Oracle® Cloud

Getting Started with Remote Data Connector for Oracle® Business Intelligence Cloud Service

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To enable access to remote data sources in an on-premises network from Oracle BI Cloud Service, you must deploy and configure Oracle BI Cloud Service Remote Data Connector (Remote Data Connector) in your on-premises network for secure access to your data. This document introduces you to Remote Data Connector and provides instructions for downloading, deploying, and configuring it to access on-premises data sources.

Audience

The intended audience for these instructions is administrators who want to set up Oracle Business Intelligence Cloud Service Remote Data Connector to enable secure access from the cloud to on-premises relational data sources for analysis.

About Oracle Business Intelligence Cloud Service Remote Data Connector

Oracle Business Intelligence Cloud Service Remote Data Connector (Remote Data Connector) enables secure connection to on-premises data sources for analysis in the cloud.

Remote Data Connector works with the BI Server Data Gateway running in the Oracle BI Cloud Service environment to provide secure access to on-premises data using private/public key pairs and SSL communication.

Supported Data Sources

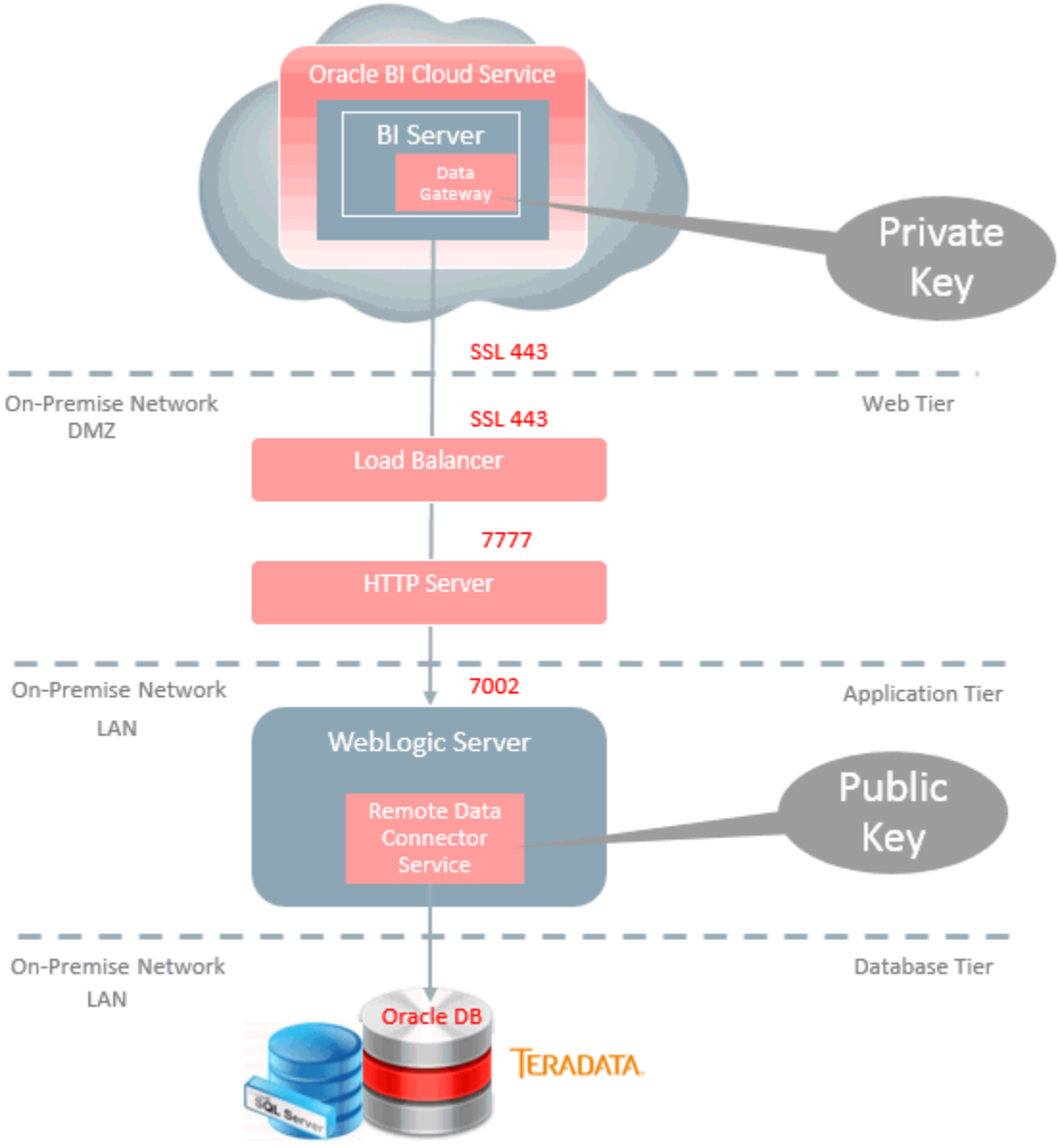
Remote Data Connector supports these on-premises database types:

- Oracle
- SQL Server
- Teradata

Architecture

Each Oracle BI Cloud Service instance is provisioned with a unique private key. A public key is available for download from Oracle BI Cloud Service Console. This public key when deployed on-premises in Remote Data Connector enables Remote Data Connector to verify the authenticity of a query received from a BI Server in Oracle BI Cloud service. SSL configured on-premises at a Load Balancer or HTTP servers provides secure access to on-premises data.

