Data Integration Platform Cloud
Hands-on Lab

Name
Title

ORACLE

Hands on Lab - Data Integration Platform Cloud – ODI Execution

The rapid adoption of enterprise cloud-based solutions brings with it a new set of challenges. Data Integration becomes one of the greatest challenges of any enterprise cloud-based solution. Join this hands-on lab to have firsthand experience of the power and simplicity of Oracle Data Integration Platform Cloud. See how DIPC simplifies the end to end creation/execution of the historically arduous DI tasks of instantiating, loading, preparing, as well as real-time synchronization of a cloud database from an on-premise database in just a few of clicks.

The following lessons will walk us through various steps that are needed to create a Data Integration Platform Cloud ODI Execution Task to invoke an existing ODI scenario to load between an OLTP system and a target data warehouse.

Overview

Time to Complete

Perform all tasks – 60 Minutes

Prerequisites

Before you begin this tutorial, you should

- Have a general understanding of RDBMS and data integration concepts
- Have a general understanding of ETL and data synchronization concepts

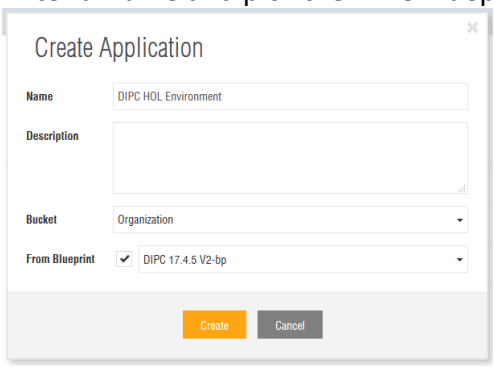
Lab Environment

For this lab, the Data Integration Platform Cloud and the client environment are contained within on environment for simplicity. Most user interactions with Data Integration Platform Cloud will be through a browser installed on your local machine (Chrome preferred, Firefox is also supported).

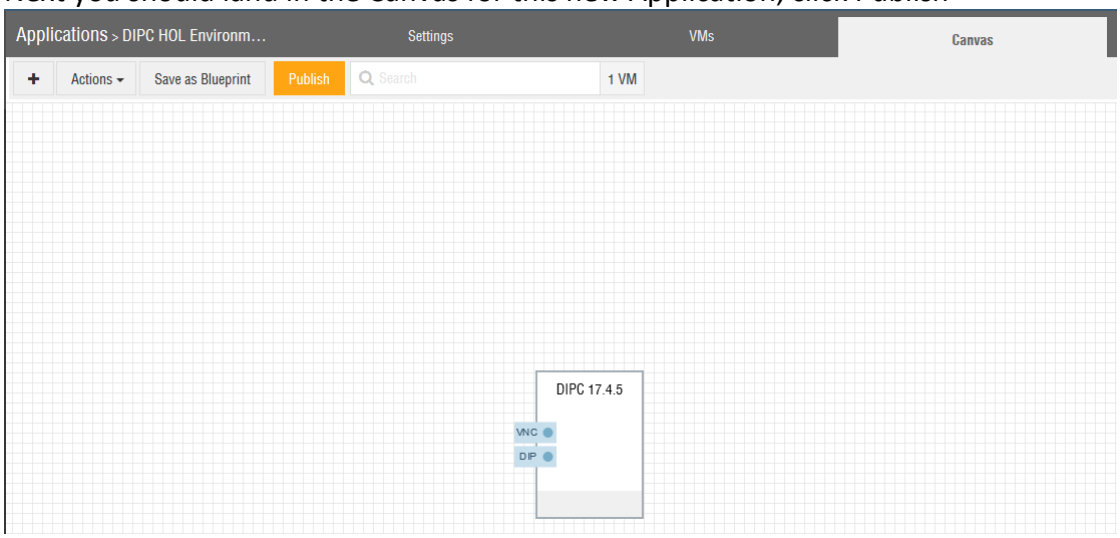
<u>Ravello Setup</u>

1. Log into Ravello and click on Applications then click on '+Create Application'

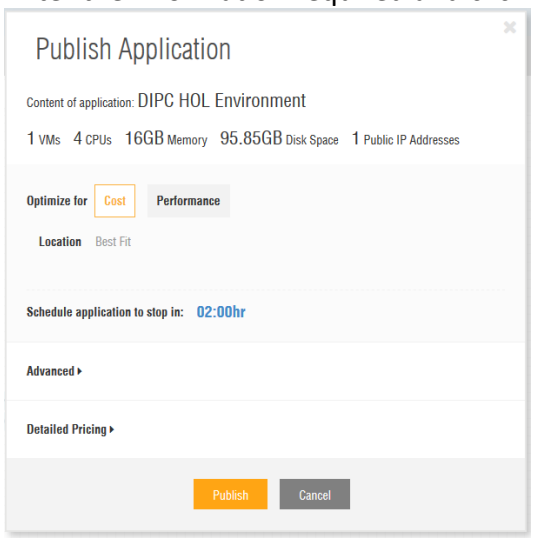
2. Enter a Name and pick the DIPC Blueprint that was shared with you



3. Next you should land in the Canvas for this new Application, click Publish



4. Enter the information required and click Publish



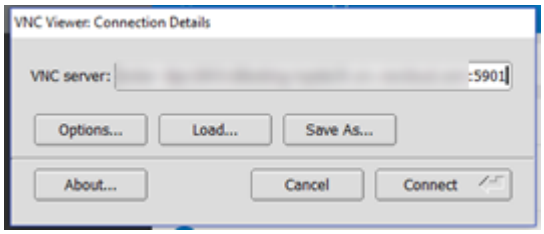
5. You will need to get the hostname of the Ravello Application you have started. When the VM shows as Started on the Canvas, go to Console to get access to the VM and write down the hostname listed at the top of the screen:

There will also be tasked that will be performed within the VM as the Data Integration Platform Cloud administrator.

