ODI11g CASE STUDY

BUILDING FINANCIAL DATA MODEL

BISP is committed to provide BEST learning material to the beginners and advance learners. In the same series, we have prepared a complete end-to-end ODI11G case study for financial data model Hans-on Guide. The document briefs you practical approach to build financial data model using multiple data source. There are 100s of case studies are available in our blog/site for free access for learners. **Join our professional training program to learn from the experts.**

History:

Version	Description Change	Author	Publish Date
0.1	Initial Draft	Upendra Upadhyay	1st Jul 2012
0.1	1st Review	Amit Sharma	5th Jul 2012

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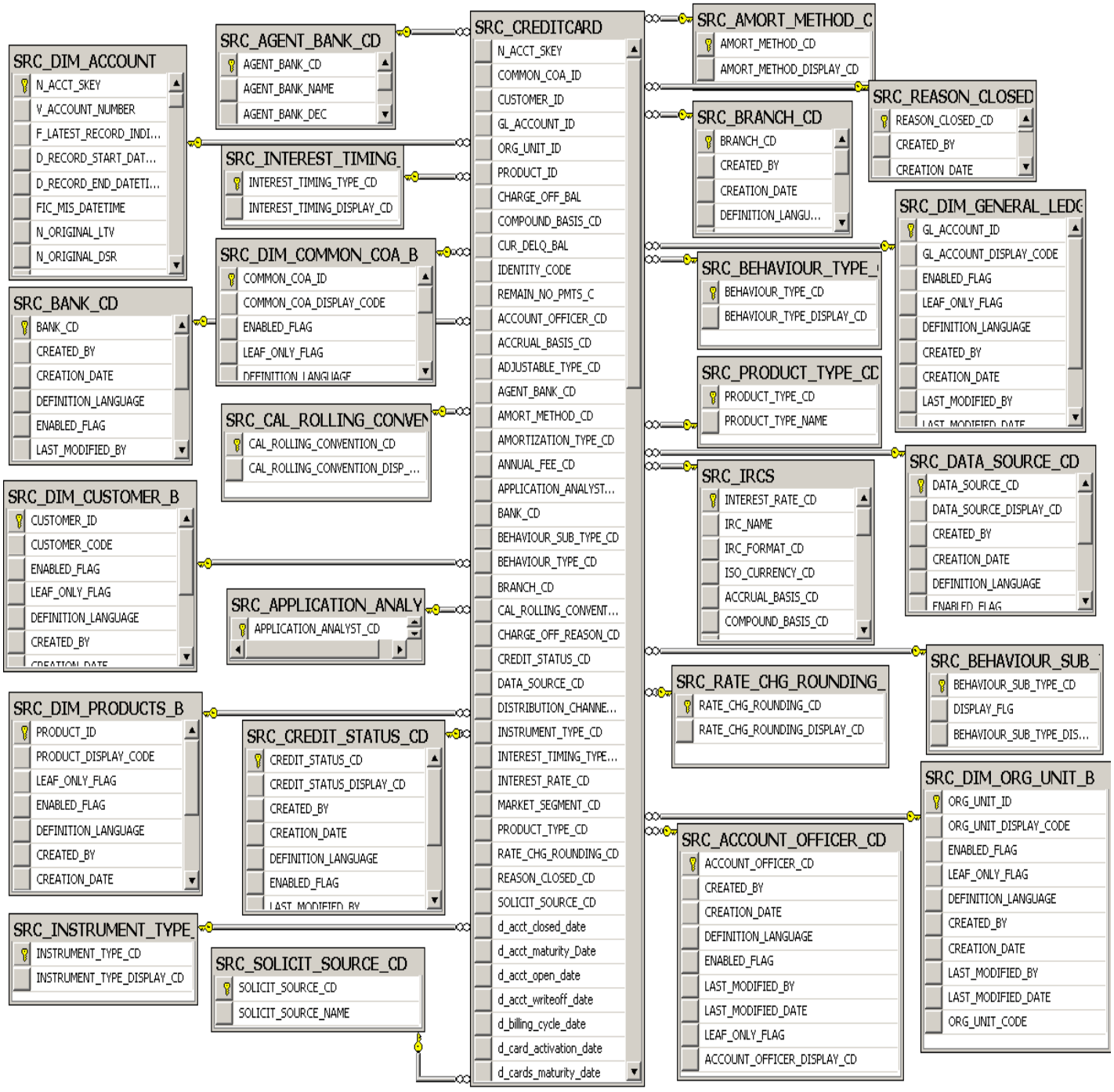
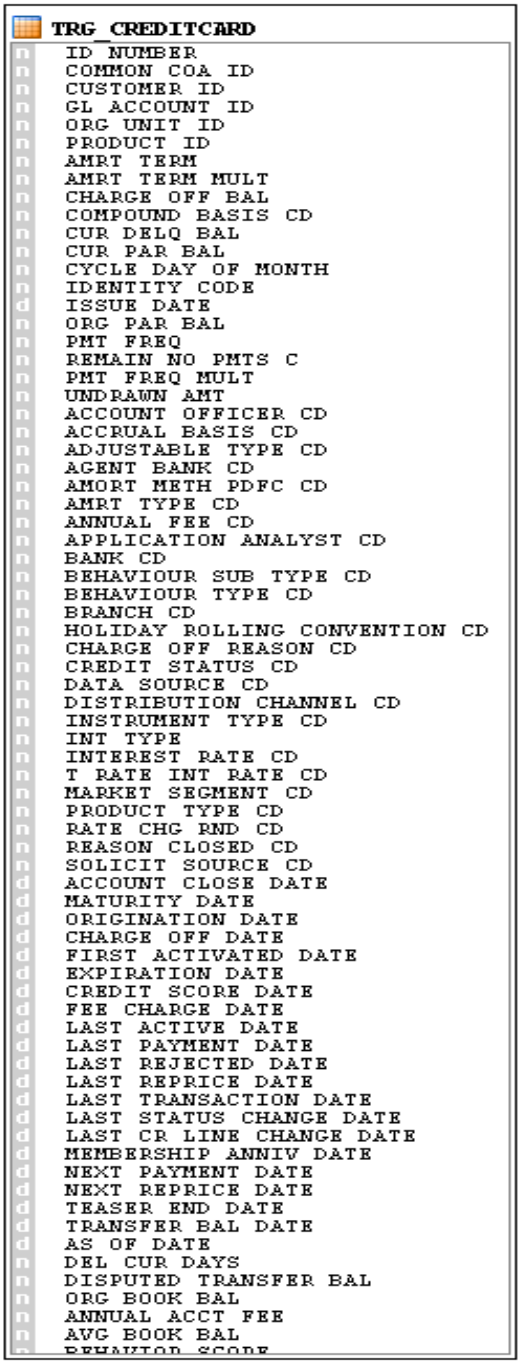
1. :Introduction-

Source Model :- This is Source Data Model.



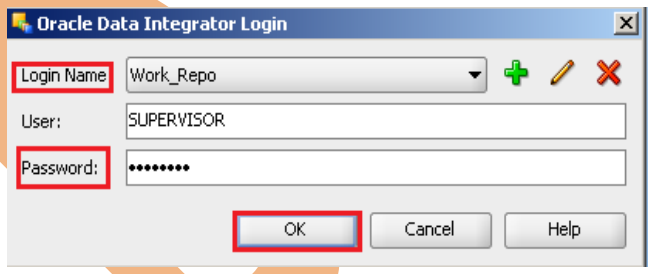
Target Model :- This is Target Data Model



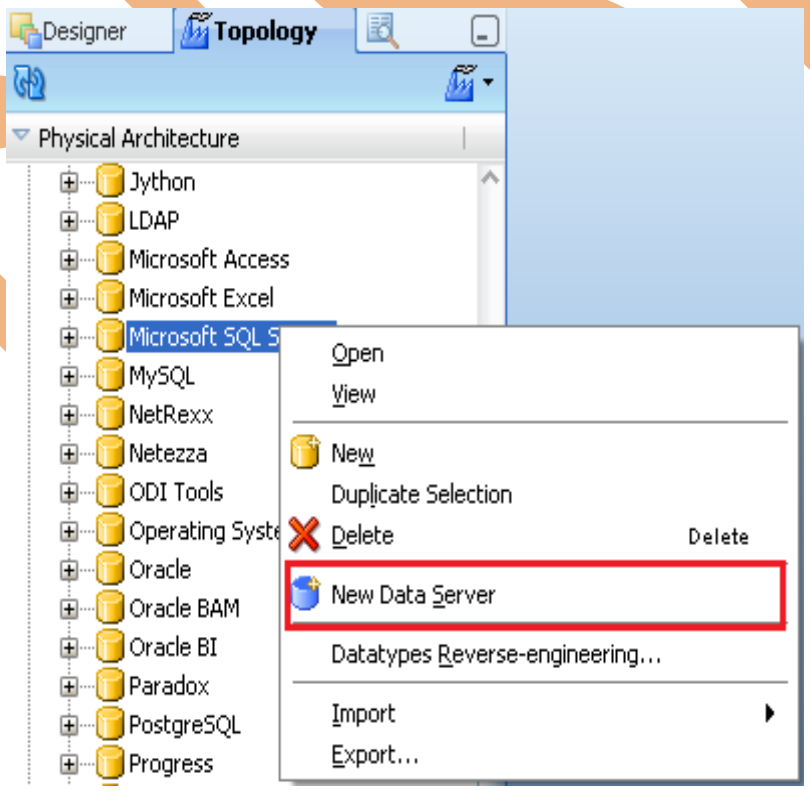
2. Setting up Data server, Physical & Logical schema in ODI 11g:-

2.1 Create Data server, Physical & Logical Schema for Source FlatFile :-

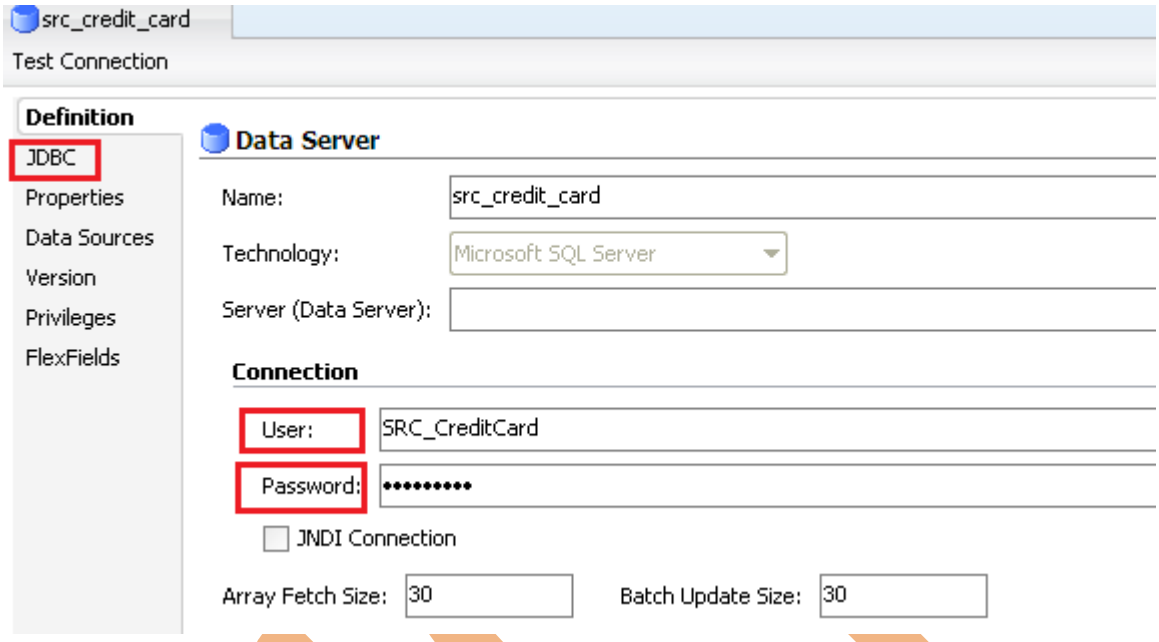
Step: 1 If not connected, connect to the Work Repository. Click on ODI Menu and then click connect, select work repository in Login Name and enter password and then ok.



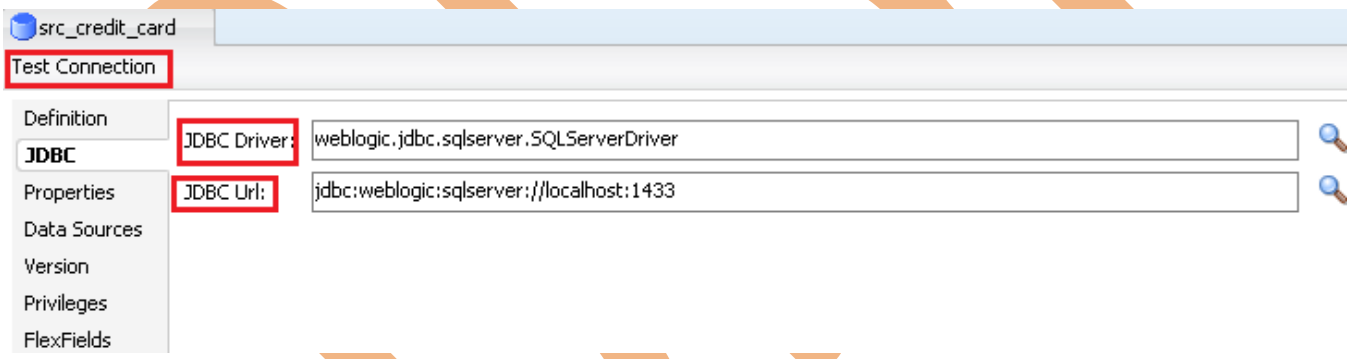
Step: 2 Click Topology navigator. In Topology navigator, click the Physical Architecture tab, select Technologies -> Microsoft SQL Server -> Right-click -> select New Data Server.



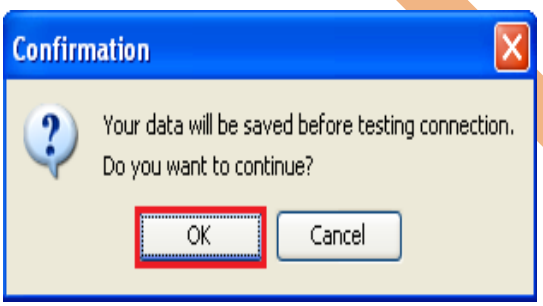
Step: 3 In Definition tab specify the Name for the Data Server and go to JDBC tab.

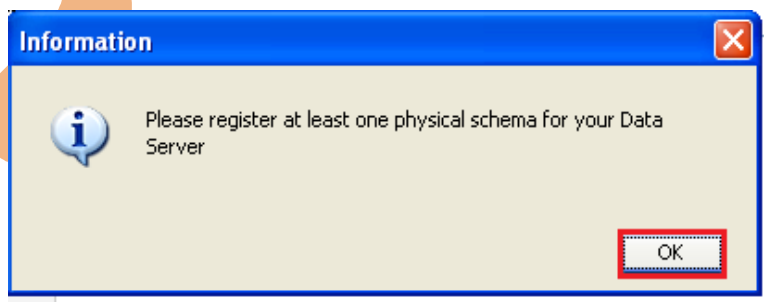


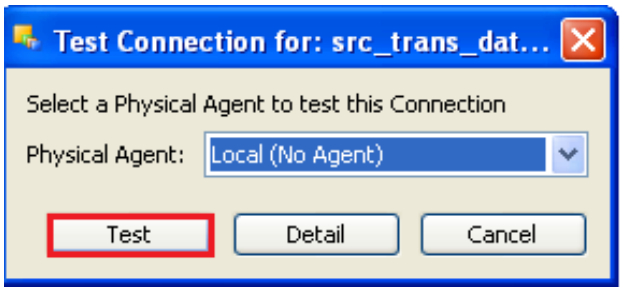
Step: 4 Specify the JDBC Driver and JDBC Url by selecting browse button. Then click on Test Connection.

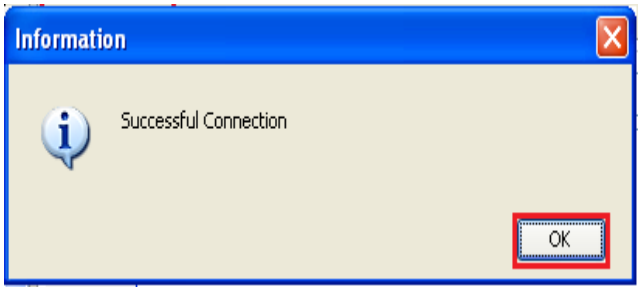


Step: 5 Test Connection.

