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Oracle® Health Sciences Empirica Topics Reporting and Oracle Business Intelligence Configuration Guide

Release 7.3.3.4

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Contents

About this guide

Empirica Signal release 7.3.3.4 and higher provides the ability to generate reports on topic content using Oracle® Business Intelligence Enterprise Edition (Oracle BI EE). This guide provides system requirements and configuration instructions to integrate Oracle BI EE with Empirica Signal.

This guide assumes you have both the Empirica Signal application and Oracle BI EE already installed. This guide also assumes that you have an understanding of operating system and database concepts, and have experience using the supporting software described in the Installation prerequisites.

Audience

This guide is intended for database administrators, IT administrators, and Empirica Signal administrators.

1: Installation prerequisites

To use Oracle Business Intelligence to report on Empirica Signal Topics, the following requirements must be met.

Database requirements

- Oracle® Database 11g Release 2 (11.2.0.3.0 or later).
- SYSTEM password for the Oracle database instance.
- Name of the Signal application database account and tablespace.
- TNS name used for database access from Empirica Signal and Oracle BI EE.

Oracle Business Intelligence requirements

- 64-bit Oracle® Business Intelligence Enterprise Edition release 11.1.1.7.0 with WebLogic Server 10.3.6.0.8.
- Java 1.7 with Java Cryptography Extension (JCE) installed.
- Oracle® Business Intelligence Developer Client Tools, 64-bit or 32-bit. This tool is only for a Windows client. You can download it from Download BI Desktop Tools in your OBIEE instance.
- Oracle Business Intelligence URL.
- Oracle Business Intelligence administrator username and password.
- Oracle Fusion Middleware Enterprise Manager URL.
- Oracle Fusion Middleware Enterprise Manager administrator username and password.
- Oracle WebLogic Server Administrator Console URL.
- Oracle WebLogic Server Administrator Console administrator username and password.
- Server and file system access to the Oracle BI EE and WebLogic installation.

These software tools and installation instructions are available as downloads from http://www.oracle.com/technetwork.

Empirica Signal requirements

- Empirica Signal release 7.3.3.3.360 or higher, installed and configured.
- Empirica Signal product CD or product ZIP file from the Oracle Software Delivery Cloud.
- Empirica Signal URL.
- Empirica Signal administrator username and password.
- Empirica Signal Topics feature, installed and configured.
- Name of the topic workflow account.
- Topic Workflow Configuration ID.
- Server and file system access to the Empirica Signal application server.

For information on the topic workflow account created during the Empirica Signal installation, see section 2.1.3 in the *Empirica Signal Windows 2003/2008 Server Installation and Upgrade Instructions*, release 7.3.3 or later.

Note: Before you configure Oracle Business Intelligence for Topics reporting, you must ensure that you have available the installation media that corresponds to the version of Empirica Signal that you have installed. The Oracle Business Intelligence configuration procedures require files provided on the installation media.

2: Prepare the Empirica Signal data account

In this section, you create an Oracle BI EE database account for Empirica Signal Topics, and then populate it with views that point to data items in your topic workflow.

Creating the Oracle BI EE Topics database account

1. Extract the contents of the `database.zip` file on your Empirica Signal application server.

2. Remove the read-only flag, if it exists, and open the `create_topics_user_obiee.sql` file in a text editor.

3. Verify that the following properties are set to the appropriate values for your environment, and edit the values if necessary:

   ```
   DEFINE TOPIC_WORKFLOW = '<topic workflow account>';

   DEFINE SIGNAL = '<Signal account>';

   DEFINE TABLESPACE = '<tablespace>';
   ```

4. Open a Command Prompt window and execute the `create_topics_user_obiee.sql` script as the Oracle system user:

   ```
   C:> sqlplus system@webvdme @ create_topics_user_obiee.sql
   ```

5. When prompted, enter the Oracle system account password.

   A list of topic workflow configuration names and IDs appears.

6. When prompted, enter the target topic workflow configuration ID.

   The script creates the `OBIEE_<topic workflow account>_<topic workflow ID>` database account.

