ACCELARIO

Accelario Data Virtualization Module

User Guide V17

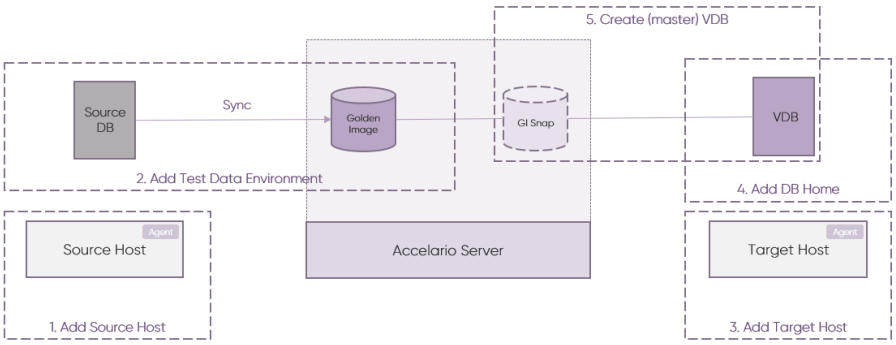
March 2023

Contents

1. Product Overview

The Data Virtualization Module lets you create and manage virtual databases (VDBs) that are used by data consumer users (e.g. testers, developers, and data analysts). Before data consumer users can use VDBs, it is necessary for the admin-user to do the following operations:

1. **Add Source Host**: define the connection to the server that hosts the source databases from which VDBs are created.
2. **Add Test Data Environment**: define access to the source database that resides on the source host and create a golden image (GI).
3. **Add Target Host**: define the connection to the server that hosts the VDBs.
4. **Add DB Home**: define access to the target database that resides on the target host from which VDBs are created.
5. **Create (master) VDB**: create and start a VDB on a golden image snapshot.
6. Assign the VDB to the data consumer users.



1.1. Source Host

A **source host** is a server that hosts the source databases. To access the source databases, it is necessary to configure the connection to the source host. The following operations can be done on a source host object:

Only an **admin-user** can do operations on a source host object.

1. Add a source host, i.e. configure the connection to the source host.
2. See info about a source host.
3. Remove a source host.

For more information, see Source Management for Oracle users.

For more information, see Source Management for PostgreSQL users.

For more information, see Source Management for MS-SQL users.

1.2. Source Database

A **source database** can be a production database, a Data Guard Standby database, or a source database replica (for a LIVE GI) that resides on a source host.

Source databases are created and managed with the test data environment object.

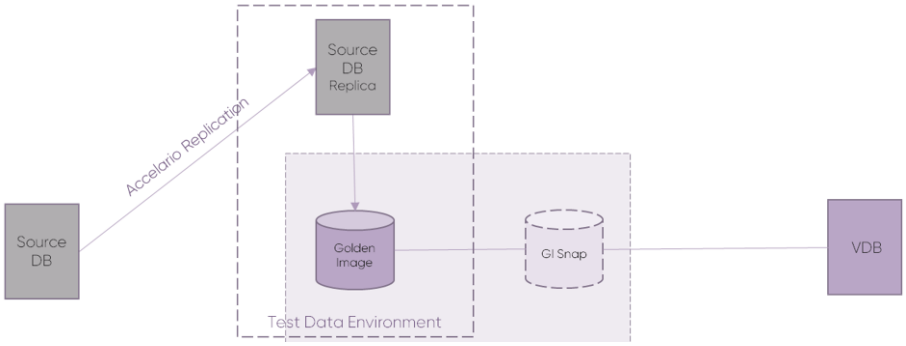
1.3. Golden Image

A **golden image** is a full synchronized copy of the source database files. A golden image is used to create VDBs. Golden images reside on the Accelario server.

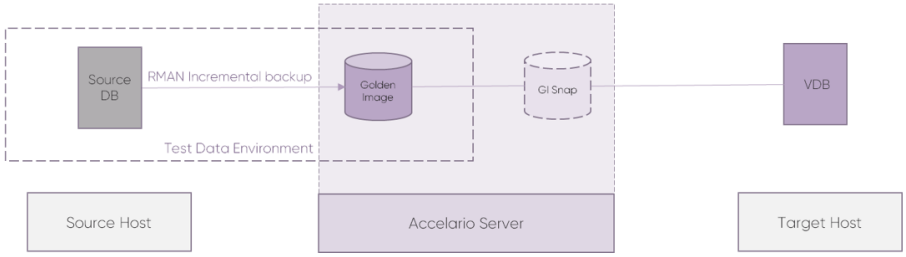
Golden images are always created on the primary storage pool.

There are four types of golden images:

1. **LIVE GI** – a golden image that is created and synchronized from a source DB replica. **Accelario Replication** is usually used to create the source DB replica. The LIVE GI is continuously synchronized.

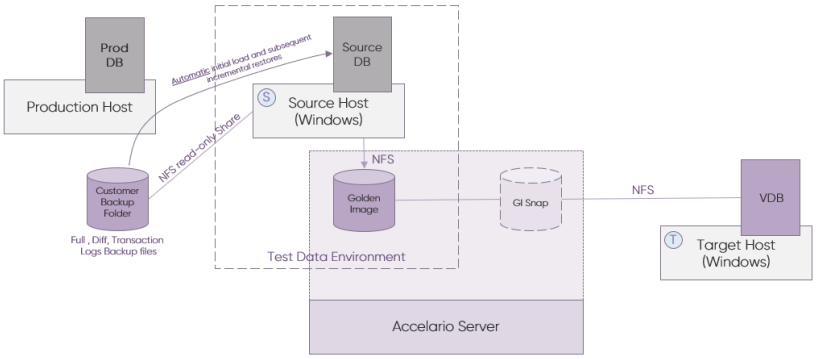


2. **RMAN GI** – a golden image that is created and synchronized using RMAN incremental forever backup mechanism. RMAN incremental backups can be automatically scheduled or a GI **Refresh** operation is used to do a manual backup.



3. **RMAN STANDBY GI** – a golden image that is created and synchronized using RMAN incremental forever backup mechanism from a Data Guard standby source database. RMAN incremental backups can be automatically scheduled or a GI **Refresh** operation is used to do a manual backup.

4. **Native SQL Server Backup GI** - provide automatic initial load and refresh using the customer Native SQL Backup files. The initial load and subsequent restores are scheduled automatically by the system.



1.3.1. Golden Image Snapshots

GI snapshot (GI snap) – a read/write point-in-time copy of the golden image. It uses minimum storage space because the unchanged data is accessed directly from the golden image. A GI snap can be created manually or can be scheduled.

Managing GI snapshots for a RMAN GI and a RMAN Standby GI

- At the end of a successful refresh operation, a snapshot is automatically added.
- A refresh operation is done each time a scheduled snapshot is added. Before the snapshot is added, the system automatically does an RMAN incremental backup operation.

Golden images are created with the test data environment object.

1.4. Test Data Environment

A **test data environment** includes the access definition to one source database and a GI. The following operations can be done on a test data environment object.

Only an **admin-user** can do operations on a test data environment object.

1. Create test data environment – a wizard to make a test data environment:
   a. Select the golden image type
   b. Select the source host
   c. Configure the GI snapshot policy – activate snapshots, schedule a start point and the interval to make snapshots, plus set the snapshot retention policy
   d. Define access to a source database
   e. For a RMAN GI and a RMAN Standby GI, select the **Refresh immediately** checkbox option to make an initial full copy of the source database files to the golden image and activate it (recommended)
2. Modify test data environment parameters.
3. See test data environment source database info.
4. Remove test data environment.

Only environments that do not have configured VDBs can be removed

5. Refresh GI.

Additional GI operations are available with the golden image object which is shown in the VDB management work area.

For more information, see To create a test data environment: for Oracle users.

For more information, see To create a test data environment: for PostgreSQL users.

For more information, see To create a test data environment: for MS-SQL users.

1.5. GI Management

After a golden image is made and started with the Create Test Data Environment operation, the golden image is shown in the VDB management work area. The following operations can be done on the three types of GI objects:

1. Add or remove a snapshot manually.
2. Create a VDB on a GI point-in-time snapshot.
3. Modify the GI parameters.
4. See GI info about the GI.

1.5.1. Oracle

Additional operations available to do for a RMAN GI and RMAN Standby GI:

1. Refresh GI – executing an RMAN incremental recovery. After a successful refresh, a new snapshot is added.
2. Remove GI object – only a GI that does not have configured VDBs can be removed.
3. Activate GI - when creating an RMAN GI without selecting **Refresh immediately** the GI is in deactivated mode. Use this operation to activate it.

Additional operations available to do for a LIVE GI:

1. Activate LIVE GI – when the LIVE GI is created it cannot be activated automatically. It is only possible to do this, after an initial manual copy of the source database is made by the system administrator. Only after the Oracle data base files are moved and the source database is up is it possible to activate the LIVE GI.
2. Deactivate GI - before a GI object can be removed it is necessary to remove its first snapshot. Only after the first snapshot is successfully removed is it possible to deactivate the GI.

1.5.2. PostgreSQL

Additional operations available to do for a LIVE GI:

1. Activate LIVE GI – when the LIVE GI is created it cannot be activated automatically. It is only possible to do this, after an initial manual copy of the source database is made by the system administrator. After the PostgreSQL data base files are moved and the source database is up is it possible to activate the LIVE GI.
2. Deactivate GI - before a GI object can be removed it is necessary to remove its first snapshot. Only after the first snapshot is successfully removed is it possible to deactivate the GI.

1.5.3. MS-SQL

Additional operations available to do for a Native SQL Server Backup GI:

1. Activate Native SQL Server Backup GI – when the Native SQL Server Backup is created it cannot be activated automatically. It is only possible to do this, after an initial manual copy of the source database is made by the system administrator. After the MS-SQL data base files are moved and the source database is up is it possible to activate the Native SQL Server Backup.
2. Deactivate GI - before a GI object can be removed it is necessary to remove its first snapshot. Only after the first snapshot is successfully removed is it possible to deactivate the GI.

Additional operations available to do for a LIVE GI:

1. Activate LIVE GI – when the LIVE GI is created it cannot be activated automatically. It is only possible to do this, after an initial manual copy of the source database is made by the system administrator. After the MS-SQL data base files are moved and the source database is up is it possible to activate the LIVE GI.
2. Deactivate GI - before a GI object can be removed it is necessary to remove its first snapshot. Only after the first snapshot is successfully removed is it possible to deactivate the GI.

1.6. Target Host

A **target host** is a server that hosts the VDBs that are used by the data consumer users. The following operations can be done on a target host:

Only an **admin-user** can do operations on a target host object.

1. Add a target host - define access to the target host.
2. See info about a target host.
3. Remove a target host.

For more information, see Target Management for Oracle users.

For more information, see Target Management for PostgreSQL users.

For more information, see Target Management for MS-SQL users.

1.7. DB Home

A DB Home is the target database that is used to initiate VDB instances. A target database is defined by its DB Home. The following operations can be done on a DB Home object:

Only an **admin-user** can do operations on a DB Home object.

1. Add a DB Home - set the parameters to access to the target database.
2. See info about a target host.
3. Remove a target host.

For more information, see To add a DB Home: for Oracle users.

For more information, see To add a DB Home: for PostgreSQL users.

For more information, see To add a DB Home: for MS-SQL users.

1.8. Managing VDBs

VDBs are the primary function to use the Data Virtualization Module. Because VDBs use snapshots as their database file containers they use minimal space and can be created quickly (usually in few minutes).

When an Oracle VDB is first created, the time that is necessary to create it is longer than the time necessary to create the other VDBs on the same GI. This is because when the first VDB is created, an additional Oracle recovery process is done to merge all the archive logs that were generated during the initial RMAN recovery process.

The following operations can be done on a VDB object:

An **admin-user** and a **non admin-user** can do operations on a VDB object.

1. Create VDB – a VDB can be created either on a golden image snapshot (we refer to it as **master VDB**) or on a VDB snapshot (we refer to it as **child VDB**). When a VDB is created, it is necessary to set the following parameters:
   a. **Start Immediately** – after the VDB is created it will be started automatically and can be used by data consumer users
   b. **Start as RAC** – start the VDB as a RAC instance
   c. **Target DB Home** – select the target database that the VDB will executed from by selecting the required DB Home object
   d. **Snapshot Policy** – activate snapshots, schedule a start point and the interval to make snapshots, plus set the snapshot retention policy
   e. **Advanced Parameters** – ability to define Oracle specific parameters and pre/post scripts
2. Start/Stop VDB – a VDB can be easily started or stopped.
3. Recover VDB to any point-in-time snapshot – a VDB can be rolled forward/backward to an existing point-in-time snapshot. This operation can be executed only on a stopped VDB. When rolling backwards, all snapshots after the specified snapshot are deleted.
4. Recover to first point-in-time snapshot – used to roll backward to the original VDB point-in-time (i.e. the time that it was created). All snapshots except the first one will be deleted.
5. Add/remove snapshot manually.
6. Modify VDB parameters.
7. See info about the VDB.
8. Remove VDB object – only stopped VDBs that do not have child VDBs can be removed.

For more information, see VDB Management for Oracle users.

For more information, see VDB Management for PostgreSQL users.

For more information, see VDB Management for MS-SQL users.

1.9. Shared Snapshots

Non-admin users can share snapshots with other non-admin users that belong to a different User Role. It is permitted only for User Roles that have authorization to the same Test Data Environment. **Shared Snapshots** are used to share a point-in-time copy of a VDB between different uses groups (e.g. Dev and QA) for development and testing purposes.

The owner of a snapshot can do the following operations:

1. **Share** - share any of its GI/VDB snapshot with another User Role
2. **Unshare** - unshare its own shared snapshot

The receiver of a snapshot can do the following operations:

1. **Create VDB** - create VDB on the shared snapshot that was received
2. **Unshare** - unshare a shared snapshot that was received

For more information, see Sharing Snapshots for Oracle users.

For more information, see Sharing Snapshots for PostgreSQL users.

For more information, see Sharing Snapshots for MS-SQL users.

1.10. Managing Duplicates

Duplicates are a full point-in-time copy of the golden image or of a VDB file container. It uses the full capacity of the source database. It is treated as a mutable golden image with one snapshot from which VDBs and duplicates are created. Duplicates reside on the Accelario server.

If a secondary storage pool exists, duplicates will automatically be created on this storage pool. Otherwise duplicates are created on the primary storage pool.

The following operations can be done on a duplicate object:

1. Create Duplicate – from any GI, VDB, or duplicate snapshot.
2. Modify Duplicate – modify all the GI parameters.
3. See info about the Duplicate.
4. Remove Duplicate object – only a GI that does not have configured VDBs can be removed.

1.11. Users and Roles

The Data Virtualization Module uses a role-based user management system. Users and roles are divided into the following categories:

Admin user - can manage all the system resources including source hosts, test data environments, target hosts, target databases, and VDBs. An **admin-user** can also do user management, storage pool management, monitoring, and troubleshooting.

Non-admin user – can manage only the VDBs to which they have been assigned.

User authentication – an **admin-user** and a **non-admin user** can be authenticated locally or remotely with Active Directory.

User Authorization – a role-based mechanism is used to assign resources for a **non-admin user**. A **non-admin user** is authorized to use and manage VDBs defined on a group of assigned golden images and assigned target hosts. A **non-admin user** is only permitted to do the operations on the VDBs to which they have been assigned.

The following operations can be done on users and roles:

Only an **admin user** can do operations on users and roles.

- Create and modify users
- Create and modify roles

For more information, see Users Management.

1.12. Storage Pool Management

Storage pools are the storage containers of the Accelario server. These storage pools store the golden images and duplicates.

It is necessary for the administrator to create a **primary storage pool** to store all the golden images and duplicates. The administrator can also create a **secondary storage pool** to store all the duplicates. The **secondary storage pool** can be configured on a different storage device, thus it can optimize storage performance.

The following operations can be done on a target host:

Only an **admin-user** can do operations on a target host object.

- Create secondary storage pool.
- Expand storage pool.
- Reduce storage pool.
- See info about the storage pool.
- Remove (secondary) storage pool.

For more information, see Storage Pool Management.

1.13. System Setup

The **System Setup** is used to define the system setup such as SMTP, Active Directory, etc. The following operations can be done in the **System Setup** window:

Only an **admin-user** can do operations in the **System Setup** window.

- Setup the Active Directory Authorization.
- Configure the SMTP.
- Configure Oracle advanced parameters.
- Configure Accelario Server Host/IP.

For more information, see System Setup.

1.14. Event Viewer

Used to see and save all user events. The following operations can be done on Events:

An **admin-user** and a **non admin-user** can do operations on Events.

- See, filter, and search all user events.
- Save all user events to a file.

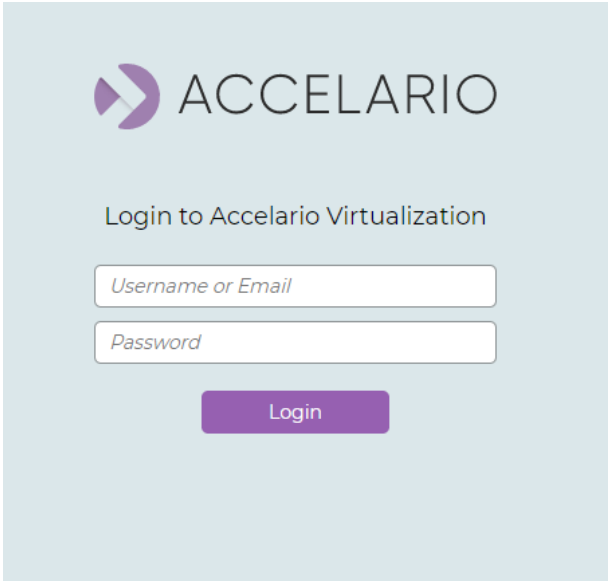
For more information, see Event Viewer.

2. Login to the Data Virtualization Module

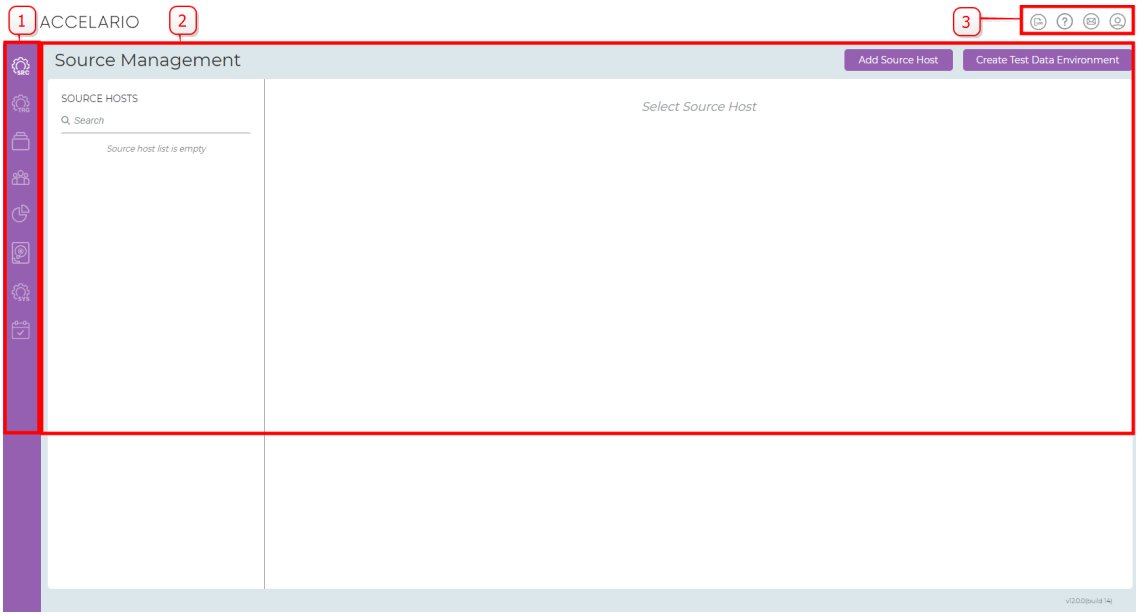
To login in to the Data Virtualization Module:

Your username and password are set by the admin user.

1. Enter your **Username** or **Email**.
2. Enter your **Password**.
3. Click **Login**.



3. Getting to Know the GUI



#	Item	Description
1	Navigation bar	Used to put content in the work area
2	Main work area	Main work area where you do tasks
3	Task bar	System tasks

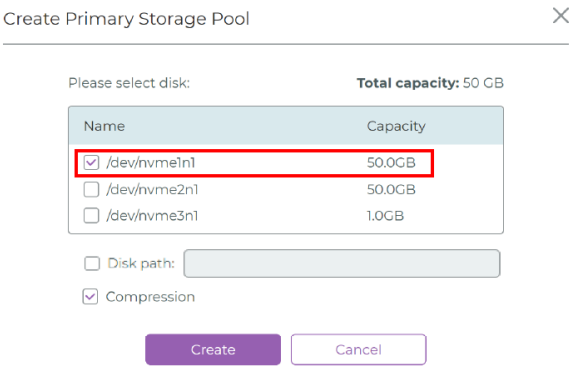
The interface is dynamic and changes according to the component selected.

4. Create Storage Pool

To create a primary storage pool:

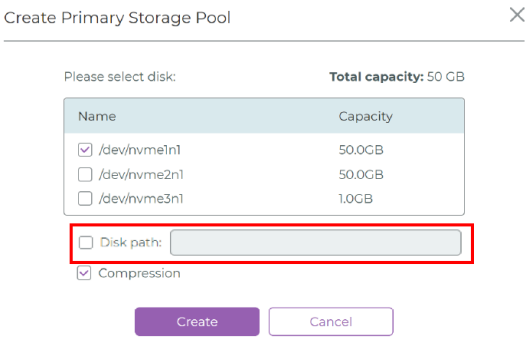
After you login to the Data Virtualization Module module for the first time, the following window appears:

1. Select:
   a. One or more disks, (in this example **/dev/nvme1n1**)

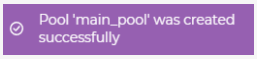


   or

   b. a disk path.



2. Click **Create**.

After the primary storage pool is created, the following message appears 

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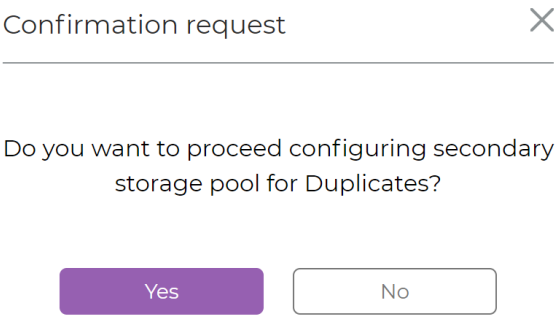
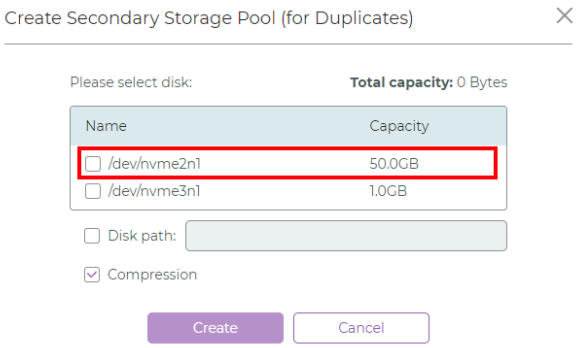
To create a secondary storage pool:

After the primary storage pool is created, the following window appears:



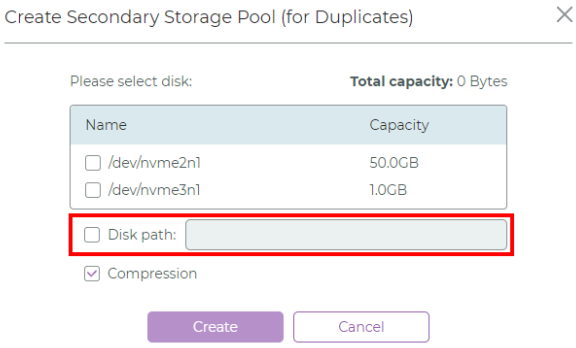
1. Click **Yes** to have a secondary storage pool contain duplicates.

2. Select:
   a. One or more disks, (in this example **/dev/nvme2n1**)

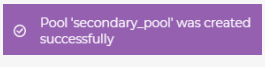


   or

   b. a disk path.



3. Click **Create**.

After the secondary storage pool is created, the following message appears 

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The **Storage Pool Management** window appears displaying the primary and secondary pools that have been added to the system.

5. Using an Oracle Data Base

The following sections from Initial Setup below to Sharing Snapshots are for Oracle users.

Return to Getting to Know the GUI.

Continue to Users Management.

5.1. ORACLE® Initial Setup

To setup the infrastructure in the Data Virtualization Module, do the following procedure:

1. To install the Accelario source agent and target agent:
2. To add a source host:
3. To create a test data environment:
4. To add a target host:
5. To add a DB Home:
6. To create and start a VDB.

To install the Accelario source agent and target agent:

Accelario agents are deployed on a source server and on a target server. There are two types of agents:

1. GI (golden image) agent - installed on the source server.
2. Destination agent - installed on the target server.

When the VDB is used on the same server where the source DB resides, both agents can be installed on the same server. It is necessary to change the ports as described below.

- The agents should be run as root.
- The agents should be run in the background.

Example for a source agent.

```
screen -dmS gi_agent java -jar /home/ec2-user/gi_agent-1.0-SNAPSHOT.jar
```

```
nohup java -jar /home/ec2-user/gi_agent-1.0-SNAPSHOT.jar &
```

Example for a target agent.

```
screen -dmS dst_agent java -jar /home/ec2-user/dst_agent-1.0-SNAPSHOT.jar
```

```
nohup java -jar /home/ec2-user/dst_agent-1.0-SNAPSHOT.jar &
```

The default port is 8080.

If necessary, the port can be changed. Use the following parameters to java execution:

Example for a source agent.

```
-Ddw.server.applicationConnectors[0].port=8090 -Ddw.server.adminConnectors[0].port=8092
```

Example for a target agent.

```
java -Ddw.server.applicationConnectors[0].port=8090 -Ddw.server.adminConnectors[0].port=8092 -jar ./dst_agent-1.0-SNAPSHOT.jar
```

To set the timezone for a java process:

To set the timezone for a java process, use the following code:

```
-Duser.timezone=<TimeZone> jvm command line option
```

Example for a source agent.

```
screen -dmS gi_agent java -Duser.timezone=America/Halifax -jar /home/ec2-user/gi_agent-1.0-SNAPSHOT.jar
```

Example for a target agent.

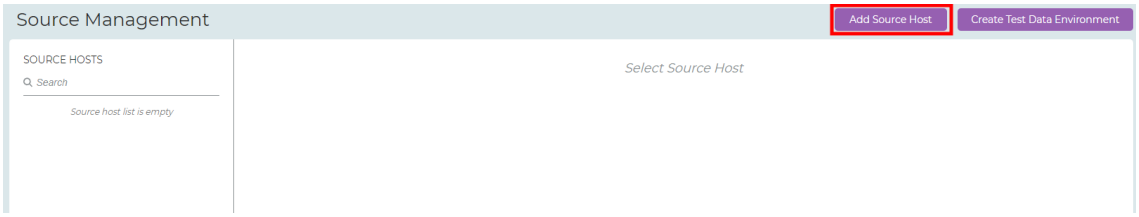
```
screen -dmS dst_agent java -Duser.timezone=America/Halifax -jar /home/ec2-user/dst_agent-1.0-SNAPSHOT.jar
```

To add a source host:

1. On the navigation bar, click 

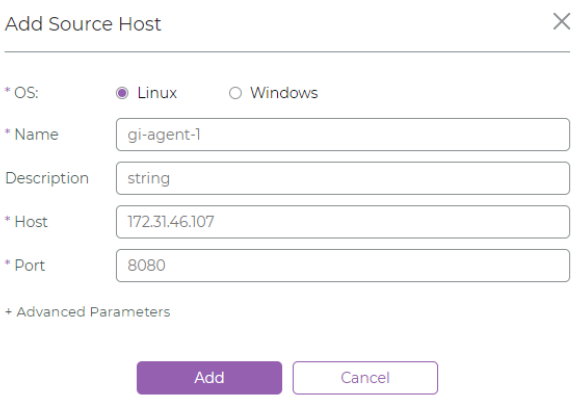
(**Source**).

The **Source Management** window appears.

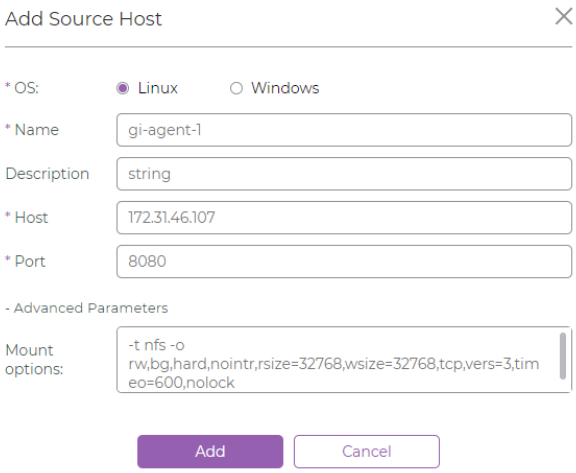


2. Click **Add Source Host**.
3. Enter the source host details.

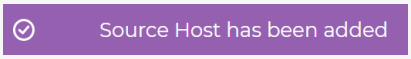
> In all dialog boxes, an asterisk * next to a label on the left is used to identify a mandatory user input.



4. Enter the **Advanced Parameters** if necessary.



5. Click **Add**.

After the source host is added, the following message appears 

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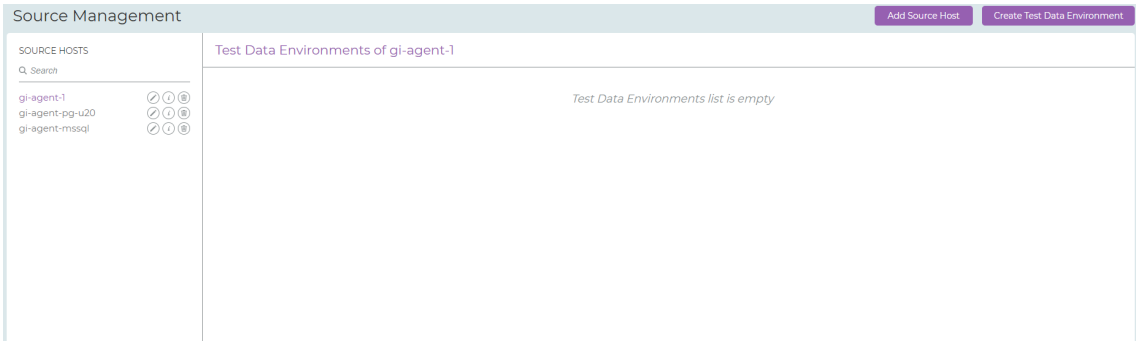
The **Source Management** window displays the source host(s) that have been added to the system.

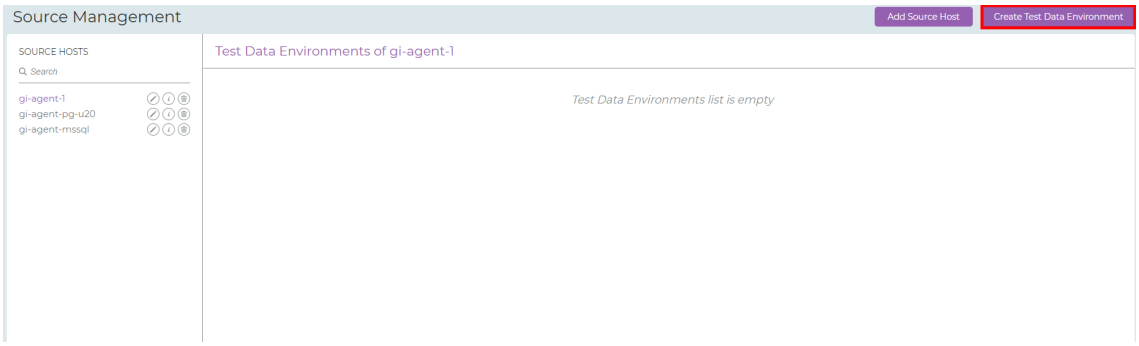


To create a test data environment:

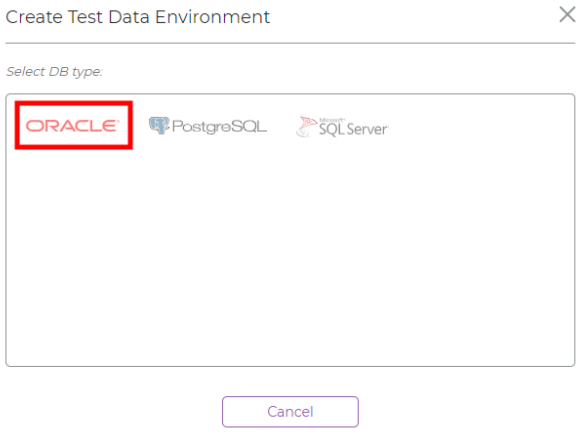
1. On the navigation bar, click 

(**Source**).

The Source Management window appears.



2. Click **Create Test Data Environment**.
3. Select DB type.

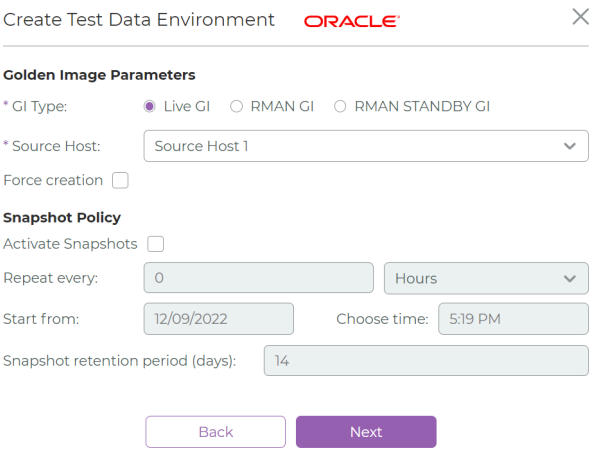


4. Enter a **Name**.

5. Click **Next**.

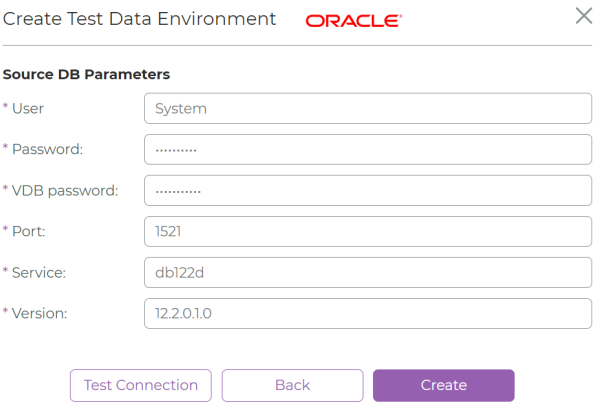
To create a test data environment from a LIVE GI:

1. Enter the test data environment details.



2. Click **Next**.

3. Enter the **Source DB Parameters**.



4. Click **Test Connection** to verify that the connection to the database is valid.

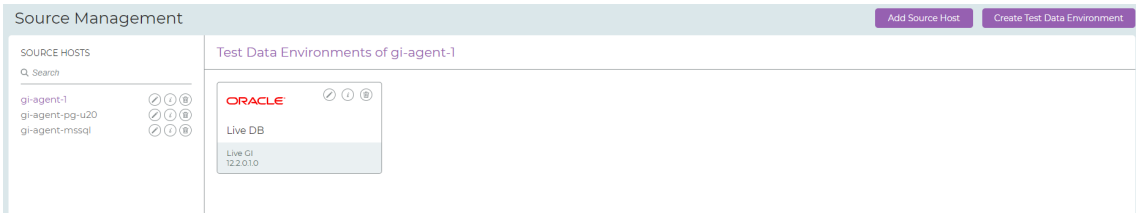
After the test is complete, the following message appears Test Data Environment connection is valid.

5. Click **Done**.

After the test data environment is created, the following message appears

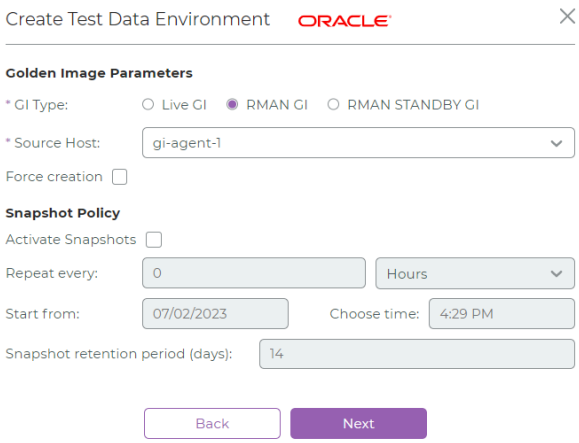
Test Data Environments has been created.

The **Source Management** window displays the test data environment for the source host that has been created.



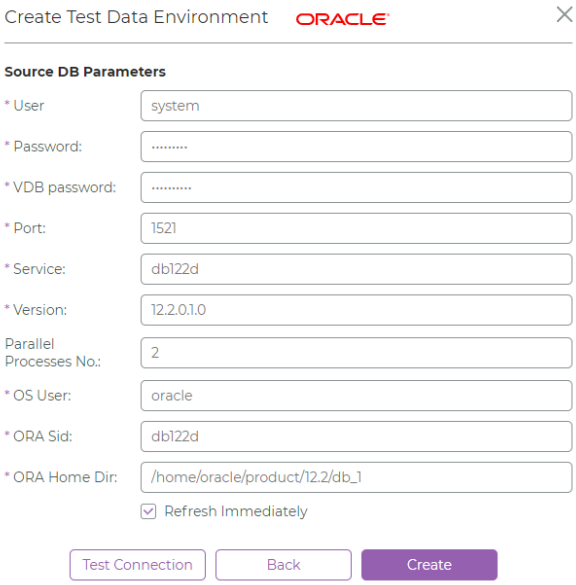
To create a test data environment from a RMAN GI:

1. Enter the test data environment details.



2. Click **Next**.

3. Enter the **Source DB Parameters**.



It is recommended to select the **Refresh immediately** checkbox to make a full copy of the Golden Image after the test data environment is automatically created.

4. Click **Test Connection** to verify that the connection to the database is valid.

After the test is complete, the following message appears Test Data Environment connection is valid.

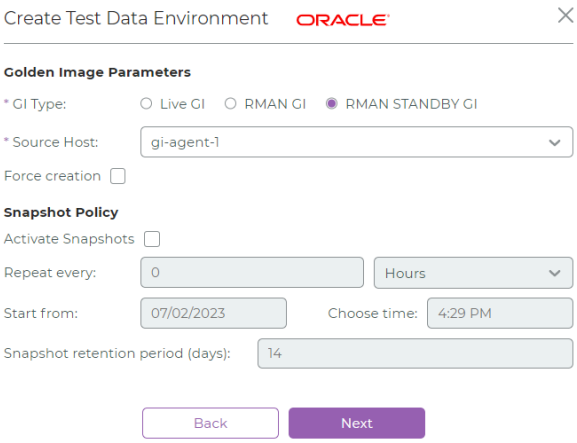
5. Click **Done**.

After the test data environment is created, the following message appears

Test Data Environments has been created.