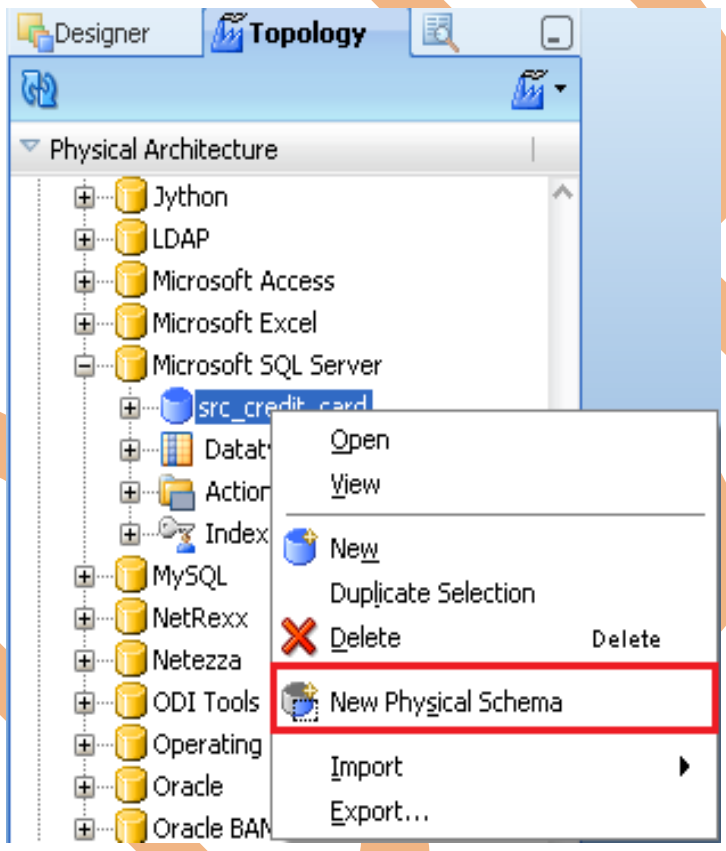




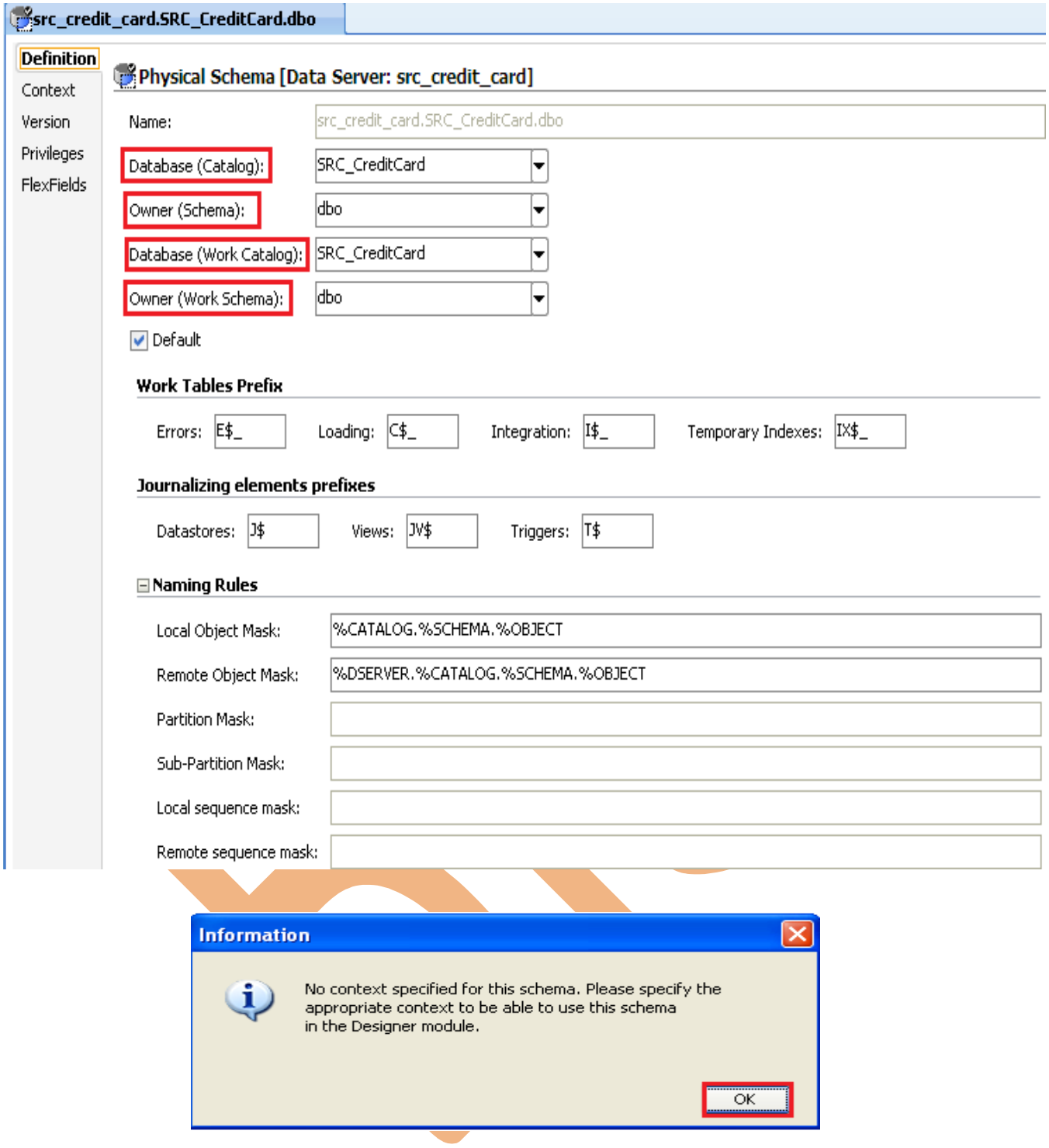




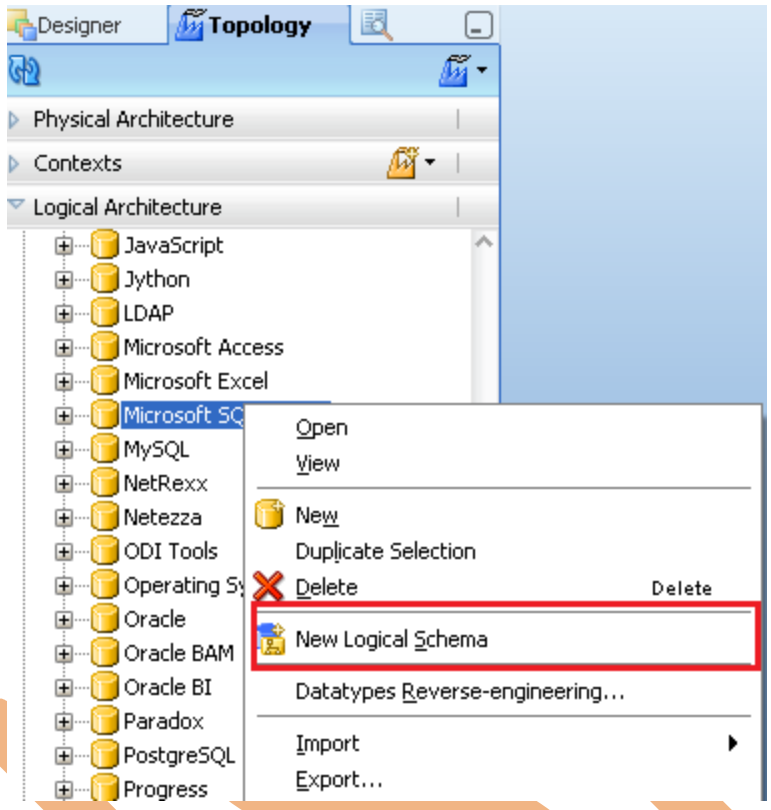
Step: 6 Now in Topology navigator, click the Physical Architecture tab, select Technologies -> Microsoft SQL Server->.Right-click on src_credit_card and then select New Physical Schema.



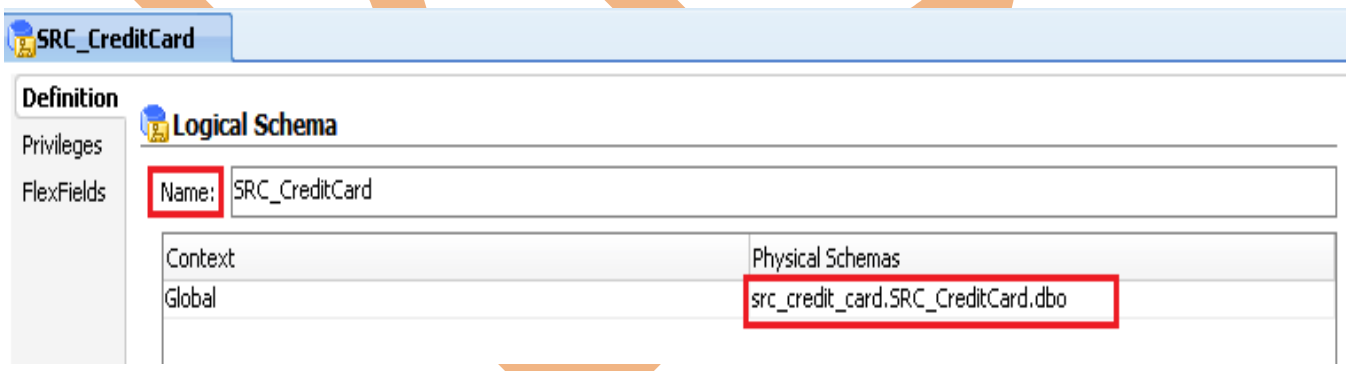
Step: 7 For the Database (Catalog), Owner (Schema) And Database (Work Catalog), Owner (Work Schema) fields, enter the path to the directory where your source data base). Select the Default check box and click Yes in the Confirmation window, and then click the Save button ( ). Close the editing window for your new physical schema. On the Information window that follows, click ok. Close the editing tab.



Step: 8 Open Logical Architecture, Navigate to Technologies -> Microsoft SQL Server -> Right-click Microsoft SQL Server, and select New Logical Schema.



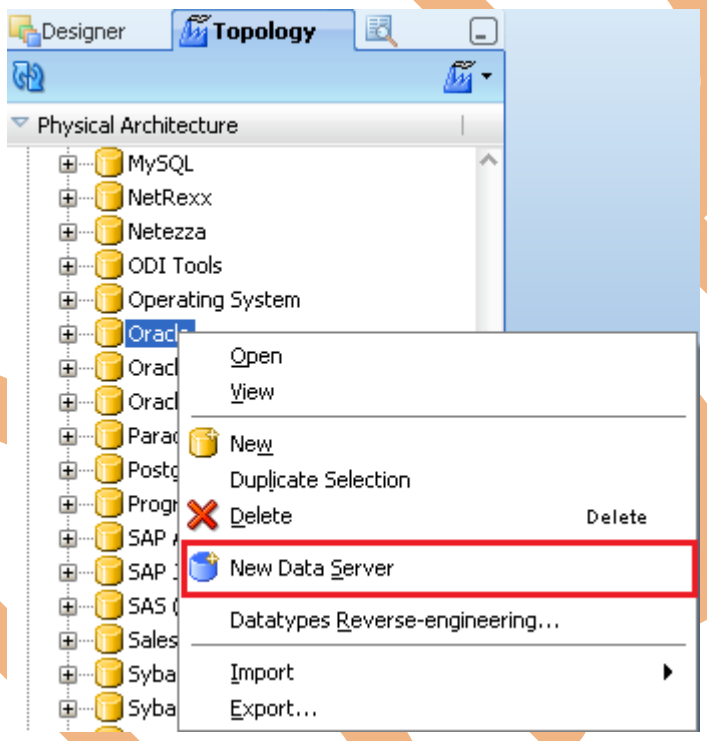
Step: 9 Enter the Logical Schema name: SRC_CreditCard and select the Physical schema (src_credit_card.SRC_CreditCard.dbo) in context as shown here. Click Save ( ) and close the editing Window.



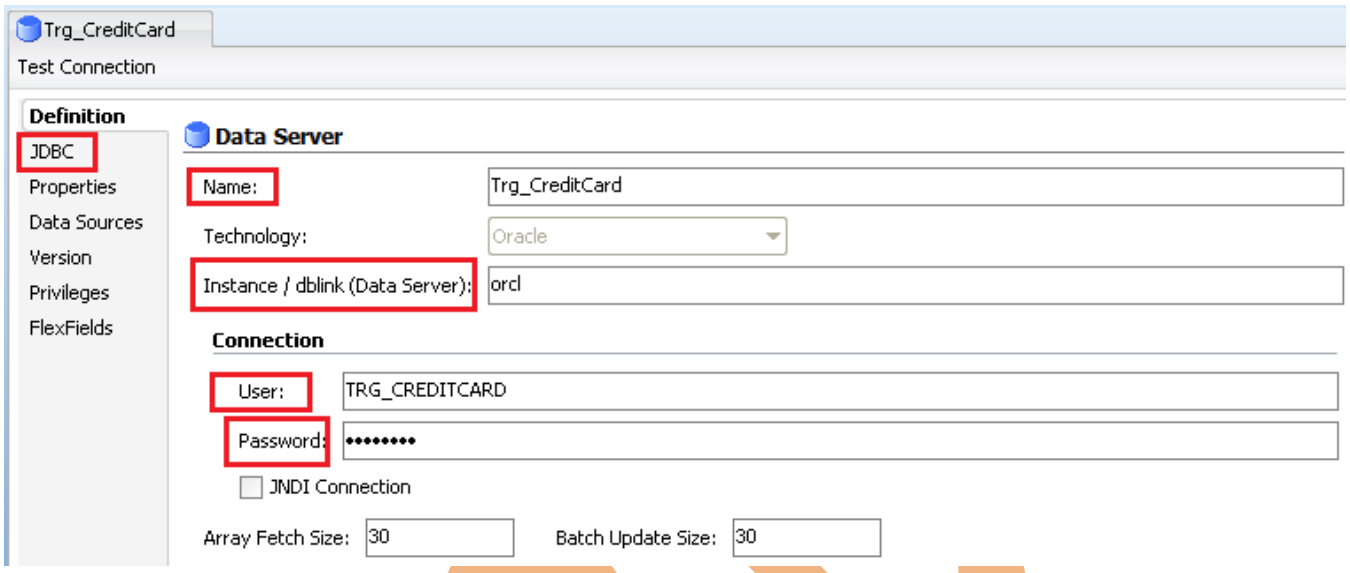
2.3 Create Data server, Physical & Logical Schema Target Database :-

Step: 1 You must create a schema to host the ODI target Datastore. To create a new Oracle schema for the ODI Datastore, perform the following steps
Open the Oracle 11g SQL Plus window .You will create the schema by executing the following SQL commands:
create user <MY_SCHEMA NAME> identified by <MY_PASSWORD>;
grant dba,connect,resource to <MY_SCHEMA NAME>;

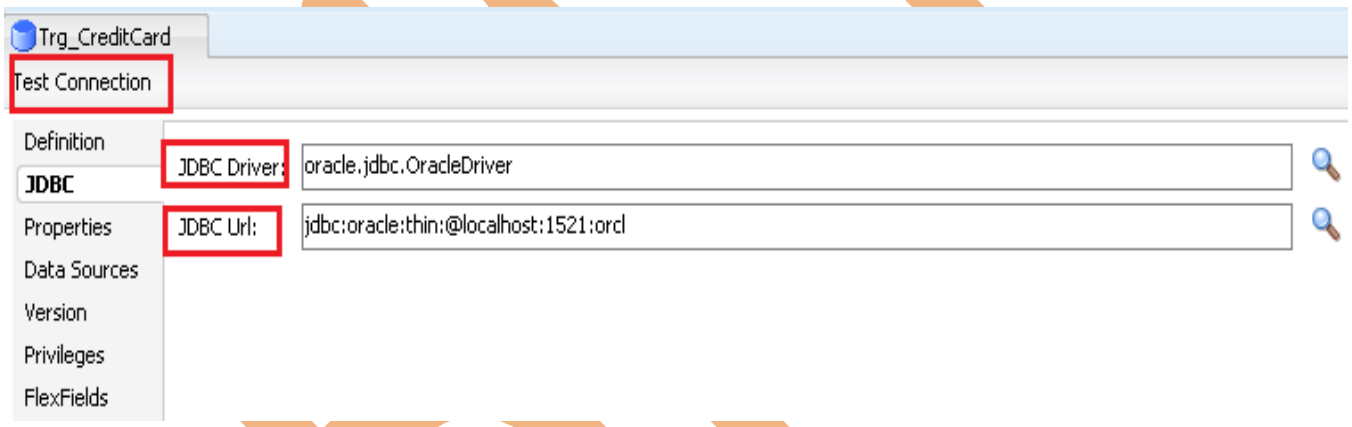
Step: 2 In ODI, Click Topology navigator. In Topology navigator, click the Physical Architecture tab, select Technologies > Oracle. Right-click and then select New Data Server.



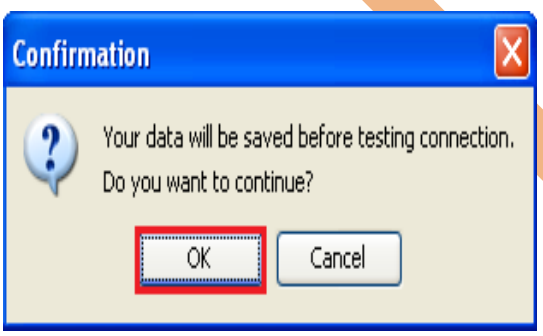
Step: 3 In Definition tab specify the Name for the Data Server, Instance name and in Connection insert user name and password of oracle schema and go to JDBC tab.

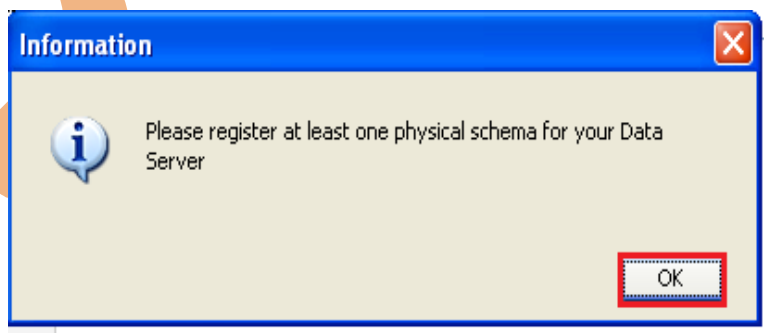


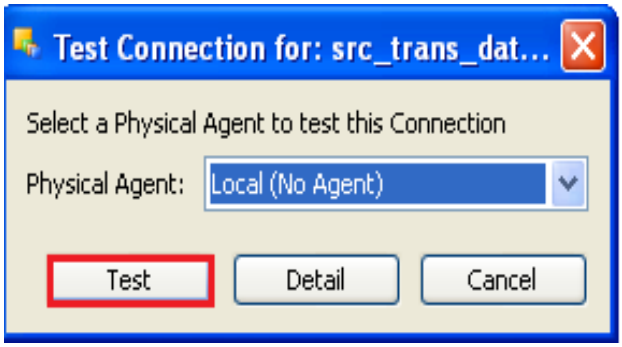
Step: 4 Specify the JDBC Driver and JDBC Url by selecting browse button. Then click on Test Connection.

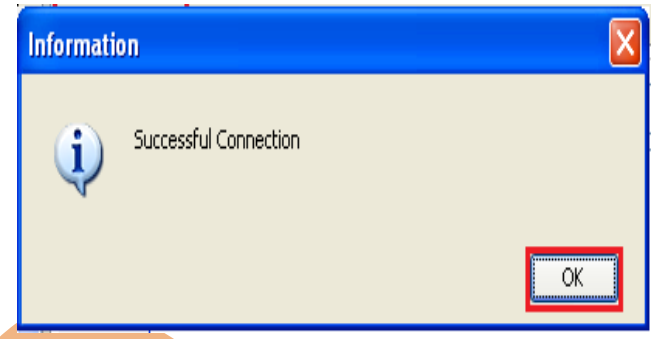


Step: 5 Test Connection.

