



IBM DataStage 8.5 Beginner's Guide - Lab#09 Router Transformation

Description:

*BISP is committed to provide BEST learning material to the beginners and advance learners. In the same series, we have prepared a list of beginner's guide and FAQs for IBM Data Stage. We have built complete financial Data Model and various data transformation techniques. Download many such learning documents, student guide, Lab Guide and Hands-on practice materials. This document describes in step by step manner how to apply filter condition. Here we want conditional load data into Oracle and SQL Server from flat files based on Definition language field. Data loads into SQL Server if Language is "US" Otherwise it goes to Oracle. **Join our professional training to learn from Experts.***

Mapping Sheet

Router Transformation.

Source- Flat File

Target- Oracle, SQL Server

Transformation	Router Transformation										
Source Name	Flat File										
Target Name	Oracle, Sql Server										
Flat File Source Details			Oracle Details					SQL SERVER Details			
Entity Name	Data Types	Is Null	Expression	Schema	Destination Entity Name	DataTypes	Is Null	Schema	DestinationField Name	DataTypes	Is Null
ACCOUNT_OFFICER_CD	NUMBER(5)	N	IF DEFINITION_LANGUAGE = US Target is SQL Server else is Oracle	src_creditcard	ACCOUNT_OFFICER_CD	NUMBER(5)	N	sa	ACCOUNT_OFFICER_CD	NUMBER(5)	N
CREATED_BY	VARCHAR2(30)	y		src_creditcard	CREATED_BY	VARCHAR2(30)	y	sa	CREATED_BY	VARCHAR2(30)	y
CREATION_DATE	TIMESTAMP(6)	y		src_creditcard	CREATION_DATE	TIMESTAMP(6)	y	sa	CREATION_DATE	TIMESTAMP(6)	y
DEFINITION_LANGUAGE	VARCHAR2(4)	y		src_creditcard	DEFINITION_LANGUAGE	VARCHAR2(4)	y	sa	DEFINITION_LANGUAGE	VARCHAR2(4)	y
ENABLED_FLAG	VARCHAR2(1)	y		src_creditcard	ENABLED_FLAG	VARCHAR2(1)	y	sa	ENABLED_FLAG	VARCHAR2(1)	y
LAST_MODIFIED_BY	VARCHAR2(30)	y		src_creditcard	LAST_MODIFIED_BY	VARCHAR2(30)	y	sa	LAST_MODIFIED_BY	VARCHAR2(30)	y
LAST_MODIFIED_DATE	TIMESTAMP(6)	y		src_creditcard	LAST_MODIFIED_DATE	TIMESTAMP(6)	y	sa	LAST_MODIFIED_DATE	TIMESTAMP(6)	y
LEAF_ONLY_FLAG	VARCHAR2(1)	y		src_creditcard	LEAF_ONLY_FLAG	VARCHAR2(1)	y	sa	LEAF_ONLY_FLAG	VARCHAR2(1)	y
ACCOUNT_OFFICER_DISPLAY_CD	VARCHAR2(10)	y		src_creditcard	ACCOUNT_OFFICER_DISPLAY	VARCHAR2(10)	y	sa	ACCOUNT_OFFICER_DISPLAY	VARCHAR2(10)	y

