# Oracle® Healthcare Translational Research Installation Guide





Oracle Healthcare Translational Research Installation Guide, Release 4.1.2

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# Contents

	ro	fa	~~
$\boldsymbol{-}$	-	17	CP

1-1 1-1 1-2
1-1
1-1
1-2
1-2
2-1
2-2
2-2
2-4
3-1
3-1
3-2
3-3
3-4
3-6
3-7
3-10
3-11
3-11
0 11
3-12



# 4 OHF and OHTR Middle Tier in OCI

Use Oracle Weblogic Server for OCI from Market Place	4-1
Data Sources	4-2
Install OHF and OHTR applications	4-3
Deploy OHF Admin Console app	4-4
Use Compute Instance (IaaS) Model to install OHF & OHTR in OCI	4-5
Configure network data encryption and integrity for Or clients	acle servers and
Configure Oracle Analytics Server	
Deploy the RPD and Catalog	6-1
Create Oracle Analytics Server groups and users	6-3
Create Oracle Analytics Server groups	6-3
Create Oracle Analytics Server users	6-3
Map default Oracle Analytics Server roles to user groups	6-4



# **Preface**

This preface contains the following sections:

- · Documentation accessibility
- Access to Oracle Support

# Documentation accessibility

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1

# **Installation Overview**

This chapter describes the Oracle Healthcare Translational Research (OHTR) installation requirements. It contains the following topics:

- Supported platforms
- Supported browsers
- Technology stack
- Before you begin

# Supported platforms

The following platforms are supported.

- Database Tier: Oracle Healthcare Translational Research supports all platforms supported for the Oracle Healthcare Foundation database, and the Oracle Healthcare Translational Research database tier should be installed on the Oracle Healthcare Foundation database.
- **Middle Tier**: Oracle Healthcare Translational Research supports all platforms supported for the Oracle Healthcare Foundation middle tier.

# Supported browsers

Oracle Healthcare Translational Research supports browsers supported by the ADF framework:

- Windows Internet Explorer IE 11 or later
- Mozilla Firefox v17 or later
- Google Chrome



To ensure the best performance when using Oracle Healthcare Translational Research, use Mozilla Firefox as your browser.

#### Note:

Internet Explorer, Edge, and the Google Chrome browser on Windows10 touch-screen laptops displays some issues with the Oracle Healthcare Translational Research application such as on the dragging of the attributes and UI elements. There is a patch for WebLogic that can be installed to resolve this issue.

For more information about this patch: https://support.oracle.com/epmos/faces/DocumentDisplay?id=2394229.1

Oracle Healthcare Translational Research Next Gen supports browsers supported by Oracle JET (OJET).

# Technology stack

The required technology stack for Oracle Healthcare Translational Research should contain:

- Oracle Healthcare Foundation; for release information see Before you begin.
- Oracle Database 19c, Version 19.3 or Oracle Database 12 c, Release 2 with a cumulative database patch from Oct 2019 or later
- Oracle WebLogic Server 12.2.1.4
- Java Development Kit (JDK) 1.8
- Python 2.X (2.6 or higher). Python 3.X is not compatible.

# Before you begin

If the Self Service Analytics are required, remember to create a separate middleware home with Oracle WebLogic Server 12.2.1.4 for Oracle Analytics Server.

If everything is in order and Oracle Healthcare Foundation 8.2 is installed, you can move on to installing or upgrading to Oracle Healthcare Translational Research 4.1.1.

# Go to the Oracle Help Center to see more details on the Oracle Healthcare Foundation installation process

- For details on how to install Oracle Healthcare Foundation 8.2, see the Oracle Healthcare Foundation *Installation Guide*, on the Oracle Help Center. Note that to upgrade to Oracle Healthcare Foundation version 8.2 requires that you upgrade from version 8.1.1.
- For details on how to properly install Oracle Analytics Server 12.2.1.4, and create
  a separate middleware home with Oracle WebLogic Server, see the Oracle Fusion
  Middleware Installation Guide for Oracle Analytics on the Oracle Help Center.



# Install the Database Tier

This chapter describes security considerations and the installation process for the database tier. You will learn how to:

- Check prerequisites
- Prepare to run the installer
- Install the Database Tier
- · Upgrade the Database Tier

# Check prerequisites

Install or upgrade the Oracle Healthcare Foundation (OHF) database tier to the release required for the Oracle Healthcare Translational Research release you are installing or upgrading to. See the release notes for more information.

Install the latest RDBMS patch set onto the Oracle Healthcare Foundation database before installing the Oracle Healthcare Translational Research database tier. The minimal recommended patch set is Database Patch 30116802 - GI Oct 2019 Release Update 12.2.0.1.191015.

The installation environment can be either:

- the database server (Exadata computing node) where the Oracle Healthcare Foundation database is installed
- a stand-alone Linux server that has the following additional software available:
  - Python 2x (2.6.6 or later)
  - Oracle 12c client with net services configured to access the Oracle Healthcare Foundation database

The following five database schemas are required by the Oracle Healthcare Translational Research application. They are installed during the Oracle Healthcare Foundation database installation. Each schema and tablespace may have the default name or a name provided during Oracle Healthcare Foundation installation. Note these details, which you will need when you run the Oracle Healthcare Translational Research Installer.

- CDM Cohort Data Mart (CDM) schema stores the clinical information that is refreshed by ETLs.
- ODB Omics Data Bank (ODB) schema stores the omics data linked to patients as well as genetic reference data to link.
- SVC Services schema is used by ODB loader APIs.
- ENT The Enterprise (ENT) schema stores system-wide configuration information like product version.
- JOB\_ENGINE Job Engine (JOB) schema tracks all jobs executed and provides templates for jobs.



# Prepare to run the installer

- Download the Oracle Healthcare Translational Research installation package (V1019139-01.zip) from the Media Pack and extract the files into a directory on the installation server.
- 2. Go to the <media\_pack\_location/> folder.
- 3. Using the following command, unzip the V1019139-01.zip file to the folder where you want to launch the installer:

```
unzip -a unzip -a V1019139-01.zip
```

- 4. Go to the <media pack location>/ folder.
- 5. Using the following command, unzip the TRC\_V411\_Installer\_Linux\_x64.zip file to the folder where you want to launch the installer:

```
unzip -a TRC_V411_Installer_Linux_x64.zip
```

- 6. Go to the Disk1/install folder.
- 7. Change the protection on files using the following command:

chmod 755 \*

# Install the Database Tier



Ensure that all prerequisites (Check prerequisites) have been fulfilled.

To install the Oracle Healthcare Translational Research database framework:

- Start the Oracle Universal Installer (OUI) using the following command:
  - If the database server is on the machine where the Installer is running, execute: sh\_runInstaller.sh
  - If the database server is on a different machine, execute: sh runInstaller.sh remote\_installation=true
  - If you are executing the Installer on Linux, change the directory to Disk1/ install and run the following command:

```
bash$ chmod +x unzip runInstaller runInstaller.sh
```

If the schema name provided here already exists in the Oracle Healthcare Foundation database, then that schema is used to install Oracle Healthcare Translational Research objects. If it does not exist, the schema is created.