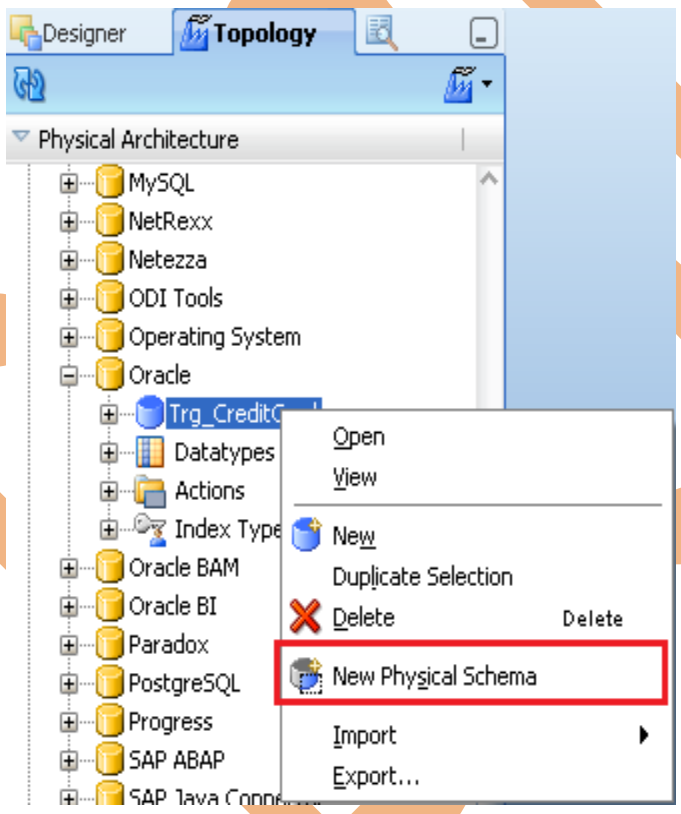




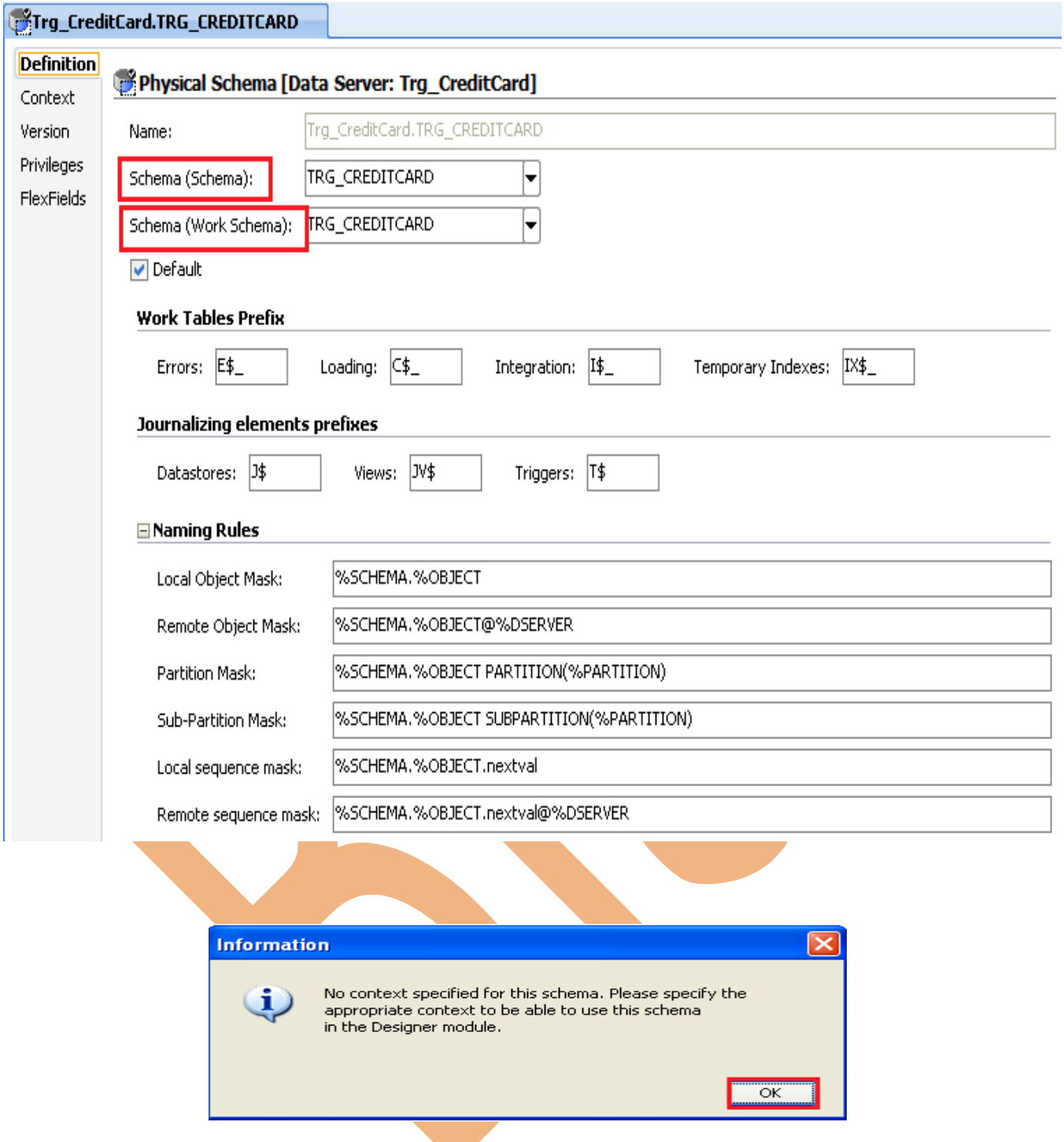




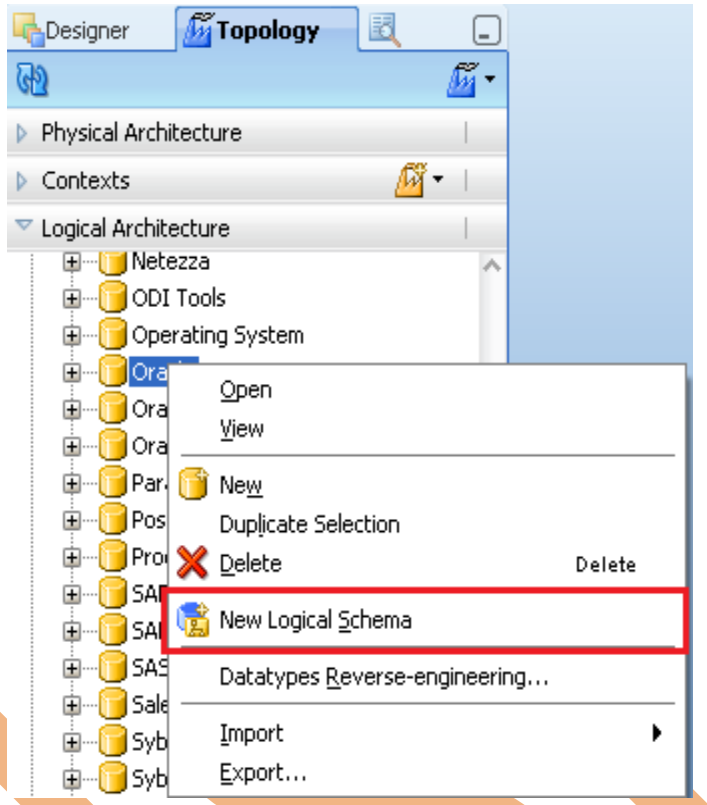
Step: 6 Now in Topology navigator, click the Physical Architecture tab, select Technologies >Oracle. Right-click, TRG_CreditCard and then select New Physical Schema.



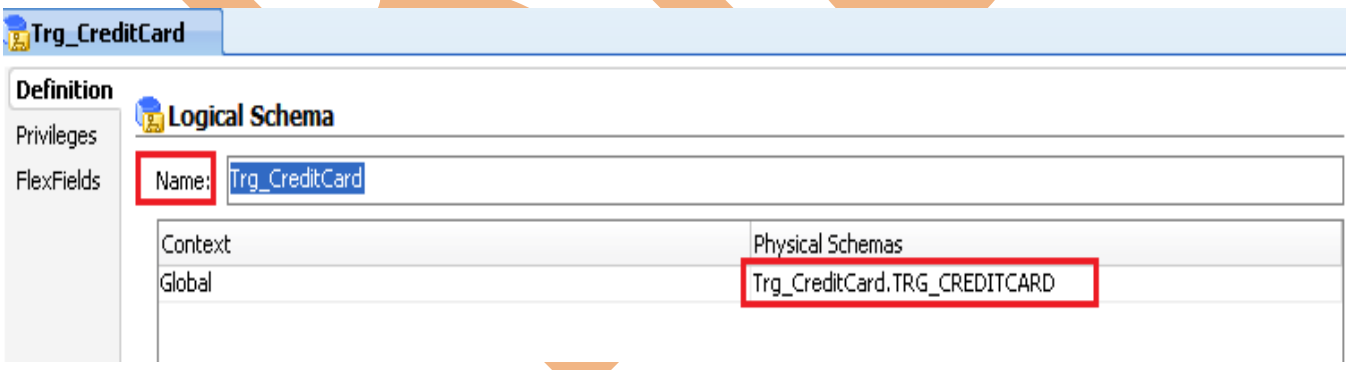
Step: 7 For the Directory (Schema) and Directory (Work Schema) fields, select schema name (Where load target data). Select the Default check box and click Yes in the Confirmation window, and then click the Save button ( ). Close the editing window for your new physical schema. On the Information window that follows, click ok. Close the editing tab.



Step: 8 Open Logical Architecture, navigate to Technologies > Oracle, right-click Oracle, and select New Logical Schema.



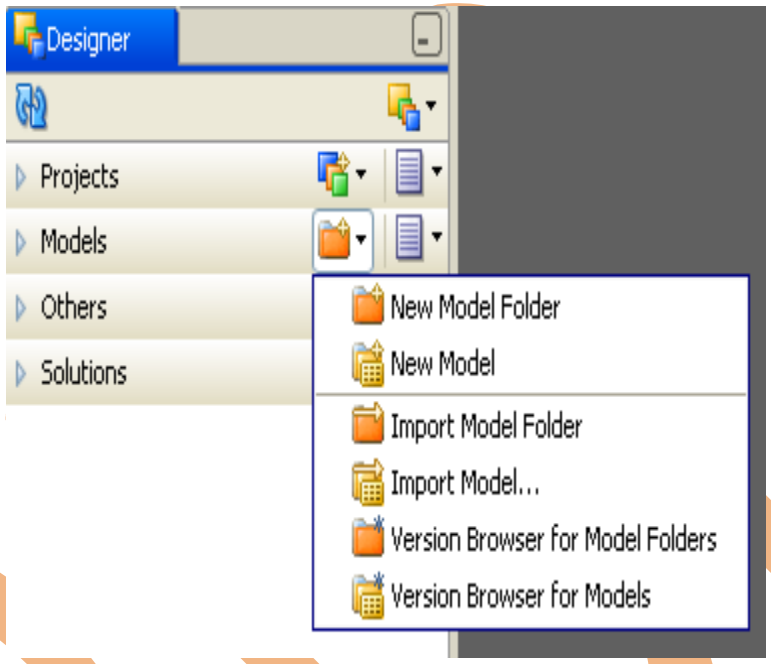
Step: 9 Enter the Logical Schema name: SRC_CreditCard and select the Physical schema (TRG_CreditCard. TRG_CreditCard) in all three contexts as shown here. Click Save) and close the editing Window.



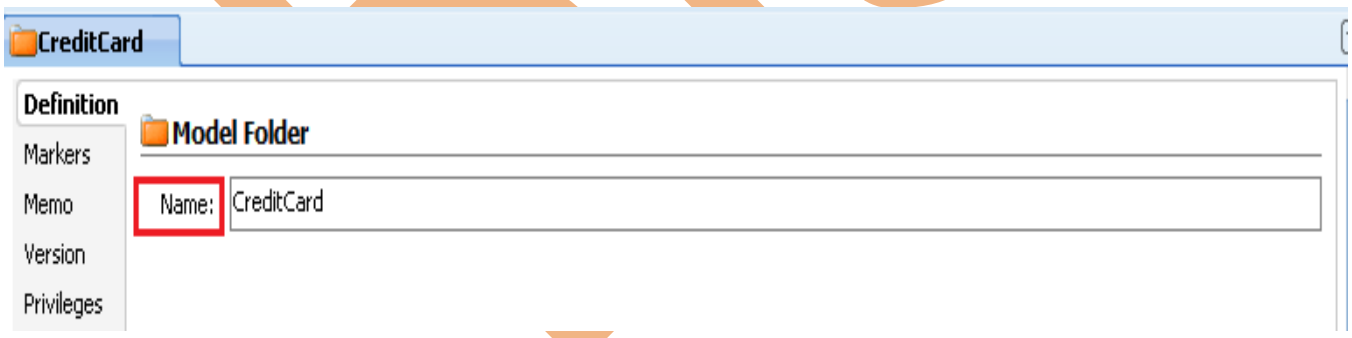
3. Organizing Model for Source and Target.

3.1 Creating Model Folder :-

Step: 1 Click on Designer Navigator, select Model tab and Click on  to Create New Model Folder then select New Model Folder.

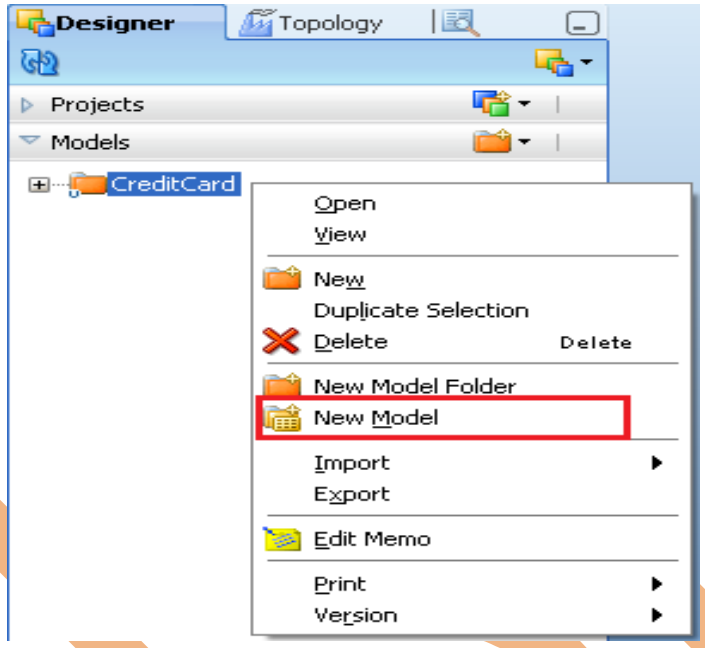


Step: 2 In Definition, insert Name of Model Folder and then save () it.

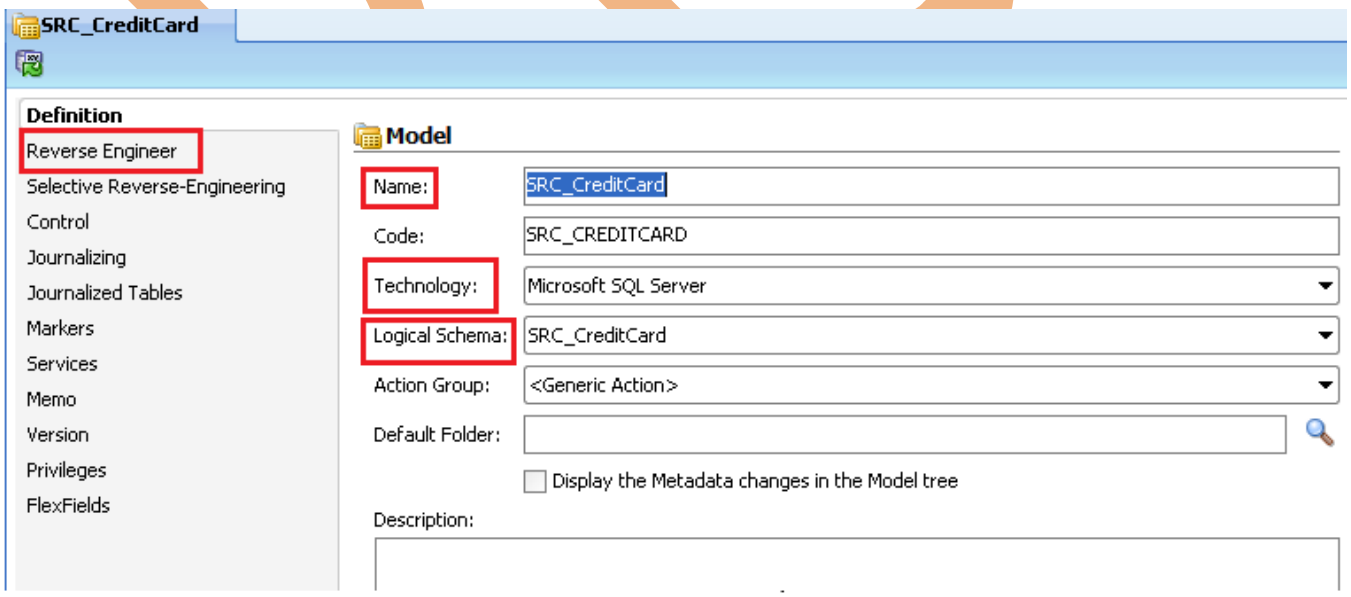


3.2 Creating Model for Source (MS SQL Server 2005) :-

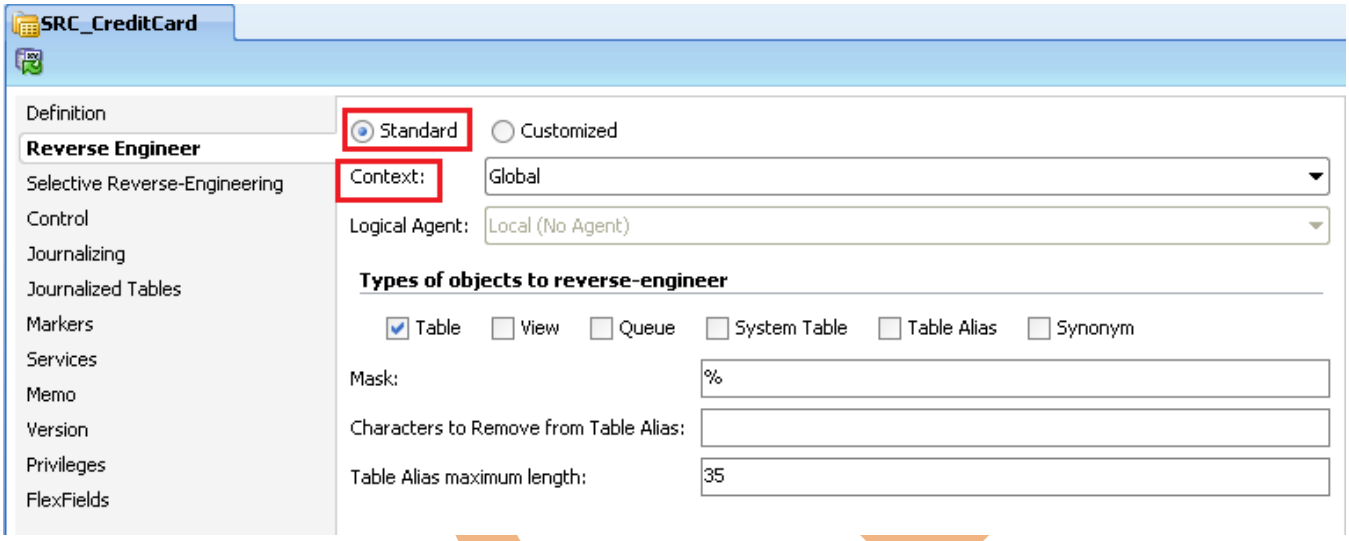
Step: 1 In Model tab. Select CreditCard, right click on Credit_Card and select New Model.



Step: 2 In Definition, Specify name of model, Select Technology-Microsoft SQL Server and Logical Schema-SRC_CreditCard in Drop Down list. And then click on Reverse Engineer tab.

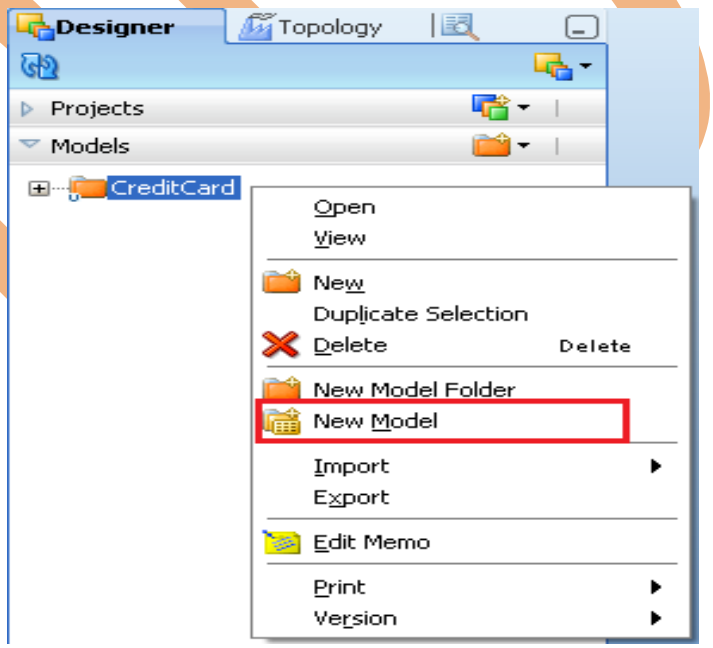


Step: 3 In Reverse Engineer tab, check standard reverse engineering, and in context select context and the save it.