Router Transformation:-

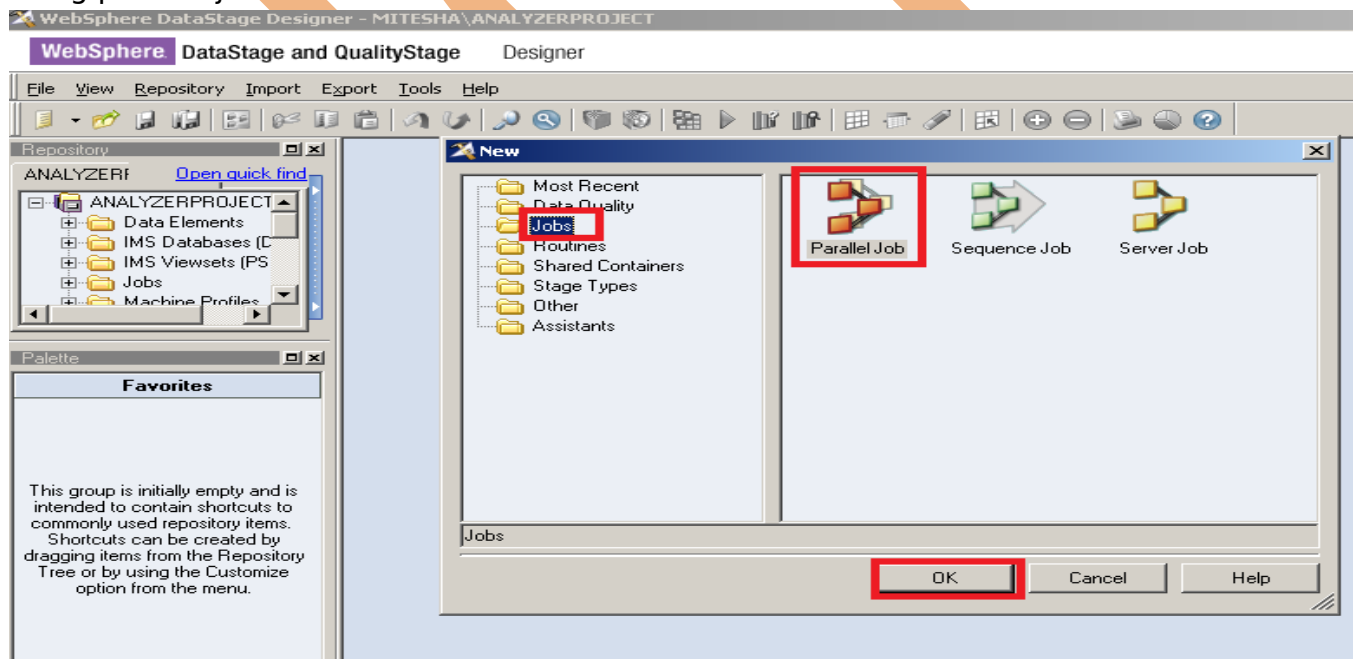
In this documents we use Filter stage for performing Router Transformation, we take input from flat file and output goes to RDBMS based on definition language, those user who belongs to US goes to SQL SERVER and other users goes to Oracle.

Source Data Model:

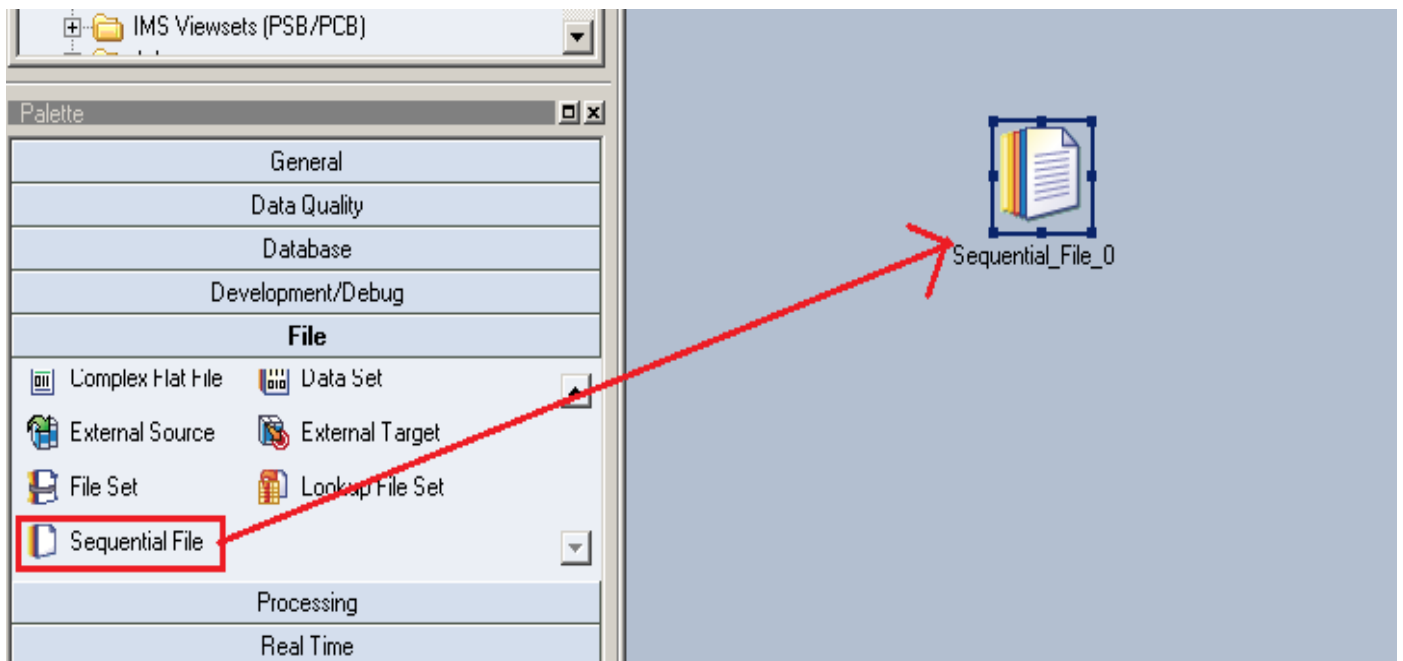
We using this financial data model and we perform operation on Src_Account_officer_c