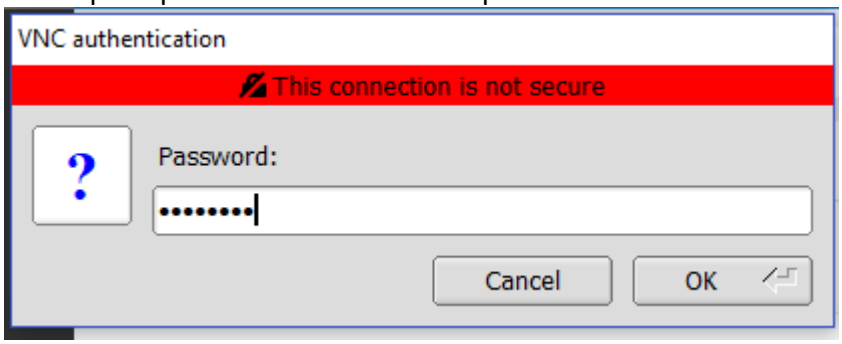
Task 0: Preparation Steps

In these steps you will clean up and setup the environment for this exercise

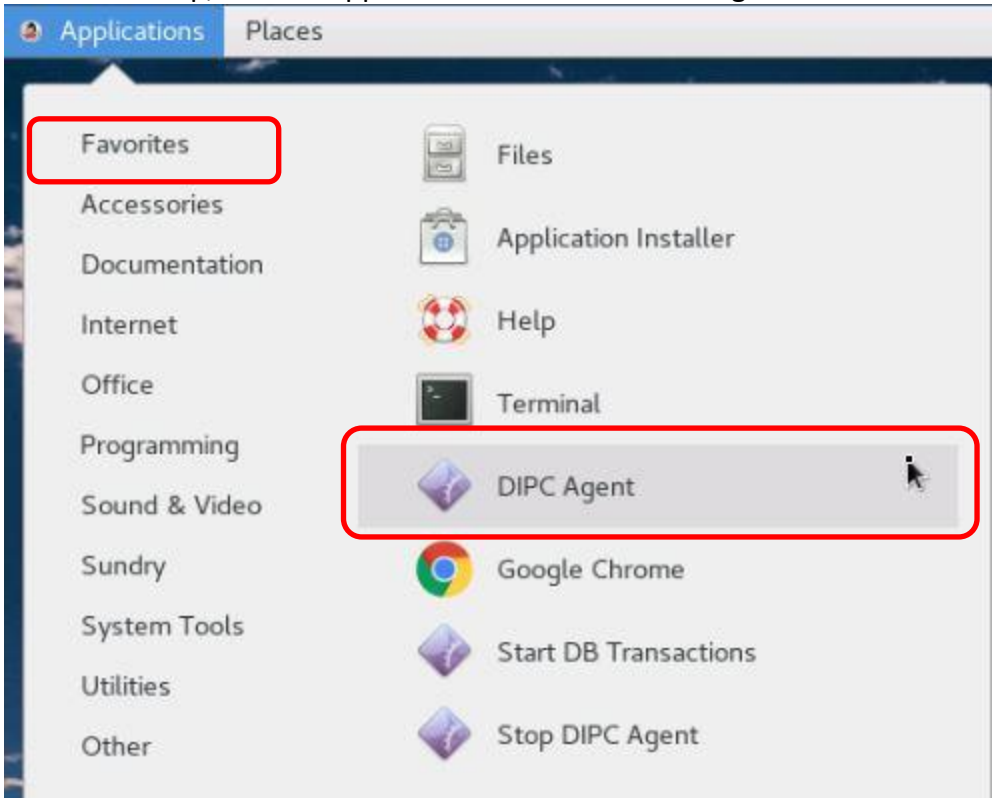
1. Using your favorite VNC Client enter the URL (<ravello hostname>:5901) and click Connect



2. When prompted enter welcome1 as password



3. On the Desktop, click on Applications then select DIPC Agent under Favorites

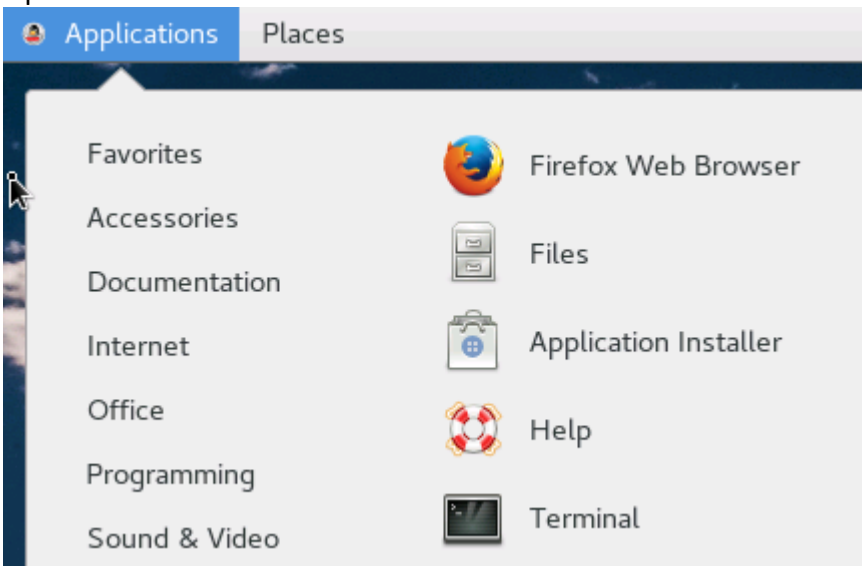


4. A window will appear and will track the DIPC Agent startup. An Agent will be used by DIPC to access the different sources and targets, it will be fully started in a minute or so **DO NOT CLOSE THIS WINDOW, you can minimize it if needed**

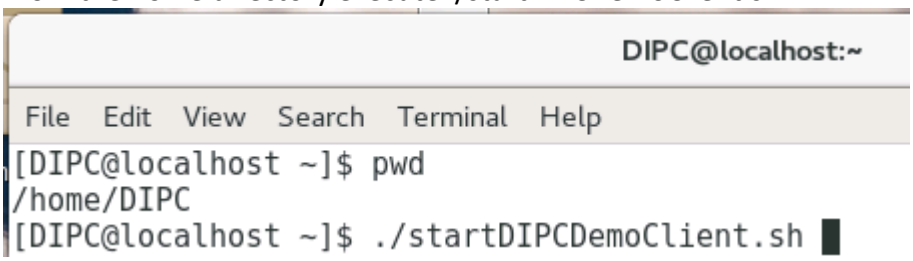
5. [Optional] Use DIPC Demo Client

a. This hands-on lab uses a JDBC utility client that was built specifically for this demo. This client is NOT part of DIPC, however it does help visualize the Synchronize Data and ODI Execution Job process