7. When prompted, choose and enter a password for the `OBIEE_<topic workflow account>_<topic workflow ID>` database account.

   The script completes, and creates the `create_topics_user_obiee.log` file.

Creating the Oracle BI EE Topics views

1. On your Empirica Signal application server, locate the `populate_obiee_topics.sql` file in the contents extracted from the `database.zip` file.

2. Remove the read-only flag, if it exists, and open the `populate_obiee_topics.sql` file in a text editor.

3. Verify that the following properties are set to the appropriate values for your environment, and edit the values as necessary:

   ```
   DEFINE TOPIC_WORKFLOW = '<topic workflow account>';

   DEFINE SIGNAL = '<Signal account>' ;
   ```

4. Open a Command Prompt window and execute the `populate_obiee_topics.sql` script as the database user created in step 6 in Creating the Oracle BI EE Topics database account:

```
C:> sqlplus OBIEE_<topic workflow account>_<topic workflow ID>@webvdme @
populate_obiee_topics.sql
```

5. When prompted, enter the password for the `OBIEE_<topic workflow account>_<topic workflow ID>` database account that you created in step 7 in <u>Creating the Oracle BI EE Topics database account</u>.

6. When prompted, enter the same topic workflow configuration ID that you entered in step 6 in <u>Creating the Oracle BI EE Topics database account</u>.

    The script completes and creates the `populate_obiee_topics.log` file.

3: Configure Oracle BI EE Authentication

You must install and configure the authentication plugin that allows you to access Topics reports in Oracle BI EE using your Empirica Signal password.

Copying and extracting the authentication files

1. On the Empirica Signal application server, generate a password for the `obiee_auth.properties` file:

   a. Navigate to the following folder:

      `C:\Lincoln\apps\webvdme\bin`

   b. Double-click the `obiee_auth_password.bat` file.

      The batch process inserts the password you choose into the `obiee_auth.properties` file in encrypted form.

   c. When prompted, enter and confirm the WebLogic user password.

      A notification message appears, indicating that the password was written to the **password** property.

   d. Press any key to continue.

2. Verify that properties are set to the correct values:

   a. Navigate to the following directory:

      `C:\Lincoln\apps\webvdme\lib`

   b. Open the `obiee_auth.properties` file.

   c. Verify that the following properties are set to the appropriate values for your WebLogic server, and edit the default values if necessary:

      HOSTNAME=localhost

      PORT=7000

      USERNAME=weblogic

3. Perform the following steps:

   a. Download and install the JCE7 strong encryption libraries from Oracle.

   b. Unzip the UnlimitedJCEPolicyJDK7.zip file.

   c. Copy the following files to the jre/lib/security folder for the JDK that is used to run WebLogic on the Oracle BI EE server:

      `local_policy.jar`

      `us_export_policy.jar`

4. Create a directory such as the following on the Oracle BI EE server:

   `/u01/app/oracle/empiricaprovider`

5. Copy the following files from your Empirica Signal application server to the directory you just created (such as `/u01/app/oracle/empiricaprovider`) on the Oracle BI EE server:

- `license.config` from the `Lincoln\apps\webvdme\lib` directory.

- `obiee_auth.properties` from the `Lincoln\apps\webvdme\lib` directory.

- `ESAPI.properties` from the `Lincoln\apps\webvdme\lib` directory.

- `webvdme.properties` from the `Lincoln\apps\webvdme\webapps\web_root\WEB-INF\classes` directory.

    If the connect property in the webvdme.properties file refers to `localhost`, replace `localhost` with the name of the server hosting the Empirica Signal application.

6. Locate the `empiricaprovider<version>.zip` file from the product ZIP file, and extract the following files to the `<WebLogic server>/server/lib/mbeantypes` folder on the Oracle BI EE server:

- ESAPI-1.4.4.jar

- log4j-1.2.16.jar

- secure-coding<version>.jar

- empirica<version>.jar

- SignalTopicsCommon<version>.jar

- Signal<version>.jar

- empiricaprovider<version>.jar

7. Using cd, change the current working directory to the bin directory of the Oracle BI EE installation. For example:

    `cd /u01/middleware/user_projects/domains/bifoundation_domain/bin`

8. Stop WebLogic:

    `./stopWebLogic.sh`

9. Start WebLogic:

    `nohup ./startWebLogic.sh &`

Creating a new Authentication Provider

1. Log in to Oracle WebLogic Server Administration Console using your administrator username and password.

    You can access the server at `http://<server>:<port>>/console`.