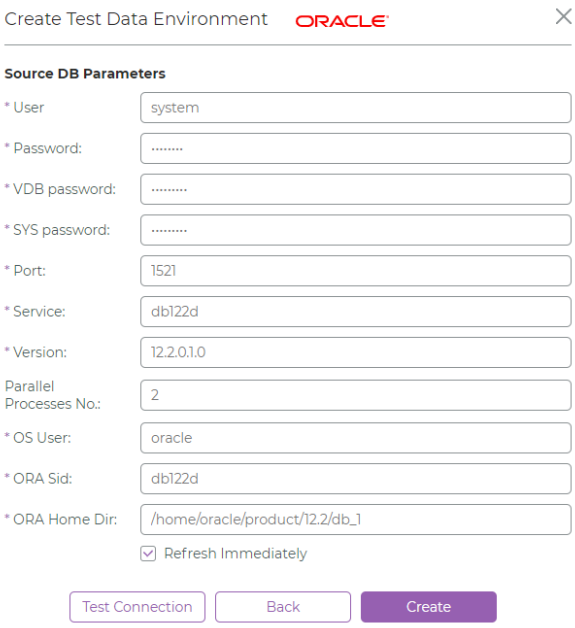
To create a test data environment from a RMAN STANDBY GI:

1. Enter the test data environment details.



2. Click **Next**.

3. Enter the **Source DB Parameters**.



It is recommended to select the **Refresh immediately** checkbox to make a full copy of the Golden Image after the test data environment is automatically created.

4. Click **Test Connection** to verify that the connection to the database is valid.

After the test is complete, the following message appears Test Data Environment connection is valid.

5. Click **Done**.

After the test data environment is created, the following message appears

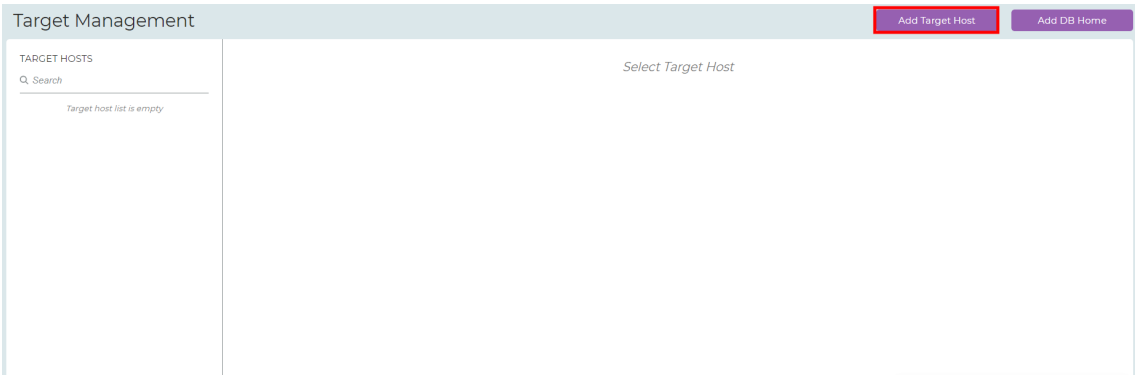
Test Data Environments has been created.

To add a target host:

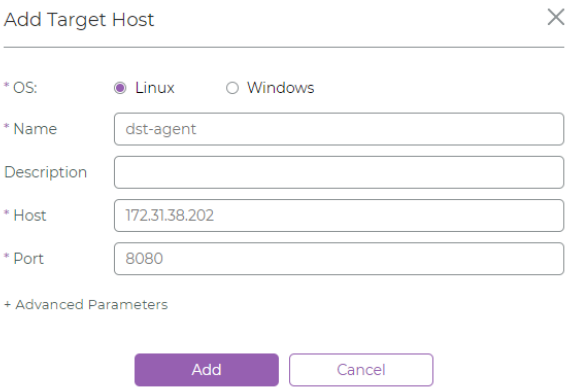
1. On the navigation bar, click 

(**Target**).

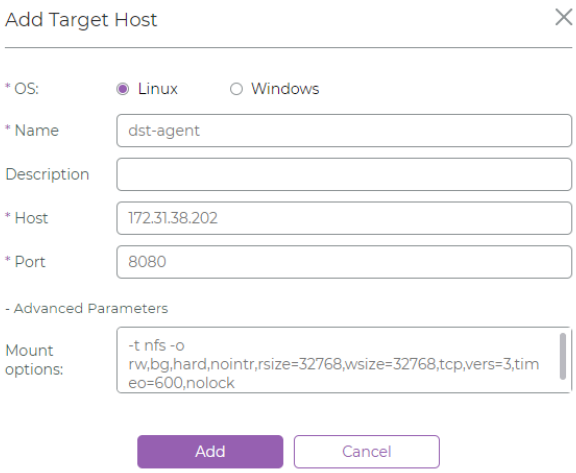
The **Target Management** window appears.



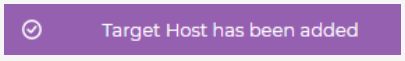
2. Click **Add Target Host**.
3. Enter the target host details.



4. Enter the **Advanced Parameters** if necessary.

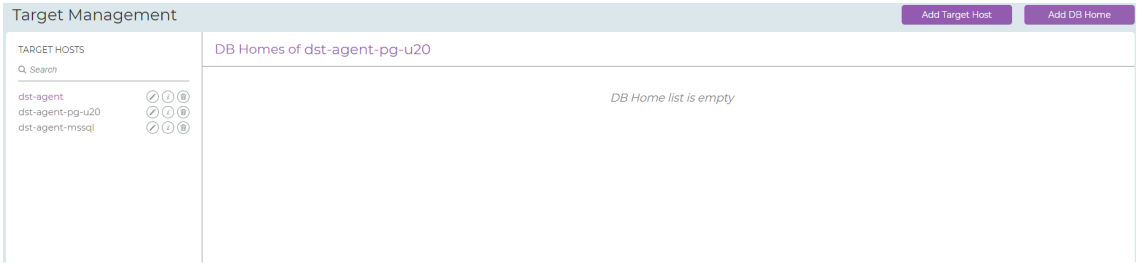


5. Click **Add**.

After the target host is added, the following message appears 

.

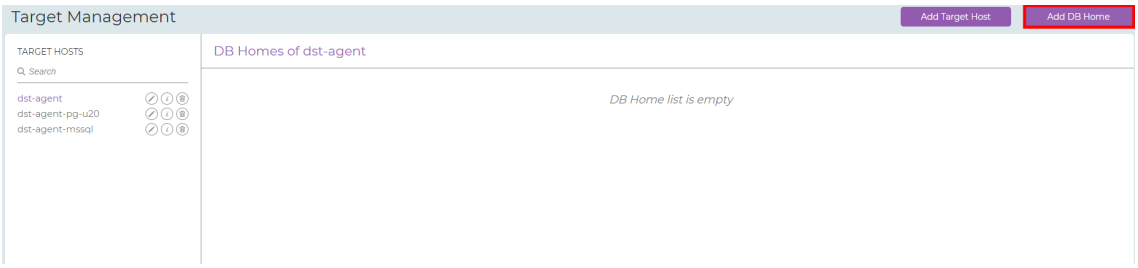
The **Target Management** displays the target host(s) that have been added to the system.



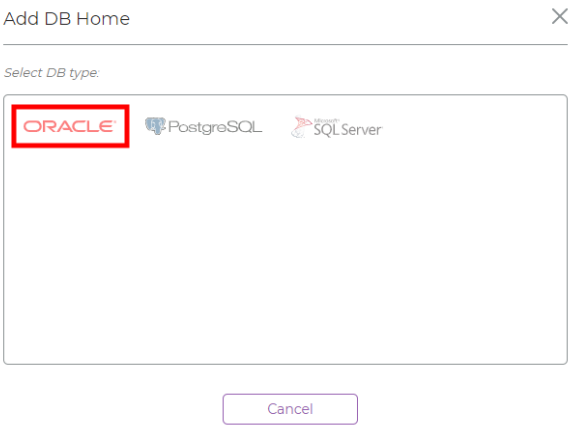
To add a DB Home:

You add a **DB Home** in the **Target** work area.

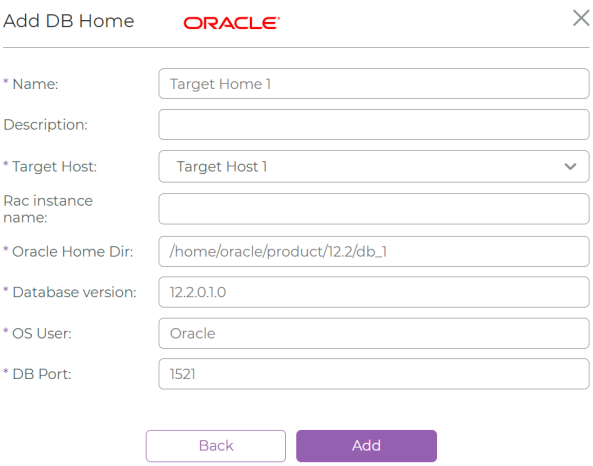
1. Click **Add DB Home**.



2. Select a DB type.



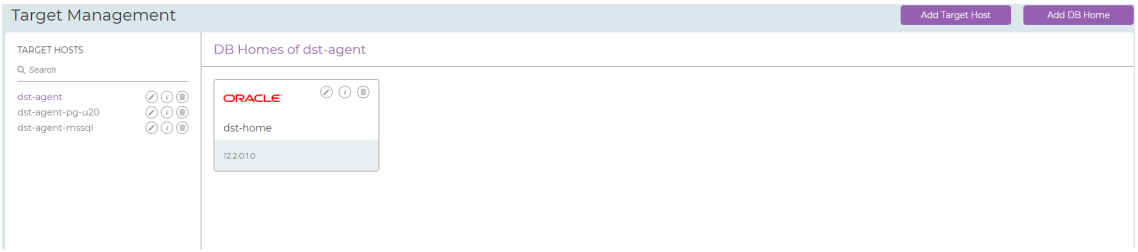
3. Enter the DB Home details.



4. Click **Add**.

After the DB Home is added, the following message appears DB Home has been added.

The **Target Management** displays the DB Home(s) that have been added to the system.

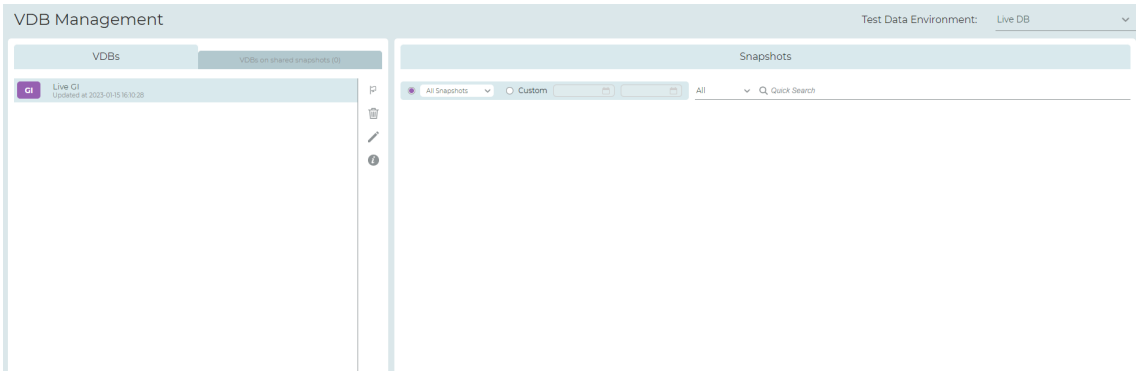


To create and start a VDB.

To create a VDB:

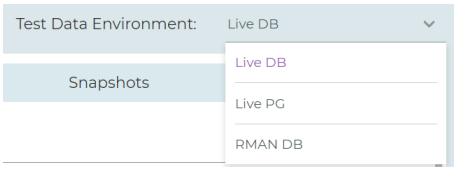
1. On the navigation bar, click  (VDB).

The **VDB Management** window appears.



To select a GI:

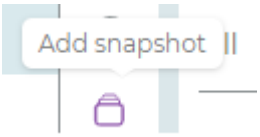
1. In the **VDB Management** window, select a Test Data Environment.



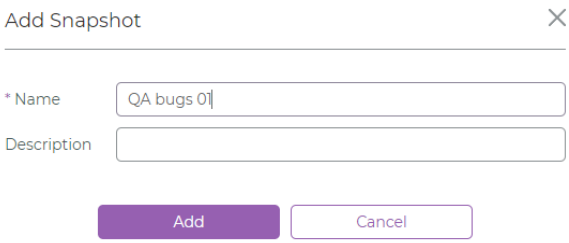
2. Select the GI.

Adding a snapshot:

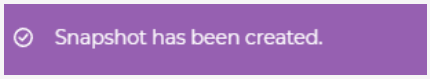
1. Select the source.
2. Click  (**Add snapshot**).



3. Enter a **Name**.

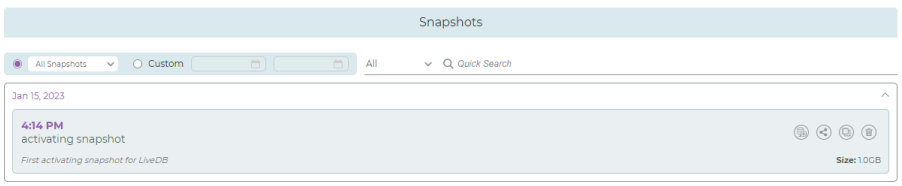


4. Click **Add**.

After the snapshot is created, the following message appears 

.

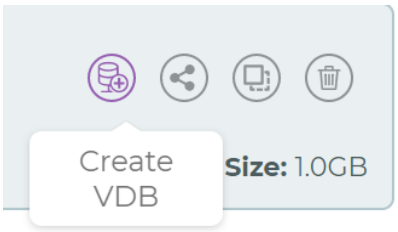
The **Snapshots** work area displays the new snapshot with all the snapshots that have been created.



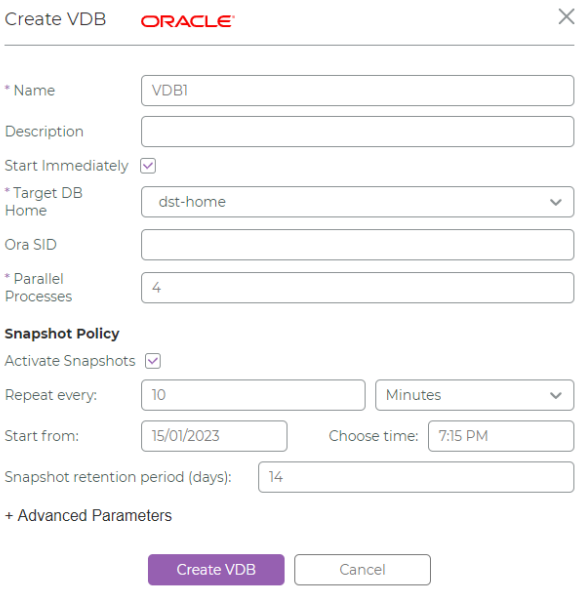
It is possible to scroll using the time and date to the right of a search screenshot.

To create a VDB from a snapshot:

1. Select a snapshot.
2. Click **Create VDB**.



3. Enter the VDB parameters.

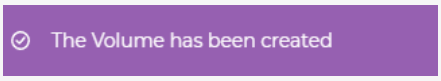


It is recommended to select the Start Immediately checkbox.

4. Enter the **Advanced Parameters**, if necessary.

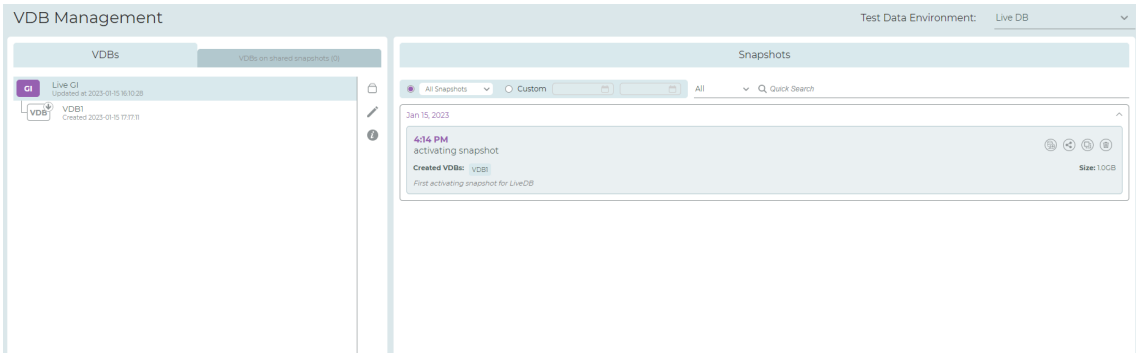
For more information about **Advanced Parameters**, see To add an advanced parameter:

5. Click **Create**. Otherwise, click **Cancel** to exit without creating a VDB.

After the VDB is created, the following message appears 

.

The **VDB Management** window displays the VDB that has been created.



The following icons display information about a VDB:

Icon	Description
	VDB Locked
	VDB Stopped
	VDB Started
	VDB Creation Failed

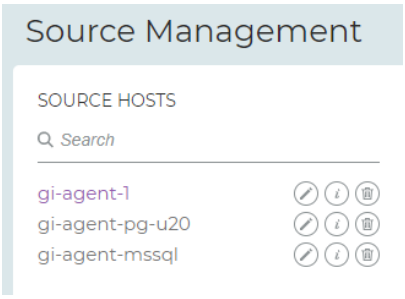
5.2. Source Management

A source host is a server that hosts the source databases. A test data environment includes access definition to one source database and a GI. This section describes how to create and manage a **Source Host** and a **Test Data Environment**.

To open the Source work area:

1. On the navigation bar, click  (**Source**).

The **Source Hosts** window appears displaying all the source hosts that have been added to the system.

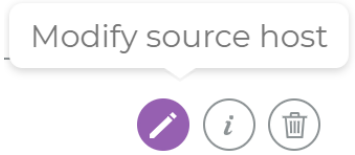


You can quickly locate a source host by typing its letters on the **Search** bar. The list updates promptly.

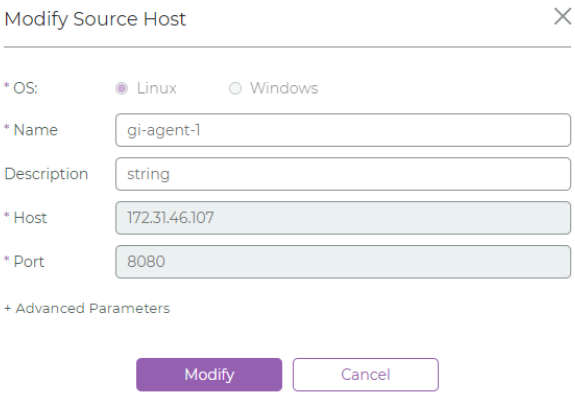
To add a source host, see To add a source host:

To modify a source host:

1. Select the source host.
2. Click (Modify source host).



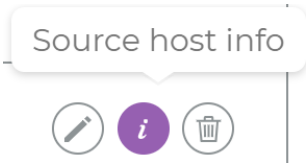
3. Modify the source host as required.



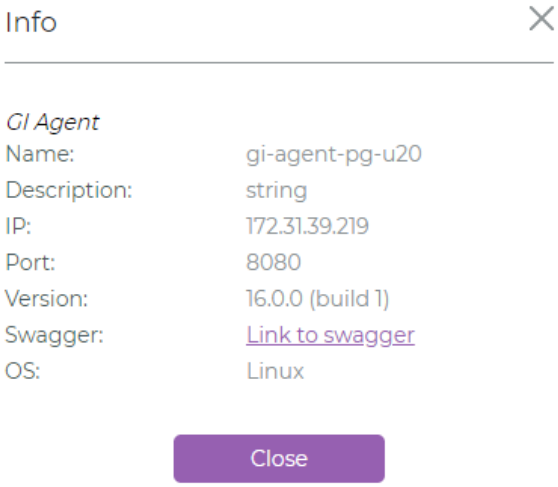
4. To save your changes, click **Modify.**

To see source host information:

1. Select the source host.
2. Click (**Source host info**).



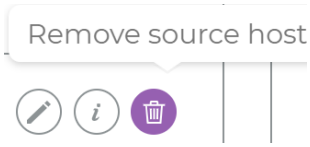
The **Info** window appears.



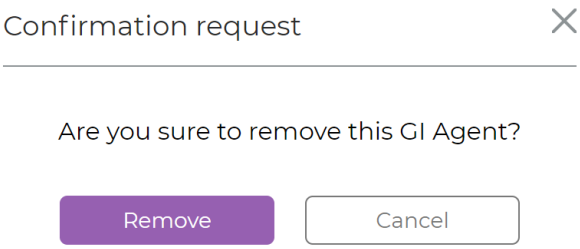
3. To return to the main **Source Management** work area, click **Close**.

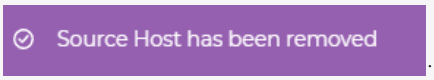
To remove a source host:

1. Select the source host.
2. Click (**Remove source host**).



3. Click **Remove** to confirm the deletion or **Cancel** to exit without deleting the source host.

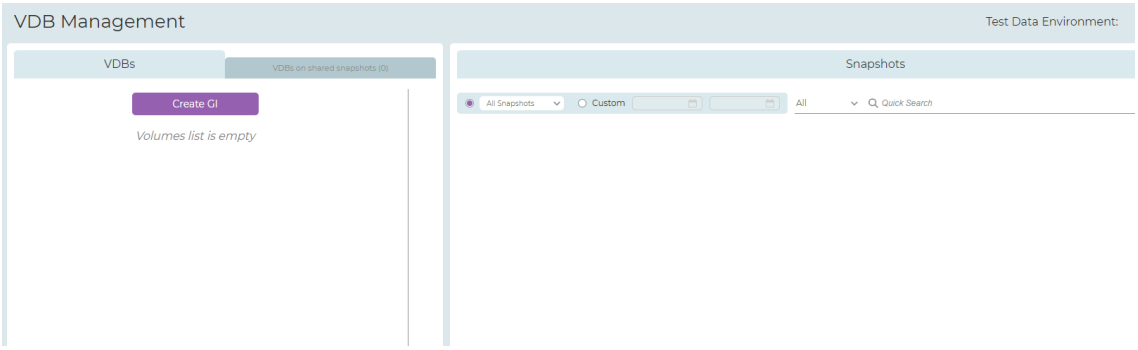


After the source host is removed, the following message appears 

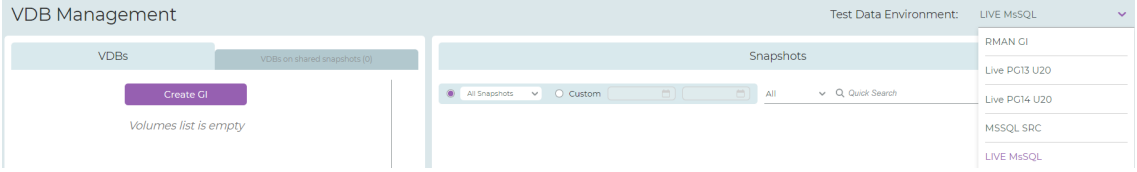
.

The create a test data environment form the VDB Management window:

1. Open the **VDB Management** window.



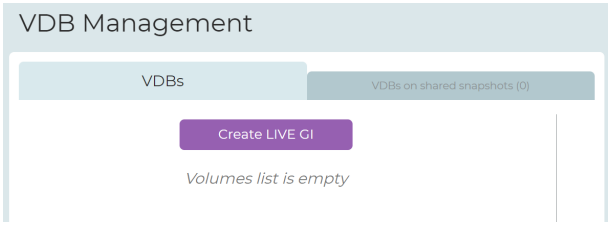
2. In the **VDB Management** window, select a **Test Data Environment**.



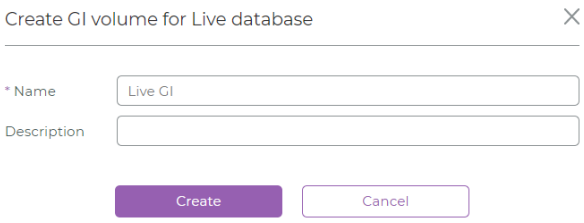
Live GI

To create a Live GI:

1. Click Create LIVE GI.



2. Enter a **Name**.

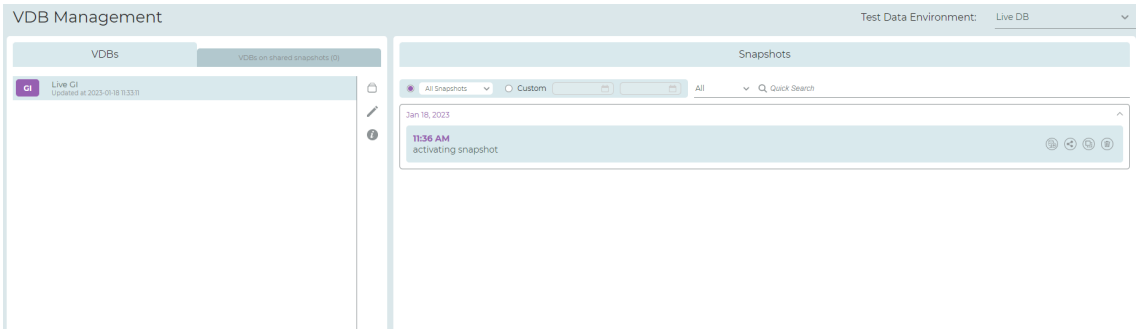


3. Click **Create**.

After the GI is created, the following message appears

Golden Image (live) has been created.

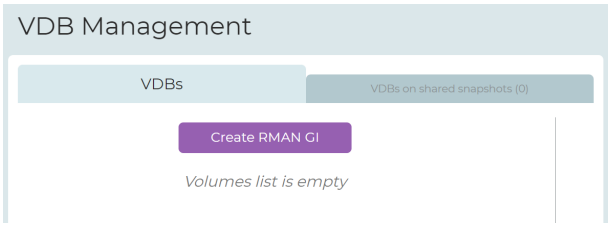
The **VDB Management** window displays the GI that was created.



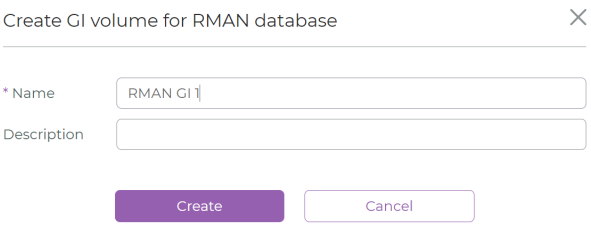
RMAN GI

To create a RMAN GI:

1. Click **Create RMAN GI** .



2. Enter a **Name**.



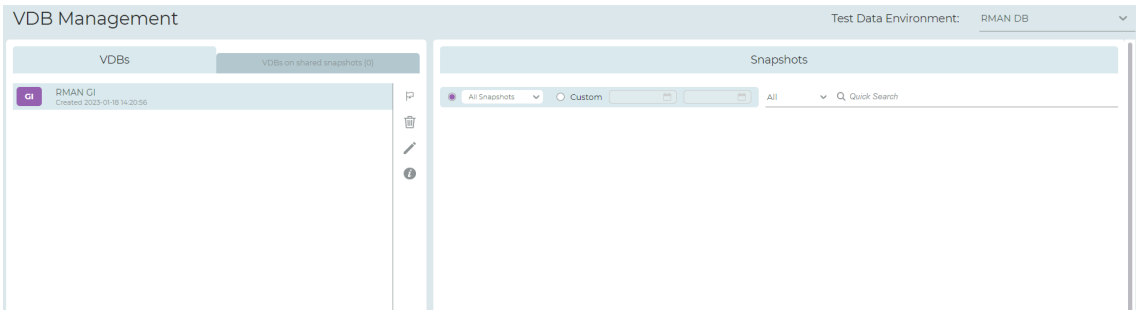
3. Click **Create**.

During the creation of the RMAN GI, the following message appears

Create RMAN GI database is in progress.

After the GI is created, the following message appears RMAN GI has been created.

The **VDB Management** window displays the RMAN GI that was created.

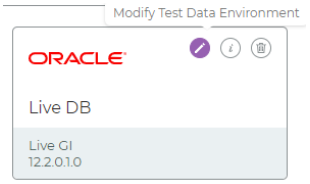


To create a test data environment:

To create a test data environment, see To create a test data environment:.

To edit a test data environment:

1. Select the test data environment.
2. Click (**Modify Test Data environment**).

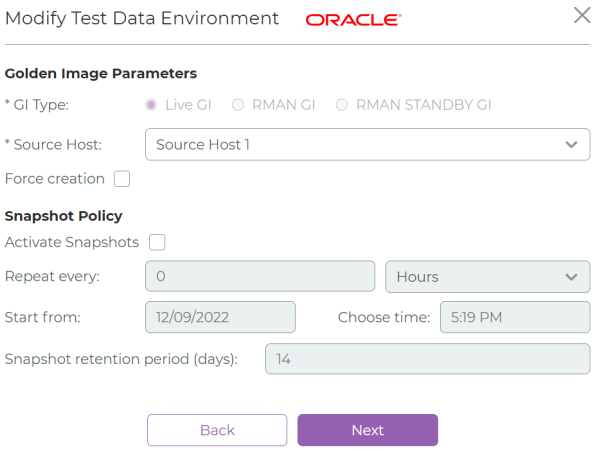


2. The **Modify Test Data Environment** window appears. Modify the test data environment name if necessary.

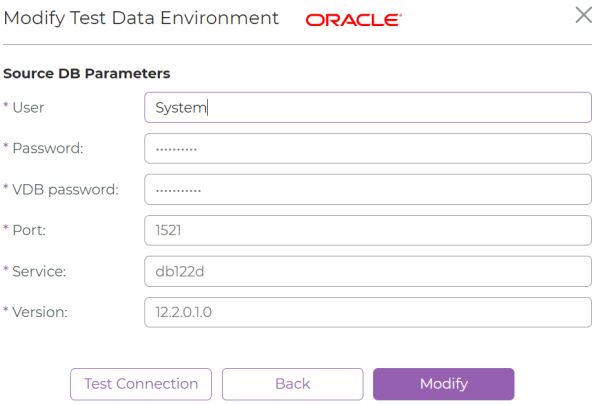
3. Click **Next** to go to the next **Modify Test Data Environment** window.

To modify a Live GI:

1. Modify the **Golden Image Parameters** as required.



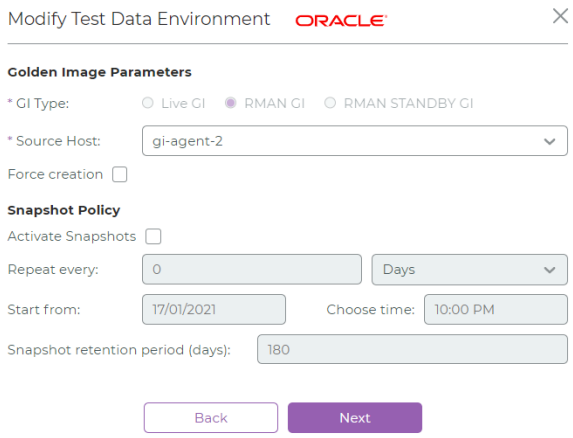
2. Click **Next** to go to the next **Modify Test Data Environment** window.
3. Modify the **Source DB Parameters** as required.



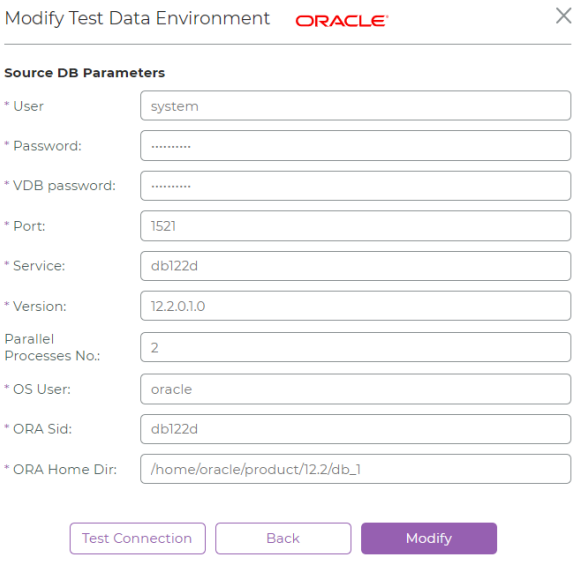
4. To save your changes, click **Modify.**

To modify a RMAN GI:

1. Modify the **Golden Image Parameters** as required.



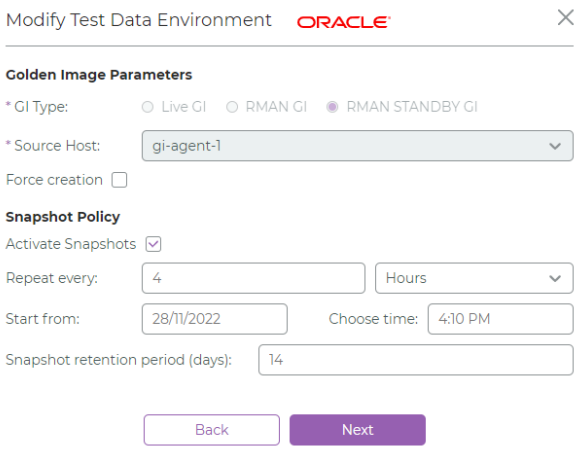
2. Click **Next** to go to the next **Modify Test Data Environment** window.
3. Modify the **Source DB Parameters** as required.



4. To save your changes, click **Modify.**

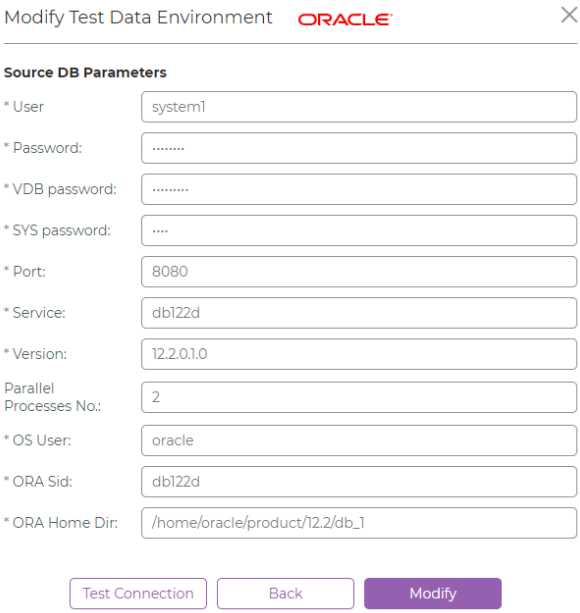
To modify a RMAN STANDBY GI:

1. Modify the **Golden Image Parameters** as required.



2. Click **Next** to go to the next **Modify Test Data Environment** window.

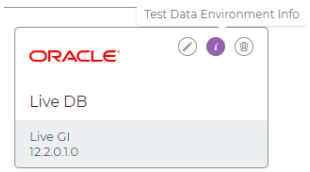
3. Modify the **Source DB Parameters** as required.



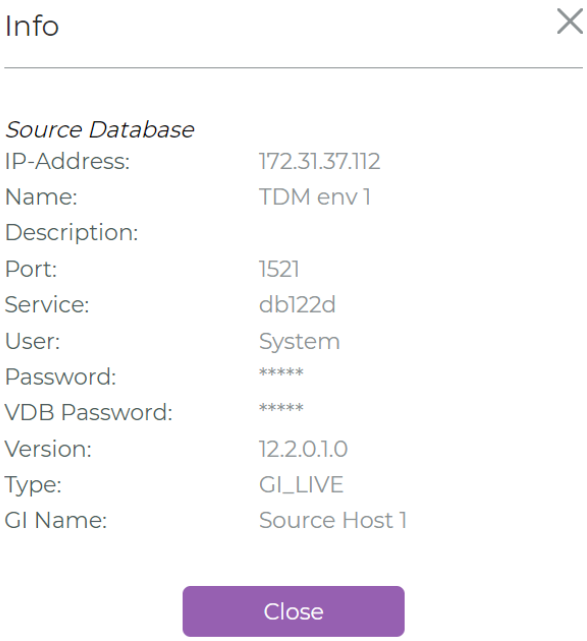
4. To save your changes, click **Modify.**

To see information about a test data environment:

1. Select the test data environment.
2. Click  (**Test Data Environment Info**).



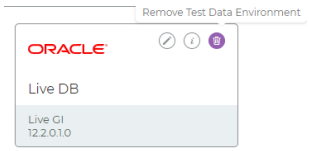
The **Info** window appears.



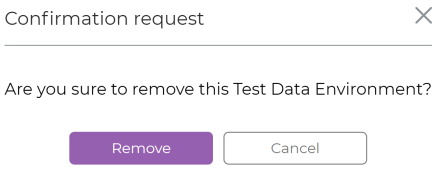
3. To return to the main **Source Management** work area, click **Close**.

To remove a test data environment:

1. Select the test data environment.
2. Click  (**Remove Test Data Environment**).



3. Click **Remove** to confirm the deletion or **Cancel** to exit with deleting the test data environment.



After the database is removed, the following message appears

.

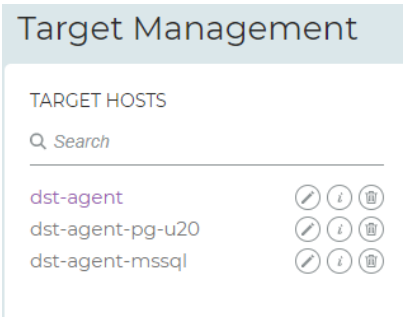
5.3. Target Management

A test data environment includes access definition to one source database and a GI. A DB Home is the target database that is used to make VDBs.

To open the Target work area:

1. On the navigation bar, click  (**Target**).

The **Target Management** window appears displaying all the target hosts that have been added to the system.



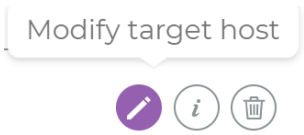
You can quickly locate a target host by typing its letters on the **Search** bar. The list updates promptly.

To add a target host:

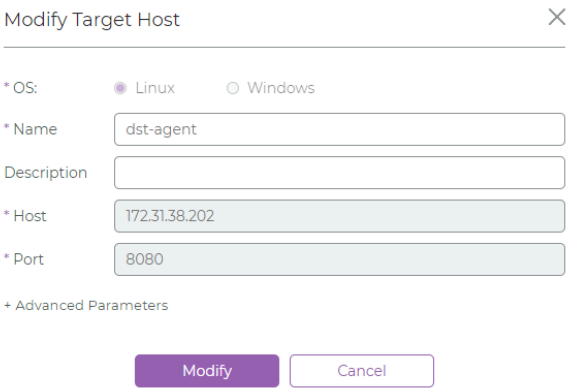
To add a target host, see To add a target host:.

To modify a target host:

1. Select the target host.
2. Click Modify target host.



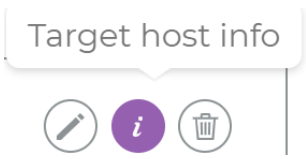
3. Modify the parameters as required.



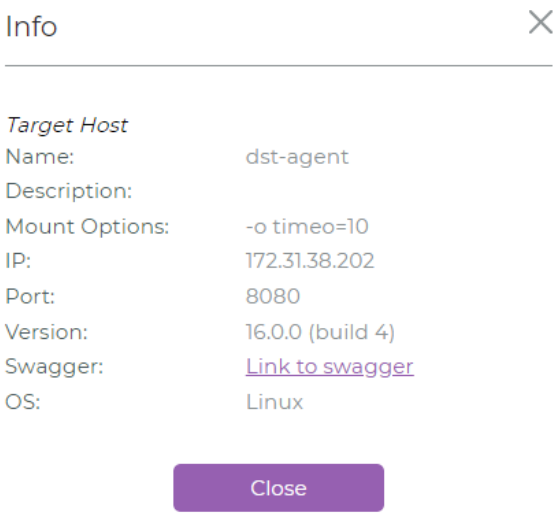
4. To save your changes, click **Modify.**

To see target host information:

1. Select the target host.
2. Click (**Target host info**).



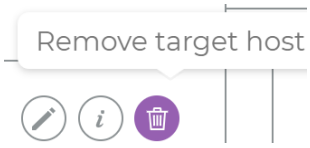
The **Info** window appears.



