

JDBC

User Guide

Abstract

JDBC user guide provides a brief introduction on cloud connectors and its features.

The guide provides detailed information on setting up the connector and running data synchronization tasks (DSS). A brief overview of supported features and task operations that can be performed using JDBC connector is mentioned.

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Overview

Informatica cloud connector developed using SDK framework are off-cycle, off release “add-ins” that facilitate data integration to SaaS and on-premise applications, which are not supported natively by Informatica cloud. The cloud connectors are specifically designed to address most common use cases such as moving data into cloud and retrieving data from cloud for individual application.

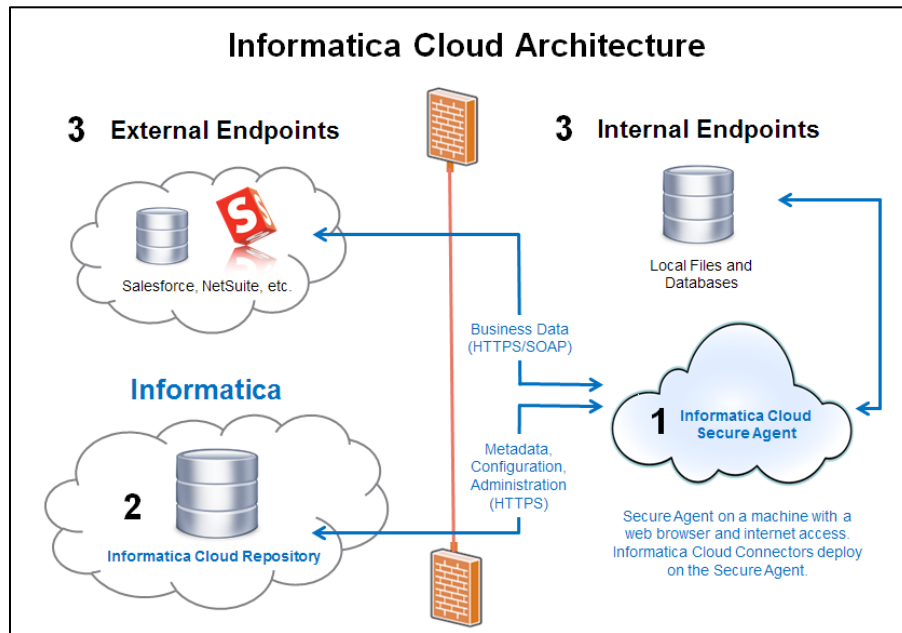


Figure 1: Informatica Cloud Architecture

Once the JDBC connector is enabled for your ICS ORG Id, you need to create a connection in Informatica cloud to access the connector.

JDBC Connector

The JDBC connector performs CRUD operation on any database as long as the database supports JDBC driver and also you need to have the driver jar files.

Once you enable the Connector for your org Id, you will create a connection in Informatica Cloud to access the JDBC Connector.

Pre-requisites for Installing the JDBC Connector Plug-in

You need a driver jar files for the appropriate database to make a successful jdbc connection.

Assumptions and Considerations

JDBC Connector was developed and tested for:

- Postgresql
- Oracle
- MSSQL
- Sybase
- oracle jdbc/odbc

Supported Objects and Task Operations

The table below provides the list of objects and task operations supported by JDBC connector.

Objects	Task Operation							Data Preview	Look UP
	DSS Source	DSS Target	Query	Insert	Update	Upsert	Delete		
Objects									

 : Supported

NA : Not Applicable

Enabling the JDBC Connector SDK

To enable JDBC connector, contact Informatica support or Informatica representative. It usually takes 15 minutes for the connector to download to secure agent, after it is enabled.

Note: To install secure agent, see [Installing Informatica Secure Agent](#).

Creating a JDBC Connection

To use JDBC connector in data synchronization task, you must create a connection in Informatica Cloud.

The following steps help you to create JDBC connection in Informatica Cloud.

1. In Informatica Cloud home page, click **Configure**.
2. The drop-down menu appears, select **Connections**.
3. The Connections page appears.
4. Click **New** to create a connection.
5. The New Connection page appears.

