



HPE Operations Bridge Reporter

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Windows® and Linux Operating Systems

High Availability Guide

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Part I: HPE OBR High Availability Overview and Planning

This guide provides instructions on how to configure HPE OBR in a High Availability (HA) environment using the cluster software.

Chapter 1: Introduction

HPE OBR collects data from different data sources, processes the data, and generates top-down and bottoms-up reports with the processed data. The following embedded software product components are included along with the HPE OBR platform:

- SAP BusinessObjects and SQLAnywhere database for reporting.
- HP Vertica database for storing, processing, and managing the performance data of your IT environment.
- PostgreSQL database for storing and managing the data processing streams at run-time.
- The HPE OBR Collector component of HPE OBR collects data from different data sources.

For more information on HPE OBR platform and embedded components, refer *HPE Operations Bridge Reporter Concepts Guide*.

High availability aims at higher level of operational performance. Configuring HPE Operations Bridge Reporter in high availability environment improves its availability when used as a mission critical application.

HPE Operations Bridge Reporter in High Availability Environment

High Availability in HPE OBR platform server works in active-passive mode and fail-over is achieved through Veritas Cluster Software.

The SAP BusinessObjects server, SAP BusinessObjects CMS works in active-active mode and load-balancing is achieved through SAP BusinessObjects cluster mechanism. The SAP BusinessObjects Tomcat server and SQLAnywhere works in active-passive mode and fail-over is achieved through Veritas Cluster Software.

Note: Ensure that the Veritas Cluster Server (VCS) component is installed and configured on the systems before you begin installing HPE OBR in a High Availability (HA) environment. HPE Software Support does not provide any assistance in installing and configuring the cluster software.

Vertica is cluster based, analytic database management system. To achieve high availability, Vertica requires a minimum of three nodes (one main node and two additional nodes for load balancing) and it uses its own cluster mechanism. Ensure that the system configuration of all the Vertica nodes in a cluster are identical. You can increase the number of Vertica nodes for scalability.

In High availability, all the required HPE OBR services are monitored using VCS for fail over scenario using heartbeat IP and fail over happens to the secondary server based on the dependencies.

High Availability configuration for Remote Collector is not supported. However, if you have Remote Collector installed and configured, you can connect it to HPE OBR's High Availability setup.

Note: For Backup and Restore (Disaster Recovery) steps in a High Availability environment, see *HPE Operations Bridge Reporter Disaster Recovery Guide*.

Terminologies Used

HPE OBR Components	Nodes	Terms Used
HPE OBR Server 1	Primary Node	OBRS1
HPE OBR Server 2	Secondary Node	OBRS2
SAP BusinessObjects Server 1	SAP BusinessObjects Installed	BOS1
SAP BusinessObjects Server 2	Cluster Node 2	BOS2
Network File System	Network File System	NFS
Vertica Server 1	Vertica Installed Node 1	VS1
Vertica Server 2	Cluster Node 2	VS2
Vertica Server 3	Cluster Node 3	VS3

Chapter 2: Getting Started

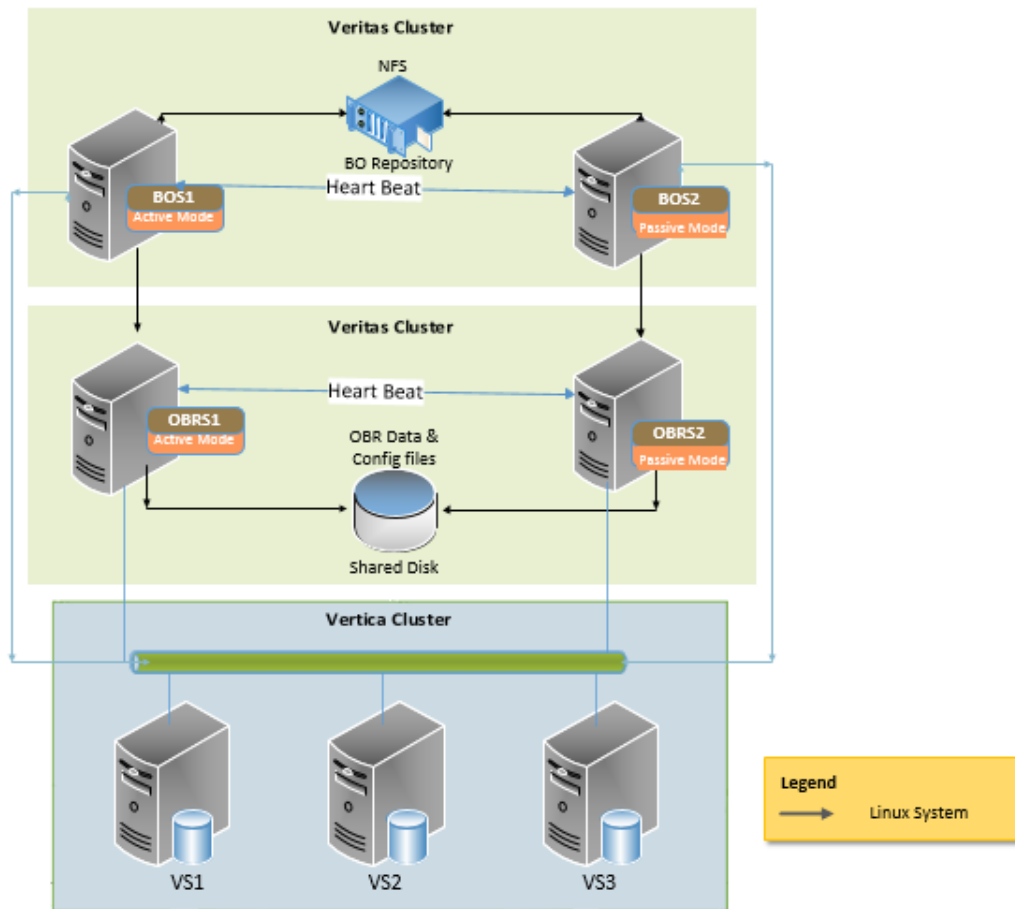
This chapter helps you to understand the supported scenarios, prerequisites and steps to setup High Availability for HPE OBR.

Note: HPE OBR for High Availability Environment is supported only on Custom Installation scenario.

Supported Scenarios

Scenario 1

In this scenario, the HPE OBR server, SAP BusinessObjects server and Vertica server is installed on different Linux systems.



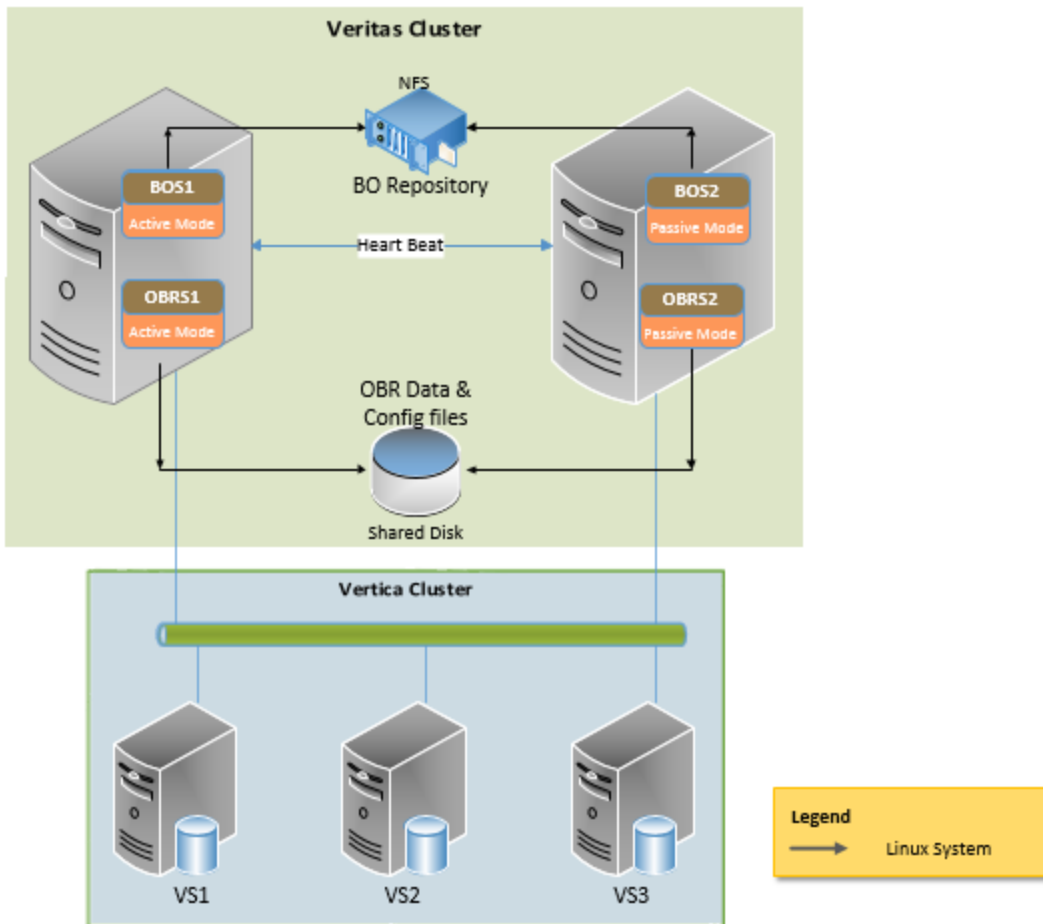
Prerequisites:

- VCS component is installed on OBR1, OBR2, BOS1 and BOS2 servers.
- One Heart beat IP is configured for OBR and BO servers.
- Shared disks is mounted on Server - OBR1, BOS1 and BOS2
- Ensure that the cluster software is running. To verify, run the following command on both the nodes:

```
hastatus -sum
```
- NFS server for SAP BusinessObjects database and input/output repository

Scenario 2

In this scenario, the HPE OBR server and SAP BusinessObjects server are installed on the same Linux system with Vertica server on another Linux system.



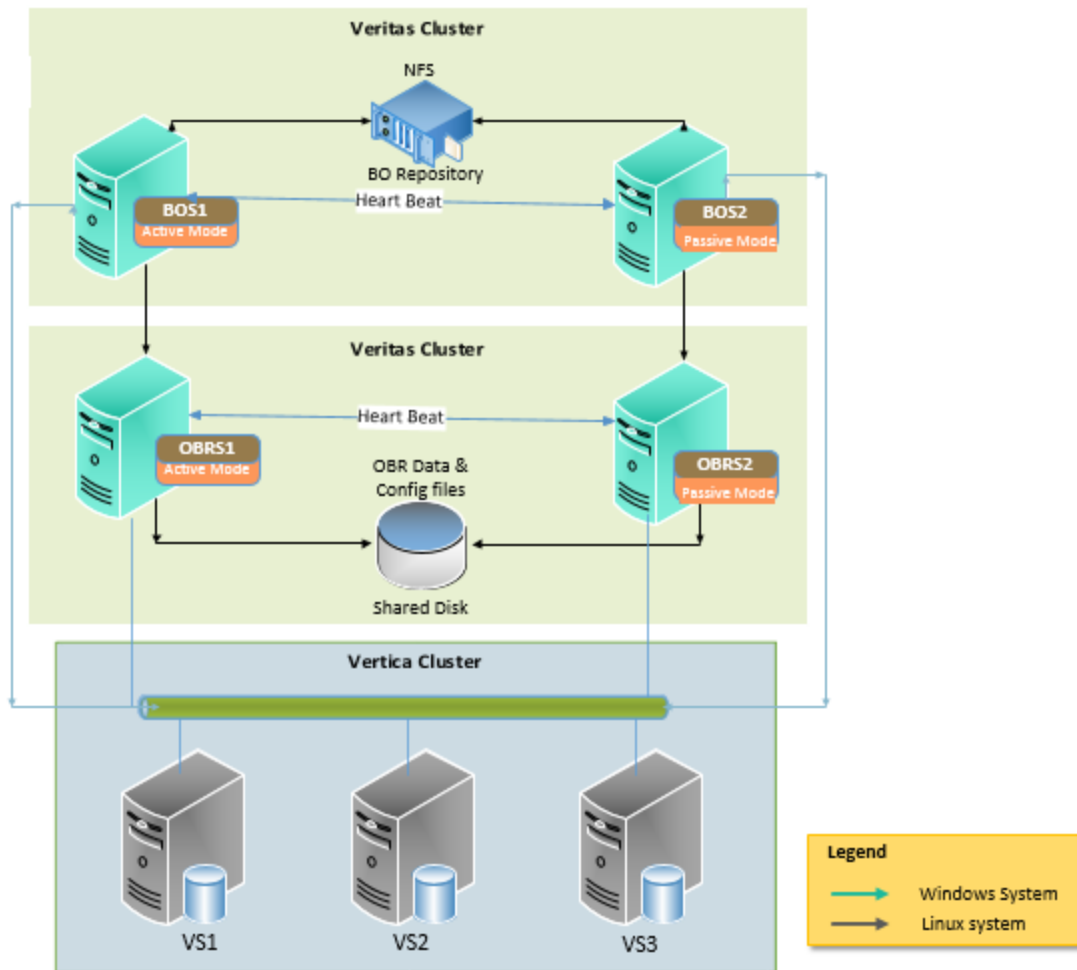
Prerequisites:

- VCS component is installed on both the OBR and BO servers.
- One Heart beat IP is configured.
- Shared disks is mounted on Server - OBR51, BOS1 and BOS2
- Ensure that the cluster software is running. To verify, run the following command on both the nodes:

```
hastatus -sum
```
- NFS server for SAP BusinessObjects database and input/output repository.

Scenario 3

In this scenario, the HPE OBR server and SAP BusinessObjects server are installed on different Windows systems with Vertica server on another Linux system.



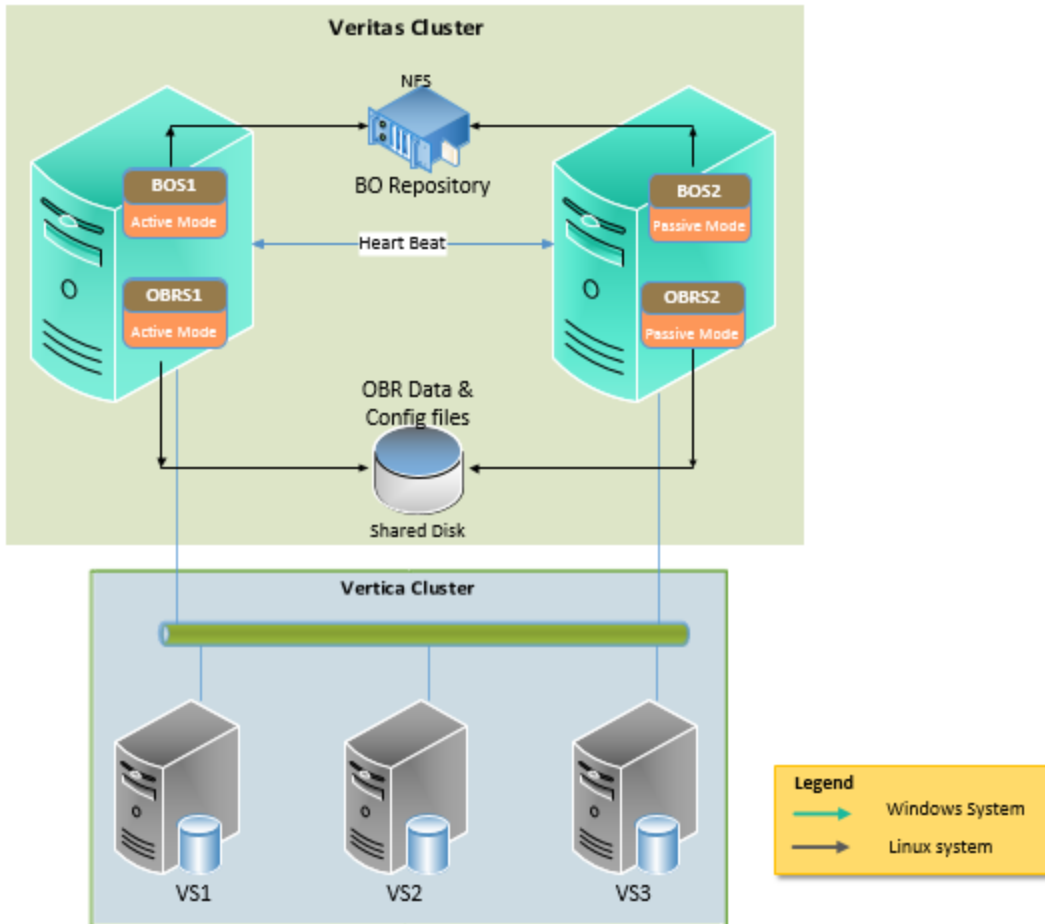
Prerequisites:

- VCS component is installed on OBR1, OBR2, BOS1 and BOS2 servers.
- A domain user account is required and should have administrator privileges.
- One Heart beat IP is configured for OBR and BO servers.
- Shared disks is mounted on Server - OBR1, BOS1 and BOS2
- Ensure that the cluster software is running. To verify, run the following command on both the nodes:

```
hastatus -sum
```
- NFS server for SAP BusinessObjects database and input/output repository

Scenario 4

In this scenario, the HPE OBR server and SAP BusinessObjects server are installed on same Windows system with Vertica server on another Linux system.



Prerequisites:

- VCS component is installed on both the OBR and BO servers.
- A domain user account is required and should have administrator privileges.
- One Heart beat IP is configured.
- Shared disks is mounted on Server - OBR1, BOS1 and BOS2
- Ensure that the cluster software is running. To verify, run the following command on both the nodes:
`hastatus -sum`
- NFS server for SAP BusinessObjects database and input/output repository.

Installing and Configuring High Availability for HPE OBR

To configure High Availability for HPE OBR you must perform the following steps:

1. Install HPE OBR
2. Set up Vertica Cluster
3. Share data through shared disk
4. SAP BusinessObjects Clustering
5. Veritas Configuration

You can configure High Availability for new installation of HPE OBR as follows:

Note: Servers Implementing High Availability should be on same Operating systems and configurations.

1. Install HPE OBR and/or SAP BusinessObjects on all cluster nodes.

Note: You can install HPE OBR and SAP BusinessObjects in parallel.

2. Install Vertica on VS1.
3. Create Vertica database on VS1.
4. Stop the HPE OBR services.
5. Configure cluster for Vertica.
6. Configure Post installation.
7. Copy the platform data to shared disk.
8. Configure connectivity changes for Vertica 3 Node Cluster
9. Install Content packs
10. Configure BOE JDBC Connection
11. Configure SAP BusinessObjects Cluster
12. Remove dependency between BOE SQLAW and SIA Services
13. Configure Veritas cluster

SAP BusinessObjects Installed on separate system

- a. Configure Veritas Cluster for SQLAW

OR

HPE OBR and SAP BusinessObjects installed on same system

- a. Configure Veritas Cluster for HPE OBR and SQLAW
14. Configure DataSources
 15. Update the SQL DSN changes
 16. Validate your HA setup

You can connect Remote Collector to OBR's High Availability setup. For steps, see "[Connecting Remote Collector to OBR's High Availability setup](#)" on page 126.

Part II: Installing HPE OBR Components

This section provides information on installing HPE OBR components.

Chapter 3: Installing HPE Operations Bridge Reporter

Install the HPE Operations Bridge Reporter server. For instructions on installing HPE Operations Bridge Reporter server, see *HPE Operations Bridge Reporter Interactive Installation Guide*.

In case of HPE OBR installation "[Scenario 1](#)" on [page 9](#), type the BOS1 physical name in the **Hostname** field in the installation wizard.

Note: On the OBR systems, verify if the postgres user exists in the location `/etc/passwd`. The user must be deleted if exists.

Chapter 4: Installing SAP BusinessObjects

Install the SAP BusinessObjects server. For instructions on installing SAP BusinessObjects server, see *HPE Operations Bridge Reporter Interactive Installation Guide*.

Chapter 5: Installing Vertica

Perform the RHEL libraries installation and Vertica prerequisite steps mentioned in the Prerequisites, Preinstallation sections of the *HPE Operations Bridge Reporter Interactive Installation Guide* on all three Vertica servers.

Install the Vertica server on VS1. For instructions on installing Vertica server, see *HPE Operations Bridge Reporter Interactive Installation Guide*.

Chapter 6: Stopping the HPE OBR Services

You must make sure to stop the HPE OBR services on OBRS1 and BOS1. To stop the services, follow these steps on OBRS1 and BOS1 .

On Linux

1. Run the following command:

On RHEL 6.x/SUSE Linux Enterprise Server 11 - `chkconfig --list`

On RHEL 7.x:

`systemctl list-units --type service` - This command lists the services.

`systemctl list-unit-files` - This command displays if the services are enabled or disabled.

The command output lists all the HPE OBR services as follows:

HPE_PMDB_Platform_Administrator

HPE_PMDB_Platform_Collection

HPE_PMDB_Platform_DB_Logger

HPE_PMDB_Platform_IA

HPE_PMDB_Platform_IM

HPE_PMDB_Platform_JobManager

HPE_PMDB_Platform_NRT_ETL

HPE_PMDB_Platform_PostgreSQL

HPE_PMDB_Platform_Orchestration

HPE_PMDB_Platform_TaskManager

TrendTimer

2. Run the following command on the BOS1 system:

On RHEL 6.x/SUSE Linux Enterprise Server 11 - `chkconfig --list`

On RHEL 7.x:

`systemctl list-units --type service` - This command lists the services.

`systemctl list-unit-files` - This command displays if the services are enabled or disabled.

The command output lists the SAP BusinessObjects service as follows:

```
SAPBOBJEnterpriseXI40
```

Note: If SAP BusinessObjects server is installed on the same system with HPE OBR the above service appears in OBRs1 server.

- Run the following commands on the OBRs1 system and on BOS1 system to stop the services:

On RHEL 6.x/SUSE Linux Enterprise Server 11	On RHEL 7.x
On OBRServer	
<ul style="list-style-type: none"> ◦ <code>service HPE_PMDB_Platform_Administrator stop</code> ◦ <code>service HPE_PMDB_Platform_Collection stop</code> ◦ <code>service HPE_PMDB_Platform_DB_Logger stop</code> ◦ <code>service HPE_PMDB_Platform_IA stop</code> ◦ <code>service HPE_PMDB_Platform_IM stop</code> ◦ <code>service HPE_PMDB_Platform_JobManager stop</code> ◦ <code>service HPE_PMDB_Platform_NRT_ETL stop</code> ◦ <code>service HPE_PMDB_Platform_Orchestration stop</code> ◦ <code>service HPE_PMDB_Platform_PostgreSQL stop</code> ◦ <code>service HPE_PMDB_Platform_TaskManager stop</code> ◦ <code>service TrendTimer stop</code> 	<ul style="list-style-type: none"> ◦ <code>systemctl stop HPE_PMDB_Platform_Administrator.service</code> ◦ <code>systemctl stop HPE_PMDB_Platform_Collection.service</code> ◦ <code>systemctl stop HPE_PMDB_Platform_DB_Logger.service</code> ◦ <code>systemctl stop HPE_PMDB_Platform_IA.service</code> ◦ <code>systemctl stop HPE_PMDB_Platform_IM.service</code> ◦ <code>systemctl stop HPE_PMDB_Platform_JobManager.service</code> ◦ <code>systemctl stop HPE_PMDB_Platform_NRT_ETL.service</code> ◦ <code>systemctl stop HPE_PMDB_Platform_Orchestration.service</code> ◦ <code>systemctl stop HPE_PMDB_Platform_PostgreSQL.service</code> ◦ <code>systemctl stop HPE_PMDB_Platform_TaskManager.service</code> ◦ <code>systemctl stop TrendTimer.service</code>
On SAP BusinessObjectsServer	
<ul style="list-style-type: none"> ◦ <code>service SAPBOBJEnterpriseXI40 stop</code> 	<ul style="list-style-type: none"> ◦ <code>systemctl stop SAPBOBJEnterpriseXI40.service</code>

Note: If SAP BusinessObjects server is installed on the same system with HPE OBR perform the

above step on the OBRS1 server.

On Windows

1. Log on to the OBRS1 system.
2. From the **Start**, type **Run** in **Search**. The Run dialog box appears.
3. Type **services.msc** in the open field, and then press **ENTER**. The Services window appears with the list of following services:

HPE_PMDB_Platform_Administrator
HPE_PMDB_Platform_Collection
HPE_PMDB_Platform_DB_Logger
HPE_PMDB_Platform_IA
HPE_PMDB_Platform_IM
HPE_PMDB_Platform_JobManager
HPE_PMDB_Platform_NRT_ETL
HPE_PMDB_Platform_PostgreSQL
HPE_PMDB_Platform_Orchestration
HPE_PMDB_Platform_TaskManager

4. Log on to the BOS1 system. Click **Start > Run**. The Run dialog box appears. Type **services.msc** in the open field, and then press **ENTER**.

The Services window appears with the following service:

Business Objects Webserver

Note: If SAP BusinessObjects server is installed on the same system with HPE OBR the above service appears in OBRS1 server.

5. Right-click on each of the following services and click **Stop** on the OBRS1 and BOS1 system(s) to stop the services:

On OBRS1:

HPE_PMDB_Platform_Administrator
HPE_PMDB_Platform_Collection
HPE_PMDB_Platform_DB_Logger
HPE_PMDB_Platform_IA

HPE_PMDB_Platform_IM

HPE_PMDB_Platform_JobManager

HPE_PMDB_Platform_NRT_ETL

HPE_PMDB_Platform_PostgreSQL

HPE_PMDB_Platform_Orchestration

HPE_PMDB_Platform_TaskManager

On BOS1:

Business Objects Webserver

Server Intelligence Agent (OBR)

Note: If SAP BusinessObjects server is installed on the same system with HPE OBR perform the above step on the OBRS1 server.

Part III: Setting up Vertica Cluster

This section provides information on Setting up and configuring Vertica Cluster. This section also provides information on post-install configuration of HPE OBR.

Chapter 7: Setting up Vertica Cluster

1. Run Vertica database creation command as follows on VS1:

```
$PMDB_HOME/bin/CreateVerticaDatabase.sh <Vertica DBA User Name><Vertica DBA Password><Database File Location><Catalog File Location><Vertica Database User Name><Vertica Database Password><Database Name>
```

where, *<Vertica DBA User Name>* is the Vertica database user name with DBA privilege to log on to Vertica database.

<Vertica DBA Password> is the password for the Vertica database for the user with DBA privileges.

<Database File Location> location for the Vertica database file.

<Catalog File Location> location for the Vertica catalog file.

<Vertica Database User Name> is the Vertica database user name.

<Vertica Database Password> is the password for Vertica database user.

<Database Name> is the name of Vertica database. This is an optional parameter. By default, the name of the Vertica database is PMDB.

2. Run the following command on VS1:

```
rm -f /etc/init.d/HPE_PMDB_Platform_Vertica
```

3. Make sure that the Date & Time is synchronized on all three VS1, VS2, and VS3.
4. Run the following command on VS1 to verify the entries:

```
hostname
```

The output is *host1*

```
hostname -I
```

The output is *11.11.111.11*

```
hostname -f
```

The output is *host1.abc.com*

Perform the same commands on the VS2 and VS3.

5. Run the following commands to ensure if VS1, VS2, and VS3 are able to ping from each other:

```
iptables -L -n
```

```
iptables -L -n -t nat
```

All the IP table rules must be in ACCEPT mode on VS1, VS2, and VS3 as shown in the following image:

```
[root@host01 ~]# iptables -L -n
Chain INPUT (policy ACCEPT)
target prot opt source destination

Chain FORWARD (policy ACCEPT)
target prot opt source destination

Chain OUTPUT (policy ACCEPT)
target prot opt source destination

[root@host01 ~]# iptables -L -n -t nat
Chain PREROUTING (policy ACCEPT)
target prot opt source destination

Chain POSTROUTING (policy ACCEPT)
target prot opt source destination

Chain OUTPUT (policy ACCEPT)
target prot opt source destination
```

6. Run the following commands to disable firewall on VS1, VS2, and VS3.

```
chkconfig iptables off
```

```
chkconfig ip6tables off
```

```
/etc/init.d/iptables stop
```

```
/etc/init.d/ip6tables stop
```

7. Go to the location `/etc/sysconfig/selinux` file, to disable SELinux set the parameter `SELINUX = disabled` and `SELINUXTYPE = disabled` on VS1, VS2, and VS3.
8. On VS1, add the DNS entry of VS2 and VS3 in `/etc/hosts` file. Similarly, on VS2 add DNS entry of VS1 and VS3 in `/etc/hosts` file and in VS3 DNS entry of VS1 and VS2 in `/etc/hosts` file.

NTP server and client installation and configuration

1. Network Time Protocol (NTP) – Time server should be configured to adopt local date and time on all hosts. Run the following commands on VS1, VS2, and VS3:
 - a. `chkconfig ntpd on`
 - b. `service ntpd start`

```
c. cp /etc/ntp.conf /etc/ntp.conf.org
```

2. Remove the existing configuration contents in the `/etc/ntp.conf` and add the following entries on VS1, VS2, and VS3:

```
driftfile /var/lib/ntp/drift
```

```
server <NTP Server IP>
```

```
fudge <NTP Server IP> stratum 10
```

```
includefile /etc/ntp/crypto/pw
```

3. Ensure the `ntpd` service is running. Run the following commands on VS1, VS2, and VS3:

```
service ntpd restart
```

```
service ntpd status
```

Create Vertica Database Administrator User Password

1. Run the following command on VS2 and VS3 to create Vertica database administrator user:

```
useradd <Vertica DBA User Name>
```

Note: Make sure that the `<Vertica DBA User Name>` is the same as the name given while creating `CreateVerticaDatabase.sh` command.