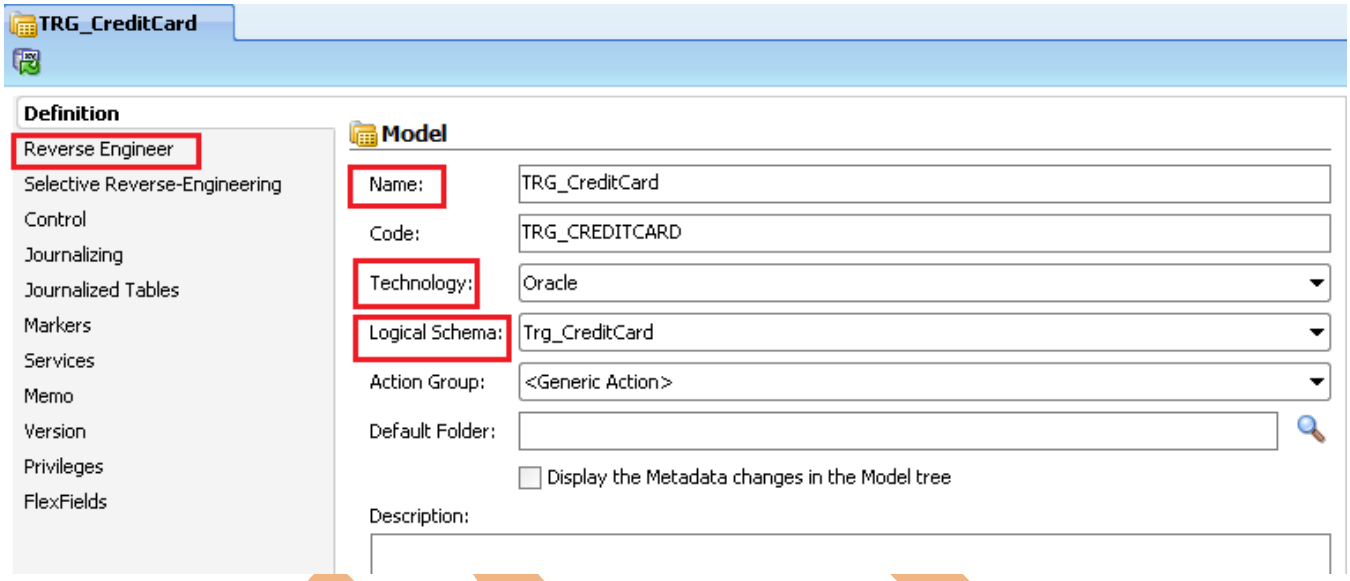


3.4 Creating Model for Target (Oracle) :-

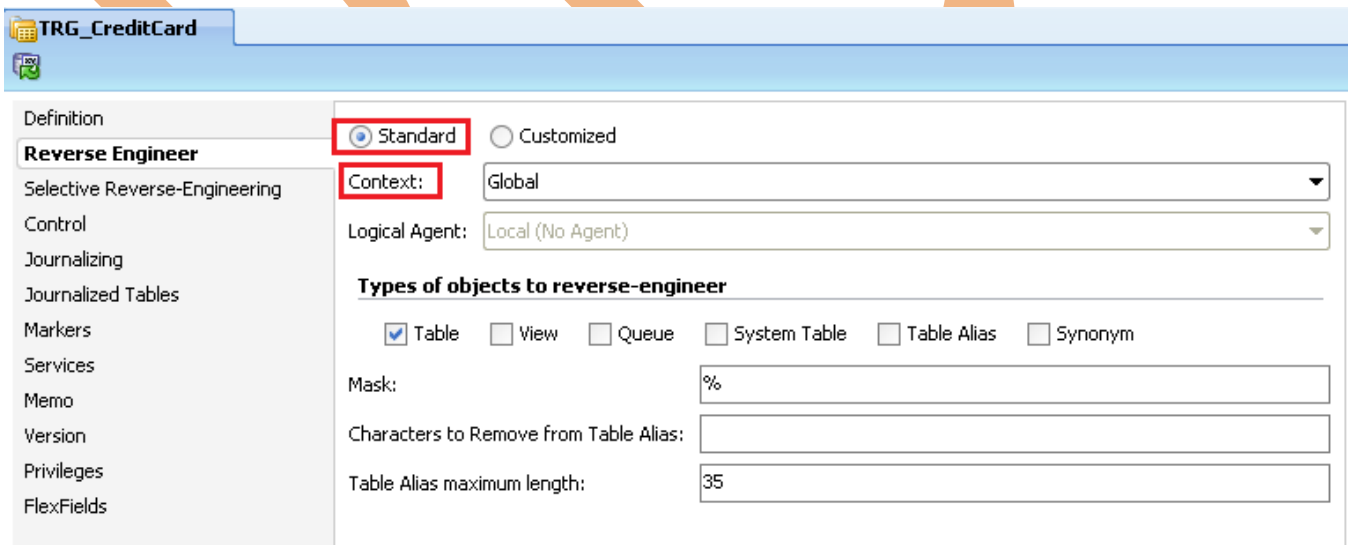
Step: 1 In Model tab. Select CreditCard, right click on CreditCard and select New Model.



Step: 2 In Definition, Specify Name - TRG_CreditCard , Select Technology - Oracle and Logical Schema-TRG_CreditCard in Drop Down list. And then click on Reverse Engineer tab.



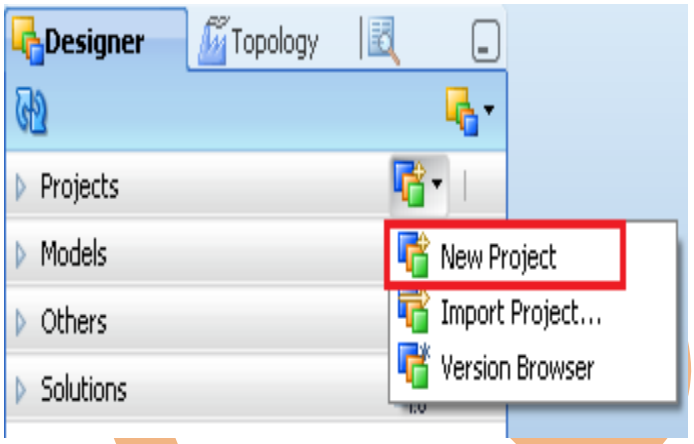
Step: 3 In Reverse Engineer tab, check standard reverse engineering, and in context select context and the save  it.



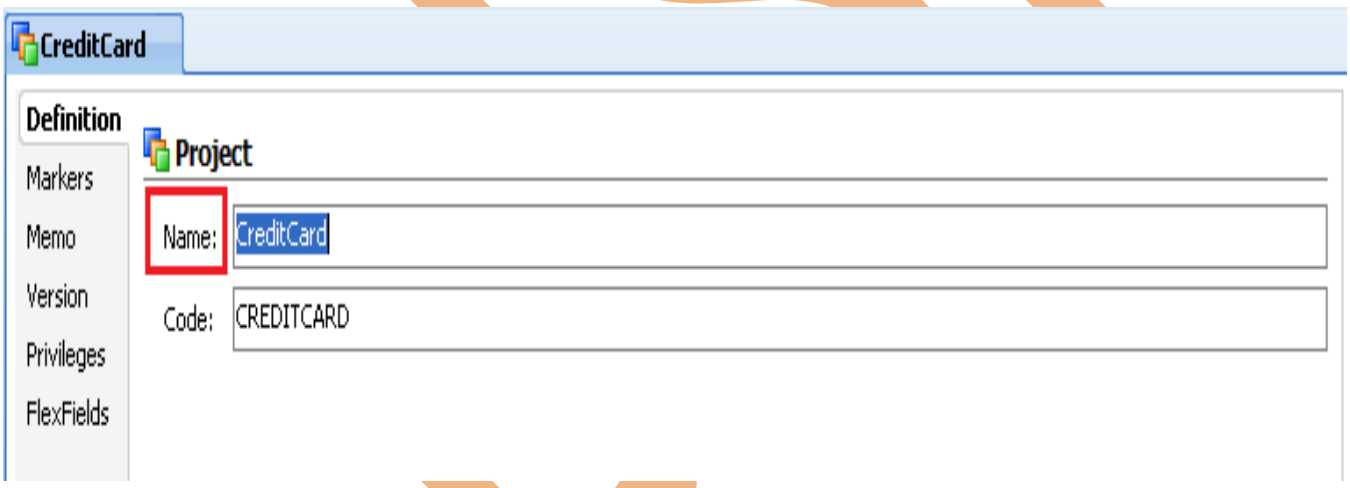
4. Organizing Project & Import Knowledge Module.

4.1 Creating Project.

Step: 1 In Designer Navigator, Click on Project  and select New Project.



Step: 2 Specify Name-CreditCard of Project and save  it.



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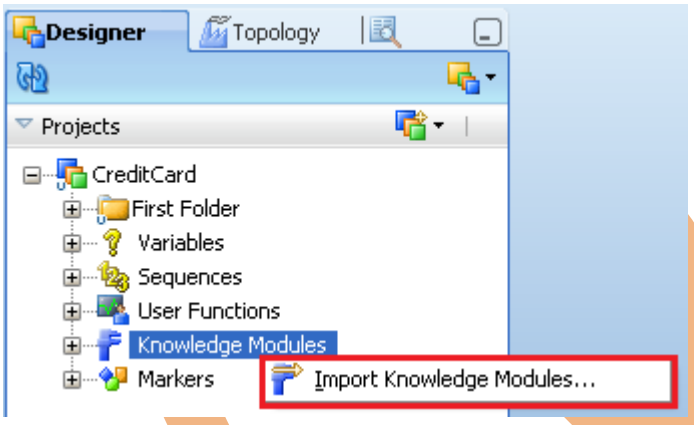
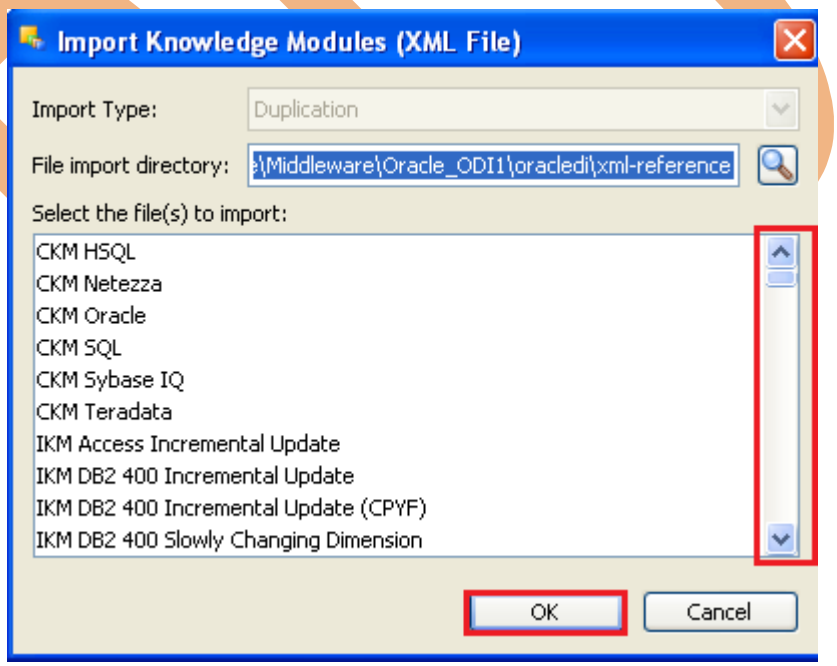
4.2 Import Knowledge Module.

Step: 1 In Project tab, click on CreditCard Project and right click on Knowledge Modules.



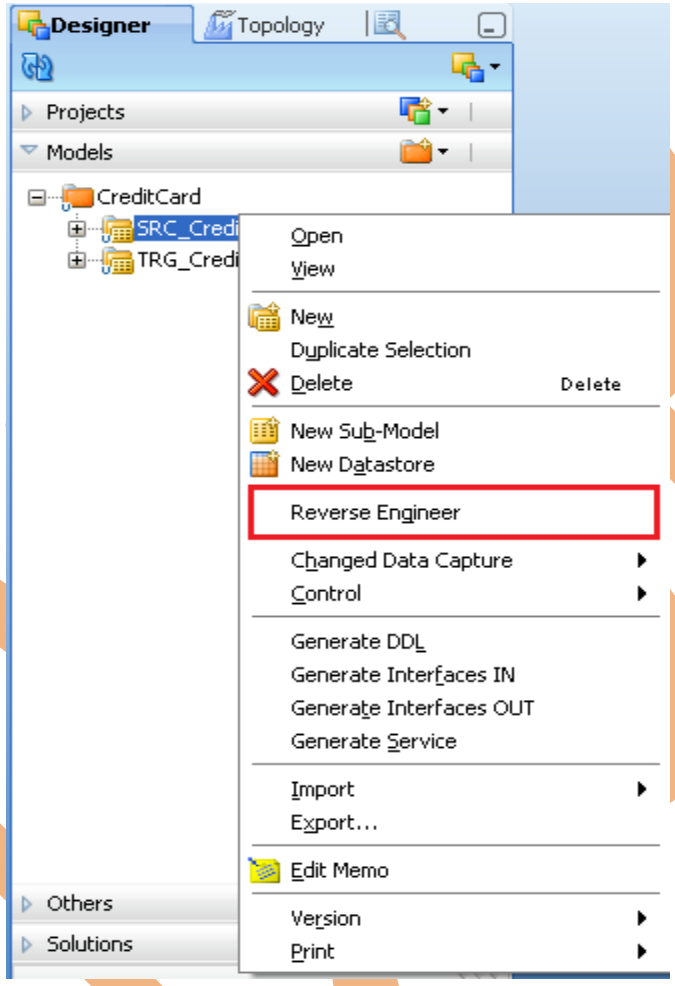
Step: 2 In list of knowledge module select knowledge module (multiple selection use ctrl key or shift key) and then OK.



5. Creating ODI Source data store.

5.1 Creating ODI Source Table.

Step: 1 In Designer Navigator, click on model tab and right click on SRC_CreditCard and select Reverse Engineer. All table extracted from Source (MS SQL Server 2005).



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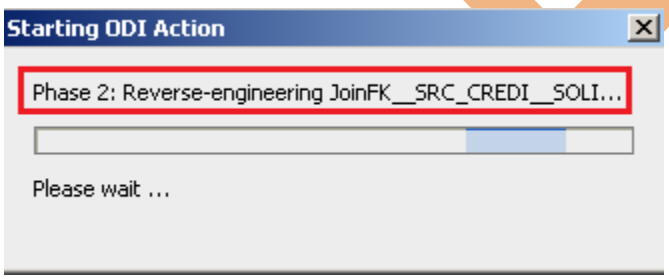
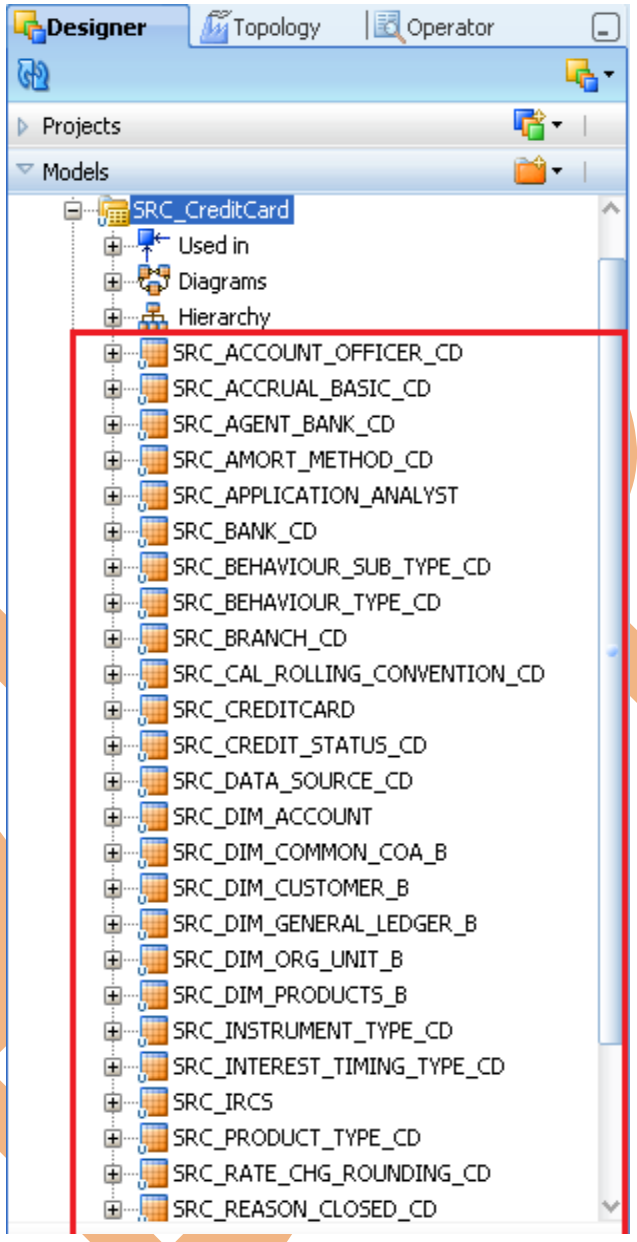
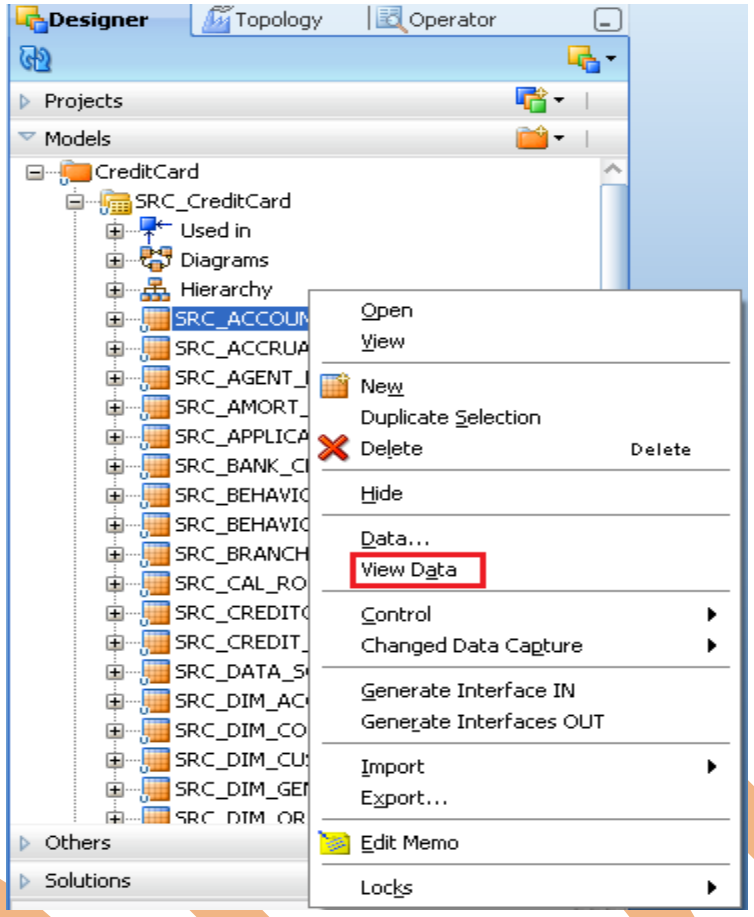


Step: 2 These are extracted table from source.