While creating the Oracle Healthcare Translational Research application schema, the Installer prompts for the default and temporary tablespaces for this user. If

these tablespaces already exist, they are assigned to the user and quota unlimited is granted on them. Otherwise the tablespaces are created with the datafile located in the user-supplied file destinations:

Database Schema	Default Tablespace	Temporary Tablespace
APP	APP_DATA	TRC_TEMP_TS

- 2. The Welcome screen appears. Click Next.
- 3. In the Select a Product to Install screen, select the **Oracle Healthcare Translational Research DB Tier 4.1.1** option, and click **Next**.
- In the Specify Home Details screen, enter the installation home name and location, and click Next.
- 5. In the Verify Installation Prerequisites screen, verify if all the prerequisites are met before proceeding. Click **Next**.
- **6.** In the Oracle Client Home Configuration screen, specify the Oracle client home path. The installer validates this path. Click **Next**.
- 7. In the Enter DB Connection details screen, enter values for the following fields and click Next:
  - Hostname: by default, the system host name appears.
  - Port: by default, the port number is 1521. You can edit this field if required.
  - Service name
  - System user password
  - Sys user password
- 8. In the Enter OHF Schema Details screen, enter values for the following fields and click Next:



Make sure that the user names and passwords are not the same for all entered schemas.

- Omics data bank schema name
- Omics data bank schema password
- · Common data mart schema name
- Common data mart schema password
- Enterprise schema name
- Enterprise schema password
- Job Engine schema name
- Job Engine schema password
- In the Enter OHF Schema Details screen, enter values for the following fields and click Next.
  - Services schema name



- Services schema password
- In the Enter Schema Details screen, enter values for the following fields and click Next.
  - OHTR application schema name
  - · OHTR application schema password
- In the Specify Tablespace details screen, enter values for the following fields and click Next.
  - Default tablespace for APP schema
  - Temp tablespace for APP schema
- **12.** In the Database Verification screen, verify all the details.
  - Click Back to make any changes.
  - After verifying that all details are correct, click Next.
- **13.** In the Verify Configuration Parameters screen, verify all the details.
  - Click Back to make any changes.
  - After verifying that all details are correct, click Next.
- **14.** In the Summary screen, take one last look at the details. If everything is alright, click **Install**.
- 15. When the installation is complete, the End of Installation screen appears. Review the information and click Exit.
- **16.** At the confirmation prompt, click **Yes** to exit the Installer.
- **17.** Review the generated installation log files for errors. If necessary, contact Oracle support to fix any errors.

# Upgrade the Database Tier

For upgrading the Database Tier, follow the same steps as in section Install the Database Tier, except for step 11.

For an upgrade, in the Enter Schema details screen, if you use existing APP schema values, you will no longer go through the Specify Tablespace details screen that is mentioned in step 11.



# Install and configure the Middle Tier

The Oracle Healthcare Translational Research Middle Tier Installer installs the Oracle Healthcare Translational Research and Oracle Healthcare Translational Research Next Gen user interface application along with the application roles in the Oracle WebLogic Server.

This chapter describes the installation and configuration steps for the middle tier. In it you will find out how to:

- Check prerequisites
- Prepare to run the installer
- Run the installer
- Check the log files
- Upgrade the Middle Tier
- Browse these frequently asked questions (FAQs)
- Update the TRC.properties file
- Support for OHF and OHTR on Oracle Cloud Infrastructure using a PAAS model
   This topic outlines how Oracle Healthcare Foundation (OHF) and Oracle Healthcare
   Translational Research (OHTR) are supported on Oracle Cloud Infrustructure (OCI) using
   a PAAS model.
- Uninstall the Oracle Healthcare Translational Research Middle Tier if needed
- Uninstall Data Studio Notebook components
   Data Studio Notebook is no longer supported. There will not be security cpu patch fixes
   on the datastudio notebook component of OHTR. Therefore, we advise you to uninstall
   the Data Studio Notebook application.

# Check prerequisites

#### Make sure that:

- Oracle WebLogic Server is installed on the machine.
- Oracle Healthcare Foundation Data Model schemas are installed using the Oracle Healthcare Foundation Data Tier installer.
- The Oracle Healthcare Foundation Middle Tier is created using the Oracle Healthcare Foundation Middle Tier installer and oh\_domain is present in Oracle WebLogic Server.
- Oracle Healthcare Translational Research Data model schemas are installed using the Oracle Healthcare Translational Research Data Tier installer.

# Prepare to run the installer

 Extract the contents of the Oracle Healthcare Translational Research media pack to your system.

- 2. Open the <media\_pack\_location>/folder.
- 3. Execute the following command to unzip the TRC Installer and extract its contents to the location where you want to launch the installer.

```
unzip -a <TRC_installer_file>.zip
```

- 4. Open the Disk1/install folder.
- **5.** Change the protection on files as follows:

```
chmod 755 *
```

# Run the installer

1. Start the Oracle Universal Installer (OUI) by running the following command.

./runInstaller

or

./runInstaller.sh -jreLoc <location of jre> (providing ire location)

The Welcome screen appears. Click Next.

In the Specify Inventory directory and Credentials screen, enter the path of the inventory directory and click Next.



This screen is displayed only if the Inventory Location has not already been set up through the Installer.

- 3. In the Select a Product to Install screen, select **Oracle Healthcare Translational Research Middle Tier 4.1.1** and click **Next**.
- 4. In the Specify Home Details screen, enter the location where you want to install the product. and click **Next**.
- 5. In the Install Type screen, select one and click **Next**:
  - Yes to perform a fresh installation.
  - No to upgrade your existing Oracle Healthcare Translational Research installation.
- 6. In the Verify Install Prerequisites screen, verify that all prerequisites have been completed and click **Next**.
- 7. **(Fresh installation only)** In the Java Home screen, specify the path where JDK has been installed. The Installer validates this path. Click **Next**.
- 8. In the Fusion Middleware Home screen, enter the path to the WebLogic middleware home. The Installer validates the path. Click **Next**.
- In the AdminServer Configuration screen, enter the following details and click Next:
  - · Listen Address
  - Listen Port



- SSL Lister Port
- Username WebLogic administrator username
- Password WebLogic administrator password
- Verify password: Enter the WebLogic administrator password again.
- Managed Server Port: Enter the managed server port. If there is more than one in the cluster, enter one of them.
- 10. In the NodeManager Configuration screen, enter the following details and click Next:
  - NodeManager User Name
  - NodeManager Password
  - NodeManager Port Number
- 11. (Fresh installation only) In the OHTR Schema Details screen, enter the following details and click Next:
  - Database host name
  - Database port
  - Service name
  - Cohort Explorer application (Apps) schema name
  - Cohort Explorer application (Apps) schema password
- 12. In the Choose Network Proxy Configuration screen, select one and click Next:
  - Yes to continue with network configuration.
  - **No** if you do not want to configure the network at this time.
- 13. In the Network Proxy Configuration screen, enter the following details and click Next:
  - HTTPS proxy host
  - HTTPS proxy port
- 14. In the OHTR Configurations screen, select one and click Next:
  - Yes to continue with Oracle Healthcare Translational Research configuration.
  - **No** if you do not want to configure Oracle Healthcare Translational Research at this time.
- 15. In the Summary screen, verify all of the details.
  - Click Back to make any changes.
  - If all details are correct, click Install.
- **16.** When the installation is complete, the End of Installation screen appears. At the confirmation prompt, click **Yes** to exit the Installer.