Connection Details

Connection Name:*
JDBC_Oracle_LOCAL

Description:

Type:*
JDBC (Informatica Cloud Labs)

JDBC Connection Properties

Secure Agent:*
INW00003572

Username:*
ajith

Password:*

Connection URL:*
jdbc:oracle:thin:@//inv28iso5.informatica.com:15

Schema:*
AJITH

Jdbc Driver:*
oracle.jdbc.driver.OracleDriver

Jdbc Driver Folder:*
C:\jdbc

Identifier Quote:
"

Max Column Size:
32768

Figure 2: Creating a New Connection

6. Specify the following details.

Connection Property	Description
Connection Name	Enter a unique name for the connection.
Description	Provide a relevant description for the connection.
Type	Select JDBC from the list.
Secure Agent	Select appropriate secure agent from the list.
Username	Enter the username to connect to the database.
Password	Enter the password to connect to the database.
Connection URL	Mention the connection URL. The database schema where the tables exist.

Schema	Follow the jdbc url format to connect to the database. The URL varies from driver to driver. jdbc:sybase:Tds:[server]:[port] Note: If the URL contains special character such as & then you must URL Encode the special character. For example instead of & Mention %26 http://www.w3schools.com/tags/ref_urlencode.asp)
Jdbc Driver	Mention the JDBC driver class name. Refer JDBC Driver.
Jdbc Driver Folder	Mention the directory that contains the jdbc driver jar files. Note: The connector cannot locate the jars from sub folder; you must specify the exact folder which contains the driver jars.
Identifier Quote	You should quote the SQL as the table name or column names contain spaces or special characters. The connector will use the default string to quote the table or column name. But this can be overridden. for example for sqlserver use: []
Max Column size	Mention the required column size. Default value is 32768. For large columns (BLOB,CLOB,RAW,NVARCHAR(MAX),IMAGE, etc) as a best practice leave this as default. Create a separate connection for handling your large column data and specify a larger value just for that connection. Note: For large values will require that you increase the JVM memory settings (see below)

7. Click **Ok** to save the connection.

Note: It is recommended to test the connection before saving it. Click **Test** to evaluate the connection.

JDBC Setup

The JDBC connector needs access to jdbc drivers for your database. The jdbc driver jars need to be local to secure agent. If the driver jars are not located on the same machine then copy the jars to a directory on the same machine as the secure agent. for example, here we have jdbc driver in the directory **C:\jdbc**.

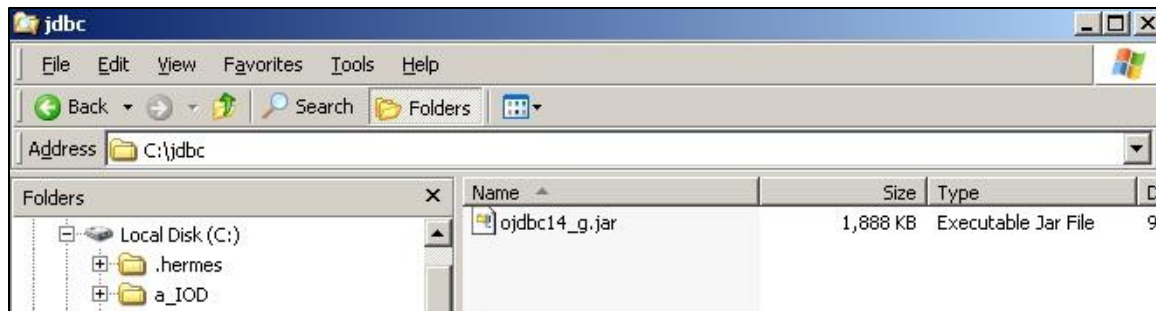


Figure 3: JDBC Setup

Creating a JDBC Data Synchronization Task (DSS)

Note: You need to create a connection before getting started with data synchronization task.

The following steps help you to setup a data synchronization task in Informatica Cloud.

Let us consider the task operation **Insert** to perform the Data synchronization task.

1. In Informatica Cloud home page, click **Applications**.
2. The drop-down menu appears, select **Data Synchronization**.
3. The **Data Synchronization** page appears.
4. Click **New** to create a data synchronization task.
5. The **Definition** tab appears.

1 Definition	2 Source	3 Target	4 Data Filters	5 Field Mapping	6 Schedule
< Previous Next > Save Cancel Task Details Task Name: * JDBC_fetch_oracle_list_LX ? Description: Task Operation: * Insert ?					