Step: 3 View data. Go to Model tab and select table name i.e. - SRC_ACCOUNT_OFFICER_CD and right click then select View Data..



Step: 4 Data in SRC_ACCOUNT_OFFICER_CD

SRC_ACCOUNT_OFFICER_CD

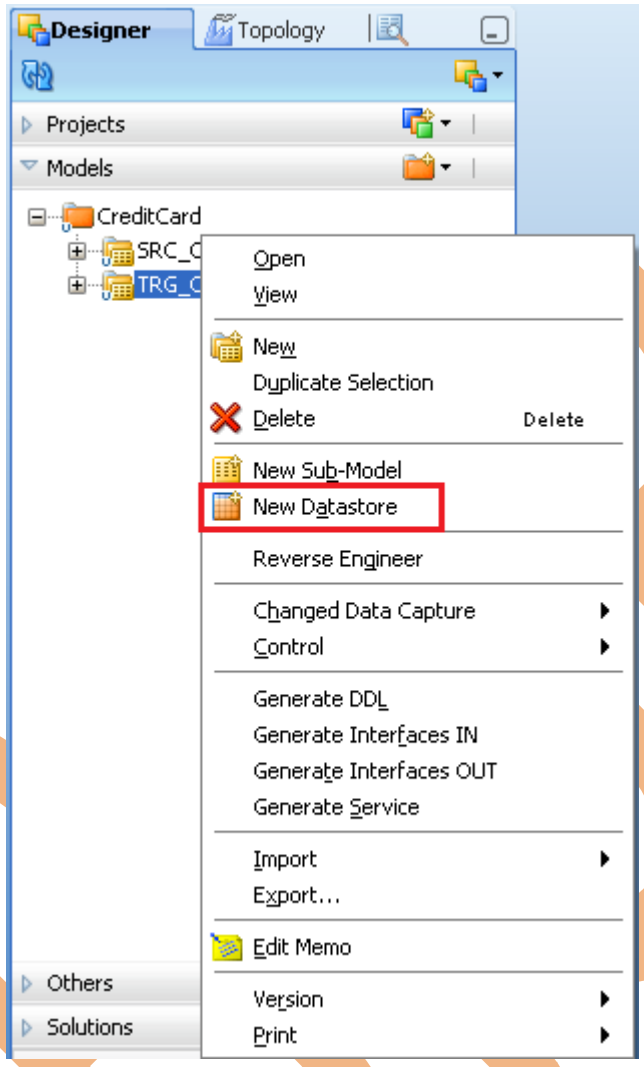
Data

	ACCOUNT_OFFICER_CD	CREATED_BY	CREATION_D
1	52223	USER	
2	54123	USER	
3	55123	USER	
4	55124	USER	
5	55125	USER	
6	55236	USER	
7	55326	USER	
8	55421	USER	
9	66245	USER	

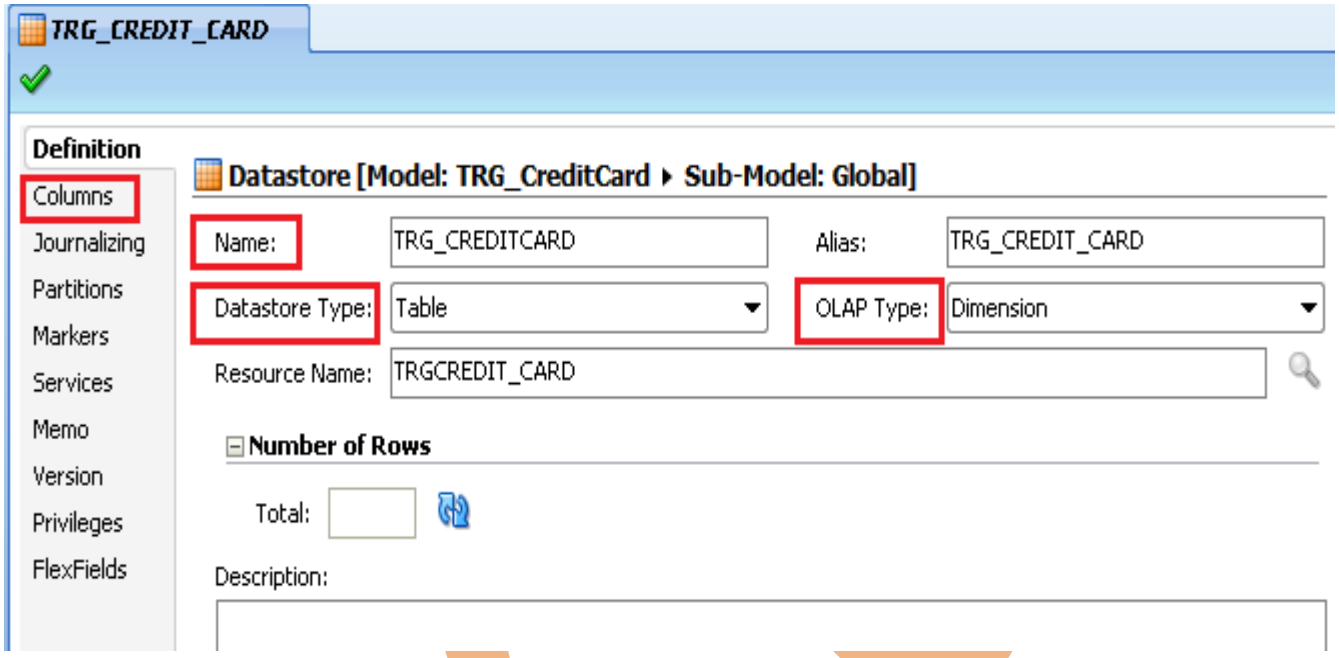
Step: 5 Apply same process (**Step:3**) for all Source table to view data in ODI.

5.3 Creating Target Table in ODI.

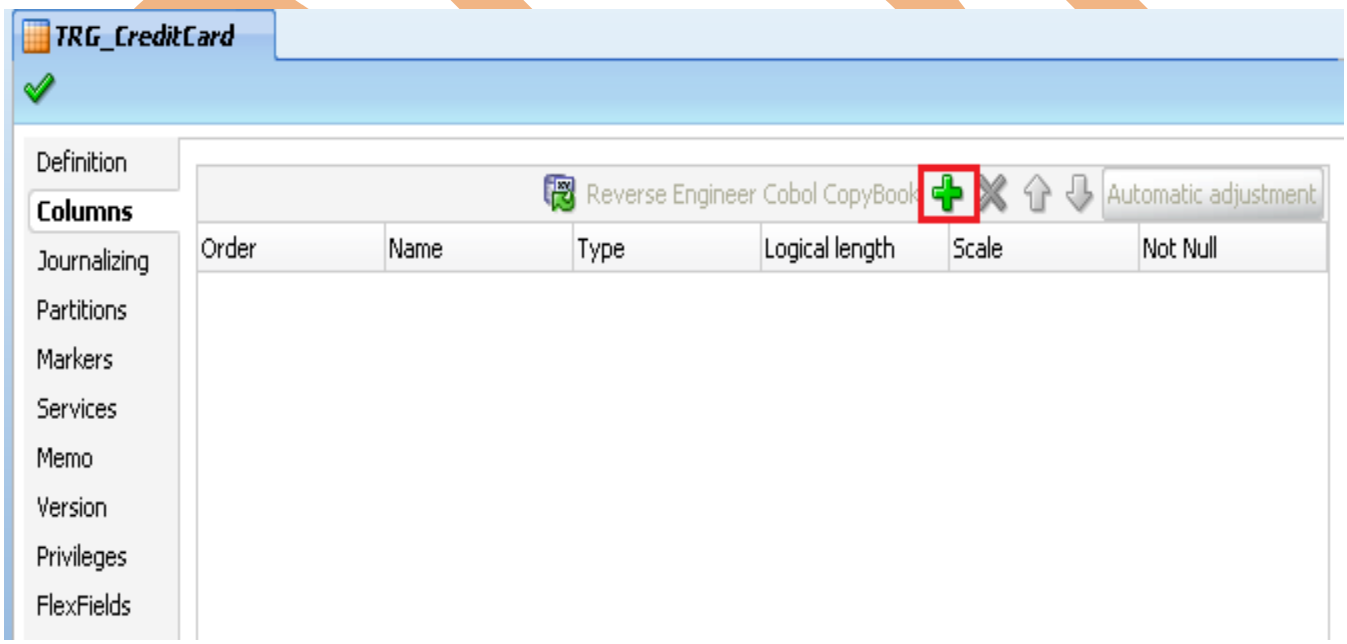
Step: 1 In Designer Navigator, click on model tab and right click on TRG_CreditCard Model and select New Datastore.



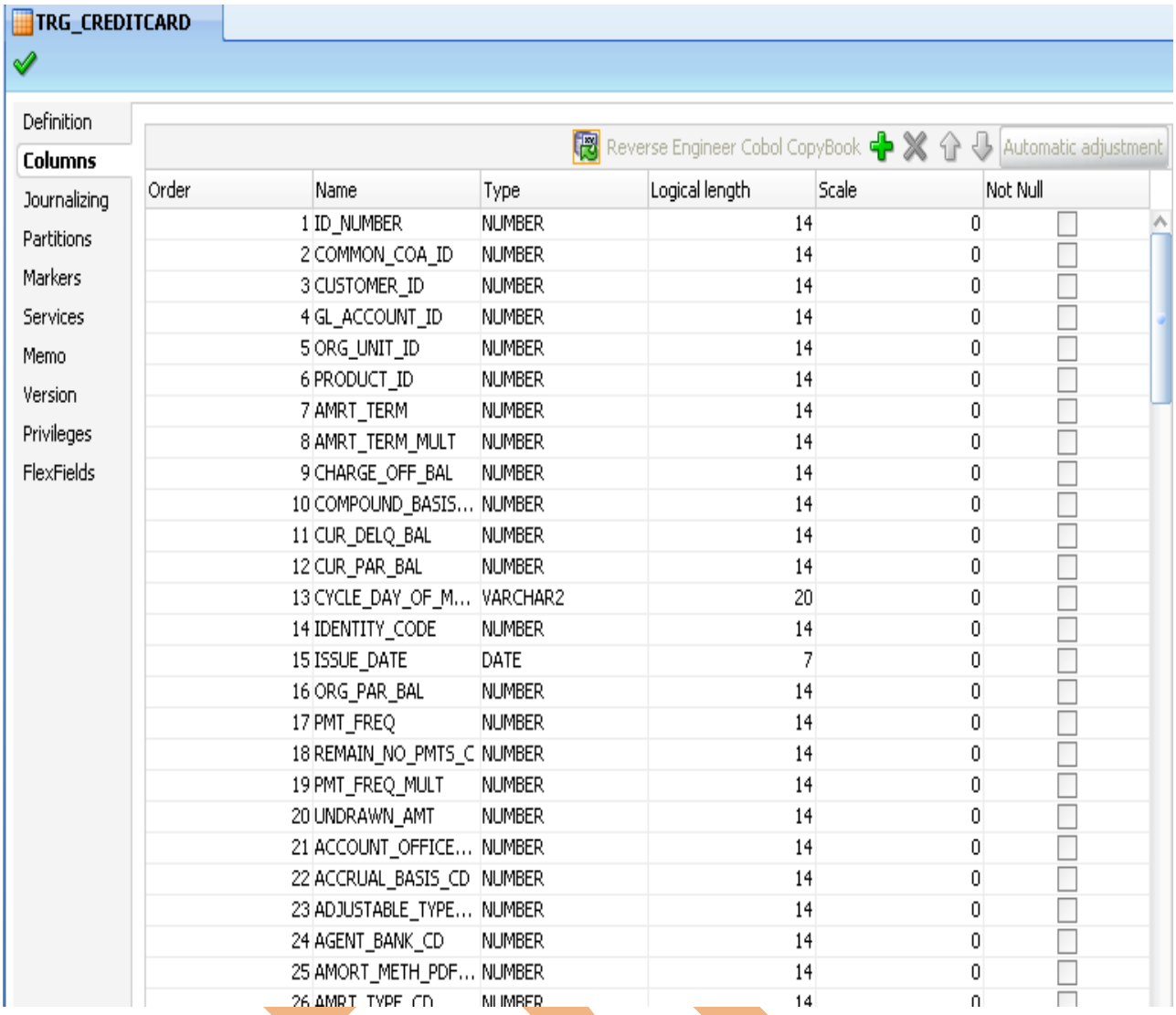
Step: 2 Specify Datastore Name-TRG_CREDITCARD, Select Datastore Type-Table, OLAP Type-Dimension then go to column tab.



Step: 3 Select add button ( ) to add column in target table, insert name of column, specify Type(Data Type) and Logical length and then save it.



Step: 4 These are created target data through ODI 11G.

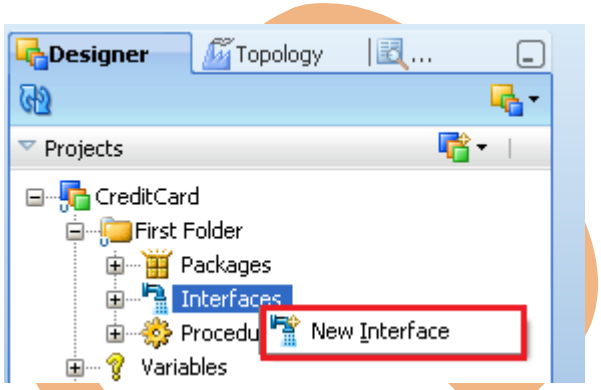


Order	Name	Type	Logical length	Scale	Not Null
1	ID_NUMBER	NUMBER	14	0	
2	COMMON_COA_ID	NUMBER	14	0	
3	CUSTOMER_ID	NUMBER	14	0	
4	GL_ACCOUNT_ID	NUMBER	14	0	
5	ORG_UNIT_ID	NUMBER	14	0	
6	PRODUCT_ID	NUMBER	14	0	
7	AMRT_TERM	NUMBER	14	0	
8	AMRT_TERM_MULT	NUMBER	14	0	
9	CHARGE_OFF_BAL	NUMBER	14	0	
10	COMPOUND_BASIS...	NUMBER	14	0	
11	CUR_DELQ_BAL	NUMBER	14	0	
12	CUR_PAR_BAL	NUMBER	14	0	
13	CYCLE_DAY_OF_M...	VARCHAR2	20	0	
14	IDENTITY_CODE	NUMBER	14	0	
15	ISSUE_DATE	DATE	7	0	
16	ORG_PAR_BAL	NUMBER	14	0	
17	PMT_FREQ	NUMBER	14	0	
18	REMAIN_NO_PMTS_C	NUMBER	14	0	
19	PMT_FREQ_MULT	NUMBER	14	0	
20	UNDRAWN_AMT	NUMBER	14	0	
21	ACCOUNT_OFFICE...	NUMBER	14	0	
22	ACCRUAL_BASIS_CD	NUMBER	14	0	
23	ADJUSTABLE_TYPE...	NUMBER	14	0	
24	AGENT_BANK_CD	NUMBER	14	0	
25	AMORT_METH_PDF...	NUMBER	14	0	
26	AMRT_TYPE_CD	NUMBER	14	0	

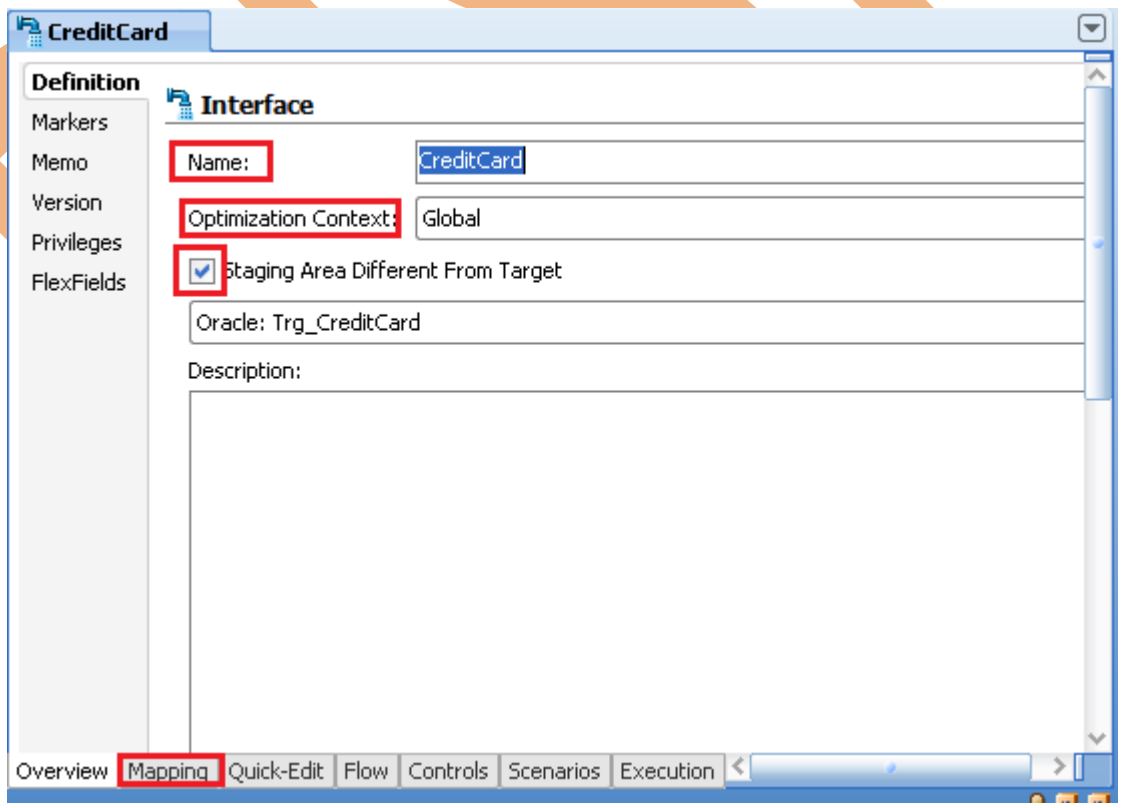
6. Create Mapping (Interface) for ODI to Target (Oracle).