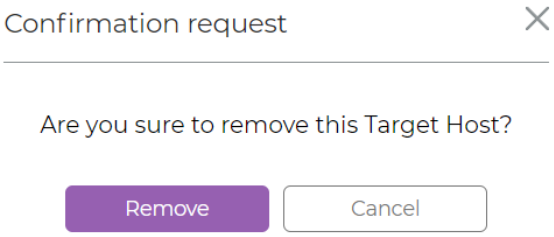
3. To return to the main **Target Management** work area, click **Close**.

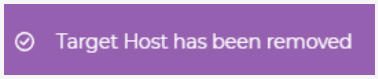
To remove a target host:

1. Select the target host.
2. Click (**Remove target host**).



3. Click **Remove** to confirm the deletion or **Cancel** to exit without deleting the target host.



After the target host is removed, the following message appears 

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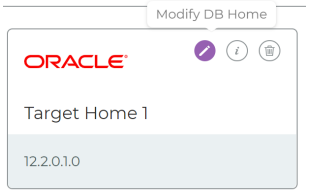
To add a DB Home:

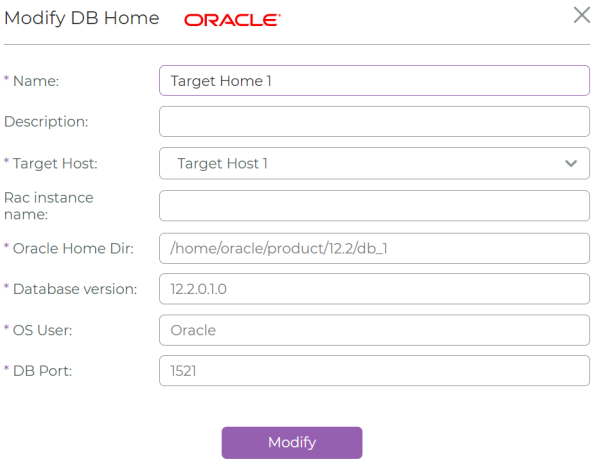
To add an **DB Home**, see To add a DB Home:

To edit DB Homes:

1. Select the DB Home.
2. Click  (**Modify DB Home**).



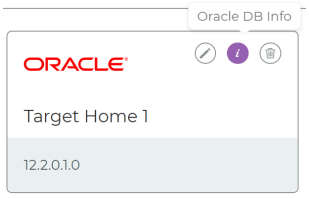
3. The **Modify DB Home** window appears. Modify the test data environment details as required.



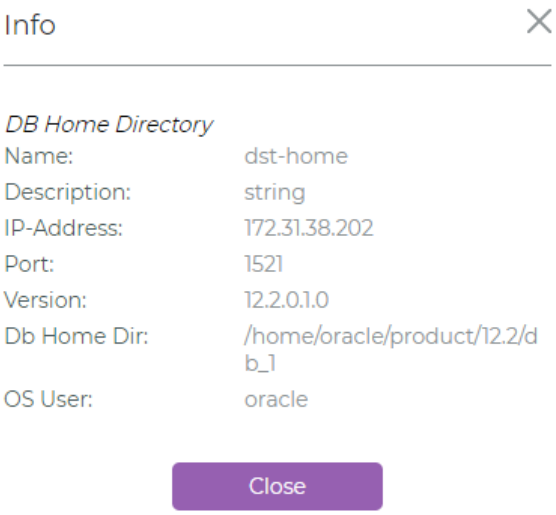
4. To save your changes, click **Modify**.

To see information about a DB Home:

1. Select the DB Home.
2. Click (**DB Home info**).



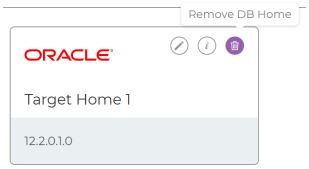
The **Info** window appears.



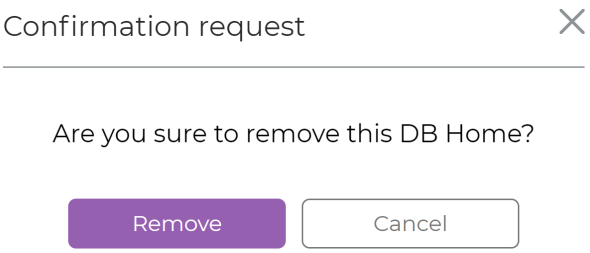
3. To return to the main **Target Management** work area, click **Close**.

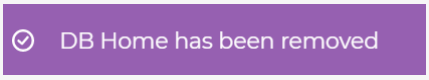
To remove a DB Home:

1. Select the DB Home.
2. Click (**Remove DB Home**).



3. Click **Remove** to confirm the deletion or **Cancel** to exit without deleting the DB Home.



After the DB Home is removed, the following message appears 

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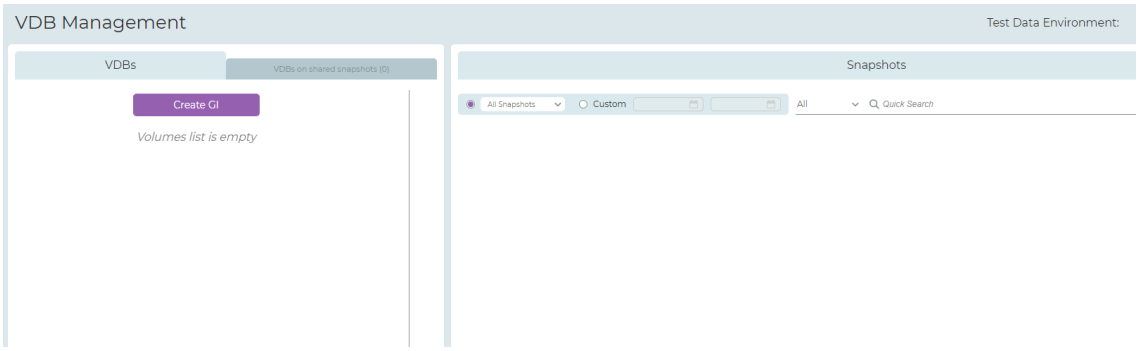
5.4. VDB Management

In the **VDB** work area, you do tasks for a golden image, a duplicate golden image, a VDB, and database snapshots. A golden image is a full synchronized copy of the source database files. A golden image is used to create VDBs. A snapshot is a read/write point-in-time copy of the golden image. This section describes how to do these tasks.

To open the VDB work area:

1. On the navigation bar, click  (**VDB**).

The **VDB Management** window appears.

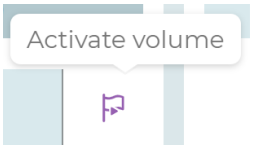


To create VDB:

To create a VDB, see To create and start a VDB.

To activate a GI:

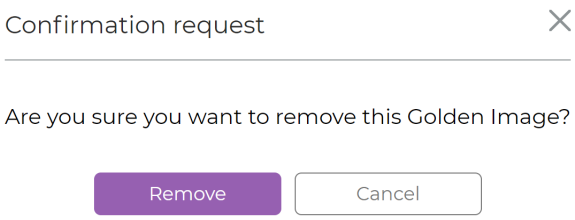
1. Select the GI in the list.
2. Click (**Activate volume**).



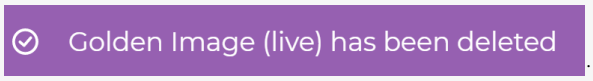
To remove a GI:

1. Select a GI in the list.
2. Click (**Remove Golden Image**).

3. Click **Remove** to confirm the deletion or **Cancel** to exit with deleting the volume.

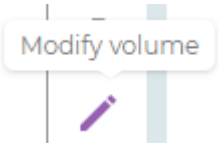


After the GI is removed, the following message appears



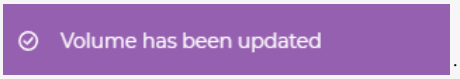
To edit a GI:

1. Select the GI in the list.
2. Click (**Modify volume**).



3. Enter a new **Name**.

4. To save your changes, click **Modify**. Otherwise, click **Cancel**.

After the change is done, the following message appears 

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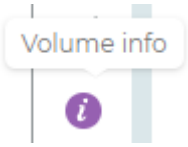
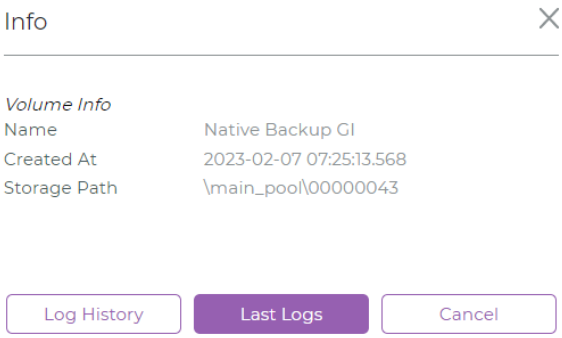
To see information about a GI:

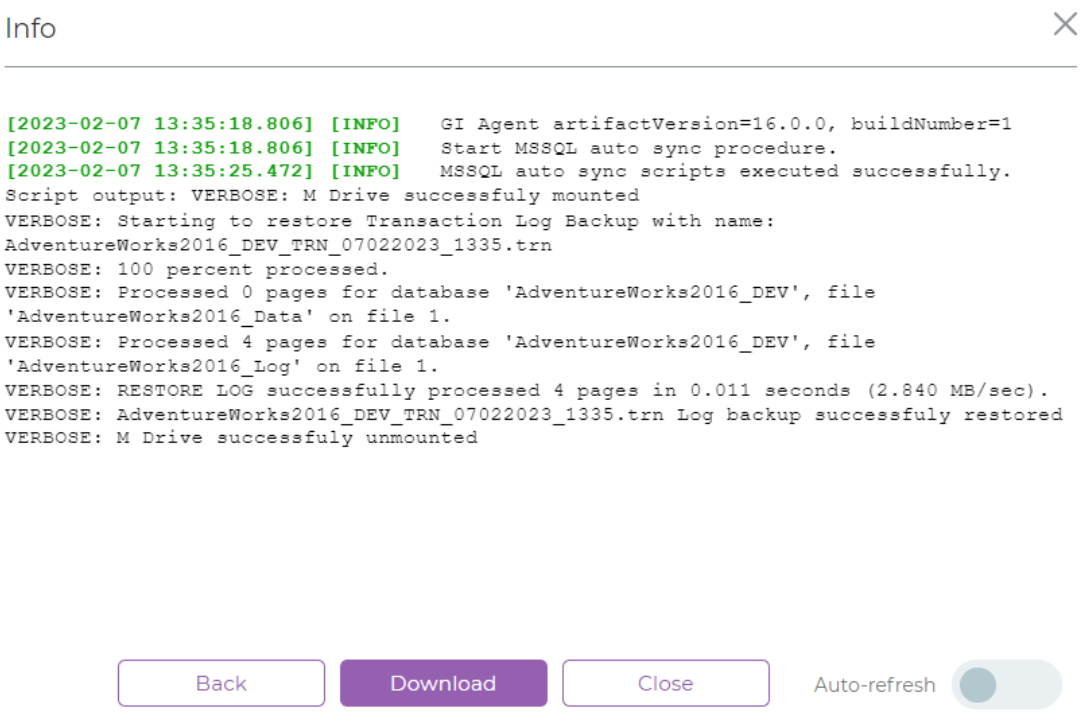
1. Select the GI in the list.
2. Click (**Volume info**).



The **Info** window appears.

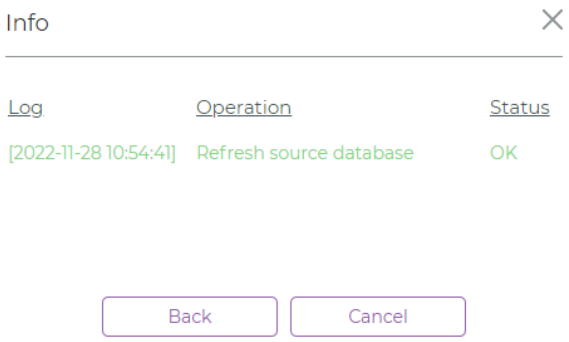


3. To see the last logs, click **Last Logs** or click **Cancel** to return to the VDB Management window.



4. Click **Auto-refresh** to do an auto refresh.
5. To download the last logs, click **Download** or click **Close** to return to the **VDB Management** window.

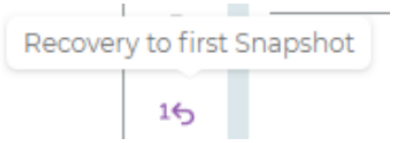
6. To see the log history, click **Log History** or click **Cancel** to return to the **VDB Managment** window.



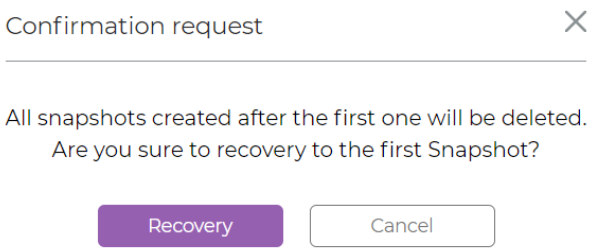
7. Click **Back** or **Cancel** to return to the **Info** window.

To recover to the first snapshot:

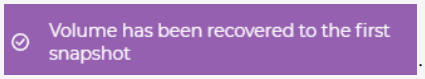
1. Select the source DB.
2. Click (**Recovery to first snapshot**).



3. Click **Recovery** to confirm the recovery or **Cancel** to exit with recovering the snapshot.

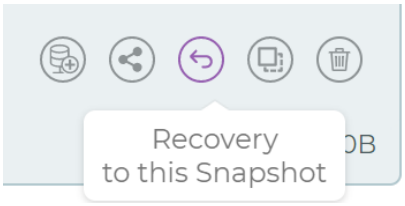


After all the snapshots are removed, the following message appears

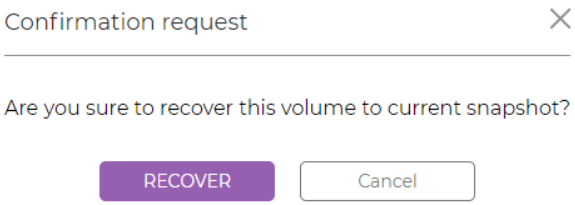


To recover to this snapshot:

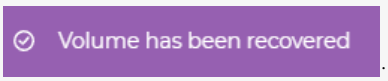
1. Select the snapshot.
2. Click (**Recovery to this snapshot**).



3. Click **Recover** to confirm the recovery or **Cancel** to exit with recovering the snapshot.

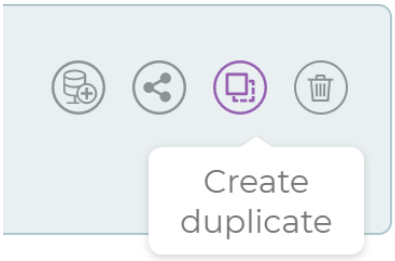


After the recover operation is complete, the following message appears

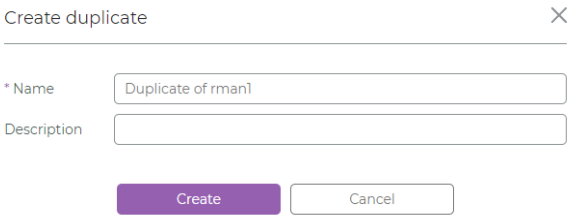


To create a duplicate VDB from a snapshot:

1. Select the snapshot.
2. Click **Create duplicate**.



3. Enter a **Name**.



4. Click **Create**. Otherwise, click **Cancel** to exit without creating a duplicate VDB.

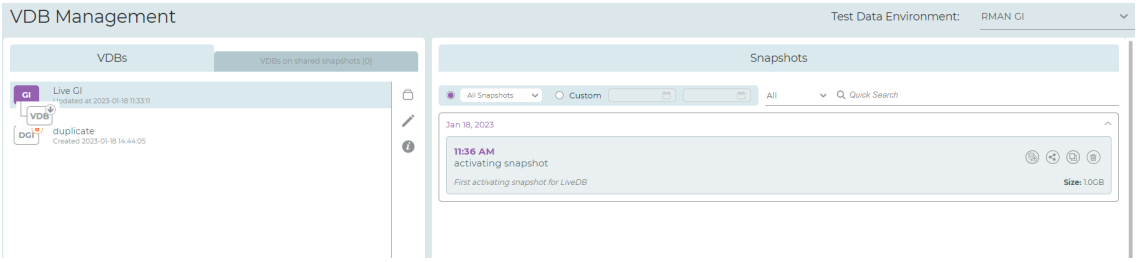
During the creation of the duplicate GI, the following message appears

Duplicate creation is in progress.

After the duplicate GI is created, the following message appears

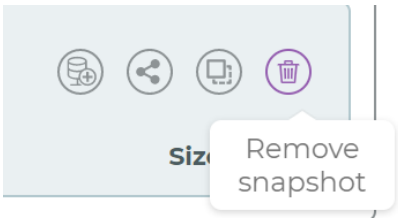
Duplicate has been created.

The **VDB Management** window displays the duplicate GI that has been created.

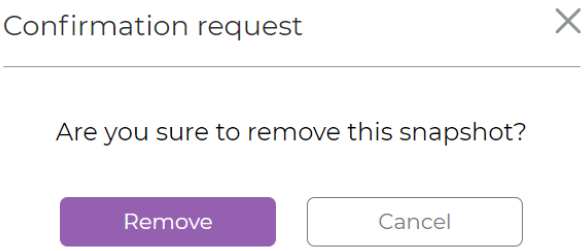


To remove a snapshot:

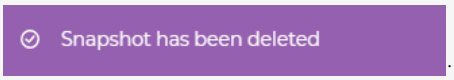
1. Select the snapshot.
2. Click (**Remove snapshot**).



3. Click **Remove** to confirm the deletion or **Cancel** to exit with deleting the snapshot.



After the snapshot is removed, the following message appears



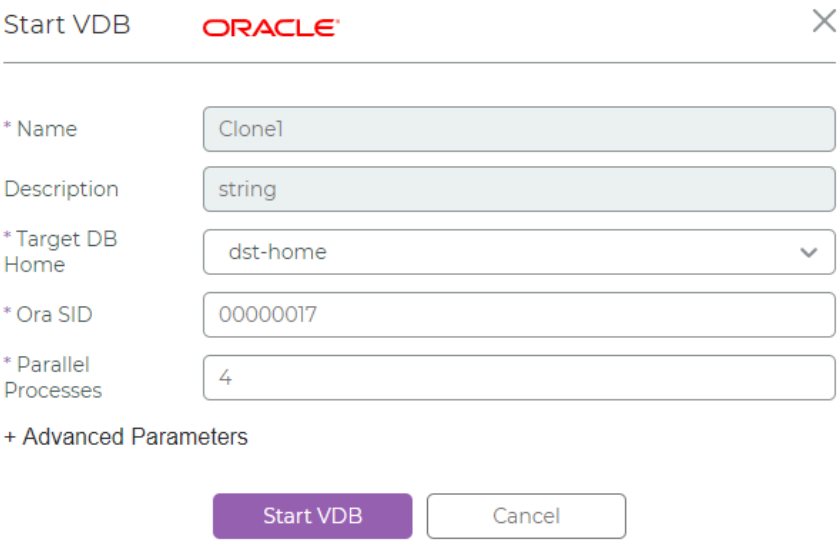
VDB

This section describes additional tasks that are available to manage VDBs.

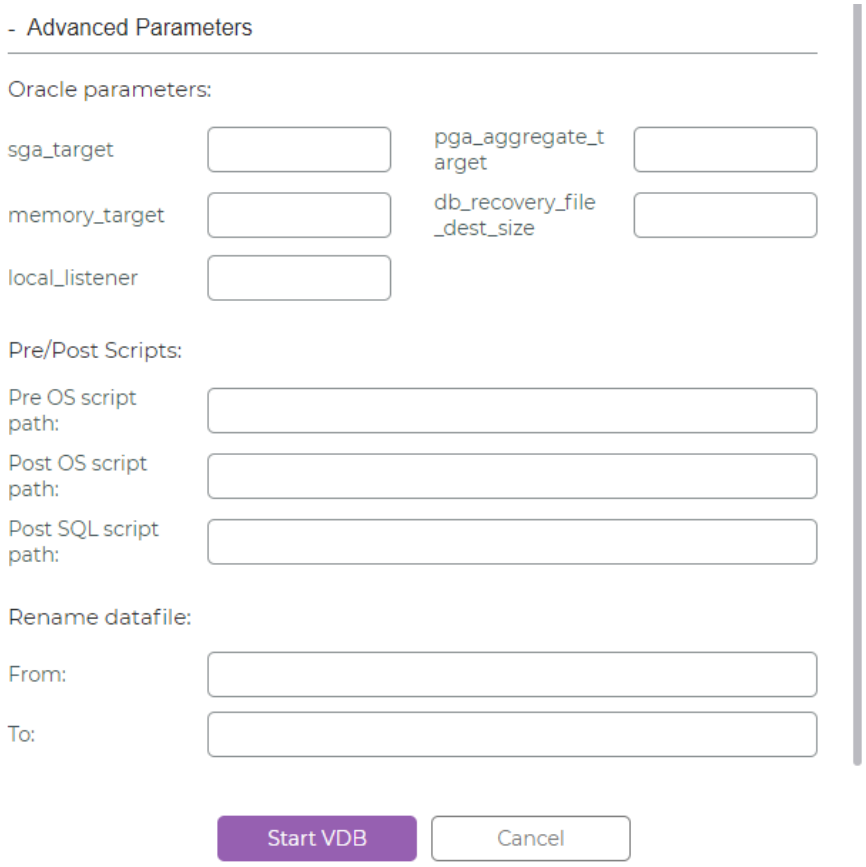
To start a VDB:

1. Select the VDB.
2. Click (**Start VDB**).

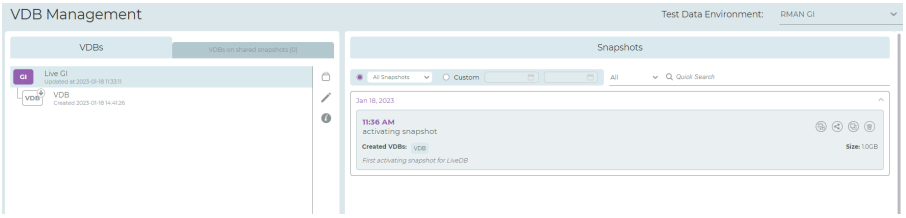
3. Enter the VDB configuration parameters.

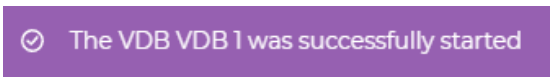


4. Enter Advanced Parameters if necessary.



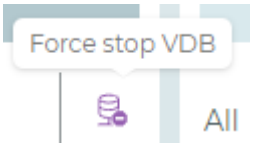
5. Click **Start VDB**. Otherwise, click **Cancel** to exit.



After the VDB was started, the following message appears 

To force stop the refresh of a VDB:

1. Select the VDB.
2. Click (**Force stop VDB**).



During the force stop, the following message appears VDB stop is in progress.

After the force stop is complete, the following message appears

VDB has been stopped.

To stop the refresh of a VDB:

1. Select the VDB.
2. Click (**Stop VDB**).

During the stop, the following message appears VDB stop is in progress.

After the stop is complete, the following message appears

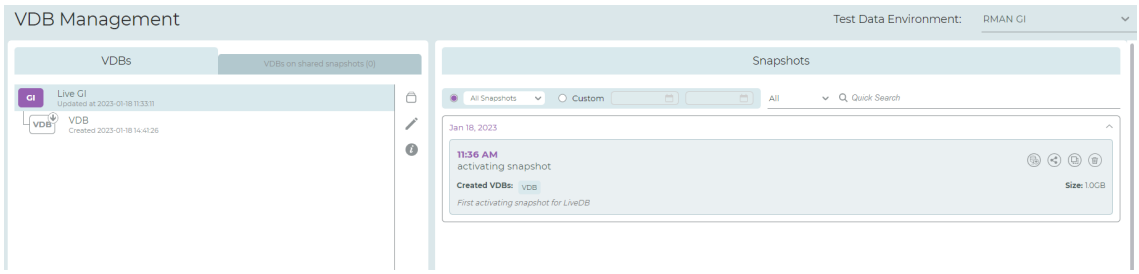
VDB has been stopped.

5.5. Sharing Snapshots

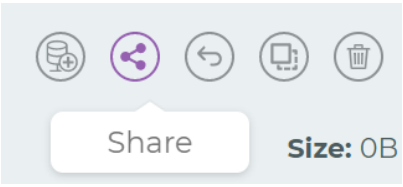
A user in one role category can share a snapshot with a user in another role category. This section gives the procedure. In the following example a user with a QA role shares a snapshot with a Dev role.

To share a VDB:

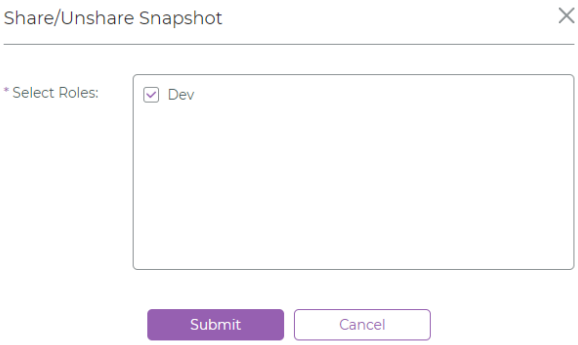
1. Select a snapshot of a Golden Image or a VDB.



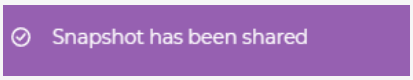
2. Click  **Share** on a snapshot object.



3. Select the role to share the snapshot.



4. Click **Submit**.

After the snapshot is shared, the following message appears 

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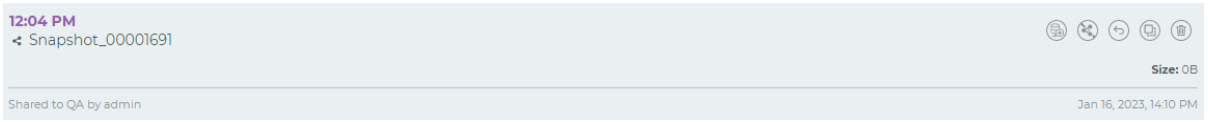
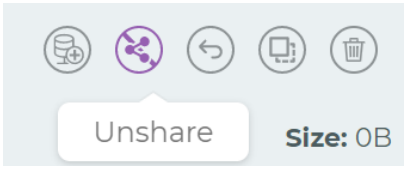
The **VDB Management** window displays the relevant sharing information.



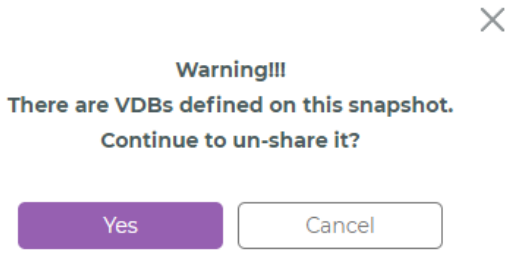
To unshare a snapshot:

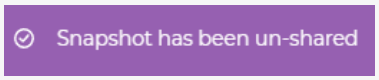
1. Select the snapshot.

2. Click  **Unshare**.



3. Click **Yes** to confirm unsharing the snapshot or **Cancel** to exit with unsharing the snapshot.

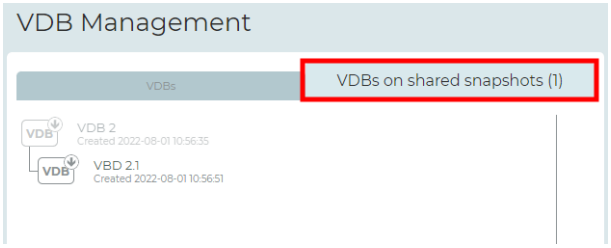


After the snapshot is unshared, the following message appears 

.

To see snapshots that are shared to you:

1. Click **VDBs on shared snapshots**.



The number in parentheses indicates the number of shared snapshots.

6. Using a PostgreSQL Data Base

The following sections from Initial Setup below to Sharing Snapshots are for PostgreSQL users.

Return to Getting to Know the GUI.

Continue to Users Management.

6.1. PostgreSQL Initial Setup

To setup the infrastructure in the Data Virtualization Module, do the following procedure:

1. To install the Accelario source agent and target agent:
2. To add a source host
3. To create a test data environment:
4. To add a target host:
5. To add a DB Home:
6. To create and start a VDB.

To install the Accelario source agent and target agent:

Accelario agents are deployed on a source server and on a target server. There are two types of agents:

1. GI (golden image) agent - installed on the source server.
2. Destination agent - installed on the target server.

When the VDB is used on the same server where the source DB resides, both agents can be installed on the same server. It is necessary to change the ports as described below.

- The agents should be run as root.
- The agents should be run in the background.

Example for a source agent.

```
screen -dmS gi_agent java -jar /home/ec2-user/gi_agent-1.0-SNAPSHOT.jar
```

```
nohup java -jar /home/ec2-user/gi_agent-1.0-SNAPSHOT.jar &
```

Example for a target agent.

```
screen -dmS dst_agent java -jar /home/ec2-user/dst_agent-1.0-SNAPSHOT.jar
```

```
nohup java -jar /home/ec2-user/dst_agent-1.0-SNAPSHOT.jar &
```

The default port is 8080.

If necessary, the port can be changed. Use the following parameters to java execution:

Example for a source agent.

```
-Ddw.server.applicationConnectors[0].port=8090 -Ddw.server.adminConnectors[0].port=8092
```

Example for a target agent.

```
java -Ddw.server.applicationConnectors[0].port=8090 -Ddw.server.adminConnectors[0].port=8092 -jar ./dst_agent-1.0-SNAPSHOT.jar
```

To set the timezone for a java process:

To set the timezone for a java process, use the following code:

```
-Duser.timezone=<TimeZone> jvm command line option
```

Example for a source agent.

```
screen -dmS gi_agent java -Duser.timezone=America/Halifax -jar /home/ec2-user/gi_agent-1.0-SNAPSHOT.jar
```

Example for a target agent.

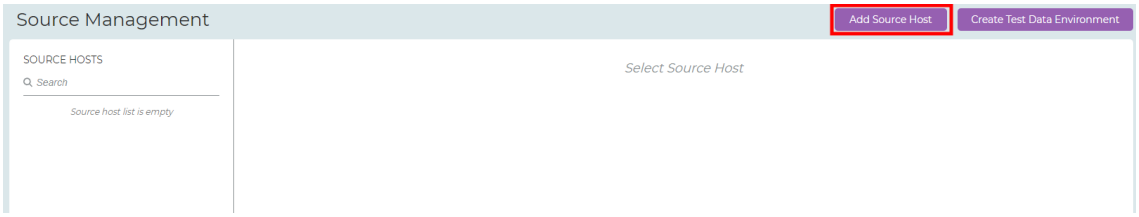
```
screen -dmS dst_agent java -Duser.timezone=America/Halifax -jar /home/ec2-user/dst_agent-1.0-SNAPSHOT.jar
```

To add a source host

1. On the navigation bar, click 

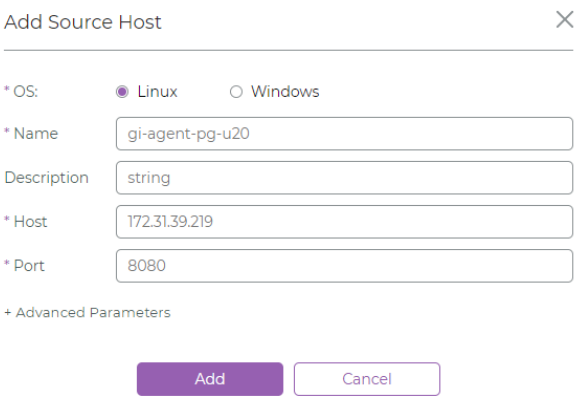
(**Source**).

The **Source Management** window appears.

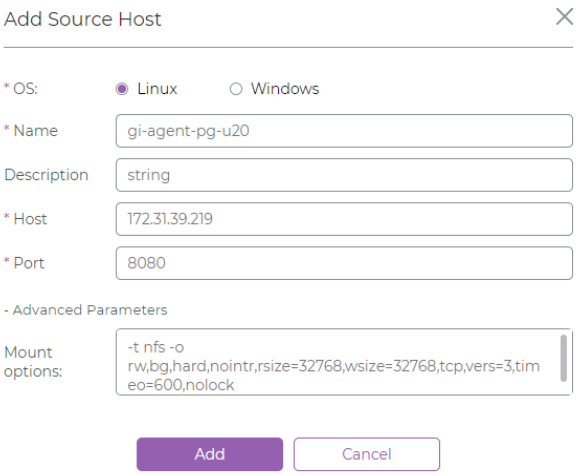


2. Click **Add Source Host**.
3. Enter the source host details.

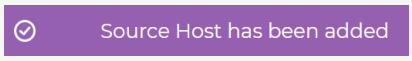
> In all dialog boxes, an asterisk * next to a label on the left is used to identify a mandatory user input.



4. Enter the **Advanced Parameters** if necessary.

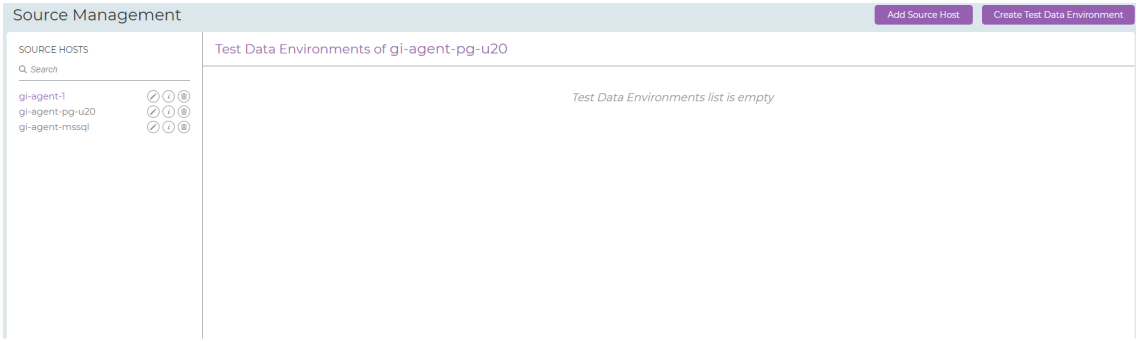


5. Click **Add**.

After the source host is added, the following message appears 

.

The **Source Management** window displays the source host(s) that have been added to the system.

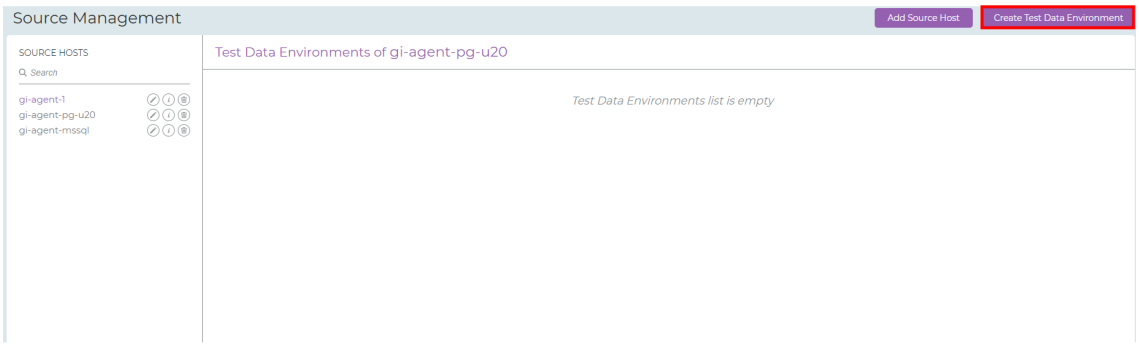


To create a test data environment:

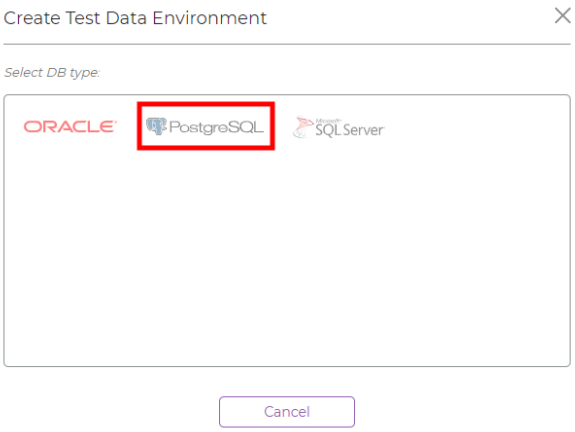
1. On the navigation bar, click 

(**Source**).

The Source Management window appears.



2. Click **Create Test Data Environment**.
3. Select DB type.

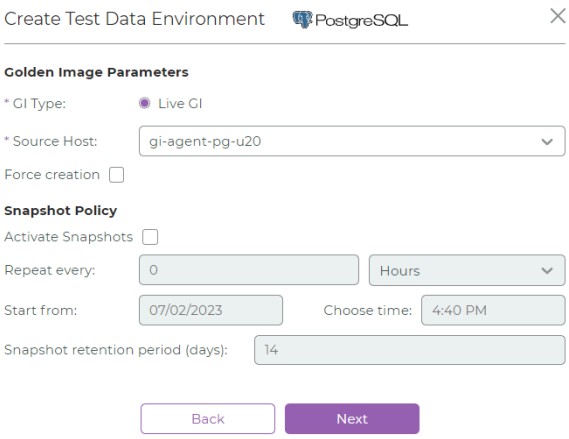


4. Enter a **Name**.

5. Click **Next**.

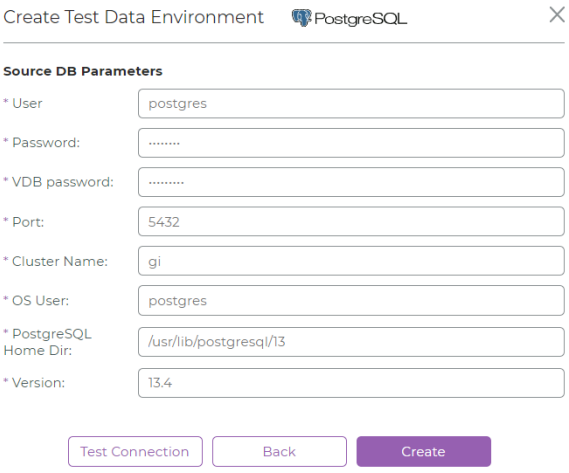
To create a test data environment from a LIVE GI:

1. Enter the test data environment details.



2. Click **Next**.

3. Enter the **Source DB Parameters**.



4. Click **Test Connection** to verify that the connection to the database is valid.

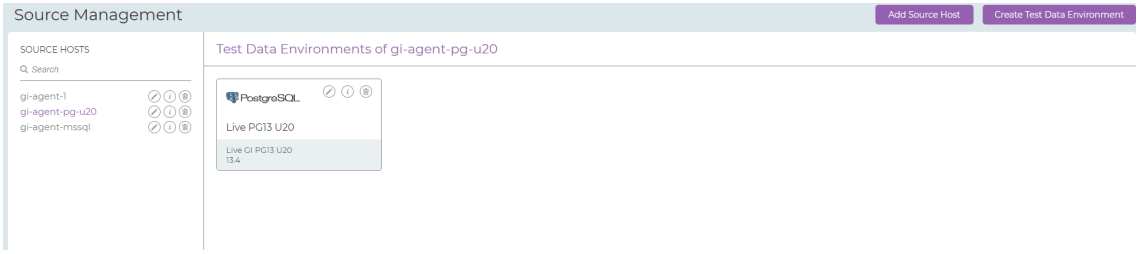
After the test is complete, the following message appears Test Data Environment connection is valid.