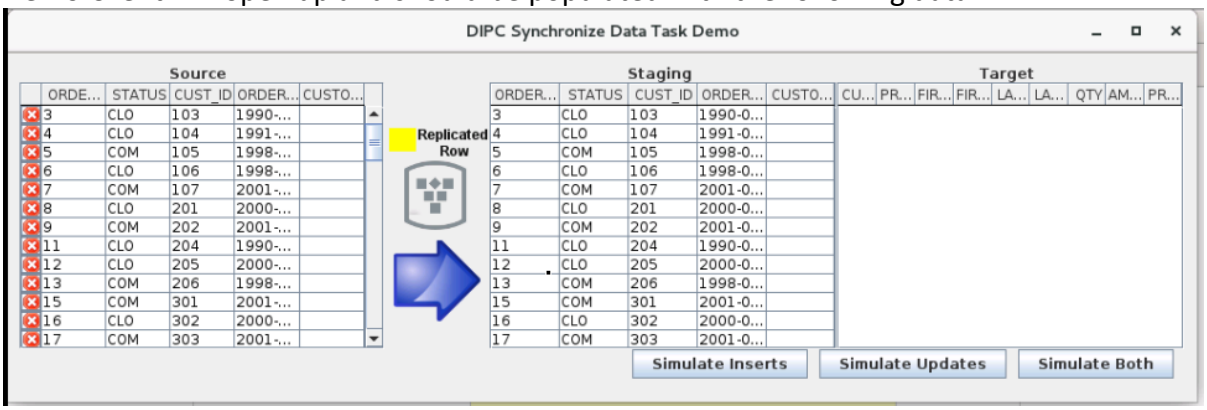
b. Open a Terminal



c. From the home directory execute ./startDIPCDemoClient.sh



d. Demo Client will open up and should be populated with the following data

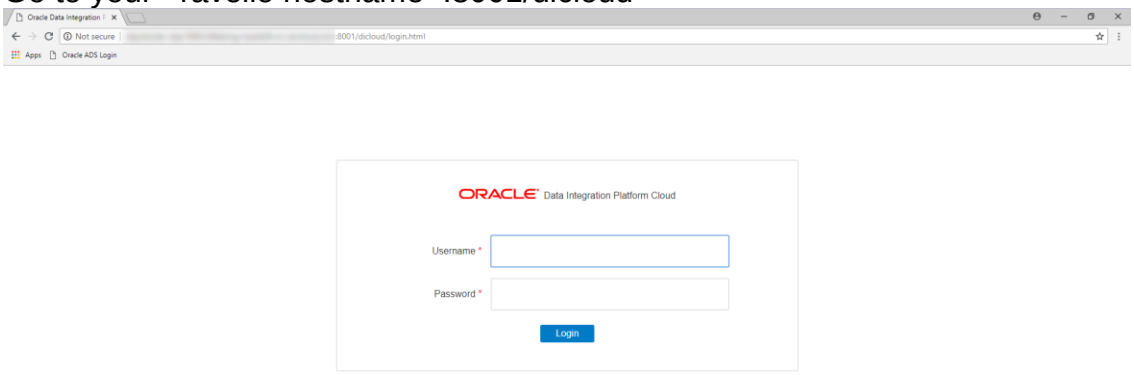


Note: Click on Initial Load Complete if needed

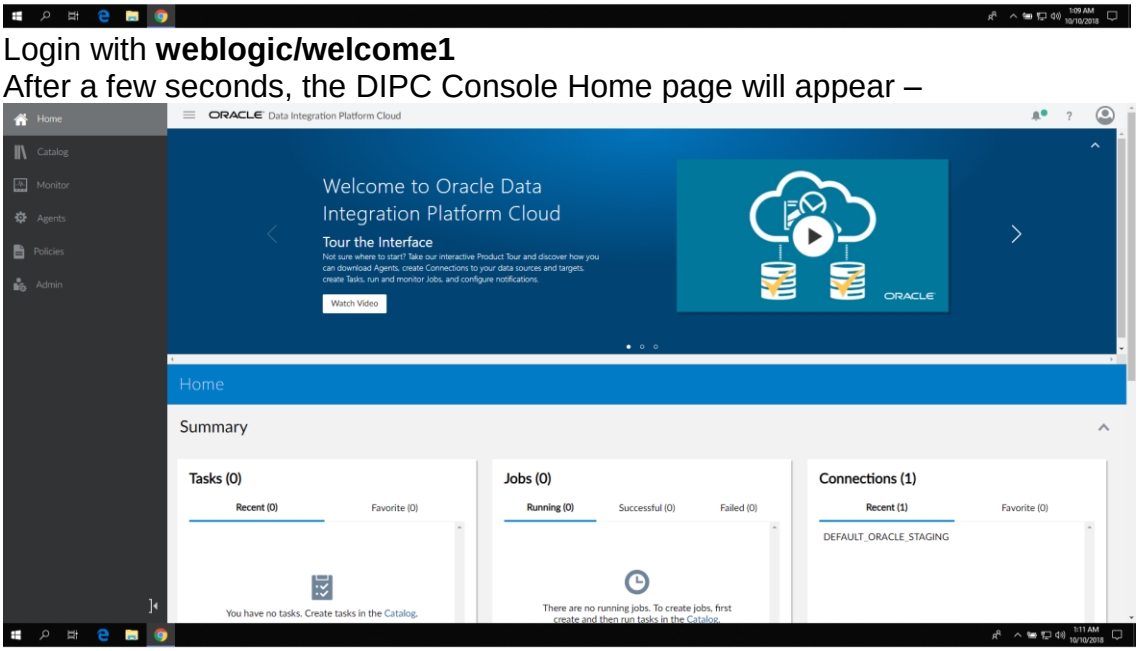
6. Now you can log into Data Integration Platform Cloud

a. On your laptop, open Chrome (Firefox works too)

b. Go to your <ravello hostname>:8001/dicloud

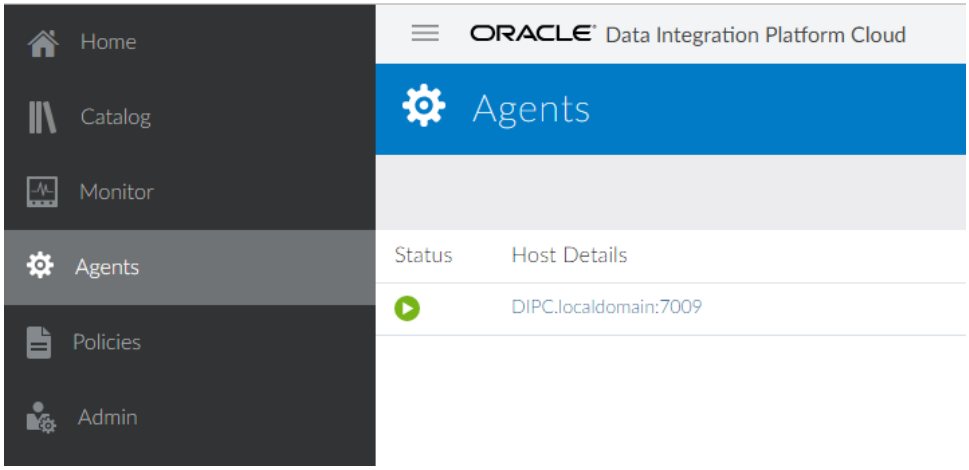


c. Login with **weblogic/welcome1**
After a few seconds, the DIPC Console Home page will appear –



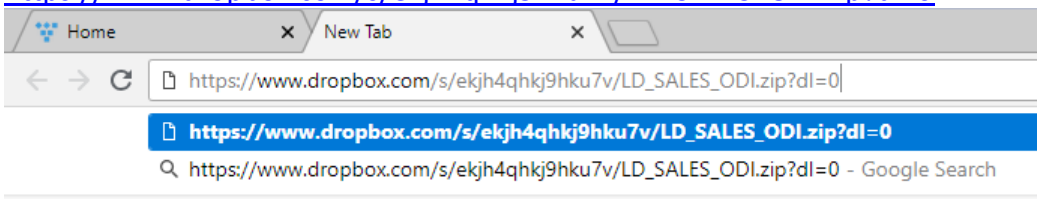
7. Click on Agents to display the list of Agents available in this environment. The Agent (DIPC.localdomain:7009) we just started will be displayed and should be in Running

