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Oracle Health Insurance Back Office

Configuring the Remote Data Connector (RDC) for BI Cloud Service (BICS)

Version 1.1

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December 2018

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CHANGE HISTORY

Release	Version	Changes
10.17.1.4.0	1.0	• Creation (cta13682.doc)
10.18.2.0.0	1.1	• Changed part number on title page.

RELATED DOCUMENTS

A reference in the text (**doc[x]**) is a reference to another document about a subject that is related to this document.
Below is a list of related documents:

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1 Introduction

The BICS Remote Data Connector (RDC) was released in March 2016. It allows reports and analyses in BI Cloud Service (BICS) to directly connect to an On-Premise Oracle Database. When a report is run, a SQL request is generated by BICS and sent to the on-premise Weblogic server. Weblogic sends that request to the on-premise database, and then compresses the results before returning those to BICS where it is displayed. This gives customers with large on-premise data sets the ability to use BI Cloud Service without having to push all of that data to the cloud.

This guide is used to setup the RDC for an Oracle Health Insurance Back Office environment. The official Oracle RDC software and documentation, including a getting started guide, can be found here:

http://www.oracle.com/technetwork/middleware/bicloud/downloads/index.html

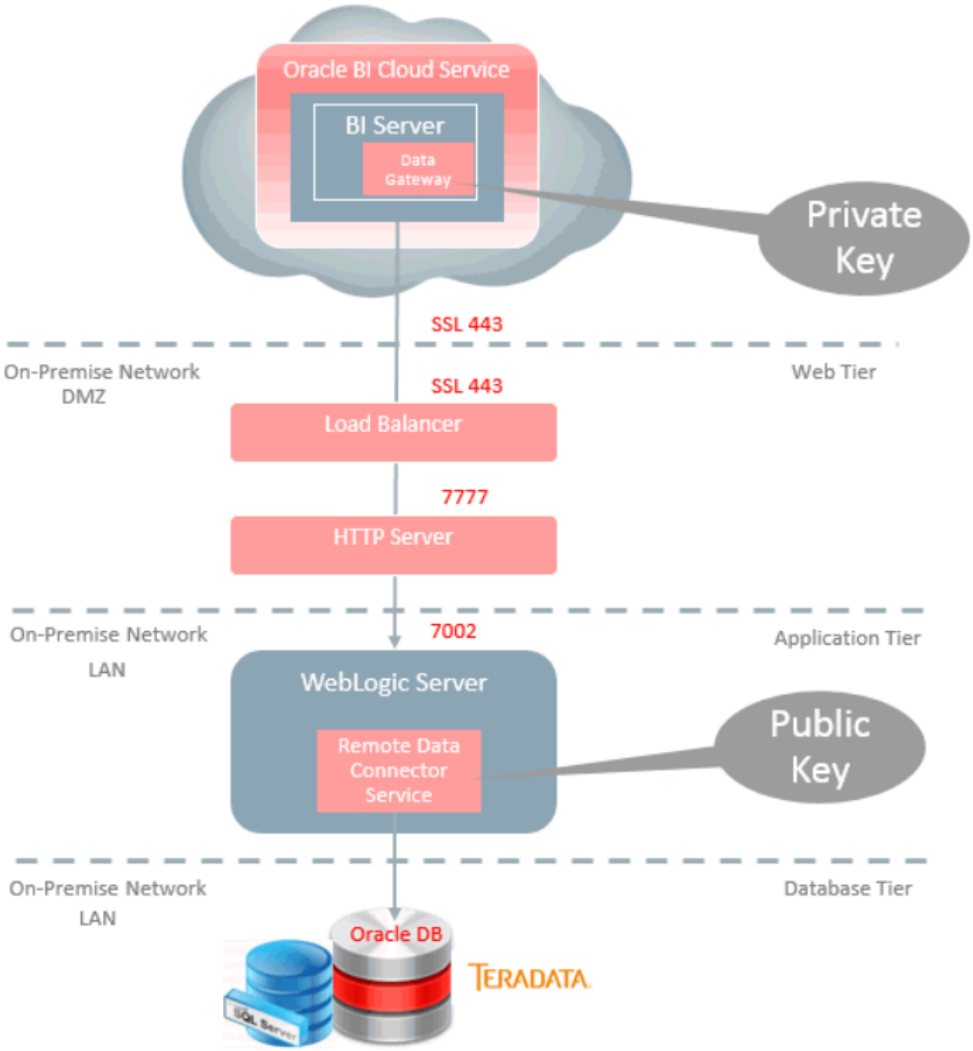
1.1 Prerequisites

Before you set up Oracle BI Cloud Service Remote Data Connector, make sure that your environment meets these requirements:

- Weblogic server running in the On-Premise environment. Several instructions on the Oracle Health Insurance Back Office library can be found which will help you on how to install a weblogic server;
- Obtain the public IP and domain name;
- Download the Oracle BI Cloud Service Remote Data Connector WAR file (obi-remotedataconnector.war) from OTN;
- Configure your load balancer or HTTP server for SSL communication. Knowledge of networking, security and firewalls is preferrable. The On-Premise weblogic server needs to be accessible externally, and the port defined in the RPD connection needs to correctly route to the weblogic server port;
- Download and install Oracle Business Intelligence Developer Client Tool;
- OHI_BAC_USER is created in the OHIBO and OHIDM database (M-5008);
- The BI Admin tool used to create the RPD must be 12c. Prior versions do not offer the JDBC (JNDI) Data Source option that is required for this process.

1.2 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. Contact your network administrator for additional details about your network configuration.


Oracle BI Cloud Service
BI Server
Data Gateway
Private Key
SSL 443
On-Premise Network
DMZ
Web Tier
SSL 443
Load Balancer
7777
HTTP Server
On-Premise Network
LAN
7002
Application Tier
WebLogic Server
Remote Data Connector Service
Public Key
On-Premise Network
LAN
Database Tier
Oracle DB
TERADATA

2 Configure Weblogic

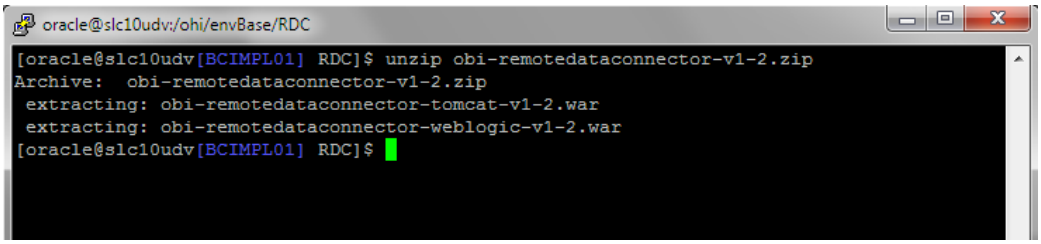
This chapter describes the installation of the RDC application into weblogic.

2.1 Deploy war file

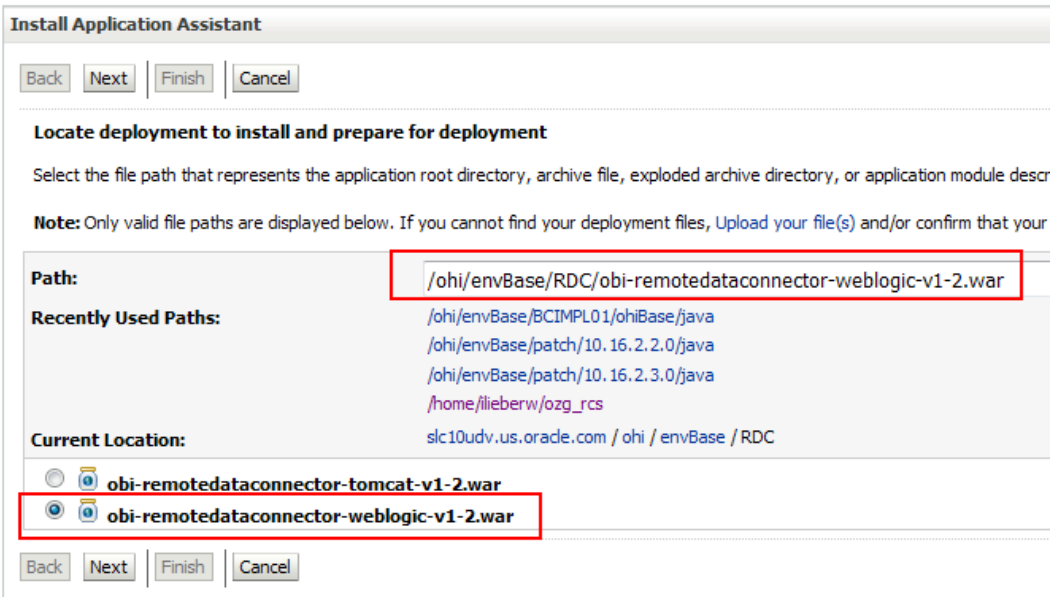
1. Download the War file application to be installed into Weblogic and save to a file location that is accessible to the server where Weblogic is running.
   This War file is available on OTN and is called 'BICS Remote Data Connector'