This diagram shows a typical on-premises network architecture. It is recommended that you contact your network administrator for additional details about your network configuration.



Prerequisites

The following requirements must be met in your environment with the assistance of your network administrator before setting up Oracle BI Cloud Service Remote Data Connector.

- Download and install WebLogic from Oracle Technology Network (OTN). You must also deploy Node Manager.
- Obtain the public IP and domain name.
- Download the Oracle BI Cloud Service Remote Data Connector WAR file (obi-remotedataconnector.war) from OTN.
- Configure SSL communication at load balancer or HTTP server.
- Download and install Oracle Business Intelligence Developer Client Tool (12.2.1.0.0) from OTN.

Configure Secure Access to On-Premises Data

This topic describes the steps required to configure secure access to on-premises data by deploying Remote Data Connector on an application server, setting up and testing connections to the data source you want to query for analysis, and updating the Oracle BI data model file to include the new connection information in the appropriate connection pool.

To configure secure access to on-premises data:

1. Deploy the Remote Data Connector WAR file.
    a. Login to WebLogic and, in the Change Center pane, click **Lock & Edit**.
    b. In the Domain Structure, select **Deployments**.
    c. In the Deployments list, click **Install**.
    d. In the Install Application Assistant, click the **upload your file(s)** link, click the **Choose File** button for the Deployment Archive, and select the `obi-remotedataconnector.war` file you downloaded.
    e. Click **Next**.
    f. Click **Next**.
    g. Confirm that the **Install this deployment as an application** radio button is selected and click **Next**.
    h. Select the appropriate server target.
    i. Click **Next**.
    j. Verify the deployment summary.
    k. Click **Finish**.

You should now see a message indicating that "The deployment has been successfully installed".

l. On the left-hand side Change Center pane, click **Activate Changes**.

m. On the right-hand content pane, select the radio button next to the EAR just deployed.

n. Click **Start** to view the drop-down list and select **Servicing all requests**.

o. In the content pane of the new page, click **Yes**.

p. Disable temporarily Remote Data Connector's Metadata security:

If Node Manager is installed, then in WebLogic Console, navigate to Environment (on the left pane) > Servers > and select the server to which Remote Data Connector was deployed > "Server Start" tab. In the Arguments edit box, add:

```
-Doracle.bics.rdc.disable_metadata_security=1
```

Note: If this variable is not set to 1, the status URL (provided in the next step) will be blocked. After setting this property, you must restart WebLogic. When WebLogic is started subsequently, it has to be done using Node Manager.

If Node Manager is not installed, then before starting WebLogic (in the same command prompt or script that starts WebLogic), execute one of the following commands to set this environment variable:

On Linux:

```
export DISABLE_RDC_METADATA_SECURITY=1
```

On Windows:

```
set DISABLE_RDC_METADATA_SECURITY=1
```

q. Test the deployment by navigating to `http(s)://<weblogic-server>:<weblogic-port>/obiee/javads?status`.

You should see an XML file. If you see an error "401—Unauthorized", then verify step p and retry.

This XML file does not appear to have any style information associated with it. The document tree is shown below.

```
▼<JavaDSServer>
  ▼<Services>
     <Service name="oracle.bi.datasource.service.DatasourceService"
     processor="oracle.bi.datasource.service.DatasourceServiceProcessor"/>
   </Services>
  ▼<Cartridges>
   ▼<Cartridge name="JDBC" uuid="fd35144d-26f1-491e-936e-17039604fec6" version="12.1">
      <Connector name="JDBC (Direct Driver)" uuid="5e9ffb28-b5ce-4201-b1a6-8f9f585389ea" version="12.1"/>
      <Connector name="JDBC (JNDI)" uuid="b41b07f5-7c55-4adf-8c51-ebe9a09b37f7" version="12.1"/>
    </Cartridge>
   </Cartridges>
  ▼<ConfigSources>
   ▼<ServiceProperties>
    ▼<![CDATA[
       #DatasrcServer/src/jdbc-only-serviceprocessor.properties
       oracle.bi.datasource.service.DatasourceService=oracle.bi.datasource.service.DatasourceServiceProcessor
     ]]>
    </ServiceProperties>
   ▼<CartridgeProperties>
    ▼<![CDATA[
       #DatasrcServer/src/jdbc-only-cartridges.properties jdbc=oracle.bi.datasource.jdbc.JDBCCartridge
     ]]>
    </CartridgeProperties>
   </ConfigSources>
</JavaDSServer>
```