2. Run the following command on VS2 and VS3 to create Vertica database administrator user password:

```
passwd <Vertica DBA User Name>
```

specify `<Vertica DBA Password>` and confirm

Note: Make sure that the `<Vertica DBA User Name>` is the same as the name given while creating `CreateVerticaDatabase.sh` command.

SSH Password-less Authentication to root user

Tip: The following steps are optional. If you skip these steps, the password for `root` and `vertica` user has to be typed manually.

This password authentication is required only during the process of install and configure of Vertica cluster. Once completed the authentication is handled internally by the Vertica clusters.

1. Run the following commands on VS1, VS2, and VS3 for SSH key generation for root user:

- a. `cd ~`
- b. `ssh-keygen -t rsa`

The *Generating public/private rsa key pair* message appears. Press **Enter** for each of the following:

- Enter file in which to save the key (`/root/.ssh/id_rsa`):
- Enter passphrase (empty for no passphrase):
- Enter same passphrase again:

The following message appears:

Your identification has been saved in /root/.ssh/id_rsa.

Your public key has been saved in /root/.ssh/id_rsa.pub.

2. Run the following command to change the permissions to `.ssh` directory:

```
chmod 700 ~/.ssh
```

3. Change to the `.ssh` directory as follows:

```
cd ~/.ssh
```

4. Copy the file `id_rsa.pub` to the file `authorized_keys2` as follows:

```
cp id_rsa.pub authorized_keys2
```

5. Run the following command to change the permissions to `.ssh` directory:

```
chmod 600 ~/.ssh/*
```

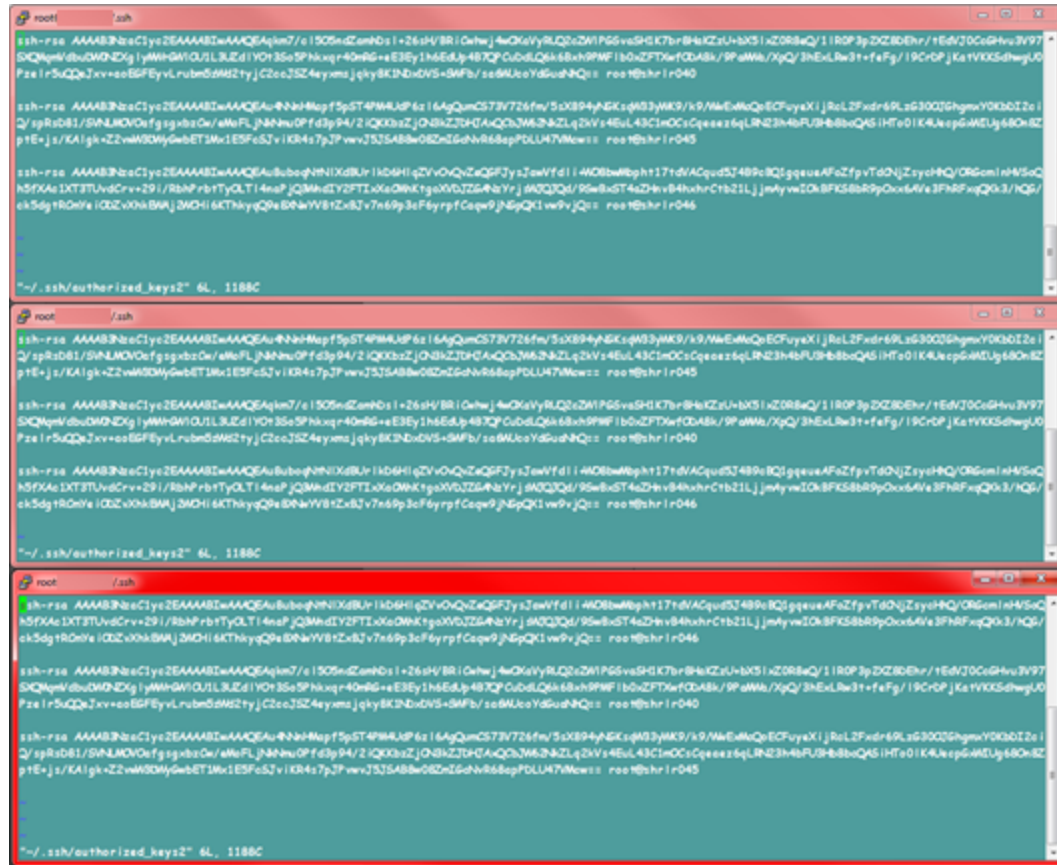
6. Copy the generated rsa keys to all the Vertica hosts from all the Vertica hosts as follows:

- a. Run the following command on VS1, VS2, and VS3:

```
vi /root/.ssh/authorized_keys2
```

- b. Enter the generated rsa key's from VS1 `/root/.ssh/authorized_keys2` file to VS2, VS3 `/root/.ssh/authorized_keys2` files.
- c. Enter the generated rsa key's from VS2 `/root/.ssh/authorized_keys2` file to VS1, VS3 `/root/.ssh/authorized_keys2` files.
- d. Enter the generated rsa key's from VS3 `/root/.ssh/authorized_keys2` file to VS1, VS2 `/root/.ssh/authorized_keys2` files.

After making changes to /root/.ssh/authorized_keys2 file on VS1, VS2, VS3 the output appears as in the following image:



SSH Password-less Authentication to <Vertica DBA User Name> user

1. Run the following commands on VS1, VS2, and VS3 for SSH key generation for user <Vertica DBA Password>:

- a. su - <Vertica DBA User Name>

Note: <Vertica DBA User Name> should be same as the name given while creating CreateVerticaDatabase.sh command.

- b. cd ~
- c. ssh-keygen -t rsa

Press **Enter** for each of the following:

- o Enter file in which to save the key (/home/<Vertica User Name>/.ssh/id_rsa):
- o Enter passphrase (empty for no passphrase):

- Enter same passphrase again:

The following message appears:

Your identification has been saved in /home/<Vertica User Name>/.ssh/id_rsa.

Your public key has been saved in /home/<Vertica User Name>/.ssh/id_rsa.pub.

2. Run the following command to change the permissions to .ssh directory:

```
chmod 700 ~/.ssh
```

3. Change to the .ssh directory as follows:

```
cd ~/.ssh
```

4. Copy the file id_rsa.pub to the file authorized_keys2 as follows:

```
cp id_rsa.pub authorized_keys2
```

5. Run the following command to change the permissions to .ssh directory:

```
chmod 600 ~/.ssh/*
```

6. Copy the generated rsa keys to all the Vertica hosts from all the Vertica hosts as mentioned below:

- a. Run the following command on all VS1, VS2, and VS3:

```
vi /home/<Vertica DBA User Name>/.ssh/authorized_keys2
```

- b. Enter the generated rsa key's from VS1 "/home/<Vertica DBA User Name>/.ssh/authorized_keys2" file to VS2, VS3 "/home/<Vertica DBA User Name>/.ssh/authorized_keys2" files.

- c. Enter the generated rsa key's from VS2 "/home/<Vertica DBA User Name>/.ssh/authorized_keys2" file to VS1, VS3 "/home/<Vertica DBA User Name>/.ssh/authorized_keys2" files.

- d. Enter the generated rsa key's from VS3 "/home/<Vertica DBA User Name>/.ssh/authorized_keys2" file to VS1, VS2 "/home/<Vertica DBA User Name>/.ssh/authorized_keys2" files.

Create the Vertica database and catalog file location

1. Run the following command as a root user on VS2 and VS3 to create the <Database File Location> and <Catalog File Location>:

- `mkdir -p <Database File Location>`

- `mkdir -p <Catalog File Location>`

Note: <Database File Location> and <Catalog File Location> should be same location given while creating CreateVerticaDatabase.sh command in VS1.

Example: <Database File Location> is /opt/db/d and <Catalog File Location> is /opt/db/c

- cd /opt
 - chown -R <Vertica DBA User Name>:<Vertica DBA User Name> db (Recursively adding permissions for <Vertica DBA User Name> for all Vertica Data & Catalog directories)
2. Copy the path of vertica-8.0.1.rpm from VS1 OBR Extracted BITS in packages directory.
 3. Run the following command on VS1 as a root user to install Vertica remotely on VS2 and VS3:

```
/opt/vertica/sbin/update_vertica --add-hosts <VS2_IP>,<VS3_IP> --rpm <OBR10.0_BitsExtractedPath>/packages/vertica-vertica-8.0.1.rpm -u <Vertica DBA User Name> -g <Vertica DBA User Name> --failure-threshold NONE --accept-eula --license CE
```

where, <OBR10.0_BitsExtractedPath> is the location on VS1 where the HPE OBR installation bits are extracted.

The following message appears on successful installation of Vertica on VS2 and VS3:

```
>> Completing installation...

Running upgrade logic
No spread upgrade required: /opt/vertica/config/vspread.conf not found on any node
Installation complete.

Please evaluate your hardware using Vertica's validation tools:
  https://my.vertica.com/docs/7.1.x/HTML/index.htm#cshid=VALSCRIPT

To create a database:
  1. Logout and login as verticadba. (see note below)
  2. Run /opt/vertica/bin/adminTools as verticadba
  3. Select Create Database from the Configuration Menu

Note: Installation may have made configuration changes to verticadba
that do not take effect until the next session (logout and login).

To add or remove hosts, select Cluster Management from the Advanced Menu.
```

Close all open Vertica database Sessions

On VS1, run the following command to close all the sessions of Vertica database:

```
/opt/vertica/bin/vsql -c "Select close_all_sessions();" -U <Vertica DBA User Name>
-w <Vertica DBA Password>
```

Chapter 8: Configuring Vertica Cluster

To configure the Vertica cluster, follow these steps on VS1:

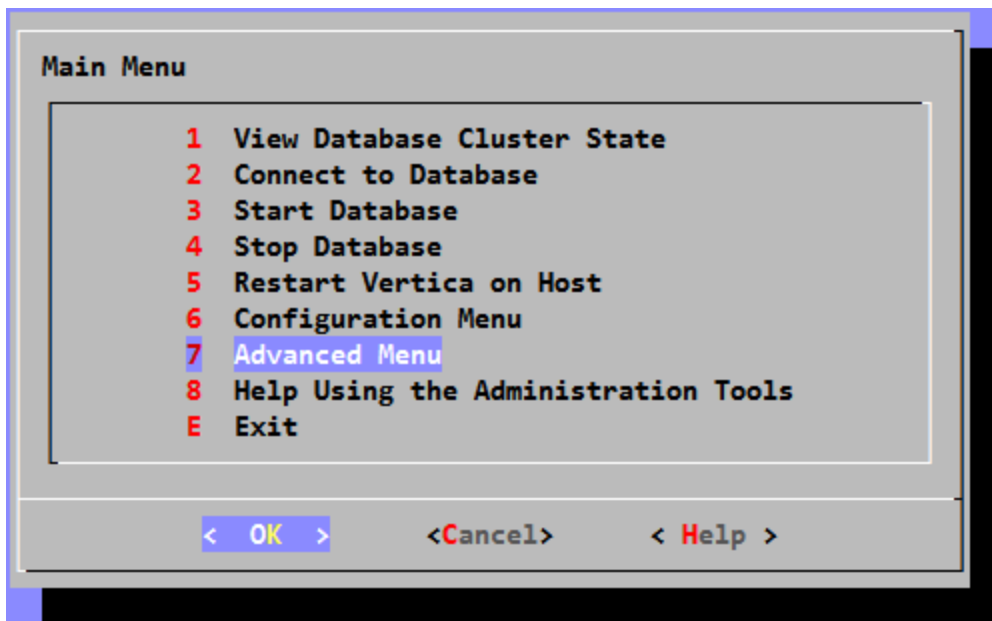
1. Run the following commands:

```
su - <Vertica DBA User Name>
```

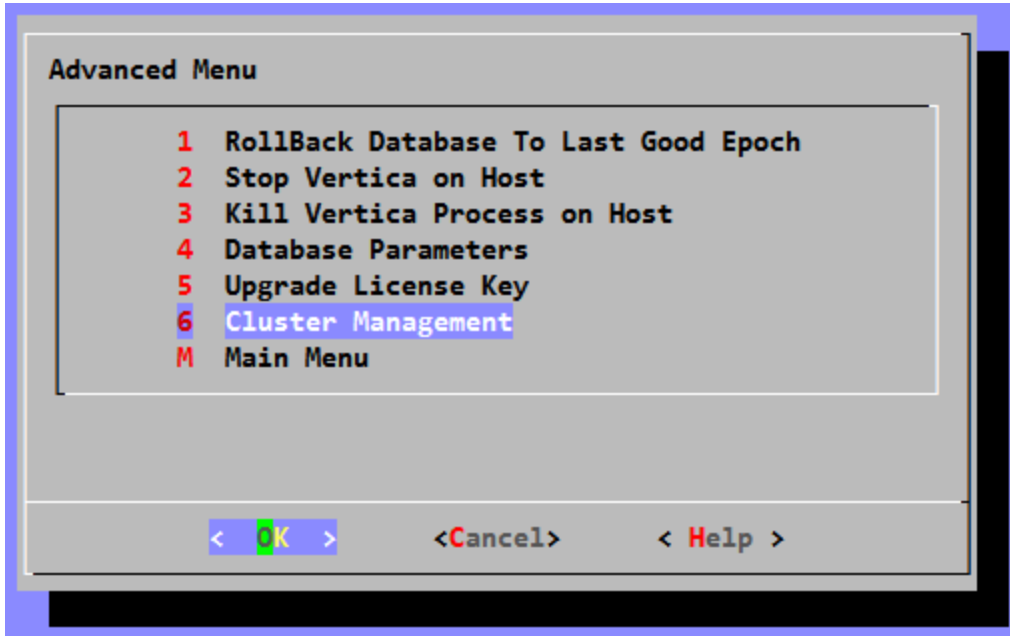
```
admintools
```

The menu appears.

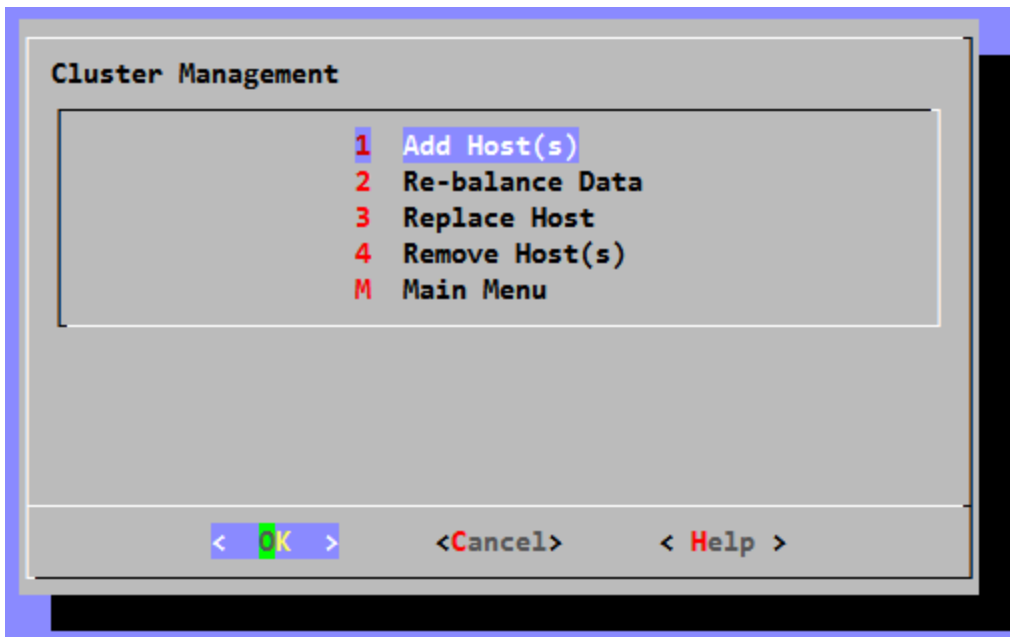
2. Select **Advanced Menu** and click **OK**.



3. In Advanced Menu, select **Cluster Management** and click **OK**.

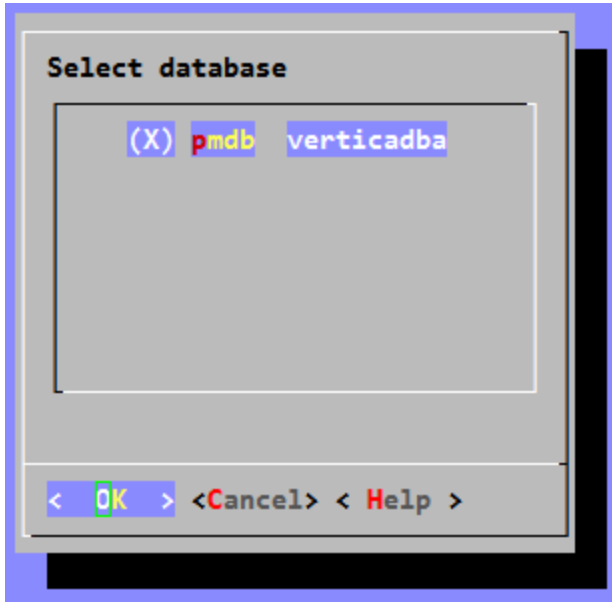


4. In Cluster Management, select **Add Host(s)** and click **OK**.



5. In Select database, select the database and click **OK**.

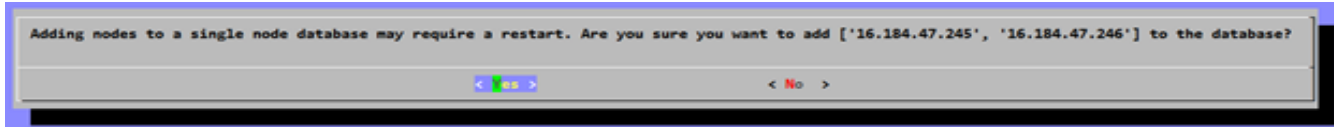
For example: The database selected is **pmdb** in the following image.



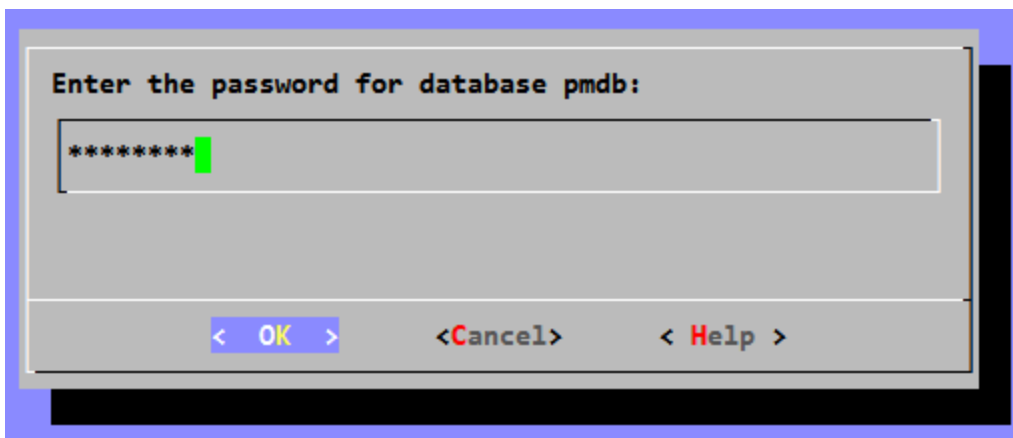
6. Select the IP address for VS2 and VS3 and click **OK**.

Note: Ensure that VS2 and VS3 IPs appear to add to database.

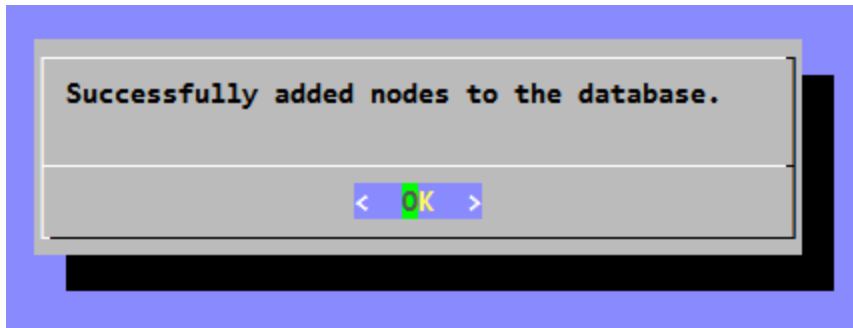
7. Click **Yes** to add VS2 and VS3 IPs to Vertica Database.



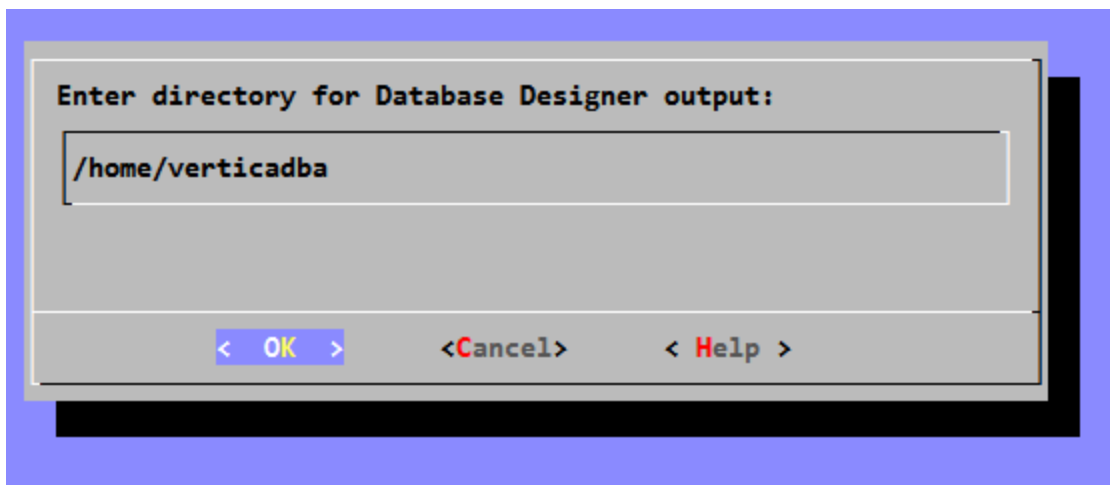
8. Enter <Vertica DBA Password> to log on to Database and click **OK**.



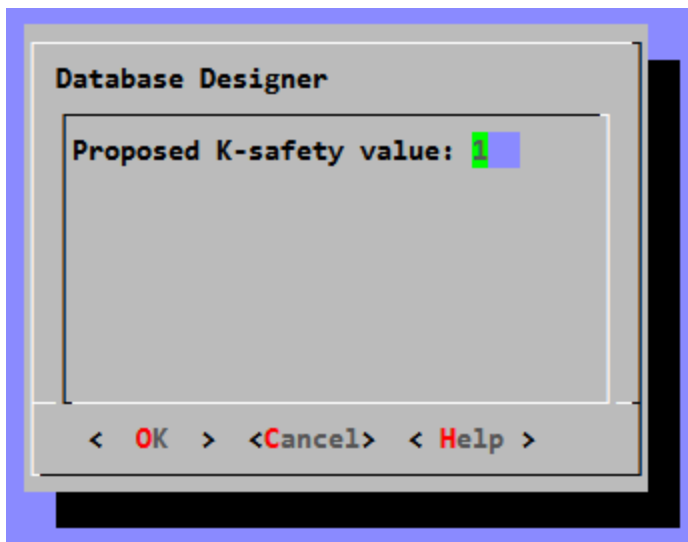
The following message appears on successful Vertica Clustering:



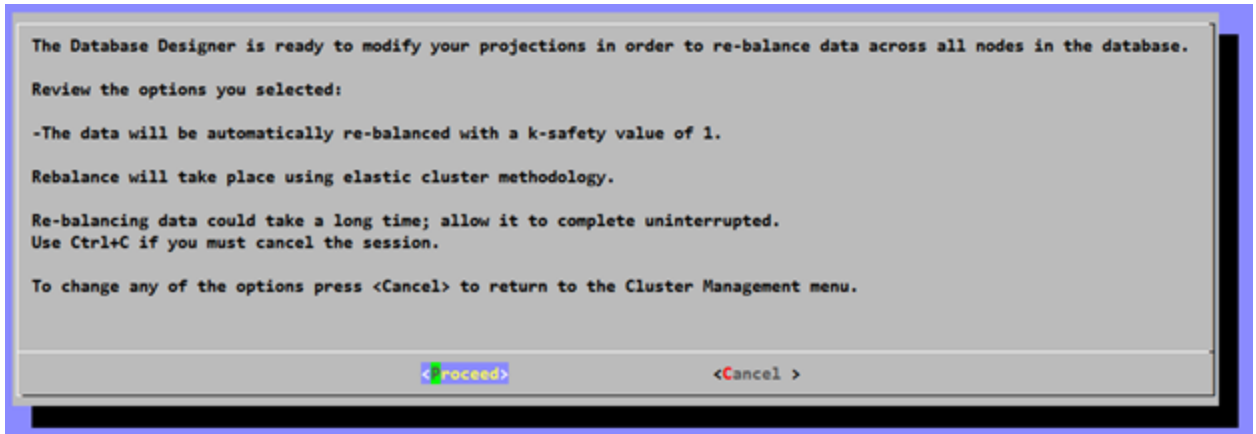
9. Click **OK**.
10. Click **OK** for Database Designer output.



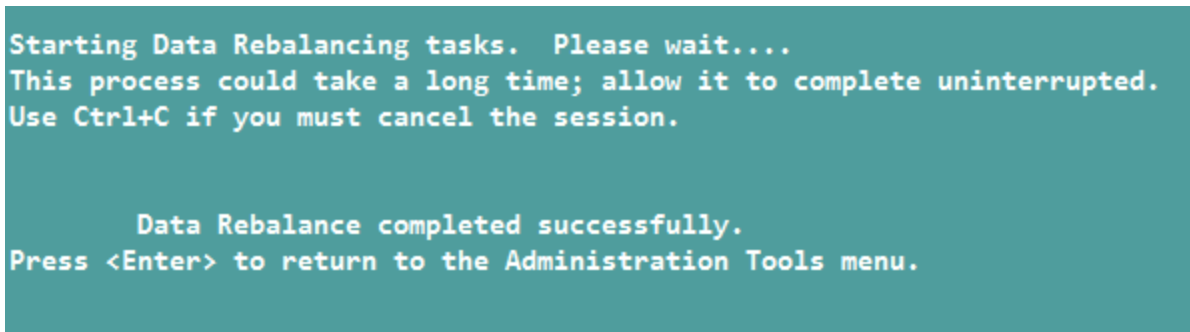
11. Ensure that K-safety value is set to **1** and click **OK** and press Enter.



- Click **Proceed** and press Enter.



The following message appears after the successful Data Rebalance:



- Press Enter.
- In Administration Tools Main Menu, select **Exit** and press Enter.

The Vertica Cluster Setup is successfully done.

- Run the following commands as verticadba user to check if three nodes are added to cluster:

- `vsq1 -h <Enter any one IP of VS1, VS2, VS3>`
- Enter the `<Vertica DBA Password>`
- Run the following command and press Enter:

```
select * from nodes;
```

The three rows of data with clustered IP's appears.

- Run the following commands to re-balance the data and set K-safe for high availability:

```
select dbd_add_nodes_rebalance_data(1);  
select mark_design_ksafe(1);
```

Chapter 9: Configuring Post Installation

Start the services as follows to perform post-install configuration:

On Linux

1. Run the following command:

On RHEL 6.x/SUSE Linux Enterprise Server 11 - `chkconfig --list`

On RHEL 7.x:

`systemctl list-units --type service` - This command lists the services.

`systemctl list-unit-files` - This command displays if the services are enabled or disabled.

The command output lists all the HPE OBR services as follows:

HPE_PMDB_Platform_Administrator

HPE_PMDB_Platform_Collection

HPE_PMDB_Platform_DB_Logger

HPE_PMDB_Platform_IA

HPE_PMDB_Platform_IM

HPE_PMDB_Platform_JobManager

HPE_PMDB_Platform_NRT_ETL

HPE_PMDB_Platform_PostgreSQL

HPE_PMDB_Platform_Orchestration

HPE_PMDB_Platform_TaskManager

TrendTimer

2. Run the following command on the BOS1 system:

On RHEL 6.x/SUSE Linux Enterprise Server 11 - `chkconfig --list`

On RHEL 7.x:

`systemctl list-units --type service` - This command lists the services.

`systemctl list-unit-files` - This command displays if the services are enabled or disabled.

The command output lists the SAP BusinessObjects service as follows:

```
SAPBOBJEnterpriseXI40
```

Note: If SAP BusinessObjects server is installed on the same system with HPE OBR the above service appears in OBRS1 server.

- Run the following commands on the OBRS1 system and on BOS1 system to start the services:

On RHEL 6.x/SUSE Linux Enterprise Server 11	On RHEL 7.x
On OBRServer	
<ul style="list-style-type: none"> ◦ service HPE_PMDB_Platform_Administrator start ◦ service HPE_PMDB_Platform_Collection start ◦ service HPE_PMDB_Platform_DB_Logger start ◦ service HPE_PMDB_Platform_IA start ◦ service HPE_PMDB_Platform_IM start ◦ service HPE_PMDB_Platform_JobManager start ◦ service HPE_PMDB_Platform_NRT_ETL start ◦ service HPE_PMDB_Platform_Orchestration start ◦ service HPE_PMDB_Platform_PostgreSQL start ◦ service HPE_PMDB_Platform_TaskManager start ◦ service TrendTimer start 	<ul style="list-style-type: none"> ◦ systemctl start HPE_PMDB_Platform_Administrator.service ◦ systemctl start HPE_PMDB_Platform_Collection.service ◦ systemctl start HPE_PMDB_Platform_DB_Logger.service ◦ systemctl start HPE_PMDB_Platform_IA.service ◦ systemctl start HPE_PMDB_Platform_IM.service ◦ systemctl start HPE_PMDB_Platform_JobManager.service ◦ systemctl start HPE_PMDB_Platform_NRT_ETL.service ◦ systemctl start HPE_PMDB_Platform_Orchestration.service ◦ systemctl start HPE_PMDB_Platform_PostgreSQL.service ◦ systemctl start HPE_PMDB_Platform_TaskManager.service ◦ systemctl start TrendTimer.service
On SAP BusinessObjectsServer	
<ul style="list-style-type: none"> ◦ service SAPBOBJEnterpriseXI40 start 	<ul style="list-style-type: none"> ◦ systemctl start SAPBOBJEnterpriseXI40.service

Note: If SAP BusinessObjects server is installed on the same system with HPE OBR perform the above step on the OBRS1 server.