   http://www.oracle.com/technetwork/middleware/bicloud/downloads/index.html

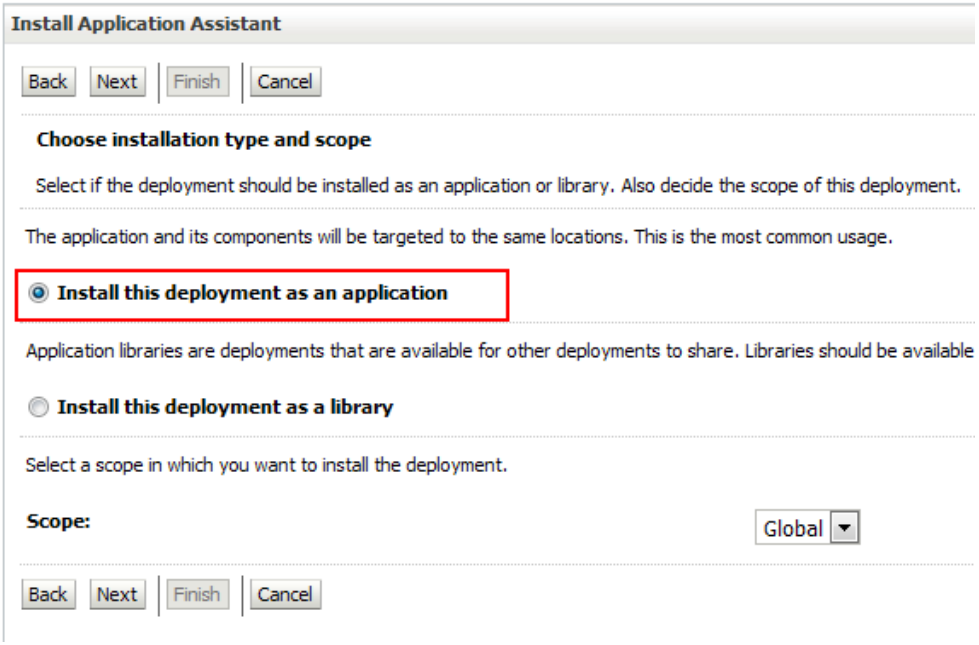
2. Copy the downloaded .zip file to the weblogic server and unzip.
   In the examples version 1.2 is used.



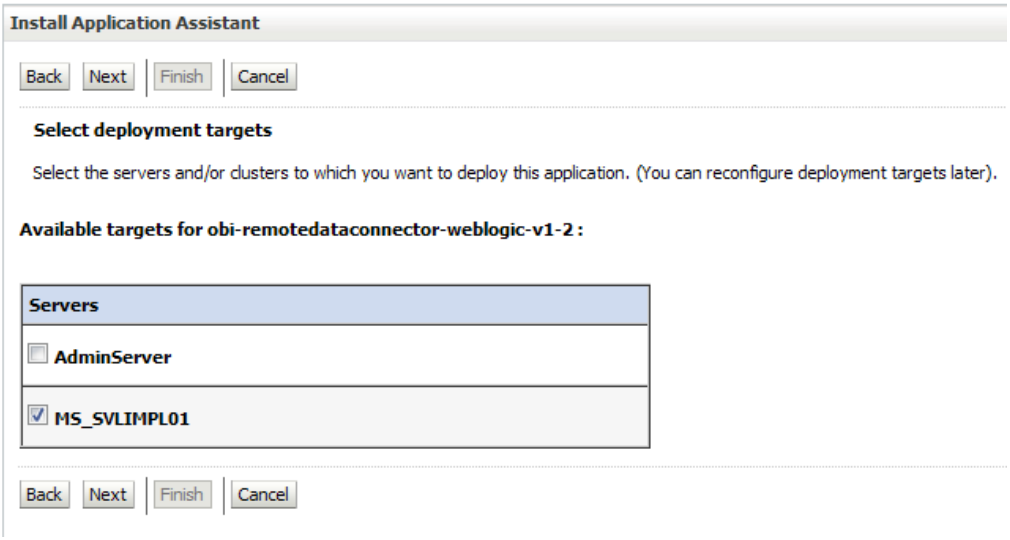
3. Log in to Weblogic. Navigate to "Deployments" > "Install". Select the obi-remotedataconnector-weblogic-v1-2.war file.
   Hit 'Next' to continue.



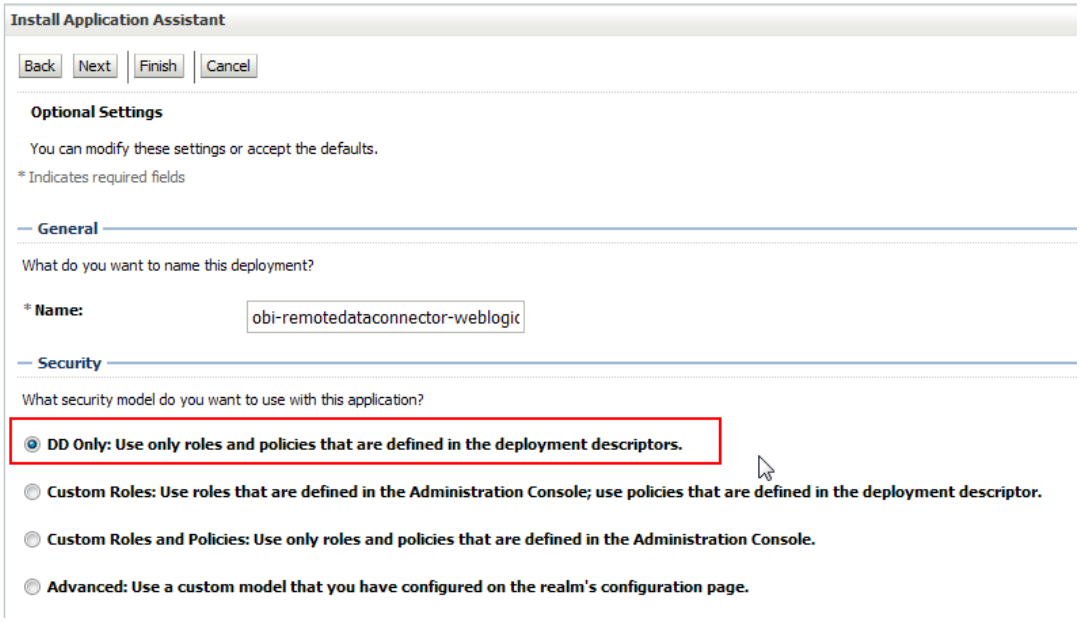
4. Select 'Install this deployment as an application'. Hit 'Next' to continue.



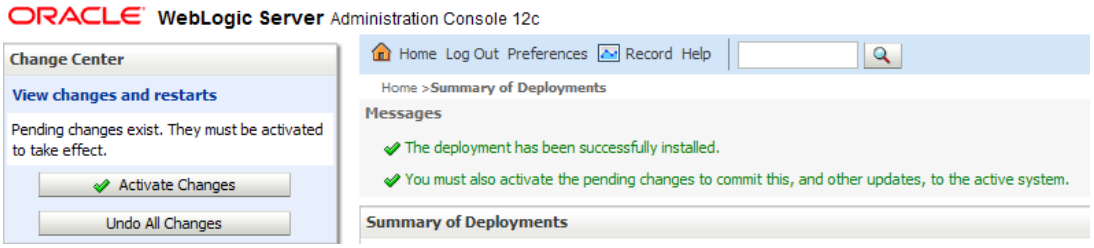
5. Select the target managed server. In the example MS_SVLIMPL01 is used. Hit 'Next' to continue.



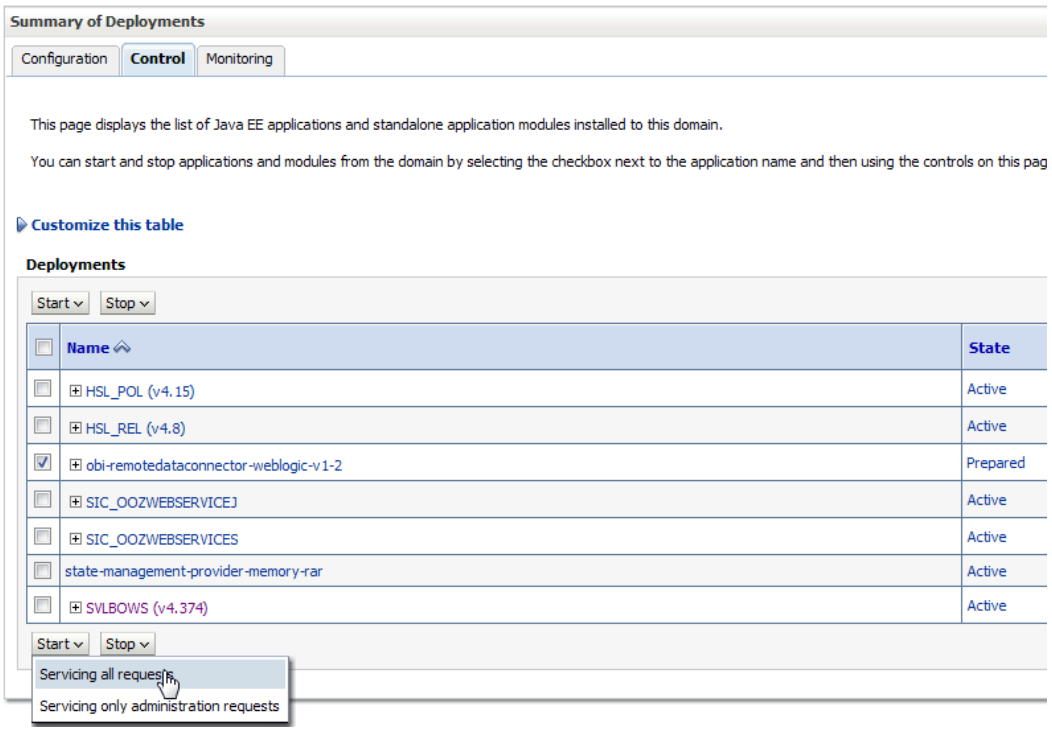
6. Make sure 'DD only' and Use the defaults defined by the deployment's targets' is selected and hit 'Finish'.