(green) status

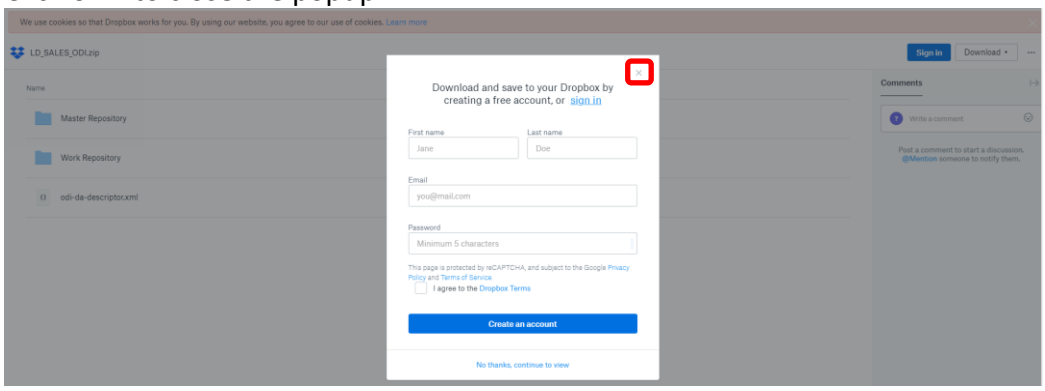


Task 1: Create ODI Execution Task

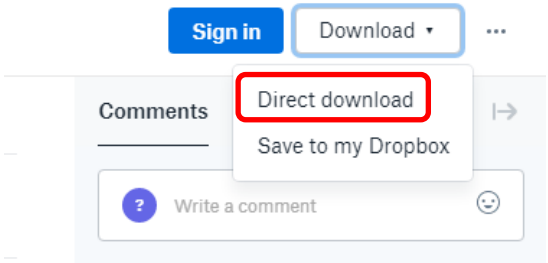
1. First, we will download a deployment archive previously created in Oracle Data Integrator (ODI).
   On your laptop, open up a new tab in Chrome and go to
   https://www.dropbox.com/s/ekjh4qhkj9hku7v/LD_SALES_ODI.zip?dl=0



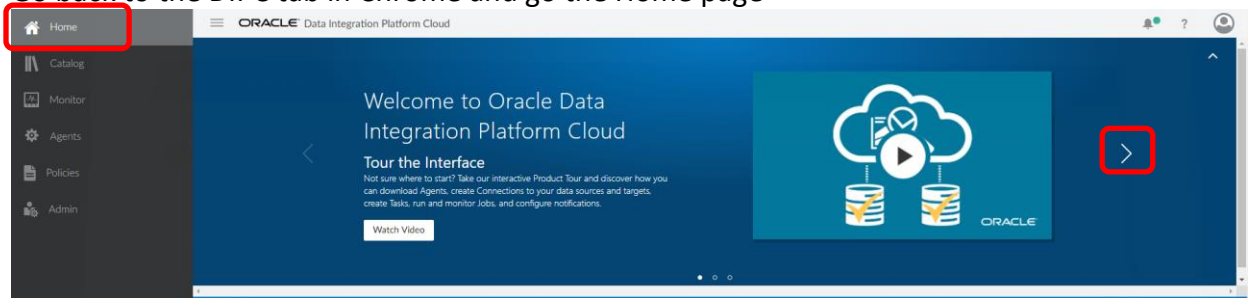
Click on x to close the popup



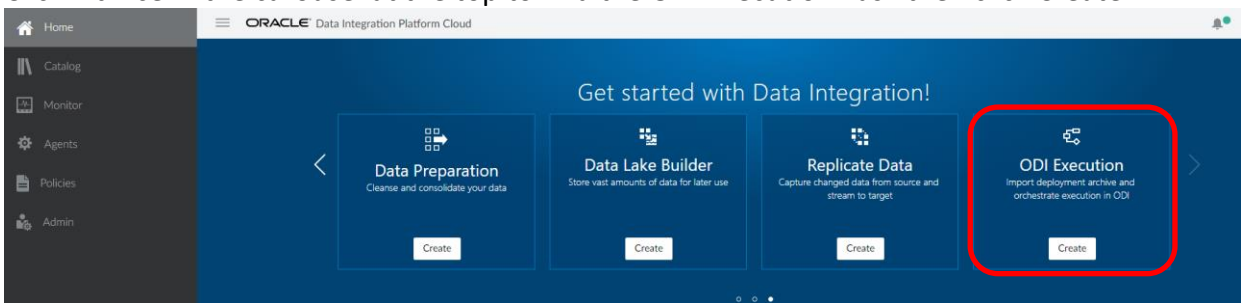
Then click Download and select Direct Download



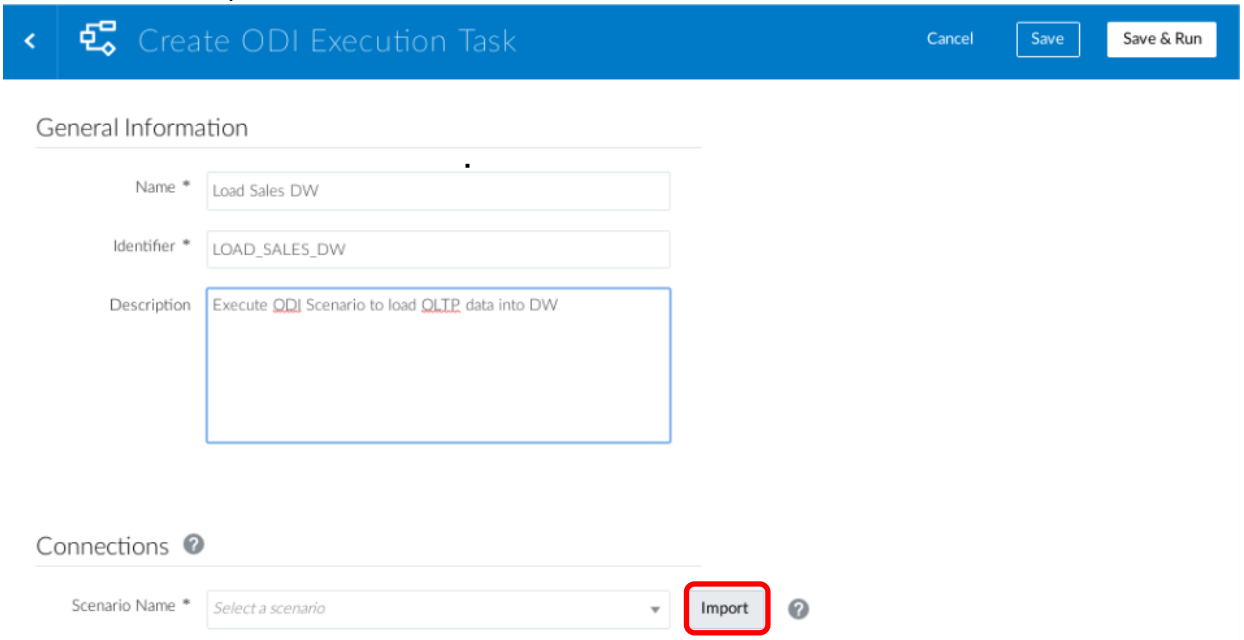
2. Go back to the DIPC tab in Chrome and go the Home page