6.1 Create Interface for mapping of data between ODI to Oracle(Target) .

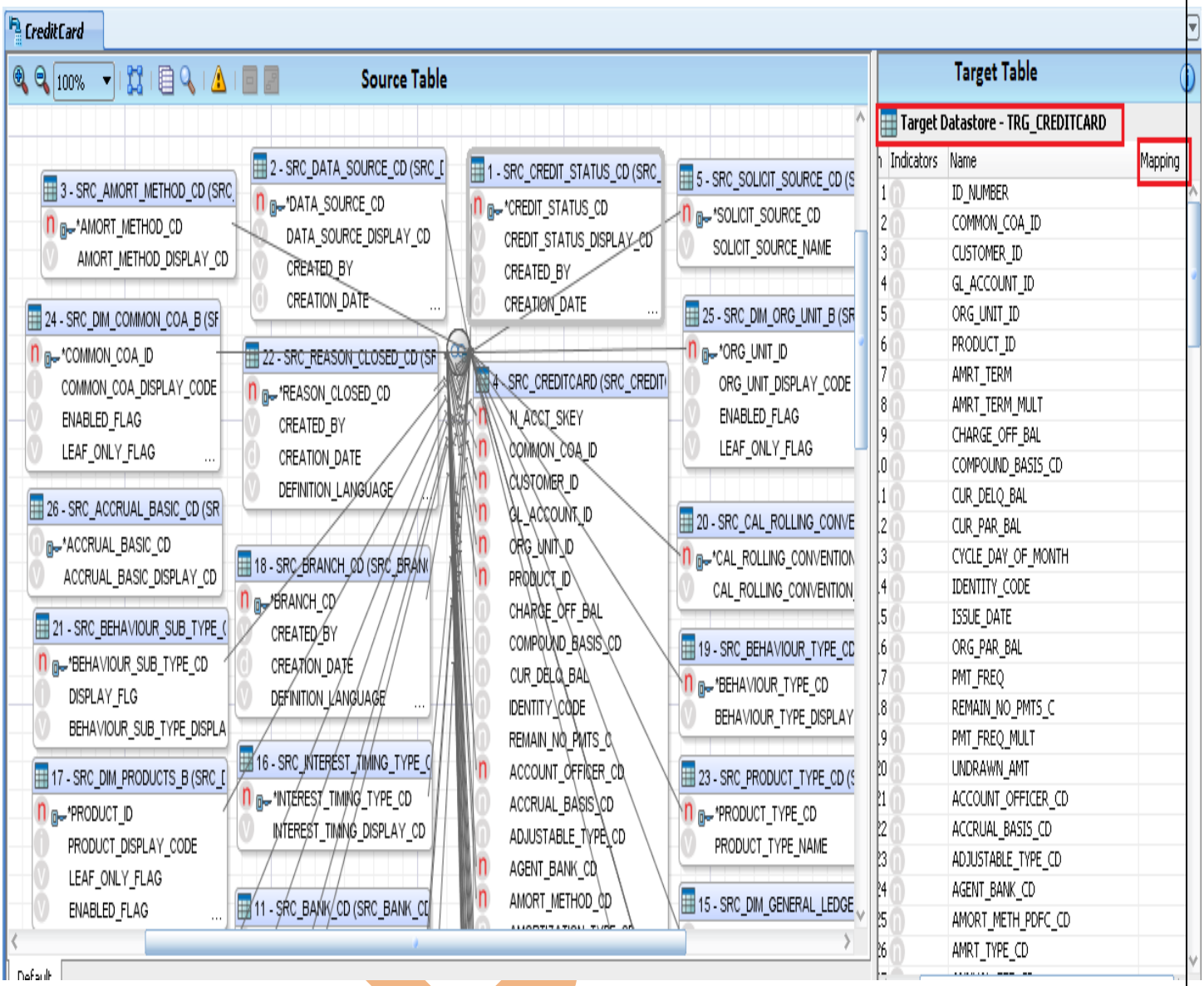
Step: 1 In Designer Navigator, click on project tab, click on CreditCard, click on Fist Folder then right click on Interface and select New Interface.



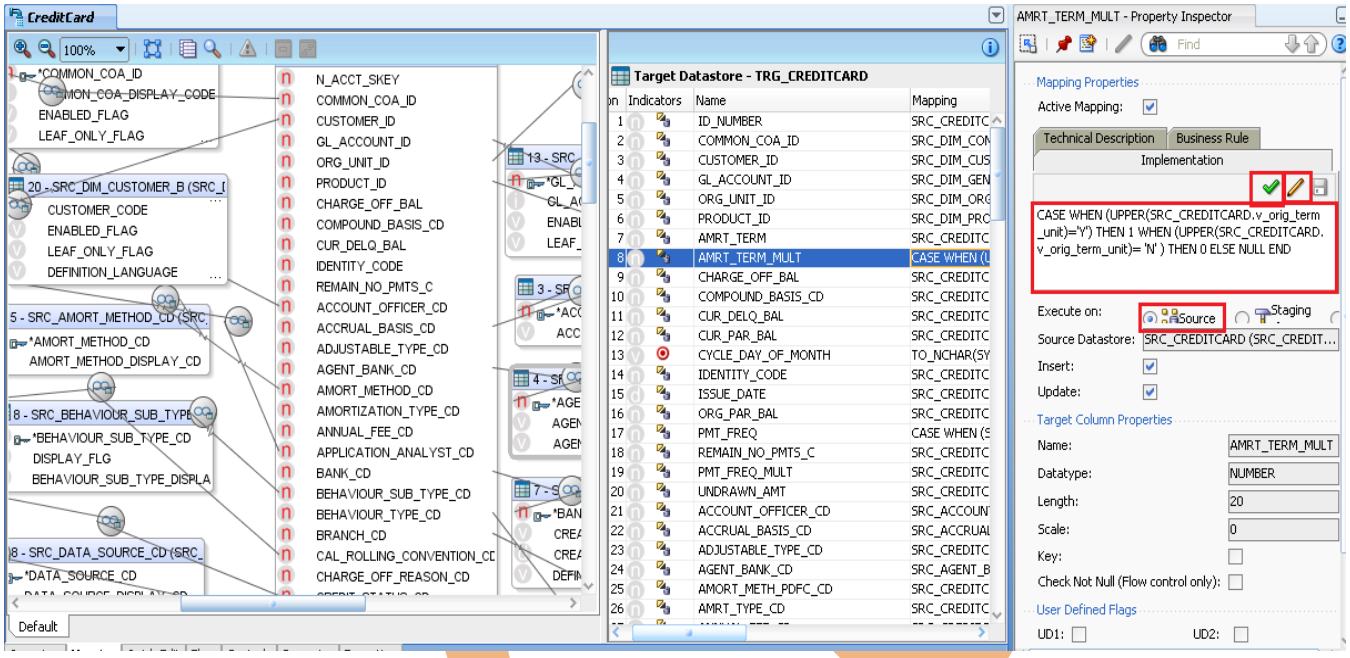
Step: 2 Specify Interface Name-CreditCard, select Optimization Context-Global and go to Mapping tab.

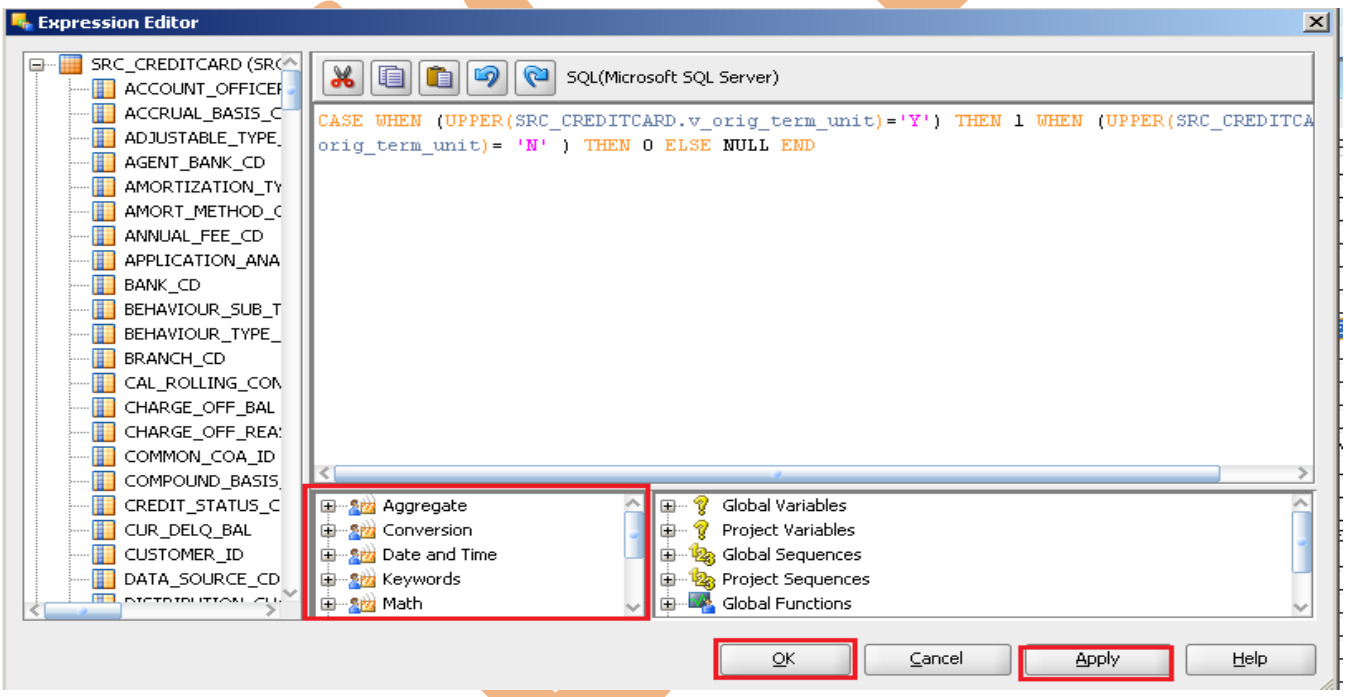


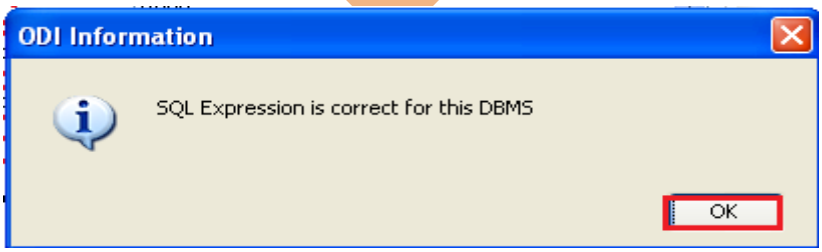
Step: 3 . Click the Models tab to drag the source and target to the diagram. Drag the SRC_CreditCard Model Sources container and Drag the TRG_CreditCard Datastore from the TRG_CreditCard model into the Target Datastore container and then create mapping operation.



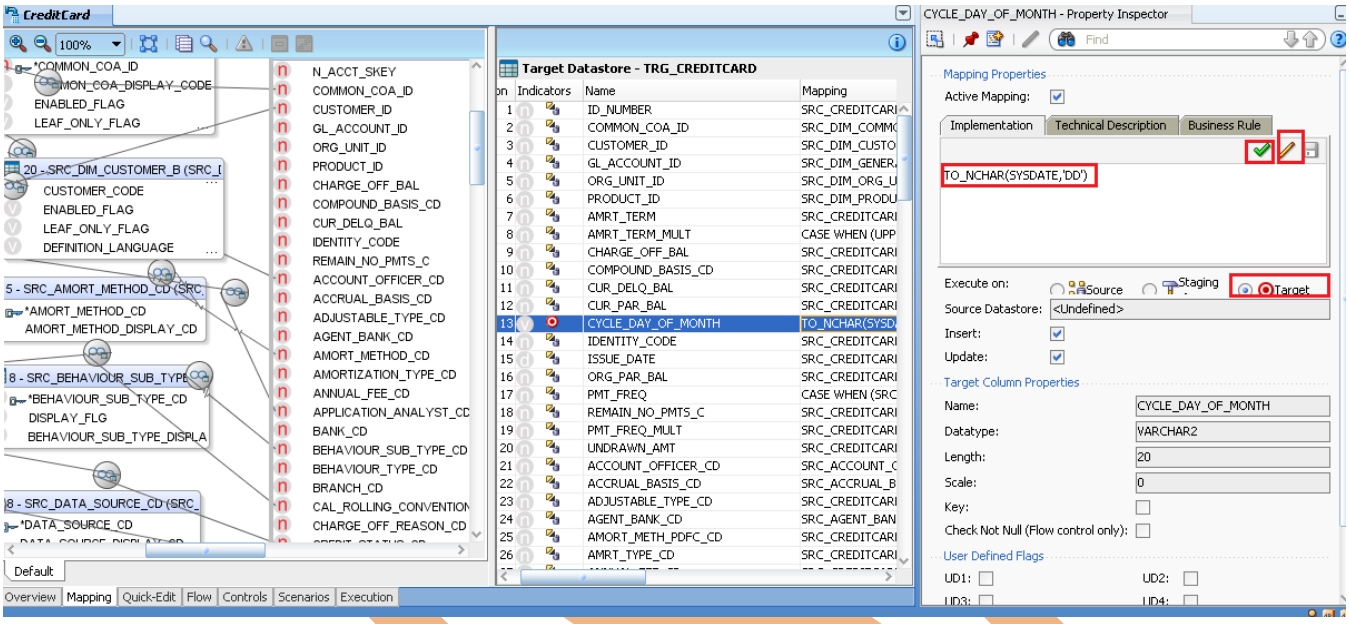
Step: 4 . In Mapping tab, select column and click on button then insert SQL Query to selected column and select Function and the click APPLY and the click OK. Then check SQL Query is correct or not to click on button

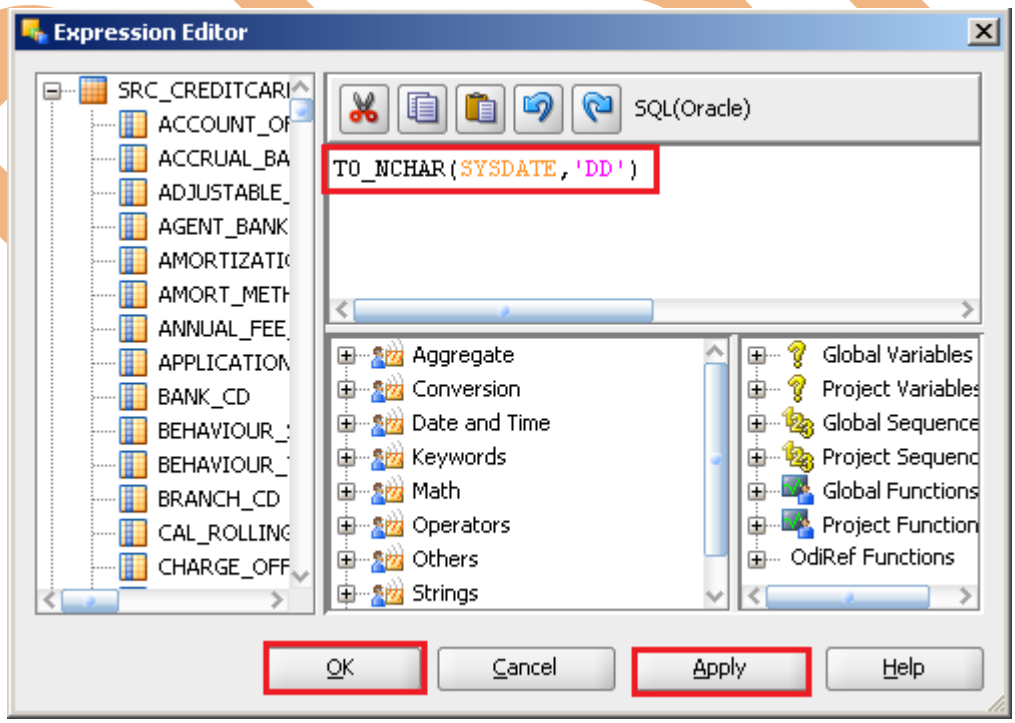

CreditCard
Target Datastore - TRG_CREDITCARD
AMRT_TERM_MULT - Property Inspector
Mapping Properties
Active Mapping:
Technical Description
Business Rule
Implementation
CASE WHEN (UPPER(SRC_CREDITCARD.v_orig_term_unit)='Y') THEN 1 WHEN (UPPER(SRC_CREDITCARD.v_orig_term_unit)= 'N') THEN 0 ELSE NULL END
Execute on:
Source
Staging
Source Datastore:
Insert:
Update:
Target Column Properties
Name:
AMRT_TERM_MULT
Datatype:
NUMBER
Length:
20
Scale:
0
Key:
Check Not Null (Flow control only):
User Defined Flags
UD1:
UD2:

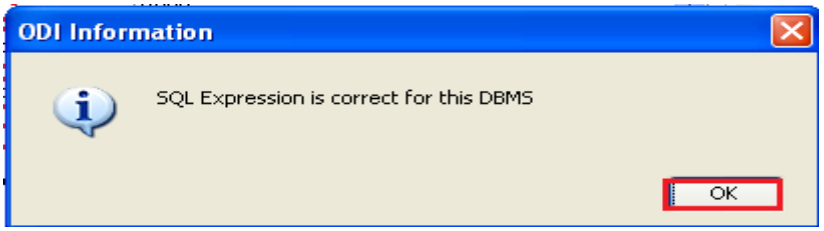

Expression Editor
SQL(Microsoft SQL Server)
CASE WHEN (UPPER(SRC_CREDITCARD.v_orig_term_unit)='Y') THEN 1 WHEN (UPPER(SRC_CREDITCA
orig_term_unit)= 'N') THEN 0 ELSE NULL END
Aggregate
Conversion
Date and Time
Keywords
Math
Global Variables
Project Variables
Global Sequences
Project Sequences
Global Functions
OK
Cancel
Apply
Help


ODI Information
SQL Expression is correct for this DBMS
OK

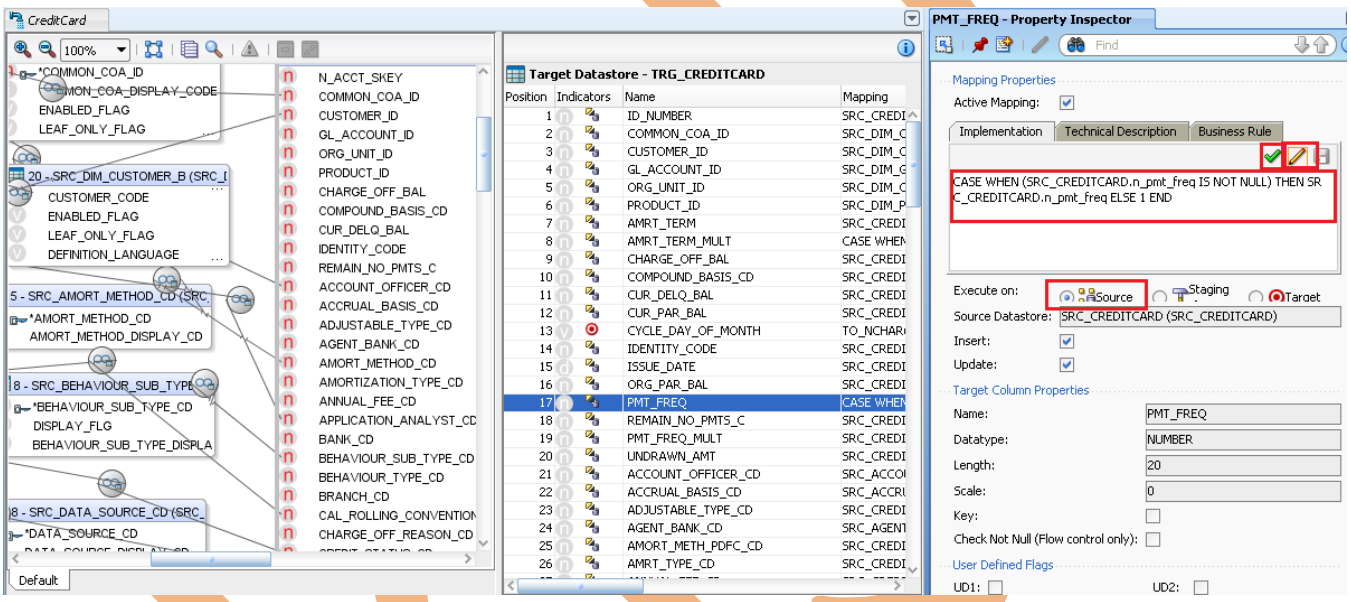
Step: 5 Return to Mapping tab, select column and click on button then insert SQL Query to select column and select Function and the click APPLY and the click OK. Then check SQL Query is correct or not to click on button.