# Check the log files

The installation log files are located at <code>SORACLE\_BASE/oraInventory/logs</code>. For example, <code>/u01/app/oraInventory/logs</code>. The log files are time stamped and each installation session creates a new set of log files. The following installation log files are generated while installing the Oracle Healthcare Translational Research middle tier:



Log File	Description
<pre>installActions<timest amp="">.log</timest></pre>	Records the installer actions and can be used to diagnose issues with the installer
<pre>oraInstall<timestamp> .out</timestamp></pre>	Records the output of all the scripts run by the installer
<pre>oraInstall<timestamp> .err</timestamp></pre>	Records errors from all the scripts run by the installer

If necessary, contact Oracle Support to resolve any errors. While reporting any problems that occur during middle tier installation, make sure that you include all the above log files.

# Upgrade the Middle Tier



Because this version of Oracle Healthcare Translational Research 4.1.1 requires Oracle WebLogic Server infrastructure 12.2.1.4, the upgrade path from the previous versions of Oracle Healthcare Translational Research is not supported. Instead, you should choose the fresh install option of Oracle Healthcare Translational Research.

1. Start the Oracle Universal Installer (OUI) by running the following command.

./runInstaller

The Welcome screen appears. Click Next.

2. In the Specify Inventory directory and credentials screen, enter the path of the inventory directory and click **Next**.



This screen is displayed only if the Inventory Location has not already been set up through the Installer.

- 3. In the Select a Product to Install screen, select **Oracle Healthcare Translational Research Middle Tier 4.1.1** and click **Next**.
- 4. In the Specify Home Details screen, enter the location where you want to install the product. and click **Next**.



#### Note:

For an upgrade choose the same Oracle Healthcare Translational Research Home path that you used for a fresh installation. This preserves any configurations that were made to the trc.properties file.

- 5. In the Choose Install Type screen, select **No** to upgrade your existing Oracle Healthcare Translational Research installation, and click **Next**.
- 6. In the Verify Upgrade Prerequisites screen, verify that all prerequisites have been completed and click **Next**.
- 7. In the Oracle Fusion Middleware Home screen, enter the path to the WebLogic middleware home. The Installer validates the path. Click **Next**.
- 8. In the AdminServer Configuration screen, enter the following details and click **Next**:
  - Listen Address
  - Listen Port
  - SSL Lister Port
  - Username Oracle WebLogic Server administrator username
  - Password Oracle WebLogic Server administrator password
  - Verify password: Enter the Oracle WebLogic Server administrator password again.
- 9. In the NodeManager Configuration screen, enter the following details and click Next:
  - NodeManager User Name
  - NodeManager Password
  - NodeManager Port Number
- 10. In the Network Proxy Configuration screen, select one and click **Next**:
  - Yes to continue with network configuration.
  - No, if you do not want to configure the network at this time.
- In the next Network Proxy Configuration screen, enter the following details and click Next:
  - HTTPS proxy host
  - HTTPS proxy port

For an upgrade, the values you enter overwrite the values provided during the previous installation.

- 12. In the OHTR Configurations screen, select one and click **Next**:
  - Yes to continue with Oracle Healthcare Translational Research configuration.
  - No if you do not want to configure Oracle Healthcare Translational Research at this time. For an upgrade, if you choose No, the values provided during the previous installation are preserved.
- 13. In the Summary screen, verify all the details.
  - Click Back to make any changes.
  - If all details are correct, click Install.



**14.** When the upgrade is complete, the End of Installation screen appears. At the confirmation prompt, click **Yes** to exit the Installer.

# Browse these frequently asked questions (FAQs)

#### How can I prevent wrapping of data type objects?

The MT installer performs the steps to prevent wrapping data type installers. To verify this configuration:

- 1. Log into the Administration Console.
- 2. In the Domain Structure tree, select Services > Data Sources.
- 3. On the Summary of Data Sources page, click OH-TRC-DS.
- 4. Select the Connection Pool tab.
- 5. Scroll down and click **Advanced** to show the advanced connection pool options.
- **6.** Verify if **Wrap Data Types** check box is not selected.

#### Why is the application running out of connections?

- This issue can be resolved by increasing the number of connections as mentioned below.
- Better performance can be achieved by modifying the following attributes:
  - Initial Capacity
  - Maximum Capacity: Maximum number of connections depends on the number of users. For example, if there are 10 users the suggested number of connections should always be multiplied by 10 (that is, 10 \*10 = 100).
  - Capacity Increment: This value depends upon the multiplication factor being used to calculate maximum capacity (as per above scenario, it is 10).

For more information, see **Tuning Data Source Connection Pools** available at https://docs.oracle.com/middleware/12212/wls/JDBCA/jdbc\_datasources.htm#JDBCA712

#### How can I increase the connection pool size?

Perform the following steps to increase the connection pool size:

- Log into the Oracle WebLogic Server console.
- 2. Go to Services > Data Sources.
- 3. Click the data source for which you want to increase the connection pool size.
- 4. Go to the Connection Pool tab.
- Specify the number of connections in the attribute Maximum Capacity. Oracle recommends that you set this to at least 100.
- **6.** For details on this configuration, click **More Info...** right across this attribute.

#### How can I increase the default row fetch size?

For better performance, increase the default row fetch size to 100 for the Oracle Healthcare Translational Research data source.

1. Log into the Oracle WebLogic Server console.



- 2. Go to Services > Data Sources under oh\_domain.
- Select the data source OH-TRC-DS.
- 4. Go to Configuration > Connection pool.
- 5. Edit the property field oracle.jdbc.defaultRowPrefetch as shown in the following example:

```
user=app
oracle.jdbc.defaultRowPrefetch=100
```

#### How can I increase the Heap Size?

To optimize performance, Oracle recommends that you update the heap memory of the Oracle WebLogic Server with the following values:

#### Exadata

Initial Heap Size: 8 GB or higher Max Heap Size: 32 GB or higher

Non-Exadata

Initial Heap Size: 4 GB or higher Max Heap Size: 32 GB or higher

There are different ways to increase the heap memory. For example, to change the Java Heap size for a managed server:

- If you have not already done so, in the Change Center of the Administration Console, click Lock & Edit.
- 2. In the left pane of the console, expand **Environment > Servers**.
- 3. In the **Servers** table, click the managed server where Oracle Healthcare Translational Research is deployed to configure.
- 4. On the Configuration tab, click Server Start.
- 5. In the **Arguments** field, specify the Java option to increase the initial and maximum heap size.