2. In the Domain Structure pane, click **Security Realms**.

    The Summary of Security Realms page appears.

3. In the Realms table, click **myrealm**.

    The Settings for myrealm page appears.

4. In the Change Center pane, click **Lock & Edit**.

5. Select the **Providers** tab, and select the **Authentication** subtab.

6. Click **New**.

    The Create a New Authentication Provider page appears.

7. Specify the following:

    •   Name: Type **EmpiricaAuthenticationProvider**.

    •   Type: Select **EmpiricaAuthenticator**.

8. Click **OK**.

    The authentication provider is created.

9. Click the new **EmpiricaAuthenticationProvider** link.

10. Change the **Control Flag** setting to **REQUISITE**.

11. Click **Save**.

12. Select the **Provider Specific** tab.

13. Change the **Empirica Signal Application Root** value to `/u01/app/oracle/empiricaprovider`.

14. Click **Save**.

15. At the top of the page, click the **Providers** link.

16. Click the **Reorder** button, and move **EmpiricaAuthenticationProvider** to the top of the list.

17. Click **OK**.

18. Click the **DefaultAuthenticator** link.

19. Change the **Control Flag** setting to **SUFFICIENT**.

20. Click **Save**.

21. Click **Activate Changes**.

Verifying attribute information

1. Log in to Oracle Fusion Middleware Enterprise Manager using your administrator username and password.

    You can access Oracle Fusion Middleware Enterprise Manager at `http://<server>:<port>/em`.

2. Expand the **WebLogic Domain** folder.

3. Right-click on the domain name, and select **System MBean Browser**.

    The System MBean Browser opens.

4. In the System MBean Browser pane, expand the **Configuration Mbeans** folder.

5. Expand the **Security** folder.

6. Click the **myrealmEmpiricaAuthenticationProvider** mbean.

   The attributes appear.

7. On the **Attributes** tab, verify that the Value column for the EmpiricaSignalApplicationRoot attribute contains the `/u01/app/oracle/empiricaprovider` folder that you created in step 4 in [Copying and extracting the authentication files](#).

8. Edit the value if necessary, and click **Apply**.

9. Log out.

10. Log in to Oracle WebLogic Server Administration Console using your administrator username and password.

    You can access the server at `http://<server>:<port>>/console`.

11. In the Change Center pane, click **Lock & Edit**.

12. Make your Oracle BI EE usernames case-insensitive to ensure successful logins from the Empirica Signal application:

    a. In the Domain Structure pane, click the domain name, such as **bifoundation_domain**.

       The Settings for <domain name> page appears.

    b. Select the **Security** tab, and select the **General** tab, if it is not already selected.

    c. At the bottom of the page, click **Advanced**.

       Advanced options appear.

    d. Select the **Principal Equals Case Insensitive** checkbox.

    e. Click **Save**.

       Your changes are saved.

    For more information, see the following documentation:

    `http://docs.oracle.com/cd/E21764_01/web.1111/e13707/domain.htm`

13. In the Change Center pane, click **Activate Changes**.

    Your changes are activated.

14. Log out.

15. Using cd, change the current working directory to the bin directory of the Oracle BI EE installation. For example:

    `cd /u01/middleware/user_projects/domains/bifoundation_domain/bin`

16. Stop WebLogic:

    `./stopWebLogic.sh`

17. Start WebLogic:

    `nohup ./startWebLogic.sh &`

4: Configure Empirica Signal

In this section, you enable Oracle BI EE Topics reporting, assign permissions, and add the Oracle BI EE URL to the `webvdme.properties` file.

Enabling the Oracle BI EE site setting

1. Log in to Empirica Signal as an administrator.

2. Click **Settings**.

   The Settings page appears.