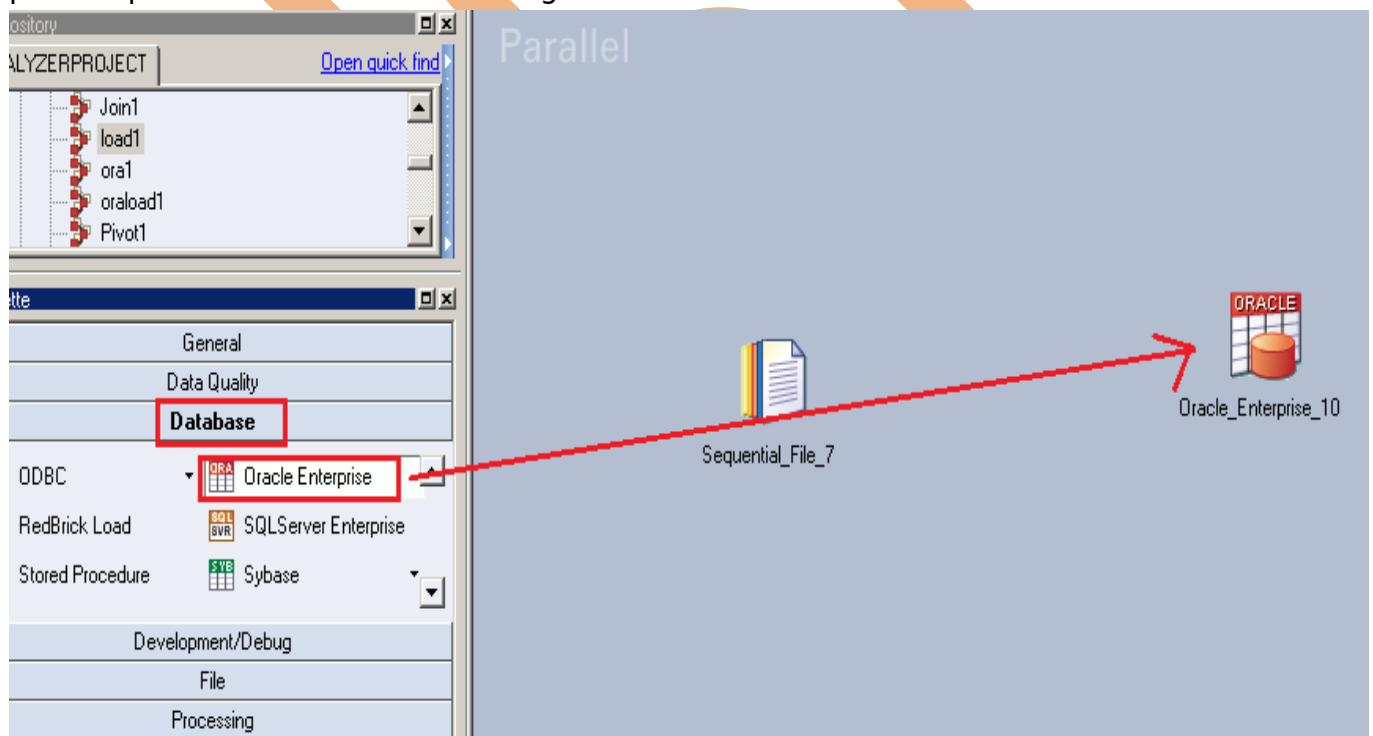
Step-2 :- New Window opens, then click Jobs ,then click Parallel Job because we are using parallel jobs.