For example,

```
-Xms8G -Xmx16G, for Exadata -Xms4G -Xmx8G, for Non-Exadata
```

- 6. Click Save.
- 7. To activate these changes, in the Change Center of the Administration Console, click **Activate Changes**. Not all changes take effect immediately—some require a restart.
- 8. After you finish, you must restart the managed server, so it uses the new heap values.

# Update the TRC.properties file

The TRC.properties file contains configurable values used in the user interface of the Oracle Healthcare Translational Research application. The TRC.properties file is uploaded in the root directory of the Oracle WebLogic Server (<FMW\_HOME>/ user\_projects/domains/oh\_domain, where FMW\_HOME is the home directory of Oracle Fusion Middleware).



Following are descriptions of the file properties.

Table 3-1 Properties in TRC.properties File

Property	User Interface	Description
SF_HOME	View Record	This corresponds to the location of the file system where the result files are stored. This should correspond to TRC_ODB_PERM Oracle directory object used when loading result files into the ODB schema.
		This location must have the necessary permissions to ensure that the Oracle WebLogic Server user can access this path and read from this location.
MAX_FILE_SIZE	View Record	This corresponds to the maximum file size (in MB) that a user can download.
PT_LIST.MAX_PATIENT_ID	Cohort List	This corresponds to the maximum number of patients or subjects that can be saved in the Cohort List. The maximum value that can be provided is 1000.
GENOMIC.MAX_PATIENT_COUNT	Genomic Data Export	This corresponds to the maximum count of patients or subjects that can be selected for generating the genomic data. This is applicable for all the 3 options on selecting the patients (active query, library query and the ad-hoc patients). If the count of patients or subjects selected is more than this value, an error message is displayed when the <b>Submit</b> button is clicked.
GENOMIC.REPORTS_MAX_PATIENT_COUNT	Cohort Reports	This corresponds to the maximum number of patients whose data can be viewed in the reports. This applies to all options of selecting the Patients/Subjects. If the count of patients or subjects selected is more than this value, a warning message is displayed. You can either continue to plot with a large number of patients/subjects, which might impact performance or change the selected cohort for a smaller number of patients / subjects.



Table 3-1 (Cont.) Properties in TRC.properties File

Property	User Interface	Description
DEFAULT_ACTIVE_QUERY_LIMIT	Cohort Reports	This corresponds to the maximum number of patients /subjects whose data is plotted when the patient selection mode is Active Query, but the patients/subjects have not been filtered using the Cohort Query screen. If this count is exceeded, then an error message is displayed.
MAX_SPEC_REPORT	Cohort Reports	This corresponds to the maximum number of specimens for which a sample matrix can be plotted. If the number of specimens exceeds this limit, then a warning message is shown and a summary report of genomic information is displayed.
GENOMIC.MAX_GENE_COUNT	Cohort Reports or Genomic Data Export	This corresponds to the maximum count of Gene names that can be selected for generating genomic data. This applies to the Ad-hoc list Gene selection in the screen. If the count of Genes selected is more than this value, an error message is displayed when the <b>Submit</b> button is clicked.
VARIANT_DISPLAY_LIMIT	View Record	This corresponds to the maximum number of records that can be retrieved from the database for displaying variant data.
DEMOGRAPHICS_DISABLED	Cohort Query	Setting this value to <i>True</i> disables the Demographics criteria on the Cohort Query screen.
CONSENT_DISABLED	Cohort Query	Setting this value to <i>True</i> disables the Consent criteria on the Cohort Query screen.
DIAGNOSIS_DISABLED	Cohort Query	Setting this value to <i>True</i> disables the Diagnosis criteria on the Cohort Query screen.
CLINICAL_ENCOUNTER_DISABLED	Cohort Query	Setting this value to <i>True</i> disables the Clinical Encounter criteria on the Cohort Query screen.
PROCEDURE_DISABLED	Cohort Query	Setting this value to <i>True</i> disables the Procedure criteria on the Cohort Query screen.
MEDICATION_DISABLED	Cohort Query	Setting this value to <i>True</i> disables the Medication criteria on the Cohort Query screen.



Table 3-1 (Cont.) Properties in TRC. properties File

Property	User Interface	Description
PATIENT_HISTORY_DISABLED	Cohort Query	Setting this value to <i>True</i> disables the History criteria on the Cohort Query screen.
TEST_OBSERVATION_DISABLED	Cohort Query	Setting this value to <i>True</i> disables the Test Or Observation criteria on the Cohort Query screen.
SPECIMEN_DISABLED	Cohort Query	Setting this value to <i>True</i> disables the Specimen criteria on the Cohort Query screen.
STUDY_DISABLED	Cohort Query	Setting this value to <i>True</i> disables the Study criteria on the Cohort Query screen.
RELATIVE_TIME_EVENTS_DISABLED	Cohort Query	Setting this value to <i>True</i> disables the Relative Time Events criteria on the Cohort Query screen.
SEQUENCE_VARIANTS_DISABLED	Cohort Query	Setting this value to <i>True</i> disables the Sequence Variants criteria on the Cohort Query screen.
COPY_NUMBER_VARIATION_DISABLED	Cohort Query	Setting this value to <i>True</i> disables the Copy Number Variation criteria on the Cohort Query screen.
MICROARRAY_EXPRESSION_DISABLED	Cohort Query	Setting this value to <i>True</i> disables the MicroArray Expression criteria on the Cohort Query screen.
RNA_SEQ_EXPRESSION_DISABLED	Cohort Query	Setting this value to <i>True</i> disables the RNA Sequencing criteria on the Cohort Query screen.
GENOMIC.CHROMOSOME_RANGE	Genomic Query - Variant Search	This corresponds to the maximum chromosome range that can be provided for searching variants using a Genomic Position in the variant search functionality of the Genomic Query.

# Support for OHF and OHTR on Oracle Cloud Infrastructure using a PAAS model

This topic outlines how Oracle Healthcare Foundation (OHF) and Oracle Healthcare Translational Research (OHTR) are supported on Oracle Cloud Infrustructure (OCI) using a PAAS model.

Support on OCI as a PAAS model includes:

- Installing OHF and OHTR Data Models on the Oracle Data Warehouse (ADW).
- Installing the OHF and OHTR Middle Tier on OCI virtual machines (VM) using the OHF and OHTR Installers.



- Pre-installing the Oracle Weblogic Server in the VM.
- Using a staging database. The OHF and OHTR Middle Tier installation in OCI requires a staging database that holds the Weblogic Repository Configuration Utility (RCU) schemas. This database also serves as an intermediate staging database during the install process.
- Additional configurations. After installing OHTR using the OHTR Installer, additional
  configurations are made to switch to the ADW database to connect to the OHF and
  OHTR in ADW.

Please contact Oracle Support for assistance when installing OHTR on Oracle Cloud Infrastructure.