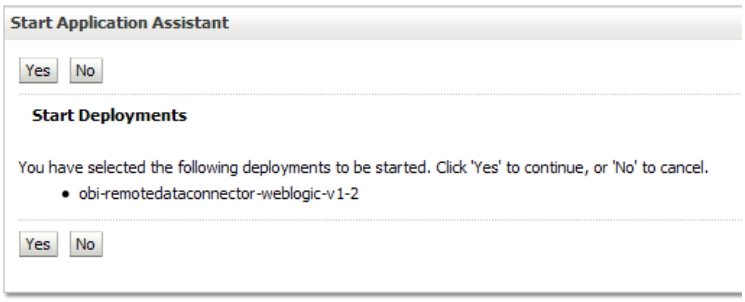


7. Activate the changes if the weblogic server is in 'Production' mode.



8. Start the deployment.





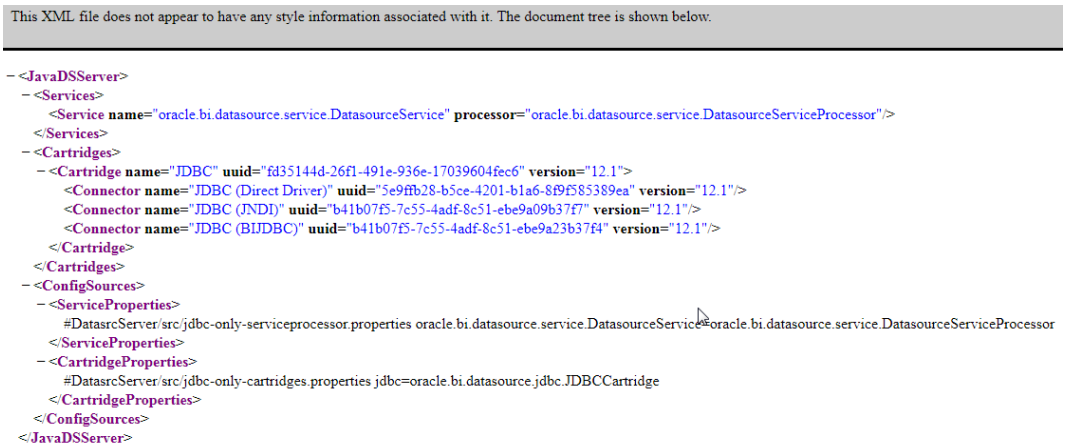
9. The Remote Desktop Connector has metadata security built in. To fully verify the application is working, and to connect to it through the BI Admin tool, this security will need to be temporarily disabled. Shutdown the Weblogic Server, and then in the same command shell or shell script used to start weblogic – set this variable:

   export DISABLE_RDC_METADATA_SECURITY=1

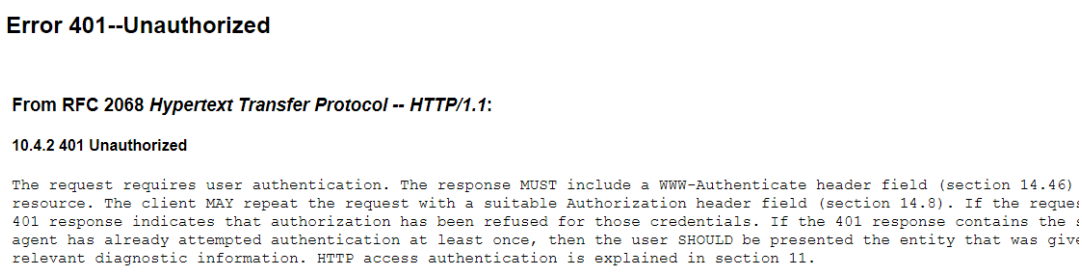
   Then re-start the Weblogic admin or managed server (depending on where you deployed the .war file).

10. To confirm the Remote Desktop Connector was installed correctly, navigate to this path:

    "http://<weblogic-server>:<weblogic-managed server-port>/obiee/javads?status".



   If you see this message, the security was not disabled in the previous step.



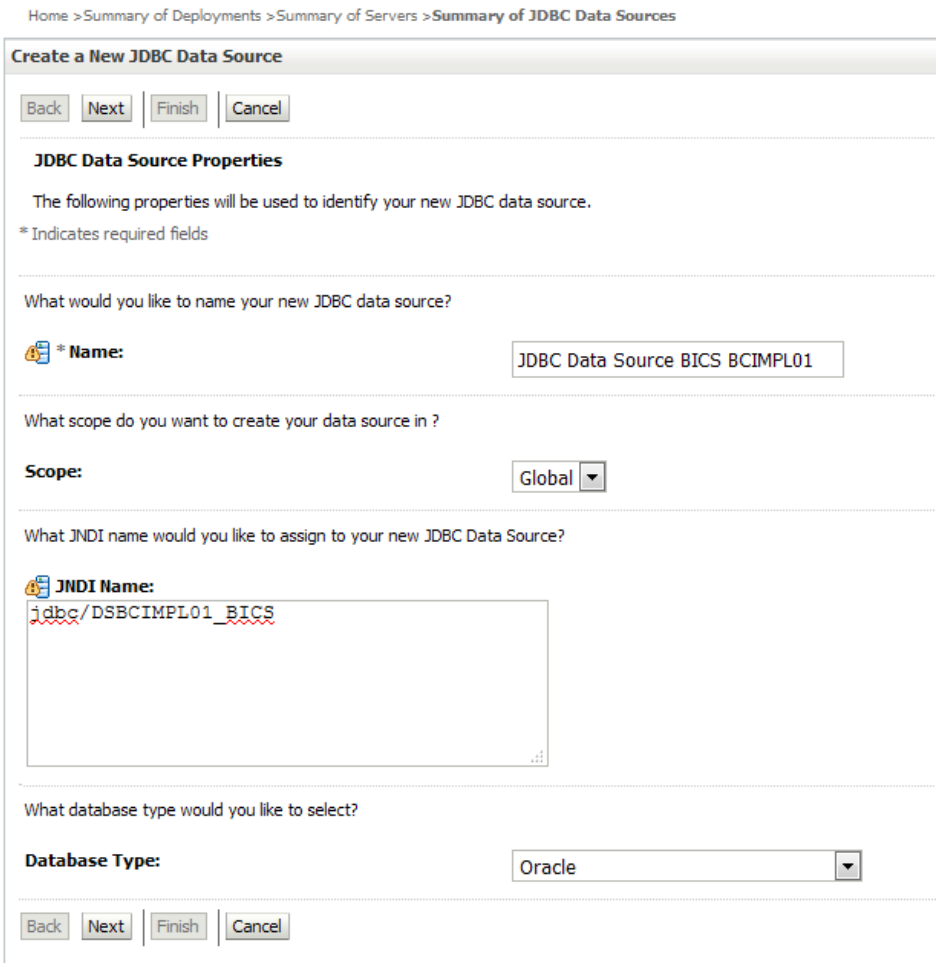
2.2 Create data source

Multiple data sources can be setup. Use the following process for each and use a unique name. The connection to each data source would then be defined in the RPD connection.

1. Within the Weblogic Administration Console, expand 'Services' and 'Data Sources' and select 'New' to create a new data source. If running in production mode, press 'Lock&Edit' first.