3. Click > twice in the carousel at the top to find the ODI Execution Task then click Create

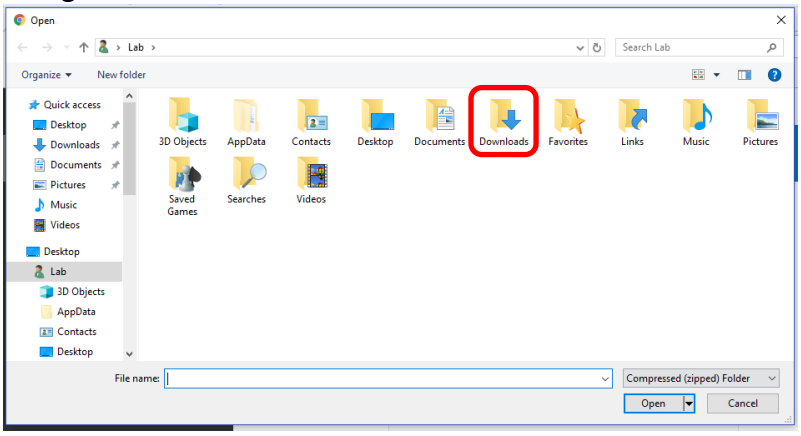


4. Enter
   - Name: Load Sales DW
   - Description: Execute ODI Scenario to load OLTP data into DW

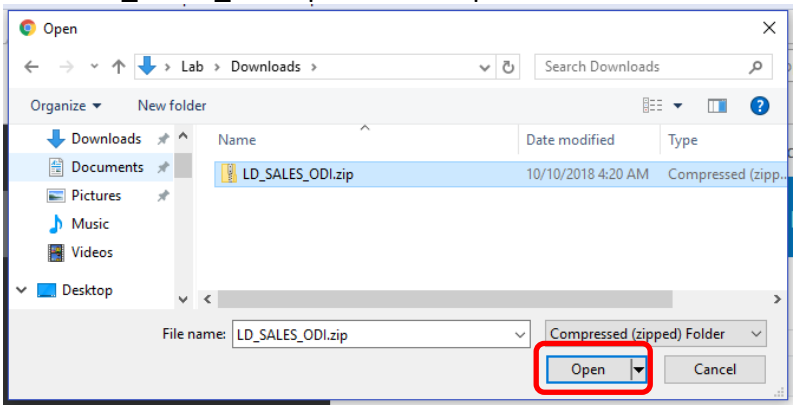


5. Under Connections click on Import to import a deployment archive created in ODI Studio that contains the Scenario we want to execute

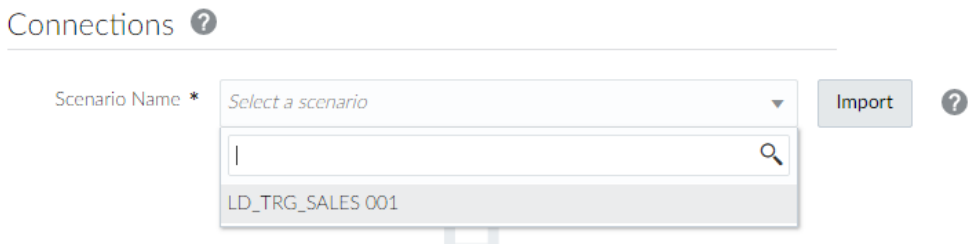
a. Navigate to Downloads



b. Select LD_SALES_ODI.zip and click Open



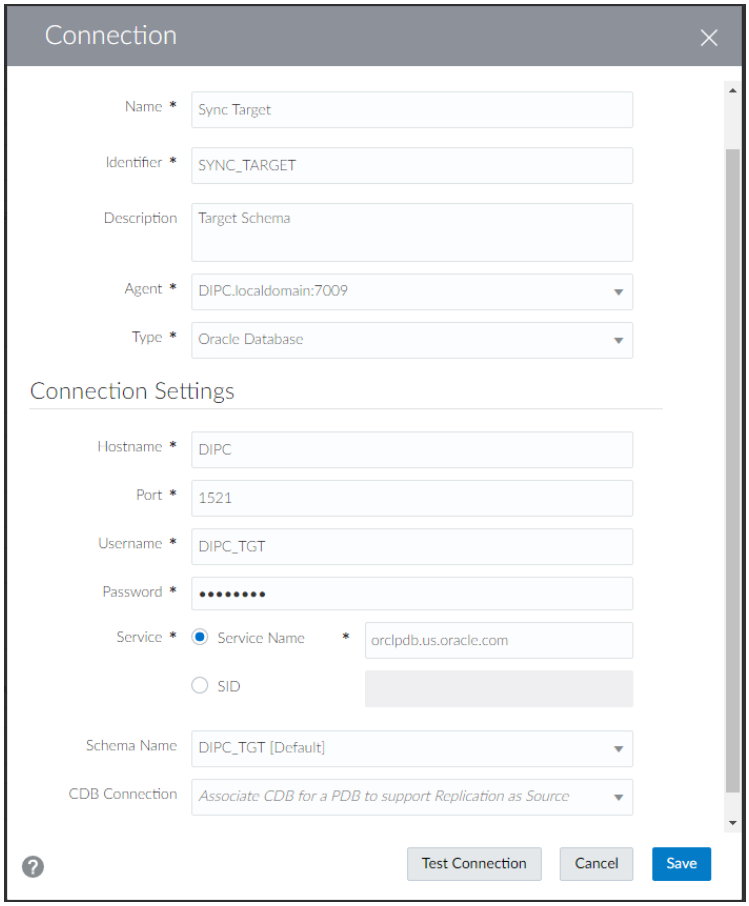
c. Click on the Scenario Name drop-down and select LD_TRG_SALES 001



This scenario joins SRC_ORDERS and SRC_ORDER_LINES, aggregates the data, filters for ORDERS with Status of 'CLO' as well as performs an incremental update (insert new rows or update existing rows when needed).
So only rows that have a status of 'CLO' (closed), will be loaded to the target Sales DW.

6. In the Connection table pick the following Connections and Schemas:
    a. ODI_DEMO_TRG:
        i. Connection: Sync Target
            1. Create it if needed:
                a. Name: Sync Target
                b. Identifier: use default
                c. Description: Target Schema
                d. Agent: DIPC.localdomain:7009
                e. Type: Oracle Database
                f. Hostname: DIPC
                g. Port: 1521