# Uninstall the Oracle Healthcare Translational Research Middle Tier if needed

To uninstall the Oracle Healthcare Translational Research middle tier:

- 1. Log in to the Oracle WebLogic Server Admin Console.
- 2. Click Lock and Edit.
- 3. Select **Deployments**, then **Control**, then select the ear files to undeploy:
  - OHF-TRC-App: Cohort Explorer UI Application
- 4. Click Stop.
- Select Configuration, then Install, then select the ear files and undeploy and delete them.
- 6. Click Activate Changes.

# Uninstall Data Studio Notebook components

Data Studio Notebook is no longer supported. There will not be security cpu patch fixes on the datastudio notebook component of OHTR. Therefore, we advise you to uninstall the Data Studio Notebook application.

The Data Studio Notebook app and associated PGX Docker components have been removed from the OHTR application and from the installer. Clients with Data Studio Notebook already installed can continue to use the feature. However, we strongly urge you to select an alternate notebook solution, such as, **Oracle Data Science Notebook** or **Graph Studio Notebook**. Both of these are available in OCI.

When uninstalling Data Studio Notebook, you would uninstall both the OHTR DataStudio Notebook app and the PGX Data Studio Interpreter components (if installed).

- Uninstall OHTR DataStudio Notebook app
  We recommend uninstalling the DataStudio Notebook app since it is no longer supported
  in OHTR.
- Uninstall PGX Data Studio Interpreter components
   When uninstalling the Data Studio Notebook app, you also need to stop and remove GX Data Studio docker components.



# Uninstall OHTR DataStudio Notebook app

We recommend uninstalling the DataStudio Notebook app since it is no longer supported in OHTR.

To uninstall the OHTR DataStudio Notebook app:

- Log into the Oracle WebLogic Server Administration Console.
- Select the **Deployments** node in the Domain Structure pane and move to Control Tab
- 3. Select the Web Application for OHTR Notebook Data Studio:

DATASTUDIO-SERVER

- 4. In the Stop drop-down list, select Force Stop Now.
- 5. Move to the **Configuration** tab. If the Delete button above the Deployments table in the right pane is disabled, click **Lock & Edit** in the Change Center pane.
- 6. Select **DATASTUDIO-SERVER** and click **Delete**.
- 7. Click **Yes** and **Activate Changes** in the Change Center pane, if it is enabled.

# Uninstall PGX Data Studio Interpreter components

When uninstalling the Data Studio Notebook app, you also need to stop and remove GX Data Studio docker components.

The PGX Data Studio interpreters are part of the OHTR Notebook solution. Removing the OHTR Notebook also includes stopping and removing the GX Data Studio docker components. Note that the OHTR Notebooks were optional in OHTR installation. These components are to be removed only if the OHTR Notebook and PGX docker interpreters were previously installed. Follow these instructions to stop and remove the PGX Docker images:

1. Navigate to the PGX Docker installation folder:

PgXDataStudio/docker

2. Shut down the PGX docker containers:

sudo docker-compose down

**3.** Verify the status:

sudo docker ps

4. You can also remove these docker images using the command:

sudo docker image rm <image id>



**Note:** You can get the List of Docker images corresponding to the PGX Data Studio interpreters with the following commands:

sudo docker images | grep labs-pgx/pgx-server
sudo docker images | grep ol-datastudio



4

# OHF and OHTR Middle Tier in OCI

This section provides guidelines to install OHF and OHTR Middle Tier in OCI. This allows you to create login users in the Weblogic console, assign roles (groups) to users, and access the OHTR and OHF applications.

There are two approaches to having the OHF/OHTR Middle Tier in OCI.

The first approach is to provision a compute instance and install OHF & OHTR in the VM (like on-premises installation). Provision a compute instance of any desired shape in OCI and install the JDK and Weblogic Fusion Middleware versions as mentioned in the installation guidelines. Further install the OHF & OHTR Middle Tier using the OHF & OHTR OUI Installer, following the respective installation guideline books. This approach is generally recommended: the OHF and OHTR Database is installed directly on a compute instance rather than on OCI ADW. This model follows the laaS approach.

The second approach is to provision Weblogic that's available in OCI Marketplace. OCI Marketplace has the option of using BYOL (Bring Your Own License) or using the Paid pricing model, that's priced for usage. This approach of using Weblogic from Market place has the advantage that Weblogic installation and patching be done by OCI.

- Use Oracle Weblogic Server for OCI from Market Place
   This section shows how to use Oracle Weblogic Server for OCI.
- Install OHF and OHTR applications
   Now that Weblogic is provisioned with the data sources, you can proceed with the OHF and OHTR application installations.
- Use Compute Instance (laaS) Model to install OHF & OHTR in OCI
  This section describes how to obtain the compute instance and install the software
  needed for the OHF & OHTR Middle Tier.

# Use Oracle Weblogic Server for OCI from Market Place

This section shows how to use Oracle Weblogic Server for OCI.

In this approach, you first provision the Oracle WebLogic Server from OCI Market Place, and then install the OHF & OHTR applications in Weblogic. It is assumed that the Data Model for OHF & OHTR is installed in Oracle Autonomous Data Warehouse (ADW).

Prior to installation, as prerequisite:

- Install OHF Data Model using OHF Installer, following OHF Installation Guide.
- Install OHTR Data Model using OHTR Installer, following the OHTR Installation Guide.

To install OHF & OHTR Middle Tier using Weblogic from OCI Market Place:

- In OCI Console > Marketplace > Oracle WebLogic Server Enterprise Edition, select the latest version of Weblogic 12.2.1.4
- For provisioning of Weblogic Server in OCI, follow the documentation at https:// docs.oracle.com/en/cloud/paas/weblogic-cloud/user/get-started-oracle-weblogiccloud.html

- Select VCN. In the Weblogic Server Instance Advanced screen, there is the option to choose Existing VCN or Create a new VCN.
- 4. Select the appropriate compartment in Subnet. Select the option to choose an **Existing Subnet** or **Create a new Subnet**.

Select option: Public Subnet or restrict to Private Subnet

- 5. In the OCI Console on the Weblogic Server Instance Advanced screen, there is an option to Configure Application Datasource. Check this and use the option to configure the Data Source for the CG API. Provide the cga schema details. This will create a default Data Source in Weblogic, connecting to the ADW api (cga) schema.
- 6. The OCI Console provides logs that show the progress of provisioning the Weblogic Server. Upon successful creation of the Weblogic Server, you can connect to the Weblogic Console. For public subnet (to access the Weblogic server publicly) the console ports need to be added to the Security List of the subnet. In the security list for the subnet, add an ingress rule for the weblogic console port (destination port).

If the Oracle WebLogic Server compute instances is assigned to a private subnet, it is not accessible from the public internet. To access the WebLogic Server Administration Console to administer such instances, use the bastion instance that's created on a public subnet and dynamic port forwarding with a secure shell (SSH) utility. To access the Weblogic Console from outside (publicly), follow the instructions at https://docs.oracle.com/en/cloud/paas/weblogic-cloud/user/access-weblogic-console.html#GUID-6968D402-BDF9-42BE-A5A8-5648CBD80D5A

To connect to the VM, connect using ssh using the private key corresponding to the public key provided.