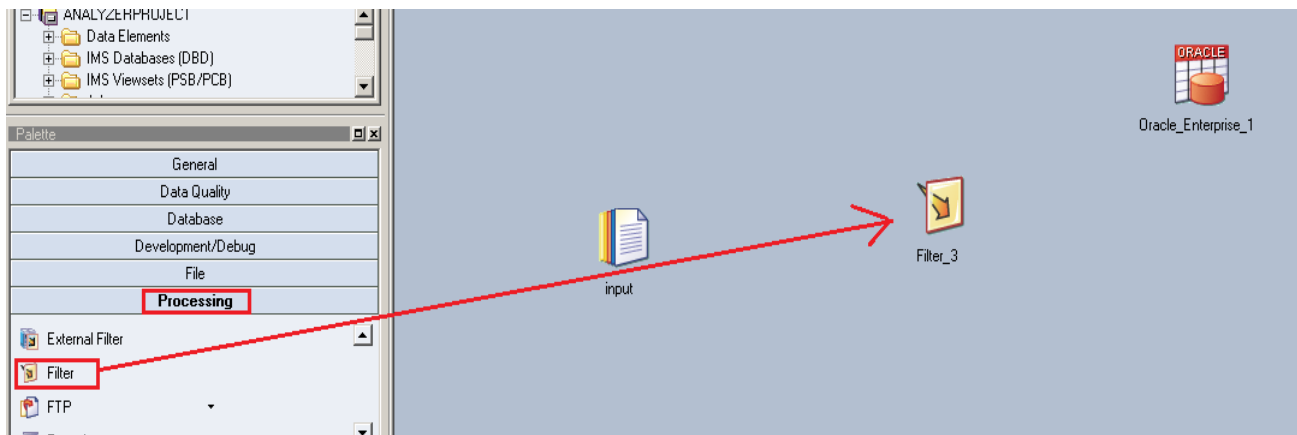
Step-3 :- First go on File Palette then scroll the cursor and choose Sequential File and drag it to Parallel pane and rename it. This file is used for input data.



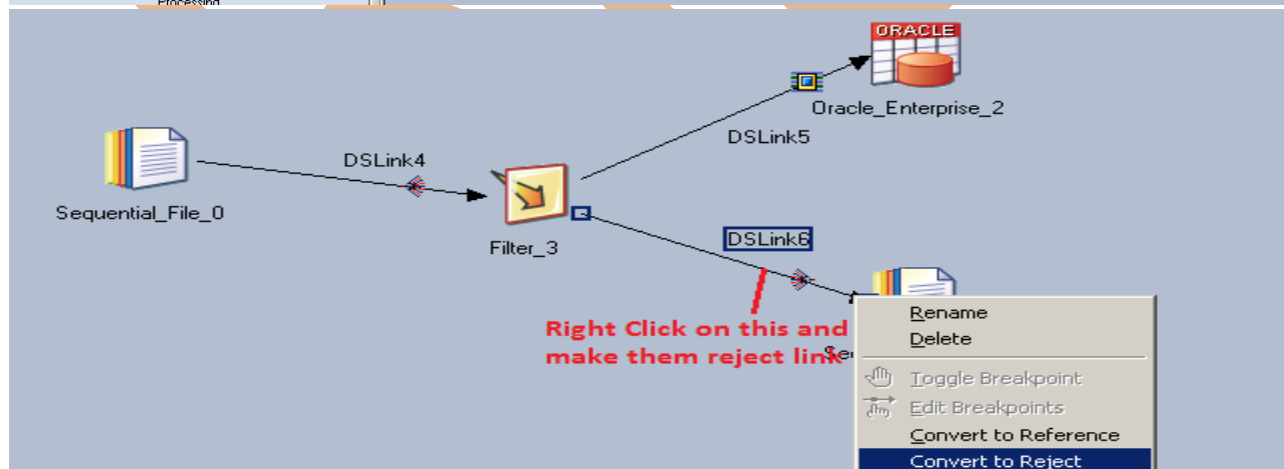
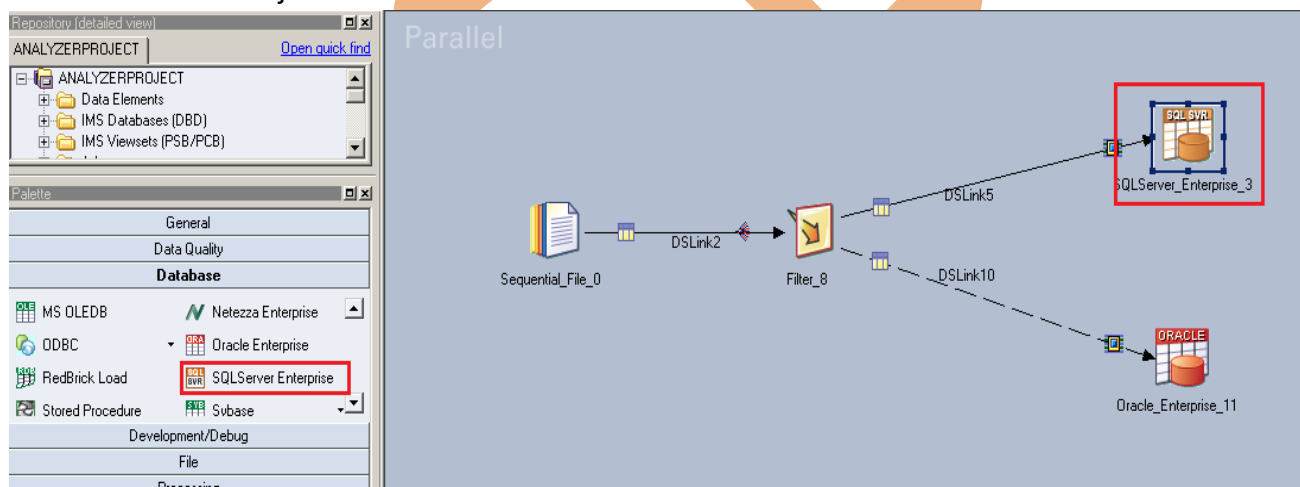
Step-4 :- Choose Oracle Enterprise from database Database Palette and drag it to parallel pane. This is used for loading data into oracle from flat files.