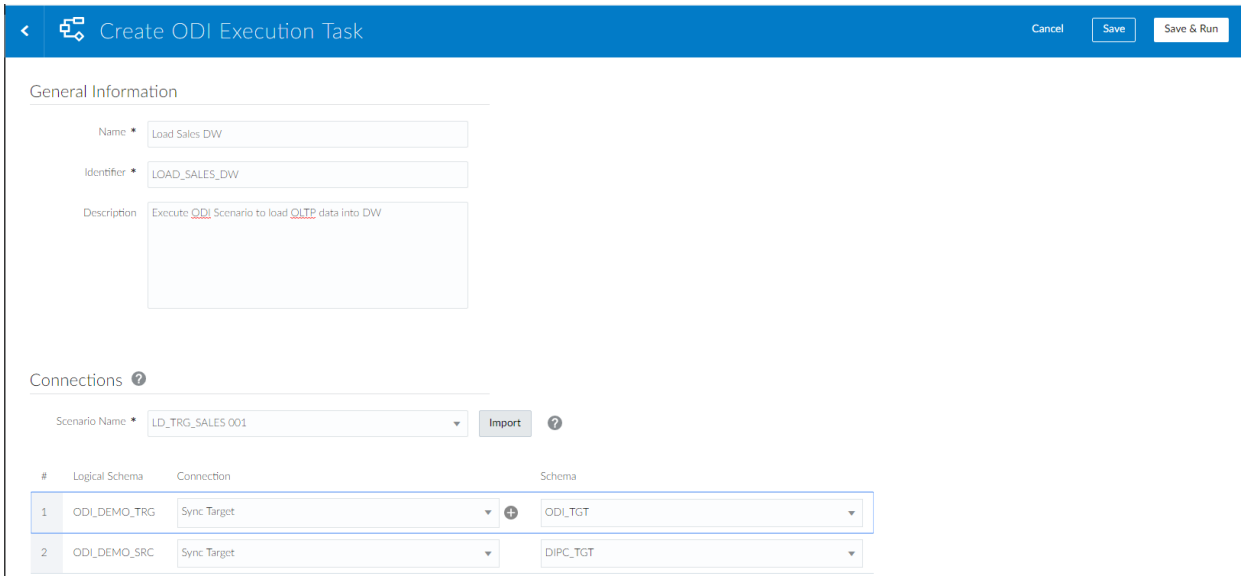
h. Username: DIPC_TGT
i. Password: welcome1
j. Service Name: orclpdb.us.oracle.com
k. Schema: DIPC_TGT
l. CDB Connection: leave blank



2. Click Test Connection, Review for errors
    a. Click Save

ii. Schema: ODI_TGT

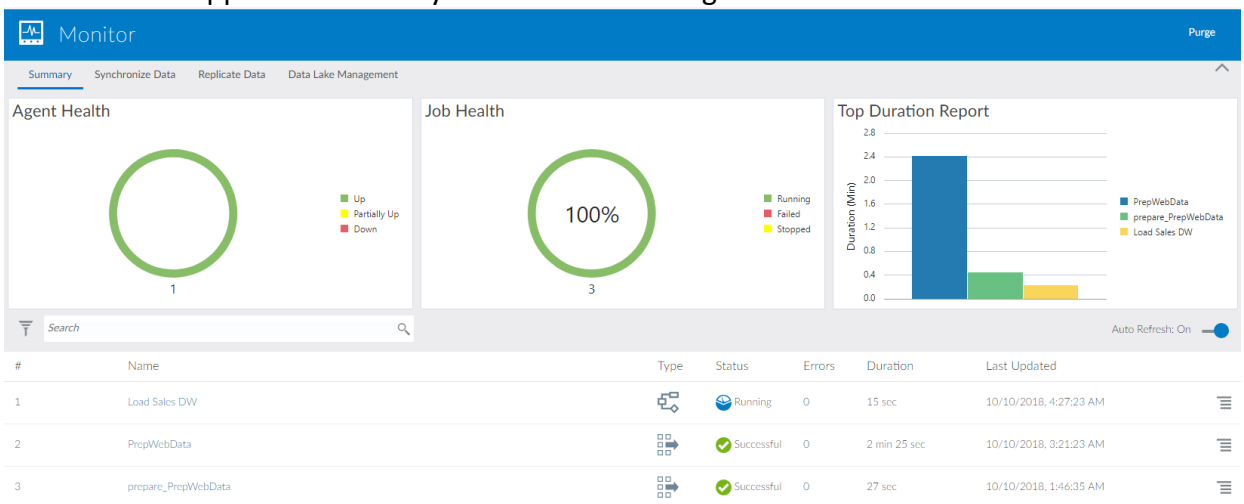
b. ODI_DEMO_SRC
    i. Connection: Sync Target
    ii. Schema: DIPC_TGT



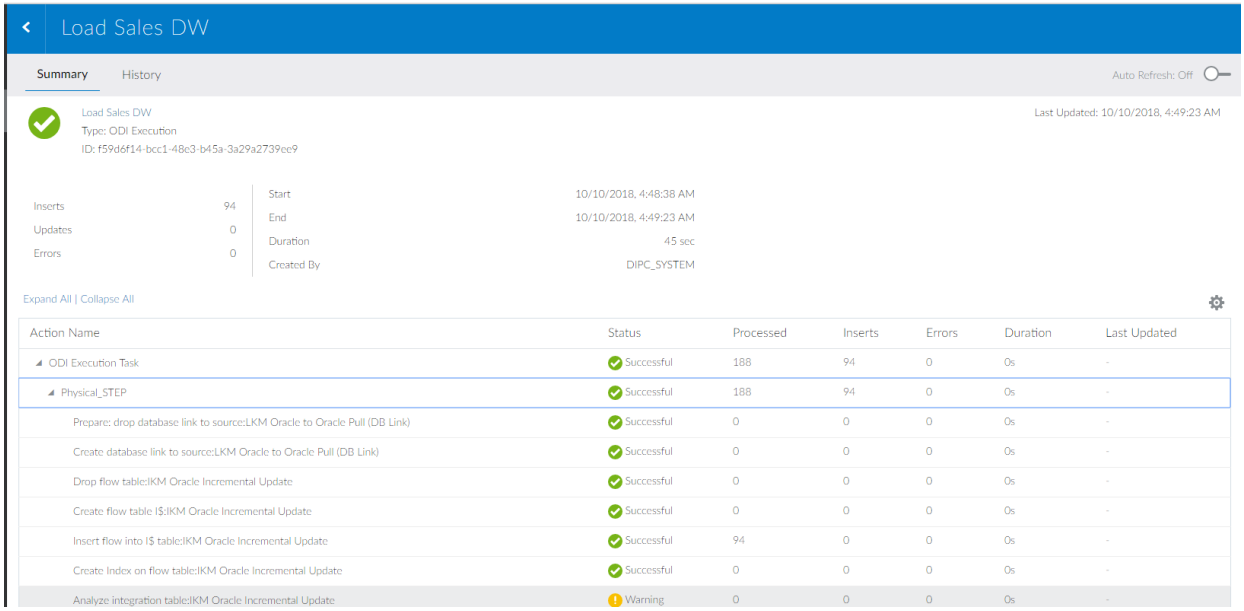
7. Click on Save & Run to execute the Task