5. Click **Done**.

After the test data environment is created, the following message appears

Test Data Environments has been created.

The **Source Management** window displays the test data environment for the source host that has been created.

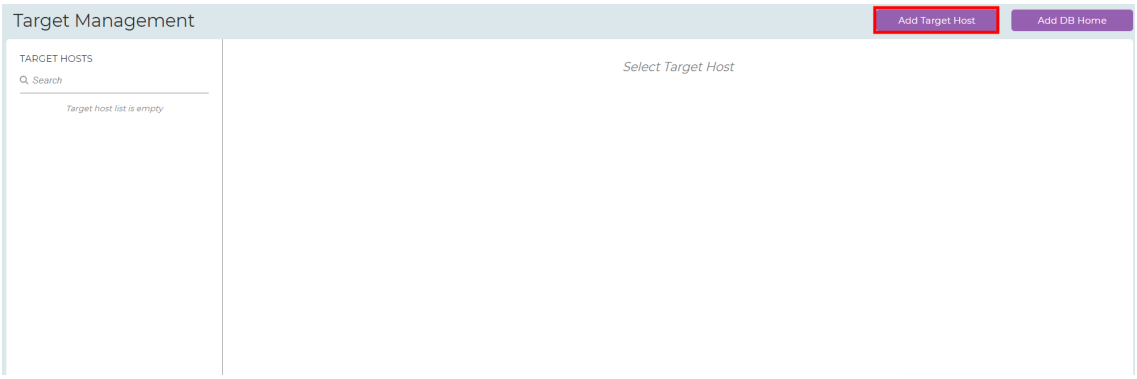


To add a target host:

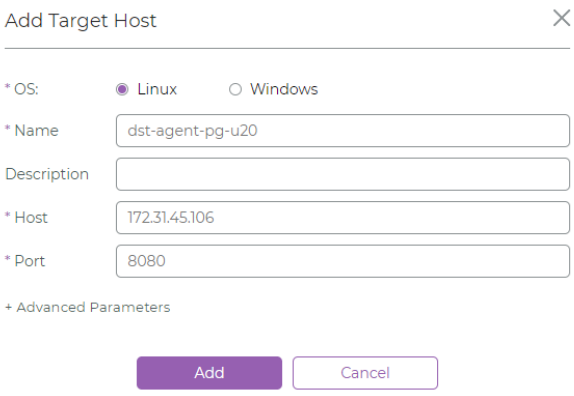
1. On the navigation bar, click 

(**Target**).

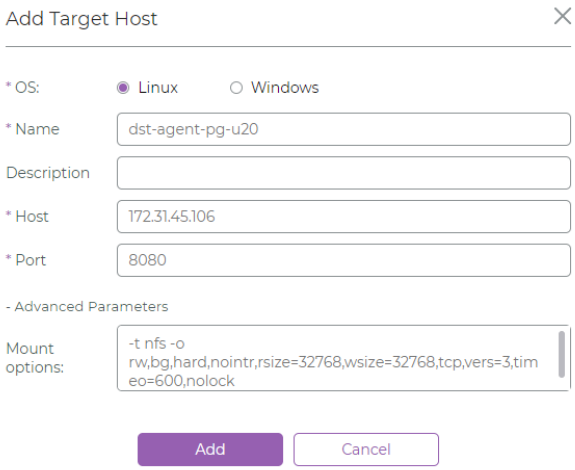
The **Target Management** window appears.



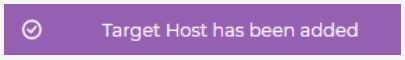
2. Click **Add Target Host**.
3. Enter the target host details.



4. Enter the **Advanced Parameters** if necessary.

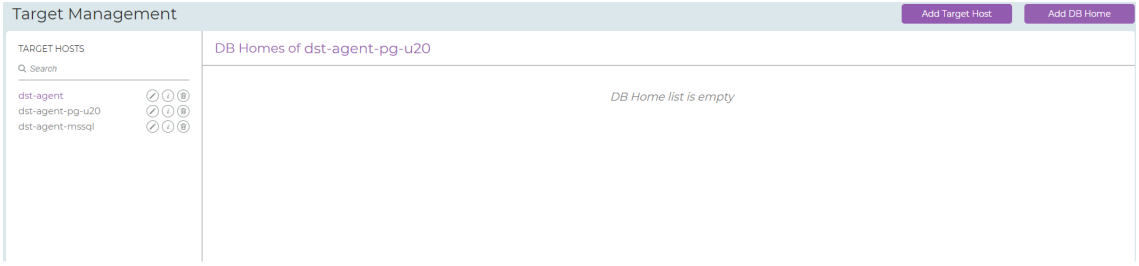


5. Click **Add**.

After the target host is added, the following message appears 

.

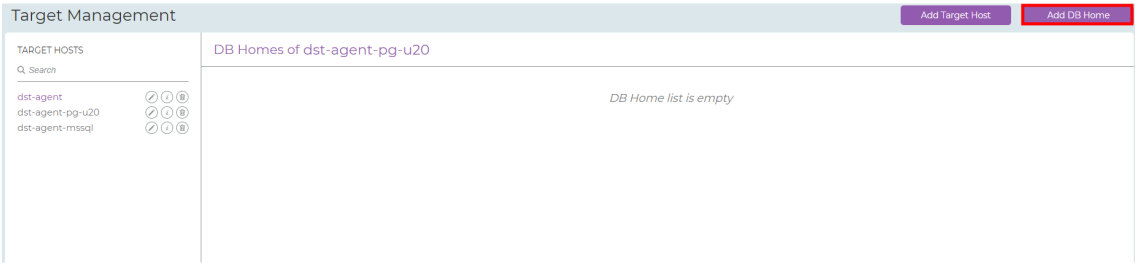
The **Target Management** displays the target host(s) that have been added to the system.



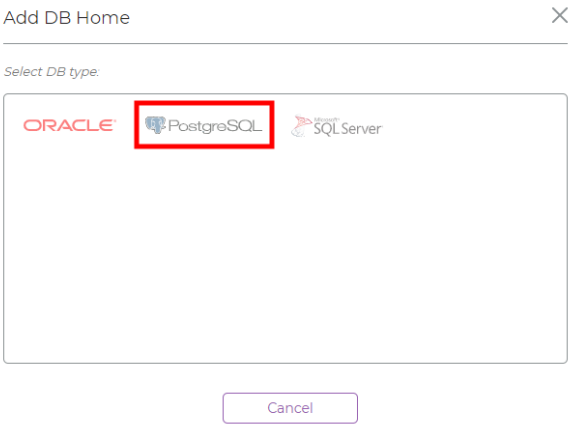
To add a DB Home:

You add a **DB Home** in the **Target** work area.

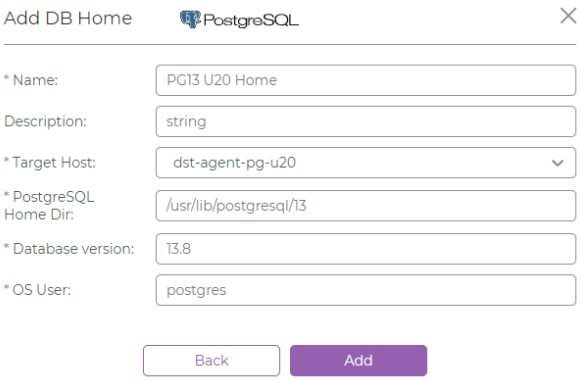
1. Click **Add DB Home**.



2. Select a DB type.



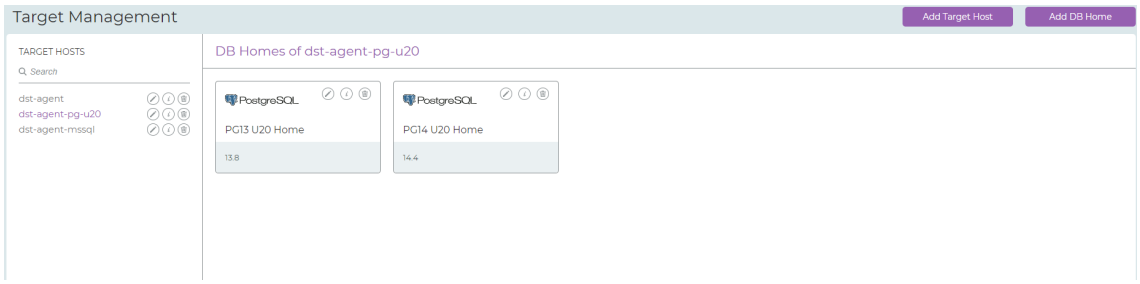
3. Enter the DB Home details.



4. Click **Add**.

After the DB Home is added, the following message appears DB Home has been added.

The **Target Management** displays the DB Home(s) that have been added to the system.

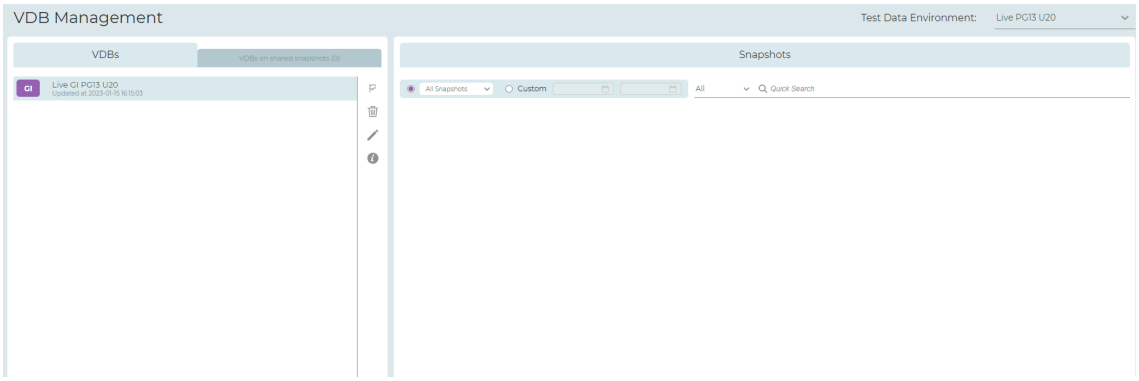


To create and start a VDB.

To create a VDB:

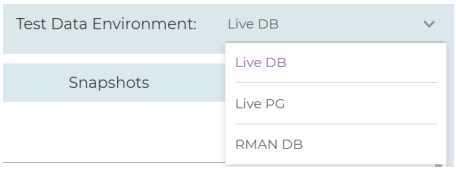
1. On the navigation bar, click  (**VDB**).

The **VDB Management** window appears.

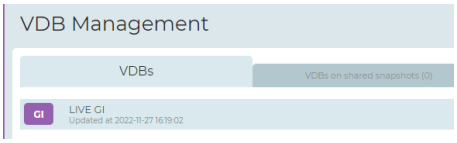


To select a GI:

1. In the **VDB Management** window, select a Test Data Environment.

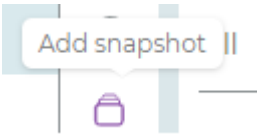


2. Select the GI.

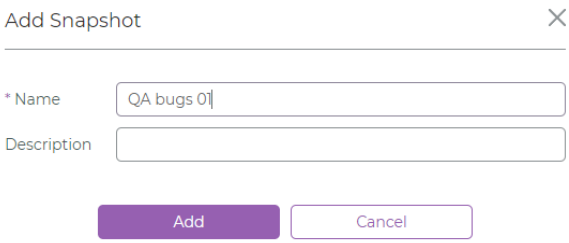


Adding a snapshot:

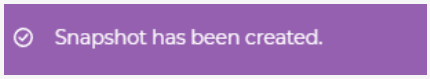
1. Select the source.
2. Click  (**Add snapshot**).



3. Enter a **Name**.

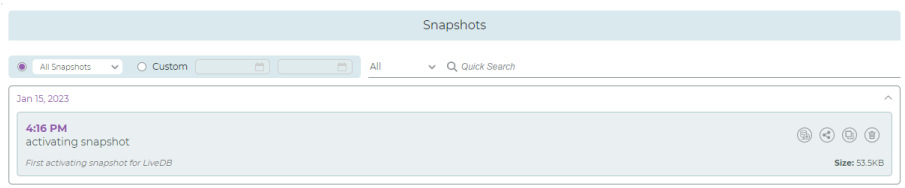


4. Click **Add**.

After the snapshot is created, the following message appears 

.

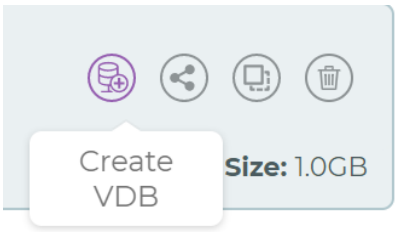
The **Snapshots** work area displays the new snapshot with all the snapshots that have been created.



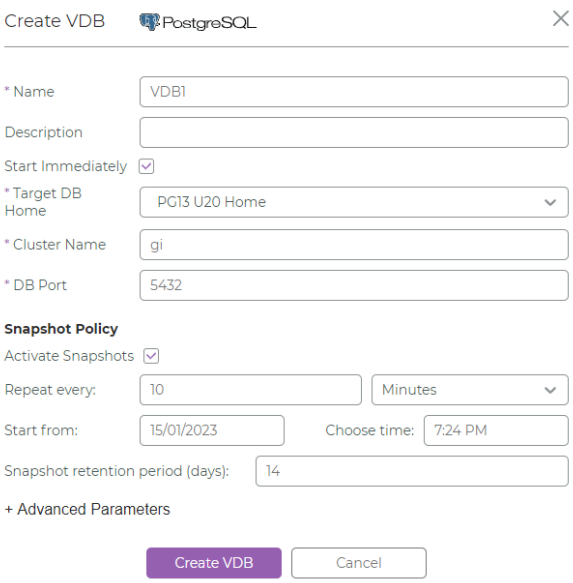
It is possible to scroll using the time and date to the right of a search screenshot.

To create a VDB from a snapshot:

1. Select a snapshot.
2. Click **Create VDB**.

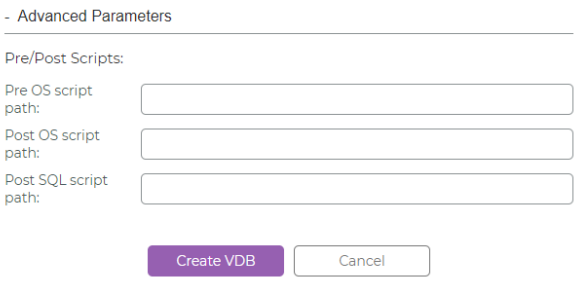


3. Enter the VDB parameters.



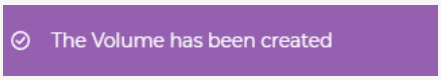
It is recommended to select the Start Immediately checkbox.

4. Enter the **Advanced Parameters**, if necessary.



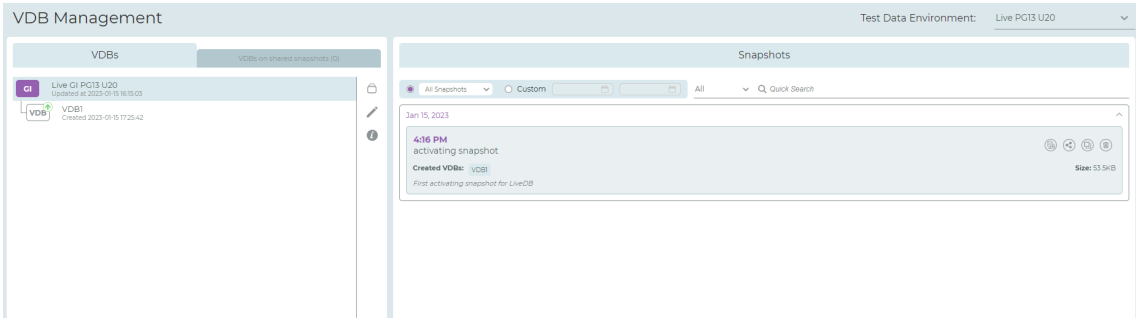
For more information about **Advanced Parameters**, see To add an advanced parameter:

5. Click **Create VDB**. Otherwise, click **Cancel** to exit without creating a VDB.

After the VDB is created, the following message appears 

.

The **VDB Management** window displays the VDB that has been created.



The following icons display information about a VDB:

Icon	Description
	VDB Locked
	VDB Stopped
	VDB Started
	VDB Creation Failed

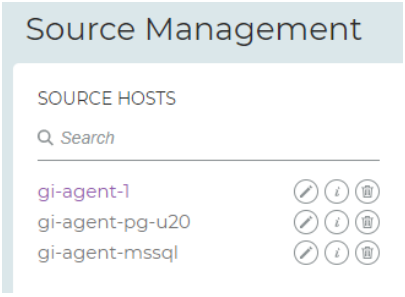
6.2. Source Management

A source host is a server that hosts the source databases. A test data environment includes access definition to one source database and a GI. This section describes how to create and manage a **Source Host** and a **Test Data Environment**.

To open the Source work area:

1. On the navigation bar, click  (**Source**).

The **Source Hosts** window appears displaying all the source hosts that have been added to the system.

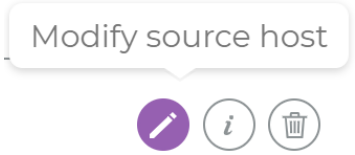


You can quickly locate a source host by typing its letters on the **Search** bar. The list updates promptly.

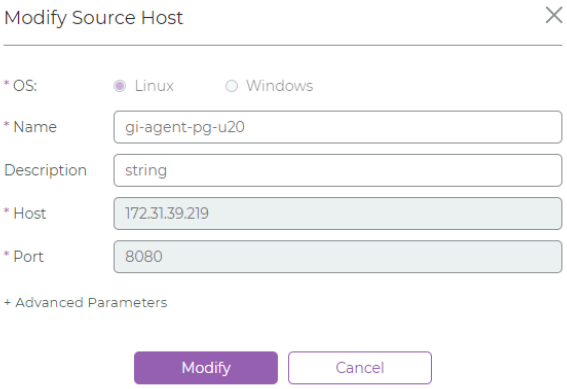
To add a source host, see To add a source host

To modify a source host:

1. Select the source host.
2. Click (Modify source host).



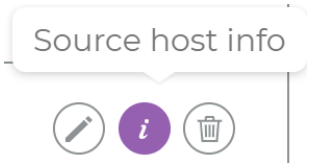
3. Modify the source host as required.



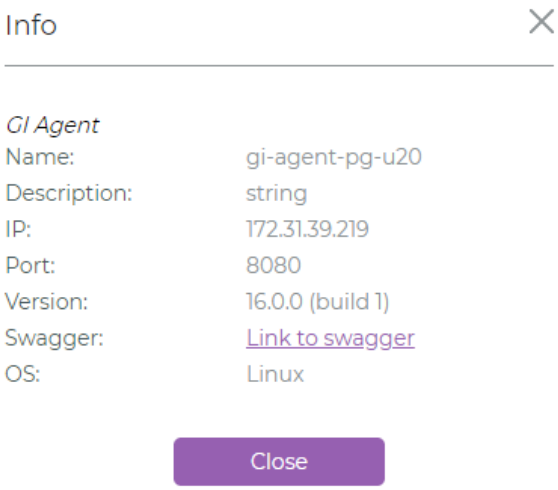
4. To save your changes, click **Modify.**

To see source host information:

1. Select the source host.
2. Click (**Source host info**).



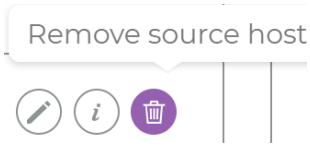
The **Info** window appears.



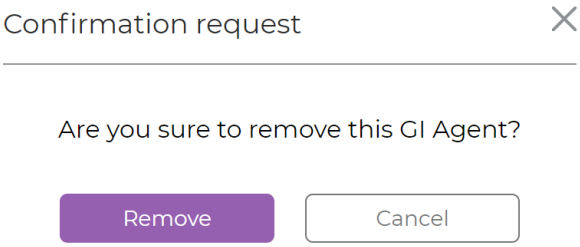
3. To return to the main **Source Management** work area, click **Close**.

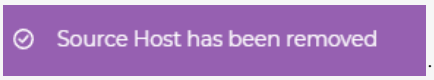
To remove a source host:

1. Select the source host.
2. Click (**Remove source host**).



3. Click **Remove** to confirm the deletion or **Cancel** to exit without deleting the source host.

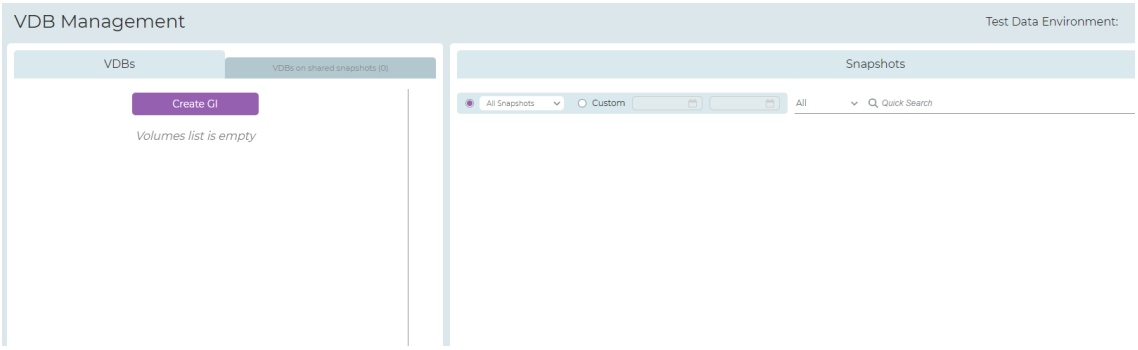


After the source host is removed, the following message appears 

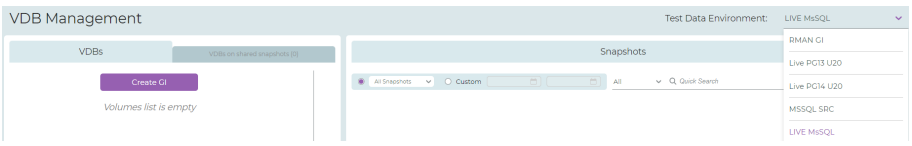
.

To create a test data environment from the VDB Management window:

1. Open the **VDB Management** window.



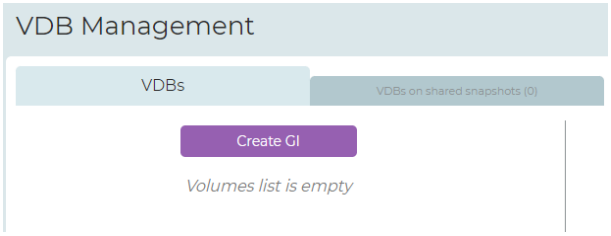
2. In the **VDB Management** window, select a **Test Data Environment**.



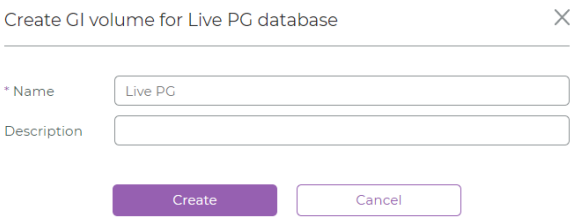
Live GI

To create a Live GI:

1. Click Create GI.



2. Enter a **Name**.

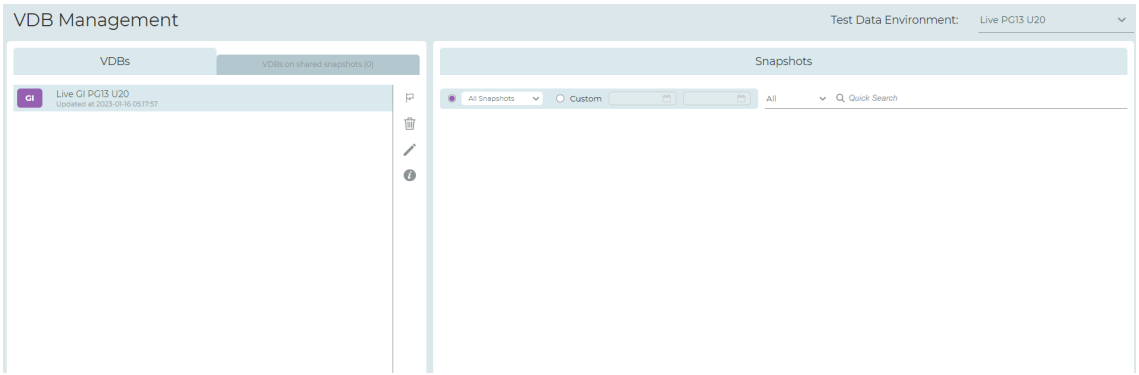


3. Click **Create**.

After the GI is created, the following message appears

Golden Image (live) has been created.

The **VDB Management** window displays the GI that was created.

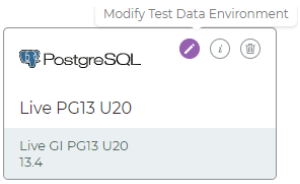


To create a test data environment:

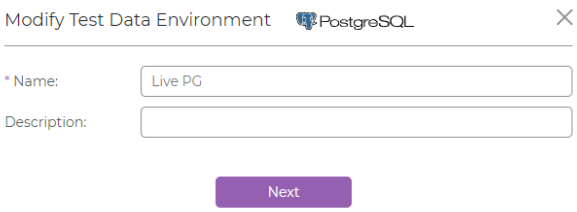
To create a test data environment, see To create a test data environment:.

To edit a test data environment:

1. Select the test data environment.
2. Click (**Modify Test Data environment**).



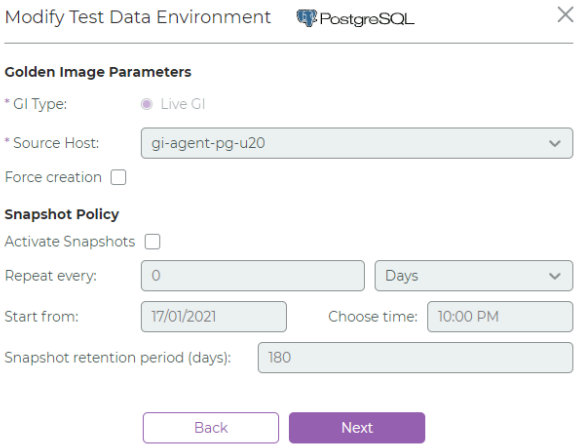
2. The **Modify Test Data Environment** window appears. Modify the test data environment name if necessary.



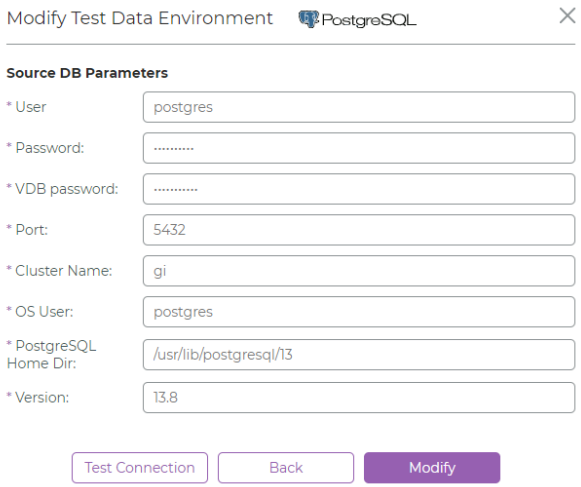
3. Click **Next** to go to the next **Modify Test Data Environment** window.

To modify a Live GI:

1. Modify the **Golden Image Parameters** as required.



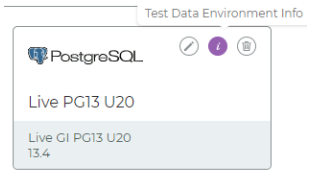
2. Click **Next** to go to the next **Modify Test Data Environment** window.
3. Modify the **Source DB Parameters** as required.



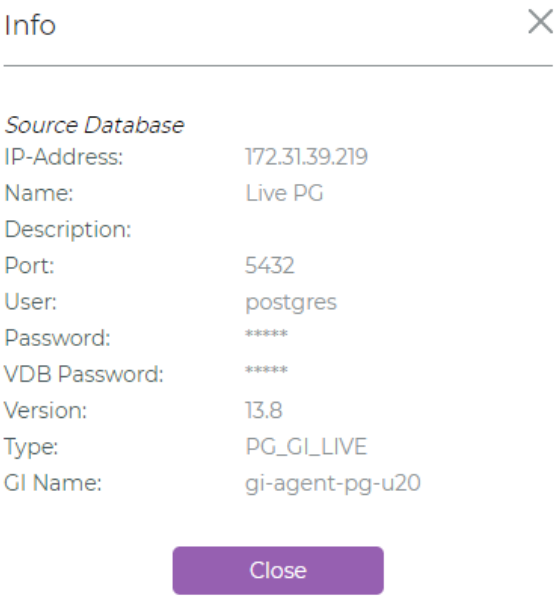
4. To save your changes, click **Modify.**

To see information about a test data environment:

1. Select the test data environment.
2. Click (**Test Data Environment Info**).



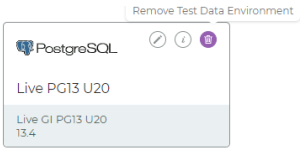
The **Info** window appears.



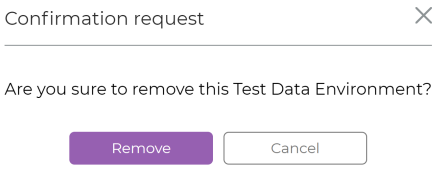
3. To return to the main **Source Management** work area, click **Close**.

To remove a test data environment:

1. Select the test data environment.
2. Click  (**Remove Test Data Environment**).



3. Click **Remove** to confirm the deletion or **Cancel** to exit with deleting the test data environment.



After the database is removed, the following message appears

6.3. Target Management

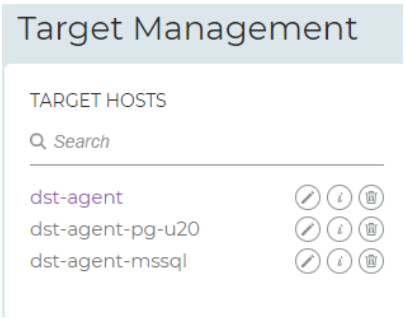
A test data environment includes access definition to one source database and a GI. A DB Home is the target database that is used to make VDBs.

To open the Target work area:

1. On the navigation bar, click 

(Target).

The **Target Management** window appears displaying all the target hosts that have been added to the system.



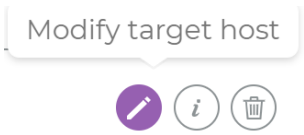
You can quickly locate a target host by typing its letters on the **Search** bar. The list updates promptly.

To add a target host:

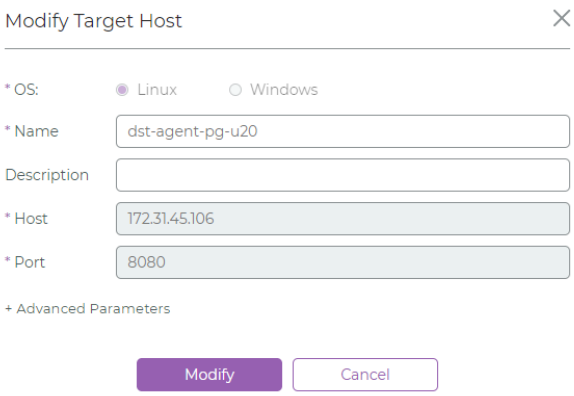
To add a target host, see To add a target host:.

To modify a target host:

1. Select the target host.
2. Click Modify target host.



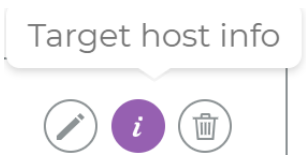
3. Modify the parameters as required.



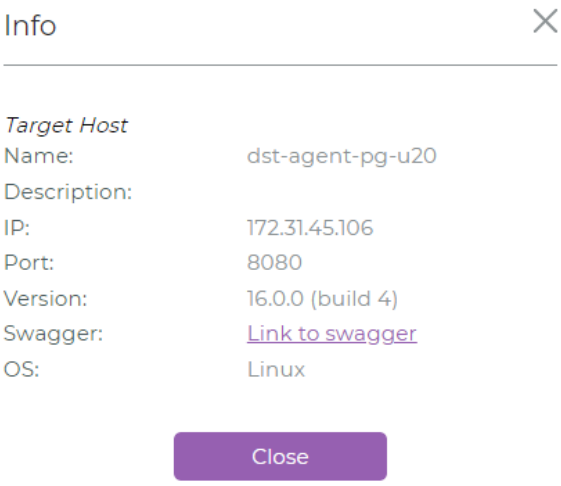
4. To save your changes, click **Modify.**

To see target host information:

1. Select the target host.
2. Click (**Target host info**).



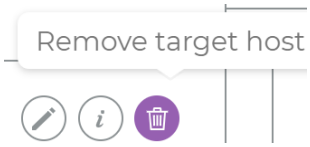
The **Info** window appears.



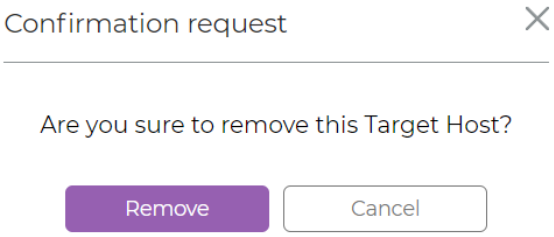
3. To return to the main **Target Management** work area, click **Close**.

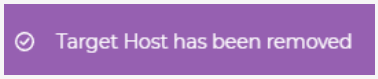
To remove a target host:

1. Select the target host.
2. Click (**Remove target host**).



3. Click **Remove** to confirm the deletion or **Cancel** to exit without deleting the target host.



After the target host is removed, the following message appears 

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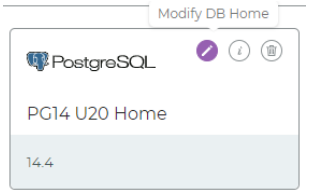
To add a DB Home:

To add an **DB Home**, see To add a DB Home:

To edit DB Homes:

1. Select the DB Home.
2. Click (**Modify DB Home**).

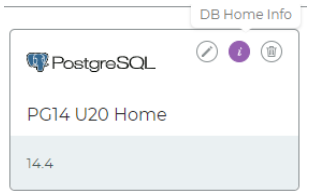


3. The **Modify DB Home** window appears. Modify the test data environment details as required.

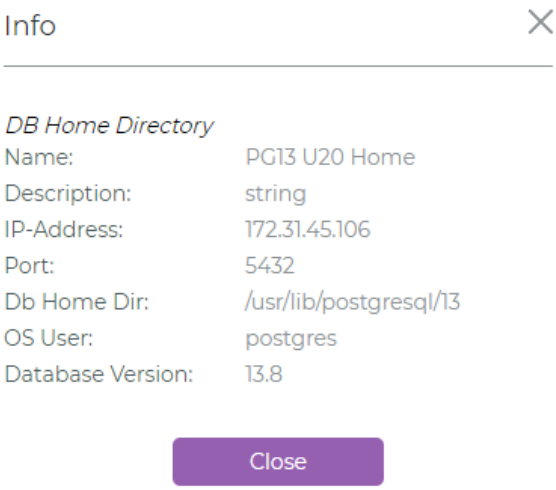
4. To save your changes, click **Modify**.

To see information about a DB Home:

1. Select the DB Home.
2. Click (**DB Home info**).



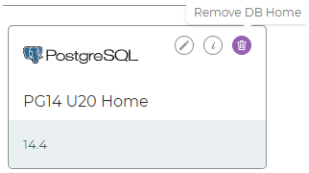
The **Info** window appears.



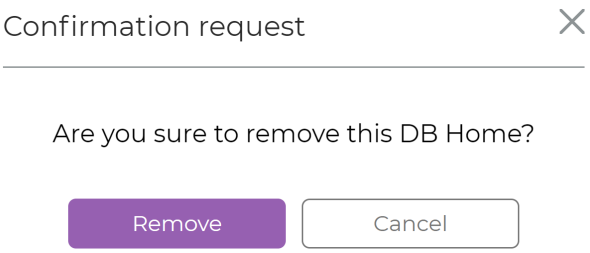
3. To return to the main **Target Management** work area, click **Close**.

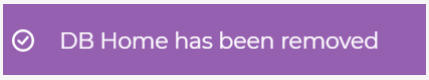
To remove a DB Home:

1. Select the DB Home.
2. Click  (**Remove DB Home**).



3. Click **Remove** to confirm the deletion or **Cancel** to exit without deleting the DB Home.



After the DB Home is removed, the following message appears 

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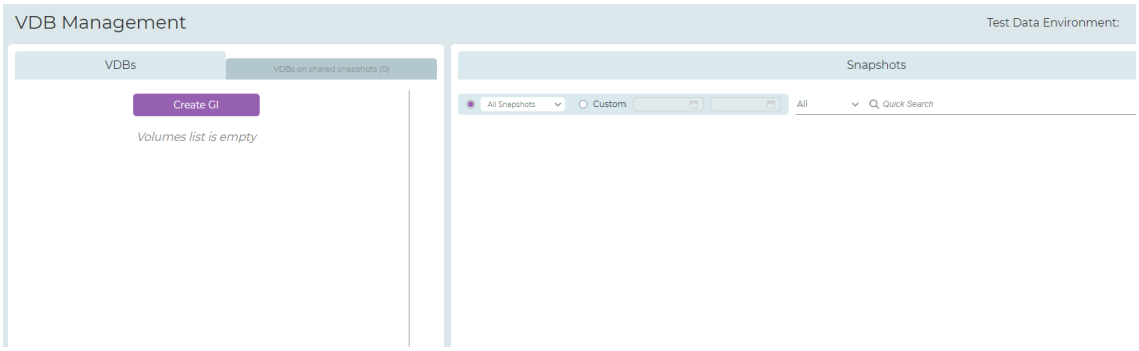
6.4. VDB Management

In the **VDB** work area, you do tasks for a golden image, a duplicate golden image, a VDB, and database snapshots. A golden image is a full synchronized copy of the source database files. A golden image is used to create VDBs. A snapshot is a read/write point-in-time copy of the golden image. This section describes how to do these tasks.

To open the VDB work area:

1. On the navigation bar, click  (**VDB**).

The **VDB Management** window appears.

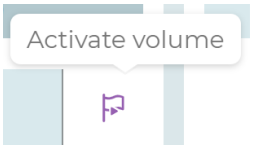


To create VDB:

To create a VDB, see To create and start a VDB.

To activate a GI:

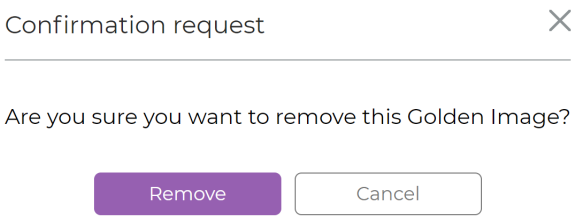
1. Select the GI in the list.
2. Click (**Activate volume**).