On Windows

1. Log on to the OBRS1 system.
2. From the **Start**, type **Run** in **Search**. The Run dialog box appears.
3. Type **services.msc** in the open field, and then press **ENTER**. The Services window appears with the list of following services:

HPE_PMDB_Platform_Administrator
HPE_PMDB_Platform_Collection
HPE_PMDB_Platform_DB_Logger
HPE_PMDB_Platform_IA
HPE_PMDB_Platform_IM
HPE_PMDB_Platform_JobManager
HPE_PMDB_Platform_NRT_ETL
HPE_PMDB_Platform_PostgreSQL
HPE_PMDB_Platform_Orchestration
HPE_PMDB_Platform_TaskManager

4. Log on to the BOS1 system. Click **Start > Run**. The Run dialog box appears. Type **services.msc** in the open field, and then press **ENTER**.

The Services window appears with the following service:

Business Objects Webserver

Note: If SAP BusinessObjects server is installed on the same system with HPE OBR the above service appears in OBRS1 server.

5. Right-click on each of the following services and click **Start** on the OBRS1 and BOS1 system(s) to start the services:

On OBRS1:

HPE_PMDB_Platform_Administrator
HPE_PMDB_Platform_Collection
HPE_PMDB_Platform_DB_Logger
HPE_PMDB_Platform_IA
HPE_PMDB_Platform_IM
HPE_PMDB_Platform_JobManager

HPE_PMDB_Platform_NRT_ETL

HPE_PMDB_Platform_PostgreSQL

HPE_PMDB_Platform_Orchestration

HPE_PMDB_Platform_TaskManager

On BOS1:

Business Objects Webserver

Server Intelligence Agent (OBR)

Note: If SAP BusinessObjects server is installed on the same system with HPE OBR perform the above step on the OBRS1 server.

Perform the Post-Install Configuration tasks on HPE OBR Administration Console > Configuration wizard of the OBRS1 system. See *Post-Install Configuration* chapter in *HPE Operations Bridge Reporter Configuration Guide* for the steps.

Part IV: Sharing Data through Shared Disk

This section provides information on sharing the data through Shared Disk. This section also guides you to perform the following:

- Configuring Connectivity Changes for Vertica 3 Node Cluster
- Installing Content Packs
- Configuring BOE JDBC Connection

Chapter 10: Copying the Platform Data to Shared Disk

This chapter helps you to configure HPE OBR in a high availability environment.

Perform the following steps before configuring HPE OBR in a high availability environment:

1. Install Veritas Cluster software on OBRS1.
2. Assign the shared storage to the HPE Operations Bridge Reporter OBRS1.

Note: The shared storage can only be assigned to one node at a time.

Stop all services on OBRS1 and OBRS2. For the list of services and steps, see ["Stopping the HPE OBR Services" on page 20](#).

On Linux

Note: The following steps should be executed after completing post installation and before content deployment and is applicable ONLY on OBRS servers.

On OBRS1:

1. Run the following command to copy the HPE OBR, Postgres and LCORE server data folders to shared disk:

```
/opt/OV/nonOV/perl/a/bin/perl $PMDB_HOME/HA/Veritas/Linux/SetupScripts/OBR_HA_Setup.pl -shareddrive <Shared Drive> -node primary -logicalhost <logical_hostname> -primaryhost <primary_node_hostname>
```

where,

<Shared Drive> is the location of the shared drive (for example, OBRMount).

<Logical_hostname> is the logical host name for the HPE Operations Bridge Reporter application.

<primary_node_hostname> is the host name of the OBRS1.

Note: Type the above command in a single line.

For example,

```
/opt/OV/nonOV/perl/a/bin/perl $PMDB_HOME/HA/Veritas/Linux/SetupScripts/OBR_HA_Setup.pl -shareddrive <Shared_disk_mount_point> -node primary -logicalhost example.example1.com -primaryhost example2.example3.com
```

On OBRS2:

1. Unmount the shared disk from OBRS1 and mount in OBRS2.
2. Run the following command to copy the HPE OBR, Postgres and LCORE server data folders to shared disk:

```
/opt/OV/nonOV/perl/a/bin/perl $PMDB_HOME/HA/Veritas/Linux/SetupScripts/OBR_HA_Setup.pl -shareddrive <Shared Drive> -node secondary -logicalhost <logical_hostname> -primaryhost <primary_node_hostname>
```

where,

<Shared Drive> is the location of the shared drive (for example, OBRMount).

<Logical_hostname> is the logical host name for the HPE Operations Bridge Reporter application.

<primary_node_hostname> is the host name of the OBRS1.

Note: Type the above command in a single line.

For example,

```
/opt/OV/nonOV/perl/a/bin/perl $PMDB_HOME/HA/Veritas/Linux/SetupScripts/OBR_HA_Setup.pl -sharedDrive <Shared_disk_mount_point> -node secondary -logicalhost example.example1.com -primaryhost example2.example3.com
```

On Windows

Note: The following steps should be executed after completing post installation and before content deployment and is applicable ONLY on OBRS servers.

On OBRS1:

1. Run the following command to copy the HPE OBR, Postgres and LCORE server data folders to shared disk:

```
%OINSTALLDIR%\nonOV\perl\a\bin\perl %PMDB_
HOME%\HA\Veritas\Windows\SetupScripts\OBR_HA_Setup.pl -shareddrive <shared_
drive_letter> -node primary -logicalhost <Logical_hostname>
```

where, *<shared_drive_letter>* is the drive letter of the shared storage (for example, E:\),

<Logical_hostname> is the logical host name for the HPE Operations Bridge Reporter application.

Note: Type the above command in a single line.

For example,

```
%OINSTALLDIR%\nonOV\perl\a\bin\perl %PMDB_
HOME%\HA\Veritas\Windows\SetupScripts\OBR_HA_Setup.pl -sharedDrive <E:\> -node
primary -logicalhost example.example1.com
```

On OBRS2:

1. Unmount the shared disk from OBRS1 and mount in OBRS2.
2. Run the following command to copy the HPE OBR, Postgres and LCORE server data folders to shared disk:

```
%OINSTALLDIR%\nonOV\perl\a\bin\perl %PMDB_
HOME%\HA\Veritas\Windows\SetupScripts\OBR_HA_Setup.pl -shareddrive <shared_
drive_letter> -node secondary -logicalhost <Logical_hostname>
```

where, *<shared_drive_letter>* is the drive letter of the shared storage (for example, E:\), and *<Logical_hostname>* is the logical host name for the HPE Operations Bridge Reporter application.

where,

<shared_drive> is the drive letter of the shared storage (for example, E:\).

<Logical_hostname> is the logical host name for the HPE Operations Bridge Reporter application.

Note: Type the above command in a single line.

For example,

```
%OINSTALLDIR%\nonOV\perl\a\bin\perl %PMDB_
HOME%\HA\Veritas\Windows\SetupScripts\OBR_HA_Setup.pl -sharedDrive <E:\> -node
secondary -logicalhost example.example1.com
```

Chapter 11: Configuring Connectivity Changes for Vertica 3 Node Cluster

This chapter helps you to configure the connectivity changes for Vertica three node cluster on Windows and Linux operating systems.

On Linux

OBR JDBC Connection

Note: Edit the `config.prp` before Content Deployment.

1. On OBRS1 , go to the following location:

```
$PMDB_HOME/data/
```

2. Edit the `config.prp` file as follows:

```
database.host = <VS1 IP address>,<VS2 IP address>,<VS3 IP address>
```

OBR ODBC Connection

Note: Edit the `odbc.ini` before Content Deployment.

Unmount the disk on OBRS2 and Mount the disk back to OBRS1.

Follow these steps to edit the `odbc.ini` on the OBRS1 where the shared disk is mounted:

1. Go to the location `$PMDB_HOME/config/`

2. Edit the `odbc.ini` file as follows:

```
ConnectionLoadBalance =1
```

```
Servername = BadVerticaHost
```

3. Type the following parameter and values:

```
BackupServerNode = <VS1 Hostname>,<VS2 Hostname>,<VS3 Hostname>
```

Comment the line after Servername = BadVerticaHost as explained in the following example:

For example: Following are the values in `odbc.ini` *before* editing:

```
[ODBC Data Sources]
VerticaDSN="SHRDB"
[SHRDB]
Description = Vertica dsn for SHR
Driver = /opt/vertica/lib64/libverticaodbc.so
Database = pmdb
ConnectionLoadBalance = 1
Servername = BadVerticaHost
Servername = SHRSERVER1.HP.COM
UID = verticadba
Port = 5433
```

Following are the values in `odbc.ini` *after* editing:

```
[ODBC Data Sources]
VerticaDSN="SHRDB"
[SHRDB]
Description = Vertica dsn for SHR
Driver = /opt/vertica/lib64/libverticaodbc.so
Database = pmdb
ConnectionLoadBalance = 1
Servername = BadVerticaHost
# Servername = SHRSERVER1.HP.COM
BackupServerNode = <VS1 IP address>,<VS2 IP address>,<VS3 IP address>
UID = verticadba
Port = 5433
```

On Windows

OBR JDBC Connection

Note: Edit the `config.prp` before Content Deployment.

1. On OBRS1 , go to the following location:

```
%PMDB_HOME%\data\config.prp
```

2. Edit the `config.prp` file as follows:

```
database.host = <VS1 IP address>,<VS2 IP address>,<VS3 IP address>
```

OBR ODBC Connection

Note: Edit the `odbc.ini` before Content Deployment.

Unmount the disk on OBRS2 and Mount the disk back to OBRS1.

Follow these steps to edit the `odbc.ini` on the OBRS1 where the shared disk is mounted:

1. Go to the location `%PMDB_HOME%\config\odbc.ini`

2. From the edit mode, edit the values as follows:

```
ConnectionLoadBalance =1
```

```
Servername = BadVerticaHost
```

3. Type the following parameter and values:

```
BackupServerNode = <VS1 IP address>,<VS2 IP address>,<VS3 IP address>
```

Comment the line after `Servername = BadVerticaHost` as explained in the following example:

For example: Following are the values in `odbc.ini` *before* editing:

```
[ODBC Data Sources]
```

```
VerticaDSN="SHRDB"
```

```
[SHRDB]
```

```
Description = Vertica dsn for SHR
```

```
Driver = /opt/vertica/lib64/libverticaodbc.so
```

```
Database = pmdb
```

```
ConnectionLoadBalance = 1
```

```
Servername = BadVerticaHost
```

```
Servername = SHRSERVER1.HP.COM
```

```
UID = verticadba
```

```
Port = 5433
```

Following are the values in `odbc.ini` *after* editing:

```
[ODBC Data Sources]
```

```
VerticaDSN="SHRDB"
```

```
[SHRDB]
```

```
Description = Vertica dsn for SHR
```

```
Driver = /opt/vertica/lib64/libverticaodbc.so
```

```
Database = pmdb
```

```
ConnectionLoadBalance = 1
```

```
Servername = BadVerticaHost
```

```
# Servername = SHRSERVER1.HP.COM
```

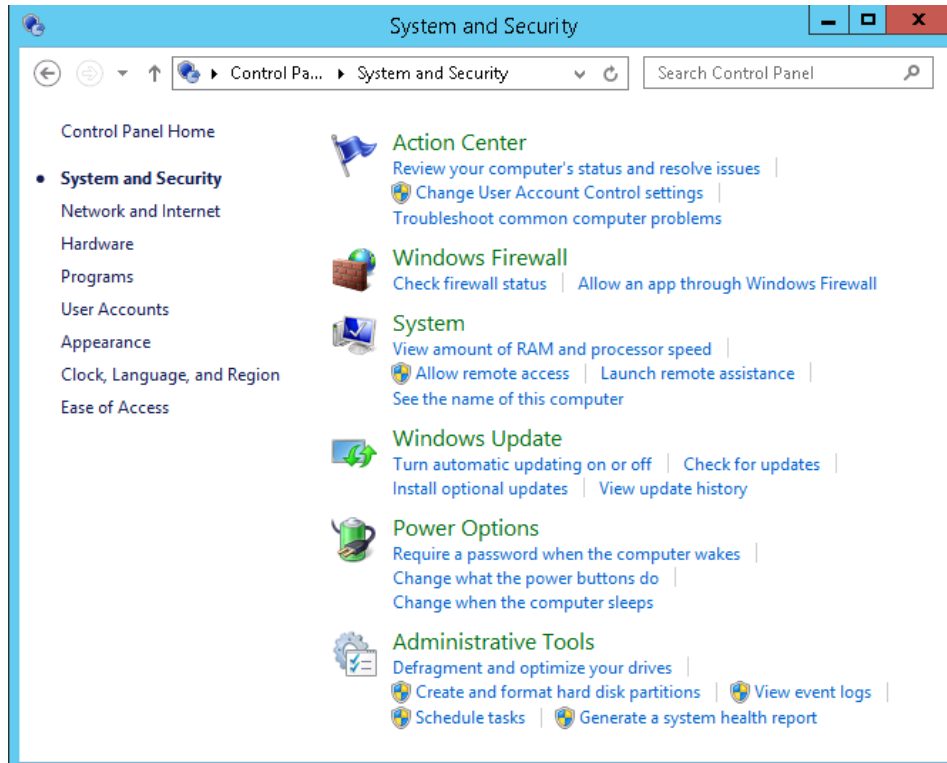
```
BackupServerNode = <VS1 IP address>,<VS2 IP address>,<VS3 IP address>
```

```
UID = verticadba
```

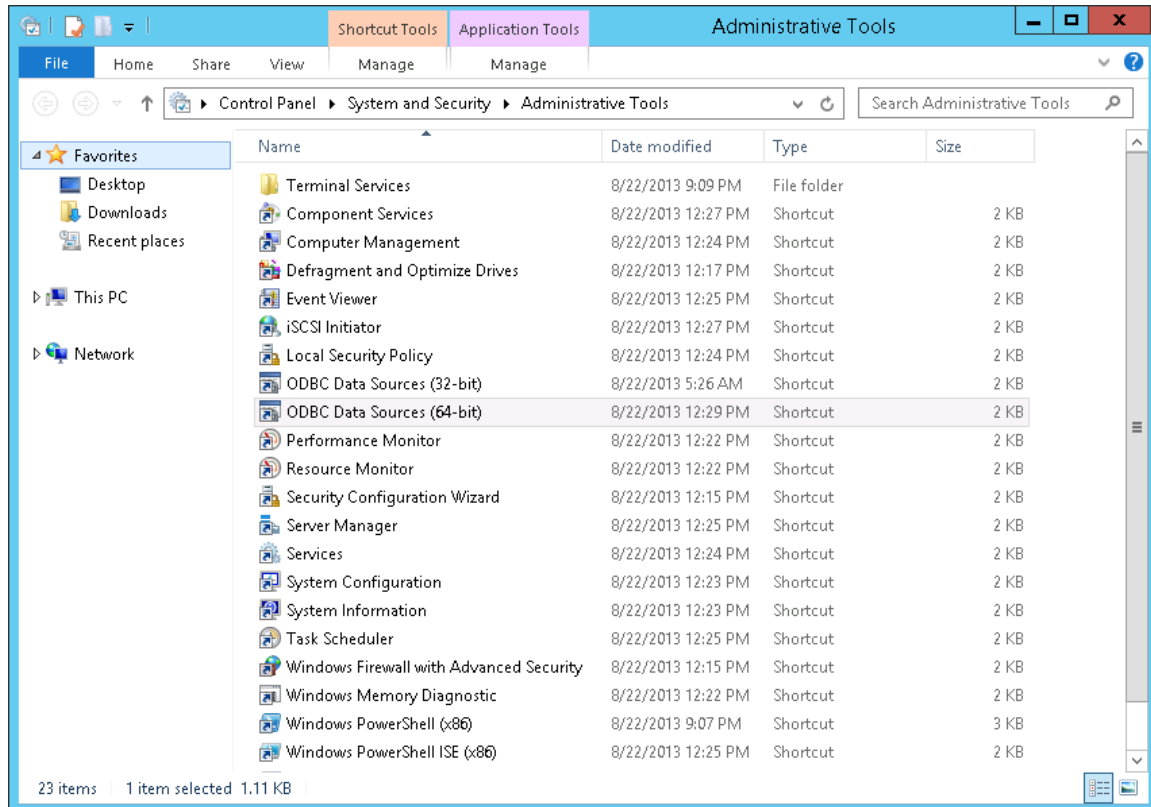
```
Port = 5433
```

Configure DSN on both OBRS1 and OBRS2 installed on Windows

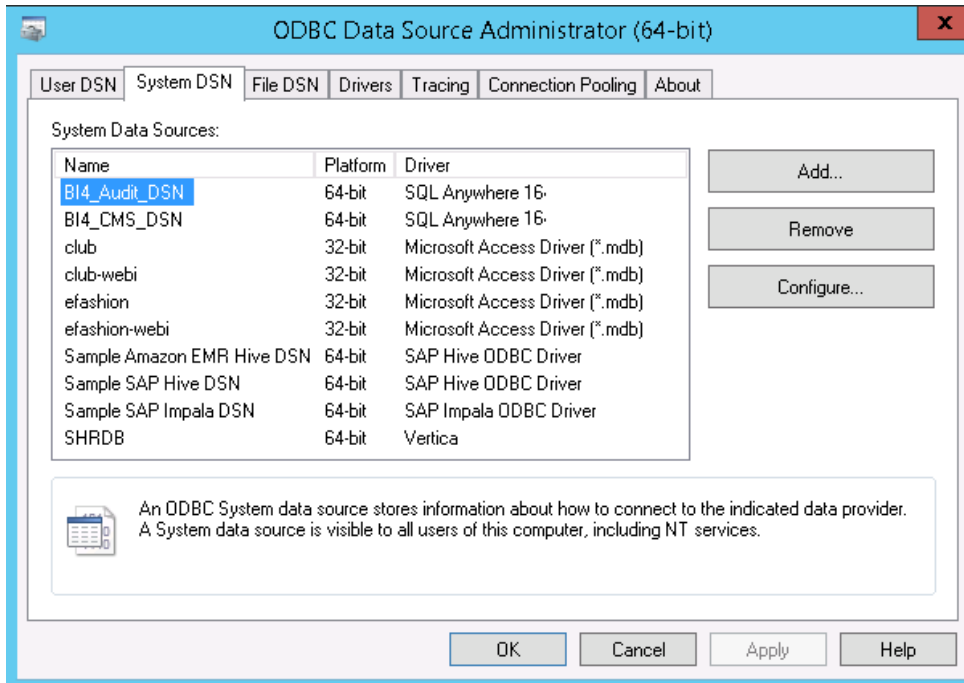
1. Log on to HPE OBR system installed on Windows.
2. Click **Start > Control Panel** and then click **System and Security**. The System and Security windows is displayed.



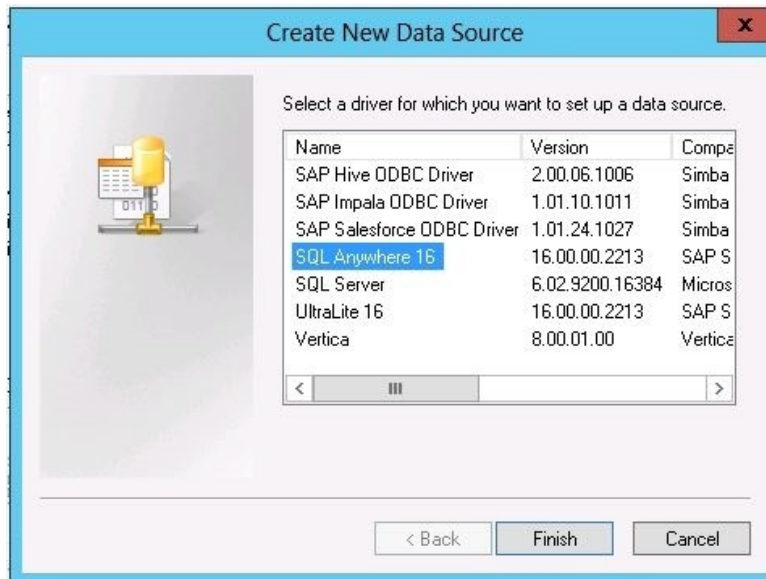
3. Click **Administrative Tools**. The Administrative Tools window is displayed.



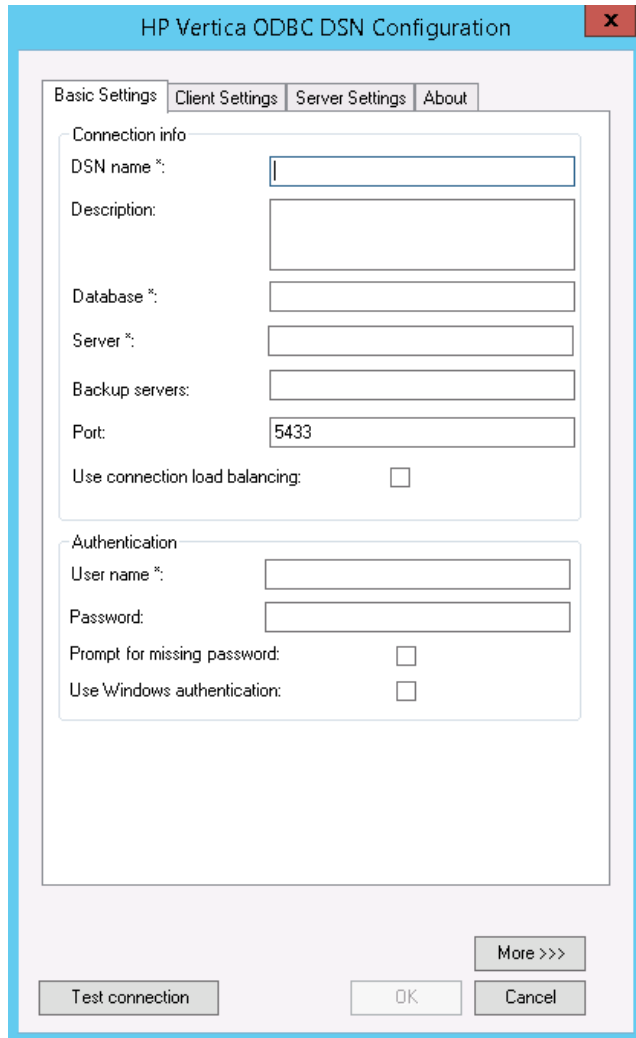
4. Double-click **ODBC Data Sources (64-bit)**. The ODBC Data Source Administrator (64-bit) window is displayed.



5. Click **System DSN** tab and then click **Add**. The Create New Data Source window is displayed.



6. Click **Vertica** and then click **Finish** or double-click **Vertica**. The HP Vertica ODBC DSN Configuration window is displayed.



7. Enter the following values in Connection info:

DSN name: SHRDB

Database: <Database Name>

where <Database Name> is the name of Vertica database.

Server: <VSI hostname>

Backup Server: <VS2 hostname, VS3 hostname>

8. Enter the following values in Authentication:

User name: <Vertica Database User Name>

where <Vertica Database User Name> is the Vertica database user name.

Password: <Vertica Database Password>

where, <Vertica Database Password> is the password for Vertica database user.

9. Click **Test connection** and then click **OK**.

The DSN connection is established between HPE OBR system and Vertica database.

Chapter 12: Installing Content Packs

Start the services as follows before installing the Content packs:

On Linux

1. Run the following command:

On RHEL 6.x/SUSE Linux Enterprise Server 11 - `chkconfig --list`

On RHEL 7.x:

`systemctl list-units --type service` - This command lists the services.

`systemctl list-unit-files` - This command displays if the services are enabled or disabled.

The command output lists all the HPE OBR services as follows:

HPE_PMDB_Platform_Administrator

HPE_PMDB_Platform_Collection

HPE_PMDB_Platform_DB_Logger

HPE_PMDB_Platform_IA

HPE_PMDB_Platform_IM

HPE_PMDB_Platform_NRT_ETL

HPE_PMDB_Platform_PostgreSQL

HPE_PMDB_Platform_Orchestration

Trendtimer

2. Run the following command on the BOS1 system:

On RHEL 6.x/SUSE Linux Enterprise Server 11 - `chkconfig --list`

On RHEL 7.x:

`systemctl list-units --type service` - This command lists the services.

`systemctl list-unit-files` - This command displays if the services are enabled or disabled.

The command output lists the SAP BusinessObjects service as follows:

SAPBOBJEnterpriseXI40

Note: If SAP BusinessObjects server is installed on the same system with HPE OBR the above service appears in OBRS1 server.

3. Run the following commands on the OBRS1 system and on BOS1 system to start the services:

On RHEL 6.x/SUSE Linux Enterprise Server 11	On RHEL 7.x
On OBRServer	
<ul style="list-style-type: none"> ◦ <code>service HPE_PMDB_Platform_Administrator start</code> ◦ <code>service HPE_PMDB_Platform_Collection start</code> ◦ <code>service HPE_PMDB_Platform_DB_Logger start</code> ◦ <code>service HPE_PMDB_Platform_IA start</code> ◦ <code>service HPE_PMDB_Platform_IM start</code> ◦ <code>service HPE_PMDB_Platform_JobManager start</code> ◦ <code>service HPE_PMDB_Platform_NRT_ETL start</code> ◦ <code>service HPE_PMDB_Platform_Orchestration start</code> ◦ <code>service HPE_PMDB_Platform_PostgreSQL start</code> ◦ <code>service HPE_PMDB_Platform_TaskManager start</code> ◦ <code>service TrendTimer start</code> 	<ul style="list-style-type: none"> ◦ <code>systemctl start HPE_PMDB_Platform_Administrator.service</code> ◦ <code>systemctl start HPE_PMDB_Platform_Collection.service</code> ◦ <code>systemctl start HPE_PMDB_Platform_DB_Logger.service</code> ◦ <code>systemctl start HPE_PMDB_Platform_IA.service</code> ◦ <code>systemctl start HPE_PMDB_Platform_IM.service</code> ◦ <code>systemctl start HPE_PMDB_Platform_JobManager.service</code> ◦ <code>systemctl start HPE_PMDB_Platform_NRT_ETL.service</code> ◦ <code>systemctl start HPE_PMDB_Platform_Orchestration.service</code> ◦ <code>systemctl start HPE_PMDB_Platform_PostgreSQL.service</code> ◦ <code>systemctl start HPE_PMDB_Platform_TaskManager.service</code> ◦ <code>systemctl start TrendTimer.service</code>
On SAP BusinessObjectsServer	
<ul style="list-style-type: none"> ◦ <code>service SAPBOBJEnterpriseXI40 start</code> 	<ul style="list-style-type: none"> ◦ <code>systemctl start SAPBOBJEnterpriseXI40.service</code>

Note: If SAP BusinessObjects server is installed on the same system with HPE OBR perform the above step on the OBRS1 server.

On Windows

1. Log on to the OBRS1 system.
2. From the **Start**, type **Run** in **Search**. The Run dialog box appears.
3. Type **services.msc** in the open field, and then press **ENTER**. The Services window appears with the list of following services:

HPE_PMDB_Platform_Administrator
HPE_PMDB_Platform_Collection
HPE_PMDB_Platform_DB_Logger
HPE_PMDB_Platform_IA
HPE_PMDB_Platform_IM
HPE_PMDB_Platform_NRT_ETL
HPE_PMDB_Platform_PostgreSQL
HPE_PMDB_Platform_Orchestration

4. Log on to the BOS1 system. Click **Start > Run**. The Run dialog box appears. Type **services.msc** in the open field, and then press **ENTER**.

The Services window appears with the following service:

Business Objects Webservice

Note: If SAP BusinessObjects server is installed on the same system with HPE OBR the above service appears in OBRS1 server.

5. Right-click on each of the following services and click **Start** on the OBRS1 and BOS1 system(s) to start the services:

On OBRS1:

HPE_PMDB_Platform_Administrator
HPE_PMDB_Platform_Collection
HPE_PMDB_Platform_DB_Logger
HPE_PMDB_Platform_IA
HPE_PMDB_Platform_IM
HPE_PMDB_Platform_NRT_ETL
HPE_PMDB_Platform_PostgreSQL
HPE_PMDB_Platform_Orchestration

On BOS1:

Business Objects Webserver

Server Intelligence Agent (OBR)

Note: If SAP BusinessObjects server is installed on the same system with HPE OBR perform the above step on the OBRS1 server.

Install the Content Packs. See *Install and Uninstall the Content Packs* chapter in *HPE Operations Bridge Reporter Configuration Guide* for the steps.

After installing the Content Packs, stop all of the above mentioned services. For steps, see ["Stopping the HPE OBR Services" on page 20](#).

Chapter 13: Configuring BOE JDBC Connection

Note: The following has to be done after successful completion of Vertica three Node Clustering & Content Pack Deployment.

Prerequisites:

- SAP BusinessObjects Client Tools has to be installed on any windows systems. Extract and install the client tools that is available in the following location:

`<HPSHR-10.00.000-*.tar Extracted Location>/packages/BusinessObjects_Client_tools.ZIP`

- On the system where the SAP BusinessObjects Client Tools is installed, go to the `etc/hosts` file and type the hostname and IP address entries of the OBR and BO systems.
- Vertica JDBC driver
- Ensure that all the SAP BusinessObjects services are running in BOS1.