Step-5 :- Choose filter from processing palette and drag it to parallel pane. Filter is used is for filtering values from flat file and put into target where we want to store are data.



Step-6:- Choose SQL Server Enterprise processing method from Database Palette and drag it to parallel job, this is used for loading data into Sql server from flat file. Similarly drag oracle enterprise and connect them. Convert one link into reject link as shown below because we want to send rejected data into oracle so we convert stream link into reject link.



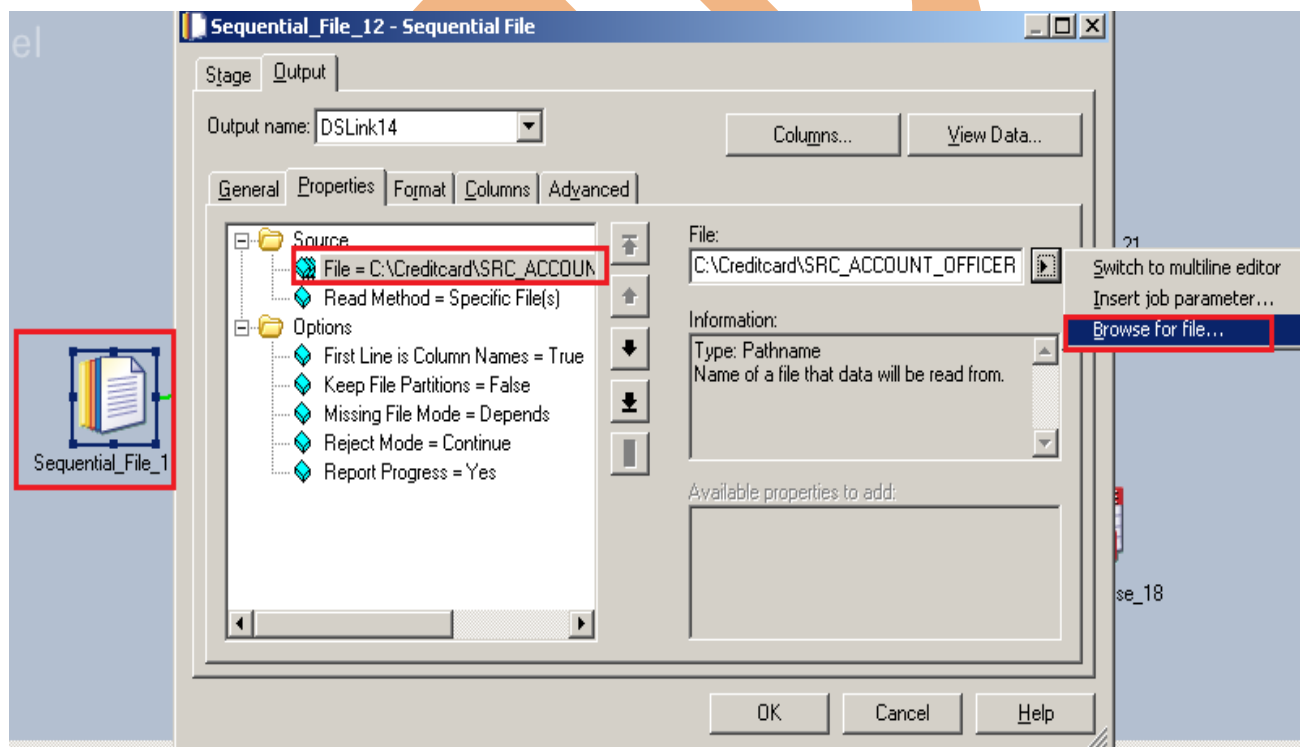
Step-7 : Now first before loading data into output, we have to create a table in sql server or oracle. So, we write a create table command and make sure