2. Select 'Generic Data Source' in the options:

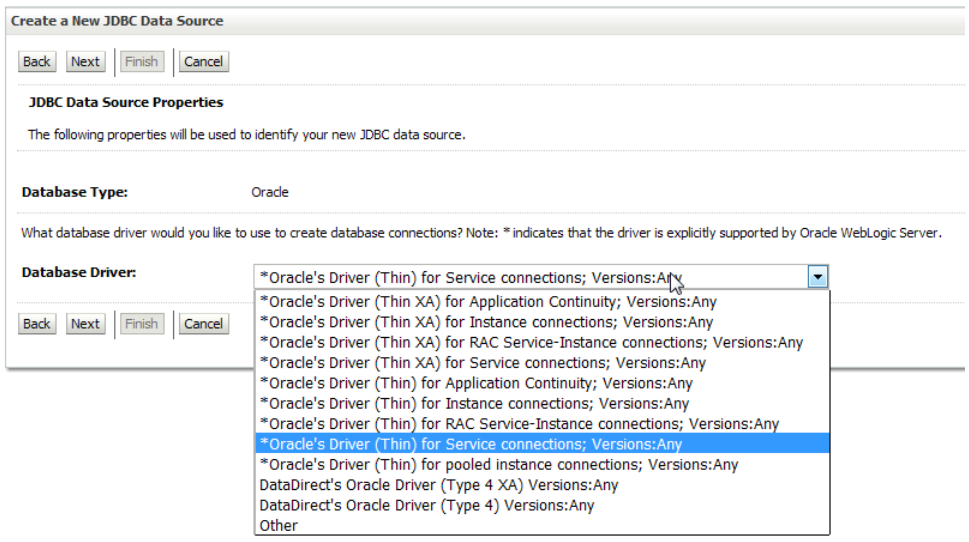
3. Enter a Name for the Data Source and a JNDI Name, and the database type. In the initial release of the RDC tool, 'Oracle' is the only supported Database type. In future releases this will be expanded to other vendors. Note – the JDNI Name forms part of the URL used to access the data source, so try to avoid spaces and other characters that may cause problems with the URL.
Hit 'Next' to continue.



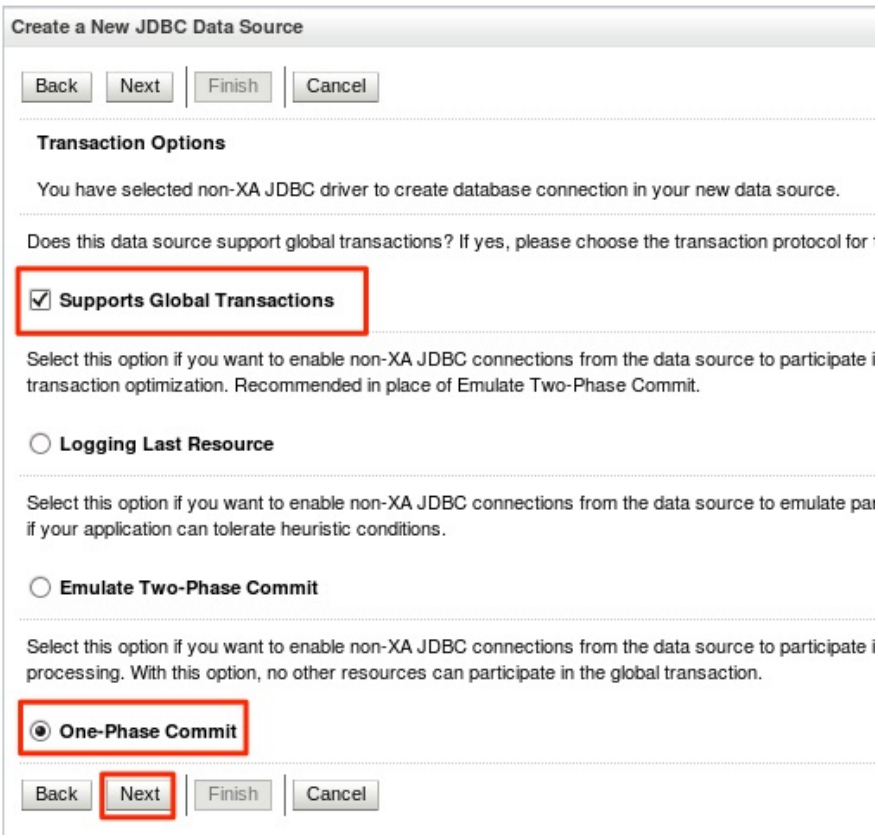
4. For the Database Driver select the appropriate driver for the On-Premise Oracle Database. In the initial release, the following options are currently supported:

   - Oracle's Driver (Thin) for Instance Connections;
   - Oracle's Driver (Thin) for RAC Service-Instance Connections;
   - Oracle's Driver (Thin) for Service Connections;

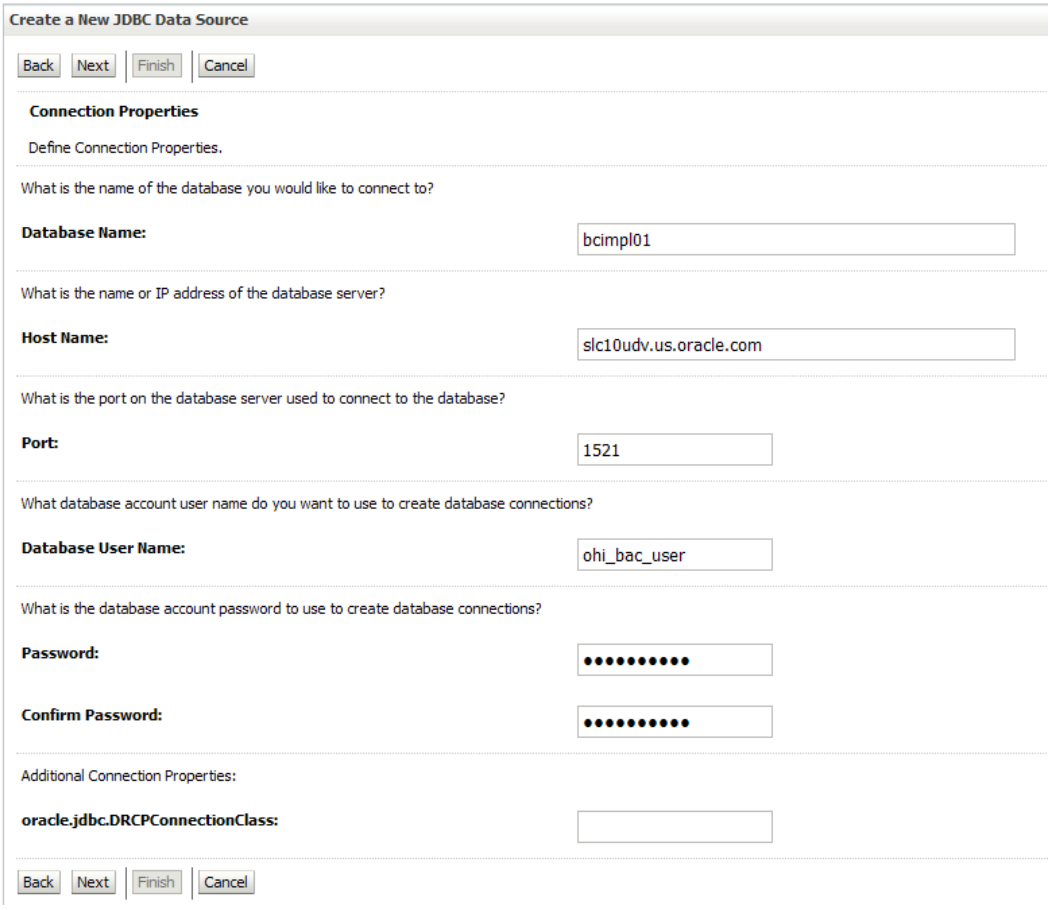
   In this case the 'Oracle's Driver (Thin) for Service Connections' is selected.



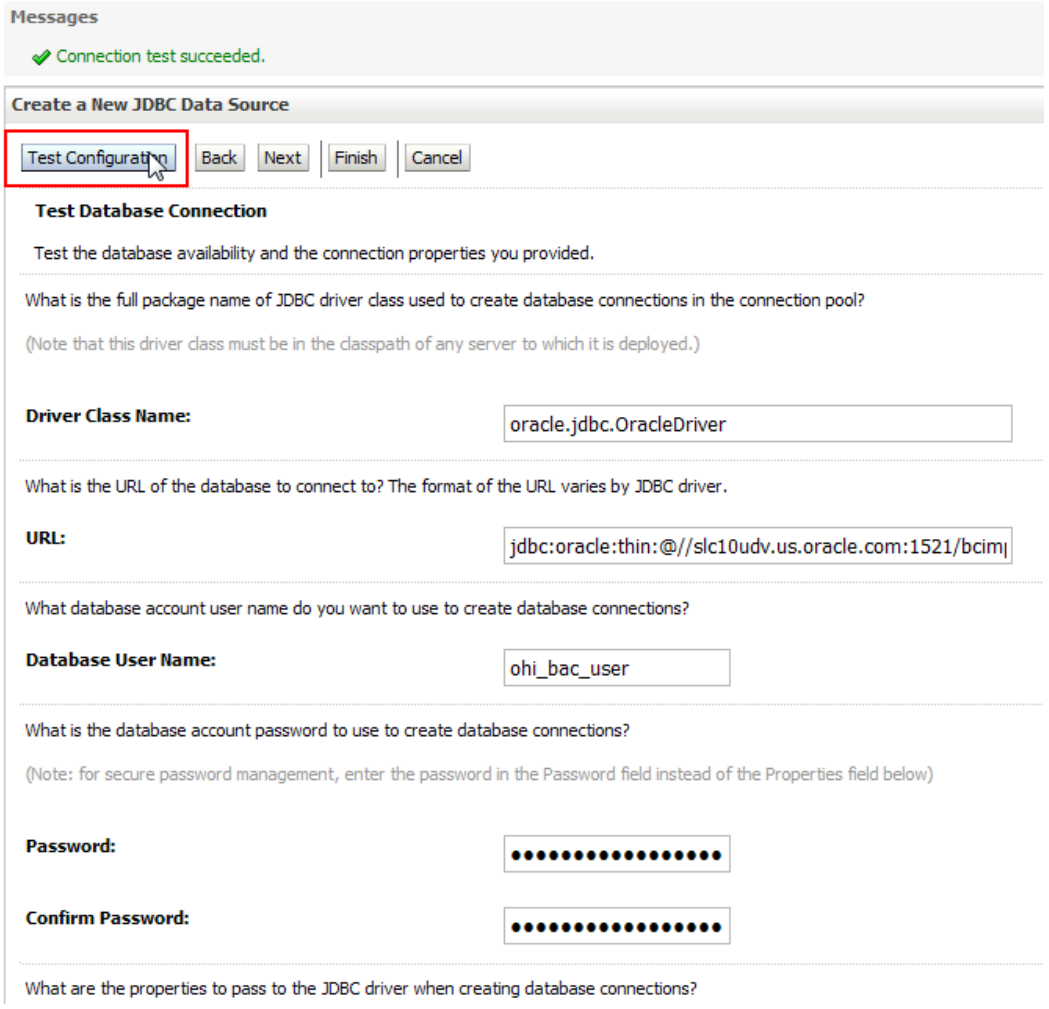
5. Keep the default options for the 'Supports Global Transactions' and 'One-Phase Commit' and hit 'Next'.