After successful installation of SAP BusinessObjects Client Tools perform the following steps:

1. In BOS1 server, copy `Vertica.sbo` and `Vertica-jdbc.jar` from the following location:

On Linux:

- `Vertica.sbo` - `/opt/HP/BSM/BOE4/sap_bobj/enterprise_xi40/dataAccess/connectionServer/jdbc`
- `Vertica-jdbc.jar` - `/opt/HP/BSM/BOE4/sap_bobj/enterprise_xi40/dataAccess/connectionServer/drivers/java`

On Windows:

- `Vertica.sbo` - `<BO install drive>:\Program Files (x86)\SAP BusinessObjects\SAP BusinessObjects Enterprise XI 4.0\dataAccess\connectionServer\jdbc`
- `Vertica-jdbc.jar` - `<BO Install drive>:\Program Files (x86)\SAP BusinessObjects\SAP BusinessObjects Enterprise XI 4.0\dataAccess\connectionServer\drivers\java`

2. On the system where SAP BusinessObjects Client Tools is installed, paste the copied `Vertica.sbo` and `Vertica-jdbc.jar` to the following location:

On Linux:

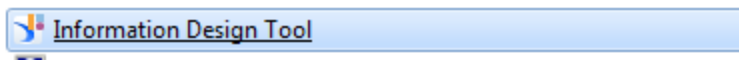
- Vertica.sbo - /opt/HP/BSM/BOE4/sap_bobj/enterprise_xi40/dataAccess/connectionServer/jdbc
- Vertica-jdbc.jar - /opt/HP/BSM/BOE4/sap_bobj/enterprise_xi40/dataAccess/connectionServer/drivers/java

On Windows:

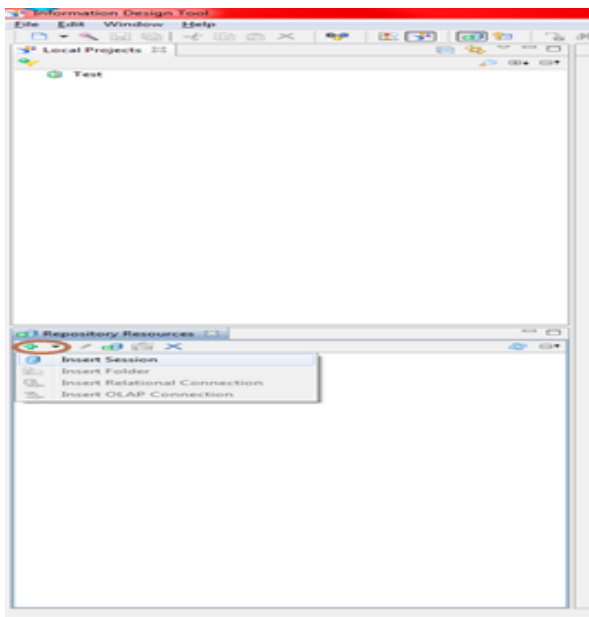
- Vertica.sbo - <BO install drive>:\Program Files (x86)\SAP BusinessObjects\SAP BusinessObjects Enterprise XI 4.0\dataAccess\connectionServer\jdbc
- Vertica-jdbc.jar - <BO Install drive>:\Program Files (x86)\SAP BusinessObjects\SAP BusinessObjects Enterprise XI 4.0\dataAccess\connectionServer\drivers\java

Follow these steps after successful completion of Vertica three Node Clustering & Content Pack Deployment.

1. From the Start menu, open Information Design Tool.



2. Under Repository Resources pane, select **Insert Session**.

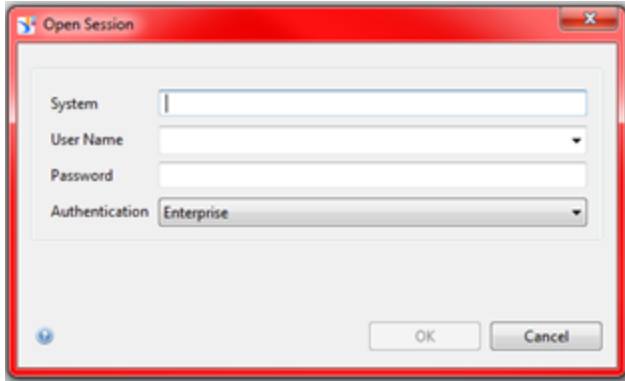


The Open Session tab appears.

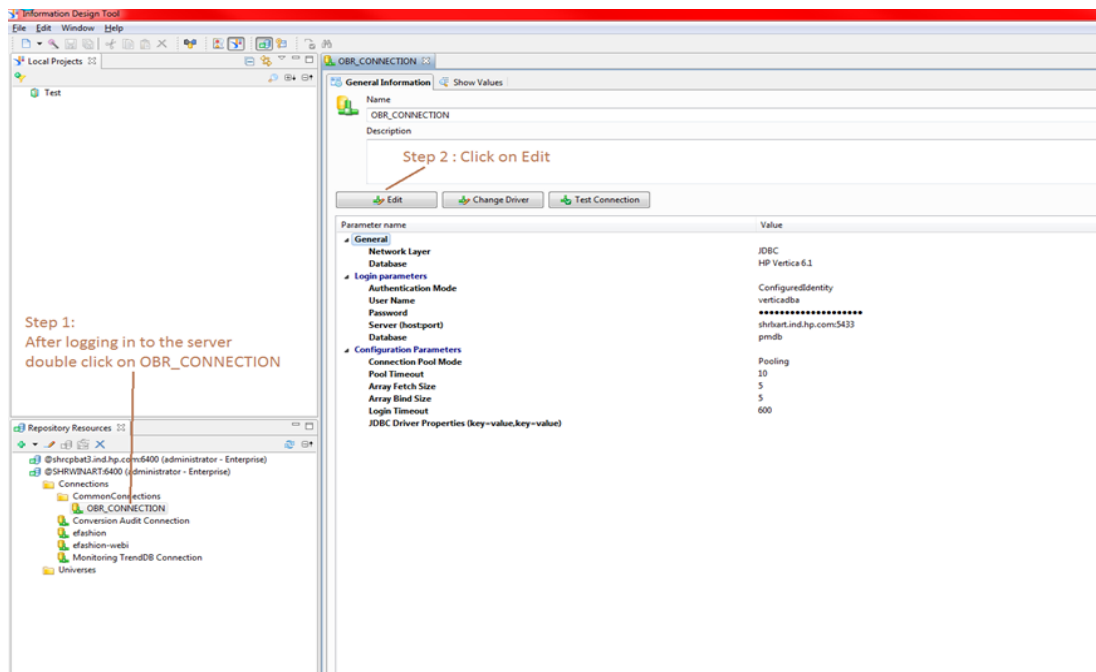
3. Enter the following information and click **OK**:
 - System: <BOS1 Server name>
 - User Name: <BOS1 User name>

- Password: <BOS1 password>

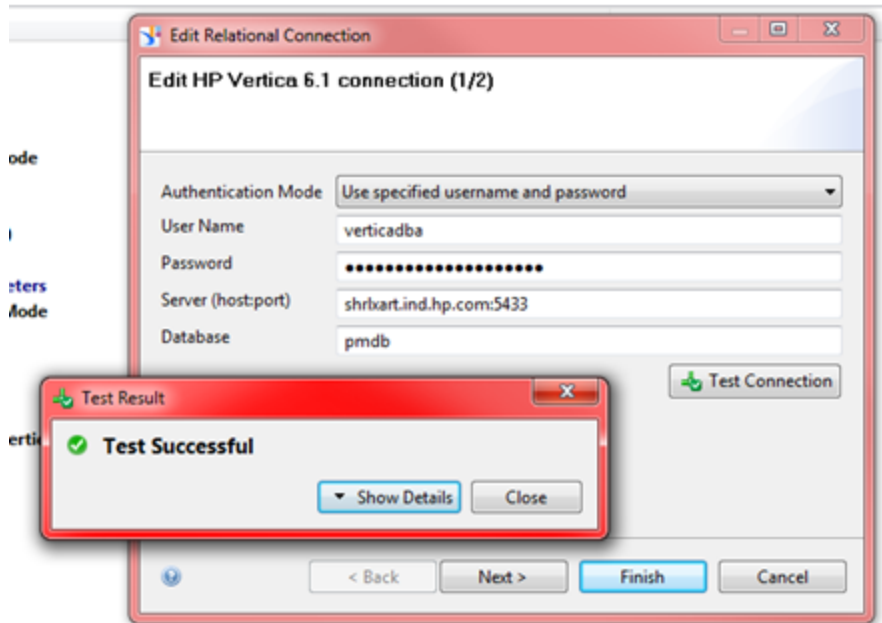
Type the User Name and Password credentials that is used to log on to the Administration Console.



4. Double-click on **OBR_CONNECTION** on the left pane and then click **Edit** as shown in the following image:



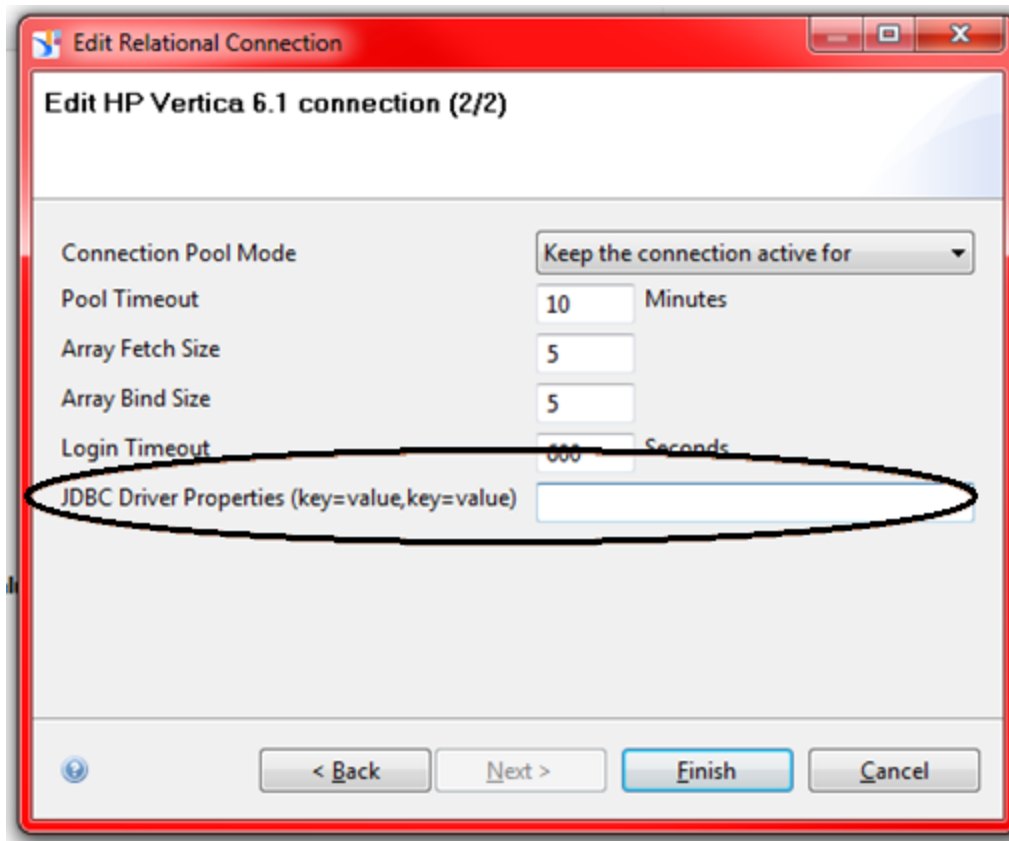
5. Click **Test Connection** to verify the connection as shown in the following image:



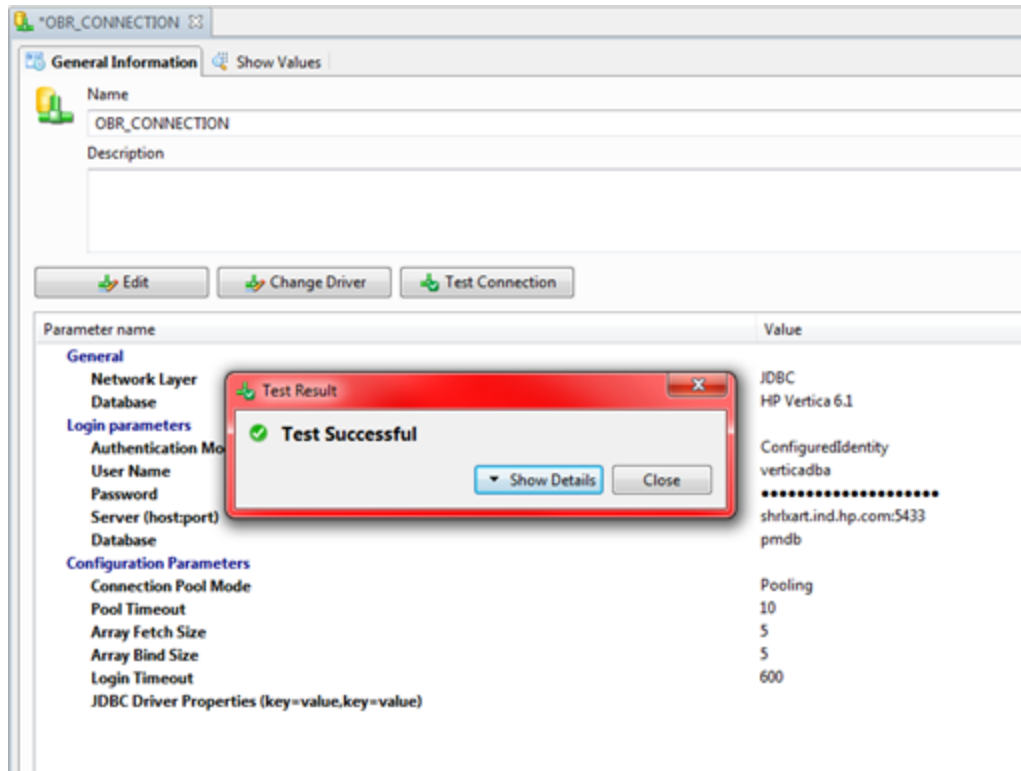
The Test result is displayed. Click **Close** and **Next**.

6. Under **JDBC Driver Properties** type the following and click **Finish**:

```
user=<Vertica Database User Name>,ConnectionLoadBalance=1,BackupServerNode=<VS2  
FQDN>:5433,BackupServerNode=<VS3 FQDN>:5433
```



7. Click **Test Connection** after making changes to ensure that the connection is successfully updated.



8. Click the save icon to save the changes.

Part V: Clustering SAP BusinessObjects

This section provides information on Clustering SAP BusinessObjects.

Chapter 14: Configuring SAP BusinessObjects for Cluster

This chapter helps you to configure SAP BusinessObjects in a high availability environment.

Preparing your system before configuring SAP BusinessObjects cluster:

Prerequisites:

- The NFS server should have `shrboadmin` as user.
- The directory which is shared in NFS server should have `shrboadmin` ownership.
- The NFS directories mounted on the BOS1 & BOS2 should have `shrboadmin` ownership.

Perform these steps before configuring the SAP BusinessObjects cluster:

On Linux:

1. Make sure that the Date and Time is synchronized on BOS1, BOS2, and NFS.
2. To share SAP BusinessObjects File Store files on a common server, a file server access is required where the drive can be mounted using NFS.

In BOS1, add the Host details of BOS2 IP – DNS Name, SAP BusinessObjects Virtual IP – DNS Name and NFS IP – DNS Name in `/etc/hosts` files.

In BOS2, add Host details of BOS1 IP – DNS Name, SAP BusinessObjects Virtual IP – DNS Name and NFS IP – DNS Name in `/etc/hosts` files.

In NFS, add Host details of BOS1 IP – DNS Name, SAP BusinessObjects Virtual IP – DNS Name and BOS2 IP – DNS Name in `/etc/hosts` files.

On Windows:

1. To share SAP BusinessObjects File Store files on a common server, a file server access is required along with domain account user access. The same domain account user should have access and same privileges on BOS1, BOS2, and NFS.

2. In BOS1, add the Host details of BOS2 and NFS in `*\etc\hosts` files.
3. In BOS2, add Host details of BOS1 and NFS in `*\etc\hosts` files.
4. In NFS, add Host details of BOS1 and BOS2 in `*\etc\hosts` files.
5. Change the SQLAnywhere Database Password on BOS1 and BOS2. You must make sure that you give the same password on both servers SQLAnywhere Database. For instructions to change the SQLAnywhere Database Password, see *HPE Operations Bridge Reporter Administration Guide*.

On Linux

Follow these steps to configure the SAP BusinessObjects cluster:

1. On BOS1, go to the location `/opt/HP/BSM/BOE4/sap_bobj/enterprise_xi40/`.
2. Open the `odbc.ini` file and copy ODBC data sources information.

```
[ODBC Data Sources]
BI4_CMS_DSN_1455628470=SQLAnywhere 12.0
BI4_Audit_DSN_1455628470=SQLAnywhere 12.0

[BI4_CMS_DSN_1455628470]
UID=dba
DatabaseName=BI4_CMS
ServerName=BI4_1455628470
Host=localhost:2638
Driver=/opt/HP/BSM/BOE4/sqlanywhere/lib64/libdbodbc12.so

[BI4_Audit_DSN_1455628470]
UID=dba
DatabaseName=BI4_Audit
ServerName=BI4_1455628470
Host=localhost:2638
Driver=/opt/HP/BSM/BOE4/sqlanywhere/lib64/libdbodbc12.so
```

3. On BOS2, go to the location `/opt/HP/BSM/BOE4/sap_bobj/enterprise_xi40`
4. Open the `odbc.ini` file and paste the ODBC data sources information copied from BOS1 as shown in the following image:

```

[ODBC Data Sources]
BI4_CMS_DSN_1453118772=SQLAnywhere 12.0
BI4_Audit_DSN_1453118772=SQLAnywhere 12.0
BI4_CMS_DSN_1455628470=SQLAnywhere 12.0
BI4_Audit_DSN_1455628470=SQLAnywhere 12.0

[BI4_CMS_DSN_1453118772]
UID=dba
DatabaseName=BI4_CMS
ServerName=BI4_1453118772
Host=localhost:2638
Driver=/opt/HP/BSM/BOE4/sqlanywhere/lib64/libdbodbc12.so

[BI4_Audit_DSN_1453118772]
UID=dba
DatabaseName=BI4_Audit
ServerName=BI4_1453118772
Host=localhost:2638
Driver=/opt/HP/BSM/BOE4/sqlanywhere/lib64/libdbodbc12.so

[BI4_CMS_DSN_1455628470]
UID=dba
DatabaseName=BI4_CMS
ServerName=BI4_1455628470
Host=shr1r032:2638
Driver=/opt/HP/BSM/BOE4/sqlanywhere/lib64/libdbodbc12.so

[BI4_Audit_DSN_1455628470]
UID=dba
DatabaseName=BI4_Audit
ServerName=BI4_1455628470
Host=shr1r032:2638
Driver=/opt/HP/BSM/BOE4/sqlanywhere/lib64/libdbodbc12.so

```

Replace Hostname value for copied DSN with BOS1 CMS name

- Note down **ServerName** of the newly added DSN server.

For Example: **ServerName** of the newly added DSN server in above image is BI4_1455628470.

- On BOS2, run the following command to switch user as SAP BusinessObjects user:

```
su - shrboadmin
```

- On BOS2, go to the following path:

```
cd /opt/HP/BSM/BOE4/sap_bobj
```

- Run the following command to start adding node for Cluster:

```
sh serverconfig.sh
```

- Type 1 to add node.

```
-----  
SAP BusinessObjects  
  
What do you want to do?  
  
1 - Add node  
2 - Delete node  
3 - Modify node  
4 - Move node  
5 - Back up server configuration  
6 - Restore server configuration  
7 - Modify web tier configuration  
8 - List all nodes  
  
[quit(0)]  
-----  
[8]1
```

10. Type a unique name for new node.

```
-----  
SAP BusinessObjects  
  
* Node Configuration *  
  
Enter the name of the new node.  
  
[back(1)/quit(0)]  
-----  
[iwfvm06244]OBR_HA
```

11. Type 6410 as new port number for Server Intelligence Agent and press Enter.

```
-----  
SAP BusinessObjects  
  
* Node Configuration *  
  
Enter the port of the new Server Intelligence Agent.  
  
[back(1)/quit(0)]  
-----  
[ ]6410
```

12. Type 3 for default servers and press Enter.

```
-----  
SAP BusinessObjects  
  
* Node Configuration *  
  
Select one of the following:  
  
no servers (Add node with no servers)  
cms (Add node with CMS)  
default servers (Add node with default servers)  
recreate (Recreate node)  
  
[no servers(5)/cms(4)/default servers(3)/recreate(2)/back(1)/quit(0)]  
-----  
[no servers]3
```

13. Type 3 to select existing CMS and press Enter.

```
-----  
SAP BusinessObjects  
  
* Select a CMS *  
  
Select a CMS that will be used to add the node.  
  
existing  
  (Select when at least one CMS is running.)  
temporary  
  (Select when cluster has no running CMSs. A temporary CMS will be automatically started. Upon completion, it will be stopped.)  
  
[existing(3)/temporary(2)/back(1)/quit(0)]  
-----  
[existing]3
```

14. Enter 6400 as CMS Port Number and press Enter.

```
-----  
SAP BusinessObjects  
  
* New CMS Configuration *  
  
Enter the port of the new CMS.  
  
Warning: The new CMS will start using the configuration specified here.  
  
[back(1)/quit(0)]  
-----  
  
[default (6400)]6400
```

15. Type 2 to select SQLAnywhere as CMS Database and press Enter.

```
-----  
SAP BusinessObjects  
  
* New CMS Configuration *  
  
Specify new CMS database connection information.  
  
Select the type of database connection from the following:  
[SAPHANA(8)/Oracle(7)/DB2(6)/Sybase(5)/MySQL(4)/MaxDB(3)/SQLAnywhere(2)/back(1)/quit(0)]  
-----  
  
[SAPHANA]2
```

16. Type the BI4_CMS_DSN name of BOS1 and press Enter.

```
-----  
SAP BusinessObjects  
  
* New CMS Configuration *  
Specify new CMS database connection information.  
  
Enter the ODBC data source name (DSN) for connecting to your SQL Anywhere database.  
  
[back(1)/quit(0)]  
-----  
[BI4_CMS]BI4_CMS_DSN_1455628470
```

17. Type dba as username or just click enter if it is already as default and press Enter.

```
-----  
SAP BusinessObjects  
  
* New CMS Configuration *  
Specify new CMS database connection information.  
  
Enter the user name for connecting to your SQLAnywhere database.  
  
[back(1)/quit(0)]  
-----  
[dba]
```

18. Type the SQLAnywhere password and press Enter.

```
-----  
SAP BusinessObjects  
  
* New CMS Configuration *  
  
Specify new CMS database connection information.  
  
Enter the password for connecting to your SQLAnywhere database.  
  
[back(1)/quit(0)]  
-----  
[ ]
```

19. Type 1ShrAdmin as cluster key and press Enter.

```
-----  
SAP BusinessObjects  
  
* New CMS Configuration *  
  
Enter the cluster key.  
  
[back(1)/quit(0)]  
-----  
[ ]
```

20. Type the BOS1 DNS Name and press Enter.


```
-----  
SAP BusinessObjects  
  
* CMS Logon *  
  
Enter the name of the CMS that this node will connect to.  
  
[back(1)/quit(0)]  
-----  
  
[iwfvm06244]shr1r032
```

21. Type the port number as 6400 and press Enter.

```
-----  
SAP BusinessObjects  
  
* CMS Logon *  
  
Enter the port number for this node to use when connecting to the CMS.  
Or press ENTER to use the default.  
  
[back(1)/quit(0)]  
-----  
  
[default (6400)]
```

22. Type the user name as Administrator and press Enter.

```
-----  
SAP BusinessObjects  
  
* CMS Logon *  
  
Enter the user name to connect to this CMS.  
  
Note that only Enterprise authentication is supported.  
  
[back(1)/quit(0)]  
-----  
[Administrator]
```

23. Type the password used for Administration Console and press Enter.

```
-----  
SAP BusinessObjects  
  
* CMS Logon *  
  
Enter the password to connect to this CMS.  
  
[back(1)/quit(0)]  
-----  
[ ]
```

24. Type Yes to confirm and press Enter.

```
-----  
SAP BusinessObjects  
  
* Confirmation *  
  
The following information will be used to create the new node.  
  
CMS Name: shr1r032  
Node Name: OBR_HA  
Server Intelligence Agent Port: 6410  
Node Option: Create default servers  
CMS Port: 6400  
CMS Data Source: BI4_CMS_DSN_1455628470  
  
Results will be stored in the log file: /opt/HP/BSM/BOE4/sap_bobj//logging/addnode_20160217_191655.log  
  
Do you want to create the node?  
  
[yes(3)/no(2)/back(1)/quit(0)]  
-----  
  
[yes]
```

25. Press Enter to continue.

```
-----  
SAP BusinessObjects  
  
* Confirmation *  
  
The following information will be used to create the new node.  
  
CMS Name: shr1r032  
Node Name: OBR_HA  
Server Intelligence Agent Port: 6410  
Node Option: Create default servers  
CMS Port: 6400  
CMS Data Source: BI4_CMS_DSN_1455628470  
  
Results will be stored in the log file: /opt/HP/BSM/BOE4/sap_bobj//logging/addnode_20160217_191655.log  
  
Do you want to create the node?  
  
[yes(3)/no(2)/back(1)/quit(0)]  
-----  
  
[yes]  
Adding node...  
.....Successfully added node.  
View the log file for more details: /opt/HP/BSM/BOE4/sap_bobj//logging/addnode_20160217_191655.log  
Press Enter to continue...  
█
```

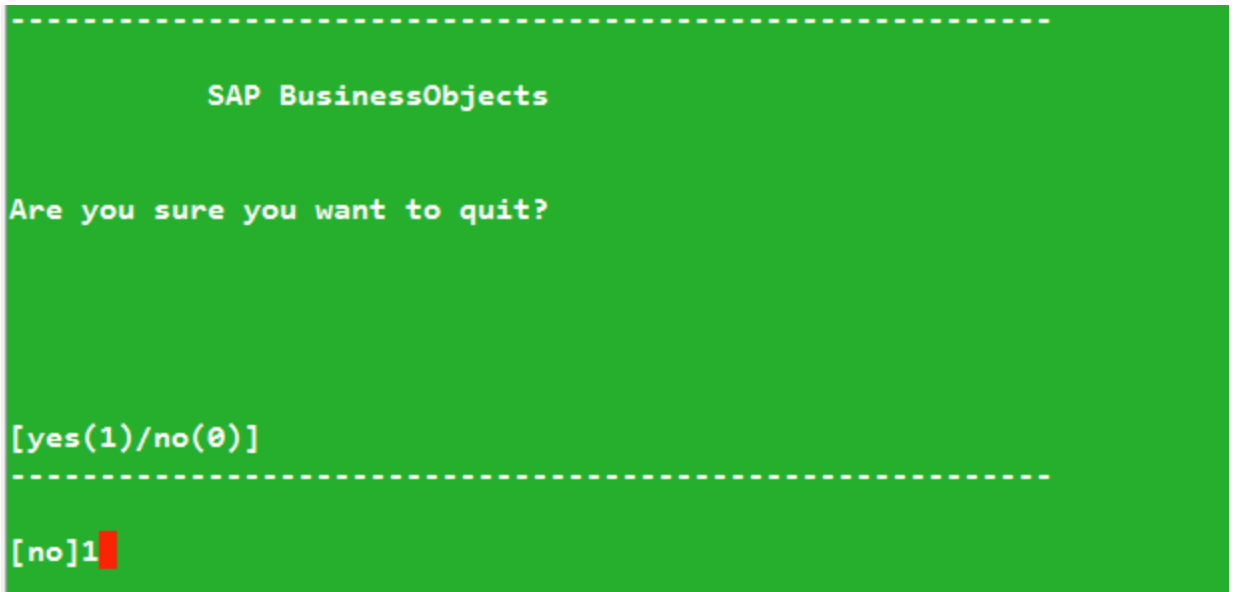
26. Type 8 to verify the list of nodes or 0 to quit.

```
-----  
SAP BusinessObjects  
  
What do you want to do?  
1 - Add node  
2 - Delete node  
3 - Modify node  
4 - Move node  
5 - Back up server configuration  
6 - Restore server configuration  
7 - Modify web tier configuration  
8 - List all nodes  
  
[quit(0)]  
-----  
[8]
```

The nodes are displayed as follows:

```
-----  
SAP BusinessObjects  
  
OBR (sia)  
OBR_HA (sia)  
  
[back(1)/quit(0)]  
-----  
[back]
```

27. Type 1 to quit and press Enter.



28. Run the following commands to restart the SAP BusinessObjects servers:

```
sh /opt/HP/BSM/BOE4/sap_bobj/stopservers
```

```
sh /opt/HP/BSM/BOE4/sap_bobj/startservers
```

29. Go to the location `cd /opt/HP/BSM/BOE4/sap_bobj/`

30. Open the `sqlanywhere_startup.sh` file and change the `SQLANYWHERE_SERVER` to the `ServerName` noted down in Step 4.

Example: `SQLANYWHERE_SERVER=BI4_1449570373`

change as: `SQLANYWHERE_SERVER=BI4_1455628470`

31. Similarly, open the `sqlanywhere_shutdown.sh` file and change the `SQLANYWHERE_SERVER` to the `ServerName` noted down in Step 4.