Figure 4: Definition Tab

6. Specify the **Task Name**, provide a **Description** and select the Task Operation **Insert**.
7. Click **Next**.
8. The **Source** tab appears.

1 Definition **2 Source** 3 Target 4 Data Filters 5 Field Mapping 6 Schedule

< Previous Next > Save ▾ Cancel

Source Details

Connection:* JDBC_oracle_LX View... New... ?

Source Type:* ☒ Single ☐ Multiple ☐ Saved Query

Source Object:* LIST Select... ?

☐ Display technical names instead of labels

☐ Display source fields in alphabetical order

Figure 5: Source Tab

9. Select the source **Connection**, **Source Type** and **Source Object** to be used for the task.
10. Click **Next**.
11. The **Target** tab appears. Select the target **Connection** and **Target Object** required for the task.

1 Definition 2 Source **3 Target** 4 Data Filters 5 Field Mapping 6 Schedule

< Previous Next > Save ▾ Cancel

Target Details

Connection:* JDBC_target_oracle_LX View... New... ?

Target Object:* LIST.csv Select... Formatting Options... Create Target... ?

☐ Display target fields in alphabetical order

Data Preview

LIST.csv Preview All Columns (Total Columns: 8)

ID	CONTENTTYPE	CONTENTTYPEID	CREATED	MODIFIED		
200	Folder	1258HJDG6978				
201	File	1258ABC56				
202	Folder		05/08/2013 00:00:00			
203	Item					
526	Itemire	45646				
1363	Fold	125GHY				
1364	Fold	125GHY				
1365	Fold	125GHY				
1366	Fold	125GHY				
1367	Fold123	125GHY				

Figure 6: Target Tab

12. Click **Next**.
13. In **Data Filters** tab by default, Process all rows is chosen. To assign filters to fetch specific data, see [Data Filters](#).

14. Click **Next**.

15. In **Field Mapping** tab, map source fields to target fields accordingly.

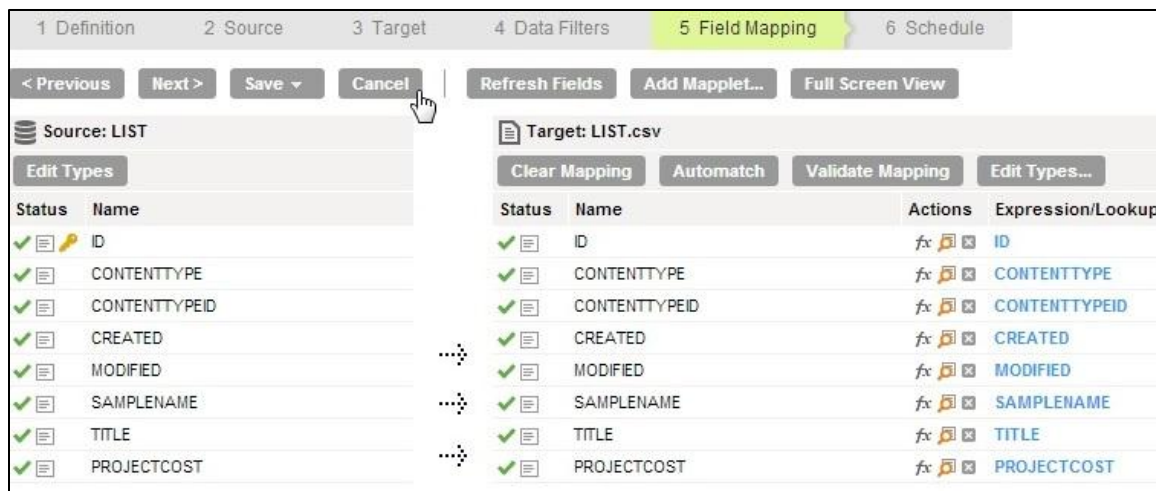


Figure 7: Field Mapping Tab

Note: To perform field mapping, drag and drop the required fields from source to target.