Upon the provision of Weblogic as mentioned below, connect to the Weblogic Console as in http://<ip>:port/console. The default port in the above configuration is 7001 for http.

Data Sources
 This section describes how to set data sources in the Weblogic console.

### **Data Sources**

This section describes how to set data sources in the Weblogic console.

To set data sources in Weblogic:

- 1. Connect to the Weblogic Console.
- Go to Data Sources. Notice AppDBDataSource (that was created during the OCI Weblogic installation) connected to the CG API schema (api / cga). However, you need to change the JNDI Name of this Data Source to the following

jdbc/CGA-APP

Change and apply the changes.

3. Configure the Data Sources for OHTR CE application. This can be done using one of two approaches:



- a. Use the OCI utility scripts to create the data sources. Follow the instructions to create the Data Source as follows: https://docs.oracle.com/en/cloud/paas/weblogic-cloud/ user/create-data-source-oracle-autonomousdatabase.html#GUID-6786B961-1283-4F32-8D2D-93B46102BA63 Note the following configuration values need to be provided:
  - jdbc/CGA-APP
  - atp.wallet.path=<complete\_path\_to\_wallet\_dir>
  - wls.admin.url=t3://<host ip>:9071 (the port displayed in the console)
- b. Or create the Data Source using the Weblogic Console at Weblogic Console > new
   > Generic Data Source. Provide the values:
  - Name: OHTR-APP-DS
  - JNDI Name: jdbc/TRC-APP
  - Provide values for database host, port and service name.
  - For the URL section that appears in the next screen: provide values as copied from the default AppDBDataSource Data Source. (This trc schema is connecting to the same ADW database.)
  - In the Properties section, copy the values from the default AppDBDataSource data sources in this newly created data source (except for the user, of course).

Test the connection and apply to the cluster.

- 4. After creating the data source for trc app (with the JNDI Name of jdbc/TRC-APP), select the Data Source in Weblogic Console > Connection Pool > Advanced section, uncheck the Warp Data Type. Save and Apply the changes.
- 5. Restart the Managed Server using the Weblogic console.

# Install OHF and OHTR applications

Now that Weblogic is provisioned with the data sources, you can proceed with the OHF and OHTR application installations.

To install the OHF and OHTR applications:

- 1. From the terminal, ssh into the Weblogic VM (typically as user opc). Go to the domains directory and create a directory, such as: ohtr install.
- 2. From the local machine onto the above created directory in the VM, scp the installation package:

```
ohtr oci package
```

3. In the remote VM, unzip the zip file using the following:

```
zip -a OHTR_MT_OCI.zip (or the corresponding zip file name).
```

- Go to the ohtr\_setup\_scripts folder. Change the ownership of the files in this directory
  as 'oracle:oracle' or give r/w/x permission.
- 5. Use command sudo as user oracle: sudo su oracle
- 6. Edit the file user defined.properties.sh. Provide the correct values for the parameters.
- 7. Run the installation as . ./install ohtr.sh



This creates the Groups needed for OHF and OHTR, and deploys the OHF and OHTR apps onto Weblogic.

8. The terminal will display the progress logs.

That's it. Upon completion, you can now create the login users in the Weblogic console, assign the necessary roles (groups) to the users, and access the OHTR & OHF applications.

Deploy OHF Admin Console app
 This section shows how to deploy the OHF Admin Console app.

### Deploy OHF Admin Console app

This section shows how to deploy the OHF Admin Console app.

The OHF Admin Console app is included in the installation, but it is not deployed by default (to minimize default installation steps and make the installation modular). To install the OHF Admin Console app, follow the steps below. You can do the steps as part of the original installation (which will deploy the OHF Admin Console app along with the others) or do it post the initial installation.

- Create the following three Data Sources in Weblogic for the OHF Admin Console using these parameters. Follow the steps in the Data Sources section.
  - Data Source Name: OH-ENT-DS JNDI Name: jdbc/OHF-ENT

Database Schema: ENT (provide the actual name for the ENT schema)

Data Source Name: OH-HDM-DSJNDI Name: jdbc/OHF-HDM

Database Schema: HDM (provide the actual name for the HDM schema)

Data Source Name: OH-ODB-DS
 JNDI Name: jdbc/OHF-ODB

Database Schema: ODB (provide the actual name for the ODB schema)

- 2. After creating the Data Sources, you can deploy the OHF Admin Console app. In the terminal of the remote VM, go to the <code>ohtr\_setup\_scripts/domain</code> folder. Edit the file properties.template:
  - a. Locate the entry # Apps Deployment configuration---
  - **b.** Comment out the first line below it: deploymentPrefixes
  - c. Uncomment the second line of deploymentPrefixes

(In the second line, you are including the OHF Admin Console application for the deployment).

Go to the ohtr\_setup\_scripts folder. Run the installation as . ./ install ohtr.sh

This will deploy the OHF Admin Console application. These steps can be done as part of the original installation or can be done separately to just deploy the OHF Admin Console.



# Use Compute Instance (IaaS) Model to install OHF & OHTR in OCI

This section describes how to obtain the compute instance and install the software needed for the OHF & OHTR Middle Tier.

This approach is to obtain the compute instance of the desired shape and install the software needed for the OHF & OHTR Middle Tier. This model is that of the Infrastructure as a Service (IaaS) where in the Compute Instance from OCI is used to install the necessary software and applications in the compute instance.

This process follows the typical OHF & OHTR Middle Tier installation similar to that of onpremises installation using the OHF & OHTR OUI Installers. Please follow the installation guidelines to install OHF & OHTR in the compute instance.

- OHF Installation Guide Chapter 5 : Middle Tier installation for OHF Middle Tier installation and
- OHTR installation guide Chapter 3: Install and configure Middle Tier for OHTR Middle Tier installation

Note that the prerequisite software (as JDK, Weblogic) should also be installed in the VM, as mentioned in the above installation guidelines prior to the installation of OHF Middle Tier application.

Further if it's planned to use the Oracle Autonomous Data Warehouse (ADW) as the database, the additional following steps are also needed as part of the installation.

The installation of OHF and OHTR Middle Tier in Oracle Cloud Infrastructure (OCI) needs a staging database. This database will host the Weblogic RCU schema's that are needed by Weblogic ADF framework. It will also serve as a staging database for OHF and OHTR schema's during the middle tier installation process. The OHF and OHTR Middle Tier will use this staging database during the installation process. Once the OHF and OHTR Middle Tier installation using the installers are complete, a few additional steps are done to switch to Oracle Autonomous Data Warehouse (ADW) from this staging database.

Follow the sequences for the installation of OHF and OHTR applications in OCI. This section assumes that OHF and OHTR Data Models are already created in Oracle ADW.