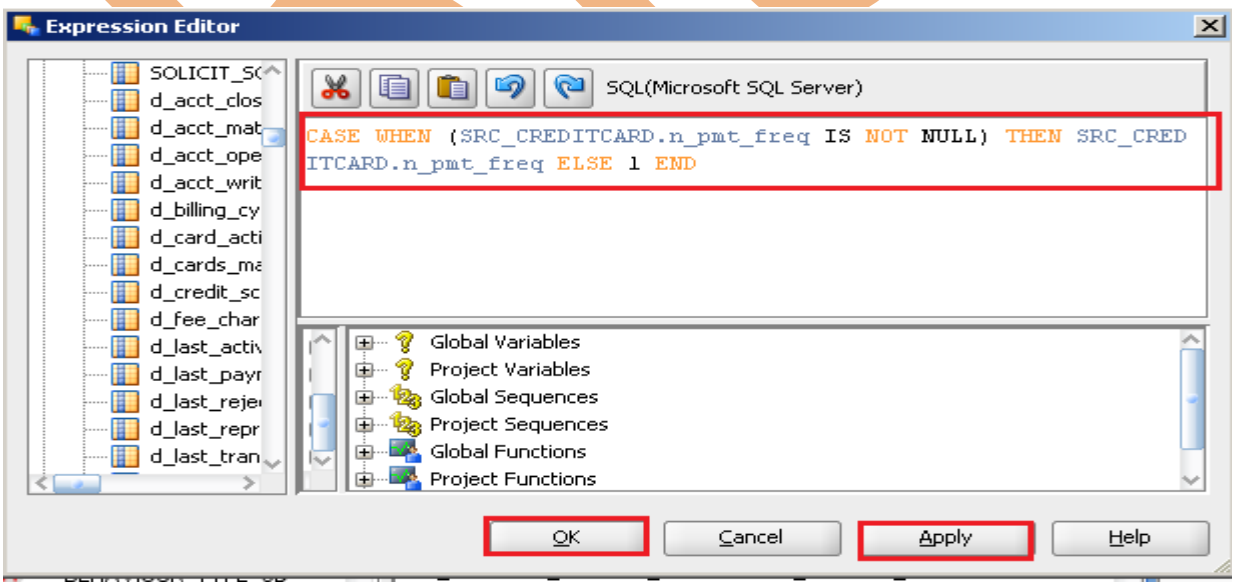


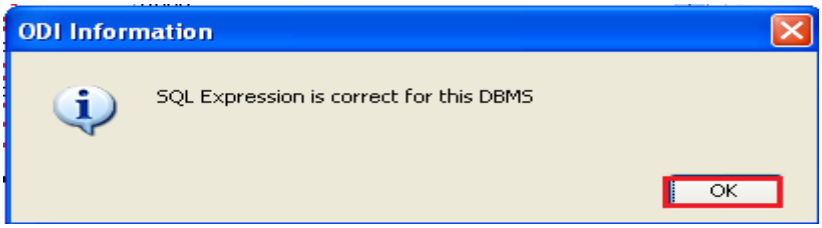




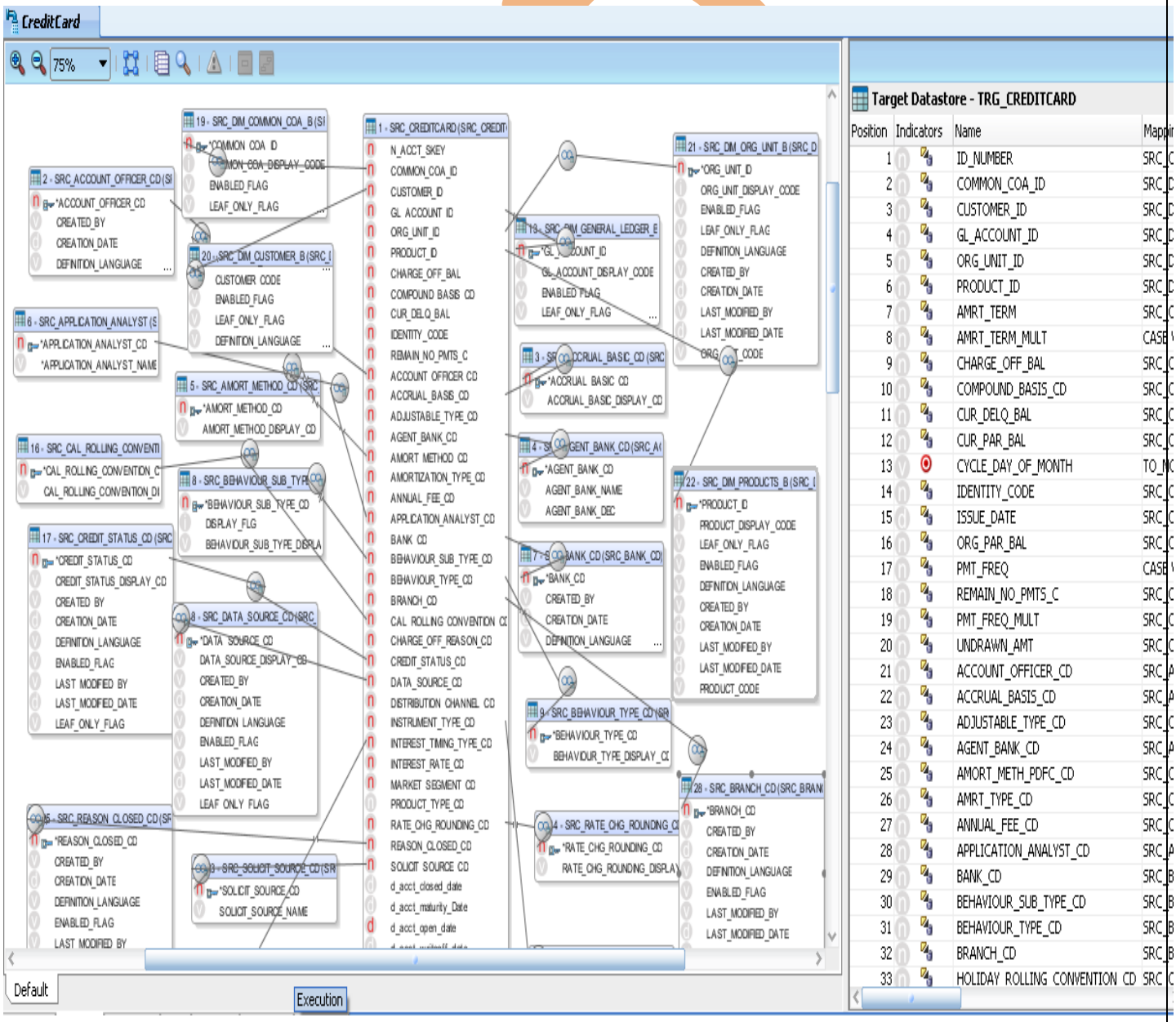
Step: 6 Return to Mapping tab, select column and click on button then insert SQL Query to select column and select Function and the click APPLY and the click OK. Then check SQL Query is correct or not to click on button.



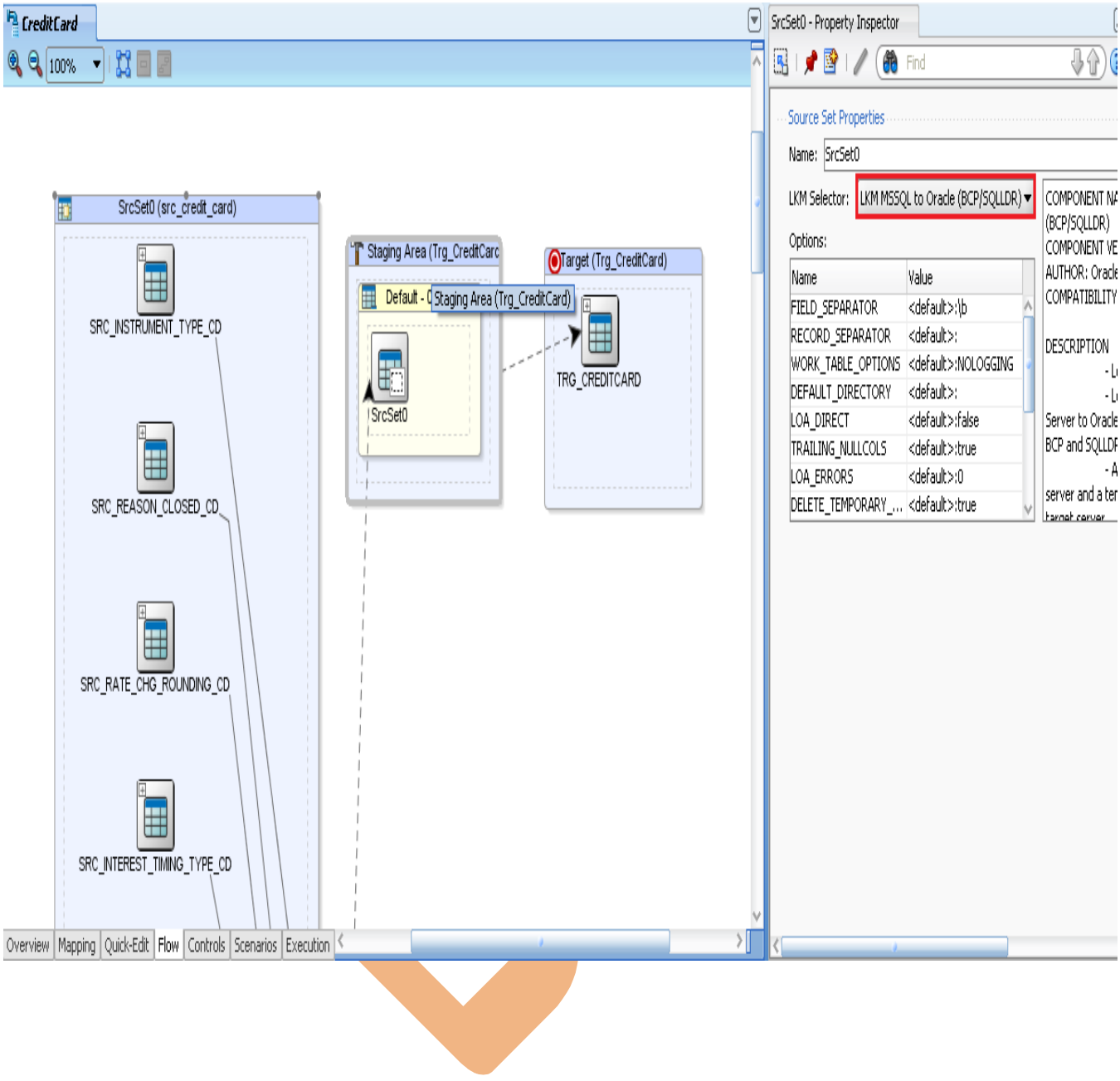




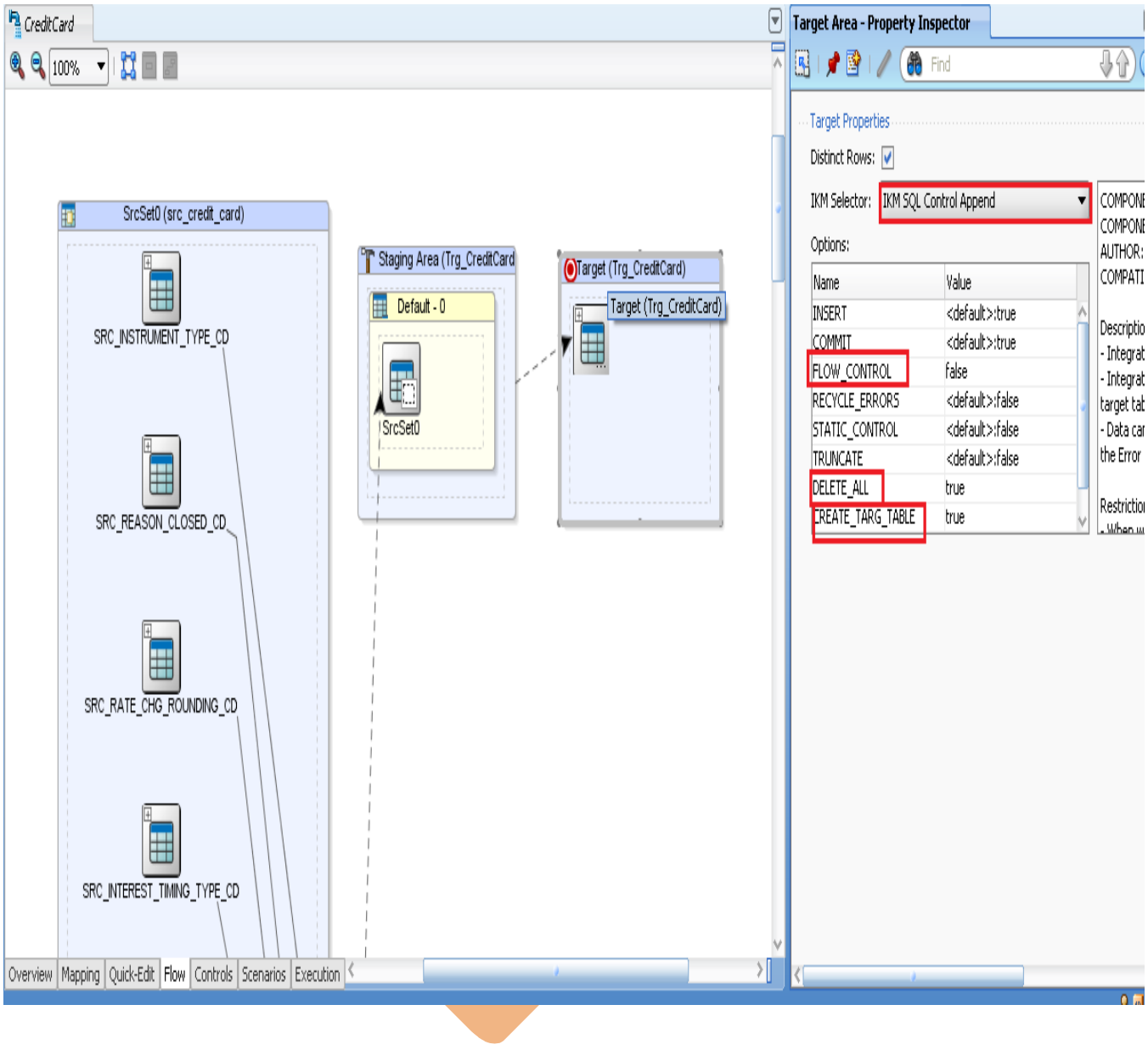
Step: 7 This is complete mapping for Credit Card Example. Then go to Flow tab.



Step: 8 Click the Flow tab, Click the Source table. The properties for the source appear in the following screen. For LKM, select LKM MSSQL to Oracle (BCP/SQLLDR) from the LKM drop-down list if not selected.



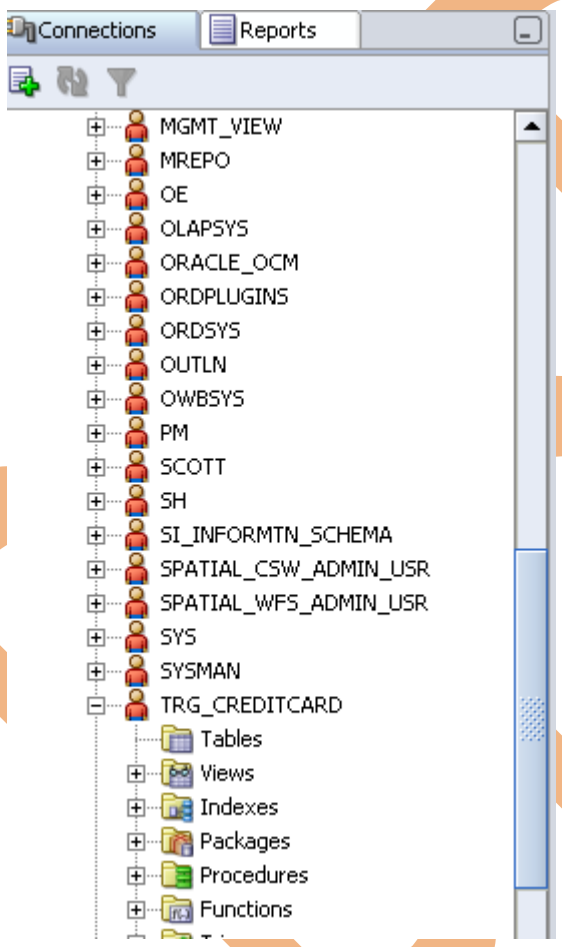
Step: 9 Click the Target Datastore. Select IKM SQL Control Append. Set the IKM option FLOW_CONTROL to False, DELETE_ALL to True and CREATE_TARG_TABLE to True, Click Save.