3. Click **Set Site Options**.

   The Site Options page appears.

4. Select the **Enable OBI EE Reporting** checkbox.

5. Click **Save**.

   Your changes are saved.

6. Log out.

Assigning permissions

You must assign the appropriate Oracle BI EE permissions to users who need access to the Topics reports. The permissions provided in Empirica Signal correspond to the associated roles (BI Consumer, BI Author, BI Administrator) in Oracle BI EE. You should assign the permissions to Empirica Signal users according to their roles in Oracle BI EE.

Users must have at least the BI Consumer permission to view Topics reports in Oracle BI EE.

1. Log in to Empirica Signal as an administrator.

2. Click **Settings**.

   The Settings page appears.

3. Click **Edit Users**.

   The Users page appears.

4. Click the Action menu icon next to a user, and select **Edit**.

   The Edit User page appears.

5. Click **Assign Permissions**.

   The Permissions for User: page appears.

6. In the OBIEE Reporting section, select the appropriate BI permission.

7. Click **Save**.

   Your changes are saved.

Modifying the webvdme.properties file

1. Log in to the Empirica Signal application server.

2. Navigate to the `C:\Lincoln\apps\webvdme\webapps\web_root\WEB-INF\classes` directory.

3. Open the `webvdme.properties` file.

4. Add the following:

   `reportingURL=http://<server>:<port>/analytics`

   replacing <server> and <port> with the appropriate values for your Oracle BI EE instance.

5. Run the `set_permissions.bat` file.

   - For Windows 2008, right-click on the `set_permissions.bat` file, and then select **Run as administrator**.

     Or

   - For Windows 2003, double-click the `set_permissions.bat` file.

6. Restart the Empirica Signal application server.

5: Install and configure sample reports

In this step, you configure Oracle BI EE to point to the topic workflow data, and then upload predefined sample reports.

Updating the RPD connection pool

1. Open the Oracle BI Developer Client Tool on the Windows client where it is installed.

    a. Select **Start > All Programs**.

    b. Select **Oracle Business Intelligence Enterprise Edition Plus Client > Administration**.

2. Select **File > Open > Offline**.

    A dialog box opens.

3. Click **Browse**, and navigate to the OBIEE_Reporting folder on the product ZIP file.

4. Select twc_repository.rpd.

5. Click **Open**.

6. When prompted, enter the repository password. Oracle provides a default password of **abc123**.

7. Select **File > Change Password**.

    The Change Repository Password dialog box opens.

8. Specify the default password of **abc123** in the Old Password field.

9. Specify and confirm a new password for the repository.

10. Click **OK**.

11. In the Physical pane, expand the **TWC** node.

    The TWC subnode appears.

12. Right-click on the **TWC** subnode, and select **Properties**.

    The Connection Pool – TWC dialog box opens.

13. Click the **General** tab if it is not already selected.

14. Edit the following:

    a. In the **Data source name** field, specify the entire connection string for your Empirica Signal Topics database server.

        If you choose to enter the net service name as defined in the tnsnames.ora file, see the associated documentation at:

        http://docs.oracle.com/cd/E17904_01/bi.1111/e10540/deploy_rpd.htm#CHDJDIJI

    b. In the **User name** and **Password** fields, enter the username and password of the Oracle BI EE database account that you created in 2: Prepare the Empirica Signal data account.

15. Click **OK**.

16. When prompted, confirm the password, and then click **OK**.

    The Connection Pool – TWC dialog box closes.

17. Select **Tools > Update All Row Counts** to test the connection to your BI Server.

    - If successful, row counts are available on the Physical pane.

    - If unsuccessful, an error occurs. To troubleshoot, check your database settings.

18. Select **File > Save**.

19. When prompted to check for global consistency, click **No**.

    Your changes are saved.

20. Select **File > Close**, and select **File > Exit**.

    The Oracle BI Developer Client Tool closes.

Uploading the RPD file

1. Log in to Oracle Fusion Middleware Enterprise Manager using the administrator username and password.

    You can access the server at `http://<server name>:<port>/em`.