- Provision Oracle Database in a VM in the same tenancy. The same VM as that of Weblogic can also be used. This will be the staging database.
- 2. Install OHF Data Model using OHF Installer, following OHF Installation Guide. Provide the staging database connection details during the installation.
- 3. Install OHTR Data Model using OHTR Installer, following the OHTR Installation Guide. Provide the staging database connection details during the installation.
- Install OHF Middle Tier using OHF Installer, following OHF Installation Guide. Provide the staging database connection details during the installation
- 5. Install OHTR Middle Tier using OHTR Installer, following the OHTR Installation Guide. Provide the staging database connection details during the installation.
- 6. Upon completion of the OHTR Middle Tier using the OUI Installer, follow the below steps to switch the connection to Oracle ADW schema:



- a. Download Autonomous Database wallet and transfer it to a node where WebLogic is installed.
- Unzip the wallet into a directory accessible to the OS user that owns WebLogic software, for example /u01/wallets/OHTR\_wallet

```
bash-4.2$ cd /u01/wallets/OHTR_wallet
bash-4.2$ unzip ../Wallet_OHTRDB00.zip
Archive: Wallet_OHTRDB00.zip
inflating: README
inflating: cwallet.sso
inflating: tnsnames.ora
inflating: truststore.jks
inflating: ojdbc.properties
inflating: sqlnet.ora
inflating: ewallet.p12
inflating: keystore.jks
```

- Open WebLogic admin console and navigate to oh\_domain->Services->Data Sources
- d. Open each OHTR data source and proceed to Configuration->Connection
- Click the Lock and Edit button in the upper left corner to allow data source editing.
- f. Modify the value for URL to jdbc:oracle:thin:@<<ADW TNS entry>> where <<ADW TNS entry>> is the tns entry from the wallet tnsnames.ora file. For example:

jdbc:oracle:thin:@ohadw00\_high

g. Add the following lines to the Properties section (make sure the existing property user=<<user\_name>> is retained).

```
javax.net.ssl.keyStoreType=JKS
oracle.net.tns_admin=<<ADW wallet location>>
javax.net.ssl.keyStore=<<ADW wallet location>> /keystore.jks
javax.net.ssl.trustStore=<<ADW wallet location>>/truststore.jks
javax.net.ssl.trustStoreType=JKS
oracle.net.ssl_server_dn_match=true
oracle.net.ssl_version=1.2
```

where <<ADW wallet location>> refers to a location where wallet was unzipped.

#### For example:

```
javax.net.ssl.keyStoreType=JKS
oracle.net.tns_admin=/scratch/wallets/Wallet_OHTRDB00
javax.net.ssl.keyStore=/scratch/wallets/Wallet_OHTRDB00/
keystore.jks
javax.net.ssl.trustStore=/scratch/wallets/Wallet_OHTRDB00/
truststore.jks
javax.net.ssl.trustStoreType=JKS
```



```
oracle.net.ssl_server_dn_match=true
oracle.net.ssl version=1.2
```

- h. Save the updated data source.
- 7. After all the data sources have been modified, click the **Activate Changes** button in the upper left section and restart Managed Server.

This will cut over the database connection in Weblogic to Oracle ADW.



5

# Configure network data encryption and integrity for Oracle servers and clients

For information on how to configure native Oracle Net Services data encryption and integrity for, see *Oracle® Database Security Guide 12c Release 2*, "Part IV - Configuring Oracle Database Native Network Encryption and Data Integrity" on the Oracle Help Center.



6

# Configure Oracle Analytics Server

This chapter describes how to set up the Oracle Analytics Server server with the RPD and catalog for *ad hoc* reporting needs as required. It contains the following topics:

- Deploy the RPD and Catalog
- Create Oracle Analytics Server groups and users

# Deploy the RPD and Catalog

To deploy the RPD and Catalog:

1. Install Oracle Analytics Server 12.2.1.4.



The existing Oracle Analytics Server installation for Oracle Healthcare Foundation can be used. However, please remember to create a new domain for TRC RPD, instead of using the domain that might have been created for Oracle Healthcare Foundation RPD.

2. While running the configuration, create an Oracle Analytics Server domain.

Remember that you can now deploy TRC CDM and HCD RPD on the same Oracle Analytics Server server by creating different Oracle Analytics Server domains. For details, see *Oracle® Fusion Middleware Installing and Configuring Oracle Business Intelligence*, "Chapter 4 - Configuring Oracle Business Intelligence".

For details on how to create a Oracle WebLogic Server domain, see the *Oracle*® *WebLogic Server 12c (12.2.1) Creating a Domain Guide*, "Chapter 2 - Creating a WebLogic Server 12c (12.2.1) Domain", on the Oracle Help Center.

- Go to the following location on the middle tier installation home: <TRC\_MTIER\_HOME>/ trcmt/ohf\_products/OBIEE/
- 4. Copy RPD.zip and OracleHealthSciencesCohortExplorer.zip to the Oracle Analytics Server server.
- Extract them to a folder on the Oracle Analytics Server server. This yields the RPD file and the catalog folder.
- 6. In the Oracle Analytics Administration Tool, open the extracted Oracle Analytics repository (OracleHealthSciencesCohortExplorer.rpd) in offline mode and configure database connections.

Note:

A 64-bit Windows OS is required to run the Oracle Analytics Administration tool.

- a. In the Oracle Analytics Administration Tool, from the File menu, select Open, then Offline.
- b. Select OracleHealthSciencesCohortExplorer.rpd.
- c. Enter the repository password to log into the OracleHealthSciencesCohortExplorer.rpd file. The default password is cohort.



Change the RPD password by selecting Change Password from the File menu. Enter the old and new passwords.

- d. Click OK.
- 7. Modify the connection pools in the RPD:
  - a. In the physical layer, expand the OracleHealthScienceCohortExplorer node and double-click **Connection Pool**.
  - **b.** Change the following:

**Data source name**: Enter the TNS entry name of the Oracle Healthcare Foundation database instance where Oracle Healthcare Translational Research is installed.

**User name**: Provide the APP schema user name.

**Password**: Provide the password of the APP schema user. Confirm the new password and click **OK**.

- **c.** From the **File** menu, select **Save** to save the RPD. When the "Do you wish to check global consistency" dialog box appears, click **No**.
- 8. Upload the RPD using the following command:

```
<OBIEE_DOMAIN_HOME>/bitools/bin/datamodel.sh uploadrpd -I <Path
extracted to as mentioned in step
5>\OracleHealthSciencesCohortExplorer.rpd -SI ssi -U weblogic -P
<weblogic credentials>
```

You are prompted for to add the RPD password. For this password, contact your Oracle Product Manager.