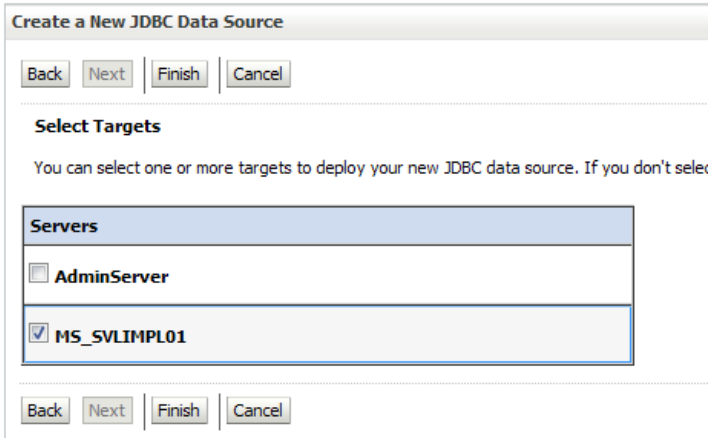
6. Enter the appropriate values for the On-Premise Oracle Database. Use the ohi_bac_user as the 'database user name'. Hit 'Next' to continue.



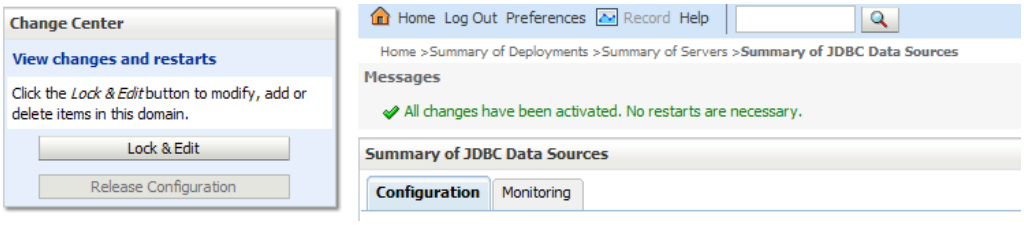
7. Make sure the configuration is correct, then 'Test Connection'. If the connection is successful, click 'Next'



8. On the final configuration screen, select the Target to deploy the JDBC data source. In this case we use the MS_SVLIMPL01 managed server. Hit 'Finish' to complete the configuration.

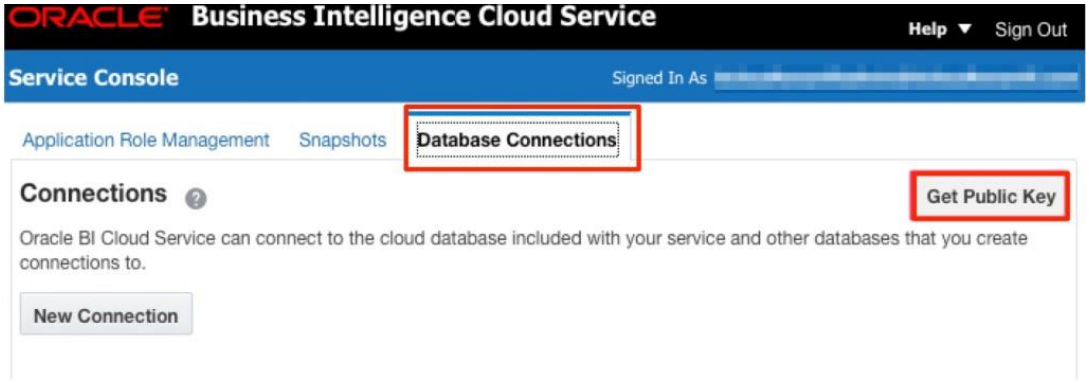


9. Activate the changes if the weblogic server is in 'Production' mode.



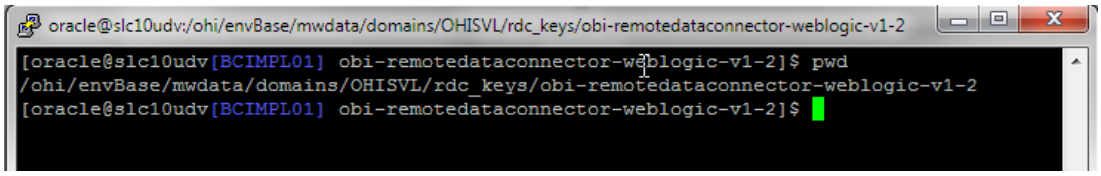
2.3 Download and deploy public key

Within the Service Console for BICS, Select the 'Database Connections' tab, and then 'Get Public Key'.



Save the key on the weblogic server in the following path:
$DOMAIN_HOME/rdc_keys/<deployment_name>

The <deployment_name> is 'obi-remotedataconnector' by default. In our example, the path is /ohi/envBase/mwdata/domains/OHISVL/rdc_keys/obi-remotedataconnector-weblogic-v1-2.



The name of the 'pem' file is not important. The tool will read all 'pem' files in the directory. If a single on-premise weblogic server is being used for multiple BICS instances (for instance a 'Dev' and 'Production'), then both of the 'pem' keys should be saved here. As long as the file type is left as '.pem', then they will both be read and used, no matter what the file is renamed to.

3 Setup RPD

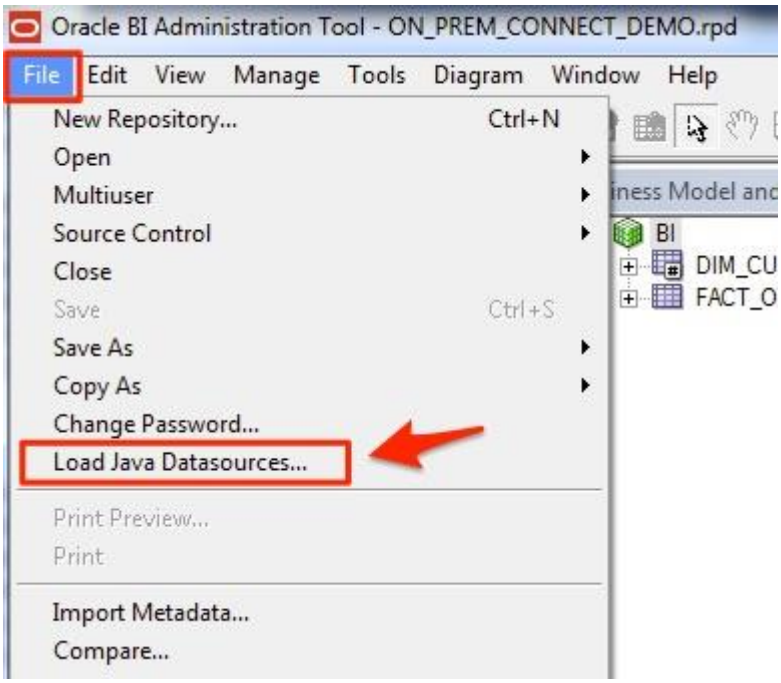
This chapter describes the setup of the RPD and publish the file to BICS.