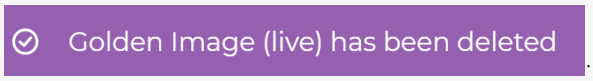
To remove a GI:

1. Select a GI in the list.
2. Click (**Remove Golden Image**).

3. Click **Remove** to confirm the deletion or **Cancel** to exit with deleting the volume.

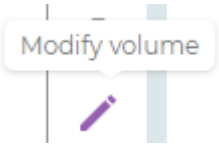


After the GI is removed, the following message appears



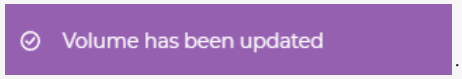
To edit a GI:

1. Select the GI in the list.
2. Click (**Modify volume**).



3. Enter a new **Name**.

4. To save your changes, click **Modify**. Otherwise, click **Cancel**.

After the change is done, the following message appears 

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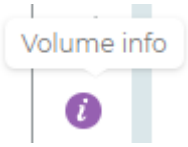
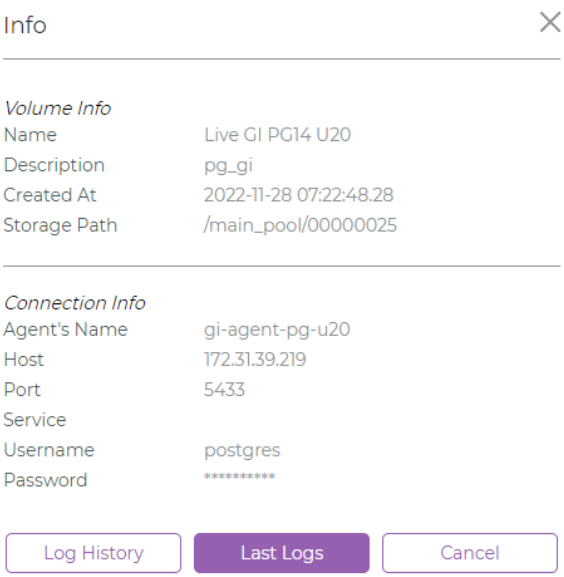
To see information about a GI:

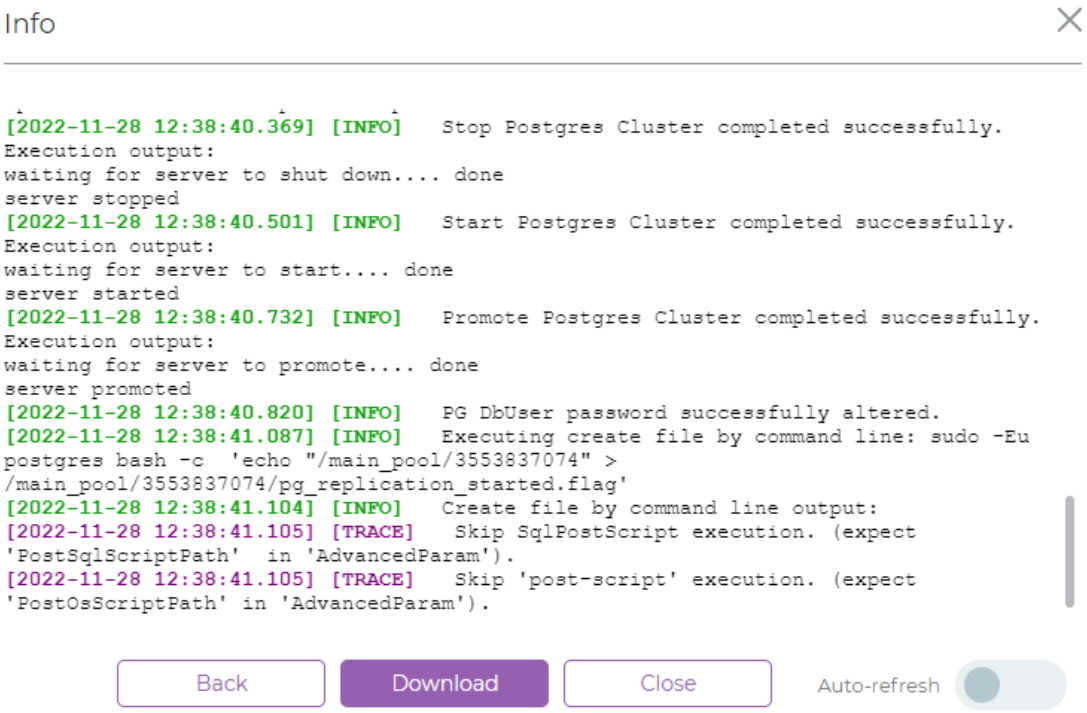
1. Select the GI in the list.
2. Click (**Volume info**).



The **Info** window appears.

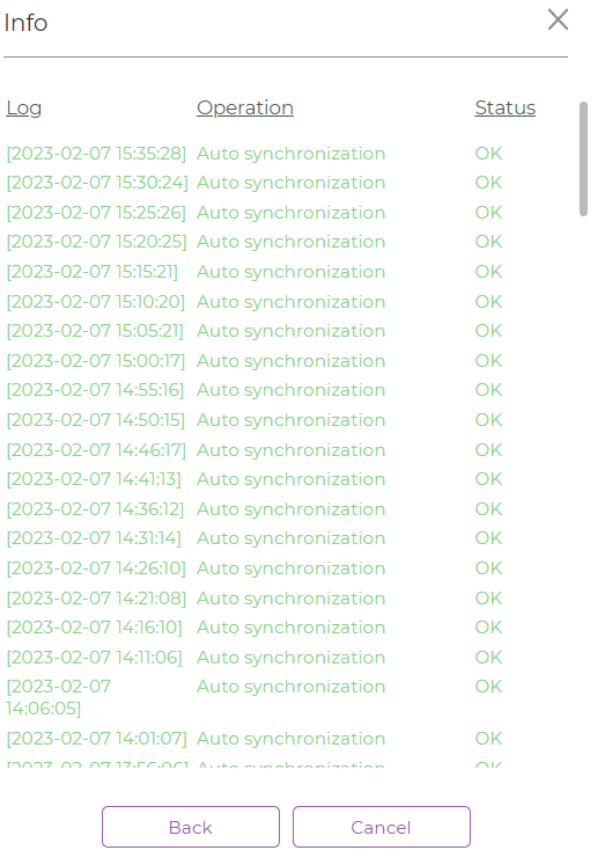


3. To see the last logs, click **Last Logs** or click **Cancel** to return to the VDB Management window.



4. Click **Auto-refresh** to do an auto refresh.
5. To download the last logs, click **Download** or click **Close** to return to the **VDB Management** window.

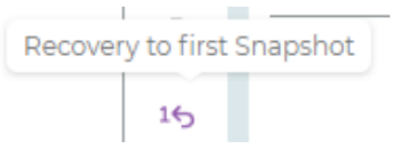
6. To see the log history, click **Log History** or click **Cancel** to return to the **VDB Managment** window.



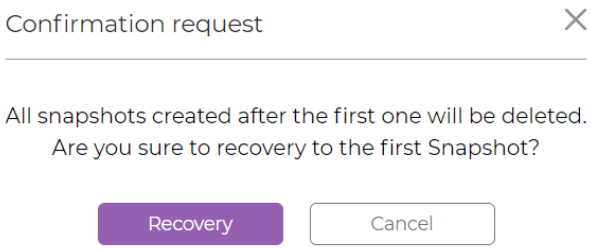
7. Click **Back** or **Cancel** to return to the **Info** window.

To recover to the first snapshot:

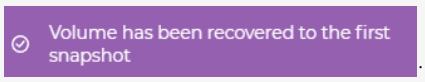
1. Select the source DB.
2. Click (**Recovery to first snapshot**).



3. Click **Recovery** to confirm the recovery or **Cancel** to exit with recovering the snapshot.

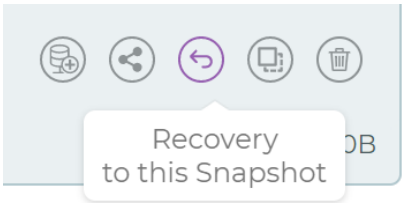


After all the snapshots are removed, the following message appears

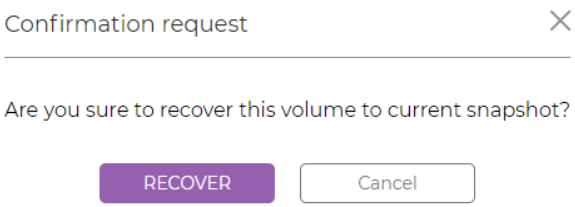


To recover to this snapshot:

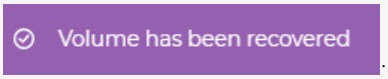
1. Select the snapshot.
2. Click (**Recovery to this snapshot**).



3. Click **Recover** to confirm the recovery or **Cancel** to exit with recovering the snapshot.



After the recover operation is complete, the following message appears



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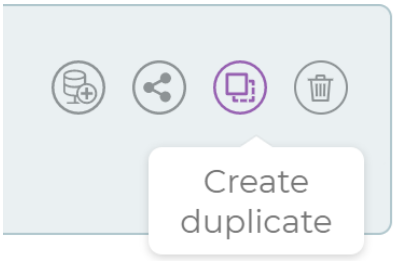
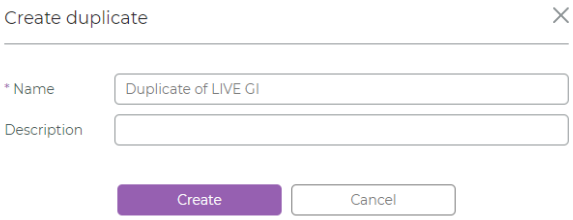
To create a duplicate VDB from a snapshot:

1. Select the snapshot.
2. Click **Create duplicate**.

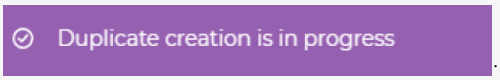


3. Enter a **Name**.



4. Click **Create**. Otherwise, click **Cancel** to exit without creating a duplicate VDB.

During the creation of the duplicate GI, the following message appears



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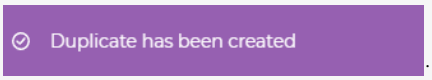
After the duplicate GI is created, the following message appears



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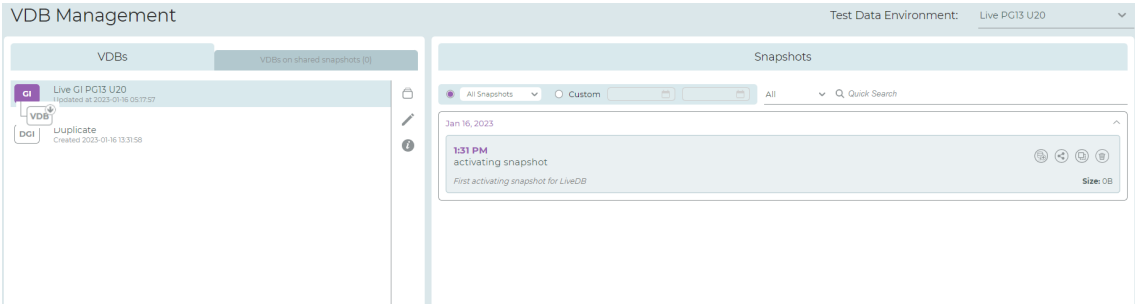
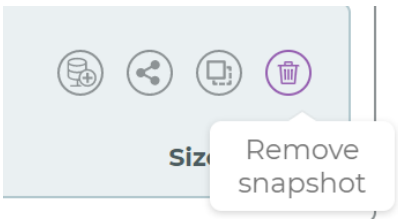
The **VDB Management** window displays the duplicate GI that has been created.

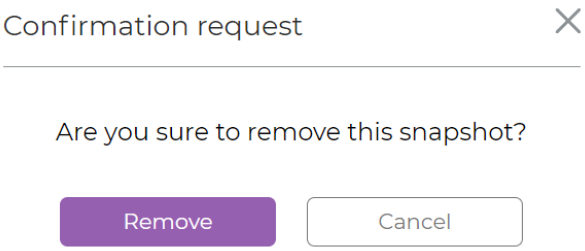


To remove a snapshot:

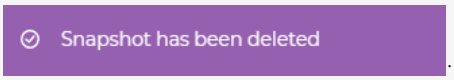
1. Select the snapshot.
2. Click (**Remove snapshot**).



3. Click **Remove** to confirm the deletion or **Cancel** to exit with deleting the snapshot.



After the snapshot is removed, the following message appears



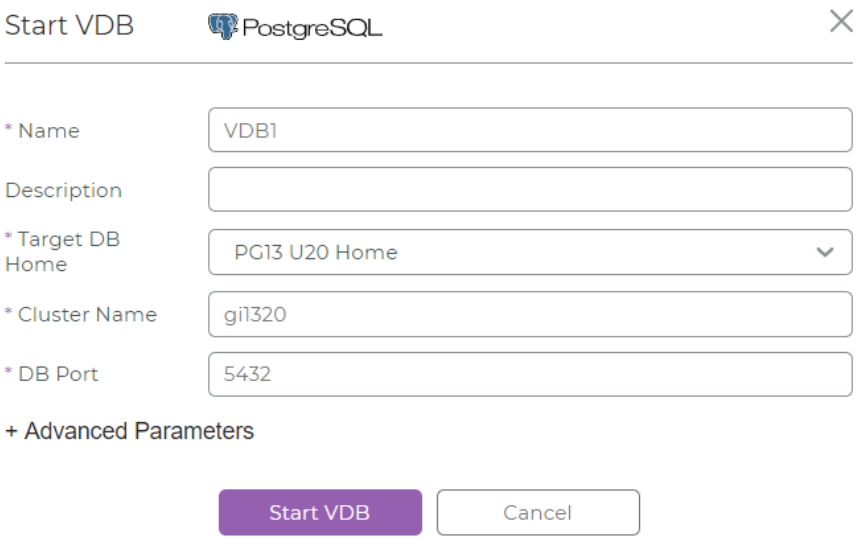
VDB

This section describes additional tasks that are available to manage VDBs.

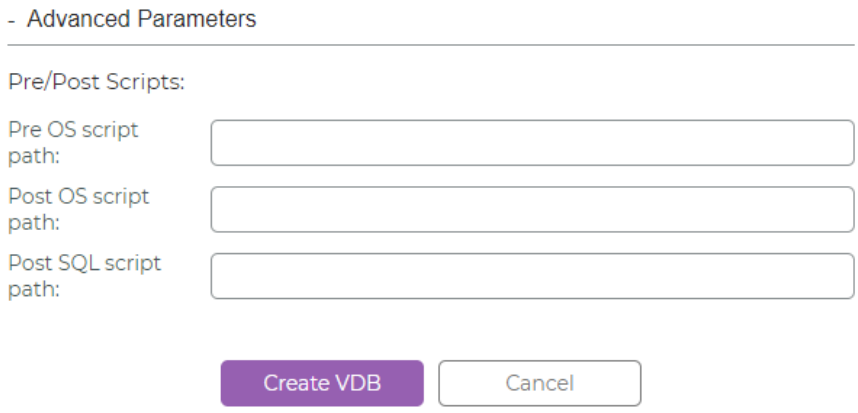
To start a VDB:

1. Select the VDB.
2. Click (**Start VDB**).

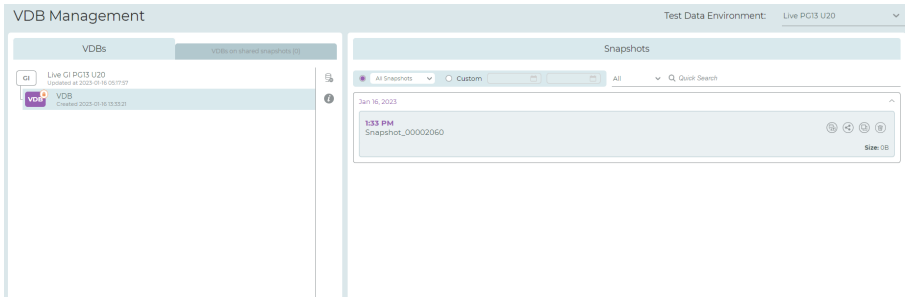
3. Enter the VDB configuration parameters.

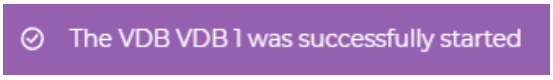


4. Enter Advanced Parameters if necessary.



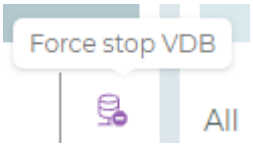
5. Click **Start VDB**. Otherwise, click **Cancel** to exit.

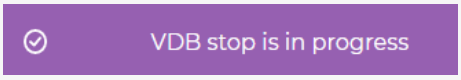


After the VDB was started, the following message appears 

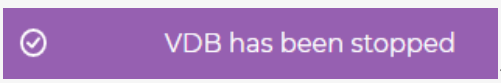
To force stop the refresh of a VDB:

1. Select the VDB.
2. Click (**Force stop VDB**).



During the force stop, the following message appears 

.

After the force stop is complete, the following message appears 

.

To stop the refresh of a VDB:

1. Select the VDB.
2. Click (**Stop VDB**).

During the stop, the following message appears VDB stop is in progress.

After the stop is complete, the following message appears

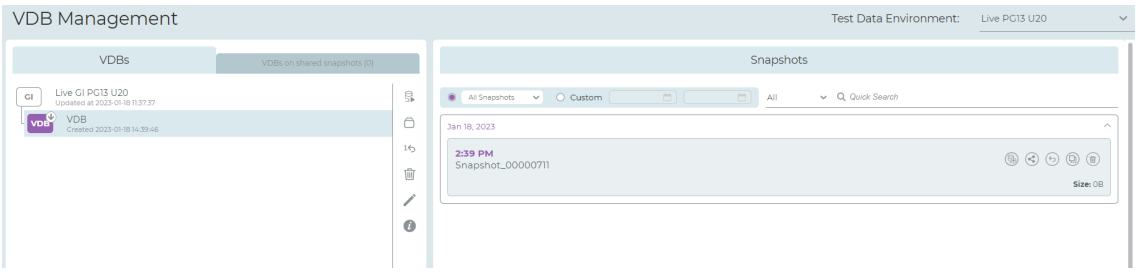
VDB has been stopped.

6.5. Sharing Snapshots

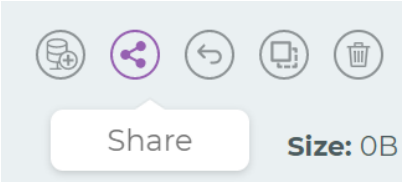
A user in one role category can share a snapshot with a user in another role category. This section gives the procedure. In the following example a user with a QA role shares a snapshot with a Dev role.

To share a VDB:

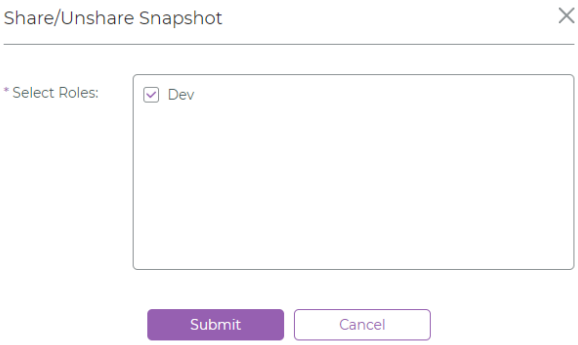
1. Select a snapshot of a Golden Image or a VDB.



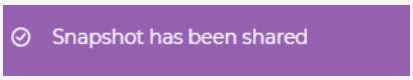
2. Click  **Share** on a snapshot object.



3. Select the role to share the snapshot.

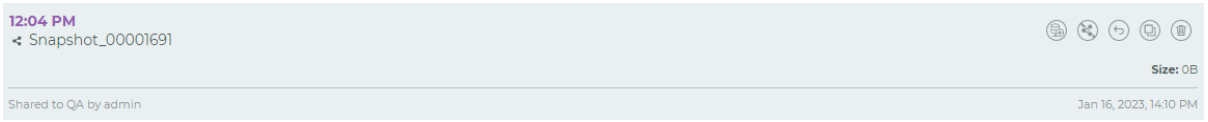


4. Click **Submit**.

After the snapshot is shared, the following message appears 

.

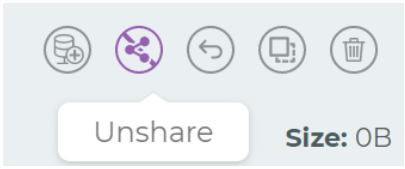
The **VDB Management** window displays the relevant sharing information.



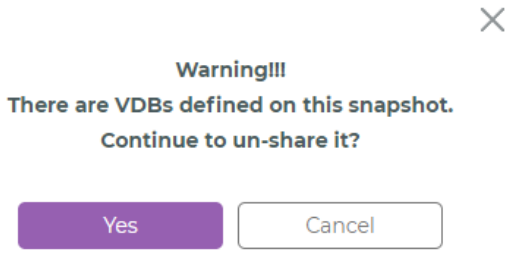
To unshare a snapshot:

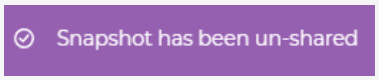
1. Select the snapshot.

2. Click  **Unshare**.



3. Click **Yes** to confirm unsharing the snapshot or **Cancel** to exit with unsharing the snapshot.

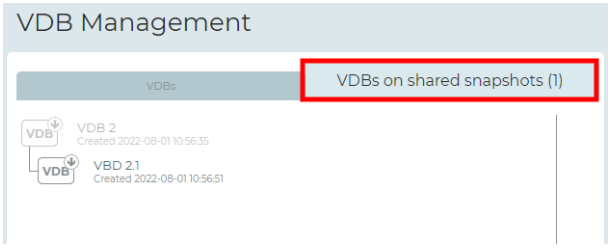


After the snapshot is unshared, the following message appears 

.

To see snapshots that are shared to you:

1. Click **VDBs on shared snapshots**.



The number in parentheses indicates the number of shared snapshots.

7. Using an MS-SQL Data Base

The following sections from Initial Setup below to Sharing Snapshots are for MS-SQL users.

Return to Getting to Know the GUI.

Continue to Users Management.

7.1. Microsoft SQL Server Initial Setup

To setup the infrastructure in the Data Virtualization Module, do the following procedure:

1. To install the Accelario source agent and target agent:
2. To add a target host:
3. To create a test data environment from a Native SQL server Backup:
4. To add a target host:
5. To add a DB Home:
6. To create and start a VDB.

To install the Accelario source agent and target agent:

Accelario agents are deployed on a source server and on a target server. There are two types of agents:

1. GI (golden image) agent - installed on the source server.
2. Destination agent - installed on the target server.

When the VDB is used on the same server where the source DB resides, both agents can be installed on the same server. It is necessary to change the ports as described below.

- The agents should be run as root.
- The agents should be run in the background.

Example for a source agent.

```
screen -dmS gi_agent java -jar /home/ec2-user/gi_agent-1.0-SNAPSHOT.jar
```

```
nohup java -jar /home/ec2-user/gi_agent-1.0-SNAPSHOT.jar &
```

Example for a target agent.

```
screen -dmS dst_agent java -jar /home/ec2-user/dst_agent-1.0-SNAPSHOT.jar
```

```
nohup java -jar /home/ec2-user/dst_agent-1.0-SNAPSHOT.jar &
```

The default port is 8080.

If necessary, the port can be changed. Use the following parameters to java execution:

Example for a source agent.

```
-Ddw.server.applicationConnectors[0].port=8090 -Ddw.server.adminConnectors[0].port=8092
```

Example for a target agent.

```
java -Ddw.server.applicationConnectors[0].port=8090 -Ddw.server.adminConnectors[0].port=8092 -jar ./dst_agent-1.0-SNAPSHOT.jar
```

To set the timezone for a java process:

To set the timezone for a java process, use the following code:

```
-Duser.timezone=<TimeZone> jvm command line option
```

Example for a source agent.

```
screen -dmS gi_agent java -Duser.timezone=America/Halifax -jar /home/ec2-user/gi_agent-1.0-SNAPSHOT.jar
```

Example for a target agent.

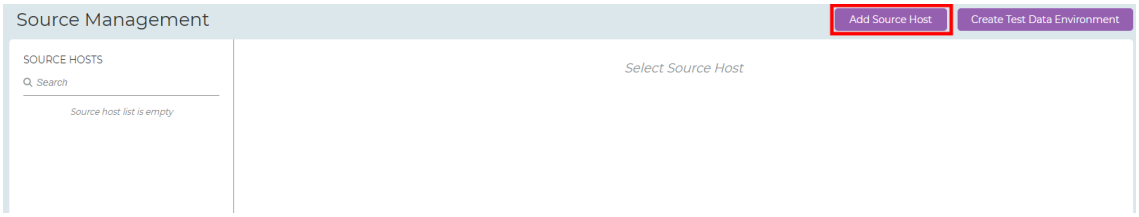
```
screen -dmS dst_agent java -Duser.timezone=America/Halifax -jar /home/ec2-user/dst_agent-1.0-SNAPSHOT.jar
```

To add a source host:

1. On the navigation bar, click 

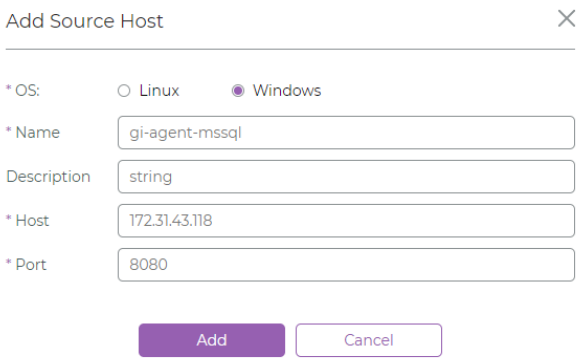
(**Source**).

The **Source Management** window appears.

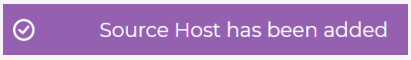


2. Click **Add Source Host**.
3. Enter the source host details.

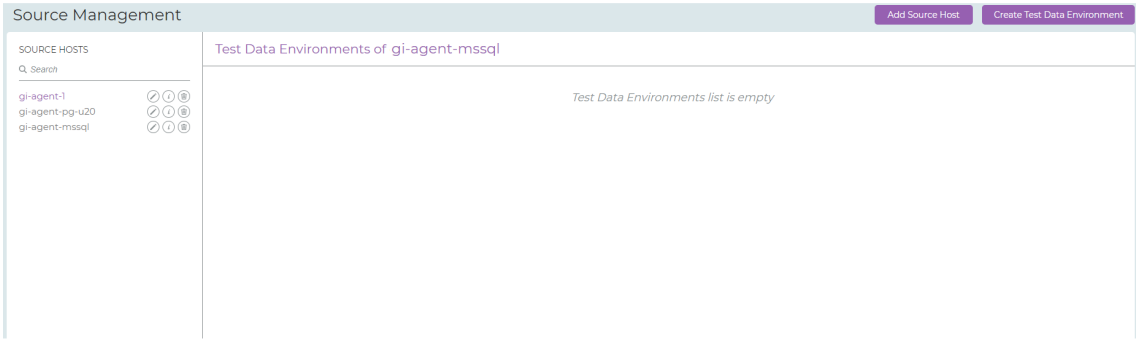
> In all dialog boxes, an asterisk * next to a label on the left is used to identify a mandatory user input.



5. Click **Add**.

> After the source host is added, the following message appears 
>
> .

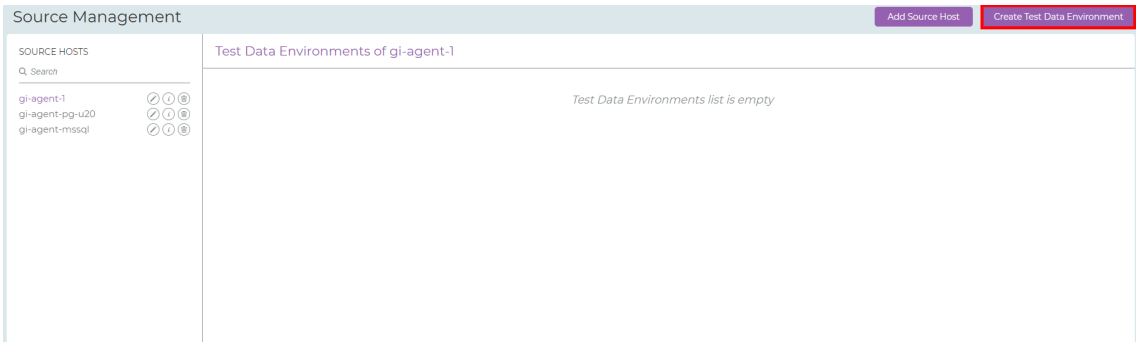
The **Source Management** window displays the source host(s) that have been added to the system.



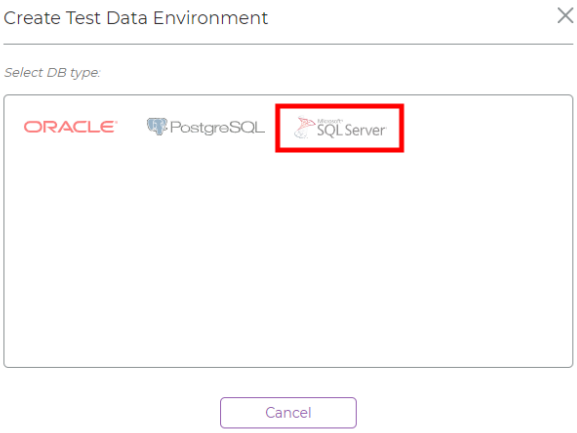
To create a test data environment:

1. On the navigation bar, click  (**Source**).

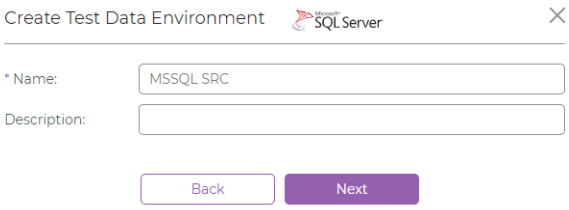
The Source Management window appears.



2. Click **Create Test Data Environment**.
3. Select DB type.



4. Enter a **Name**.

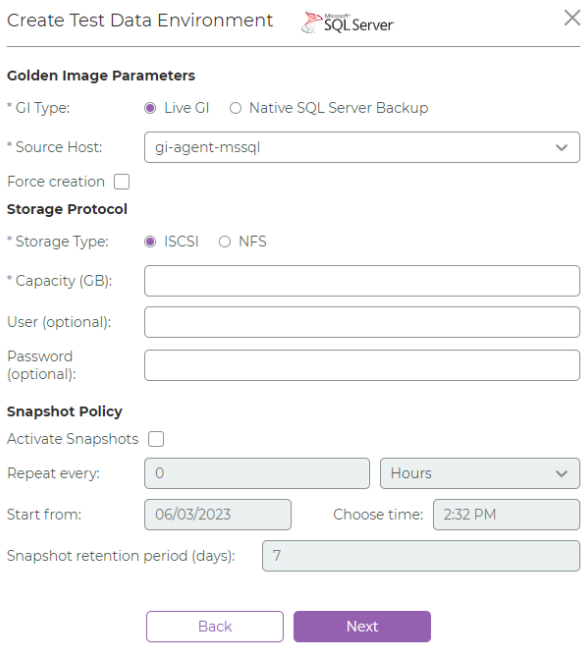


5. Click **Next**.

To create a test data environment from a LIVE GI:

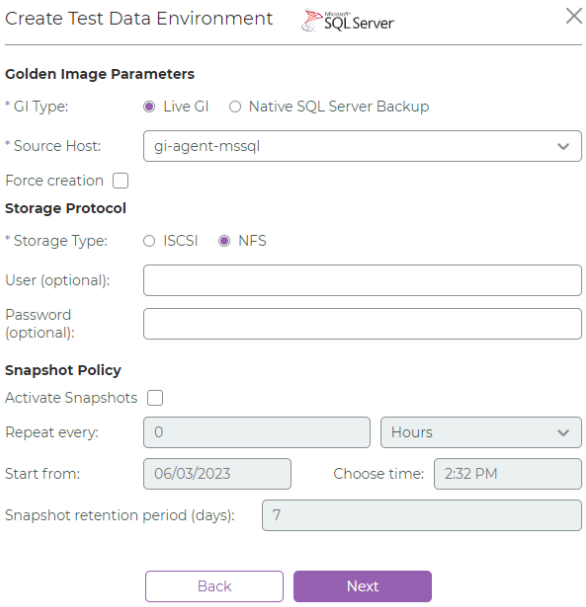
1. Enter the test data environment details.

2. Select a storage type:
   a. iSCSI

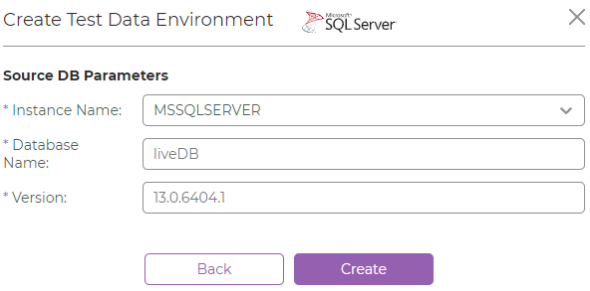


For iSCSI storage type it is necessary in the **Capacity** field to enter the capacity in GB.

b. NFS

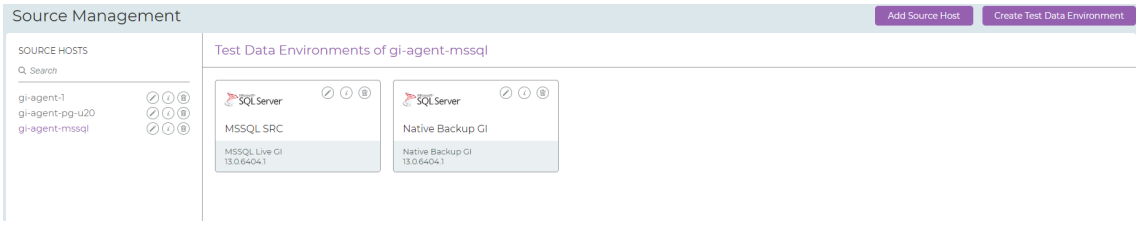


3. Click **Next**.
4. Enter the **Source DB Parameters**.



5. Click **Create**.

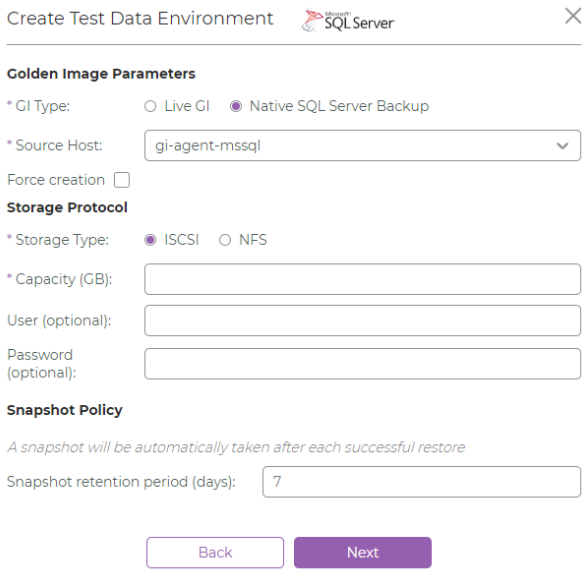
The **Source Management** window displays the test data environment for the source host that has been created.



To create a test data environment from a Native SQL server Backup:

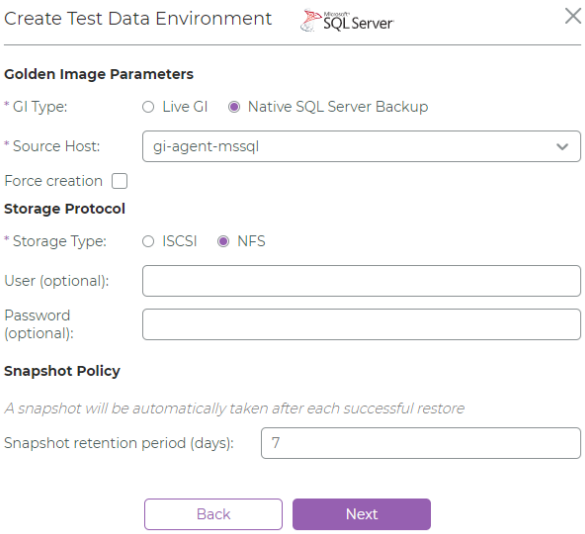
1. Enter the test data environment details.

2. Select a storage type:
   a. iSCSI



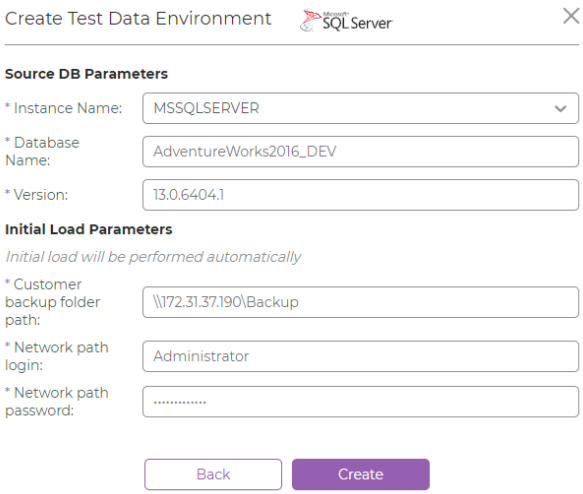
For iSCSI storage type it is necessary in the **Capacity** field to enter the capacity in GB.

b. NFS



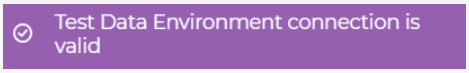
3. Click **Next**.

4. Enter the **Source DB Parameters**.



It is recommended to select the **Refresh immediately** checkbox to make a full copy of the Golden Image after the test data environment is automatically created.

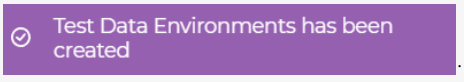
5. Click **Test Connection** to verify that the connection to the database is valid.

After the test is complete, the following message appears 

.

6. Click **Done**.

After the test data environment is created, the following message appears



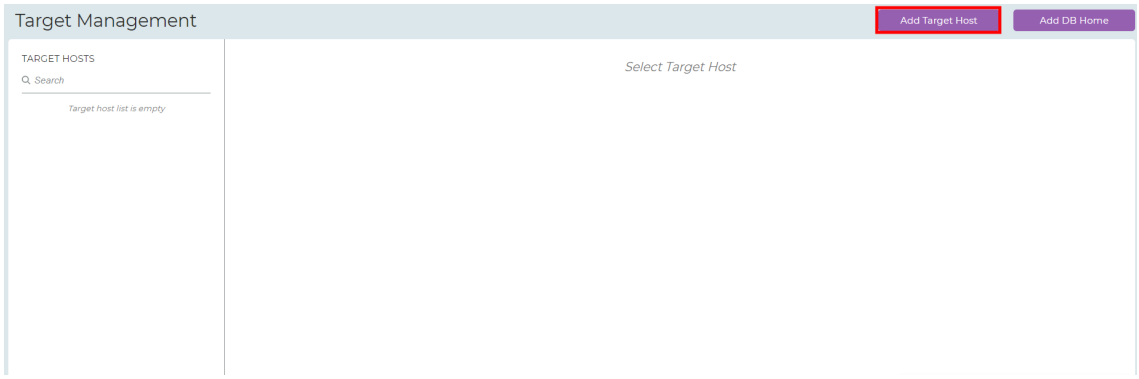
.

To add a target host:

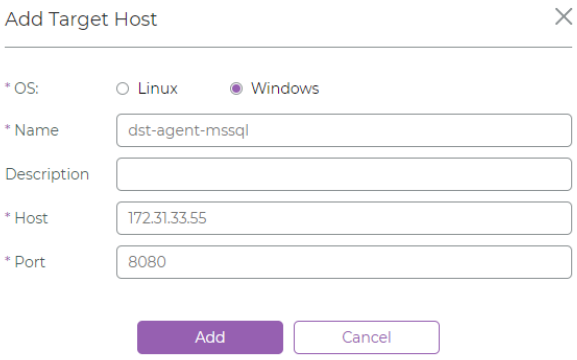
1. On the navigation bar, click 

(**Target**).

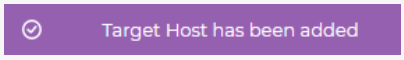
The **Target Management** window appears.