to give same column name as you have in flat file. Go to SQL tab than write query and remember the username and password.

```

SQL> CREATE TABLE SRC_ACCOUNT_OFFICER_CD_FILT
2      ( ACCOUNT_OFFICER_CD NUMBER(5,0) PRIMARY KEY,
3        CREATED_BY VARCHAR2(30 BYTE),
4        CREATION_DATE VARCHAR2 (100),
5        DEFINITION_LANGUAGE VARCHAR2(4 BYTE),
6        ENABLED_FLAG VARCHAR2(1 BYTE),
7        LAST_MODIFIED_BY VARCHAR2(30 BYTE),
8        LAST_MODIFIED_DATE VARCHAR2 (100),
9        LEAF_ONLY_FLAG VARCHAR2(1 BYTE),
10     ACCOUNT_OFFICER_DISPLAY_CD VARCHAR2(10 BYTE) DEFAULT NULL
11     );

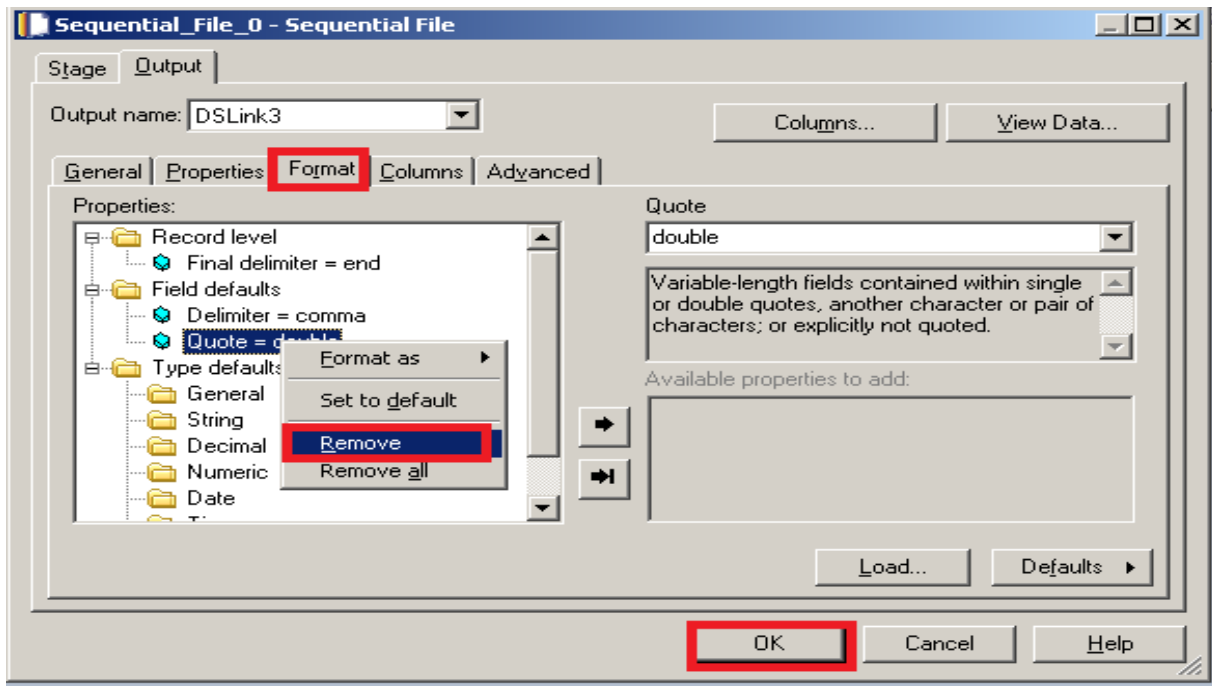
```

Step-8:- Double click on Input file and browse an input file that can be .txt,.csv any test file.