3.1 Setup RPD connection

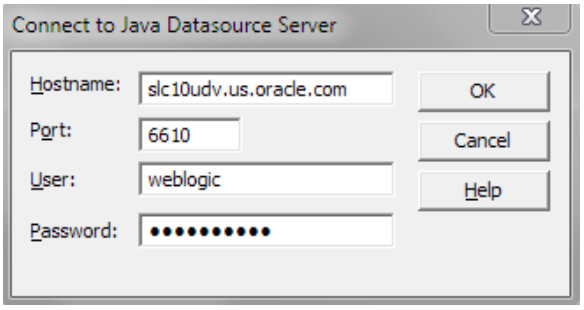
1. Download the Oracle Business Intelligence Developer Client Tool

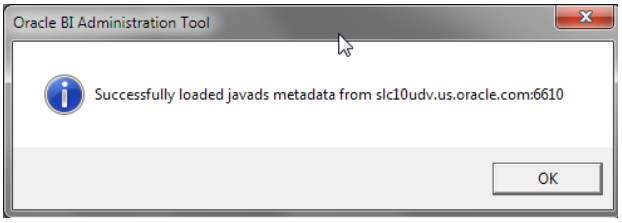
   http://www.oracle.com/technetwork/middleware/bicloud/downloads/index.html

2. Open the 12c Admin Tool but **Do NOT Open the Existing On-Premise RPD**. Under the 'File' menu, select 'Load Java Datasources'. If this option is not available, the Admin Tool is not the correct version.

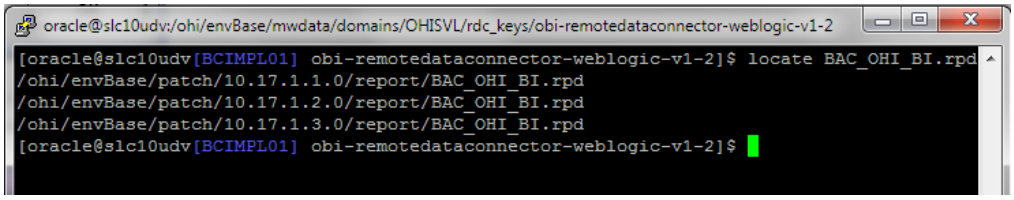


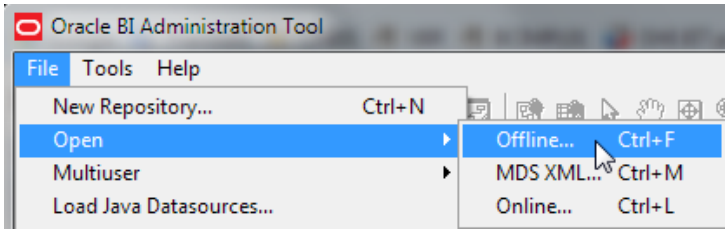
3. Enter the Host Name / IP address, port, and user that can connect to the weblogic server where the RDC was installed. NOTE – this hostname or IP does not need to be available externally. This is just used to load the Java Datasource in the RPD for this step.
   In this example, the port of the managed server is used.



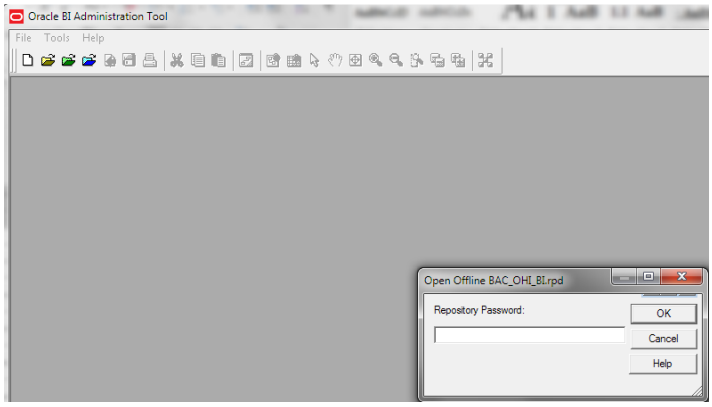


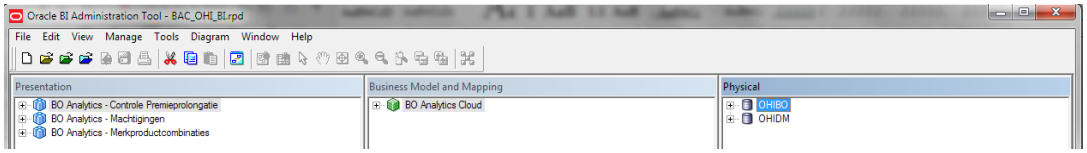
4. Open the RPD file which is delivered in the patch directory of OHI Back Office.



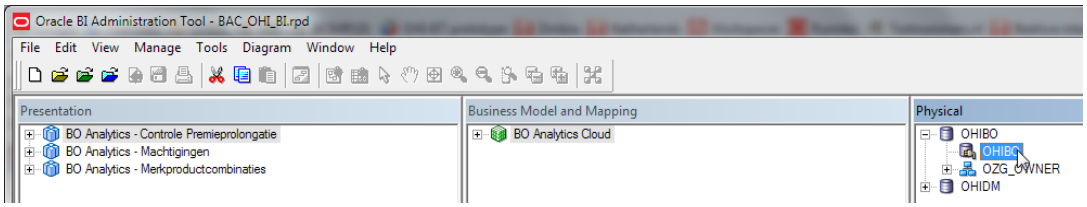


Enter the password.

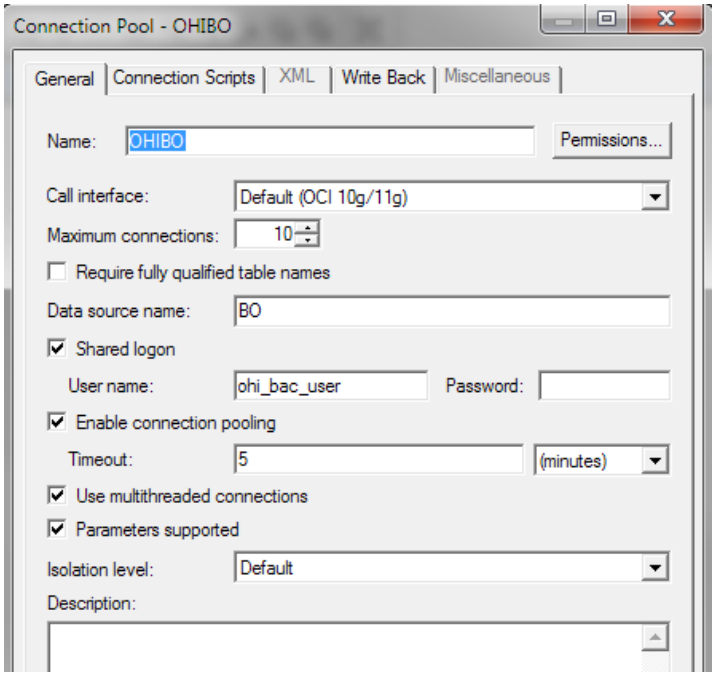




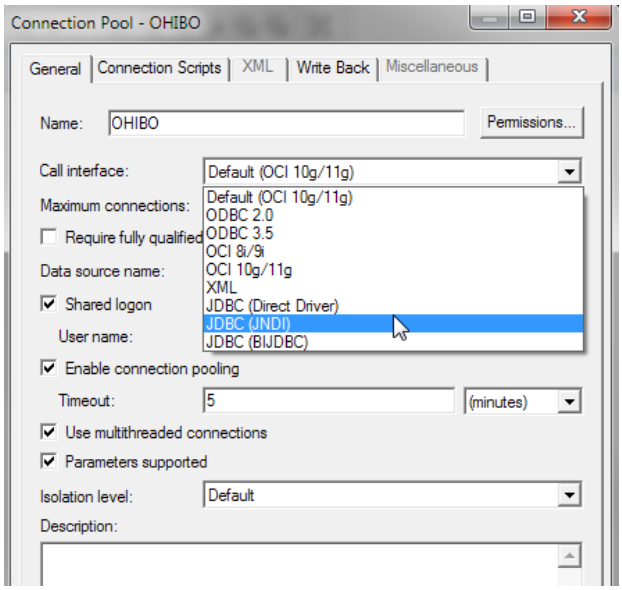
5. Click on the OHIBO physical environment



6. The connection pool setup is opened.



Change the 'Call interface' to JDBC (JNDI).