2. Click **Add Target Host**.
3. Enter the target host details.

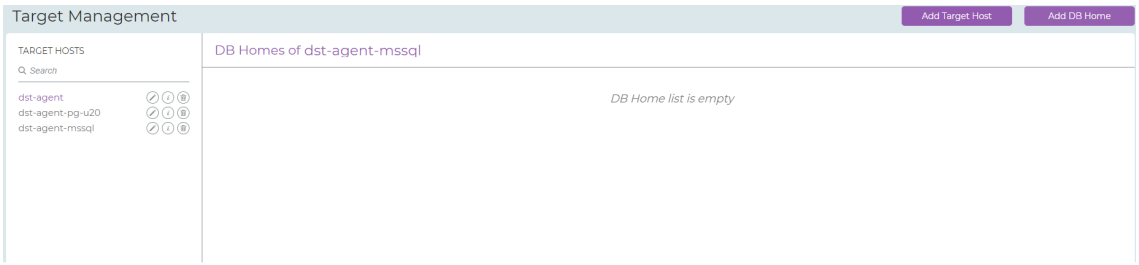


4. Click **Add**.

After the target host is added, the following message appears 

.

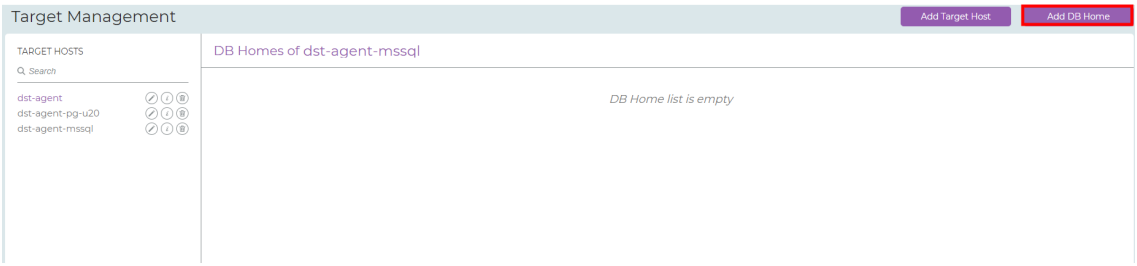
The **Target Management** displays the target host(s) that have been added to the system.



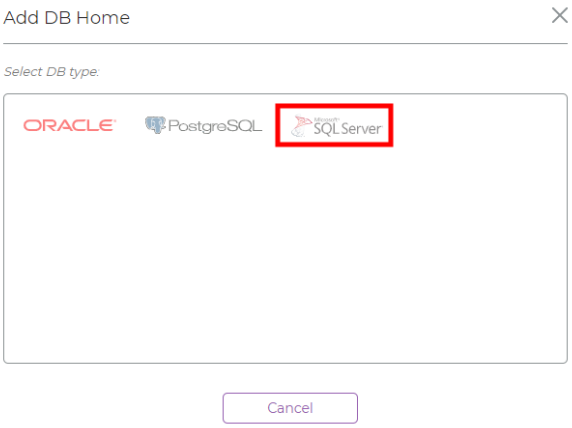
To add a DB Home:

You add a **DB Home** in the **Target** work area.

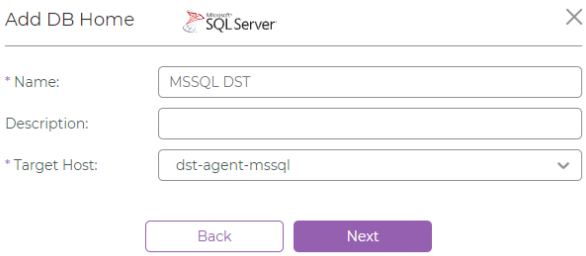
1. Click **Add DB Home**.



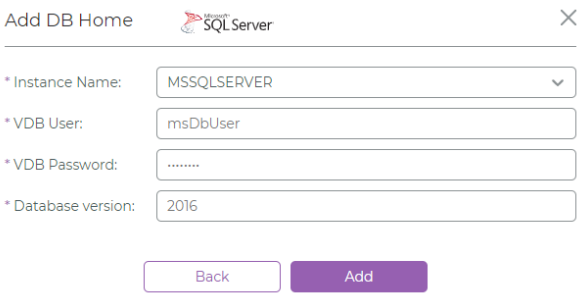
2. Select a DB type.



3. Enter the DB Home details.



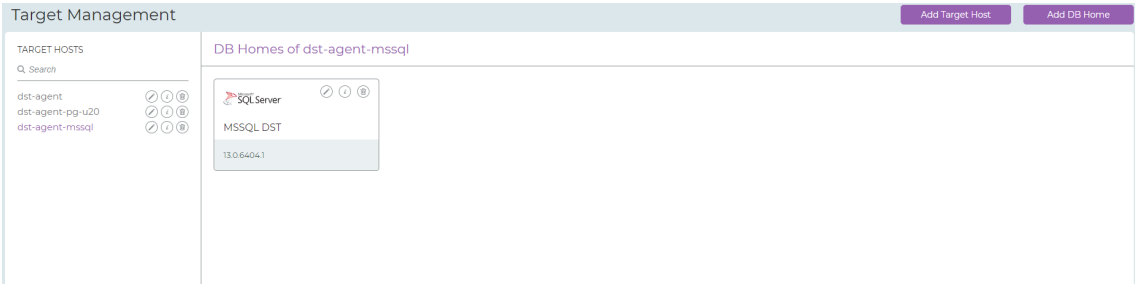
4. Click **Next** to go to the next **Add DB Home** window.



5. To save your changes, click **Add**.

After the DB Home is added, the following message appears DB Home has been added.

The **Target Management** displays the DB Home(s) that have been added to the system.

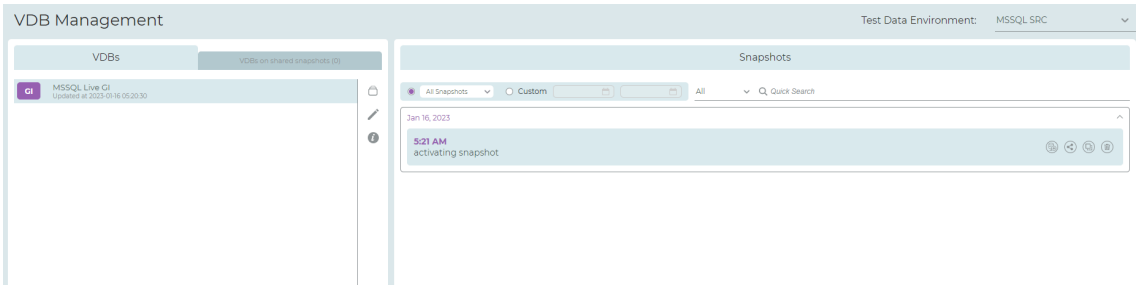


To create and start a VDB.

To create a VDB:

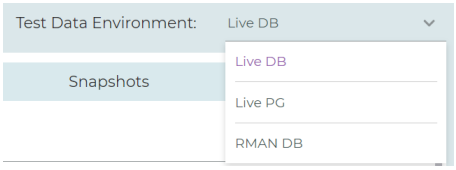
1. On the navigation bar, click  (**VDB**).

The **VDB Management** window appears.



To select a GI:

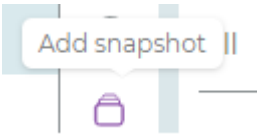
1. In the **VDB Management** window, select a Test Data Environment.



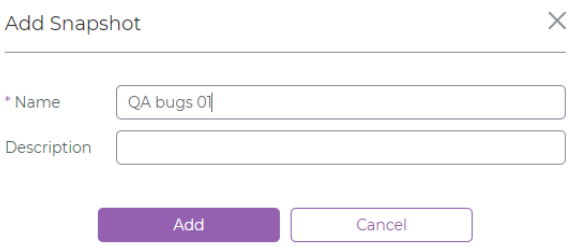
2. Select the GI.

Adding a snapshot:

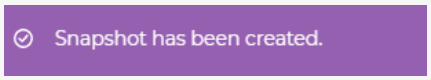
1. Select the source.
2. Click (**Add snapshot**).



3. Enter a **Name**.

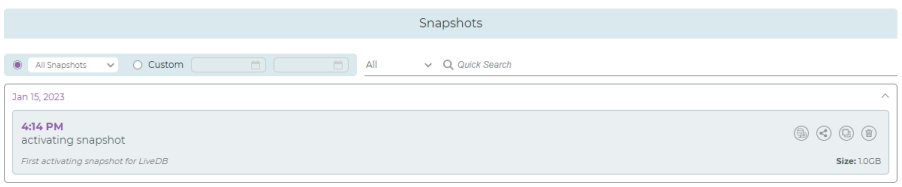


4. Click **Add**.

After the snapshot is created, the following message appears 

.

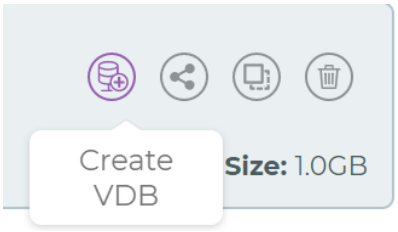
The **Snapshots** work area displays the new snapshot with all the snapshots that have been created.



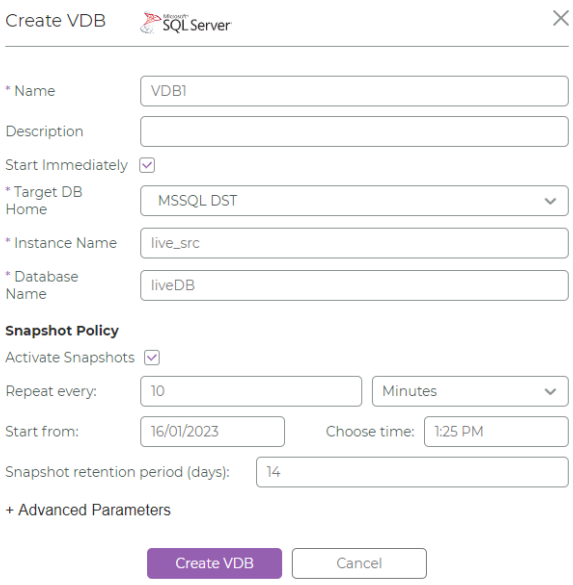
It is possible to scroll using the time and date to the right of a search screenshot.

To create a VDB from a snapshot:

1. Select a snapshot.
2. Click **Create VDB**.

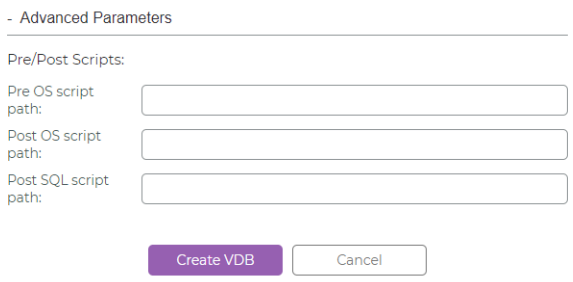


3. Enter the VDB parameters.



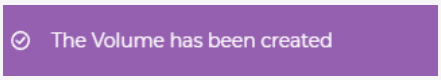
It is recommended to select the Start Immediately checkbox.

4. Enter the **Advanced Parameters**, if necessary.



For more information about **Advanced Parameters**, see To add an advanced parameter:

5. Click **Create**. Otherwise, click **Cancel** to exit without creating a VDB.

After the VDB is created, the following message appears 

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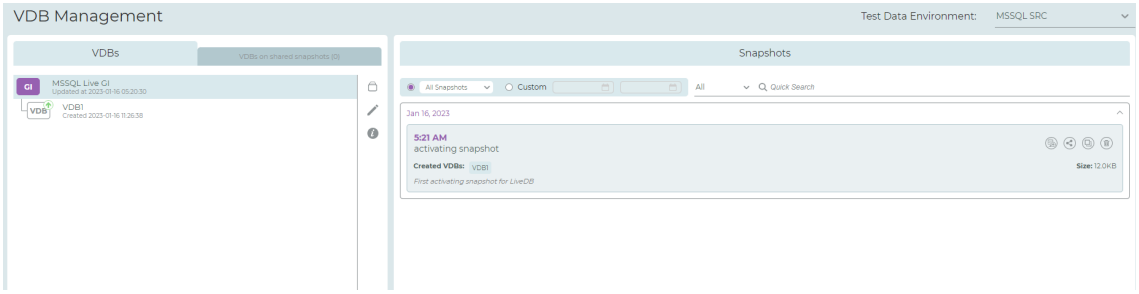
The **VDB Management** window displays the VDB that has been created.



The following icons display information about a VDB:

Icon	Description
	VDB Locked
	VDB Stopped
	VDB Started
	VDB Creation Failed

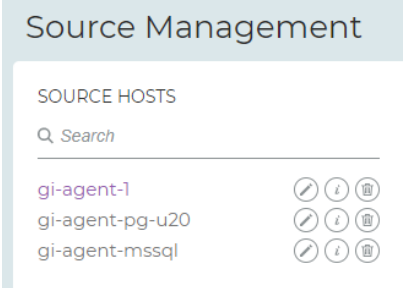
7.2. Source Management

A source host is a server that hosts the source databases. A test data environment includes access definition to one source database and a GI. This section describes how to create and manage a **Source Host** and a **Test Data Environment**.

To open the Source work area:

1. On the navigation bar, click  (**Source**).

The **Source Hosts** window appears displaying all the source hosts that have been added to the system.

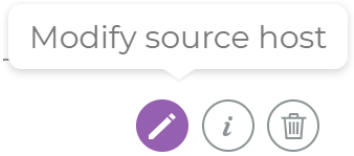


You can quickly locate a source host by typing its letters on the **Search** bar. The list updates promptly.

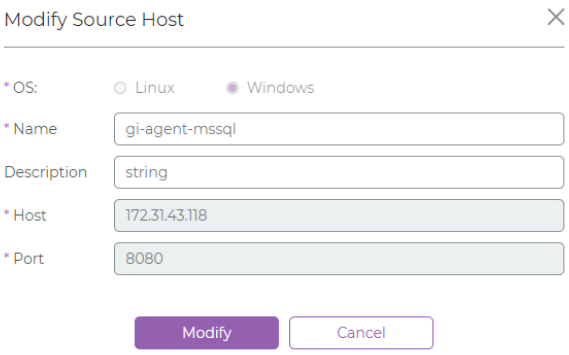
To add a source host, see

To modify a source host:

1. Select the source host.
2. Click (Modify source host).



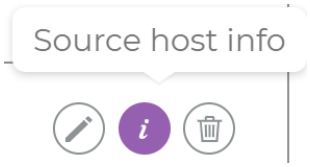
3. Modify the source host as required.



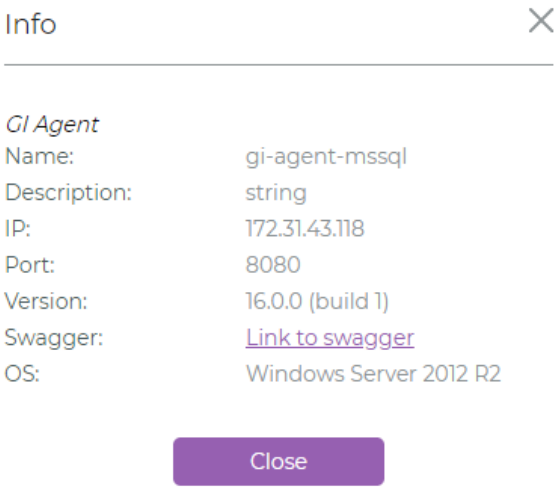
4. To save your changes, click **Modify.**

To see source host information:

1. Select the source host.
2. Click (**Source host info**).



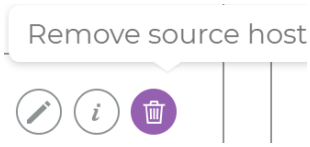
The **Info** window appears.



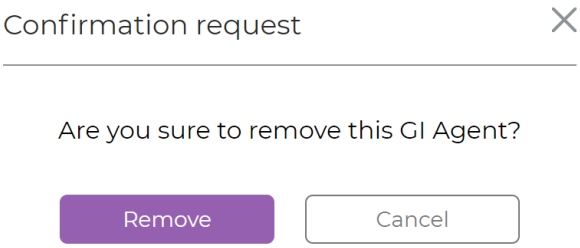
3. To return to the main **Source Management** work area, click **Close**.

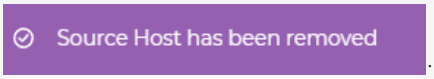
To remove a source host:

1. Select the source host.
2. Click (**Remove source host**).



3. Click **Remove** to confirm the deletion or **Cancel** to exit without deleting the source host.

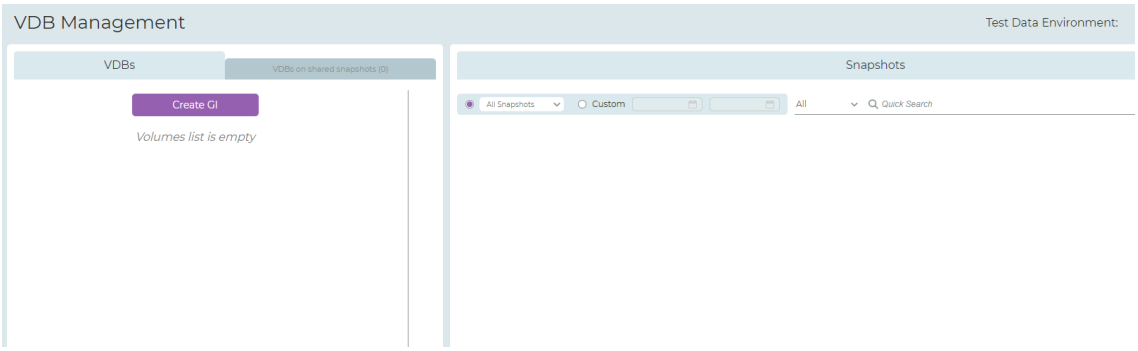


After the source host is removed, the following message appears 

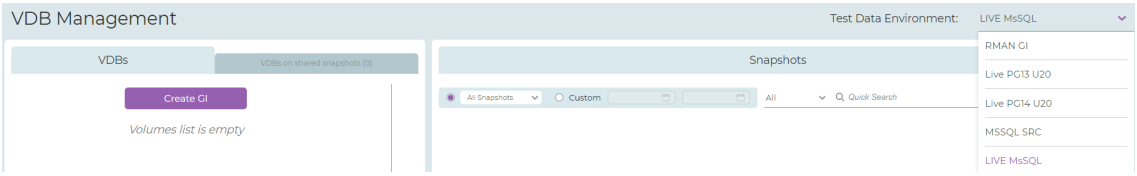
.

The create a test data environment form the VDB Management window:

1. Open the **VDB Management** window.



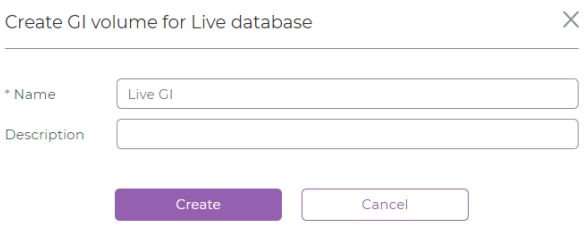
2. In the **VDB Management** window, select a **Test Data Environment**.



Live GI

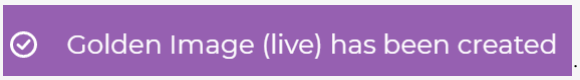
To create a Live GI:

1. Click Create LIVE GI.
2. Enter a **Name**.

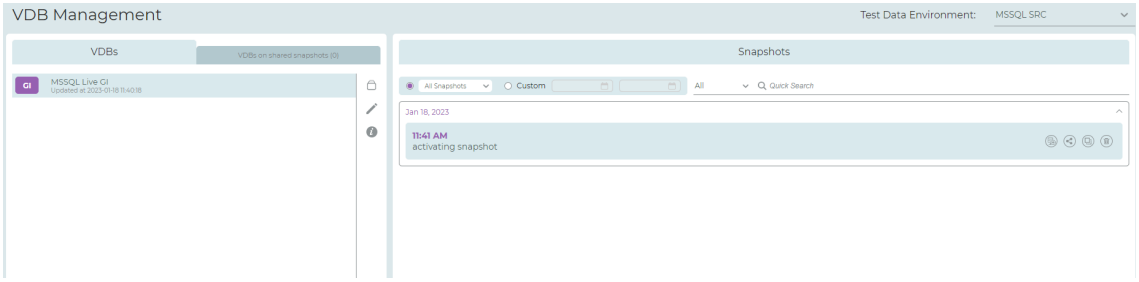


3. Click **Create**.

After the GI is created, the following message appears

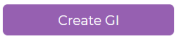


The **VDB Management** window displays the GI that was created.

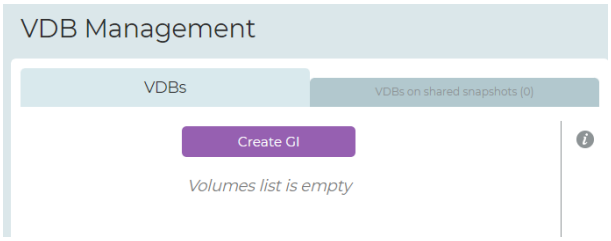


SQL Native Server Backup

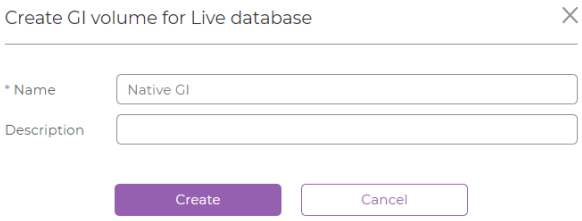
To create a SQL Native Server Backup:

1. Click 

.

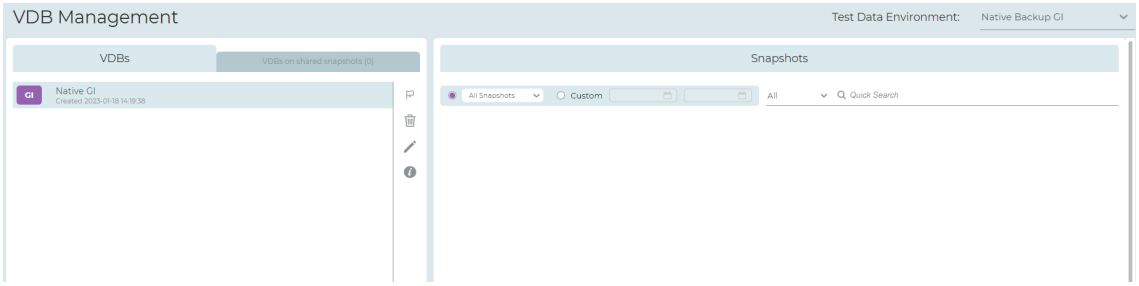


2. Enter a **Name**.



3. Click **Create**.

The **VDB Management** window displays the GI that was created.

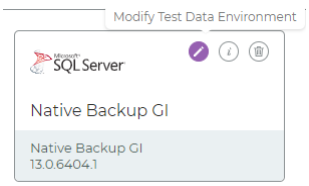


To create a test data environment:

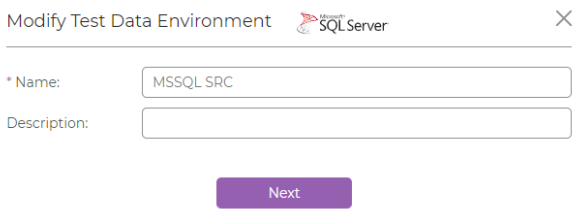
To create a test data environment, see To create a test data environment:.

To edit a test data environment:

1. Select the test data environment.
2. Click (**Modify Test Data environment**).



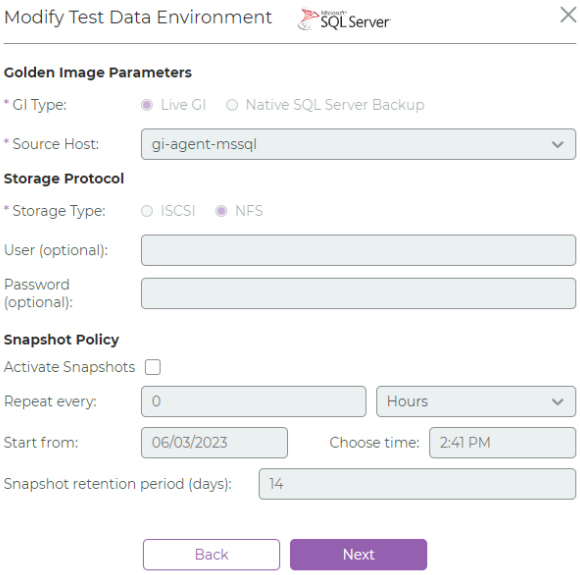
2. The **Modify Test Data Environment** window appears. Modify the test data environment name if necessary.



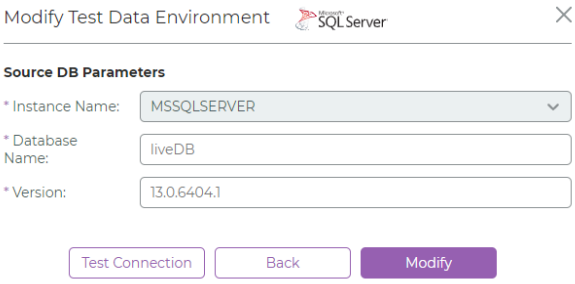
3. Click **Next** to go to the next **Modify Test Data Environment** window.

To modify a Live GI:

1. Modify the **Golden Image Parameters** as required.



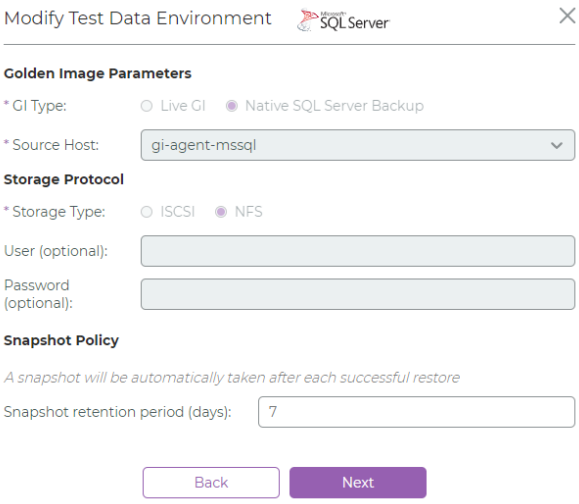
2. Click **Next** to go to the next **Modify Test Data Environment** window.
3. Modify the **Source DB Parameters** as required.



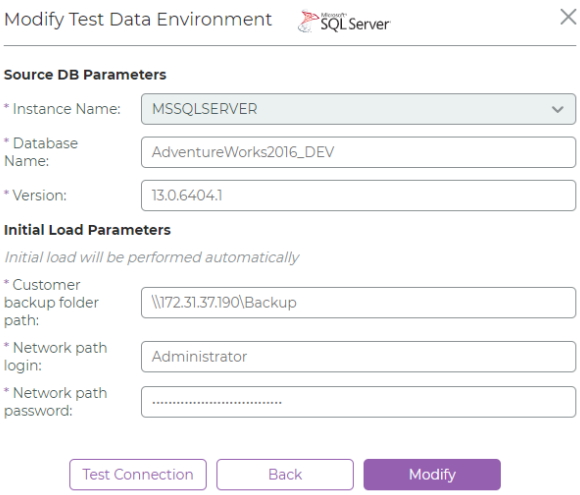
4. To save your changes, click **Modify.**

To modify a native SQL Server Backup:

1. Modify the **Golden Image Parameters** as required.



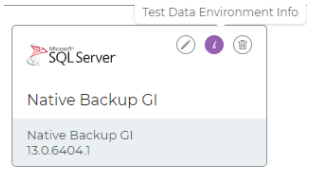
2. Click **Next** to go to the next **Modify Test Data Environment** window.
3. Modify the **Source DB Parameters** as required.



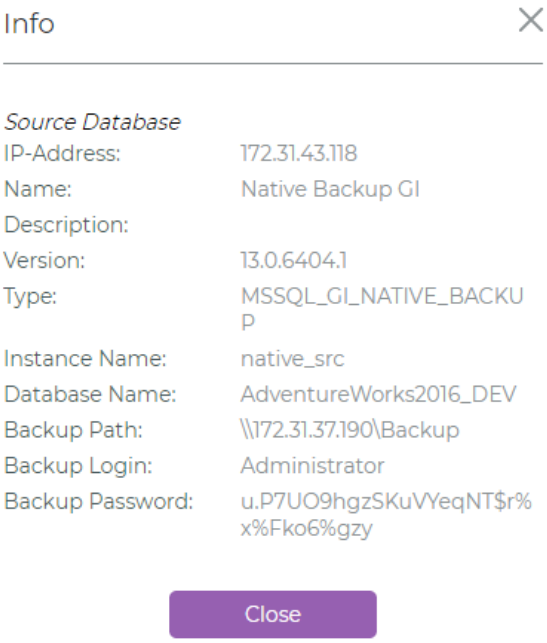
4. To save your changes, click **Modify.**

To see information about a test data environment:

1. Select the test data environment.
2. Click  (**Test Data Environment Info**).



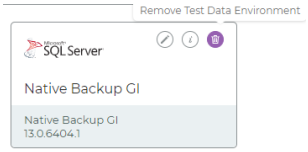
The **Info** window appears.



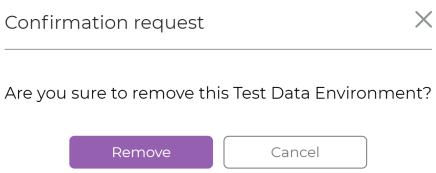
3. To return to the main **Source Management** work area, click **Close**.

To remove a test data environment:

1. Select the test data environment.
2. Click  (**Remove Test Data Environment**).



3. Click **Remove** to confirm the deletion or **Cancel** to exit with deleting the test data environment.



After the database is removed, the following message appears

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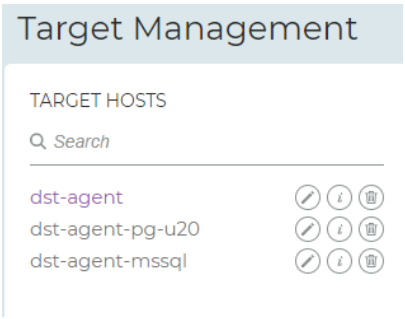
7.3. Target Management

A test data environment includes access definition to one source database and a GI. A DB Home is the target database that is used to make VDBs.

To open the Target work area:

1. On the navigation bar, click  (**Target**).

The **Target Management** window appears displaying all the target hosts that have been added to the system.



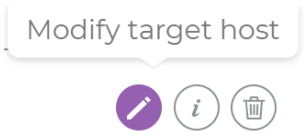
You can quickly locate a target host by typing its letters on the **Search** bar. The list updates promptly.

To add a target host:

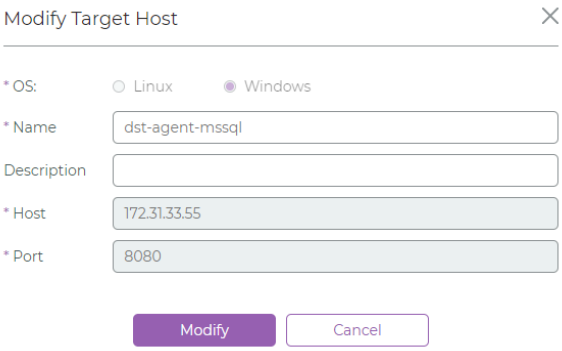
To add a target host, see To add a target host:.

To modify a target host:

1. Select the target host.
2. Click Modify target host.



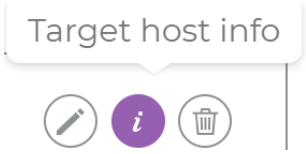
3. Modify the parameters as required.



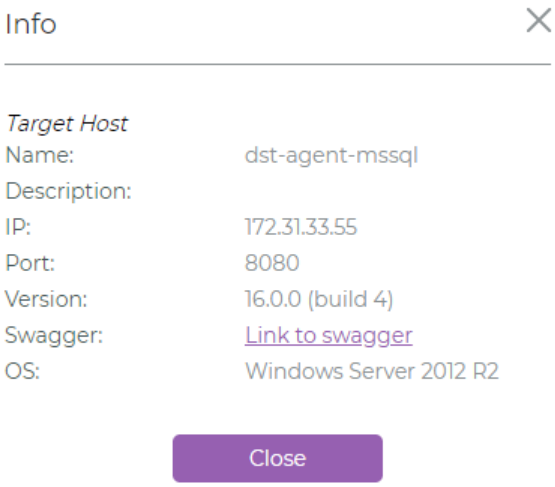
4. To save your changes, click **Modify.**

To see target host information:

1. Select the target host.
2. Click (**Target host info**).



The **Info** window appears.



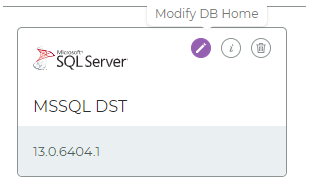
3. To return to the main **Target Management** work area, click **Close**.

To add a DB Home:

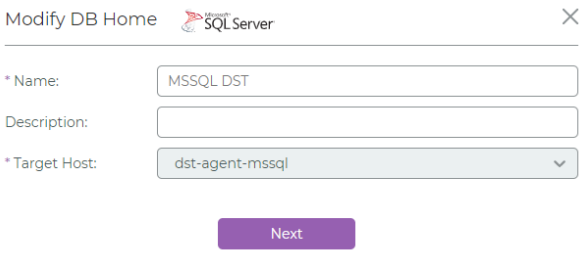
To add an **DB Home**, see To add a DB Home:

To edit DB Homes:

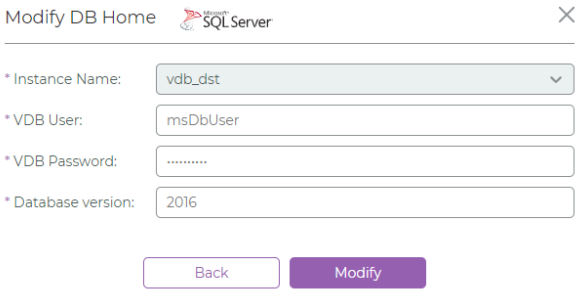
1. Select the DB Home.
2. Click (**Modify DB Home**).



3. The **Modify DB Home** window appears. Modify the test data environment details as required.



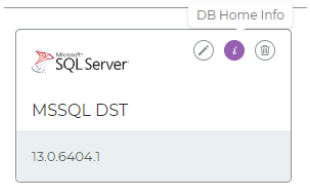
4. Click **Next** to go to the next Modify **DB Home** window.



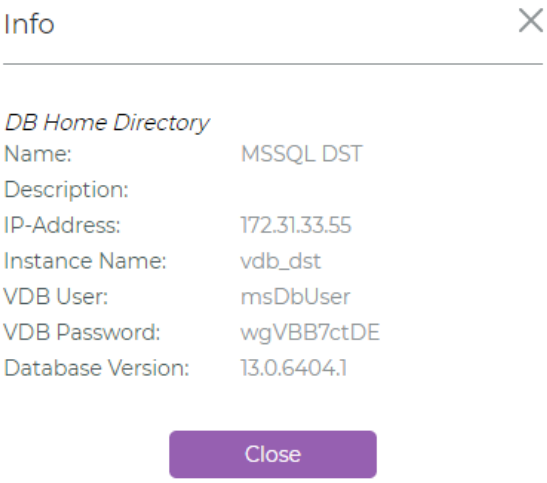
5. To save your changes, click **Modify**.

To see information about a DB Home:

1. Select the DB Home.
2. Click (**DB Home info**).



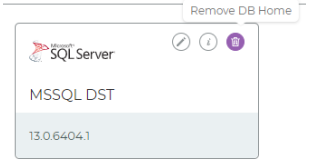
The **Info** window appears.



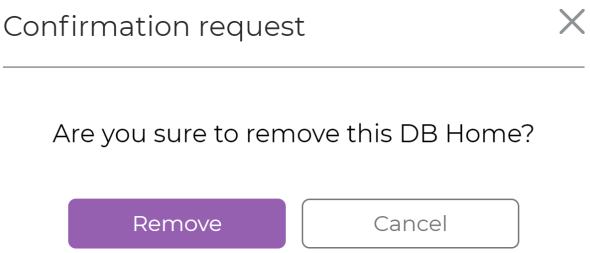
3. To return to the main **Target Management** work area, click **Close**.

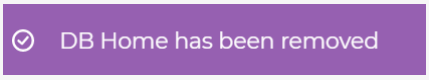
To remove a DB Home:

1. Select the DB Home.
2. Click  (**Remove DB Home**).



3. Click **Remove** to confirm the deletion or **Cancel** to exit without deleting the DB Home.



After the DB Home is removed, the following message appears 

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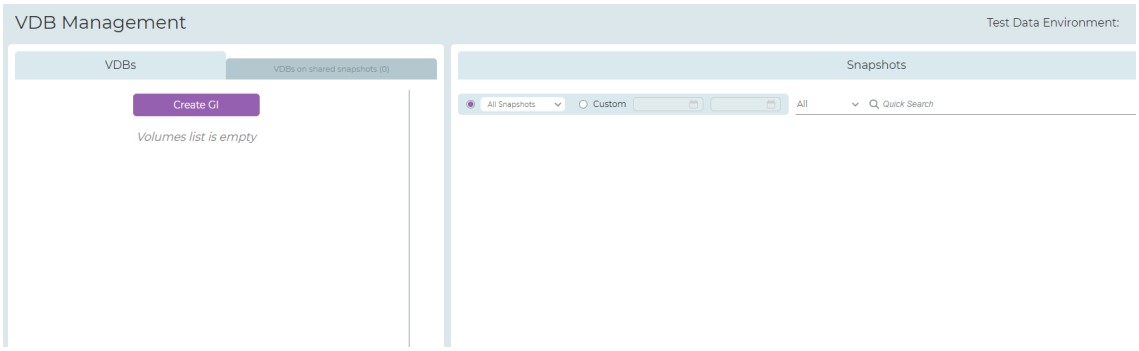
7.4. VDB Management

In the **VDB** work area, you do tasks for a golden image, a duplicate golden image, a VDB, and database snapshots. A golden image is a full synchronized copy of the source database files. A golden image is used to create VDBs. A snapshot is a read/write point-in-time copy of the golden image. This section describes how to do these tasks.

To open the VDB work area:

1. On the navigation bar, click  (**VDB**).

The **VDB Management** window appears.

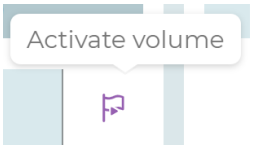


To create VDB:

To create a VDB, see To create and start a VDB.

To activate a GI:

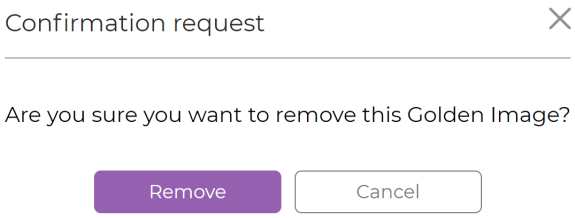
1. Select the GI in the list.
2. Click (**Activate volume**).



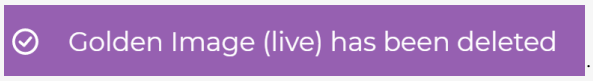
To remove a GI:

1. Select a GI in the list.
2. Click (**Remove Golden Image**).

3. Click **Remove** to confirm the deletion or **Cancel** to exit with deleting the volume.

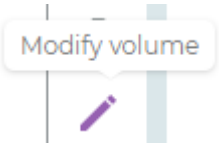


After the GI is removed, the following message appears

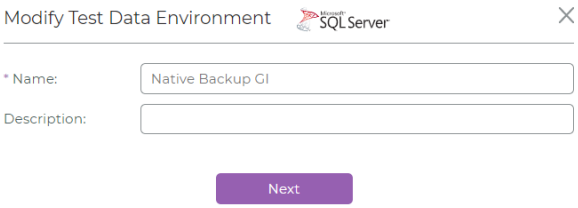


To edit a GI:

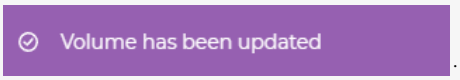
1. Select the GI in the list.
2. Click (**Modify volume**).