8. You will be redirected to the Jobs page and you will see a notification that a new Job execution started

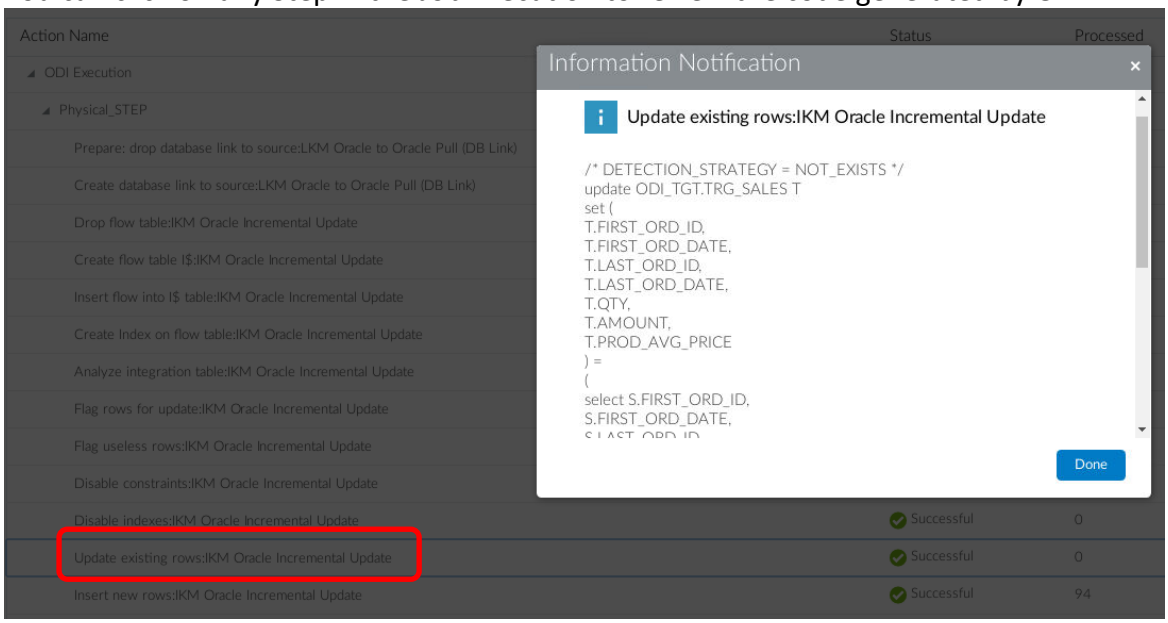
9. When the Job appears in the list you can click on it to get more details



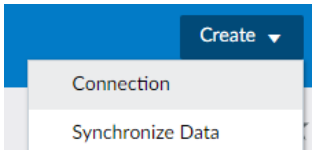
10. The Job Details contains all the details about the ODI scenario execution



You can click on any Step in the Job Execution to review the code generated by ODI

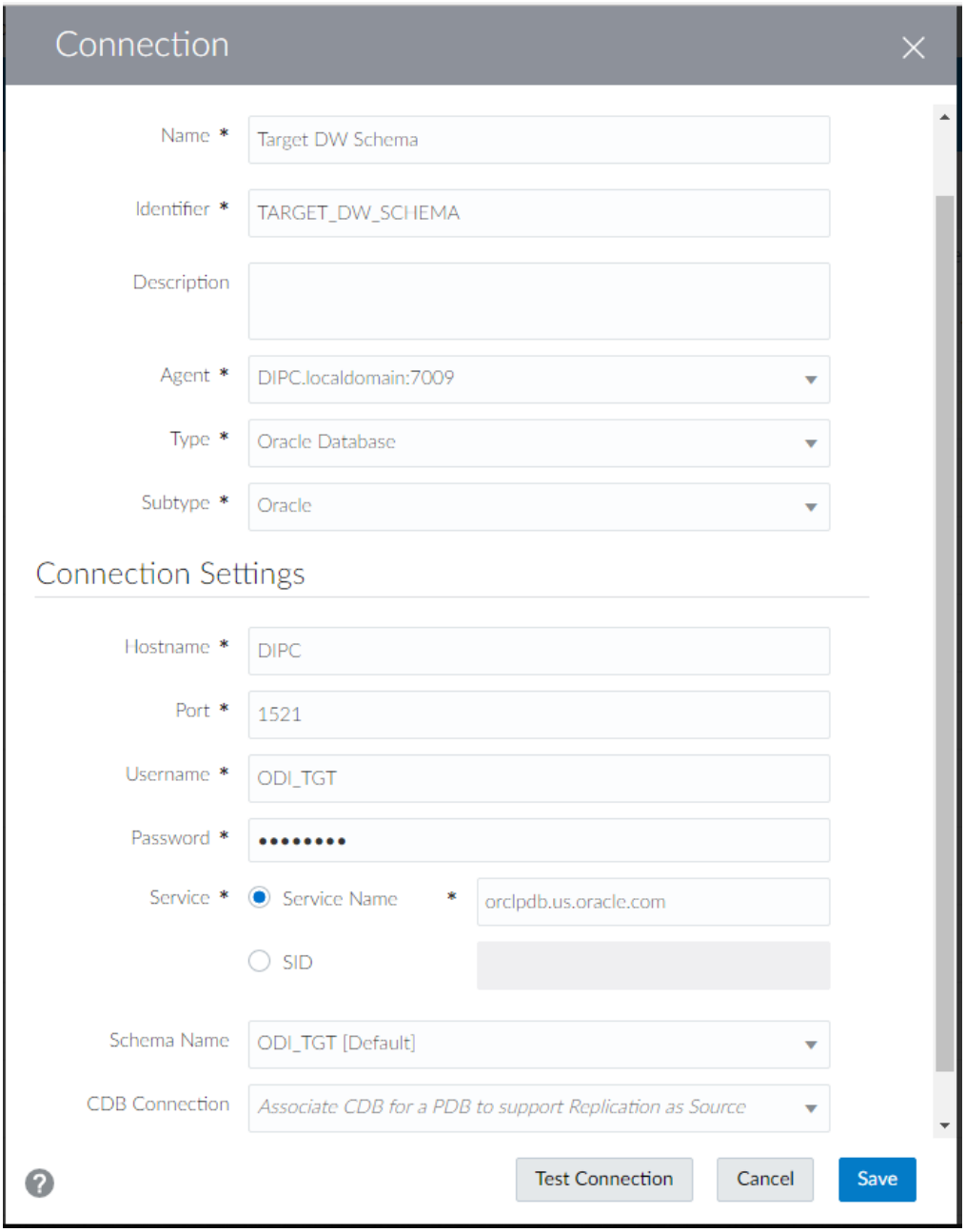


11. [Optional] Create a connection to ODI_TGT schema. Go to Catalog and click Create > Connection



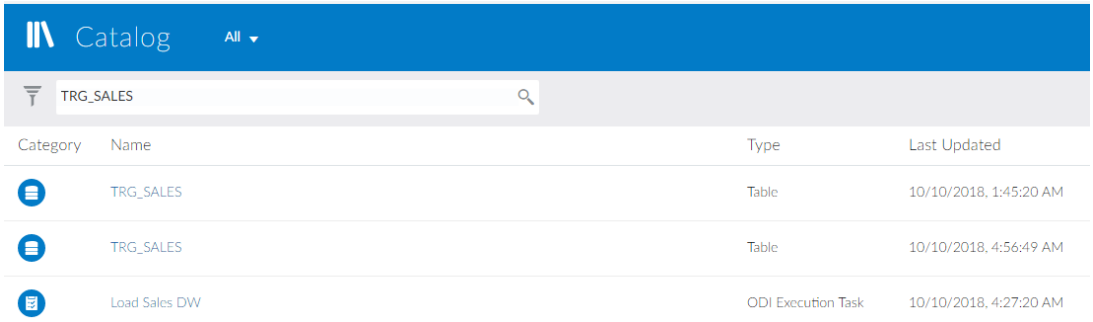
12. [Optional] Enter the following information:
    - Name: Target DW Schema
    - Identifier: use default
    - Description: Target DW Schema
    - Agent: DIPC.localdomain:7009
    - Type: Oracle Database

