[Oracle] How to configure ODBC connector with Oracle native driver installed

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Background

The Oracle connector integrates with 3rd party driver developed by Progress software for performing the read and write operations to Oracle database.

This TSG serves as the solution in face of Progress driver issue to quickly unblock customer and mitigate the issue without compromising on customer's goal of data integration with Oracle.

The general idea is to configure a ODBC connector with Oracle native ODBC driver installed.

Note:

We will hold on the document publishing, and internal only to leverage the Oracle Native ODBC + Link Service as best way since progress code access is not allowed by MS, it is managed by third party security team which is out of MS's control, any regression or bug related would take very long time to rollout with fix which is not expected. Meanwhile, we have built the good relationship with Oracle about ODBC support, again, let us recommend Oracle Native ODBC + Link Service as solution now, if any issue from native one, we can leverage oracle support with customer's engagement. In the future, we will think about .net interface solution, but it is not finalized and still planning.

Setup

Please follow below steps to set up the environment,

1. Prerequisite:
   - Make sure Oracle native driver is installed. Download link: https://www.oracle.com/database/technologies/releasenote-odbc-ic.html. Since ADF is an application that complies with ODBC protocol, it would require the ODBC version of the Oracle driver for reading and writing data to Oracle tables. For Oracle instant client, in addition to **basic package**, please also make sure the **ODBC package** is installed and unzip it in the same directory as your basic package, execute **odbc_install.exe** from the Instant Client directory. If Instant Client is 11g or lower, start the command prompt with the Administrator privilege.
   - Double check the environment variable of “**PATH**” to contain the location path for the driver
   - From Windows search bar, enter “Services”. On the user interface, make sure the service with keyword “listener” is started.
2. Open “ODBC Data Sources”, select the System DSN tab and click Add. The Create New Data Source dialog opens.
3. Select an appropriate Oracle driver and click Finish. The Oracle ODBC Driver Configuration window opens.
4. Specify the following information in the Oracle ODBC Driver Configuration window:
   - In the Data Source Name field, enter a name of your choice to identify the data source. If your DBA has supplied a common DSN for use across the enterprise, enter it here.
   - In the Description field, enter an optional description for the data source.
   - In the TNS Service Name drop-down, select the TNS Service Name for the database in which your workspace repositories will be stored. If no choices are shown, or if you are unsure which name to select, contact your DBA.
   - In the User ID field, enter the database user ID supplied by your DBA.
5. Click Test Connection. The Oracle ODBC Driver Connect window opens.
6. If you are using local naming (TNSNAMES.ORA file), make sure that "TNSNAMES" is listed as one of the values of the NAMES.DIRECTORY_PATH parameter in the Oracle Net profile (SQLNET.ORA)
   - Verify that a TNSNAMES.ORA file exists and is placed in the proper directory (ORACLE_HOME\network\admin, ORACLE_HOME is the path to where Oracle software is installed, create the directories if missing) and is accessible.
   - Check that the TNS Service Name used as the connect identifier exists in the TNSNAMES.ORA file.
   - Make sure there are no syntax errors anywhere in the TNSNAMES.ORA file. Look for unmatched parentheses or stray characters. Errors in a TNSNAMES.ORA file may make it unusable. Check below sample,

```
TNS_Service_Name=
(DESCRIPTION=
   (ADDRESS=(PROTOCOL=tcp)(HOST=sales1-svr)(PORT=1521))
   (CONNECT_DATA=
     (SERVER=DEDICATED)
     (SERVICE_NAME=sales.us.example.com)
   )
)
```

DESCRIPTION contains the connect descriptor, ADDRESS contains the protocol address, and CONNECT_DATA contains the database service identification information.

7. Follow the doc for configuring the ODBC connector and its linked service accordingly: https://docs.microsoft.com/en-us/azure/data-factory/connector-odbc

Sample connection string: DSN=<TNS Service Name>;

Click test connection to verify.

Known issue

Table loading functionality may not work for ODBC connector if the amount of tables to be loaded is large. As workaround, customer can choose to manually input the table name and preview its data.