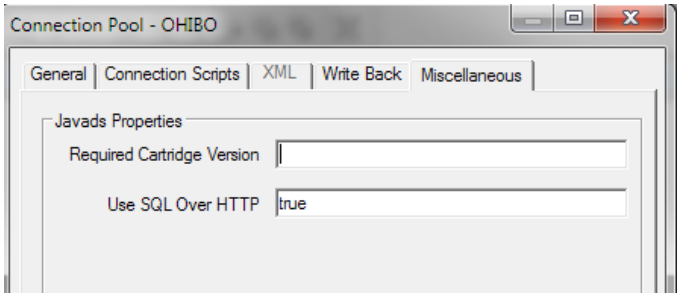


Change the datasource name to:

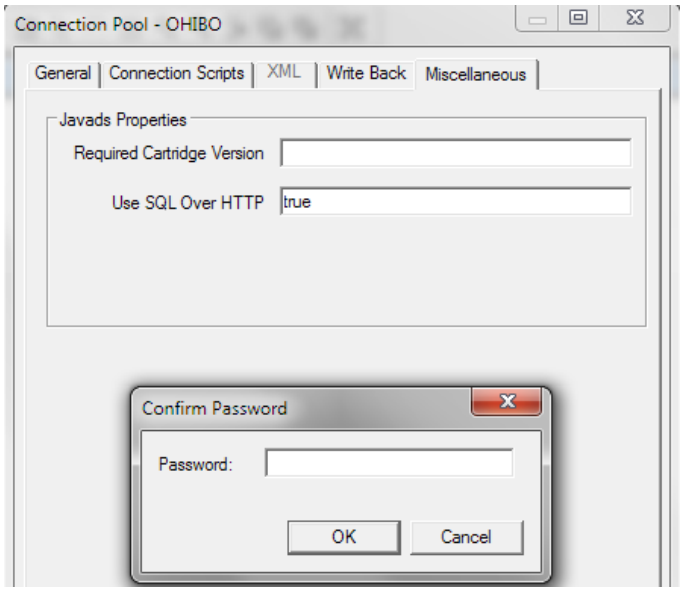
http://<server>:<port>/obiee/javads/DSBCIMPL01_BICS

In our example we use:
http://slc10udv.us.oracle.com:6610/obiee/javads/DSBCIMPL01_BICS

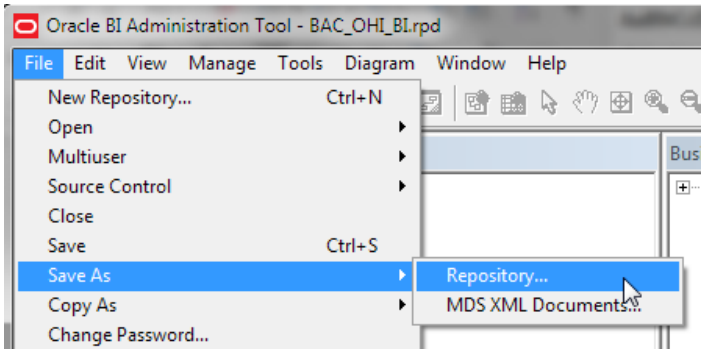
Click on the miscellaneous tab. Empty the 'Required Cartridge version' and set 'Use SQL Over HTTP' to 'true'.



Hit Ok. A password is asked again. This is the password of the Weblogic administrator. Usually Weblogic.



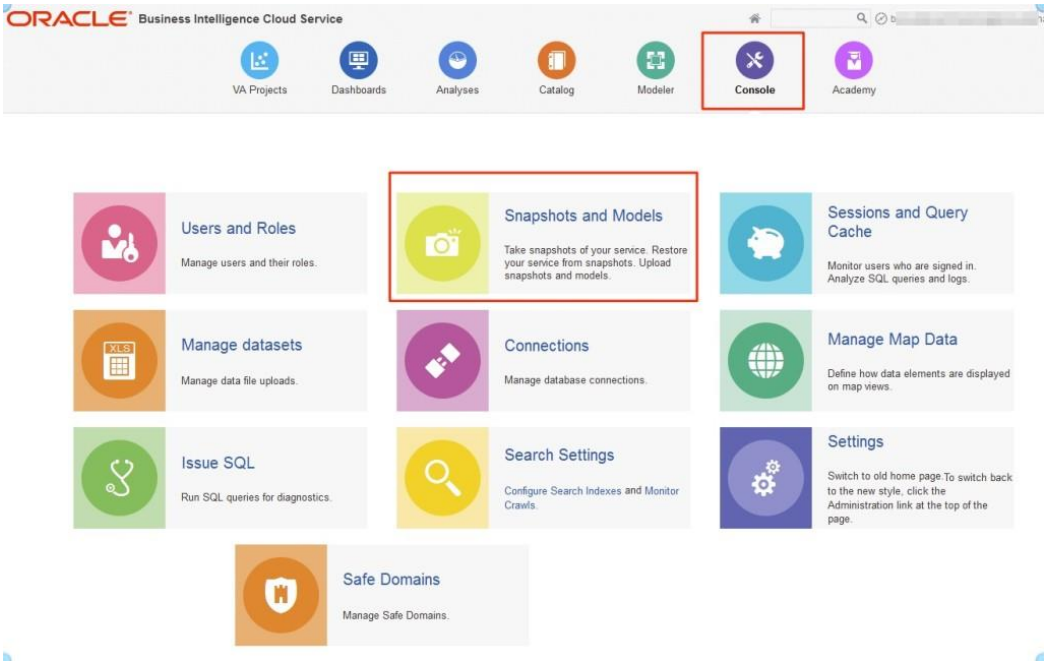
7. Save the file locally.



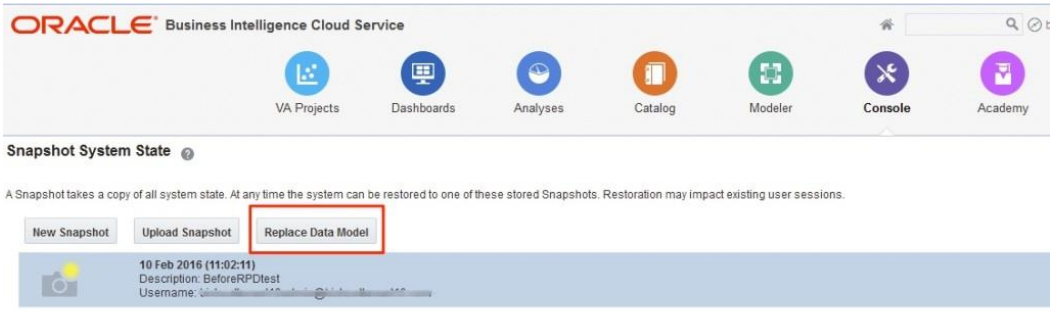
3.2 Import RPD in BICS

In order to upload the RPD file to BICS. Follow these steps:

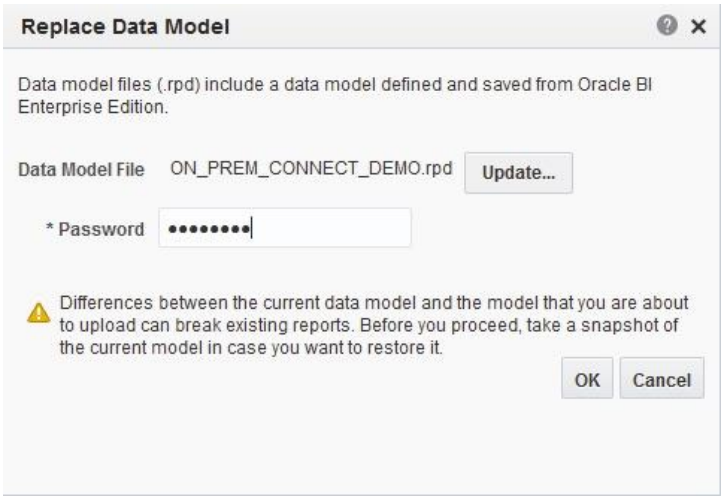
1. In the BI Cloud Service Console, select 'Snapshots and Models'