Example: `SQLANYWHERE_SERVER=BI4_1449570373`

change as: `vSQLANYWHERE_SERVER=BI4_1455628470`

32. Copy BOS1 File Store directory from the following path to Shared Linux NFS Server location where BOS1 and BOS2 can access to these directories:

```
$PMDB_HOME/./BOE4/sap_bobj/data/frsinput
```

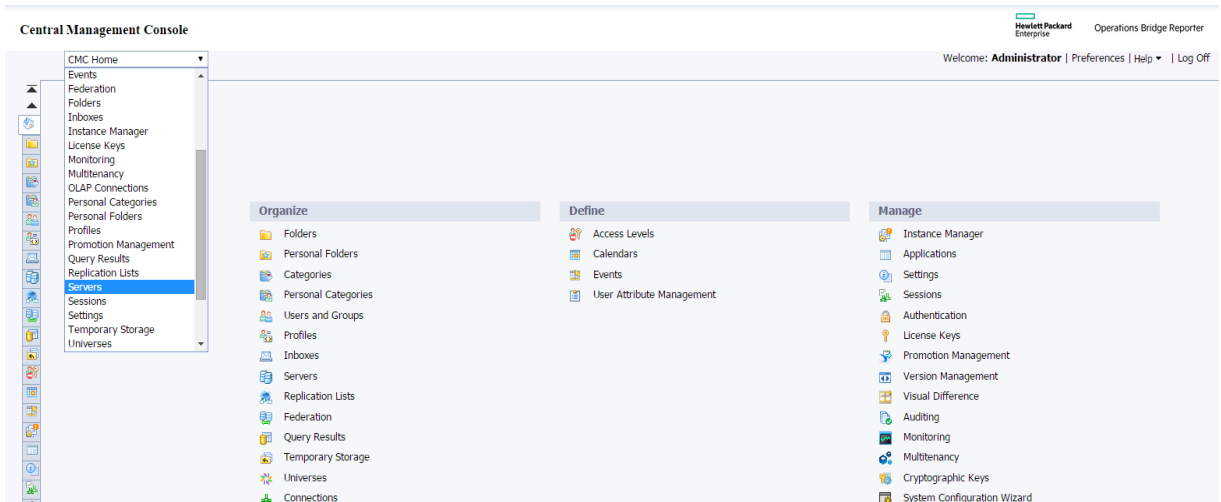
```
$PMDB_HOME/./BOE4/sap_bobj/data/frsoutput
```

33. After copying the `frsinput` and `frsoutput` directories, ensure that SAP BusinessObjects user `shrboadmin` has access to `frsinput` and `frsoutput` directories on the Linux NFS Server.

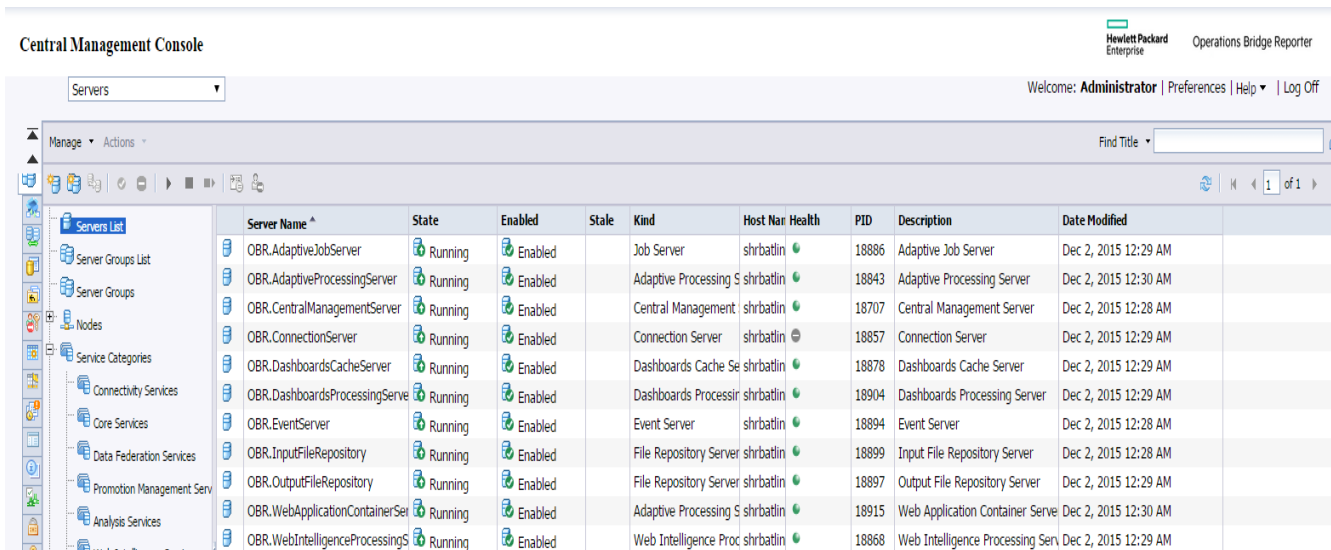
- After copying the File Store to shared drive, map the shared linux drive location on both BOS1 and BOS2 using NFS File Share.

Ensure that File Store is accessible from Shared linux Server by both servers seamlessly.

- Log on to BOS1 CMC page using the link: https://<BOS1_Name>:8443/BOE/CMC
- From the drop-down list select Servers.



- Select Servers List from the left pane.



- Right-click on InputFileRepository and click **Properties**.
- Copy the path of Input File Store Share Drive in the following format:

File Store Directory: `<NFS_File_Storage_path>/frsinput`

Temporary Directory: <NFS_File_Storage_path>/frsinput/temp

<input type="checkbox"/> Use Configuration Template	
File Store Directory:	<input type="text" value="%DefaultInputFRSDir%"/>
Temporary Directory:	<input type="text" value="%DefaultInputFRSDir%/temp"/>
Maximum Idle Time (minutes):	<input type="text" value="10"/>
Maximum Retries for File Access:	<input type="text" value="1"/>
<input type="checkbox"/> Restore System Defaults	
<input type="checkbox"/> Set Configuration Template	

40. Click on **Save and Close**.
41. Select the InputFileRepository and right-click **Restart**.
42. Right-click on OutputFileRepository and click **Properties**.
43. Copy the path of Output File Store Share Drive in the following format:

File Store Directory: <NFS_File_Storage_path>/frsoutput

Temporary Directory: <NFS_File_Storage_path>/frsoutput/temp

44. Click on **Save and Close**.

Above mentioned path changes step 37 to 44 should to be done for all Input and Output File Repository Servers.

45. On BOS1, run the command `su - shrboadmin`.
46. Run the following command to stop the SQL Anywhere Database Service on BOS1:

```
sh $PMDB_HOME/./BOE4/sap_bobj/sqlanywhere_shutdown.sh
```

47. Copy the SQLAnywhere Database files from the following path on BOS1 to the Linux NFS Server into a different directory:

```
$PMDB_HOME/./BOE4/sqlanywhere/database/
```

48. After copying, rename the `$PMDB_HOME/./BOE4/sqlanywhere/database` to `$PMDB_HOME/./BOE4/sqlanywhere/database_backup`.
49. Run the following command to create a link to the database files on shared file location from the default location on BOS1:

```
ln -s <Linux Shared Drive Path>/database $PMDB_HOME/./BOE4/sqlanywhere/database
```

The Shared SQLAnywhere database files will be accessible on BOS2 also as the drive is already mapped.

50. Run the following command to stop the SQL Anywhere Database Service on BOS2:

```
sh $PMDB_HOME/../../BOE4/sap_bobj/sqlanywhere_shutdown.sh
```

51. On BOS2, rename the \$PMDB_HOME/../../BOE4/sqlanywhere/database to \$PMDB_HOME/../../BOE4/sqlanywhere/database_backup.

52. Run the following command to create a link to the database files on shared file location from the default location on BOS2:

```
ln -s <Linux Shared Drive Path>/database $PMDB_HOME/../../BOE4/sqlanywhere/database
```

53. Run the following command to start the SQL Anywhere Database Service on BOS1:

```
sh $PMDB_HOME/../../BOE4/sap_bobj/sqlanywhere_startup.sh
```

54. Log on to BOS2 and run the command `su - shrboadmin`.

55. Run the following command to stop the server:

```
sh /opt/HP/BSM/BOE4/sap_bobj/stopservers
```

56. Go to the following location:

```
cd /opt/HP/BSM/BOE4/sap_bobj/
```

57. Open the `ccm.config` file and delete the `OBRLAUNCH` line that appears in the file.

58. Run the following command to start the server:

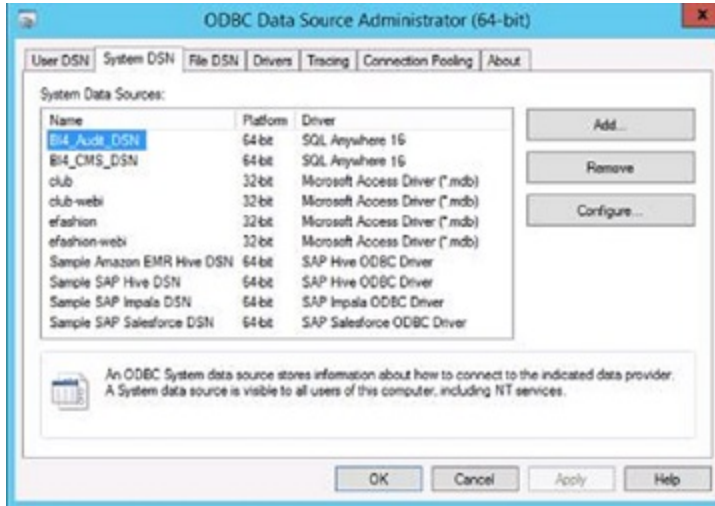
```
sh /opt/HP/BSM/BOE4/sap_bobj/startservers
```

On Windows

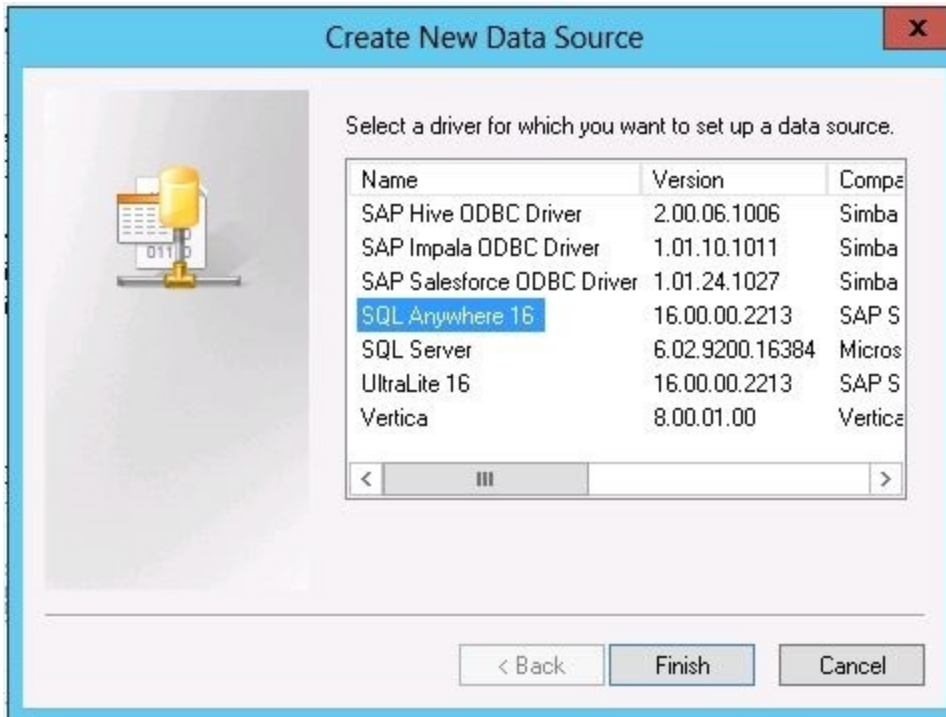
Configuring SAP BusinessObjects in high availability environment

To create `BI4_Audit_DSN_<Server1NAME>` connection under ODBC Data Source Administrator (64-Bit) pointing to BOS1 SQLAnywhere Database on BOS2, follow these steps:

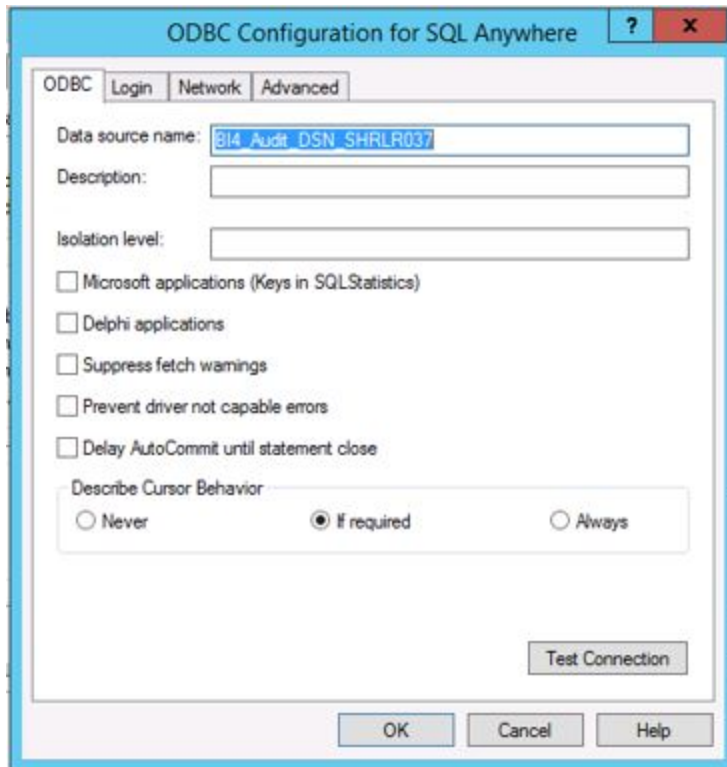
1. From the start menu, double-click on **ODBC Data Source Administrator (64-bit)**.
2. Select the **System DSN** tab.
3. Select **BI4_Audit_DSN** and click **Add**. The Create New Data Source window appears.



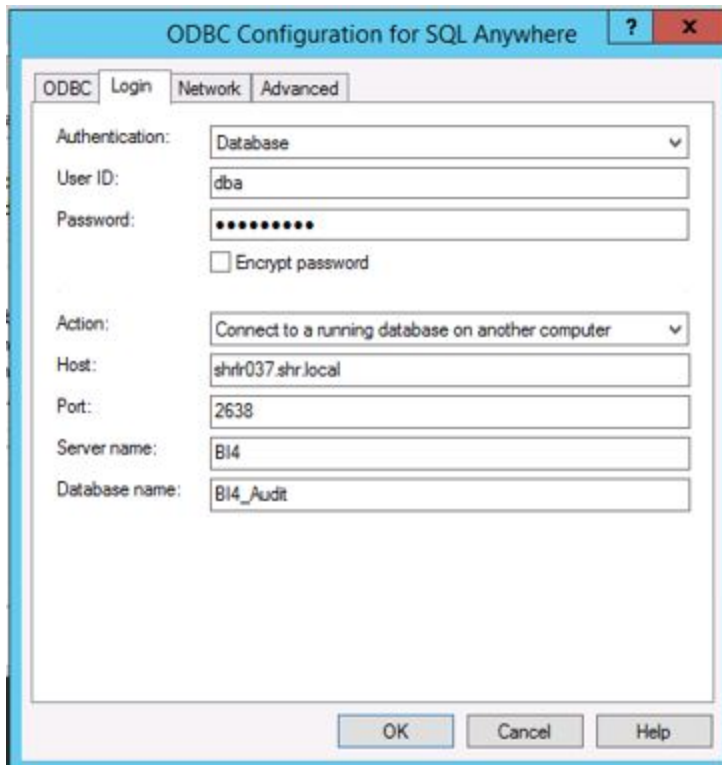
4. Select **SQL Anywhere 16** and click **Finish**.



5. Enter Data Source name as BI4_Audit_DSN_<Server1NAME>.

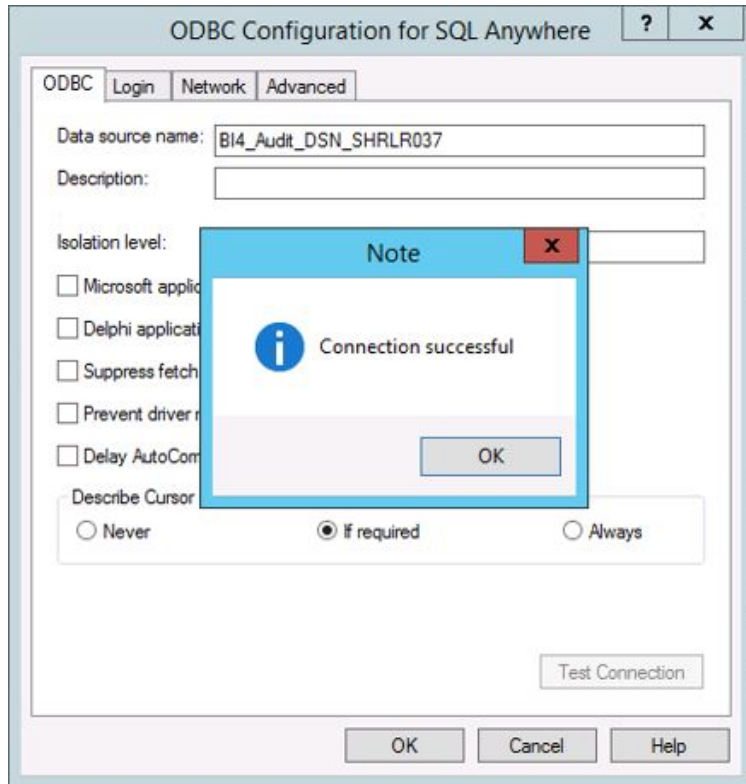


6. Click **Login** tab, type the details as shown in the following image. You must type the changed SQLAnywhere database password in **Password**. In **Host**, type the Serverhost name.



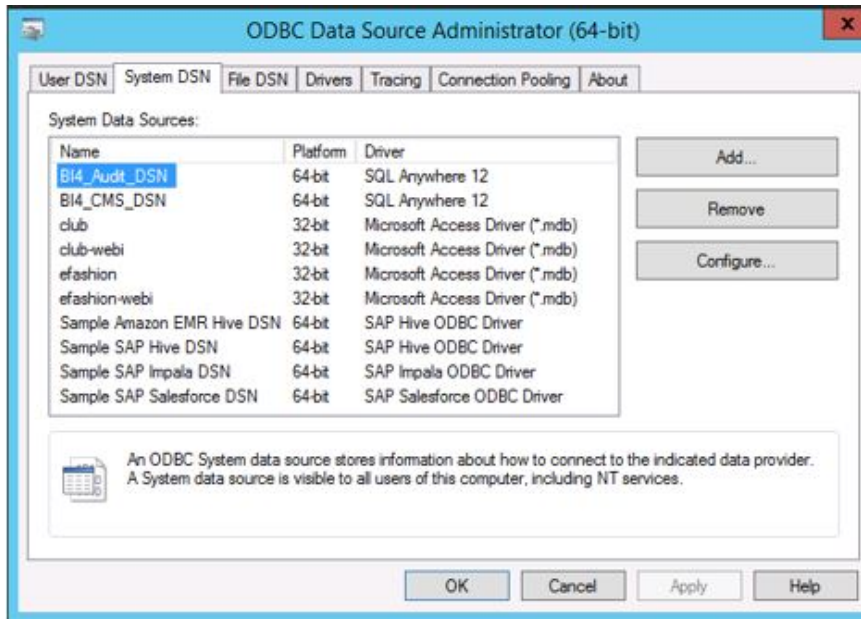
7. Click **ODBC** tab. Click **Test Connection** to verify the connection.

The note appears. Click **OK**.

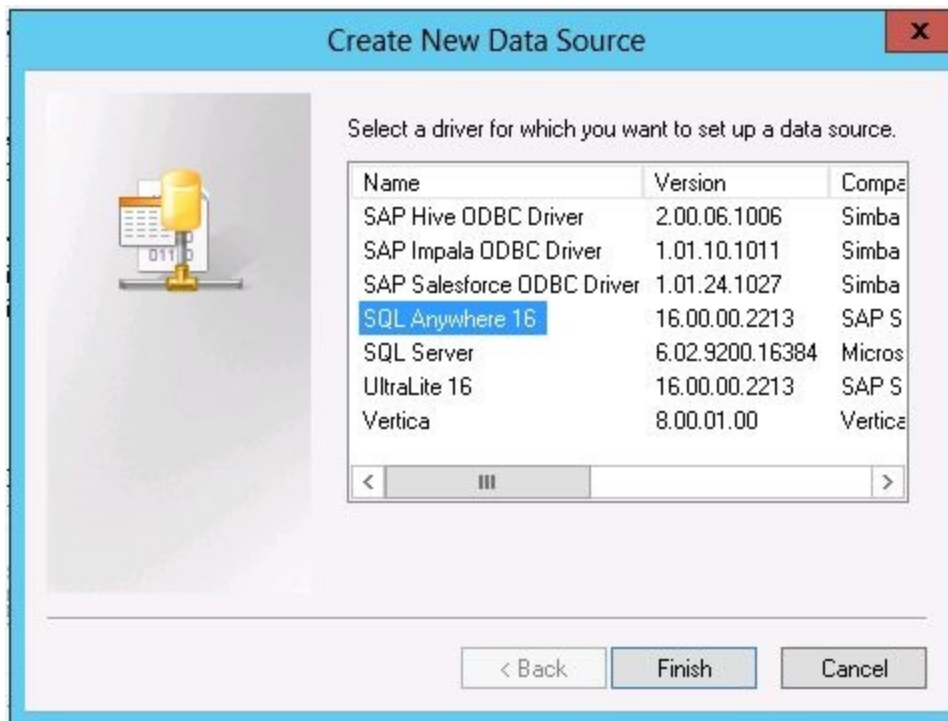


To create BI4_CMS_DSN_<Server1NAME> connection under ODBC Data Source Administrator (64-Bit) pointing to BOS1 SQLAnywhere Database on BOS2, follow these steps:

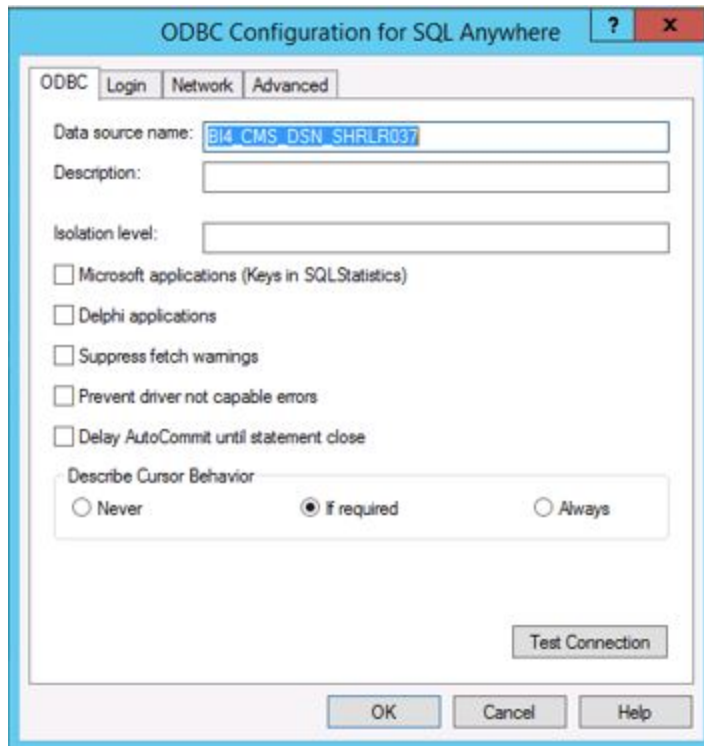
1. From the start menu, double-click on **ODBC Data Source Administrator (64-bit)**.
2. Select the **System DSN** tab.
3. Click **Add**. The Create New Data Source window appears.



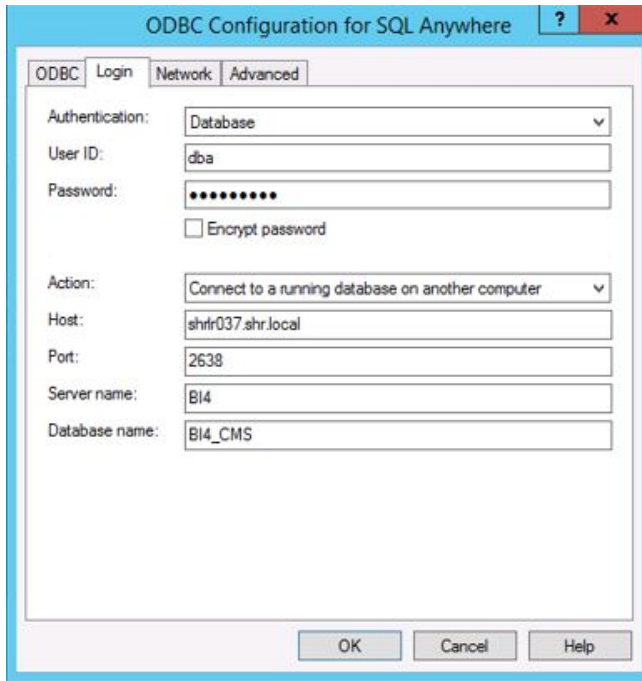
4. Select **SQL Anywhere 16** and click **Finish**.



5. Enter **Data Source Name** as BI4_CMS_DSN_<Server1NAME>.

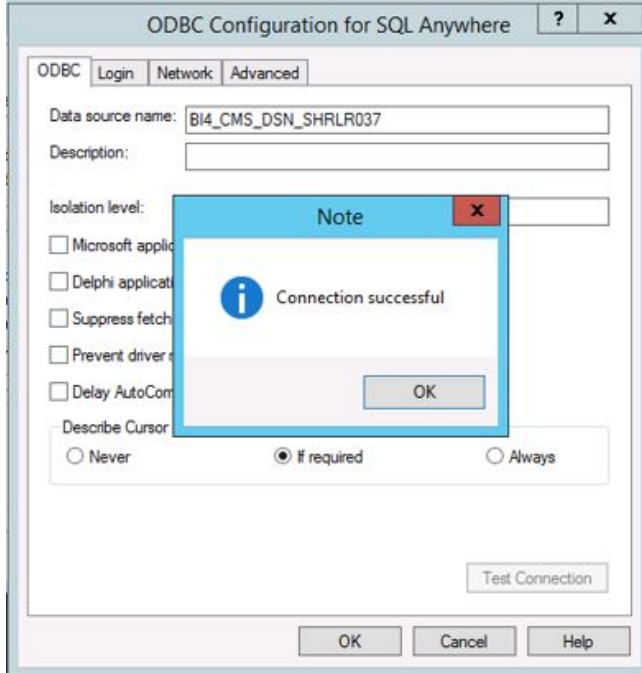


6. Click **Login** tab, and perform these steps:
 - a. Type the details as shown in the following image. You must type the changed SQLAnywhere database password in **Password**. In **Host**, type the Serverhost name.
 - b. In Action, select **Connect to a running database on another computer** from the drop-down list.



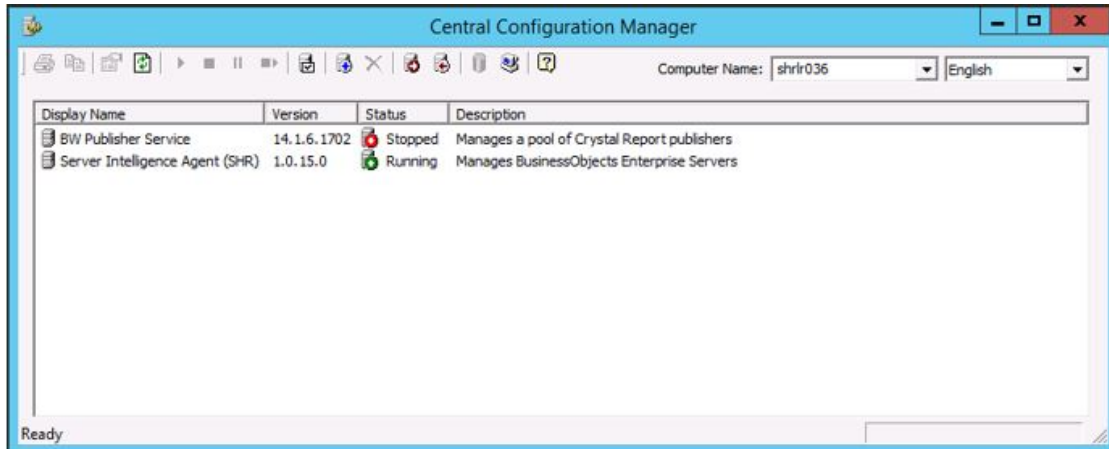
7. Click **ODBC** tab. Click **Test Connection** to verify the connection.


The note appears, click **OK**.



8. In the start menu on BOS2, type Central Configuration Manager in search. Open Central

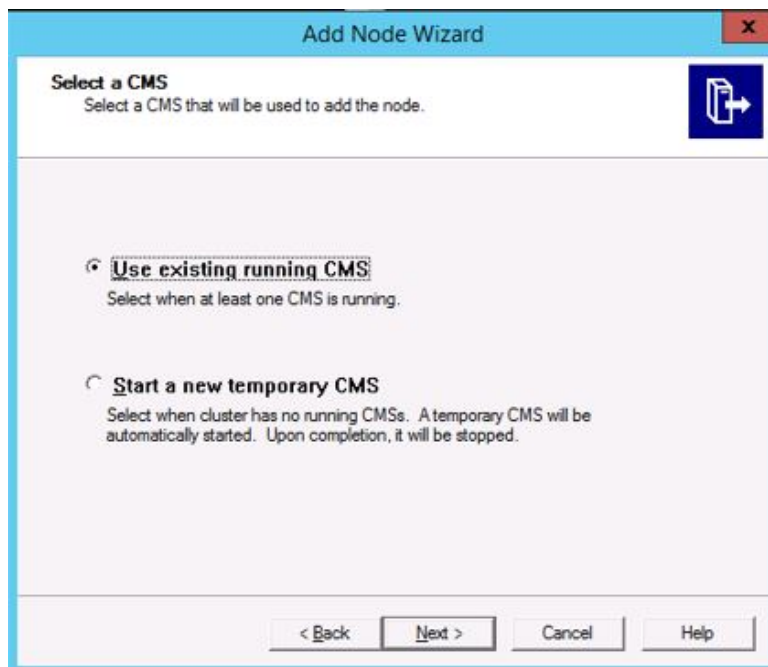
Configuration Manager.