2. In the left pane, expand the **Business Intelligence** folder, and click **coreapplication**.

    The coreapplication page appears.

3. Click the **Deployment** tab, and click the **Repository** subtab.

4. Click **Lock and Edit Configuration** above the **Capacity Management** tab.

    A confirmation message appears.

5. Click **Close**.

6. In the Upload BI Server Repository section, click **Browse** next to the **Repository File** field.

    The Choose File to Upload dialog box opens.

7. Navigate to the `twc_repository.rpd` file you saved in step 18 in <u>Updating the RPD connection pool</u>.

8. Select the `twc_repository.rpd` file, and then click **Open**.

    The Choose File to Upload dialog box closes.

9. Specify and confirm the repository password in the **Repository Password** field and the **Confirm Password** field using the password that you chose in step 9 in <u>Updating the RPD connection pool</u>.

10. Click **Apply** in the top-right corner of the BI Server Repository section.

11. Click **Activate Changes** above the **Capacity Management** tab.

    A confirmation message appears.

12. Click **Close**.

13. Restart Oracle Fusion Middleware:

    a. Click the **Overview** tab.

    b. In the System Shutdown & Startup section, click **Restart**.

       A confirmation message appears.

    c. Click **Yes**.

       A confirmation dialog box appears.

    d. Click **Close**.

14. Log out.

Deploying the web catalog file

1. Log in to Oracle BI EE using an Empirica Signal superuser username and password.

   You can access Oracle BI EE at `http://<server name>:<port>/analytics`.

2. Click **Catalog** under the **Search** field at the top of your screen.

   The Catalog tab appears.

3. In the top-most portion of the left pane, select **Shared Folders**.

4. In the Tasks section of the left pane, click **Unarchive**.

   The Unarchive dialog box opens.

5. Click **Browse** next to the **Archive file** field.

   The File Upload dialog box opens.

6. Navigate to the **OBIEE_Reporting** folder in the product ZIP file.

7. Select the `twc_repository.catalog` file, and click **Open**.

8. Specify the following:

   Replace: All

   ACL: Inherit

9. Click **OK**.

   The web catalog file is deployed.

10. Log out.

Testing Topics reports in Oracle BI EE

When you have completed all configuration steps, you should test the predefined Topics reports in Oracle BI EE to ensure the configuration was successful.

1. Log in to the Empirica Signal application.

2. Click the **Topics** tab.

    The Topics page appears.

3. Click **Report**.

    The Oracle BI EE login page appears.

4. Log in to Oracle BI EE using your Empirica Signal username and password.

    The Topics dashboard appears.

    Note: If your organization has implemented the single sign-on feature, you must log in to Oracle BI EE using your Empirica Signal username and password. You cannot log in to Oracle BI EE from Empirica Signal using your single sign-on username and password.

If the Topics Dashboard does not appear, do the following to access Topics reports:

1. Click **Catalog** at the top of the page.

    The Catalog tab appears.

2. In the Folders pane, expand **Shared Folders**.

3. Expand the **Topics** subfolder.

4. Expand **My Dashboard**, and then click **Topics**.

    Topics reports appear.

5. Click **Open** next to a report to open it.

A: Upgrading OBIEE

Upgrading OBIEE consists of the following tasks:

- Upgrading the OBIEE Topics views.
- Upgrading the Empirica Authenticator.
- Updating the RPD file and redeploying the web catalog file.

Upgrading the OBIEE Topics views

The Empirica Signal upgrade references the topic workflow configuration used before the upgrade; however, you must refresh the views in it.

1. Identify the topic workflow account used by the previous version of the Empirica Authenticator for Empirica Signal release 7.3. This account often has the name of the form **OBIEE_TOPIC_WORKFLOW_n**, where **n** represents the topic workflow configuration ID of the targeted topic workflow configuration.

2. Obtain the Oracle database password for this account.

3. On the Empirica Signal application server, in the contents extracted from the `Database.zip` file, locate the `populate_obiee_topics.sql` file.