16. Click **Next**.

17. The **Schedule** tab appears.

18. In Schedule tab, you can schedule the task as per the requirement and save.

19. If you do not want schedule the task, click **Save and Run** the task.

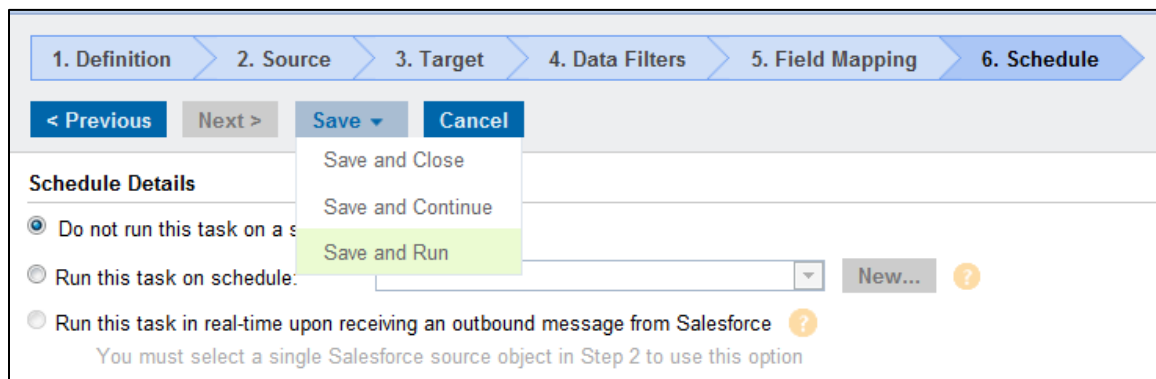


Figure 8: Save and Run the Task

After you **Save and Run** the task, you will be redirected to monitor log page. In monitor log page, you can monitor the status of data synchronization tasks.

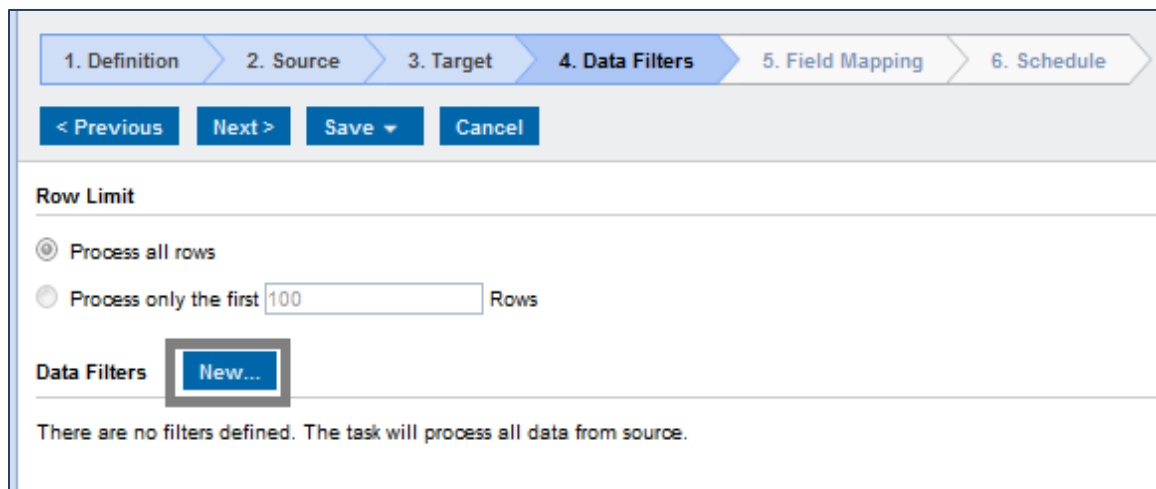
Data Filters

Data filters help you to fetch specific data of a particular object. The DSS task will process the data based on the filter field assigned to the object.

Note: Advanced data filters are not supported by JDBC connector.

The following steps help you to use data filters.