9. Click Add Node icon on the top .
10. Click **Next**. The Add Node Wizard appears.
11. Type the following and click **Next**:
 - a. Node Name: *<SIA unique name>*.
Example: Server1Name_HA
 - b. SIA Port: 7410
 - c. Select **Add node with default servers**

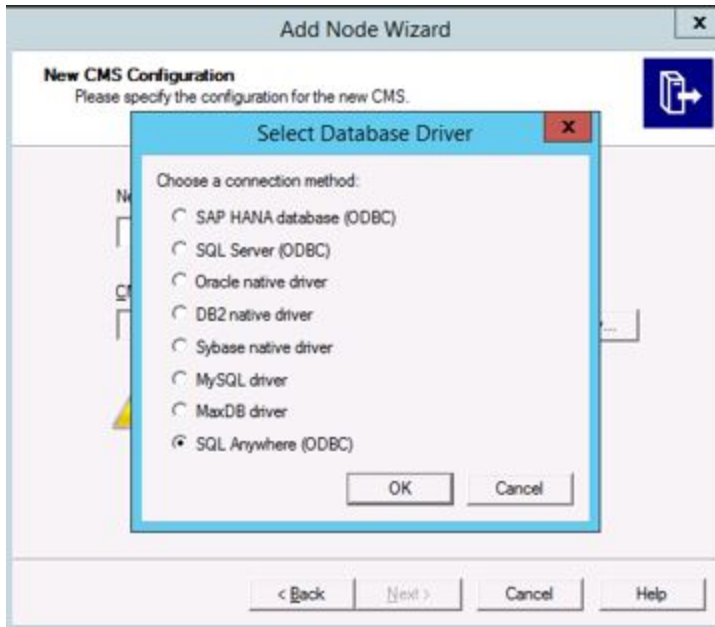


12. Select **Use existing running CMS** and click **Next**.

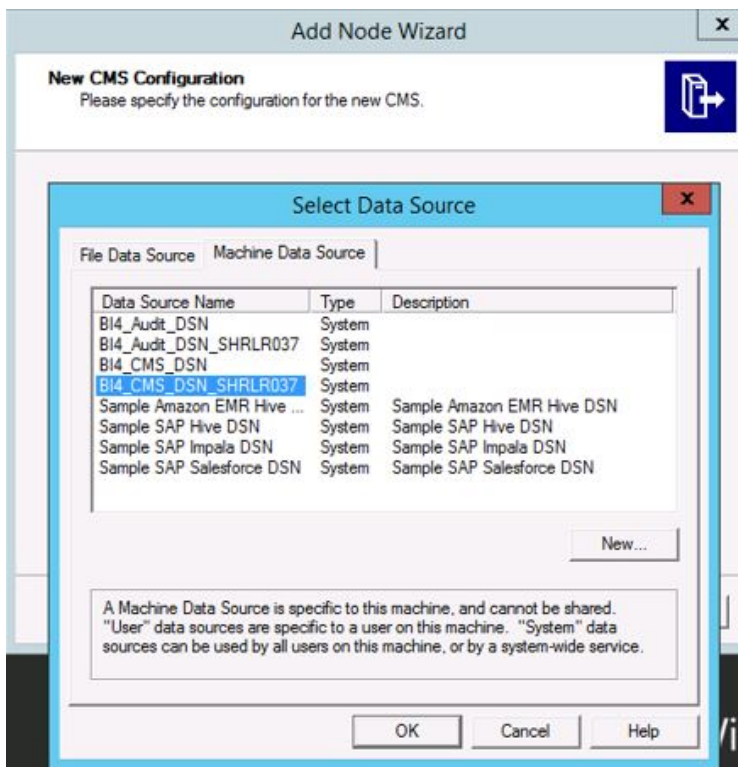


13. Follow these steps:
 - a. New CMS Port: 7400
 - b. Click **Specify**. The Select Database Driver appears.
 - c. Select **SQL Anywhere (ODBC)**.

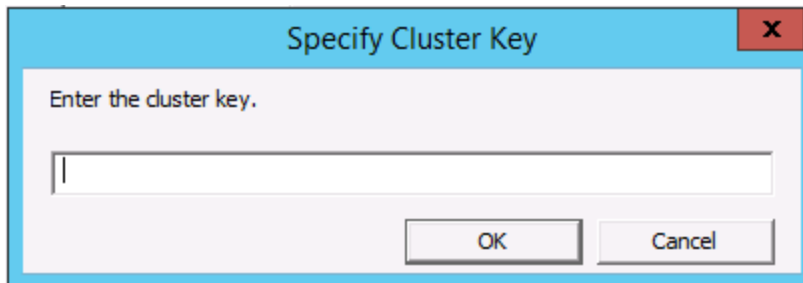
The Select Data Source window appears.



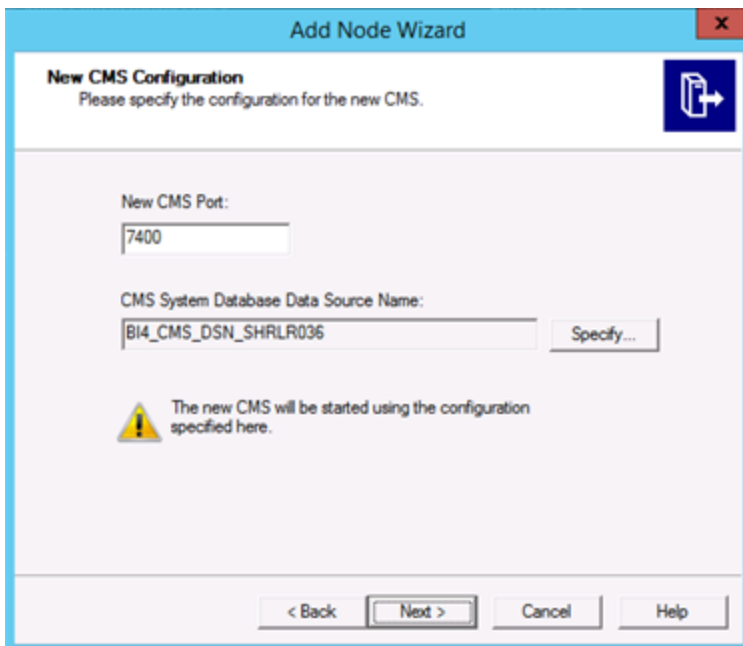
14. In the **Machine Data Source** tab, select the new Data Source Name and click **OK**.



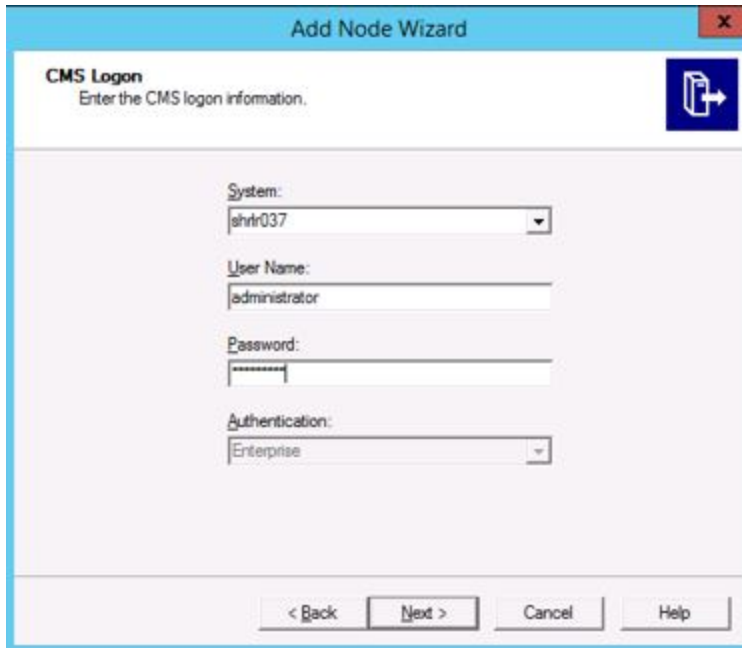
15. Type the Cluster Key as 1ShrAdmin and then click **OK**. The Add Node Wizard appears.



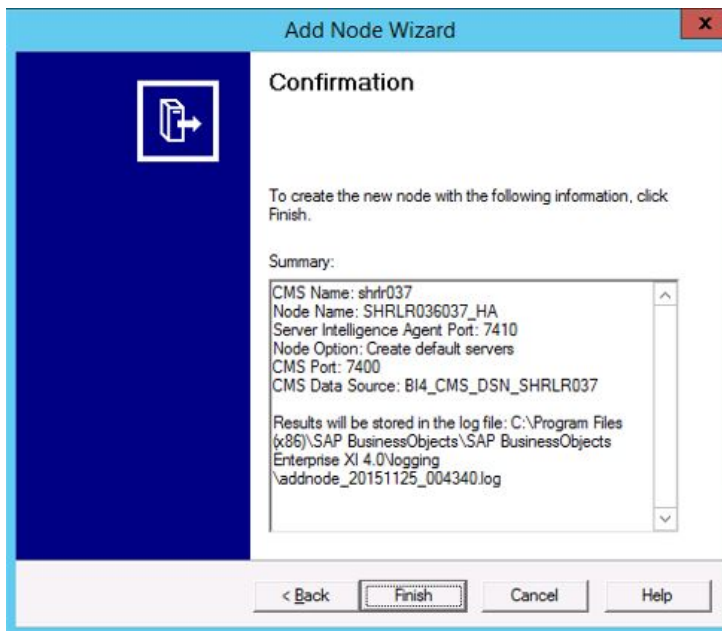
16. In the Add Node Wizard for New CMS Configuration, type as follows:
 - a. New CMS Port: 7400
 - b. CMS System Database Data Source Name: <Data Source Name>Click **Next**.



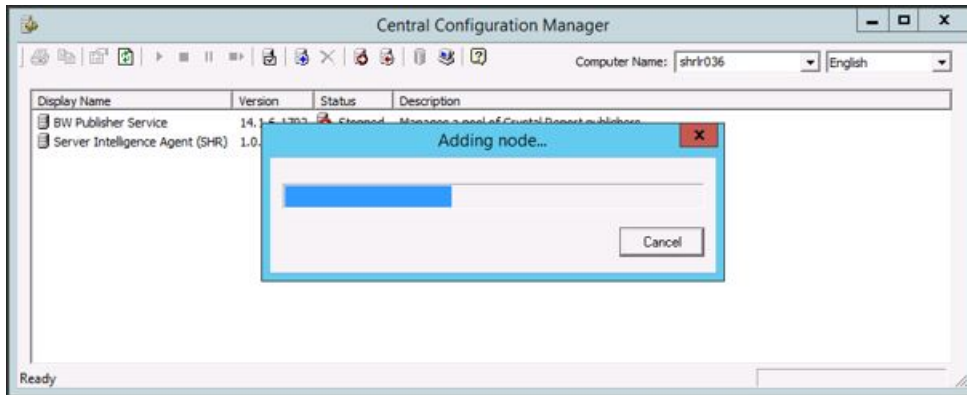
17. In the Add Node Wizard for CMS Logon, type as follows:
 - a. System: <BOS1 system name>
 - b. User Name: administrator
 - c. Password: <CMS password>Click **Next**.



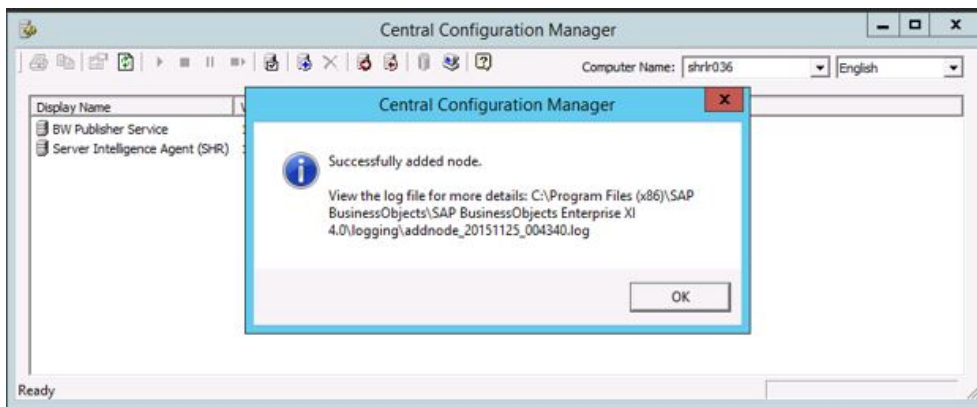
18. Click **Finish**.



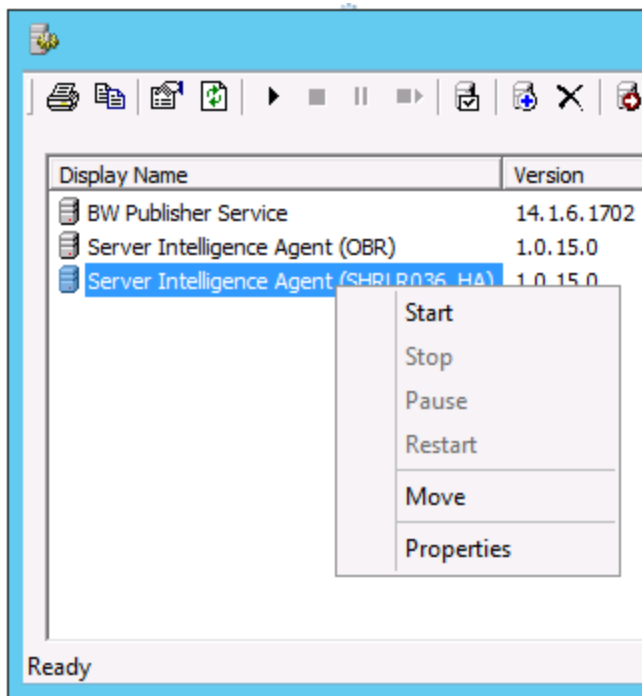
The SAP BusinessObjects Cluster will be in progress as shown in the following image:



19. The following message appears on successful addition of the node:



20. In the BOS2 server, open Central Configuration Manager.
21. Select the newly added node, right-click and select **Start**.
22. In the start menu on BOS1 and BOS2, type Central Configuration Manager in search. Open Central Configuration Manager.
23. On BOS1, select the node, right-click and select **Stop**. Similarly, on BOS2, select the newly added node, right-click and select **Stop**.
24. After the SIA is stopped on both the servers, right-click on the SIA on BOS1 and the new SIA on BOS2 and select **Properties**.



25. In **Properties** tab, clear the check box **System Account**. Type the following:

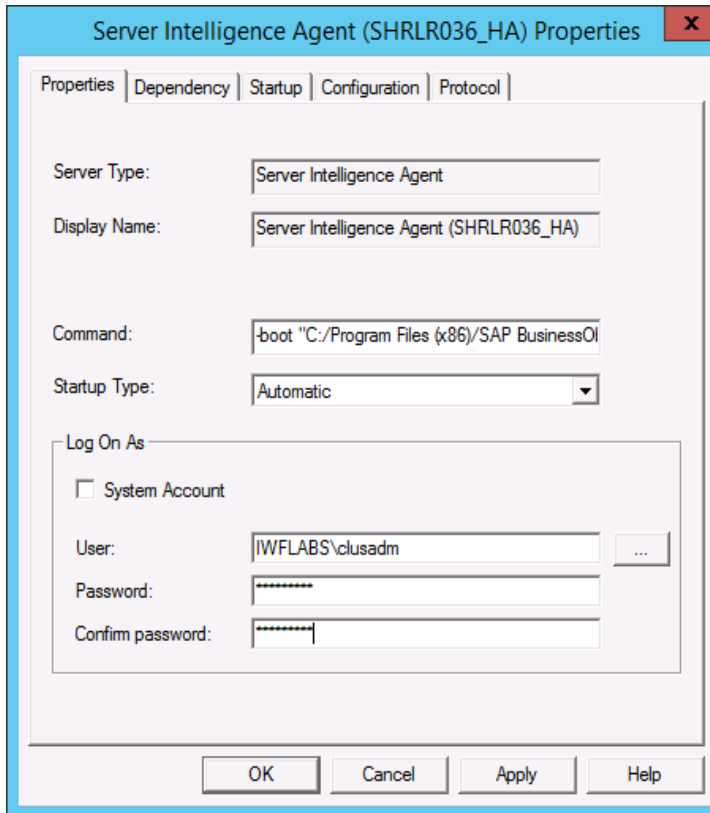
User: *<user name>*

Password: *<password>*

Confirm Password: Re-type the *<password>* for confirmation

where, *<user name>* and *<password>* are the Domain account user information used to log on to Servers.

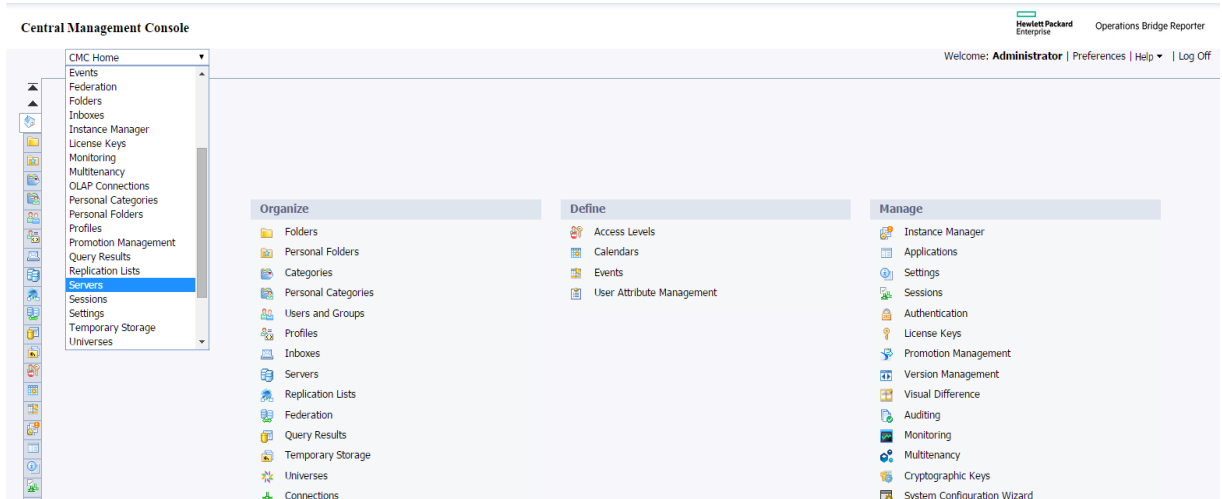
Note: You must make sure that the step is performed on both BOS1 and BOS2.



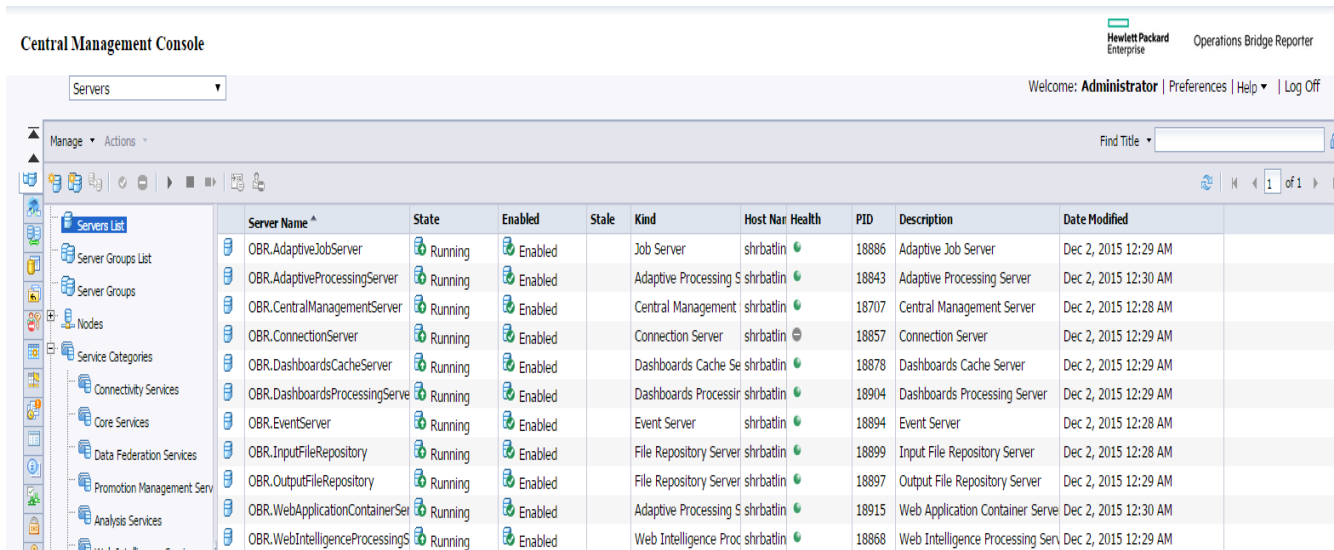
26. Right-click on SIA and click **Start** on both BOS1 and BOS2.
27. Copy the BOS1 File Store directory from the path <BOE_Drive>:\Program Files (x86)\SAP BusinessObjects\SAP BusinessObjects Enterprise XI 4.0\FileStore to the following location in NFS, where Domain Account user of BOS1 and BOS2 has access to it:

<BOE_Drive>:\Program Files (x86)\SAP BusinessObjects\SAP BusinessObjects Enterprise XI 4.0\FileStore
28. Ensure that File Store is accessible by both servers seamlessly. NFS is mapped on both BOS1 and BOS2 with the same Drive letter.
29. Log on to BOS1 CMC page using the link: https://<BOS1_Name>:8443/BOE/CMC

Note: For http use the link http://<BOS1_Name>:8080/BOE/CMC
30. From the drop-down list select **Servers**.



31. Select **Servers List** from the left pane.



32. Select the InputFileRepository and right-click on **Properties**.

33. Copy the path of Input File Store Share Drive.

For example: If the shared drive letter given as E: \ on both BOS1 and BOS2 then the path will be E:\FileStore\Input and E:\FileStore\Input\temp

<input type="checkbox"/> Use Configuration Template	
File Store Directory:	<input type="text" value="%DefaultInputFRSDir%"/>
Temporary Directory:	<input type="text" value="%DefaultInputFRSDir%/temp"/>
Maximum Idle Time (minutes):	<input type="text" value="10"/>
Maximum Retries for File Access:	<input type="text" value="1"/>
<input type="checkbox"/> Restore System Defaults	
<input type="checkbox"/> Set Configuration Template	

34. Click on **Save and Close**.
35. Select the InputFileRepository and right-click **Restart**.
36. Select the OutputFileRepository and right-click on **Properties**.
37. Copy the path of Output File Store Share Drive.
38. Click on **Save and Close**.
39. Select the OutputFileRepository and right-click **Restart**.

Above mentioned path changes step 31 to 39 should to be done for all Input and Output File Repository Servers.

40. From the **Run** window, type `services.msc`. The Services window appears.
41. On BOS1, right-click on the **SQL Anywhere for SAP Business Intelligence** service and click **Stop**.
42. Copy the SQLAnywhere Database files from the following path on BOS1 to the NFS location:

```
<BO Install Drive>:\Program Files (x86)\SAP
BusinessObjects\sqlanywhere\database
```

You must make sure that mapped network Shared drive is accessible with complete access permissions for the Domain user.

43. Paste the copied SQLAnywhere Database files to the NFS location as a backup to the following path:

```
<BO Install Drive>:\Program Files (x86)\SAP
BusinessObjects\sqlanywhere\databasebackup
```

44. Delete the SQLAnywhere service by running the following command:

```
dbsvc -d SQLAnywhereForBI
```

Restart the system after deleting the SQLAnywhere service.

45. Run the following command to recreate the SQLAW Service from shared network drive:

```
dbsvc -a "<Windows Domain name>\<Domain Account User Name>" -p <Windows Domain Account Password> -s auto -t network -sn "SQL Anywhere for SAP Business Intelligence" -sd "Provides the CMS repository and auditing database for SAP Business Intelligence" -w SQLAnywhereForBI "<B0 Installed Drive>:\Program Files (x86)\SAP BusinessObjects\sqlanywhere\BIN64\dbsrv16.exe" -n BI4 -x tcpip (PORT=2638;DoBroadcast=NO;BroadcastListener=NO) "\\<Shared drive Host name or file server name>\<Drive Name Eg: E:, F:>$\<Path where SQLAW Database file were copied>\database\BI4_CMS.db" "\\<Shared drive Host name or file server name>\<Drive Name Eg: E:, F:>$\<Path where SQLAW Database file were copied>\database\BI4_Audit.db" -o <Path where Log has to be created Note: all the directories mentioned in the path need to be present>\SQLAW.log
```

For Example: `dbsvc -a "obr\clusadm" -p clus123 -s auto -t network -sn "SQL Anywhere for SAP Business Intelligence" -sd "Provides the CMS repository and auditing database for SAP Business Intelligence" -w SQLAnywhereForBI "C:\Program Files (x86)\SAP BusinessObjects\sqlanywhere\bin64\dbsrv16.exe" -n BI4 -x tcpip(PORT=2638;DoBroadcast=NO;BroadcastListener=NO) "\\boshare.obr.com\c$\BODATA\database\BI4_CMS.db" "\\boshare.obr.com\c$\BODATA\database\BI4_Audit.db" -o C:\SQLAW.log`

46. From the **Run** window, type `services.msc`. The Services window appears. Perform these steps:
- Right-click on the **SQL Anywhere for SAP Business Intelligence** service and click **Properties**. The **SQL Anywhere for SAP Business Intelligence Properties** window appears.
 - In **General** tab, select **Manual** in **Startup type**.
 - Click **Apply**.
 - Make sure that the service status is **Stopped**.
47. On BOS2, from the **Run** window, type `services.msc`. Right-click on the **SQL Anywhere for SAP Business Intelligence** service and click **Stop**.

48. Delete the SQLAnywhere service by running the following command:

```
dbsvc -d SQLAnywhereForBI
```

Restart the system after deleting the SQLAnywhere service.

49. Run the following command to recreate the SQLAW Service from shared network drive:

```
dbsvc -a "<Windows Domain name>\<Domain Account User Name>" -p <Windows Domain Account Password> -s auto -t network -sn "SQL Anywhere for SAP Business Intelligence" -sd "Provides the CMS repository and auditing database for SAP Business Intelligence" -w SQLAnywhereForBI "<B0 Installed Drive>:\Program Files (x86)\SAP BusinessObjects\sqlanywhere\BIN64\dbsrv16.exe" -n BI4 -x tcpip (PORT=2638;DoBroadcast=NO;BroadcastListener=NO) "\\<Shared drive Host name or file server name>\<Drive Name Eg: E:, F:>$\<Path where SQLAW Database file were copied>\database\BI4_CMS.db" "\\<Shared drive Host name or file server name>\<Drive Name Eg: E:, F:>$\<Path where SQLAW Database file were copied>\database\BI4_Audit.db" -o <Path where log has to be created Note: all the directories mentioned in the path need to be present>\SQLAW.log
```

50. On BOS2, from the **Run** window, type `services.msc`. The Services window appears. Perform these steps:
 - a. Right-click on the **SQL Anywhere for SAP Business Intelligence** service and click **Properties**. The **SQL Anywhere for SAP Business Intelligence Properties** window appears.
 - b. In **General** tab, select **Manual** in **Startup type**.
 - c. Click **Apply**.
 - d. Make sure that the service status is Stopped.
51. On BOS1, from the **Run** window, type `services.msc`. The Services window appears.
52. Right-click on the **SQL Anywhere for SAP Business Intelligence** service and click **Start**.

Chapter 15: Removing Dependency Between SQLAW and SIA Services

On a SAP BusinessObjects installed server the Server Intelligence Agent (SIA) service will have dependency on SQLAnywhere service. The dependency between these two services has to be removed because SQLAW is monitored by Veritas in a cluster environment and SIA is a part of SAP BusinessObjects clustering.

This chapter helps you to remove the dependency between SAP BusinessObjects SQLAW and SIA Services.