4. Open the `populate_obiee_topics.sql` file in a text editor.

5. Verify that the following properties are set to the appropriate values for your environment, editing the values as necessary:

   ```
   DEFINE TOPIC_WORKFLOW = '<topic workflow account>';
   DEFINE SIGNAL = '<Signal account>';
   ```

6. Open a command prompt window, and use the following command to execute the `populate_obiee_topics.sql` script as the database user identified in step 1:

   ```
   sqlplus OBIEE_TOPIC_WORKFLOW_n@<TNS_Name> @populate_obiee_topics.sql
   ```

7. When prompted, type the password for the `OBIEE_TOPIC_WORKFLOW_n`.

8. When prompted, type the same topic workflow configuration ID, which is the n value from step 1.

Upgrading the Empirica Authenticator

1. Log in to Oracle WebLogic Server Administration Console using your administrator username and password.

   You can access the server at `http://<server>:<port>/console`.

2. In the Domain Structure pane, select **Security Realms**.

   The Summary of Security Realms page appears.

3. In the Realms table, click **myrealm**.

   The Settings for myrealm page appears.

4. In the Change Center pane, click **Lock & Edit**.

5. Select the **Providers** tab, and select the **Authentication** subtab.

6. Click the **EmpiricaAuthenticationProvider** link, and change the **Control Flag** value to **REQUISITE**.

7. Click **Save**.

8. Click the **Providers** link at the top of the page.

9. Click the **DefaultAuthenticator** link, and change the **Control Flag** value to **SUFFICIENT**, if it is not already set to this value.

10. Click **Save**.

11. Click the **Activate Changes** button, and log out of the WebLogic Console.

12. Stop all of the OBIEE server processes.

13. If possible, reboot the server hosting OBIEE.

14. Locate the `empiricaprovider` directory on the OBIEE server, often located at `/u01/oracle/empiricaprovider`.

15. Locate the `<WebLogic server>/server/lib/mbeantypes` directory on the OBIEE server.

16. Replace the following files in the mbeantypes directory:

    - ESAPI-1.4.4.jar

    - log4j-1.2.16.jar

    - secure-coding<version>.jar

    - empirica<version>.jar

    - SignalTopicsCommon<version>.jar

    - Signal<version>.jar

    - empiricaprovider<version>.jar

17. If the `webvdme.properties` file used by the Signal installation has changed, copy `webvdme.properties` used by the Empirica Signal application to the `/u01/app/oracle/empiricaprovider` directory.

18. Restart OBIEE.

Updating the RPD file and re-deploying the web catalog file

Empirica Signal upgrades include updated versions of the OBIEE RPD and web catalog files. You must upload the updated RPD file and redeploy the web catalog file after upgrading your Empirica Signal installation.

- If you modified your web catalog file by adding new reports, the new reports are preserved.

- If you modified your web catalog file by editing existing reports, the upgrade overwrites your report modifications. Contact Oracle for assistance to avoid losing modifications to existing reports.

For information about upgrading the RPD file, see [Updating the RPD connection pool](#) and [Uploading the RPD file](#).

To upgrade the web catalog:

1. Log in to OBIEE using an Empirica Signal superuser account.

2. Make a backup copy of the web catalog file:

    a. At the top of the page, under the **Search** field, click **Catalog**.

       The **Catalog** tab appears.

    b. In the **Folders** pane on the left, expand **Shared Folders**.

    c. Under **Shared Folders**, select **Topics**, and in the **Tasks** pane in the lower-left corner, click **Archive**.

    d. In the popup window, click **OK**.

    e. In the popup window, select **Save File**, and click **OK**.

    f. Choose a location on your local file system, and click **Save**.

3. In the **Folders** pane on the left, select **Shared Folders**.

4. In the **Tasks** pane in the lower-left corner, click **Unarchive**.

   The Unarchive dialog box opens.

5. Next to the Archive file field, click **Browse**.

   The File Upload dialog box opens.

6. Navigate to the **OBIEE_Reporting** folder in the product ZIP file.

7. Select the `twc_repository.catalog` file, and click **Open**.

8. Specify the following:

    - **Replace:** All

    - **ACL:** Inherit

9. Click **OK**.

   The web catalog file is deployed.

10. Log out.