- Subtype: Oracle
- Hostname: DIPC
- Port: 1521
- Username: ODI_TGT
- Password: welcome1
- Service Name: orclpdb.us.oracle.com
- Schema: ODI_TGT
- CDB Connection: leave blank

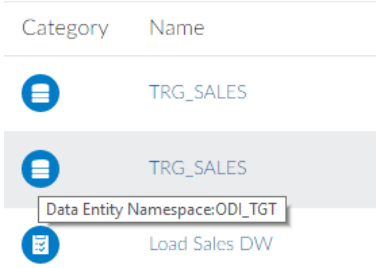


13. [Optional] Click Test Connection and Save

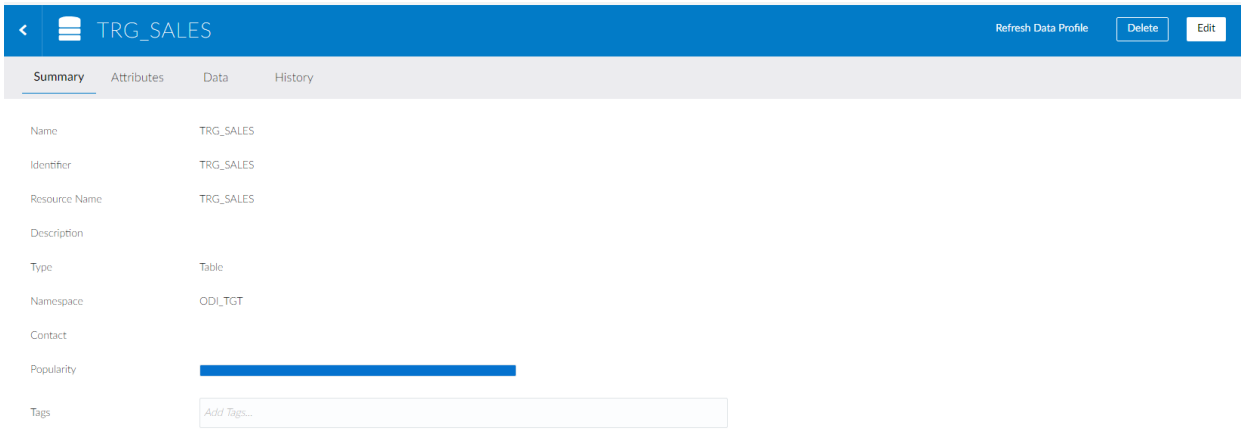
14. [Optional] Wait a minute or so and you should see new Data Entities appearing in the Catalog. Type TRG_SALES in the Search box and press Enter



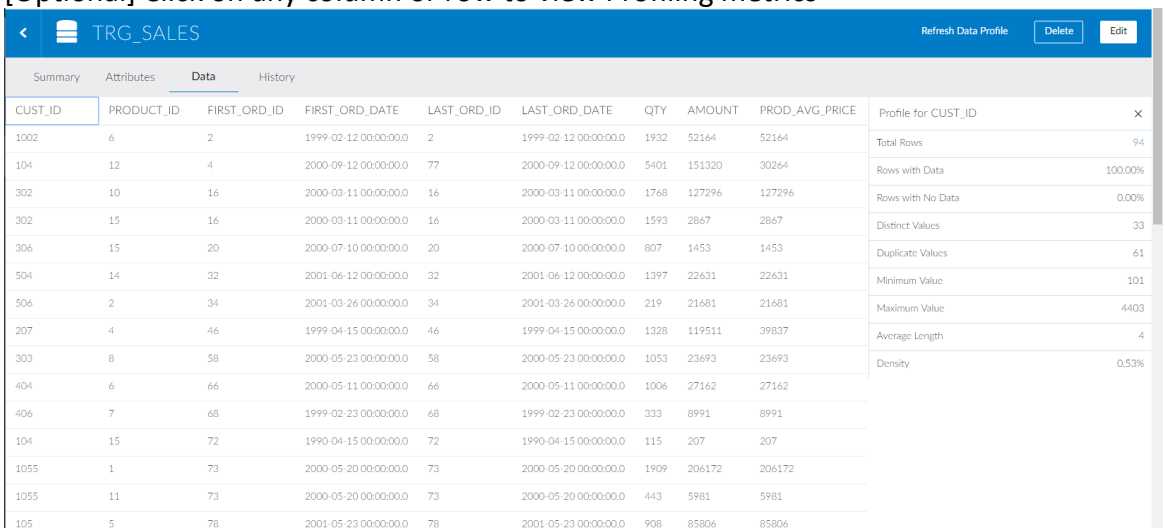
15. [Optional] The Search functionality returns all DIPC objects that are related to TRG_SALES. Click on the 2nd entry that displays Data Entity Namespace: ODI_TGT when hovering your mouse over the Data Entity icon



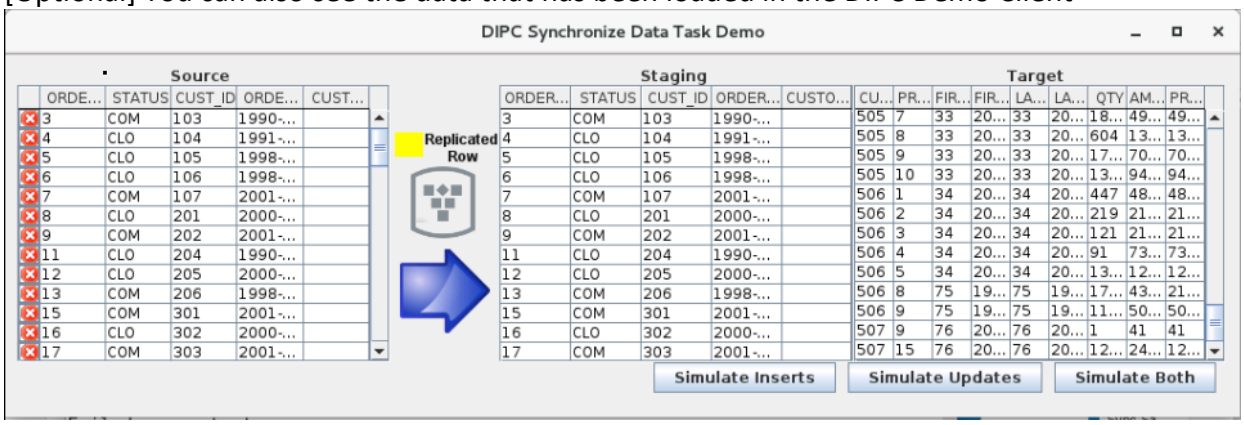
16. [Optional] Click on Data tab to view the data loaded by the ODI Execution Task



17. [Optional] Click on any column or row to view Profiling metrics



18. [Optional] You can also see the data that has been loaded in the DIPC Demo Client



Summary

In this lab, we have seen how DIPC and standalone ODI running in DIPC can work hand in hand to implement an end-to-end data flow.