On Linux

Perform the following steps on both BOS1 and BOS2 servers:

1. Go to the location `/etc/init.d/` and edit the `SAPB OBJEnterpriseXI40` file.
2. Comment the commands in the `SAPB OBJEnterpriseXI40` script as follows:

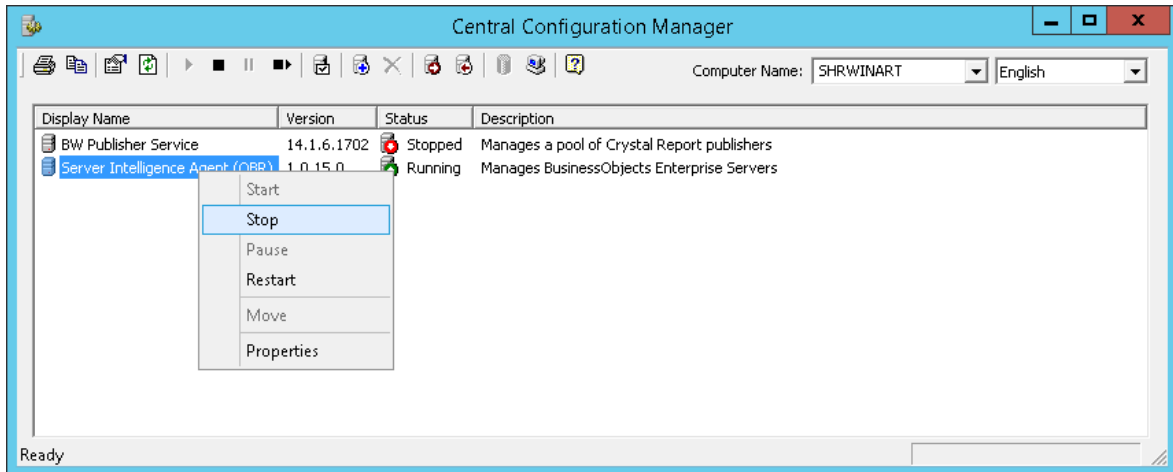
```
# if [ -f "$BOBJEDIR"/sqlanywhere_startup.sh ]; then
# $SU - "$BOBJEUSERNAME" -c "$BOBJEDIR"/sqlanywhere_startup.sh
# logger -p daemon.info -t bobj "Started SQL Anywhere"
# fi
# if [ -f "$BOBJEDIR"/sqlanywhere_shutdown.sh ]; then
# $SU - "$BOBJEUSERNAME" -c "$BOBJEDIR"/sqlanywhere_shutdown.sh
# logger -p daemon.info -t bobj "Stopped SQL Anywhere"
# fi
```

Note: The above command appears twice in the script. Make sure to comment both the entries.

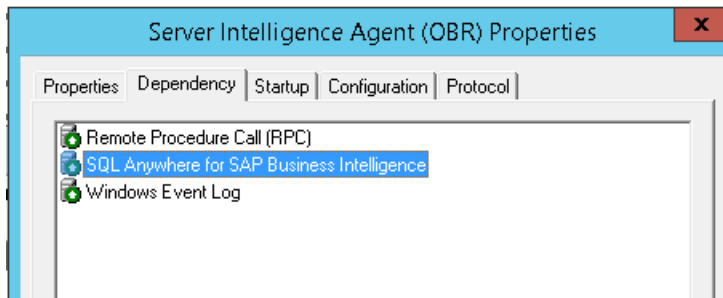
On Windows

Perform the following steps on both BOS1 and BOS2 servers:

1. From the **Start**, type **Central Configuration Manager** in **Search**. Open the Central Configuration Manager.
2. Right-click **Server Intelligence Agent (OBR)** and click **Stop**. Wait till SIA is stopped.



3. Right-click **Server Intelligence Agent (OBR)** and click **Properties**. The Server Intelligence Agent (OBR) Properties page appears.
4. Click on **Dependency** tab.
5. Click on **SQLAnywhere for SAP Business Intelligence** and click **Remove**.



6. Click **OK**.
7. Right-click **Server Intelligence Agent (OBR)** and click **Start**.

Part VI: Configuring Veritas

This section provides information on Configuring Veritas.

Chapter 16: Configuring Veritas Cluster

This chapter helps you to configure Veritas cluster that includes the following steps:

- Update system details with configuration script
- Execute the configuration script for Resource groups for HA
- Verify the Veritas configuration

You must complete the steps mentioned in the [Chapter 8: Copying the Platform Data to Shared Disk](#) before you move ahead with configuring Veritas.

On Linux

Update the System Details in Configuration Script

Follow these steps to update the system details in the configuration script on OBRS1 and BOS1:

1. Go to the following location:
`$PMDB_HOME/HA/Veritas/Linux/SetupScripts/`
2. Open the `OBR_linux_vcsconfigure.pl` file.
3. Edit the values as follows from the primary server:

Parameters	Description	On Server
<code>\$DG_GROUP</code>	Name of the veritas disk group	OBRS1
<code>\$FILESYSTEM</code>	The file system type of the shared storage. Use vxfs for veritas and lvm if it is native	OBRS1
<code>\$LOGICAL_VOLUME_ON_SHARED_DISK</code>	Name of Linux LVM logical volume. Note: Not required if <code>\$METHOD</code> is <code>cvm</code> .	OBRS1

\$METHOD	Volume manager name (lvm or cvm). Use 'cvm' for veritas and 'lvm' for native support.	OBRs1
\$MOUNT_POINT_FOR_OBR_SHARE	Block device mount point. Eg, For LVM, /dev/test/lvo11 and for veritas /dev/vx/dsk/<veritas_group_name>/<veritas_volume_name>	OBRs1
\$NETMASK_FOR_VIRTUAL_IP_ADDRESS_FOR_OBR	The subnet mask for the 'virtual' IP address.	OBRs1, BOS1
\$NETWORK_INTERFACE	Name of the NIC device associated with the IP address obtained by using the ifconfig command. For example, eth0 or eth1	OBRs1, BOS1
\$NODE1	The physical host name of the primary node.	OBRs1, BOS1
\$NODE1_IP_ADDRESS	The physical IP address of the primary node.	OBRs1, BOS1
\$NODE2	The physical host name of the secondary node.	OBRs1, BOS1
\$NODE2_IP_ADDRESS	The physical IP address of the secondary node.	OBRs1, BOS1
\$OBRmount	The folder where the shared disk is mounted.	OBRs1
\$VIRTUAL_IP_ADDRESS_FOR_OBR	The virtual IP address.	OBRs1, BOS1
\$VOLUME	Name of the veritas volume.	OBRs1
\$VOLUME_GROUP_ON_SHARED_DISK	Volume group containing logical volume for Logical Volume Manager (LVM) type. Note: Not required if \$METHOD is cvm.	OBRs1

Execute Configuration Script to Create Cluster Resource Group

Perform the following steps:

1. Run the following command and make sure that all required services are stopped and startup mode are manual in OBRS1, OBRS2, BOS1 and BOS2:

On RHEL 6.x/SUSE Linux Enterprise Server 11 - `chkconfig --list`

On RHEL 7.x:

`systemctl list-units --type service` - This command lists the services.

`systemctl list-unit-files` - This command displays if the services are enabled or disabled.

The required services are as follows:

HPE_PMDB_Platform_Administrator

HPE_PMDB_Platform_Collection

HPE_PMDB_Platform_DB_Logger

HPE_PMDB_Platform_IA

HPE_PMDB_Platform_IM

HPE_PMDB_Platform_NRT_ETL

HPE_PMDB_Platform_PostgreSQL

HPE_PMDB_Platform_Orchestration

Trendtimer

SAPBOBJEnterpriseXI40

2. Make sure that Shared disk is mounted in OBRS1.
3. Set the VCS_HOME environment variable in both the servers.

For Example: `VCS_HOME=/opt/VRTSvcs`

4. Go to the location `/etc/lvm` and open the `lvm.conf` file in editor and set the `locking_type` parameter as zero.
5. Ensure that the cluster software is running. To verify, run the following command on OBRS1, OBRS2, BOS1 and BOS2:

```
hastatus -sum
```

The output should display Running.

6. On OBRS1, run the command to create the Cluster Resource Group:

```
/opt/OV/nonOV/perl/a/bin/perl $PMDB_HOME/HA/Veritas/Linux/SetupScripts/OBR_
linux_vcsconfigure.pl
```

Verifying Configuration

To verify, run the following command on both the nodes:

```
hastatus -sum
```

- The System State should be RUNNING for both nodes.
- The Resource Group state should be ONLINE for one of the server and others should be OFFLINE.

On Windows

Update the System Details in Configuration Script

Follow these steps to update the system details in the configuration script on OBRS1 and BOS1:

1. Go to the following location:
`%PMDB_HOME%\HA\Veritas\Windows\SetupScripts\`
2. Open the `OBR_win_vcsconfigure.pl` file.
3. Edit the values as follows from the primary server:

Parameters	Description	On Server
<code>\$NODE1</code>	The physical host name of the primary node.	OBRS1, BOS1
<code>\$NODE1_IP_ADDRESS</code>	The physical IP address of the primary node.	OBRS1, BOS1
<code>\$NODE2</code>	The physical host name of the secondary node.	OBRS1, BOS1
<code>\$NODE2_IP_ADDRESS</code>	The physical IP address of the secondary node.	OBRS1, BOS1
<code>\$VIRTUAL_IP_ADDRESS_FOR_OBR</code>	The virtual IP address.	OBRS1, BOS1

\$NETMASK_FOR_VIRTUAL_IP_ADDRESS_FOR_OBR	The subnet mask for the 'virtual' IP address.	OBR1, BOS1
\$NETWORK_INTERFACE	Name of the NIC device associated with the IP address obtained by using the <code>ifconfig</code> command. For example, <code>eth0</code> or <code>eth1</code>	OBR1, BOS1
\$UNAME	Username for starting cluster. This is a optional parameter.	OBR1, BOS1
\$PWD	Password for cluster. This is a optional parameter.	OBR1, BOS1
\$DOMAIN	The domain for cluster. Without FQDN	OBR1, BOS1
\$MOUNT_POINT_FOR_OBR_SHARE	Block device mount point. Eg, For LVM, <code>/dev/test/lvol1</code> and for veritas <code>/dev/vx/dsk/<veritas_group_name>/<veritas_volume_name></code>	OBR1
\$FILESYSTEM	The file system type of the shared storage. Use <code>vxfs</code> for veritas and <code>lvm</code> if it is native.	OBR1
\$SIG_OBR_SHARE	The Disk Signature of the shared drive obtained in <code>DriveInfo.txt</code> file by running the command <code>havol - getdrive</code> .	OBR1
\$DG_GROUP_NAME	The DiskGroup Name of the disk group obtained in <code>VMDriveInfo.txt</code> file by running the command <code>VMGetDrive</code> . Note: This parameter is only in case of Dynamic Group.	OBR1
\$DG_VOLUME_NAME	The Volume Name of the disk group obtained in <code>VMDriveInfo.txt</code> file by running the command <code>VMGetDrive</code> . Note: This parameter is only in case of Dynamic Group.	OBR1
\$DG_GUID	The DiskGroup GUID of the disk group obtained in <code>VMDriveInfo.txt</code> file by running the command <code>VMGetDrive</code> . Note: This parameter is only in case of Dynamic	OBR1

	Group.	
\$DYNAMIC_GROUP	Add true for Dynamic Group cluster or false for basic disk group.	OBRs1

Execute Configuration Script to Create Cluster Resource Group

Perform the following steps:

1. On the OBRs1, OBRs2, BOS1 and BOS2 servers, in **Run** window, type `services.msc`. The Services window appears.

The command output lists all the HPE OBR services as follows:

```
HPE_PMDB_Platform_Administrator  
HPE_PMDB_Platform_Collection  
HPE_PMDB_Platform_DB_Logger  
HPE_PMDB_Platform_IA  
HPE_PMDB_Platform_IM  
HPE_PMDB_Platform_NRT_ETL  
HPE_PMDB_Platform_PostgreSQL  
HPE_PMDB_Platform_Orchestration
```

The command output lists the SAP BusinessObjects service as follows:

```
SAPBOBJEnterpriseXI40  
Server Intelligence Agent (OBR)  
Business Objects Webserver  
SQLAnywhere for SAP Business Intelligence
```

Make sure that all required services are stopped and **Startup** mode is *Manual*.

2. Make sure that Shared disk is mounted in OBRs1.
3. Set the `VCS_HOME` environment variable in both the servers.
4. Ensure that the cluster software is running. To verify, run the following command on OBRs1,

OBRS2, BOS1 and BOS2:

```
hastatus -sum
```

The output should display Running.

5. Run the command to create the Cluster Resource Group:

```
perl %PMDB_HOME%\HA\Veritas\Windows\SetupScripts\OBR_win_vcsconfigure.pl
```

Verifying Configuration

To verify, run the following command on both the nodes:

```
hastatus -sum
```

- The System State should be RUNNING for both nodes.
- The Resource Group state should be ONLINE for one of the server and others should be OFFLINE.

Part VII: Post-Configuring HPE OBR High Availability

This section provides information on Post-Configuring HPE OBR High Availability .

Chapter 17: Configuring Data Sources

Perform the post-installation data source configuration steps. See *Post-Install Configuration* chapter in *HPE Operations Bridge Reporter Configuration Guide* for the steps.

Note: If you are configuring for NNMi on the HPE OBR server, you have to perform the configuration on both OBRS1 and OBRS2. For steps, see *Configuring HPE OBR with Network Node Manager i (NNMi) Task 2: On the HPE OBR system* section in *HPE Operations Bridge Reporter Configuration Guide*

Chapter 18: Updating the SQL DSN changes

This chapter helps you to update the SQL DSN changes in a high availability environment.

On Linux

To update the SQL DSN connection under ODBC Data Source Administrator for BI4_CMS_DSN, BI4_Audit_DSN on BOS1 and BI4_CMS_DSN_<BOS1NAME>, BI4_Audit_DSN_<BOS1NAME> on BOS2, follow these steps on BOS1 and BOS2:

1. On BOS1, go to the location /opt/HP/BSM/BOE4/sap_bobj/enterprise_xi40/.
2. Open the odbc.ini file.

```
[ODBC Data Sources]
BI4_CMS_DSN_1455628470=SQLAnywhere 12.0
BI4_Audit_DSN_1455628470=SQLAnywhere 12.0

[BI4_CMS_DSN_1455628470]
UID=dba
DatabaseName=BI4_CMS
ServerName=BI4_1455628470
Host=localhost:2638
Driver=/opt/HP/BSM/BOE4/sqlanywhere/lib64/libdbodbc12.so

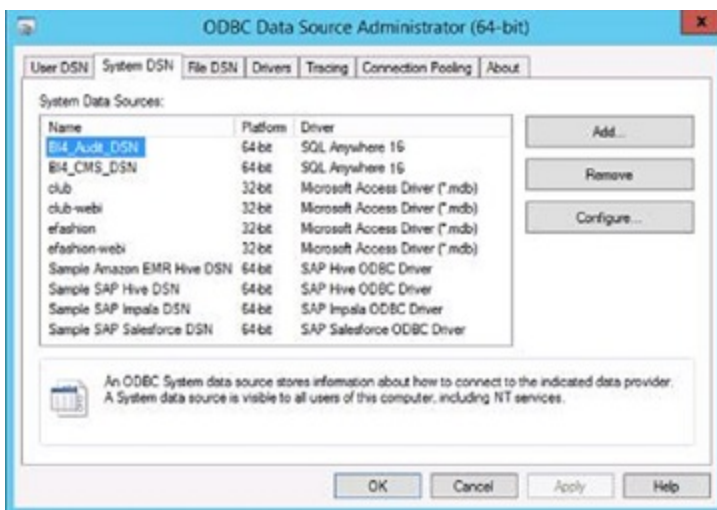
[BI4_Audit_DSN_1455628470]
UID=dba
DatabaseName=BI4_Audit
ServerName=BI4_1455628470
Host=localhost:2638
Driver=/opt/HP/BSM/BOE4/sqlanywhere/lib64/libdbodbc12.so
```

3. In **Host**, replace the localhost with <BOS1 virtual host name> and copy ODBC data sources information.
4. On BOS2, go to the location /opt/HP/BSM/BOE4/sap_bobj/enterprise_xi40/odbc.ini
5. Paste the ODBC data sources information copied from BOS1 after the ODBC data source CMC and Audit details of BOS2 system.

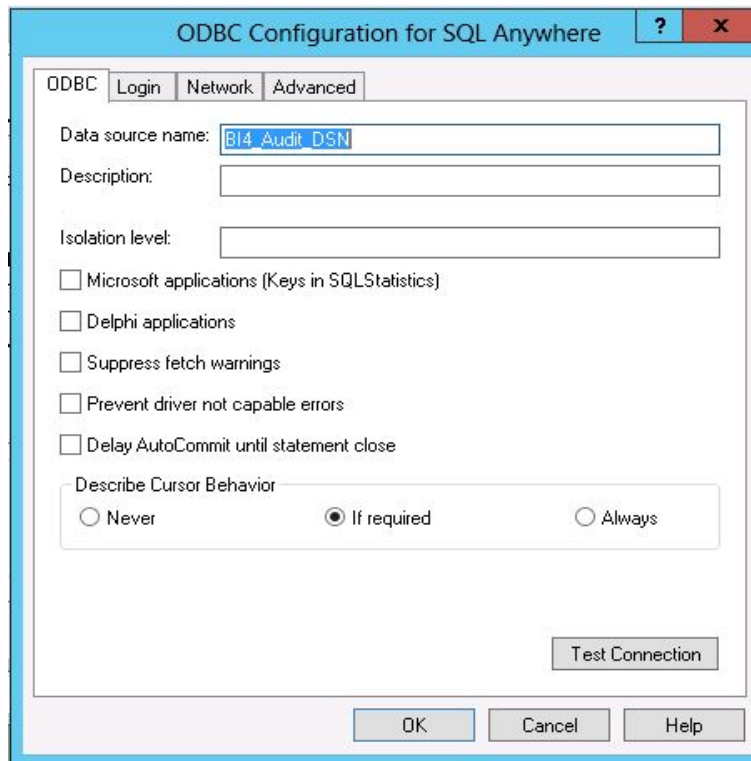
On Windows

To update the SQL DSN connection under ODBC Data Source Administrator (64-Bit) for BI4_CMS_DSN, BI4_Audit_DSN on BOS1 and BI4_CMS_DSN_<BOS1NAME>, BI4_Audit_DSN_<BOS1NAME> on BOS2, follow these steps on BOS1 and BOS2 respectively:

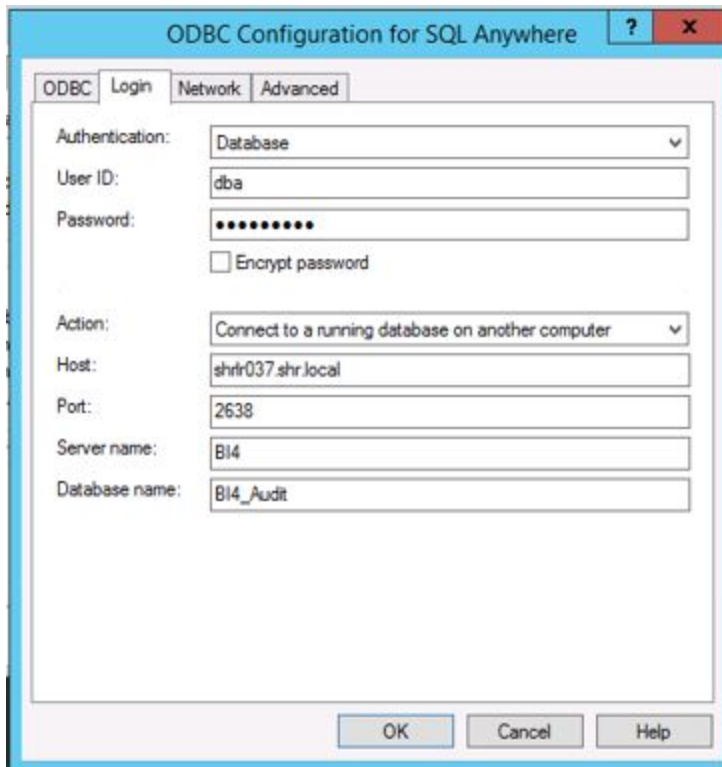
1. From the start menu, double-click on **ODBC Data Source Administrator (64-bit)**.
2. Select the **System DSN** tab.
3. Select **BI4_Audit_DSN** and click **Configure**.



The ODBC Configuration for SQL Anywhere window appears.

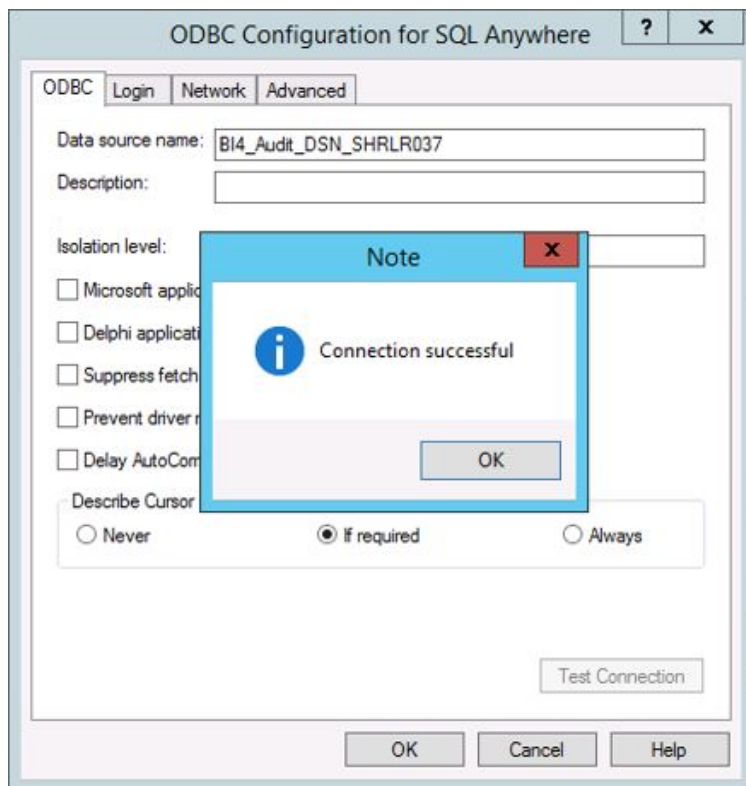


4. Click **Login** tab, type the details as shown in the following image. You must type the changed SQLAnywhere database password in **Password**. In **Host**, replace the Host name with the virtual host name of BOS1.



5. Click **ODBC** tab. Click **Test Connection** to verify the connection.

The note appears. Click **OK**.



6. On OBRS1, go to the location %PMDB_HOME%\data and copy the config.prp file. On OBRS2, go to the location %PMDB_HOME%\data and paste the copied config.prp file.

For distributed SAP BusinessObjects setup, perform the this step on BOS1 and BOS2.

Chapter 19: Changing SAP BusinessObjects Cluster Name

This chapter helps you to change the SAP BusinessObjects cluster name and update the `config.prp` file with the changed cluster name in a high availability environment.

On Linux

Perform the following steps:

1. On BOS2, stop the SQLAnywhere service. Start the SQLAnywhere service on BOS1.
2. On BOS1, run the following commands:
 - a. `su - shrboadmin`
 - b. `cd $BOBJEDIR`
 - c. `sh stopservers`
Wait for the server to stop.
 - d. `sh cmsdbsetup.sh`
3. Type the Node name as OBR and press **Enter**.

```
-----  
SAP BusinessObjects  
  
Specify the name of the node.  
This node must have at least one local CMS.  
  
[quit(0)]  
-----  
[ ]OBR
```

4. Type **3** to change the cluster name and press **Enter**.

5. Type a Cluster name and press **Enter**.

```
Specify the new cluster name.

[back(1)/quit(0)]
-----
[ ]SHRLINUXCLUSTER
```

The message *Cluster name change was successful* appears.

6. Perform the following steps to verify the changed cluster name:
 - a. Run the command `sh cmdbsetup.sh`.
 - b. Type the Node name as OBR and press **Enter**.
 - c. The **Current cluster name** must display the new cluster name.

```
-----
SAP BusinessObjects

Current CMS Data Source: BI4_CMS_DSN_1454327027

Current cluster name: SHRLINUXCLUSTER

Current cluster key: [[8t2h5f7Ufn1E2JbhkbRNUg]]
```

7. Type `0` to quit and press **Enter** to confirm.
8. On BOS1, log on as root.
9. Go to the location `$PMDB_HOME/BOWebServer/webapps/BOE/WEB-INF/config/default` and copy all `.properties` file.
10. Paste the copied `.properties` to the location `$PMDB_HOME/BOWebServer/webapps/BOE/WEB-INF/config/custom`.
11. Perform the steps 7, 8 and 9 on BOS2.
12. On BOS1 and BOS2, edit the `cms.default` parameter value with `@<Cluster Name>` in all of the following files:

where, `<Cluster Name>` is the Cluster name given in Configuration tab of SIA.

`$PMDB_HOME/BOWebServer/webapps/BOE/WEB-INF/config/custom/CmcApp.properties`

`$PMDB_HOME/BOWebServer/webapps/BOE/WEB-INF/config/custom/BIlaunchpad.properties`

```
$PMDB_HOME/BOWebServer/webapps/BOE/WEB-INF/config/custom/OpenDocument.properties
```

For example: If the Cluster Name is SHRCLUSTER then the parameter value in the above mentioned files must be edited as follows

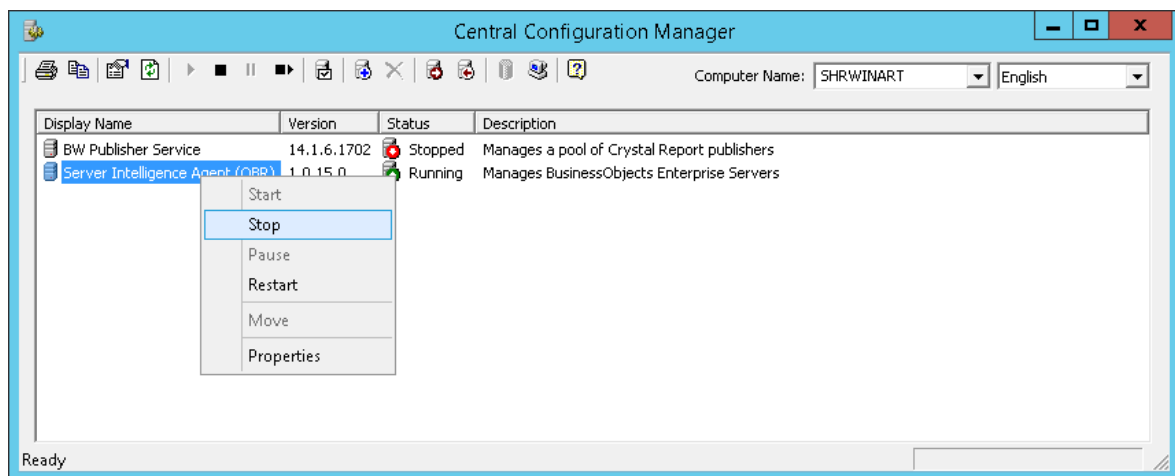
```
cms.default=@SHRCLUSTER
```

13. On BOS1 and BOS2, go to the location `$PMDB_HOME\data\config.prp` and edit the `bo.cms` parameter value with `@<Cluster Name>`.
where, `<Cluster Name>` is the Cluster name given in Configuration tab of SIA.
14. On BOS1 and BOS2, in the `config.prp` file, add a new parameter `bo.webserver` above `bo.cms` parameter and specify `<BO Virtual Host Name>` as value.
15. On BOS1, run the following commands to start the SIA:
 - a. `su - shrboadmin`
 - b. `cd $BOBJEDIR`
 - c. `sh startservers`

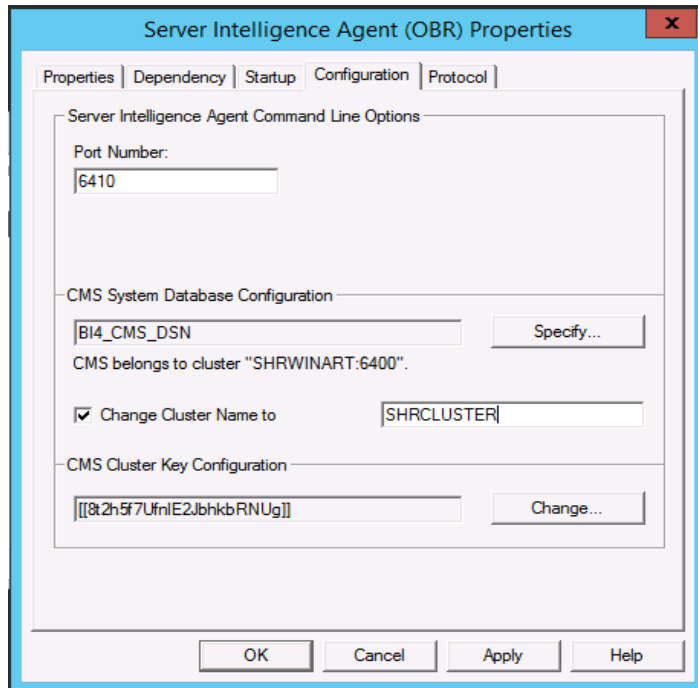
On Windows

Perform the following steps:

1. On BOS1, from the **Start**, type **Central Configuration Manager** in **Search**. Open the Central Configuration Manager.
2. Right-click **Server Intelligence Agent (OBR)** and click **Stop**. Wait till SIA is stopped.

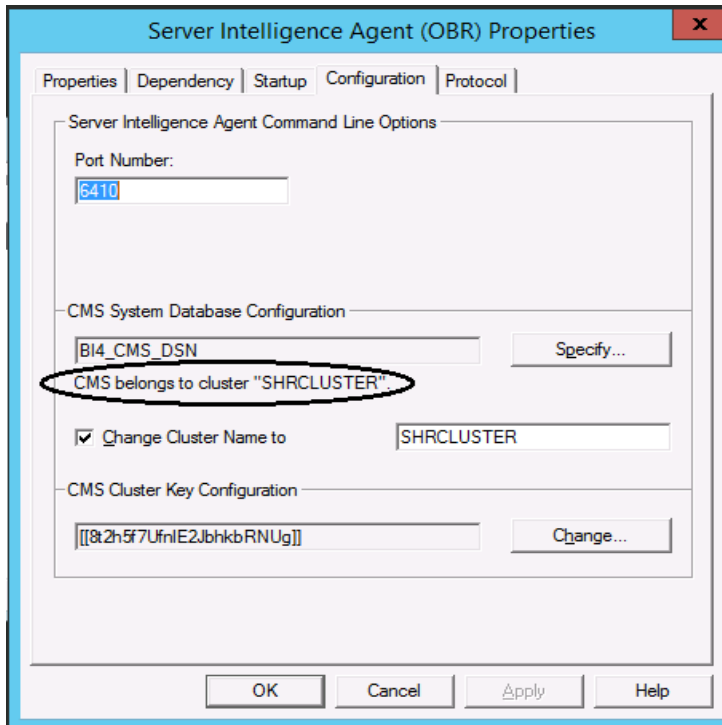


3. Right-click **Server Intelligence Agent (OBR)** and click **Properties**. The Server Intelligence Agent (OBR) Properties page appears.
4. Click **Configuration Tab**. Select **Change Cluster Name** check-box and type a Cluster Name as shown in the following image:



5. Click **Apply**.

The message *CMS belongs to cluster "<Cluster Name>"* appears.



