxy
-p service_name=service-name \
-p ons_nodes=ons-nodes \
-p dbuser=dbuser \
[-p plugin_name=plugin-name] \
[-p tns_admin=tns-admin] \
-d  \
resource
```

`-g` *resource-group*

Specifies the name of the resource group .

`-t` *resource-type*

Specifies the resource type to add.

`-p service_name=`*service-name*

Specifies the Oracle Database or Real Application Clusters (RAC) service name that the Oracle External Proxy uses to connect to the database.

`-p ons_nodes=`*ons-nodes*

Specifies the Remote Oracle Notification Service (ONS) nodes that the Oracle External Proxy uses to connect to the database. For a remote Oracle database, specify ONS_NODES=*scan*:port or ONS_NODES=*node*:*port*[*node*:*port*]. For a local Oracle database, specify ONS_NODES=localhost:port.

Note - For a remote Oracle Database 11gR2 or later with Grid Infrastructure installed, it is recommended to use `scan_name:port`.

`-p dbuser=`*dbuser*

Specifies the server side Oracle database user that the Oracle External Proxy uses to connect to the database. If the database is being used as a standby database, you must grant the `sysdba` privilege to the user, and specify `dbuser="hauser as sysdba"` where `hauser`

represents your entry for `dbuser`. For information on how to grant the `sysdba` privilege to the user, see "Remote Database User" on page 11.

`-p plugin_name=`*plugin-name*

Specifies the plugin module that the Oracle External Proxy uses to connect to the database. You can omit this entry as it will default to `OracleExternalProxy`.

`-p tns_admin=`*tns-admin*

Specifies the client-side location for the Oracle `tns_admin` path that the Oracle External Proxy uses to connect to the database. Omit this entry so that it defaults to the `/var/opt/oracle` directory.

`-d`

Creates the resource in the disabled state.

resource

Specifies your choice for the name of the resource to add.

Note - Optionally, you can set additional extension properties that belong to the Oracle External Proxy data service to override their default values. See Appendix A, "HA for Oracle External Proxy Extension Properties" for a list of extension properties.

---

5. Bring the resource group online.

```
# clresourcegroup online -emM resource-group
```

resource-group

Specifies the name of the resource group.

The Oracle Solaris Cluster resource is now configured and online, thereby interrogating the state of the remote database.

Example 1-5 Creating an `ORCL.oracle_external_proxy` Resource

This example shows the commands for performing the following operations which create a scalable multi-master `ORCL.oracle_external_proxy` resource on a two-node cluster.

- Creating the `oep-rg` resource group
- Registering the `ORCL.oracle_external_proxy` resource type
- Adding the `oep-rs` resource to the `oep-rg` resource group

This example assumes that default values are being used for the `dbuser`, `tns_admin`, and `plugin_name` extension properties. It also assumes that the `dbuser` password has been encrypted on each cluster node.

```
phys-schost-1# clresourcetype register ORCL.oracle_external_proxy
phys-schost-1# clresourcegroup create -S oep-rg
phys-schost-1# clresource create -g oep-rg \
-t ORCL.oracle_external_proxy \
-p service_name=orcl \
-p ons_nodes=binks-scan-lh:6200 \
-d \
oep-rs
phys-schost-1# clresourcegroup online -M oep-rg
phys-schost-1# clresource enable oep-rs
```

Example 1-6 Registering Failover HA for Oracle External Proxy

The following example shows how to register a failover Oracle External Proxy service.

```
phys-schost-1# clresourcetype register ORCL.oracle_external_proxy
phys-schost-1# clresourcegroup create oep-rg
phys-schost-1# clresource create -g oep-rg \
-t ORCL.oracle_external_proxy \
-p service_name=orcl \
-p ons_nodes=binks-scan-lh:6200 \
-d \
oep-rs
phys-schost-1# clresourcegroup online -M oep-rg
phys-schost-1# clresource enable oep-rs
```

Example 1-7 Creating an Oracle External Proxy Resource for a Local Oracle Database

The following example shows how to create an Oracle External Proxy resource for a local Oracle database.

```
phys-schost-1# clresourcetype register ORCL.oracle_external_proxy
phys-schost-1# clresourcegroup create -S oep-rg
phys-schost-1# clresource create -g oep-rg \
-t ORCL.oracle_external_proxy \
-p service_name=sales \
-p ons_nodes=localhost:6100 \
-d \
oep-rs
phys-schost-1# clresourcegroup online -M oep-rg
phys-schost-1# clresource enable oep-rs
```

Setting up Dependencies on Oracle External Proxy Resources

To use the Oracle Solaris Cluster resource as a dependency for an application resource, set up appropriate dependencies as shown in the following example.

EXAMPLE 1-8 Setting Up Application Resource Group Dependencies

As an example, when the Oracle External Proxy resource is within a scalable resource group and the application resource is within a failover resource group, you can do the following:

```
# clrg set -p RG_Affinities=++oep-rg app-rg
# clrs set -p resource_dependencies_offline_restart=oep-rs{any_node} app-rs
```

As an example, when the Oracle External Proxy resource and the application resource are within the same failover resource group, you can do the following:

```
# clrs set -p resource_dependencies_offline_restart=oep-rs app-rs
```

As an example, when the Oracle External Proxy resource and the application resource are in separate failover resource groups, you can do the following:

```
# clrg set -p RG_Affinities=++oep-rg app-rg
# clrs set -p resource_dependencies_offline_restart=oep-rs app-rs
```

How to Verify Data Service Installation and Configuration

After the Oracle External Proxy resource has been installed, configured, and registered, verify it by enabling the Oracle External Proxy resource. Once the Oracle External Proxy resource has been enabled, the resource status will reflect the state and status of the server-side Oracle database. The presence of a resource status message is verification that the Oracle External Proxy has been installed and configured.

Operations By HA for Oracle External Proxy

The Oracle External Proxy software interrogates an Oracle Database or Oracle RAC service and interprets the availability of that service as an Oracle Solaris Cluster resource state or status. As part of that interrogation, the Oracle External Proxy software uses the Oracle JDBC thin driver to connect to the Oracle Database or Oracle RAC service. The connection is then interpreted by Oracle Solaris Cluster with the Oracle External Proxy resource state and status message.

The Oracle External Proxy writes to a trace file within the `/var/cluster/logs/DS/ORCLscoep/message_log.`*resource* file on each node where three generations are kept. The Oracle External Proxy resource type is responsible for maintaining the generations and automatically removes old generations.

Actions in Response to Faults

If the Oracle External Proxy cannot connect to the Oracle Database or Oracle RAC service, the Oracle Solaris Cluster resource will go offline. An appropriate resource status message will indicate the reason why the connection was not possible. As soon as the Oracle External Proxy can connect to the Oracle Database or Oracle RAC service, the Oracle Solaris Cluster resource will come online.

Upgrading the ORCL.oracle_external_proxy Resource Type

Upgrade the ORCL.oracle_external_proxy resource type if the following conditions apply:

- You are upgrading from an earlier version of the HA for Oracle External Proxy data service.
- You need to use the new features of this data service.

For general instructions that explain how to upgrade a resource type, see "Upgrading a Resource Type" in "Oracle Solaris Cluster Data Services Planning and Administration Guide ". The information that you require to complete the upgrade of the ORCL.oracle_external_proxy resource type is provided in the following subsections.

- "Information for Registering the New Resource Type Version" on page 22
- "Information for Migrating Existing Instances of the Resource Type" on page 23

Information for Registering the New Resource Type Version

The relationship between a resource type version and the release of Oracle Solaris Cluster data services is shown in the following table. The release of Oracle Solaris Cluster data services indicates the release in which the version of the resource type was introduced.

Resource Type Version	Oracle Solaris Cluster Data Services Release
1	1.0

To determine the version of the resource type that is registered, use the clresourcetype show command.

The resource type registration (RTR) file for this resource type is /opt/ORCLscoep/etc/ORCL.oracle_external_proxy.

Information for Migrating Existing Instances of the Resource Type

The information that you require to edit each instance of the ORCL.oracle_external_proxy resource type is as follows:

- You can perform the migration at any time.

The following example shows the command for modifying an instance of the ORCL.oracle_external_proxy resource type.

EXAMPLE 1-9 Migrating Instances of the ORCL.oracle_external_proxy Resource Type

The following command sets the Type_version property of the ORCL.oracle_external_proxy resource named oep-rs to 2.

```
# clresource set -p Type_version=2 oep-rs
```

♦ ♦ ♦ APPENDIX A

HA for Oracle External Proxy Extension Properties

This section describes the extension properties for the resource type `ORCL.oracle_external_proxy`. This resource type represents the Oracle External Proxy application in an Oracle Solaris Cluster configuration.

For details about system-defined properties, see the `r_properties`(5) and `rg_properties`(5) man pages.

The extension properties of the `ORCL.oracle_external_proxy` resource type are as follows:

`Debug_level`

This property indicates the level to which debug messages for the `ORCL.oracle_external_proxy` resources are logged. When the debug level is increased, more debug messages are written to the terminal, the console, and the system log `/var/adm/messages` as follows:

`0`	No debug messages
`1`	Function Begin and End messages
`2`	All debug messages and function Begin and End messages

For messages to appear in the system log, perform the following:

1. Edit the `/etc/syslog.conf` file and make sure that the debug is set.

```
*.err;kern.debug;daemon.debug;mail.crit /var/adm/messages
```

2. Disable the system log.

```
bash-3.00# svcadm disable system-log
```

3. Enable the system log.

```
bash-3.00# svcadm enable system-log
```

Data Type Integer

Range `0-2`

Default `0`

Tunable Any time

`Dbuser`

This property specifies the server-side Oracle Database user that the proxy monitor uses to connect to the database.

Data Type String

Default hauser

Tunable When disabled

`Ons_nodes`

This property specifies the Remote Oracle Notification Server (ONS) nodes such as *node*`:`*port*`[,`*node*`:`*port*`]` that the proxy monitor uses to connect to the database.

Data Type String

Default `None`

Tunable When disabled

`Plugin_name`

This property specifies the plugin module name that the proxy monitor uses to connect to the database.

Data Type String

Default `OracleExternalProxy`

Tunable When disabled

`Service_name`

This property specifies the Oracle Database or Oracle RAC service name that the proxy monitor uses to connect to the database.

Data Type String

Default `None`

Tunable When disabled

`Tns_admin`

This property specifies the client-side location for the Oracle `Tns_admin` path that the proxy monitor uses to connect to the database.

Data Type	String
Default	`/var/opt/oracle`
Tunable	When disabled

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