3. Enter a new **Name**.



4. To save your changes, click **Modify**. Otherwise, click **Cancel**.

After the change is done, the following message appears 

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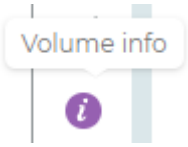
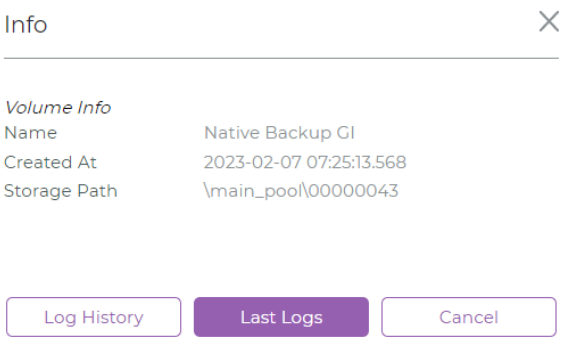
To see information about a GI:

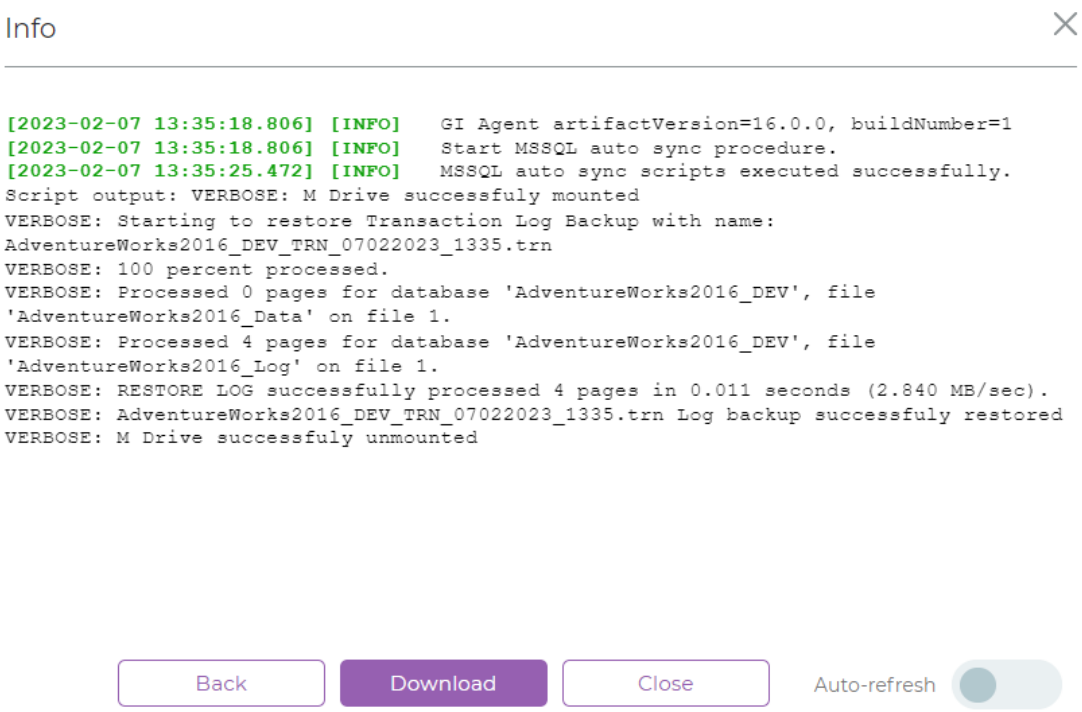
1. Select the GI in the list.
2. Click (**Volume info**).



The **Info** window appears.

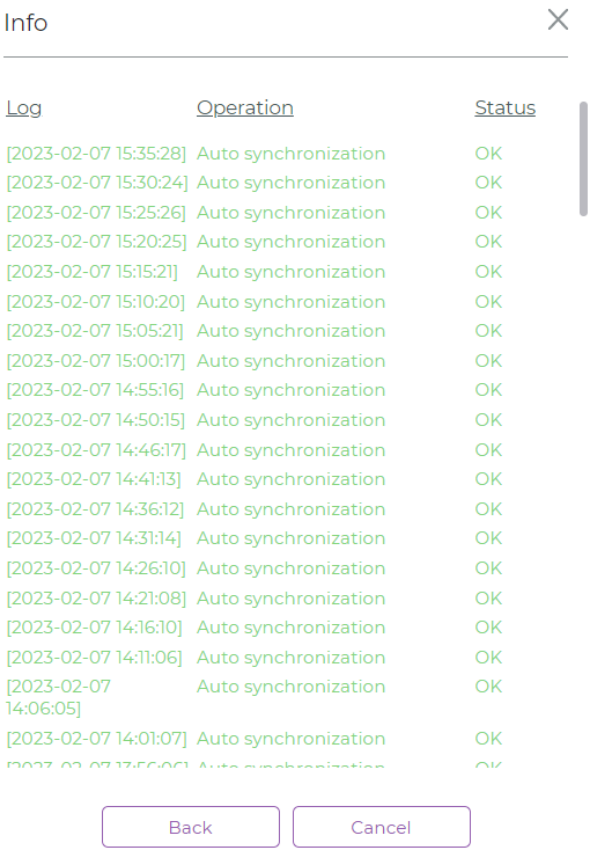


3. To see the last logs, click **Last Logs** or click **Cancel** to return to the VDB Management window.



4. Click **Auto-refresh** to do an auto refresh.
5. To download the last logs, click **Download** or click **Close** to return to the **VDB Management** window.

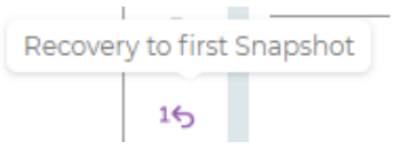
6. To see the log history, click **Log History** or click **Cancel** to return to the **VDB Managment** window.



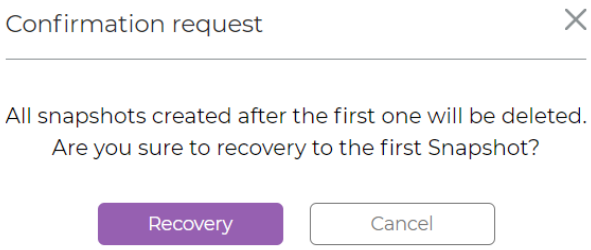
7. Click **Back** or **Cancel** to return to the **Info** window.

To recover to the first snapshot:

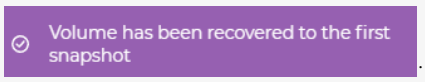
1. Select the source DB.
2. Click (**Recovery to first snapshot**).



3. Click **Recovery** to confirm the recovery or **Cancel** to exit with recovering the snapshot.

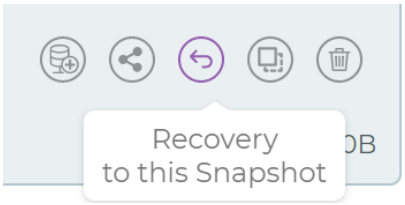


After all the snapshots are removed, the following message appears

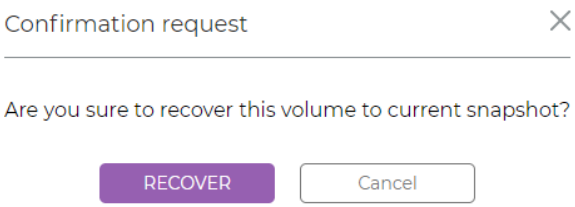


To recover to this snapshot:

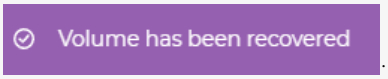
1. Select the snapshot.
2. Click (**Recovery to this snapshot**).



3. Click **Recover** to confirm the recovery or **Cancel** to exit with recovering the snapshot.



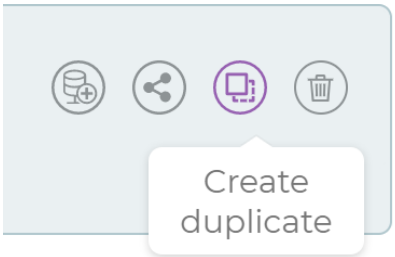
After the recover operation is complete, the following message appears



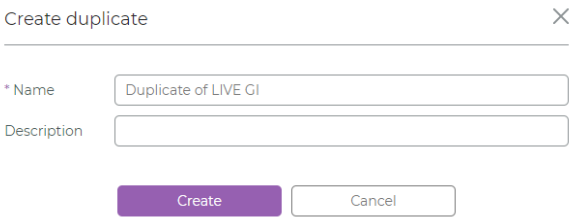
.

To create a duplicate VDB from a snapshot:

1. Select the snapshot.
2. Click **Create duplicate**.

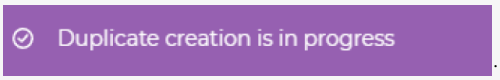


3. Enter a **Name**.

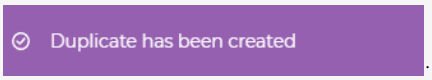


4. Click **Create**. Otherwise, click **Cancel** to exit without creating a duplicate VDB.

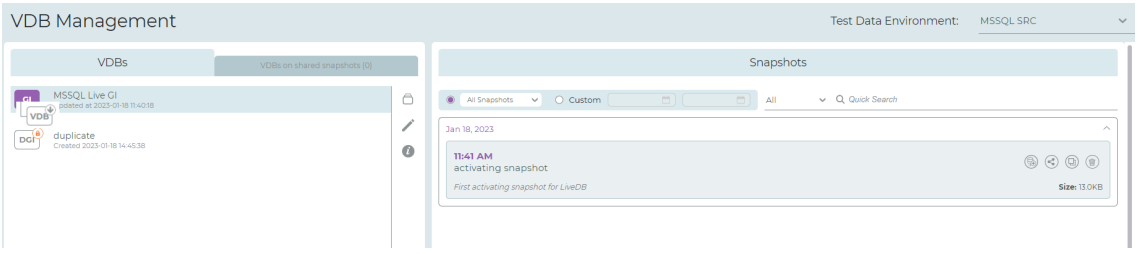
During the creation of the duplicate GI, the following message appears



After the duplicate GI is created, the following message appears

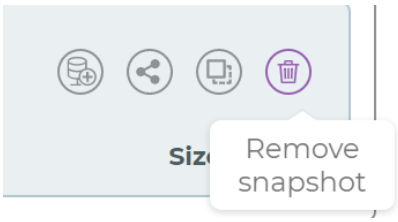


The **VDB Management** window displays the duplicate GI that has been created.

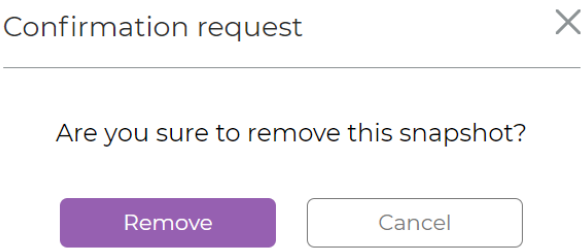


To remove a snapshot:

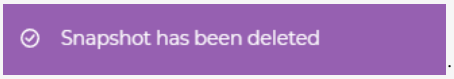
1. Select the snapshot.
2. Click  (**Remove snapshot**).



3. Click **Remove** to confirm the deletion or **Cancel** to exit with deleting the snapshot.



After the snapshot is removed, the following message appears



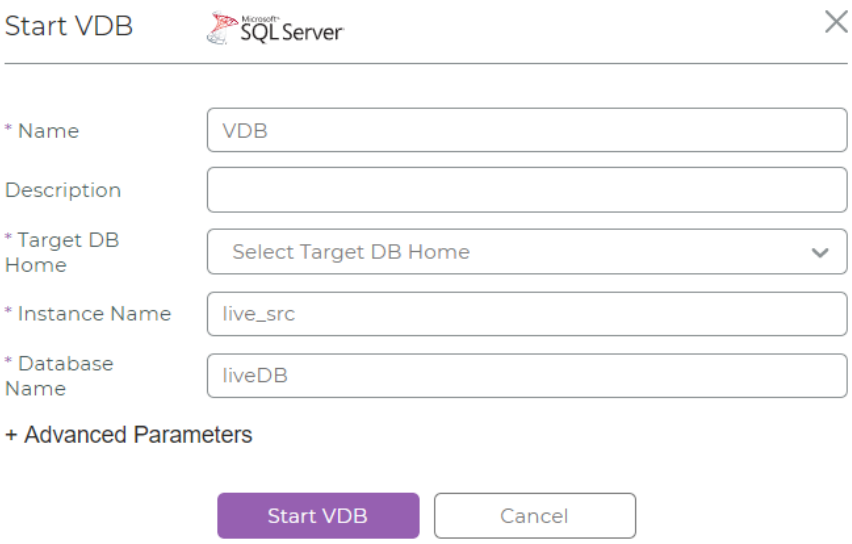
VDB

This section describes additional tasks that are available to manage VDBs.

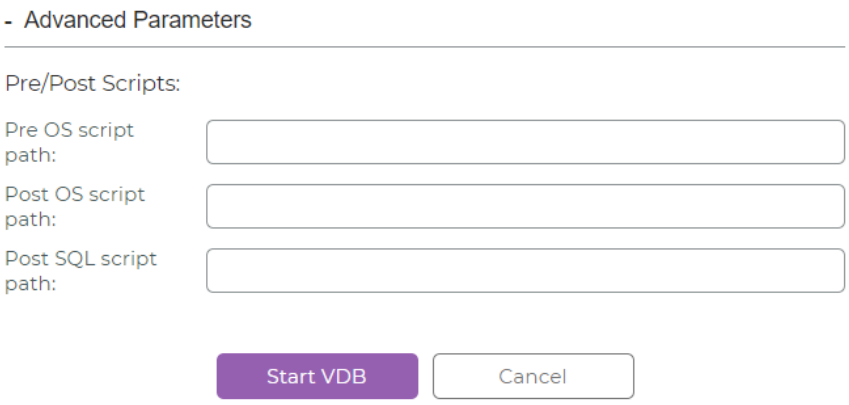
To start a VDB:

1. Select the VDB.
2. Click (**Start VDB**).

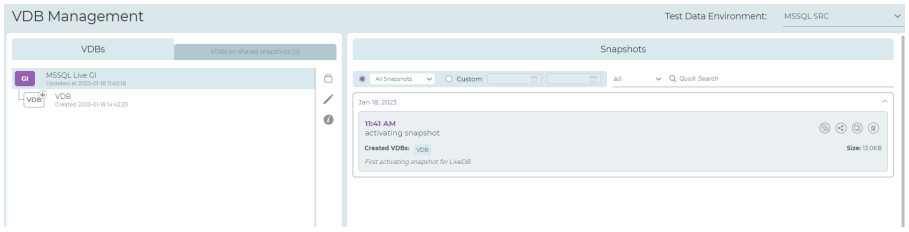
3. Enter the VDB configuration parameters.

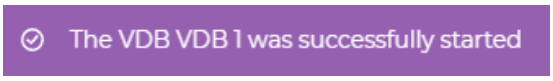


4. Enter Advanced Parameters if necessary.



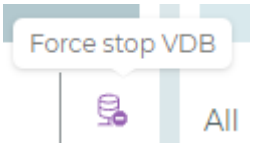
5. Click **Start VDB**. Otherwise, click **Cancel** to exit.

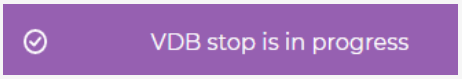


After the VDB was started, the following message appears 

To force stop the refresh of a VDB:

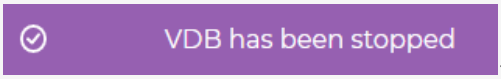
1. Select the VDB.
2. Click  (**Force stop VDB**).



During the force stop, the following message appears 

.

After the force stop is complete, the following message appears



.

To stop the refresh of a VDB:

1. Select the VDB.
2. Click (**Stop VDB**).

During the stop, the following message appears VDB stop is in progress.

After the stop is complete, the following message appears

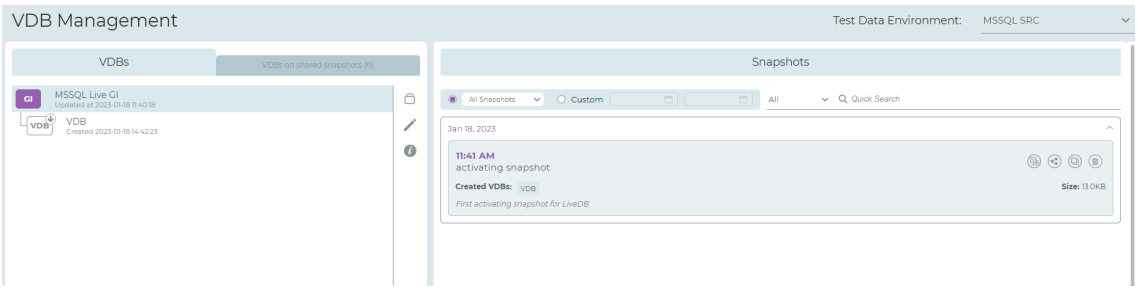
VDB has been stopped.

7.5. Sharing Snapshots

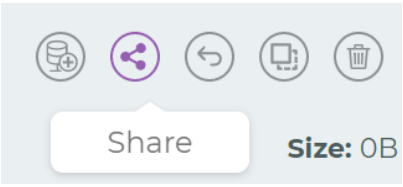
A user in one role category can share a snapshot with a user in another role category. This section gives the procedure. In the following example a user with a QA role shares a snapshot with a Dev role.

To share a VDB:

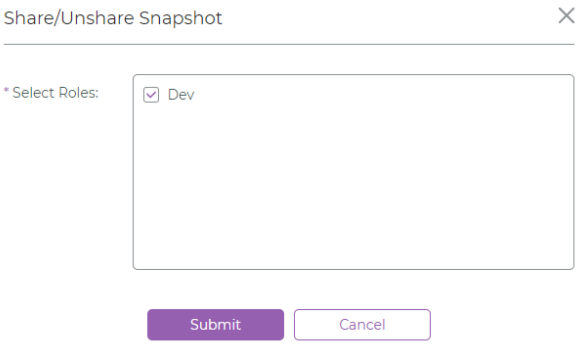
1. Select a snapshot of a Golden Image or a VDB.



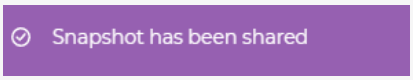
2. Click  **Share** on a snapshot object.



3. Select the role to share the snapshot.

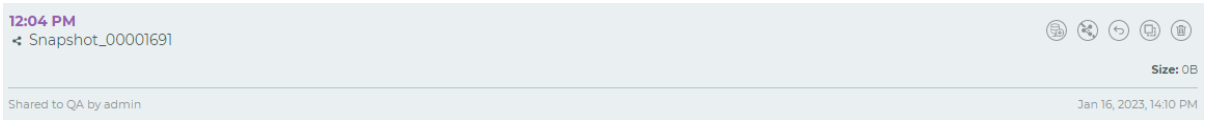


4. Click **Submit**.

After the snapshot is shared, the following message appears 

.

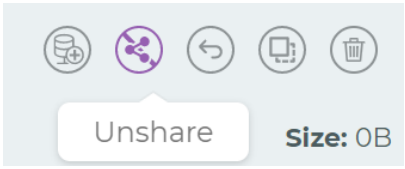
The **VDB Management** window displays the relevant sharing information.



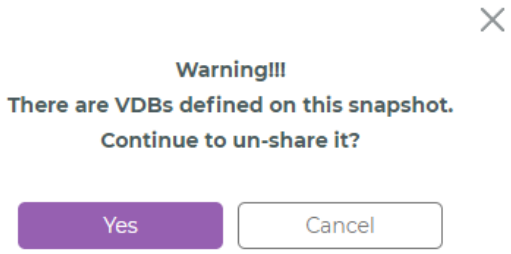
To unshare a snapshot:

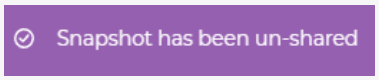
1. Select the snapshot.

2. Click  **Unshare**.



3. Click **Yes** to confirm unsharing the snapshot or **Cancel** to exit with unsharing the snapshot.

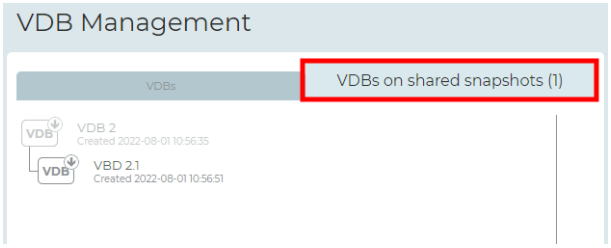


After the snapshot is unshared, the following message appears 

.

To see snapshots that are shared to you:

1. Click **VDBs on shared snapshots**.



The number in parentheses indicates the number of shared snapshots.

8. Users Management

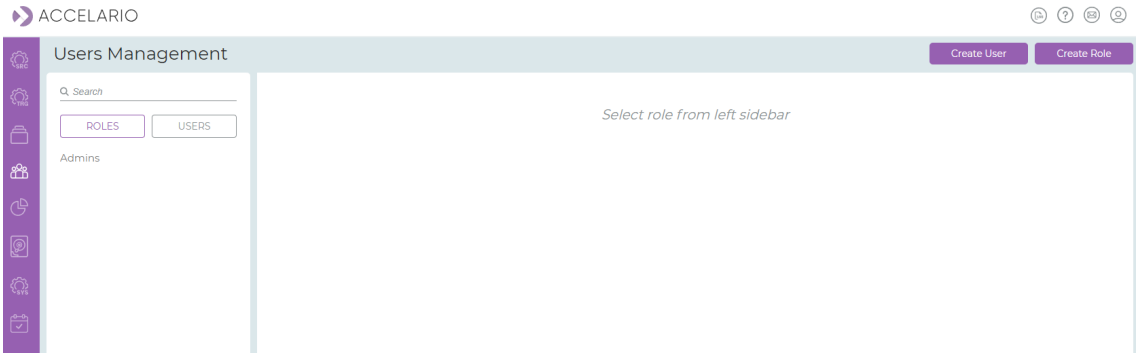
Only a user with **Admin** privileges can create or modify users and roles.

A default user **admin** with the role **Admins** exists when the system is first installed.

To manage users:

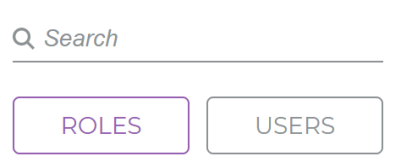
1. On the navigation bar, click (**Users Management**).

The **Users Management** window appears.



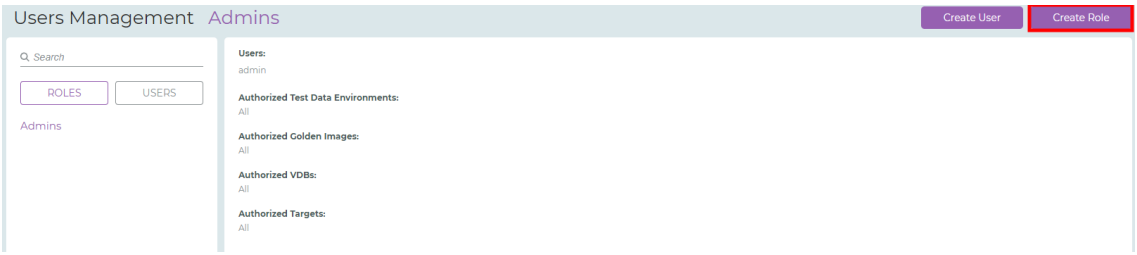
You can quickly locate a user by typing a name in the **Search** bar. The list updates promptly.

You can display the list based on **ROLES** or **USERS**.

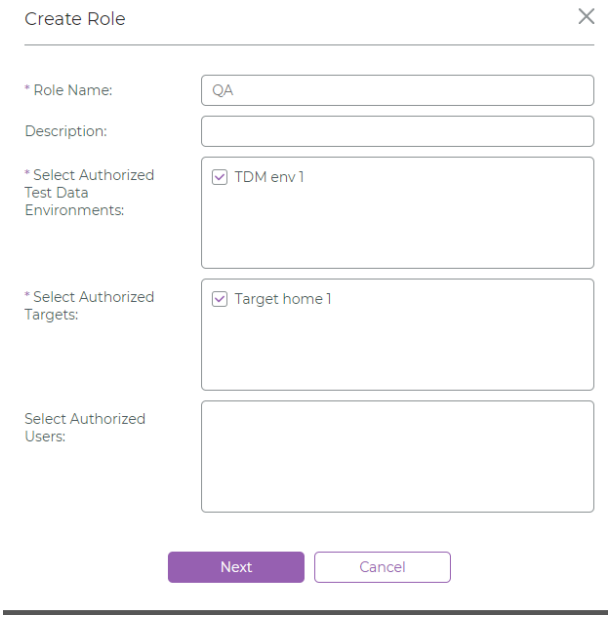


To create a new role:

1. Click **Create Role**.

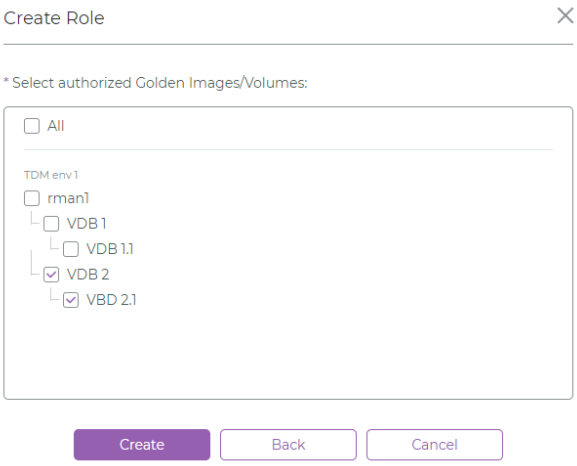


2. Fill in the details.

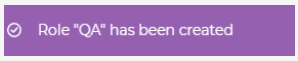


3. Click **Next**.

4. Select the checkbox(es) for the GI and VDBs that the user is authorized to use.

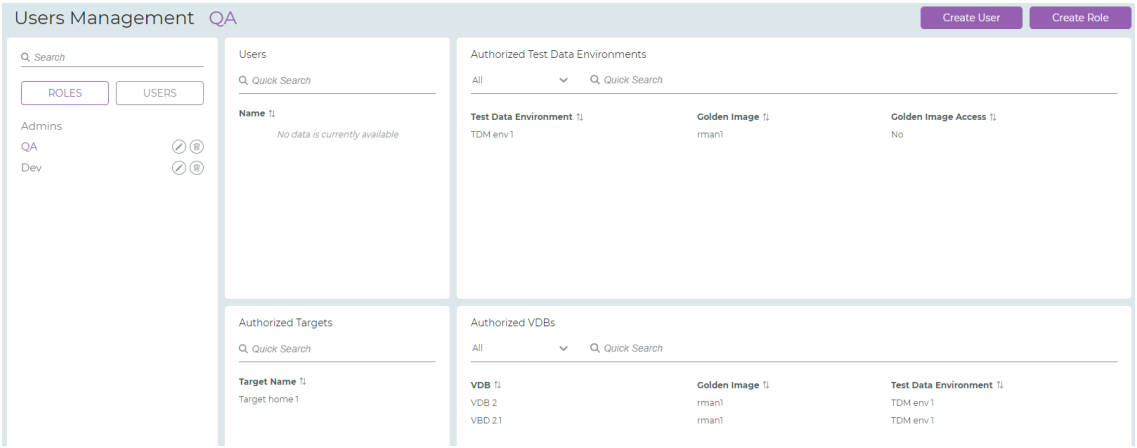


5. Click **Create**.

After the role is created, the following message appears 

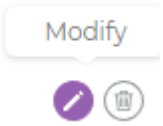
.

The **Users Management** window displays all the role(s) that have been created.

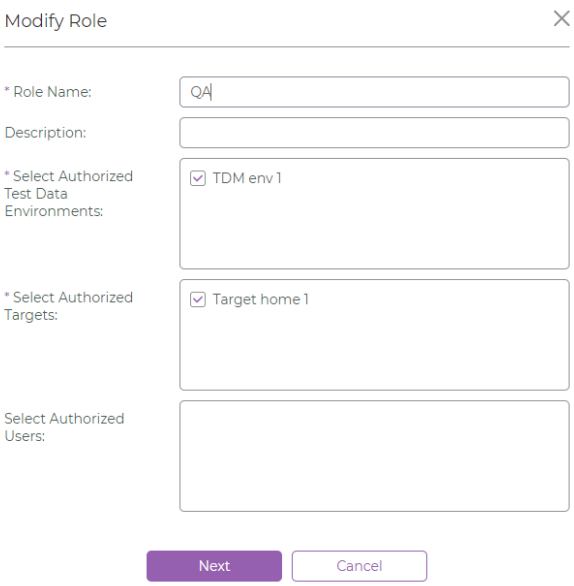


To edit role details:

1. On the required role, click (**Modify**).

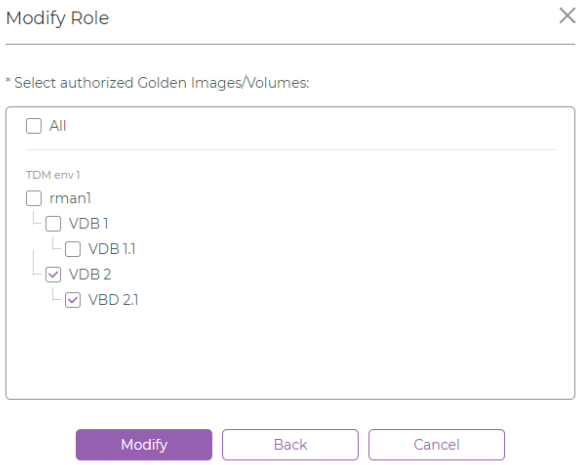


2. The **Modify Role** window appears. Modify the role details as required.

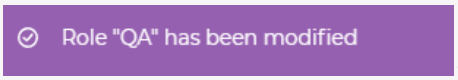


3. Click **Next**.

4. Complete the necessary changes to the role details.



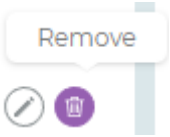
5. To save your changes, click **Modify**. Otherwise, click **Cancel**.

After the change is done, the following message appears 

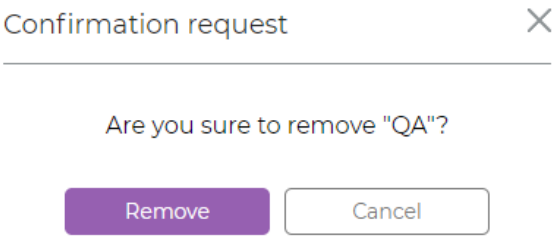
.

To remove a role:

1. On the required role, click (Remove).



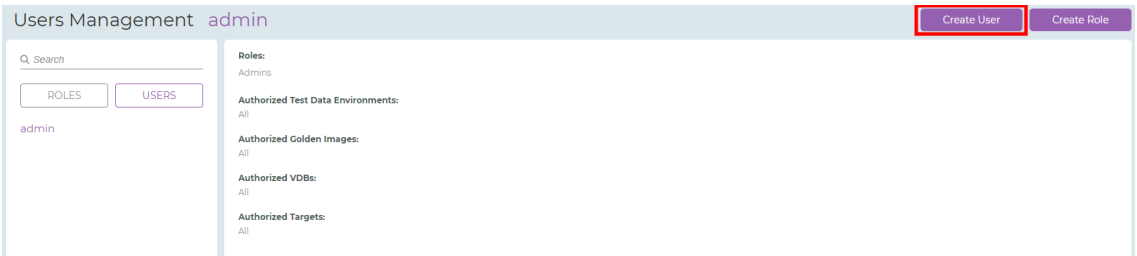
2. Click **Remove** to confirm the deletion, or **Cancel** to exit without deleting the role.



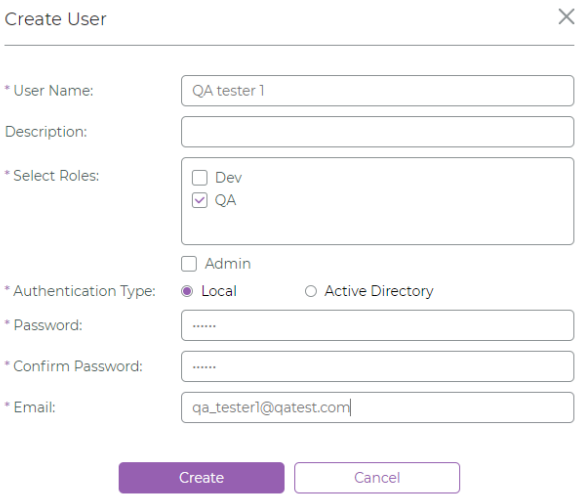
After the role is removed, the following message appears Role has been removed.

To add a new user:

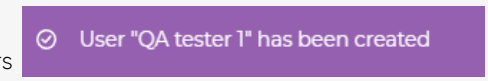
1. Click **Create User**.



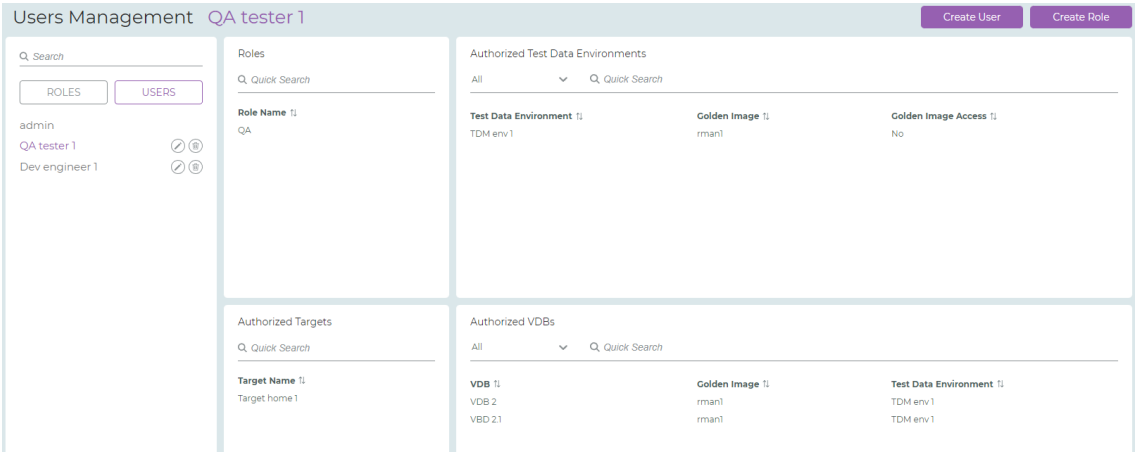
2. Fill in the details.



3. Click **Create**.

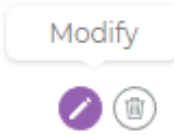
After the user is created, the following message appears 

.

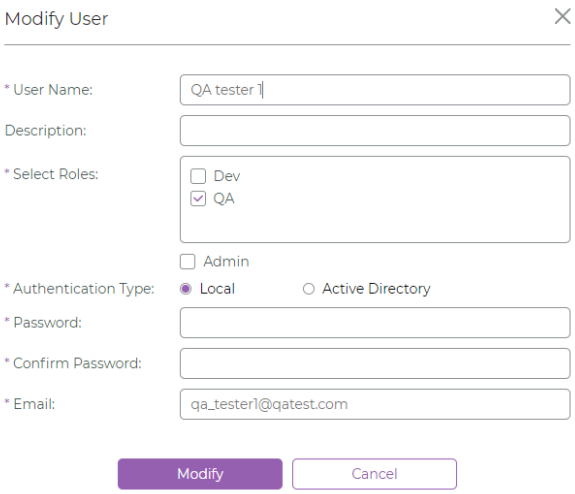


To edit user details:

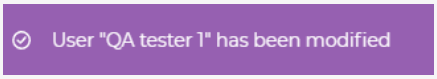
1. On the required user, click (**Modify**).



2. The **Modify User** window appears. Modify the user details as required.



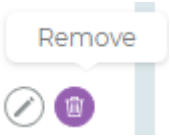
3. To save your changes, click **Modify**. Otherwise, click **Cancel**.

After the change is done, the following message appears 

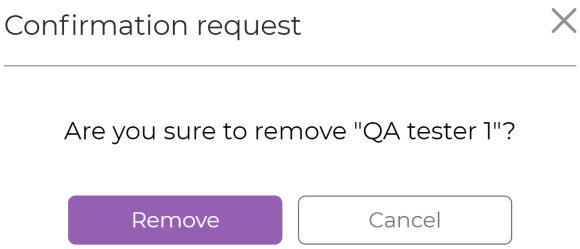
.

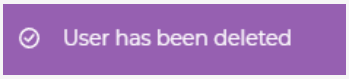
To remove a user:

1. On the required user, click (Remove).



2. Click **Remove** to confirm the deletion, or **Cancel** to exit without deleting the user.



After the user is removed, the following message appears 

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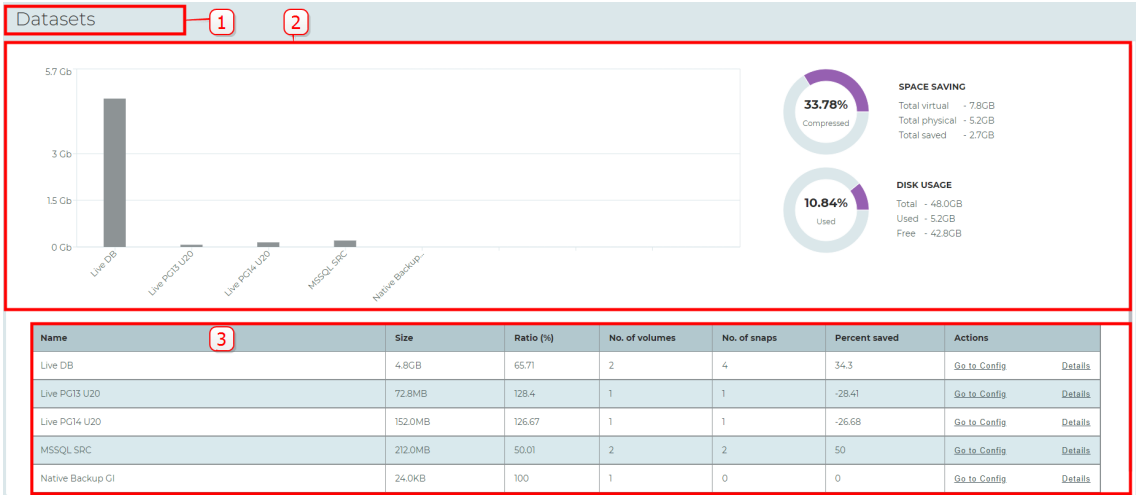
9. Monitoring Datasets

The **Datasets** work area shows the quantity of space saved and disk space used for each data environment. With just one click you can easily drill-down to see the details for an environment.

To open the Datasets work area:

1. On the navigation bar, click  (**Datasets**).

The following image and table describe the **Datasets** work area.



#	Item	Description
1	Type of Data Environment	Shows the data for a dataset, test environment, or database .
2	View Area	Shows the total quantity of space saved and disk usage for the selected data environment.
3	Details List	Shows the details for the selected data environment. The **Percent saved** is shown for each data environment.