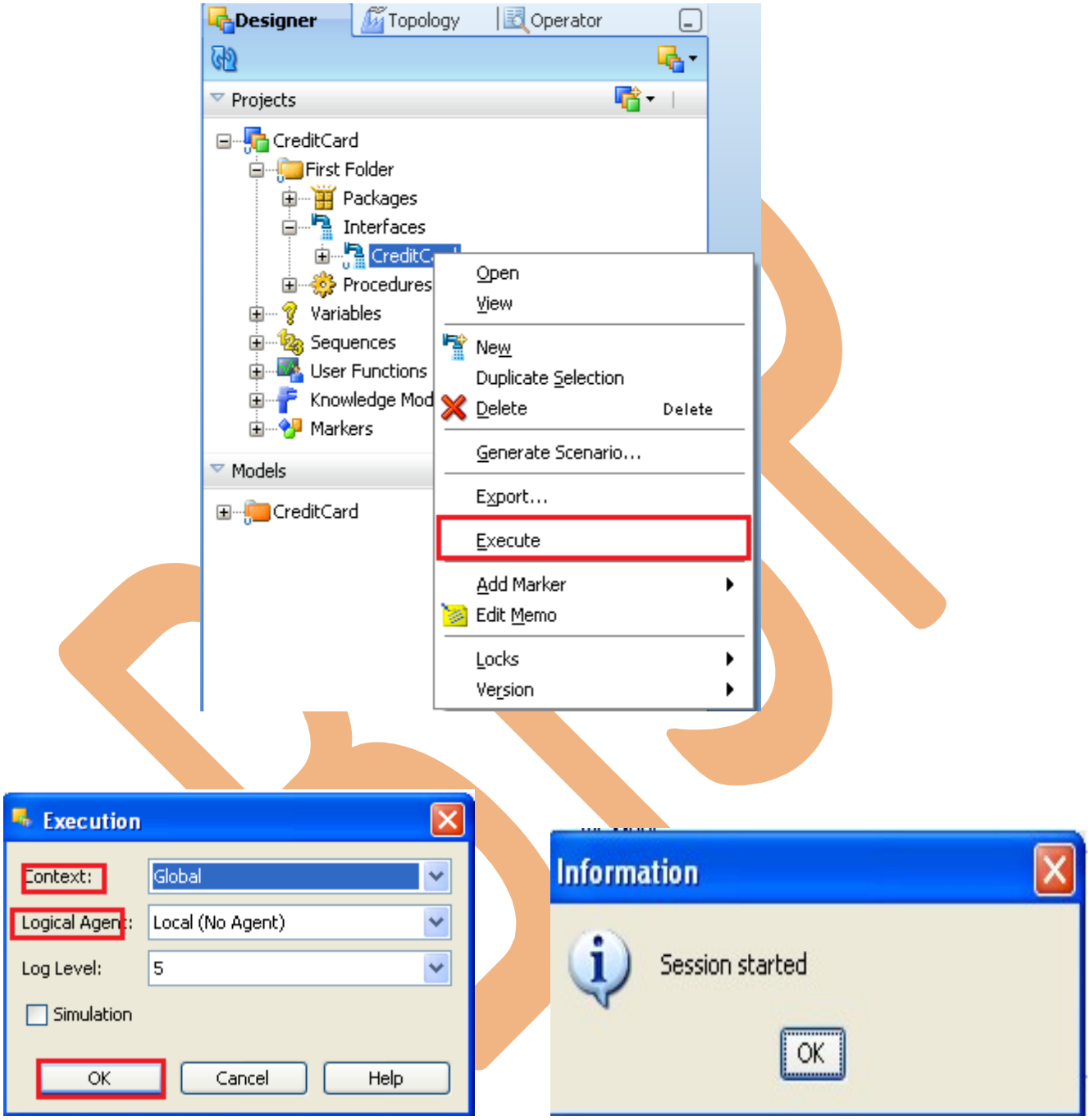
7. Execute Interface.

7.1 Target table Schema before execute Session.

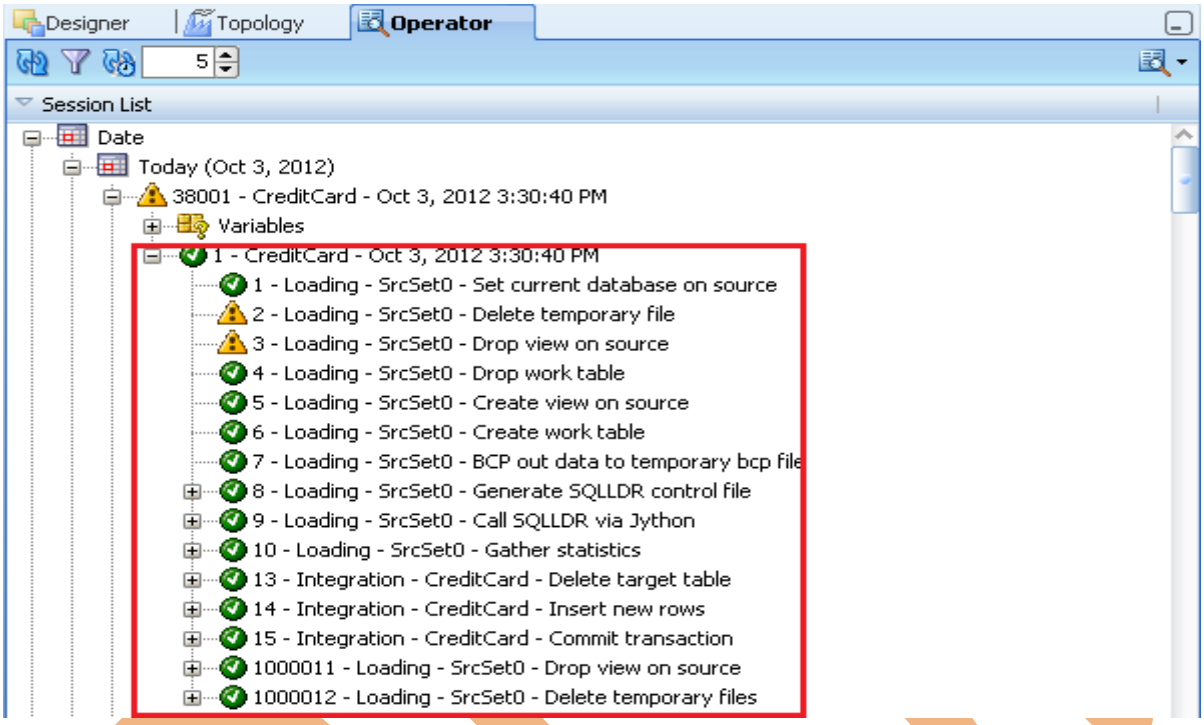
Step: 1 Open Oracle 11g, and Open TRGMORTGAGE, and table is empty.



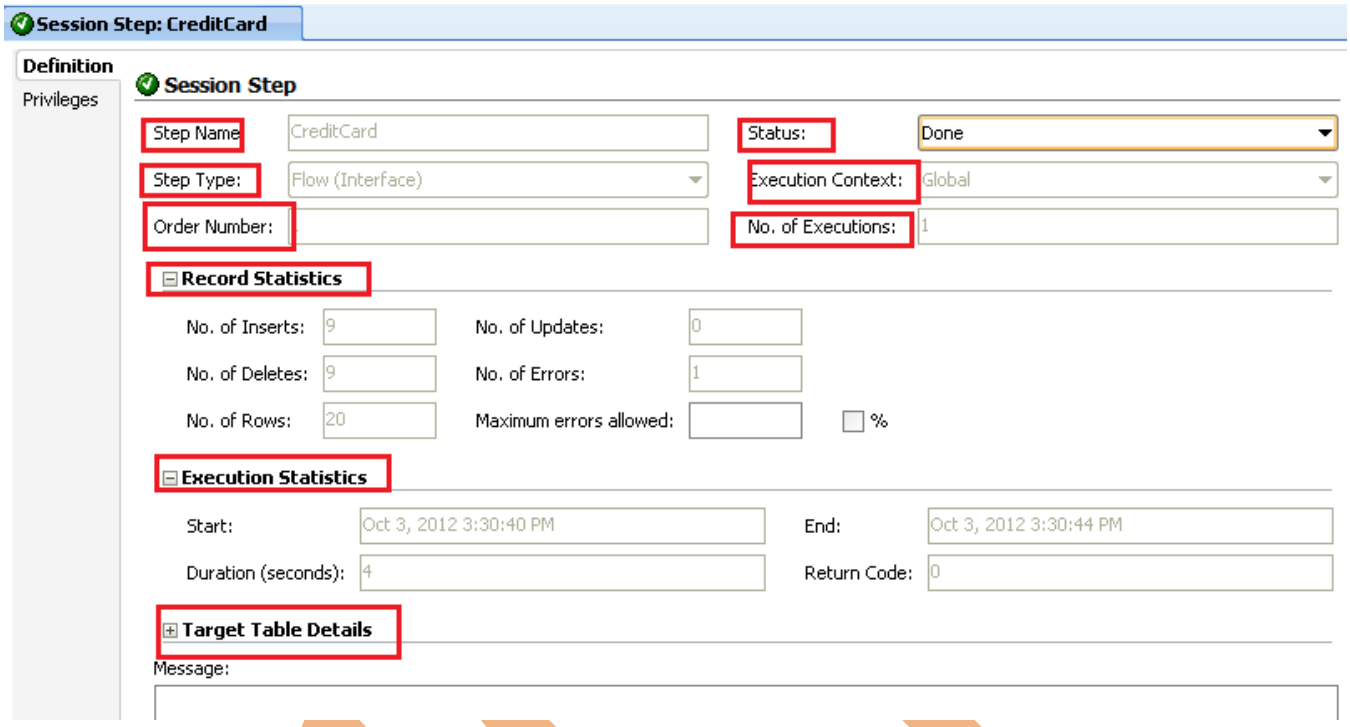
Step: 2 To test your interface, click the Execute button in Interface name in Project tab in Designer Navigator. The following screen appears. Retain the defaults and click OK. On the next screen, click OK.



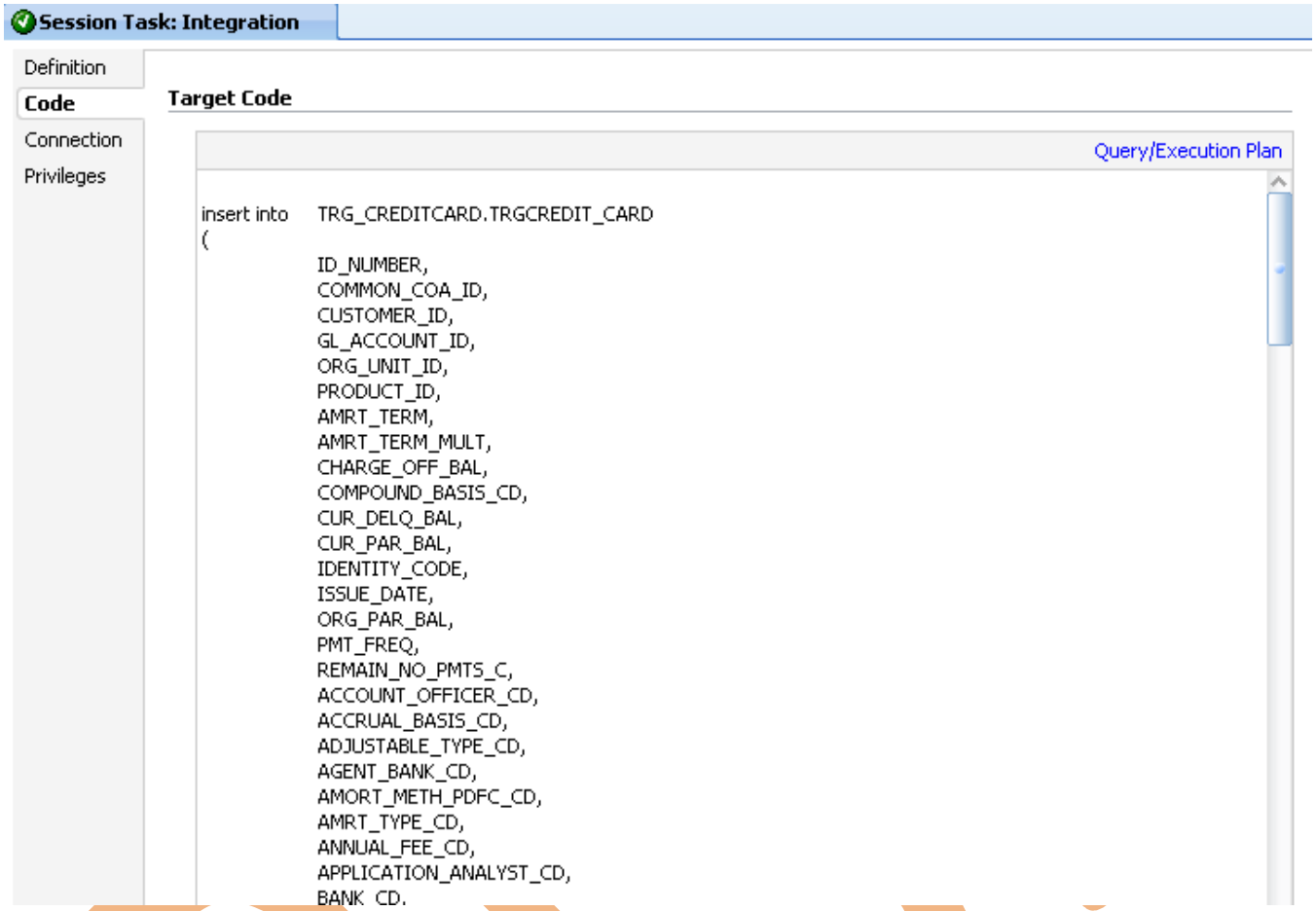
Step: 3 In Operator Navigator, Check session execution.



Step: 4 Open CreditCard Execution window.

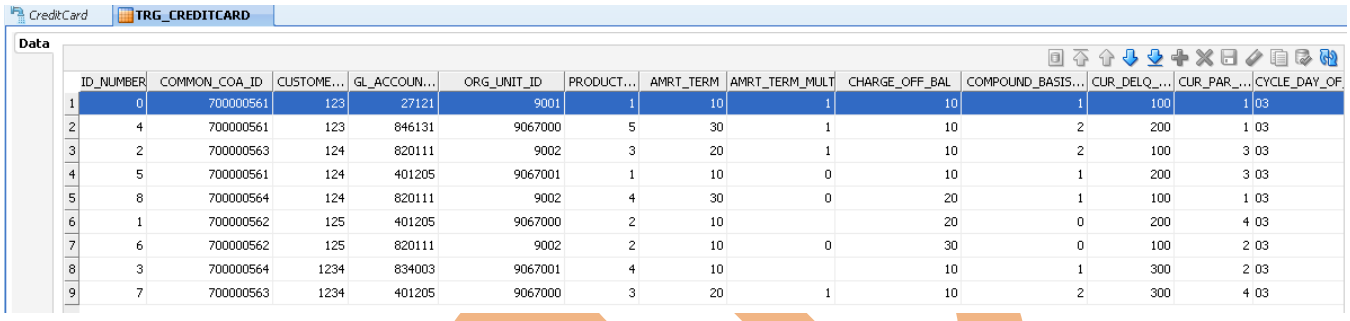


Step: 4 Execution for Target Integration.


Session Task: Integration
Definition
Code
Connection
Privileges
Target Code
Query/Execution Plan
insert into TRG_CREDITCARD.TRGCREDIT_CARD
(
ID_NUMBER,
COMMON_COA_ID,
CUSTOMER_ID,
GL_ACCOUNT_ID,
ORG_UNIT_ID,
PRODUCT_ID,
AMRT_TERM,
AMRT_TERM_MULT,
CHARGE_OFF_BAL,
COMPOUND_BASIS_CD,
CUR_DELQ_BAL,
CUR_PAR_BAL,
IDENTITY_CODE,
ISSUE_DATE,
ORG_PAR_BAL,
PMT_FREQ,
REMAIN_NO_PMTS_C,
ACCOUNT_OFFICER_CD,
ACCRUAL_BASIS_CD,
ADJUSTABLE_TYPE_CD,
AGENT_BANK_CD,
AMORT_METH_PDFC_CD,
AMRT_TYPE_CD,
ANNUAL_FEE_CD,
APPLICATION_ANALYST_CD,
BANK_CD,

7.2 Target table After execute Session.

Step: 1 Target Data in ODI, Go to Model tab>TRG_CREDITCARD>Right click on TRG_Mortgage> select view data.

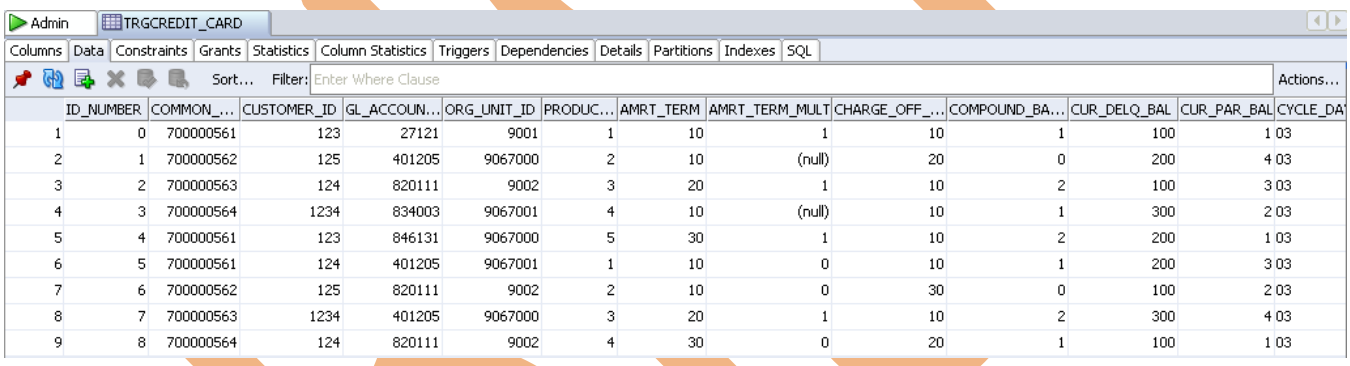


CreditCard | TRG_CREDITCARD

Data

	ID_NUMBER	COMMON_COA_ID	CUSTOME...	GL_ACCOUN...	ORG_UNIT_ID	PRODUCT...	AMRT_TERM	AMRT_TERM_MULT	CHARGE_OFF_BAL	COMPOUND_BASIS...	CUR_DELQ_...	CUR_PAR_...	CYCLE_DAY_OF
1	0	700000561	123	27121	9001	1	10	1	10	1	100	1	03
2	4	700000561	123	846131	9067000	5	30	1	10	2	200	1	03
3	2	700000563	124	820111	9002	3	20	1	10	2	100	3	03
4	5	700000561	124	401205	9067001	1	10	0	10	1	200	3	03
5	8	700000564	124	820111	9002	4	30	0	20	1	100	1	03
6	1	700000562	125	401205	9067000	2	10		20	0	200	4	03
7	6	700000562	125	820111	9002	2	10	0	30	0	100	2	03
8	3	700000564	1234	834003	9067001	4	10		10	1	300	2	03
9	7	700000563	1234	401205	9067000	3	20	1	10	2	300	4	03

Step: 2 Target data in Oracle 11g, Open Oracle 11g and click on TRGCREDITCARD Schema and refresh table.



Admin | TRGCREDIT_CARD

Columns | Data | Constraints | Grants | Statistics | Column Statistics | Triggers | Dependencies | Details | Partitions | Indexes | SQL

Sort... Filter: Enter Where Clause Actions...

	ID_NUMBER	COMMON_...	CUSTOMER_ID	GL_ACCOUN...	ORG_UNIT_ID	PRODUC...	AMRT_TERM	AMRT_TERM_MULT	CHARGE_OFF_...	COMPOUND_BA...	CUR_DELQ_BAL	CUR_PAR_BAL	CYCLE_DA
1	0	700000561	123	27121	9001	1	10	1	10	1	100	1	03
2	1	700000562	125	401205	9067000	2	10	(null)	20	0	200	4	03
3	2	700000563	124	820111	9002	3	20	1	10	2	100	3	03
4	3	700000564	1234	834003	9067001	4	10	(null)	10	1	300	2	03
5	4	700000561	123	846131	9067000	5	30	1	10	2	200	1	03
6	5	700000561	124	401205	9067001	1	10	0	10	1	200	3	03
7	6	700000562	125	820111	9002	2	10	0	30	0	100	2	03
8	7	700000563	1234	401205	9067000	3	20	1	10	2	300	4	03
9	8	700000564	124	820111	9002	4	30	0	20	1	100	1	03