2. Add the JDBC data source.

   a. Log in to WebLogic and, in the Domain Structure, select **Services**.

   b. In the Summary of Services list, click **Data Sources**.

   c. In the Configuration tab, under Data Sources, click **New** and select the **Generic Data Source** option.

   d. Enter the Name and JNDI Name fields and click **Next**. To avoid confusion, use the same name. The JNDI Name forms a component of the URL used to access this data source after the setup is complete.

Note: Make a note of the name you enter, which you will reuse later when you are setting the URL for the remote data connection. For example, you could use mysalesdatasource as a name for your sales database.

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   e. In the next screen of the wizard, for an Oracle database, select **Oracle's Driver (Thin) for Service connections: Versions:Any** in the Database Driver drop-down list and click **Next**.

   f. Accept defaults in the next wizard screen and click **Next**.

   g. Enter your database connection details in the next wizard screen and click **Next**.

   h. In the next screen, click **Test Configuration** to test your database connection.

   i. Once you receive the Connection test succeeded message, click **Next**.

   j. In the Targets tab under the settings, select appropriate target server for the JDBC Data source.

k. Verify that you can see the newly created JDBC Data source in the list of Data Sources.

3. Download and deploy the public key.

   a. Log in to Oracle BI Cloud Service.

   b. Navigate to the Oracle BI Cloud Service Console.

   c. Click **Connections**

   d. Click the **Get Public Key** to download the public key.

   e. When downloading the public key, in the Save dialog box, make that sure the name is oracle_bics_rdc.pem and save it to your local machine.

   f. Copy `oracle_bics_rdc.pem` to the WebLogic server in the DOMAIN_HOME/rdc_keys/<deployment_name> folder (by default the deployment name is "obi-remotedataconnector"). The folder "rdc_keys/<deployment_name>" is created by RDC the first time it is deployed. The `DOMAIN_HOME` path is the directory in which WebLogic Domain is installed.

4. Make Remote Data Connector available to Oracle BI Cloud Service with the help of a network administrator.

   a. Configure the load balancer/reverse proxy for SSL communication and to route requests to the HTTP Server.

   b. Configure the HTTP server to direct requests to the WebLogic server.

   c. Test Remote Data Connector with a public IP address/domain URL, for example `https://<Public IP or Domain Name>:<port>/obiee/javads?status`.

      Note: If Remote Data Connector metadata security is not disabled, then this URL fails with the message 401-Unauthorized. To disable Remote Data Connector metadata security, set `oracle.bics.rdc.disable_metadata_security` to 1 or set the `DISABLE_RDC_METADATA_SECURITY` environment variable to 1.

5. Update the data model file connection pool.

   a. Open the Oracle Business Intelligence Developer Client Tool.

   b. In the **File** menu, select **Load Java Datasources...** to obtain the properties of Remote Data Connector.

   c. In the Connect to Java Datasource Server dialog box, enter the public IP address or domain name for the Hostname and the Port where Remote Data Connector is running. For **Username**, enter "rdcuser", and for **Password**, enter "rdcpwd".

   d. Click **OK**.

   e. A message is displayed indicating, "Successfully loaded javads metadata from `https://<Public IP or Domain Name>:<Port>`".

Note: If Remote Data Connector metadata security is not disabled, then this URL fails with the message 401-Unauthorized. To disable Remote Data Connector metadata security, set `oracle.bics.rdc.disable_metadata_security` to 1 or set the `DISABLE_RDC_METADATA_SECURITY` environment variable to 1.

f. Open the data model file (.rpd) in Offline mode.

g. In the Physical layer, edit the connection pool.

h. In the Connection Pool dialog box, change the call interface to **JDBC (JNDI)**.

i. Change the Data source name to the Remote Data Connector URL.

   This is the endpoint URL that was created earlier. It is of the form: `https://<Public IP or Domain Name>:<port>/obiee/javads/<JNDI connectionname>`. Note that myjdbcdatasource was specified above when adding the JDBC data source.

j. Switch to the **Miscellaneous** tab.

   This step is mandatory because the RPD will not be updated correctly unless the **Use SQL over HTTP** variable is set to "true". This is only saved on switching to this tab.

k. Click **OK**.

l. Save the data model file.

6. Upload the data model file to Oracle BI Cloud Service. For information about uploading the data model, see "About Uploading Data Models to the Cloud" in the *Using Oracle Business Intelligence Cloud Service* guide.

You have now configured secure access to relational data sources.

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