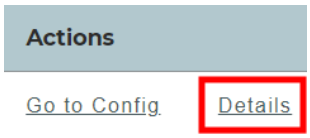
General details for a dataset:

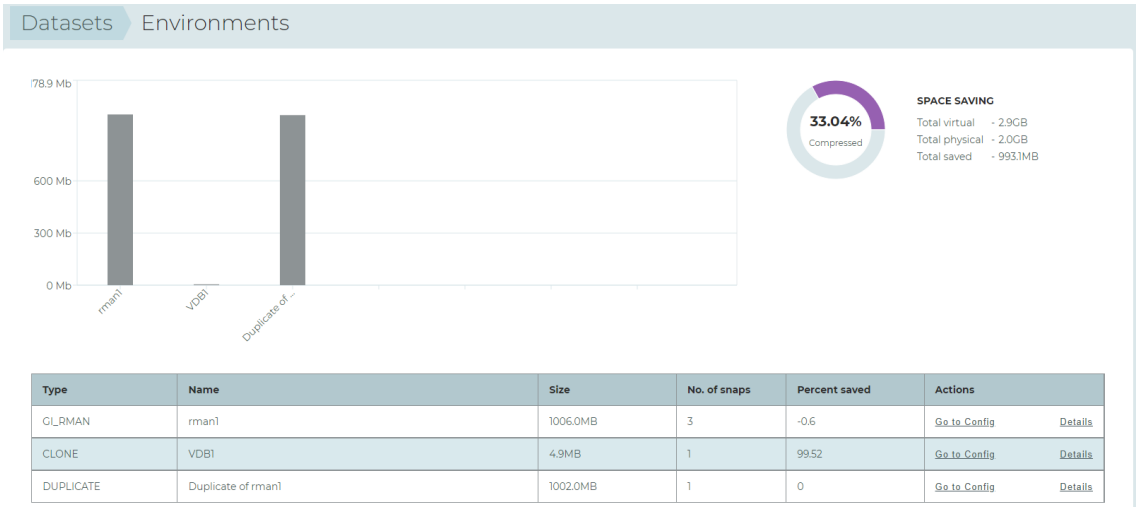
General details are shown in the details list.

Name	Size	Ratio (%)	No. of volumes	No. of snaps	Percent saved	Actions
Live DB	2.0GB	84.41	3	5	15.6	Go to Config Details

To see test data environment details:

1. Click **Details** in the row for a test data environment.



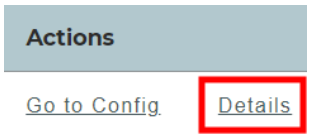


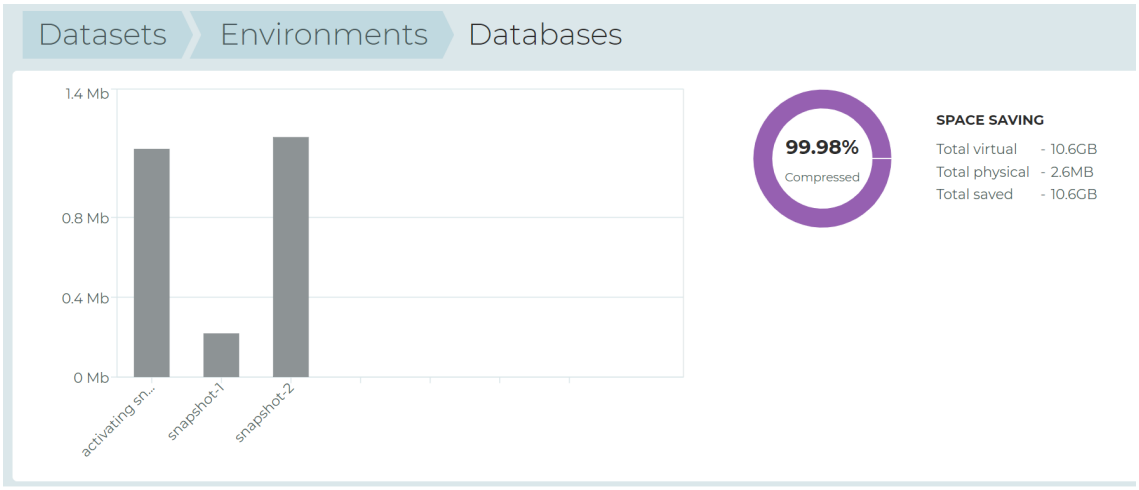
Type	Name	Size	No. of snaps	Percent saved	Actions
GI_RMAN	rman1	1006.0MB	3	-0.6	Go to Config Details
CLONE	VDB1	4.9MB	1	99.52	Go to Config Details
DUPLICATE	Duplicate of rman1	1002.0MB	1	0	Go to Config Details

The quantity of space saved is shown for each golden image, duplicate golden image, and VDB.

To see database details:

1. Click **Details** in the row the required data environment.





Name	Created at	Size	Percent saved	Actions
activating snapshot	2022-09-13 09:23:07	1.2MB	9999.97	Go to Config
snapshot-1	2022-09-13 09:23:10	229.0KB	10000	Go to Config
snapshot-2	2022-09-13 09:23:13	1.2MB	9999.97	Go to Config

The quantity of space saved is shown for each snapshot.

To see VDB Management:

1. Click **Go to Config** in the row the required data environment.

10. Storage Pool Management

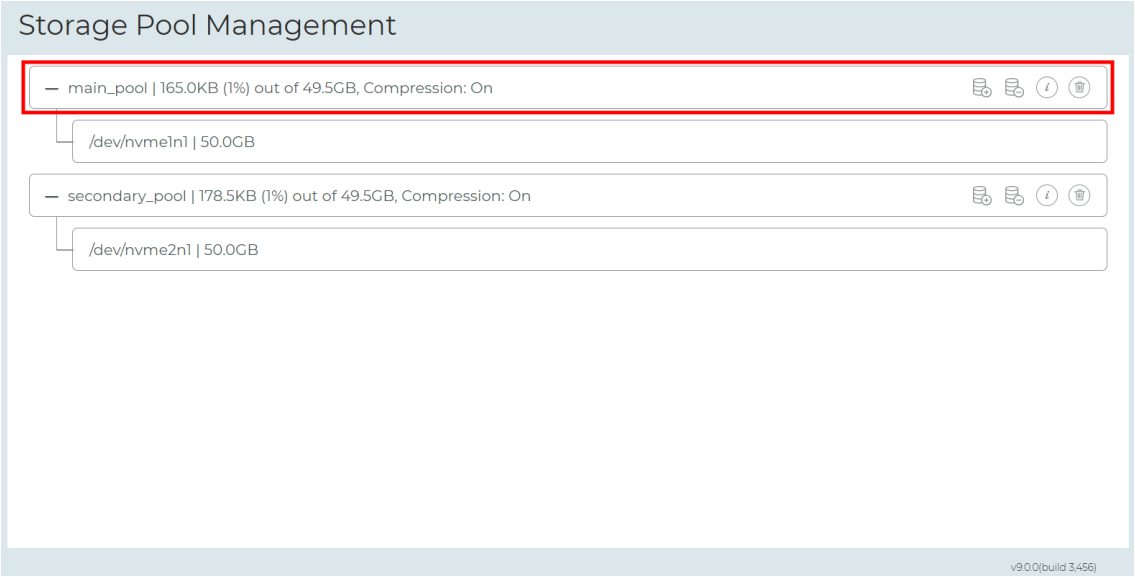
Storage pools store the golden images and duplicates. This section describes how to manage primary and secondary storage pools.

1. On the navigation bar, click  (**Pool Management**).

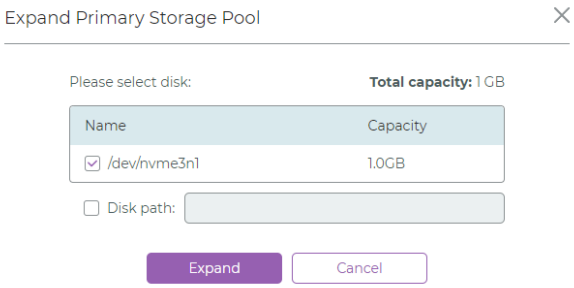
Primary Pool Management

To expand a primary storage pool:

1. Select a primary storage pool.

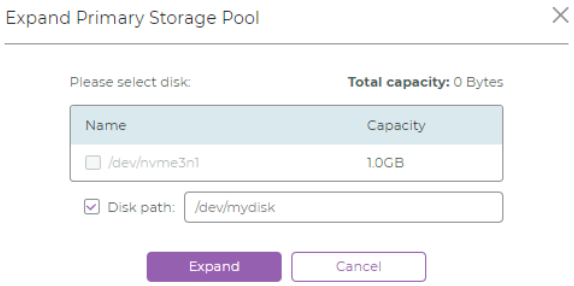


2. Click  (**Expand Primary Storage Pool**).
   a. Select a disk



   or

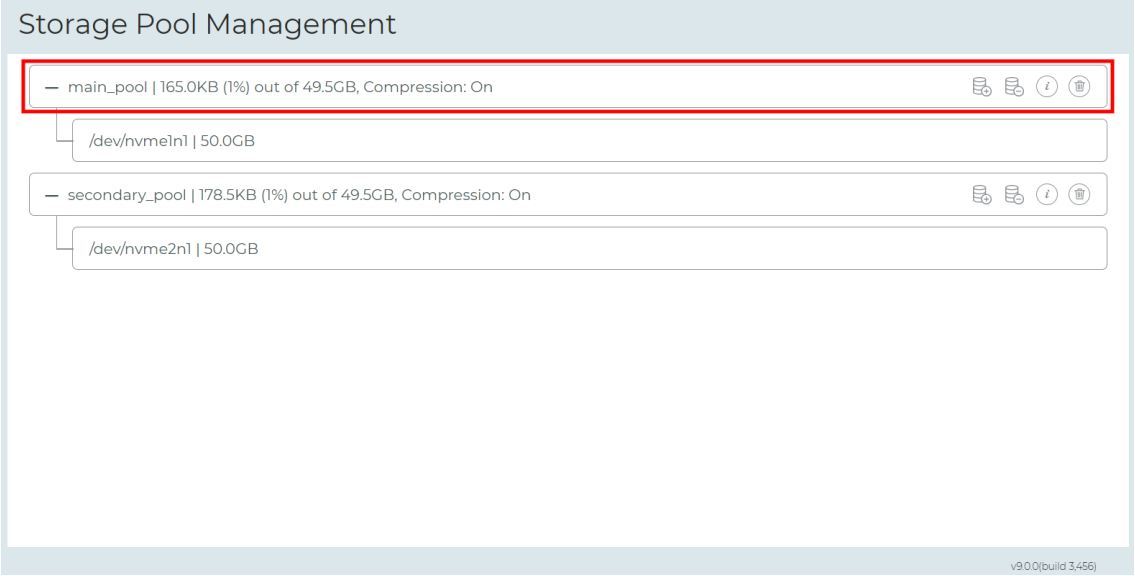
   b. Select disk path.



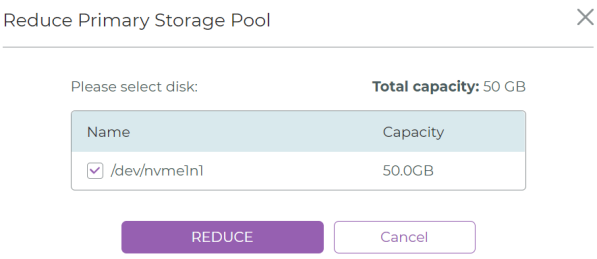
3. Click **Expand**.

To reduce a primary storage pool:

1. Select a primary storage pool.



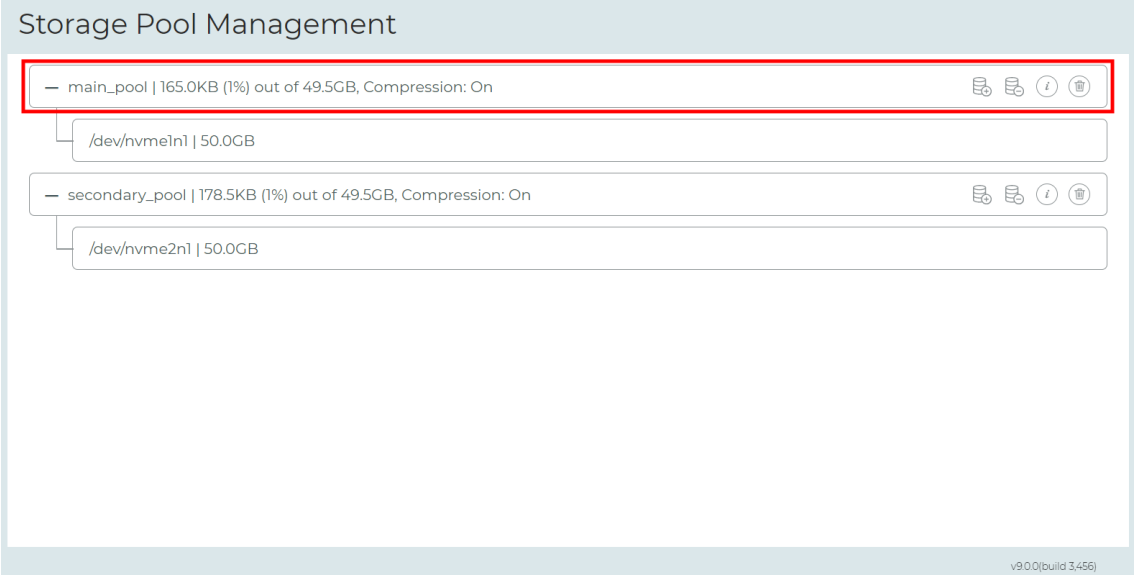
2. Click  (**Reduce Primary Storage Pool**).
3. Select a disk.



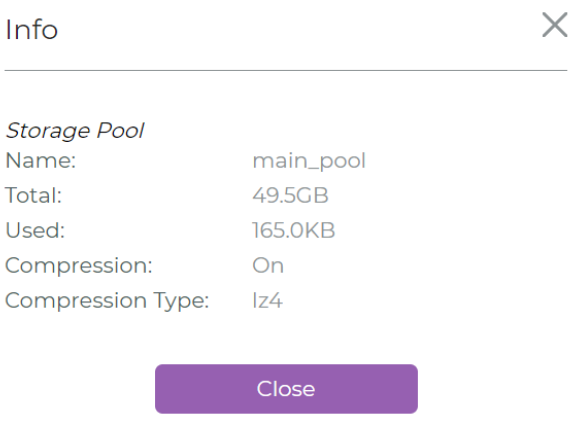
4. Click **Reduce**.

To see information about a primary storage pool:

1. Select a primary storage pool.



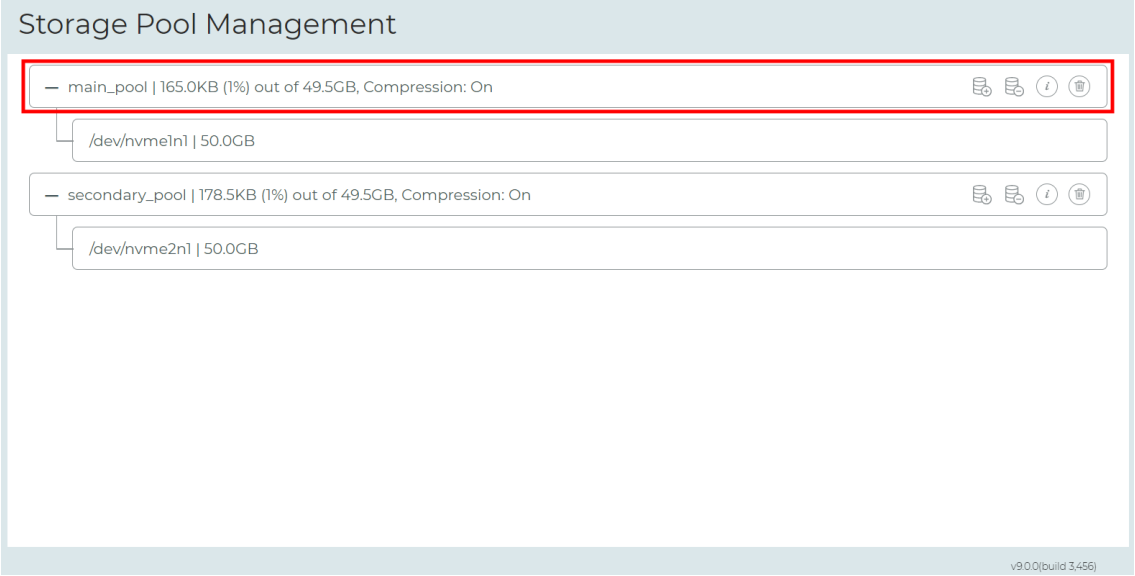
2. Click (**Pool info**).



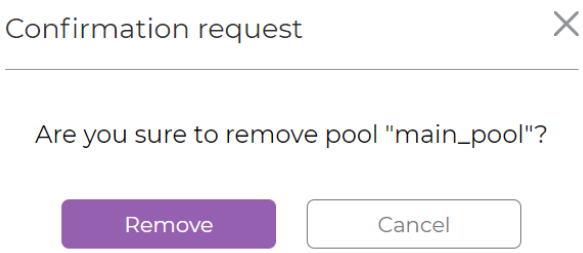
3. To return to the main **Pool Management** work area, click **Close**.

To remove a primary storage pool:

1. Select a primary storage pool.



2. Click  (**Remove pool**).



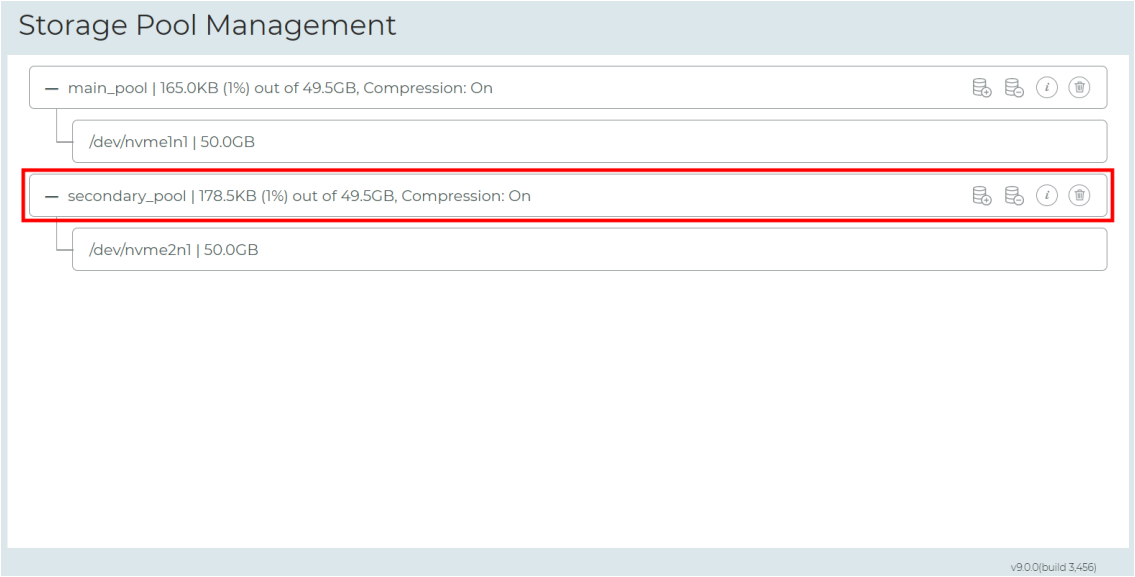
3. Click **Remove** to confirm the deletion or Cancel to exit without deleting the primary pool.

Secondary Pool Management

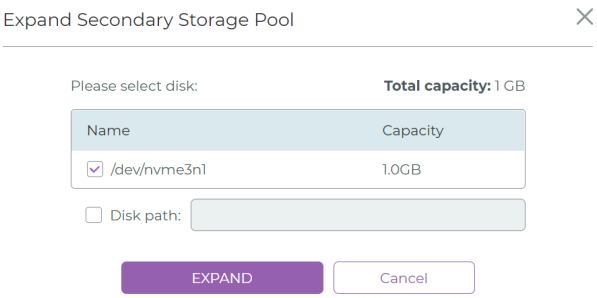
To create a secondary storage pool, see To create a secondary storage pool:.

To expand a secondary storage pool:

1. Select a secondary storage pool.

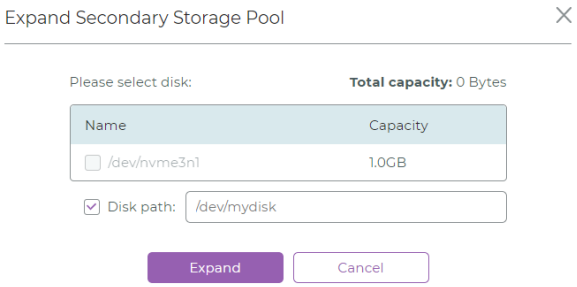


2. Click (**Expand Secondary Storage Pool**).
   a. Select a disk.



or

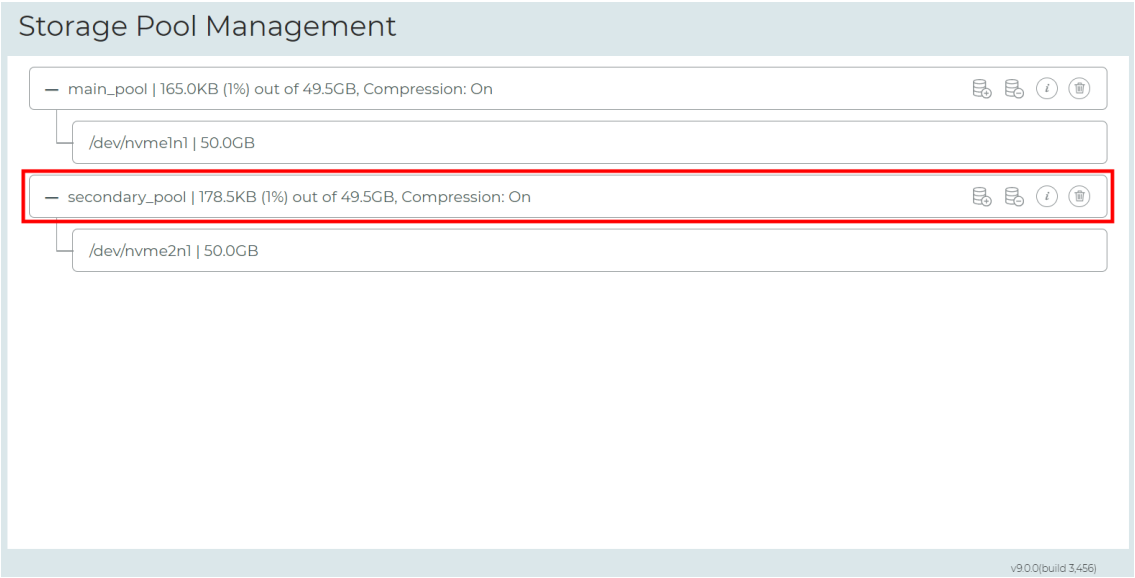
b. Select disk path.



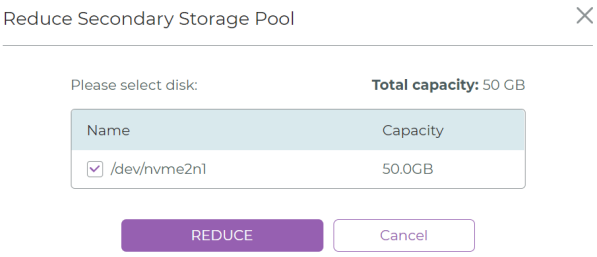
3. Click **Expand**.

To reduce a secondary storage pool:

1. Select a secondary storage pool.



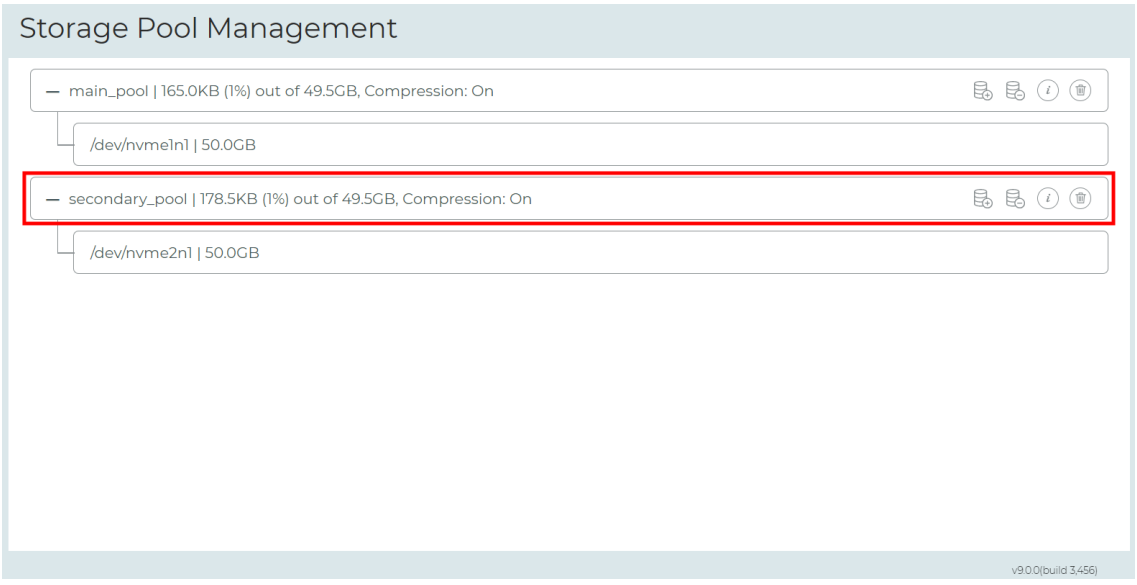
2. Click  (**Reduce Secondary Storage Pool**).
3. Select a disk.



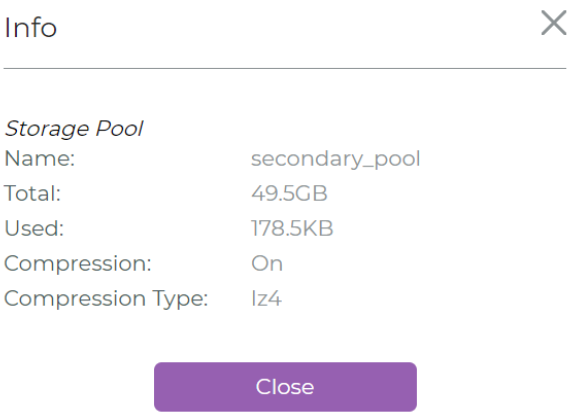
4. Click **Reduce**.

To see information about a secondary storage pool:

1. Select a secondary storage pool.



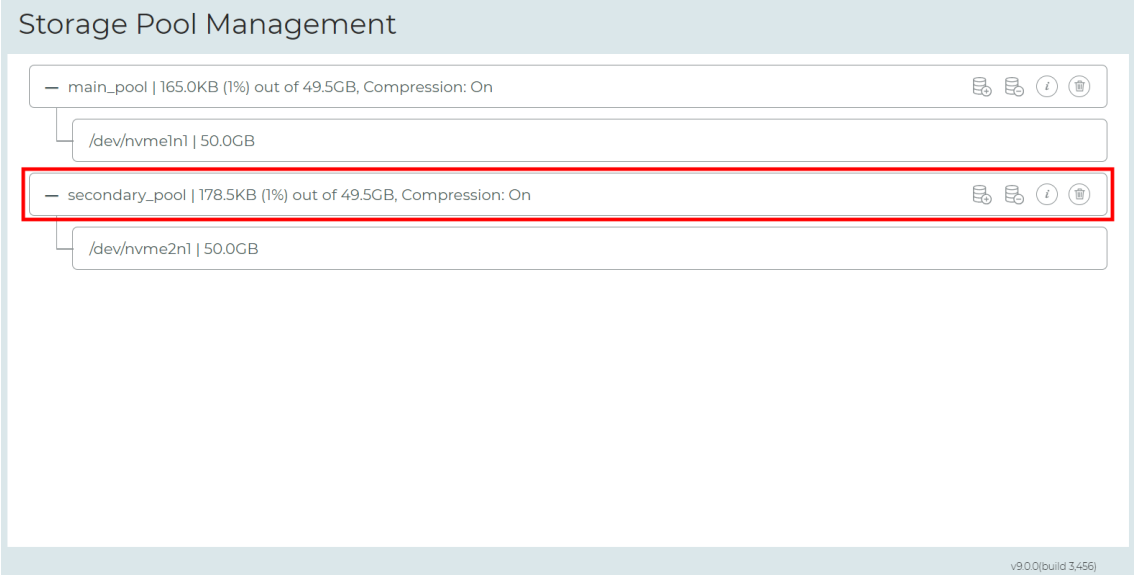
2. Click (**Pool info**).



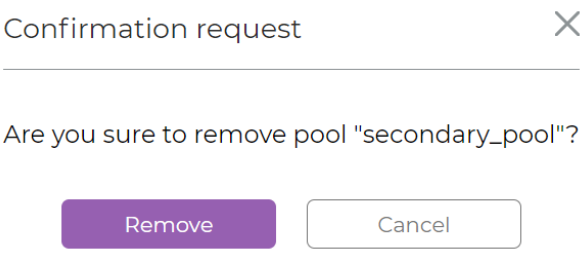
3. To return to the main **Pool Management** work area, click **Close**.

To remove a secondary storage pool:

1. Select a secondary storage pool.



2. Click (**Remove pool**).



3. Click **Remove** to confirm the deletion or Cancel to exit without deleting the secondary pool.

11. System Setup

The **System Setup** is used to define system parameters, such as SMTP, Active Directory, etc.

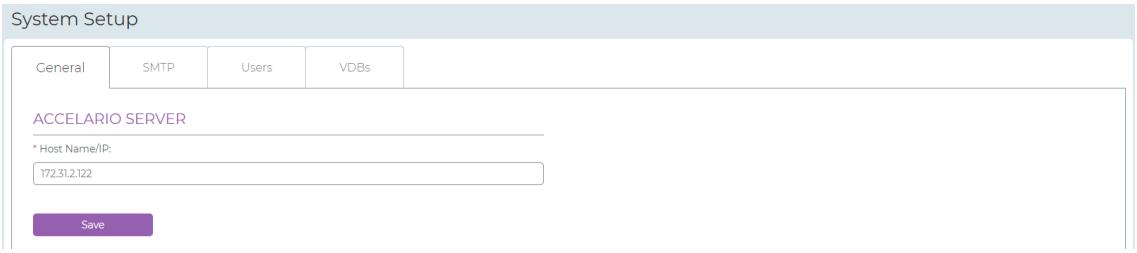
To setup the system:

1. On the navigation bar, click 

(**System Setup**).

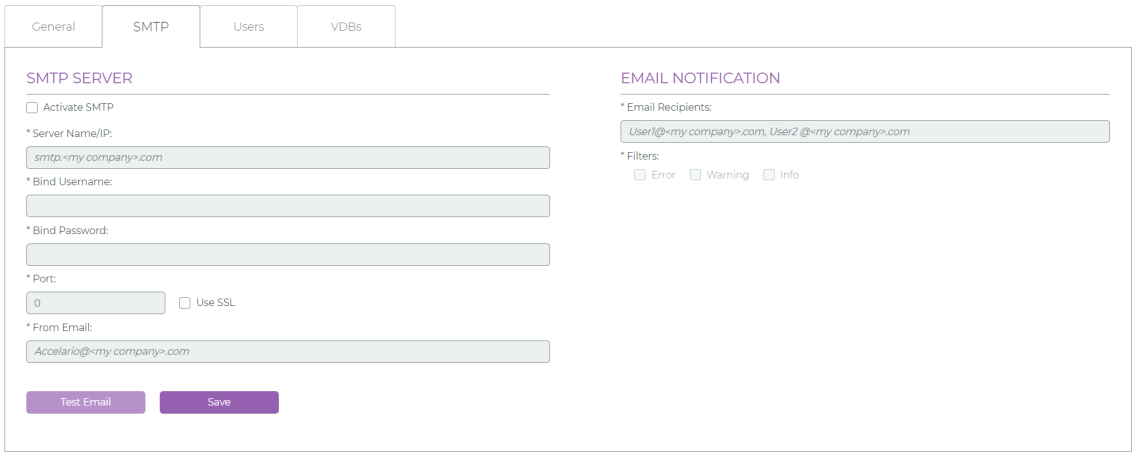
To configure the Accelario server:

1. Click **General**.
2. Fill in the server IP.



To setup the SMTP server:

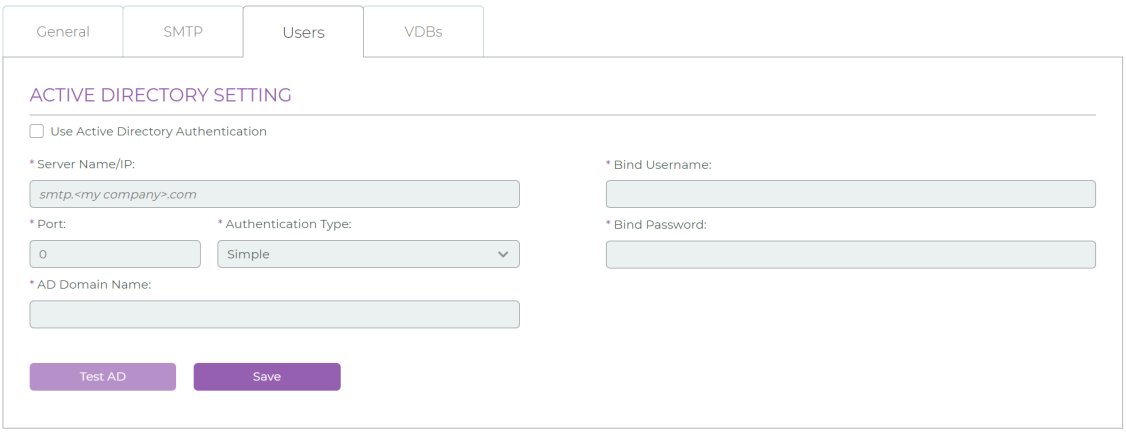
1. Click **SMTP**.
2. Fill in the details to setup the SMTP server.



3. Click **Test Email** to verify that the SMTP server settings are correct.
4. Click **Save**.

To setup the active directory:

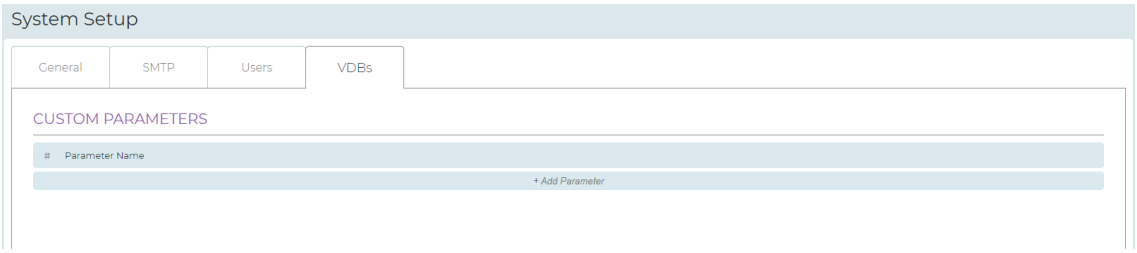
1. Click **Users**.
2. Fill in the details to setup the active directory.



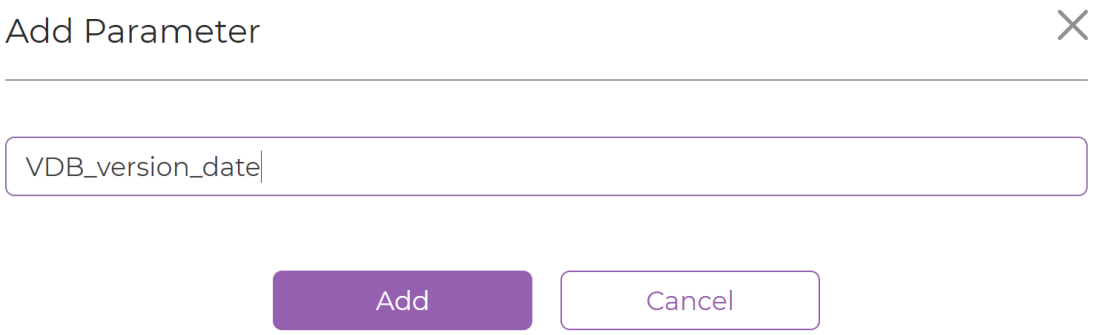
3. Click **Test AD** to verify that the active directory settings are correct.
4. Click **Save**.

To add an advanced parameter:

1. Click **VDBs**.
2. Click **Add Parameter**.

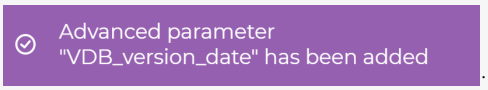


3. Enter parameter name.



4. Click **Add**.

After the parameter is added, the following message appears

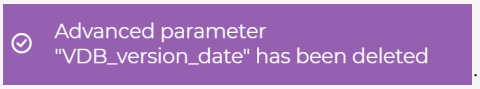


.

To remove a custom parameter:

1. Select the parameter.
2. Click  .

After the paramater is deleted, the following message appears



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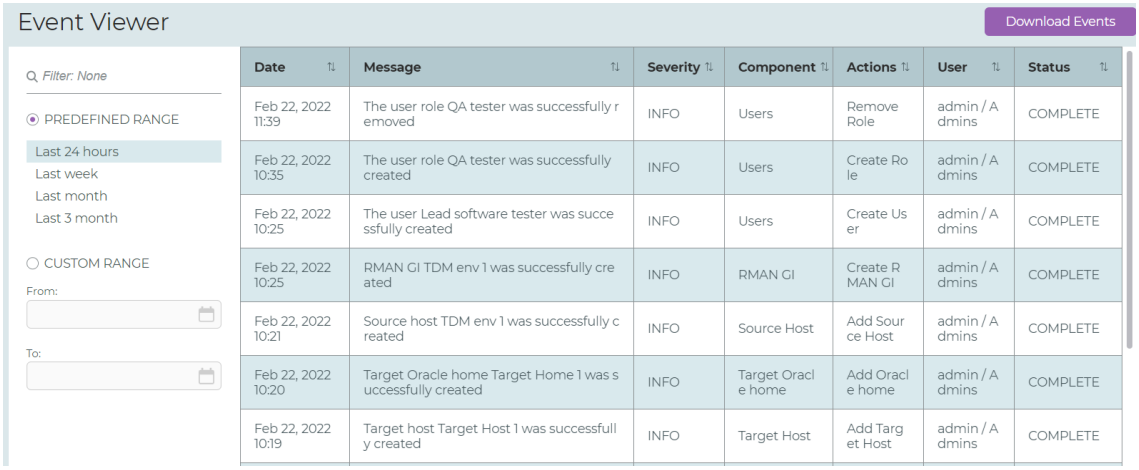
12. Event Viewer

The **Event Viewer** is used to see, filter, and search user events. In the **Event Viewer** you can drill down and see details for events. You can: also save all user event to a file. This section describes how to do these tasks.

To open the Event Viewer work area:

1. On the navigation bar, click  (**Event Viewer**).



To filter events with a keyword:

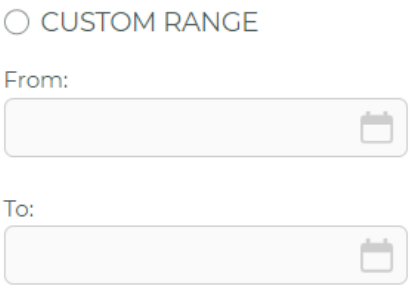
1. Type a keyword in the **Filter** bar.

To filter events for a specified time period:

1. Select:
   a. A **PREDEFINED RANGE**

   or

   b. Enter a **CUSTOM RANGE**.



To sort events:

1. Select:
   a. A column heading.
   b. Select the sort order ⇅ .

To download events:

1. Click Download Events.
2. Select CSV or JSON.