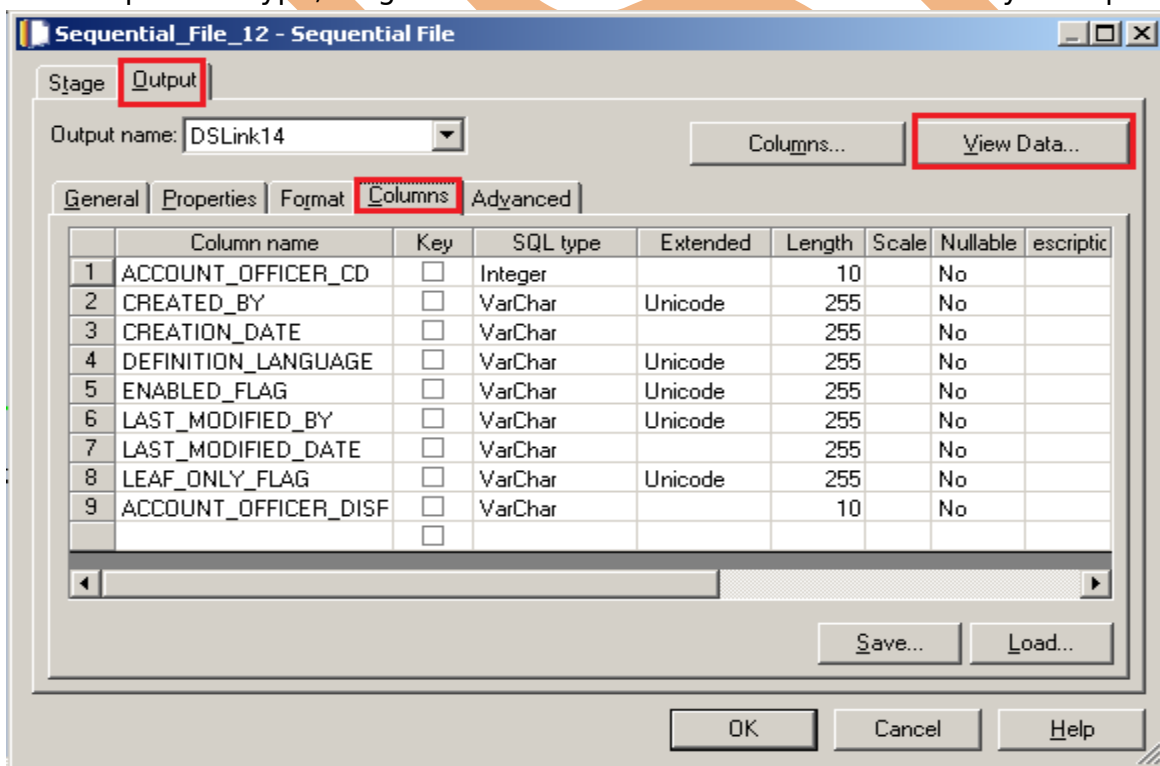


Step-9:- Go to Format tab and Remove double Quote because we don't need them then Click on OK.

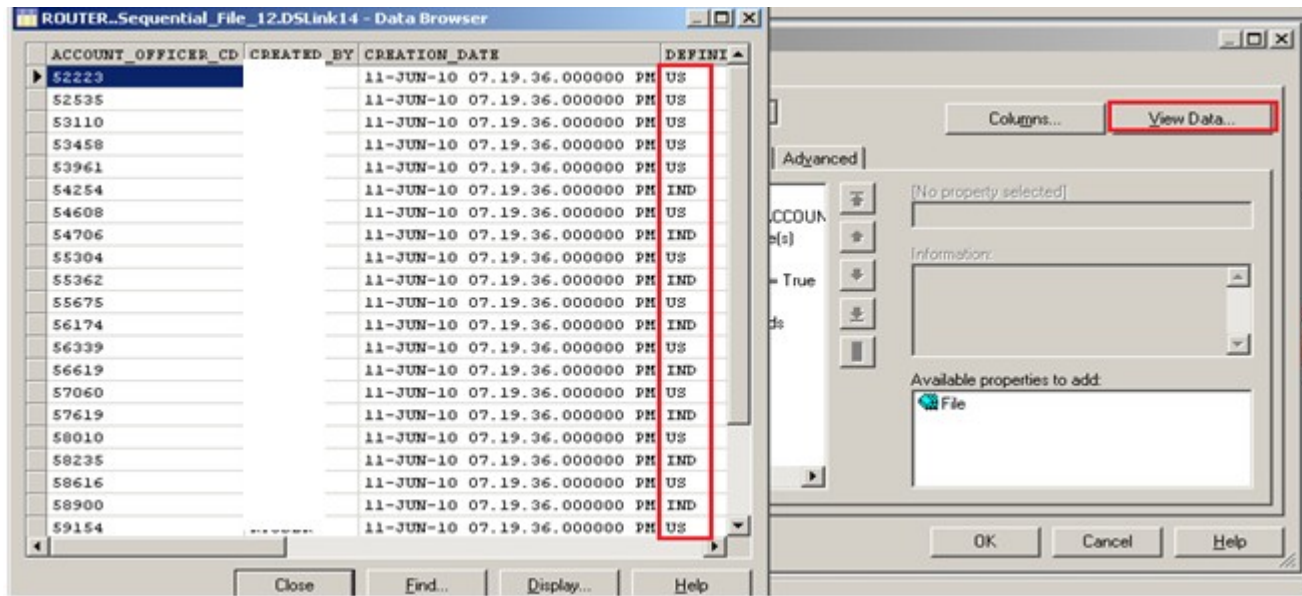
Note:- If you use date as a input than specify here which type of format you used