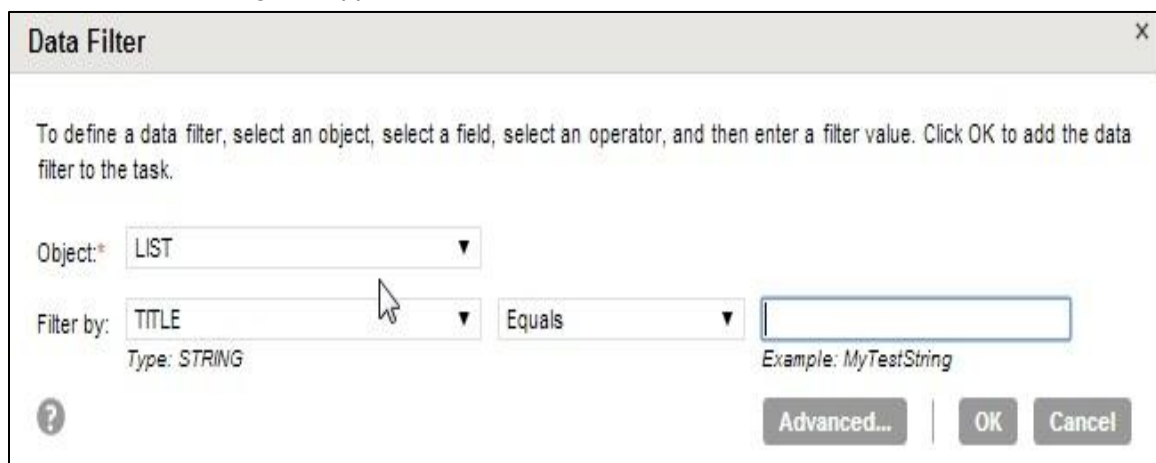
1. In Data synchronization task, select Data Filters tab.
2. The Data Filters tab appears.
3. Click **New** as shown in the figure below.



The screenshot shows a task configuration window with six tabs: 1. Definition, 2. Source, 3. Target, 4. Data Filters (selected), 5. Field Mapping, and 6. Schedule. Below the tabs are buttons for '< Previous', 'Next >', 'Save', and 'Cancel'. The 'Data Filters' section has a 'Row Limit' section with two radio buttons: 'Process all rows' (selected) and 'Process only the first 100 Rows'. Below this is a 'Data Filters' section with a 'New...' button highlighted by a red box. At the bottom, it says 'There are no filters defined. The task will process all data from source.'

Figure 9. Data Filters

The **Data Filter** dialog box appears.



The screenshot shows the 'Data Filter' dialog box. It has a title bar with a close button (X). The main text says: 'To define a data filter, select an object, select a field, select an operator, and then enter a filter value. Click OK to add the data filter to the task.' Below this are three dropdown menus: 'Object:' with 'LIST' selected, 'Filter by:' with 'TITLE' selected, and 'Operator:' with 'Equals' selected. Below the 'Filter by:' dropdown is the text 'Type: STRING'. To the right of the 'Operator:' dropdown is a text input field with the placeholder text 'Example: MyTestString'. At the bottom left is a question mark icon. At the bottom right are three buttons: 'Advanced...', 'OK', and 'Cancel'.

Figure 10. Data Filters-2

4. Specify the following details. For supported filter fields, see [Filters and Operators](#).

Field Type	Description
Object	Select Object.
Filter By	Select the Filter Field.
Operator	Select the corresponding operator.
Filter Value	Enter the filter value.

- Click **Ok**.

Troubleshooting

Increasing Secure Agent Memory

To overcome memory issues faced by secure agent follow the steps given below.

- In Informatica Cloud home page, click **Configuration**.
- Select **Secure Agents**.
- The secure agent page appears.
- From the list of available secure agents, select the secure agent for which you want to increase memory.
- Click **pencil** icon corresponding to the secure agent. The pencil icon is to edit the secure agent.
- The Edit Agent page appears.
- In **System Configuration** section, select the Type as “**DTM**”.
- Edit **JVMOption1** as “**-Xmx512m**” as shown in the figure below.

The screenshot displays the 'Agent Details' and 'System Configuration Details' for a secure agent. The 'Agent Details' section includes fields for Agent Name, Platform, Host Name, Status, Last Status Change, Created On, Updated On, Created By, and Updated By. The 'System Configuration Details' section shows a list of configuration options with their values. The 'JVMOption1' is highlighted with a box, and its value is '-Xmx512m'. A callout box points to the edit icon for JVMOption1 with the text 'Click to Edit'.

Name	Value
OptimizeODBCWrite	No
__PMOV_FFW_ESCAPE_QUOTE	Yes
RecordSessStatInRepo	No
JVMOption2	
JVMOption1	-Xmx512m
RepositoryName	XMLRepository

Figure 14. Increasing Secure Agent Memory-1

9. Again in **System Configuration** section, select the **Type** as “TomCatJRE”.
10. Edit **INFA_memory** to “-Xms256m -Xmx512m” as shown in the figure below.

OK Cancel

Agent Details

Agent Name: INW00000605 ?