- 9. Copy the contents of the catalog folder to <OBIEE\_DOMAIN\_HOME>/bidata/ service\_instances/ssi [Service Instance Name]/metadata/ content/catalog
- 10. Check whether trusnames.ora is present in the location. If not, create it and add a TNS entry for the DB connection. To create the file:

<OBIEE DOMAIN HOME>/config/fmwconfig/bienv/core/tnsnames.ora



#### To add the TNS entry:

```
trcpdb = (DESCRIPTION = (ADDRESS_LIST = (ADDRESS = (PROTOCOL = TCP) (HOST
= <ohfdb_server.domain>) (PORT = <PORT_NUMBER>))) (CONNECT_DATA =
(SERVICE_NAME = <OHDFDB_SERVICE_NAME>)))
```

- 11. Restart the Oracle Analytics Server services from the Oracle Enterprise Manager:
  - a. Log into the Oracle Enterprise Manager.
  - Expand the Target Navigation Menu and go to Business Intelligence > biinstance.
  - c. Click the Availability tab.
  - d. In the Processes tab, click Restart All. This restarts the Oracle Analytics Instance services.
  - e. Log into Oracle Analytics Server.

# Create Oracle Analytics Server groups and users

This section contains the following topics:

- Create Oracle Analytics Server groups
- Create Oracle Analytics Server users
- Map default Oracle Analytics Server roles to user groups
- · Deploy help files for Oracle Analytics Server dashboard

# Create Oracle Analytics Server groups

- **1.** Log into the Administrator Console for the Oracle Analytics Server Server at http:// <obiee\_server>:<admin\_port>/console.
  - <admin\_port> is the port where Oracle Analytics Server WebLogic Enterprise Manager is installed.
- Click Security Realms in the Domain Structure panel.
- 3. Go to myrealm > Users and Groups.
- 4. Click the **Groups** subtab.
- 5. Click **New** and create the following groups:
  - BIServiceAdministrators
  - BIContentAuthors
  - BIConsumers
- 6. Click OK.

# Create Oracle Analytics Server users

Create a user having the same credentials as the application user for Oracle Healthcare Translational Research and add them to one of the appropriate groups created in Create Oracle Analytics Server groups.



- **1.** Log into the Administrator Console for the Oracle Analytics Server Server at <a href="http://cobiee\_server">http://cobiee\_server</a>:<a href="http://console">admin\_port</a>/console.
  - <admin\_port> is the port where Oracle Analytics Server WebLogic Enterprise Manager is installed.
- 2. Click **Security Realms** in the Domain Structure panel.
- 3. Go to myrealm > Users and Groups.
- 4. Click **New**. Create the user with appropriate credentials.
- 5. Select the user from the list, and click the **Groups** Tab.
- **6.** Assign one of the user groups (created in Create Oracle Analytics Server groups) to the user.

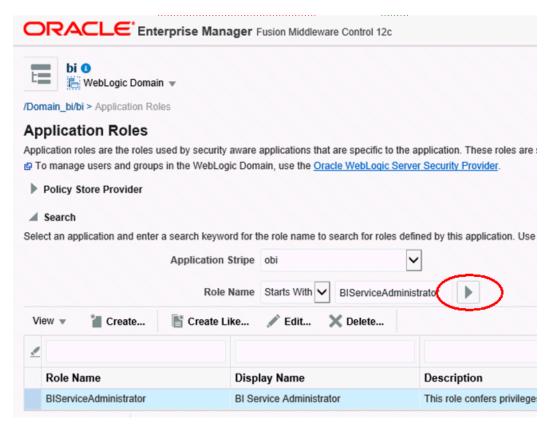


The user name created for Oracle Healthcare Translational Research and Oracle Analytics Server WebLogic servers should match for access to data based on the VPD policies and other configurations.

# Map default Oracle Analytics Server roles to user groups

- **1.** Log into the Oracle Analytics Server Enterprise Manager at http:// <obiee\_server>:<admin\_port>/em.
- 2. Click the Weblogic Domain drop-down menu.
- 3. Select Security > Application Roles.
- 4. In the drop-down **Application Stripe** ensure obi is entered and click **Search Application Roles** (arrow icon). A list is displayed.





- Select the row for BIServiceAdministrator and click Edit.
- 6. In the **Members** table, click **Add**. The search dialog is displayed.
- 7. Select Type as Group.
- 8. Click Principal Name > Starts With.
- Enter BIServiceAdministrators.
- 10. Click the arrow button to search.
- 11. In the Searched Principals, select the row for BIServiceAdministrators.
- 12. Click **OK** to add the group as a member.
- 13. Click **OK** to save the changes.
- 14. Repeat steps 3-13 to add:
  - Role BIContentAuthor to group BiContentAuthors
  - Role BIConsumer to group BIConsumers
- 15. Log into the Analytics application http://<OBIEE\_SERVER>:<ANALYTICS\_PORT>/analytics with the user created in Create Oracle Analytics Server users.

#### **Grantine BIAuthors to Create New Analysis**

- Log into the Analytics application as the "weblogic" user or a user that is part of the BIServiceAdministrators group.
- 2. Click Administration.



- 3. Select Manage Privileges.
- 4. Locate the entry Subject Area: TRC.
- Click the BI Service Administrator hyperlink. A dialog box is displayed.
- 6. Click + to search roles to be added for the Oracle Analytics Content Author.
- Select the Oracle Analytics Content Author entry and click the arrow button to add it to the Selected Members list.
- 8. Check whether **Set Permission** to is set to **Granted**.
- 9. Click OK.
- **10.** Ensure that the Oracle Analytics Content Author role is selected and click **OK** to reflect the changes for the Subject Area: TRC.
- 11. Log in as a user who is a part of the group BIContenAuthors and verify that you have access to the TRC subject area.

### Deploy help files for Oracle Analytics Server dashboard

 Copy the file OHTR\_MTIER\_HOME/lohf\_products/Weblogic/ TrcDashboardHelp.war to the Oracle Analytics Server server location from where it can be deployed.

For example, create a folder *upload* in the location <code>OBIEE\_DOMAIN\_HOME/servers/bi\_server1/</code>.

- 2. Log into the Administrator Console for the Oracle Analytics Server Server at <a href="http://obiee\_server:admin\_port/console">http://obiee\_server:admin\_port/console</a>.
- 3. Go to the **Deployments** page.
- Click Lock & Edit.
- 5. In the Summary of Deployments page, click Install.
- **6.** Provide the path where TrcDashboardHelp.war is copied. For example, OBIEE\_DOMAIN\_HOME\servers\bi\_server1\upload.
- 7. Select **TrcDashboardHelp.war** from the location and click **Next**.
- 8. Select Install this deployment as an application.
- 9. Let the scope remain **Global** and click **Next**.
- In the Available targets for TrcDashboardHelp, select the Clusters (for example, bi\_cluster) check box.
- 11. Click Next.
- **12.** Retain the default options in the remaining screens and click **Finish**.
- **13**. Click **Activate Changes**. The following message appears:
  - All changes have been activated. No restarts are necessary.
- Verify that the TrcDashboardHelp application is started by going to Deployments, and then Control tab.
- **15.** Search for the application **TrcDashboardHelp**.
- **16.** If it's not in the **Active State**, select the check box for TrcDashboardHelp and click **Start**, and **Servicing all requests**.



17. Context-sensitive help in the dashboard is available.