6. Click **OK**.
7. On BOS1 and BOS2, go to the location %PMDb_HOME%\BOWebServer\webapps\BOE\WEB-INF\config\default and copy all .properties file.
8. On BOS1 and BOS2, paste the copied .properties to the location %PMDb_HOME%\BOWebServer\webapps\BOE\WEB-INF\config\custom.
9. On BOS1 and BOS2, edit the cms.default parameter value with @<Cluster Name> in all of the following files:

where, <Cluster Name> is the Cluster name given in Configuration tab of SIA.

%PMDb_HOME%\BOWebServer\webapps\BOE\WEB-INF\config\custom\CmcApp.properties

%PMDb_HOME%\BOWebServer\webapps\BOE\WEB-INF\config\custom\BIlaunchpad.properties

%PMDb_HOME%\BOWebServer\webapps\BOE\WEB-INF\config\custom\OpenDocument.properties

For example: If the Cluster Name is SHRCLUSTER then the parameter value in the above mentioned files must be edited as follows:

cms.default=@SHRCLUSTER

10. On BOS1 and BOS2, go to the location %PMDB_HOME%\data\config.prp and edit the bo.cms parameter value with @<Cluster Name>.

where, <Cluster Name> is the Cluster name given in Configuration tab of SIA.
11. On BOS1 and BOS2, in the config.prp file, add a new parameter bo.webserver above bo.cms parameter and specify <BO Virtual Host Name> as value.
12. On BOS1, right-click **Server Intelligence Agent (OBR)** and click **Start**.

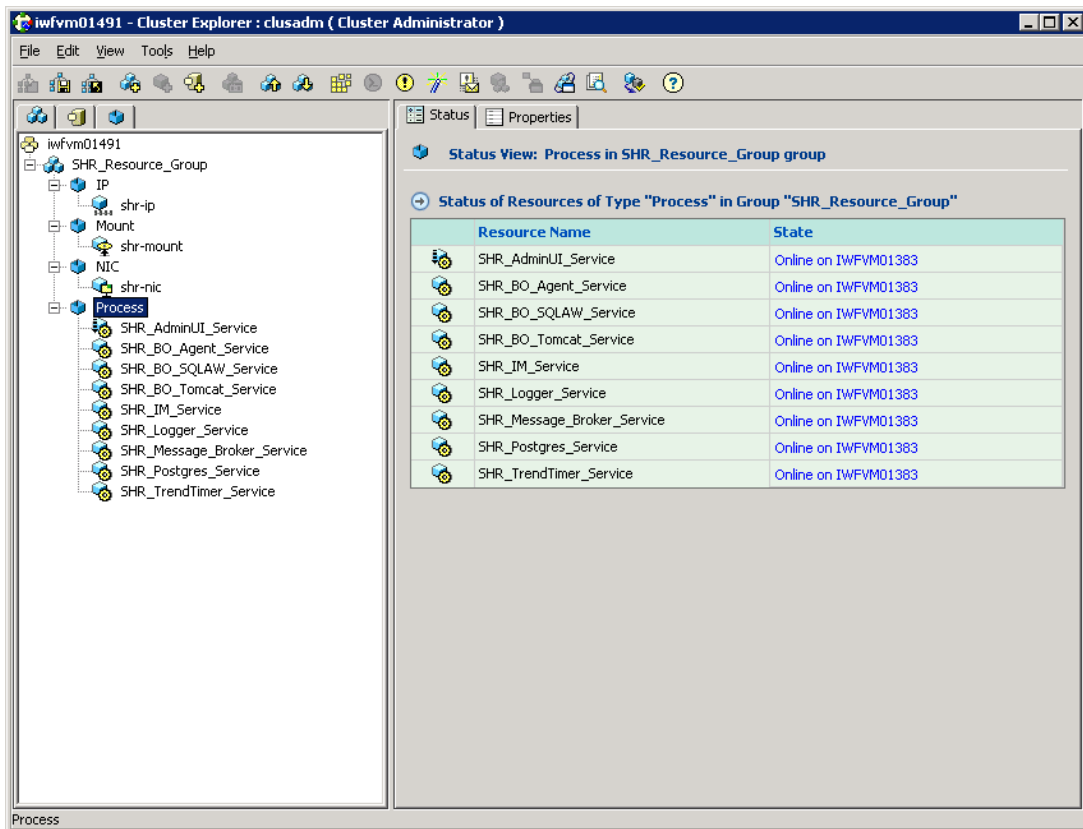
Chapter 20: Validating HPE OBR High Availability

To validate whether HPE Operations Bridge Reporter resource groups are created properly on both the nodes:

Tip: To monitor, view and debug the cluster state using the VCS Java-based graphical user interface, install the Java Console on a Windows system.

1. Go to the Cluster software Administration Java Console on the HPE Operations Bridge Reporter setup.
2. Log on to one of the nodes and see if all the services under HPE Operations Bridge Reporter_Resource_Group are online.

Note: If the services do not start automatically then do probe the services and clear faults in resource group. If the issue still exists, start IP/Mount resources manually.



3. Go to the Cluster software Administration Java Console on the Vertica setup.
4. Log on to one of the nodes and see if all the services under HPE Operations Bridge Reporter_Resource_Group are online.

Verifying Veritas Configuration

To verify, run the following command on both the nodes:

```
hastatus -sum
```

- The System State should be RUNNING for both nodes.
- The Resource Group state should be ONLINE for one of the server and other should be OFFLINE.

Part VIII: Appendix

This section provides you with additional information relevant to HPE Operations Bridge Reporter.

Appendix A: Connecting Remote Collector to OBR's High Availability setup

You can add Remote collector for High Availability anytime after configuring High Availability for HPE OBR.

Install the HPE OBR Remote collector on a separate server. For instructions on installing HPE OBR Remote collector, see *HPE Operations Bridge Reporter Interactive Installation Guide*.

Configure the Remote collector. For instructions to configure the Remote collector, see *HPE Operations Bridge Reporter Configuration Guide*.

After configuring the Remote collector, follow these steps:

1. Log on to OBRS1 using logical hostname and run the following command:

```
ovconfchg -edit
```

2. Copy the last three lines from the output of the above command.

Example:

```
[sec.core.auth]
```

```
MANAGER=<ManagerName>
```

```
MANAGER_ID=<ManagerID>
```

where, <ManagerName> is the OBRS1 system name and <ManagerID> is the system ID.

3. Log on to the Remote collector server and run the following commands:

```
ovconfchg -ns sec.core.auth -set MANAGER_ID <ManagerID>
```

```
ovconfchg -ns sec.core.auth -set MANAGER <ManagerName>
```

4. In Remote collector server, run the following command to request for certificate:

```
ovcert -certreq
```

5. In Remote collector server, copy the latest request id.

The request id is the time stamp certificate requested from Remote collector server.

6. In OBRS1 server, run the following command to list the certificates:

```
ovcm -listpending -l
```

7. In OBRS1 server, run the following command to approve request id:

```
ovcm -grantReg <request ID>
```

where, <request ID> is the time stamp certificate requested and copied from Remote collector server.

Appendix B: Deploying Content Packs when HPE Operations Bridge Reporter is Running

Follow these steps to deploy the Content Packs if HPE Operations Bridge Reporter is already running:

1. Open `ha_config.prp` from the `%PMDB_HOME%\HA\common\config\` folder.
2. Remove '#' from the `#maintenance mode=true` parameter.
3. Save the file and exit.
4. Deploy the Content Packs from the Deployment Manager page in the Administration Console. For more information, see *Selecting and Installing the Content Packs* of the *HP Operations Bridge Reporter Configuration Guide*.
5. After you deploy the Content Packs, open `ha_config.prp`.
6. Add '#' to the `maintenance mode=true` parameter.
7. Save the file and exit.

Appendix C: Changing the Startup Type of the Services

Follow these steps to change the startup type of the services to manual:

1. On the HPE Operations Bridge Reporter system, click **Start > Run**. The Run dialog box opens.
2. In the **Open** field, type `services.msc`. The Services window opens.
3. On the right pane, right-click the service which you want to start manually, and then click **Properties**.
4. Under the **General** tab, from the Startup type drop-down list, select **Manual**.
5. Click **OK**.
6. Close the Services window.

Appendix D: Upgrade OBR in High Availability environment

If you have installed the previous version of HPE Operations Bridge Reporter in a high availability environment using cluster software program, ensure that the following prerequisites are met to perform the upgrade.

The node where you plan to install the recent version of HPE Operations Bridge Reporter must be an active node with access to shared storage.

Note: You can upgrade to the this version of HPE Operations Bridge Reporter from the OBR 10.0x version only. You cannot upgrade any other older versions of HPE Operations Bridge Reporter directly to the latest version.

You must upgrade HPE Operations Bridge Reporter on the primary node and then perform upgrade on the secondary node. Do not perform parallel upgrade.

Terminologies Used

HPE OBR Components	Nodes	Terms Used
HPE OBR Server 1	Primary Node	OBRS1
HPE OBR Server 2	Secondary Node	OBRS2
SAP BusinessObjects Server 1	SAP BusinessObjects Installed	BOS1
SAP BusinessObjects Server 2	Cluster Node 2	BOS2
Network File System	Network File System	NFS
Vertica Server 1	Vertica Installed Node 1	VS1
Vertica Server 2	Cluster Node 2	VS2
Vertica Server 3	Cluster Node 3	VS3

Prerequisites

Before you upgrade OBR, complete the following tasks:

1. Take a backup of the complete OBR setup to prevent any data loss.

For more information, see “*Database Backup and Recovery*” in the *HPE Operations Bridge Reporter Disaster Recovery Guide*.

2. Copy the following files to another location:

```
/etc/VRTSvcS/conf/config/main.cf
```

```
$PMDB_HOME/HA/Veritas/Linux/SetupScripts/OBR_linux_vcsconfigure.pl
```

OBR and SAP BusinessObjects Servers Upgrade

Follow these steps to upgrade the OBRs1, OBRs2, BOS1 and BOS2 servers in High Availability setup:

Note: To upgrade High Availability setup, make sure to log on to the servers using the Physical IP Address only.

Perform all the pre-requisites mentioned in the *HPE Operations Bridge Reporter Interactive Installation Guide* on OBRs1, OBRs2, BOS1 and BOS2 servers.

Primary Servers - OBRs1 and BOS1

1. On OBRs1 and BOS1 servers, go to the location `$PMDB_HOME/HA/common/config` and open the `ha_config.prp` file.
2. Remove `#` from the `#maintenance mode=true` parameter.
3. On BOS1 server, go to the location `/opt/HP/BSM/BOE4/sap_bobj/enterprise_xi40` and open the `odbc.ini` file.
4. Edit the `Host` parameter with the BOS1 Physical Server Hostname.
5. On OBRs1 and BOS1 servers, run the OBR installer and complete the upgrade. For upgrade steps, see *HPE Operations Bridge Reporter Interactive Installation Guide*.
6. On OBRs1 and BOS1 servers, go to the location `$PMDB_HOME/HA/common/config` and open the `ha_config.prp` file.
7. Add `#` to the `#maintenance mode=true` parameter.
8. On BOS1 server, go to the location `/opt/HP/BSM/BOE4/sap_bobj/enterprise_xi40` and open the `odbc.ini` file. Edit the `Host` parameter with the BOS1 Virtual Hostname.

Secondary Servers - OBRs2 and BOS2

1. Run the following commands to switch resources to OBRS2 and BOS2 Server:

```
hastop -all -force
```

```
hastart
```

2. Switch resources to OBRS2 and BOS2 servers from the Interactive Veritas Java Console.
3. Run the following command on OBRS2 and BOS2 servers to verify all the services are running:


```
hastatus -sum
```
4. On OBRS2 and BOS2 servers, go to the location `$PMDB_HOME/HA/common/config` and open the `ha_config.prp` file.
5. Remove # from the `#maintenance mode=true` parameter.
6. On BOS2 server, go to the location `/opt/HP/BSM/B0E4/sap_bobj/enterprise_xi40` and open the `odbc.ini` file.
7. Edit the `Host` parameter with the BOS2 Physical Server Hostname.
8. On OBRS2 and BOS2 servers, run the OBR installer and complete the upgrade. For upgrade steps, see *HPE Operations Bridge Reporter Interactive Installation Guide*.
9. On OBRS2 and BOS2 servers, go to the location `$PMDB_HOME/HA/common/config` and open the `ha_config.prp` file.
10. Add # to the `#maintenance mode=true` parameter.
11. On BOS2 server, go to the location `/opt/HP/BSM/B0E4/sap_bobj/enterprise_xi40` and open the `odbc.ini` file. Edit the `Host` parameter with the Virtual Hostname.

Update the System Details in Configuration Script

Follow these steps to update the system details in the configuration script on OBRS1 and BOS1:

1. Go to the following location:


```
$PMDB_HOME/HA/Veritas/Linux/SetupScripts/
```
2. Open the `OBR_linux_vcsconfigure.pl` file.
3. Edit the values as follows from the primary server:

Parameters	Description	On Server

\$DG_GROUP	Name of the veritas disk group	OBRs1
\$FILESYSTEM	The file system type of the shared storage. Use vxfs for veritas and lvm if it is native	OBRs1
\$LOGICAL_VOLUME_ON_SHARED_DISK	Name of Linux LVM logical volume. Note: Not required if \$METHOD is cvm.	OBRs1
\$METHOD	Volume manager name (lvm or cvm). Use 'cvm' for veritas and 'lvm' for native support.	OBRs1
\$MOUNT_POINT_FOR_OBR_SHARE	Block device mount point. Eg, For LVM, /dev/test/lvol1 and for veritas /dev/vx/dsk/<veritas_group_name>/<veritas_volume_name>	OBRs1
\$NETMASK_FOR_VIRTUAL_IP_ADDRESS_FOR_OBR	The subnet mask for the 'virtual' IP address.	OBRs1, BOS1
\$NETWORK_INTERFACE	Name of the NIC device associated with the IP address obtained by using the ifconfig command. For example, eth0 or eth1	OBRs1, BOS1
\$NODE1	The physical host name of the primary node.	OBRs1, BOS1
\$NODE1_IP_ADDRESS	The physical IP address of the primary node.	OBRs1, BOS1
\$NODE2	The physical host name of the secondary node.	OBRs1, BOS1
\$NODE2_IP_ADDRESS	The physical IP address of the secondary node.	OBRs1, BOS1
\$OBRmount	The folder where the shared disk is mounted.	OBRs1
\$VIRTUAL_IP_ADDRESS_FOR_OBR	The virtual IP address.	OBRs1, BOS1
\$VOLUME	Name of the veritas volume.	OBRs1
\$VOLUME_GROUP_ON_SHARED_DISK	Volume group containing logical volume for Logical Volume Manager (LVM) type. Note: Not required if \$METHOD is cvm.	OBRs1

Execute Configuration Script to Create Cluster Resource Group

Perform the following steps:

1. Run the following command and make sure that all required services are stopped and startup mode are manual in OBRS1, OBRS2, BOS1 and BOS2:

```
chkconfig --list <servicename>
```

The required services are as follows:

```
HPE_PMDB_Platform_Administrator
```

```
HPE_PMDB_Platform_Collection
```

```
HPE_PMDB_Platform_DB_Logger
```

```
HPE_PMDB_Platform_IA
```

```
HPE_PMDB_Platform_IM
```

```
HPE_PMDB_Platform_NRT_ETL
```

```
HPE_PMDB_Platform_PostgreSQL
```

```
HPE_PMDB_Platform_Orchestration
```

```
Trendtimer
```

```
SAPBOBJEnterpriseXI40
```

2. Make sure that Shared disk is mounted in OBRS1.
3. Set the VCS_HOME environment variable in both the servers.

For Example: VCS_HOME=/opt/VRTSvcs

4. Go to the location /etc/lvm and open the lvm.conf file in editor and set the locking_type parameter as zero.
5. Ensure that the cluster software is running. To verify, run the following command on OBRS1, OBRS2, BOS1 and BOS2:

```
hastatus -sum
```

The output should display Running.

6. On OBRS1, run the command to create the Cluster Resource Group:

```
/opt/OV/nonOV/perl/a/bin/perl $PMDB_HOME/HA/Veritas/Linux/SetupScripts/OBR_linux_vcsconfigure.pl
```

Verifying Configuration

To verify, run the following command on both the nodes:

```
hastatus -sum
```

- The System State should be RUNNING for both nodes.
- The Resource Group state should be ONLINE for one of the server and others should be OFFLINE.

Vertica Server Upgrade

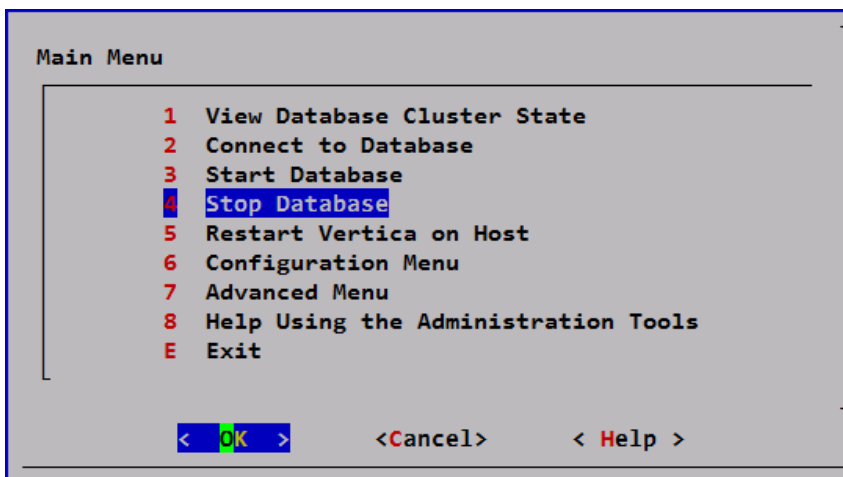
Before starting with Vertica upgrade, perform the Prerequisites and libraries installation steps mentioned in the *HPE Operations Bridge Reporter Interactive Installation Guide*.

Perform the following steps to upgrade the Vertica cluster:

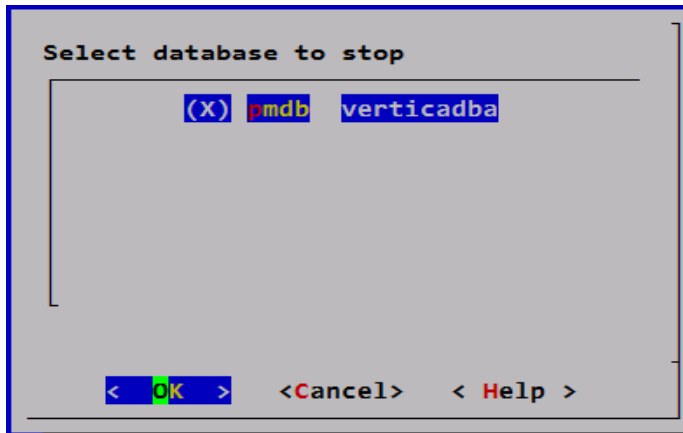
1. Extract the OBR 10.20 BITS on to VS1.
2. Run the following commands:
 - a. `su - <Vertica DBA User Name>`
 - b. `touch /tmp/verticaUpgrade.log`
 - c. `admintools`

The Main Menu appears.

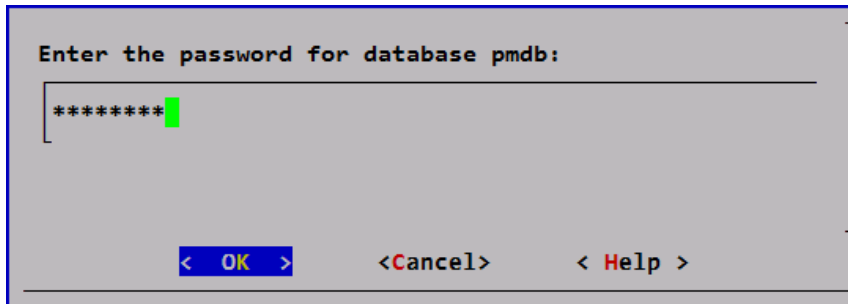
3. Select **Stop Database** and press **Enter**.



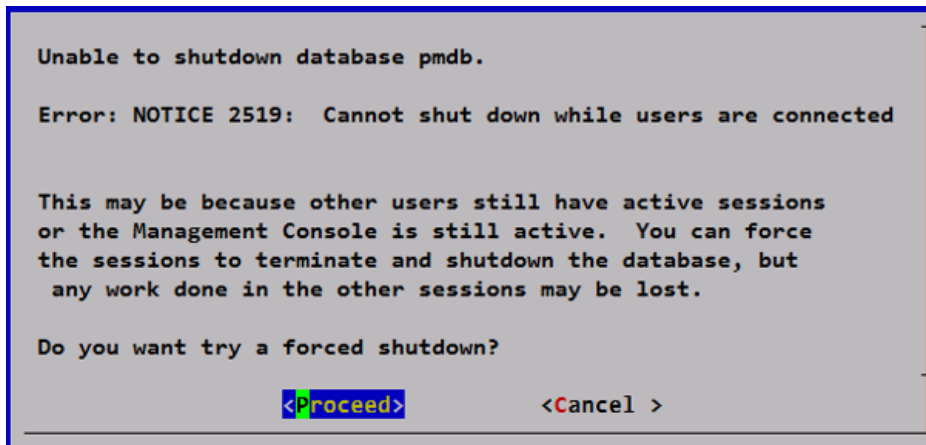
4. Select the database and press **Enter**.



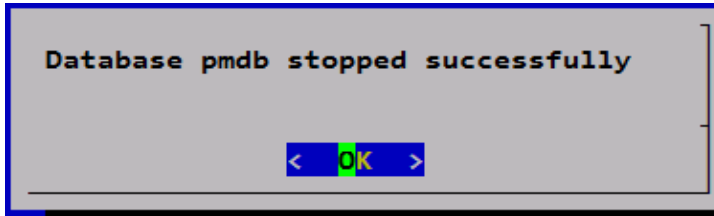
5. Type the Vertica DBA password and press **Enter**.



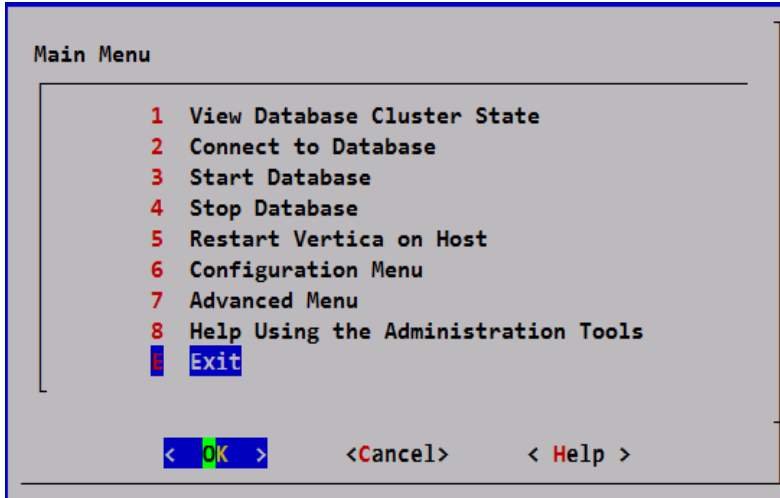
6. The following message appears. Select **Proceed** and press **Enter**.



7. The message appears as shown in the following image. Click **OK**.



8. In the Main Menu, select **Exit** and press **Enter**.



9. Run the following commands:

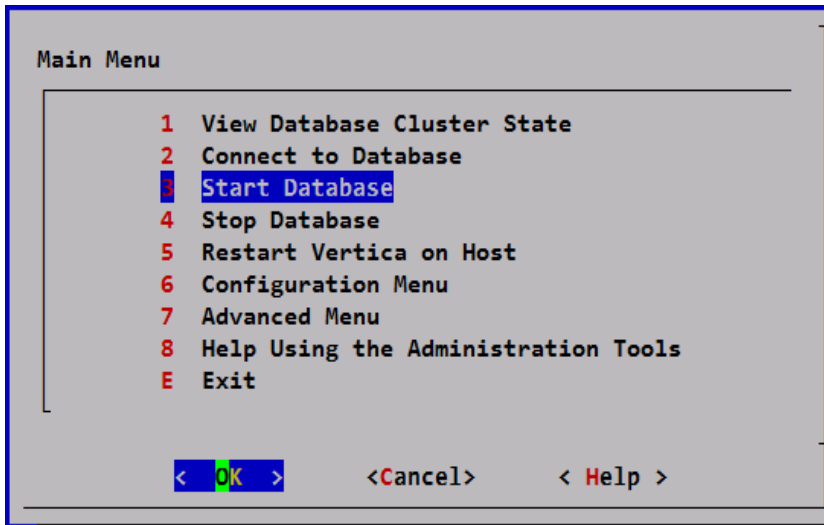
- a. `su root`
- b. `rpm -Uvh --nodeps --nosignature "<OBR 10.20 BITS_Extracted_path>/packages/vertica-7.2.3.x86_64.rpm" >> /tmp/verticaUpgrade.log`
- c. `/opt/vertica/sbin/update_vertica --rpm <OBR 10.20 BITS_Extracted_path>/packages/vertica-7.2.3.x86_64.rpm -u <Vertica DBA User Name> -g <Vertica DBA User Name> --failure-threshold FAIL --accept-eula --license '$PMDB_HOME/config/license/00003169_ITOM_SaaS_100TB.dat' >> /tmp/verticaUpgrade.log`
- d. `rpm -Uvh --nodeps --nosignature "<OBR 10.20 BITS_Extracted_path>/packages/vertica-8.0.1.rpm" >> /tmp/verticaUpgrade.log`
- e. `/opt/vertica/sbin/update_vertica --rpm <OBR 10.20 BITS_Extracted_path>/packages/vertica-8.0.1.rpm -u <Vertica DBA User Name> -g <Vertica DBA User Name> --failure-threshold FAIL --accept-eula --license '$PMDB_HOME/config/license/00003169_ITOM_SaaS_100TB.dat' >> /tmp/verticaUpgrade.log`

f. `su - <Vertica DBA User Name>`

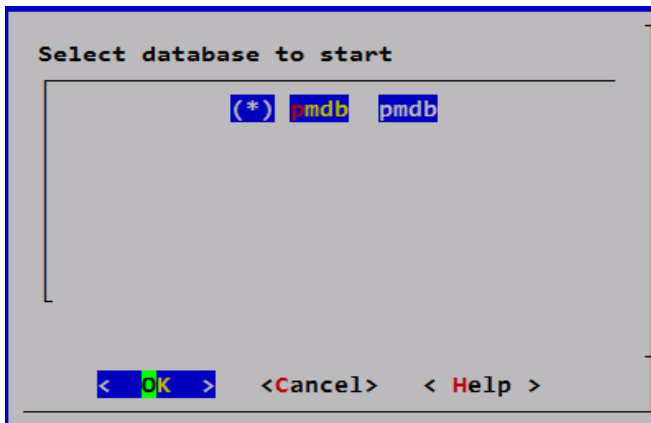
g. `admintools`

The Main Menu appears.

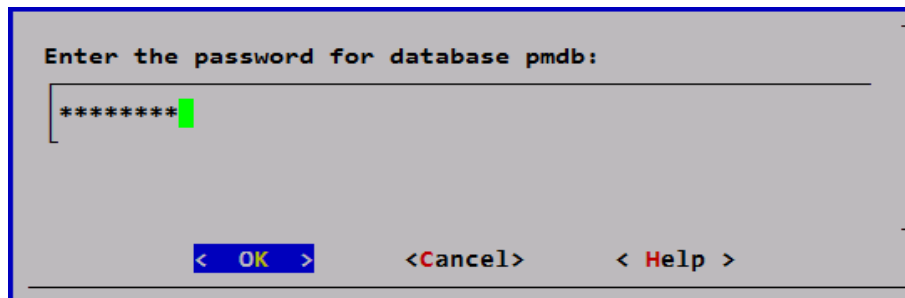
10. Select **Start Database** and press **Enter**.



11. Select the database and press **Enter**.



12. Type the Vertica DBA Password and press **Enter**.



13. The database started successfully message appears. Click **OK**.

Post Upgrade validation

Perform the following tasks after upgrading HPE Operations Bridge Reporter on the High Availability environment:

1. Verify if all services are up and running.
2. Launch the following URL and make sure that you are able to log on to the Administration Console as administrator:

`http://<OBR_Server_FQDN>:21411`

3. Launch the following URL and make sure that you are able to log on to the Launch pad as administrator:

`http://<OBR_Server_FQDN>:8080`

If you can log on to the console, HPE Operations Bridge Reporter is upgraded successfully. If you see an authentication error, you must restore the backed-up databases on the system, and perform the upgrade procedure again. For more information, see the "*Database Backup and Recovery*" section in the *HPE Operations Bridge Reporter Configuration Guide*.

Send documentation feedback

If you have comments about this document, you can [contact the documentation team](#) by email. If an email client is configured on this system, click the link above and an email window opens with the following information in the subject line:

Feedback on High Availability Guide (Operations Bridge Reporter 10.20)

Just add your feedback to the email and click send.

If no email client is available, copy the information above to a new message in a web mail client, and send your feedback to docfeedback@hpe.com.

We appreciate your feedback!