Platform: Windows ?

Host Name: INW00000605

Status: Inactive ?

Last Status Change: Oct 3, 2013 11:21:29 AM

Created On: Jun 14, 2013 3:42:24 PM

Updated On: Dec 2, 2013 3:42:53 PM

Created By: admin

Updated By: yjyothi@informatica.com

Agent Version Details

Version: 15.0.0.0.0.0.0

Upgrade Status: Out-of-date

Last Upgraded: Aug 12, 2013 10:04:08 AM

System Configuration Details Reset All

Updated On: Dec 2, 2013 3:42:53 PM

Type: Tomcat JRE

Name	Value
JRE_OPTS	-Xrs
INFA_MEMORY	-Xms32m -Xmx256m
INFA_SSL	

Figure 15. Increasing Secure Agent Memory-2

11. Restart the secure agent.

The secure agent memory has been increased successfully.

Connection Configuration

There is a **jdbc.ini** file present in the secure agent plugin folder, for example **C:\Program Files (x86)\Informatica Cloud Secure Agent\main\tomcat\plugins\pluginID\jdbc.ini**.

The figure below displays an example of jdbc.ini file.

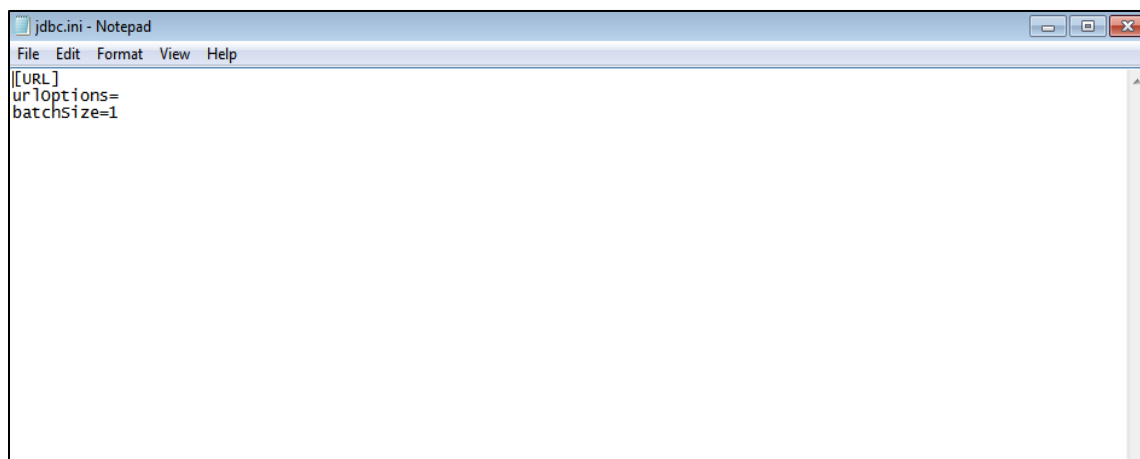


Figure 16. jdbc.ini file

This file contains a **batchSize** field. The **batchSize** field plays pivotal role during the run time, since the rows are processed as per the batch size that you mention in this field.

This field can be used only as a part of insert operation.

Note: In the current release the default batchSize value is 1000 rows per batch. You must mention the default batch size value as 1 before executing the tasks.

Sample JDBC Drivers and URL values for some databases

Field Type	Description
org.postgresql.Driver	jdbc:postgresql://[HOST]:[PORT]/[DATABASE]
oracle.jdbc.driver.OracleDriver	jdbc:oracle:thin:@//[HOST][:PORT]/[SERVICE]
com.microsoft.sqlserver.jdbc.SQLServerDriver	jdbc:sqlserver://[HOST]\[INSTANCE];databaseName=[DATABASE]
com.sybase.jdbc4.jdbc.SybDriver	jdbc:sybase:Tds:[HOST]:[PORT]/[DATABASE]
sun.jdbc.odbc.JdbcOdbcDriver	jdbc:odbc:[ODBC_DSN]

Note: Change [HOST], [PORT], [DATABASE] and [SERVICE] name to match your environment)

Known Issues

It is observed during testing that sometimes if the driver jar which you have is not compatible, then timestamp Column in oracle table, throws the error **String must be in JDBC format [yyyy-MM-dd HH:mm:ss.fffffffff] to create a java.sql.Timestamp.**