2. Select the 'Replace Data Model' option



3. Browse to the RPD and enter the Repository password. Then click 'OK'.

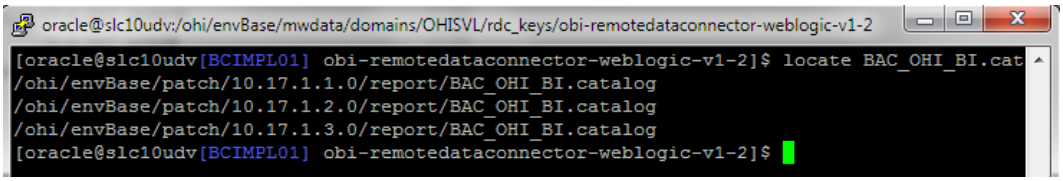


4 Setup catalog

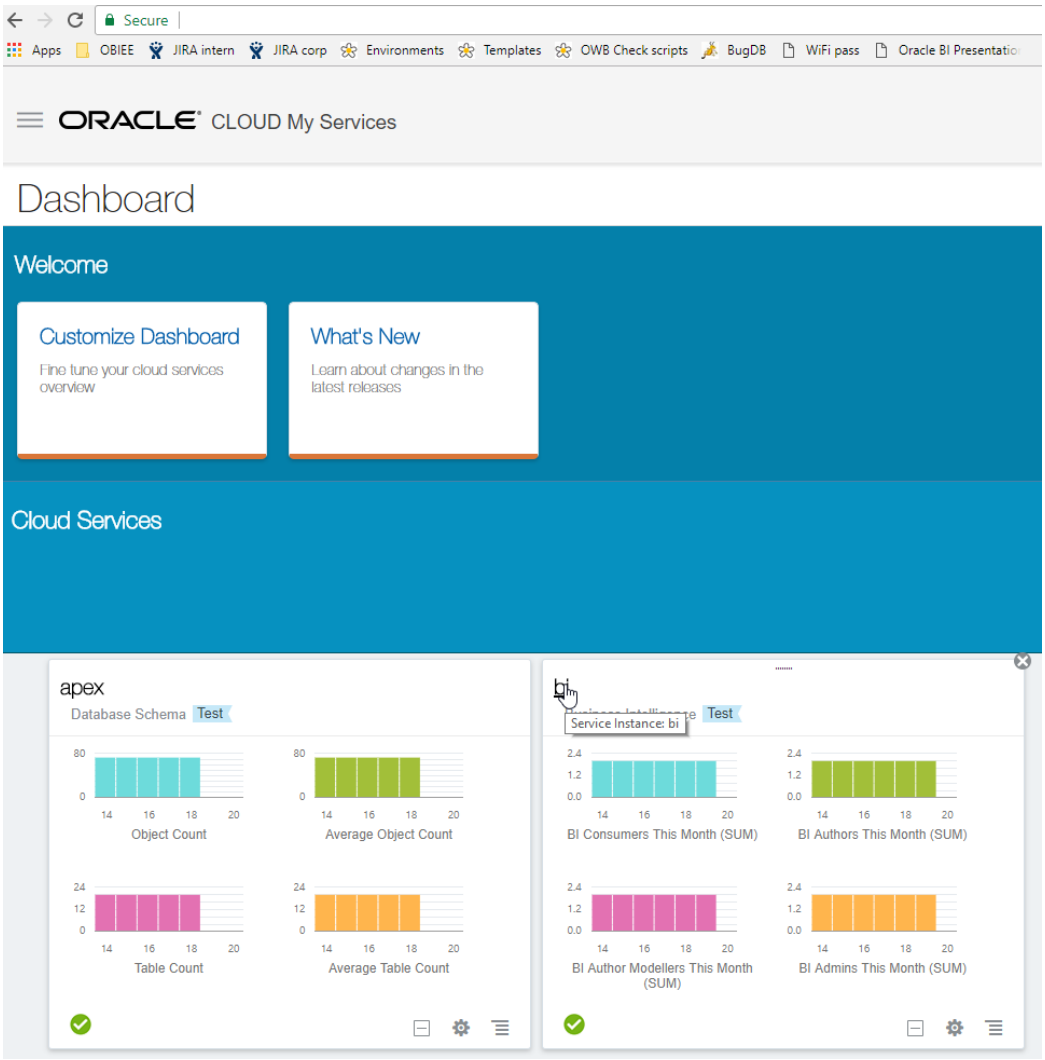
This chapter describes the setup of the catalog file to BICS.

4.1 Upload catalog

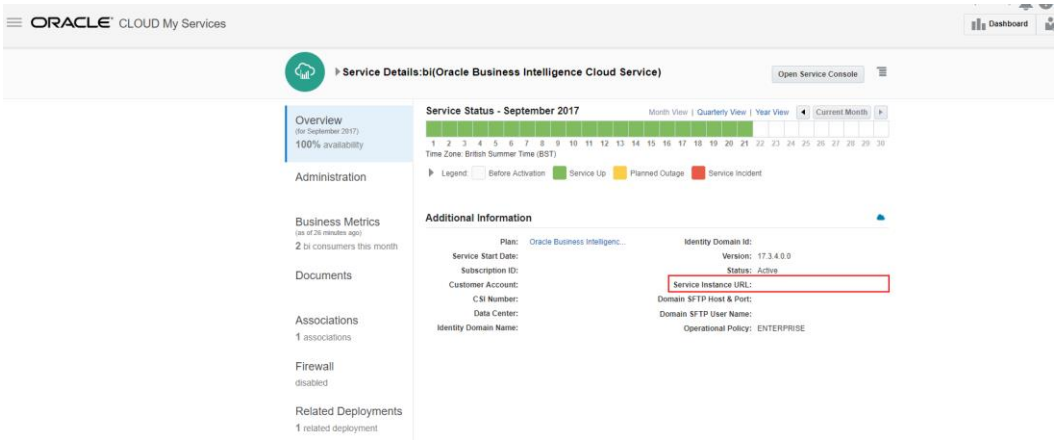
1. Copy the catalog file, which is delivered in the patch directory of OHI Back Office, to a local directory.



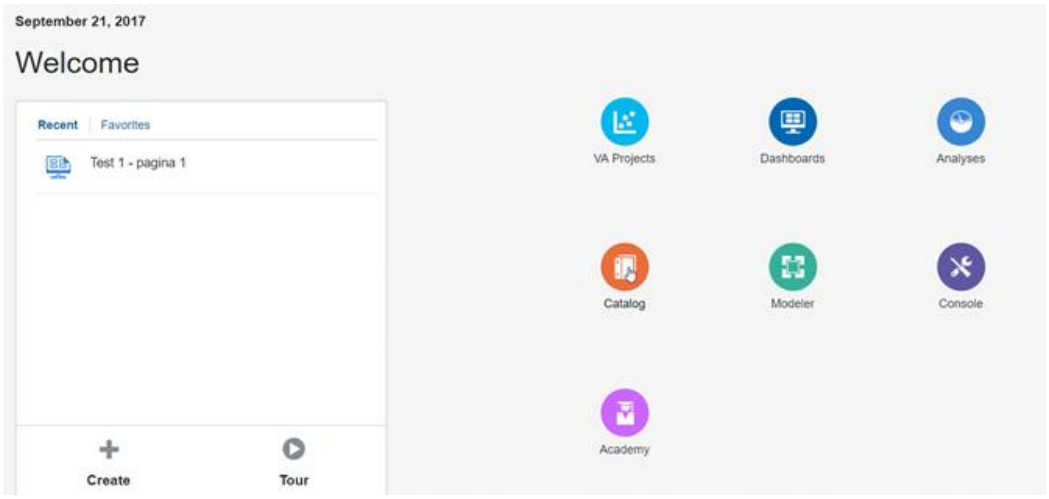
2. Login to BICS. Go to the service instance.



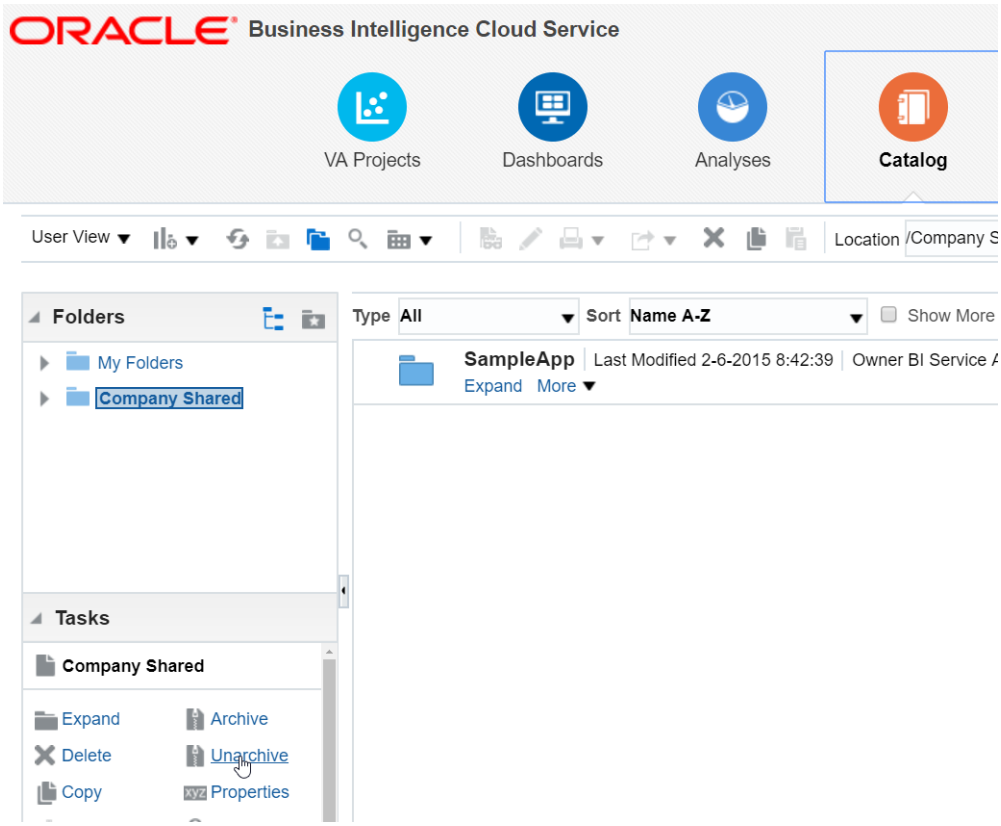
3. Click on the service instance



4. Go to catalog.



5. Select 'Company shared'.
Click 'Unarchive'.



Click ‘Upload the catalog’.
Select the locally copied catalog file.

6. Check if the reports are available. Click on dashboards.

5 Appendix A – Information

PLEASE NOTE. The Remote Desktop Tool will not work with customer SSL certificates that include a wildcard character '*' in the Common Name (CN). If HTTPS is being used, and errors are found, then check this is not the cause.

Use this URL: https://www.sslshopper.com/ssl-checker.html and in the 'Server Hostname' enter the full https URL being called in RDC, and then check it. If wildcard characters are being used, then a new certificate without these need to be generated.

There is a fix in the works for RDC, but currently this is not in place.