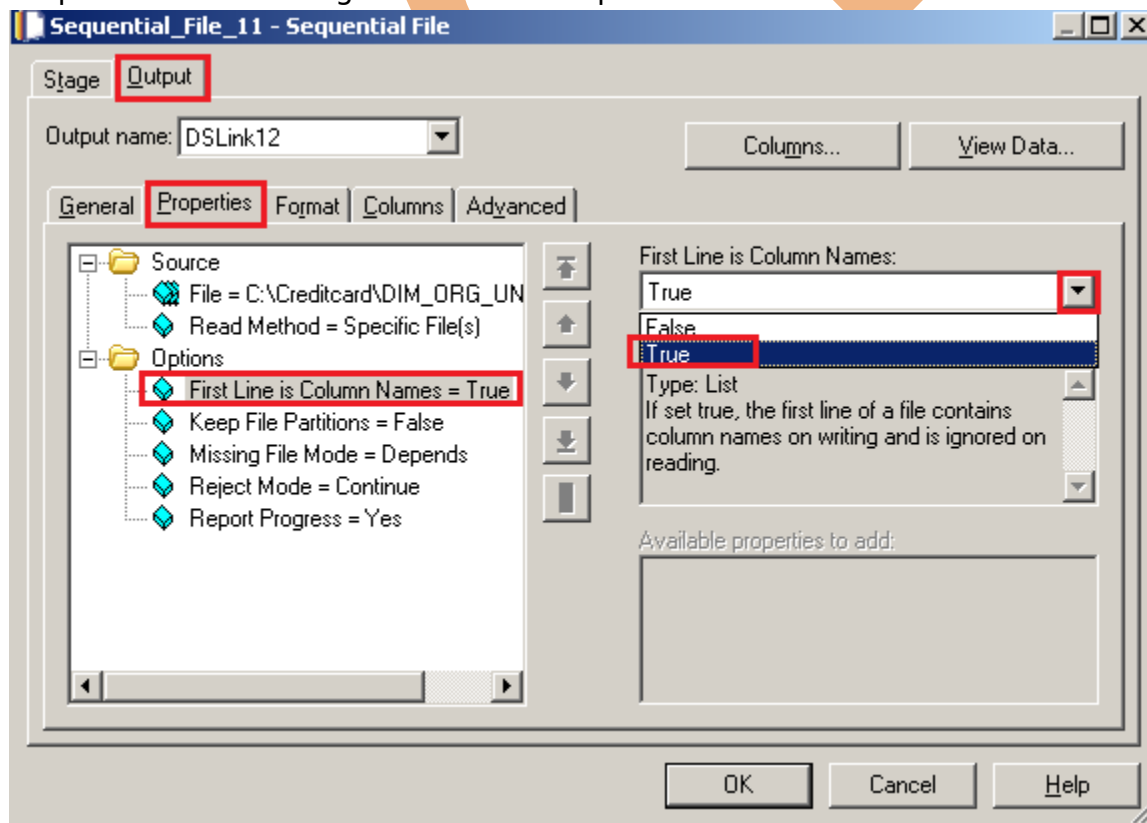
Step-10:- Go to Columns tab and enter same column names as declared in Input file and put datatype, length then click on ViewData. This will show your Input Data.



Step-11:- Now click on View Data and Ok. If your data is shown like this that means you have made successful connection between input file and DataStage otherwise it will give some error like column mismatch error.



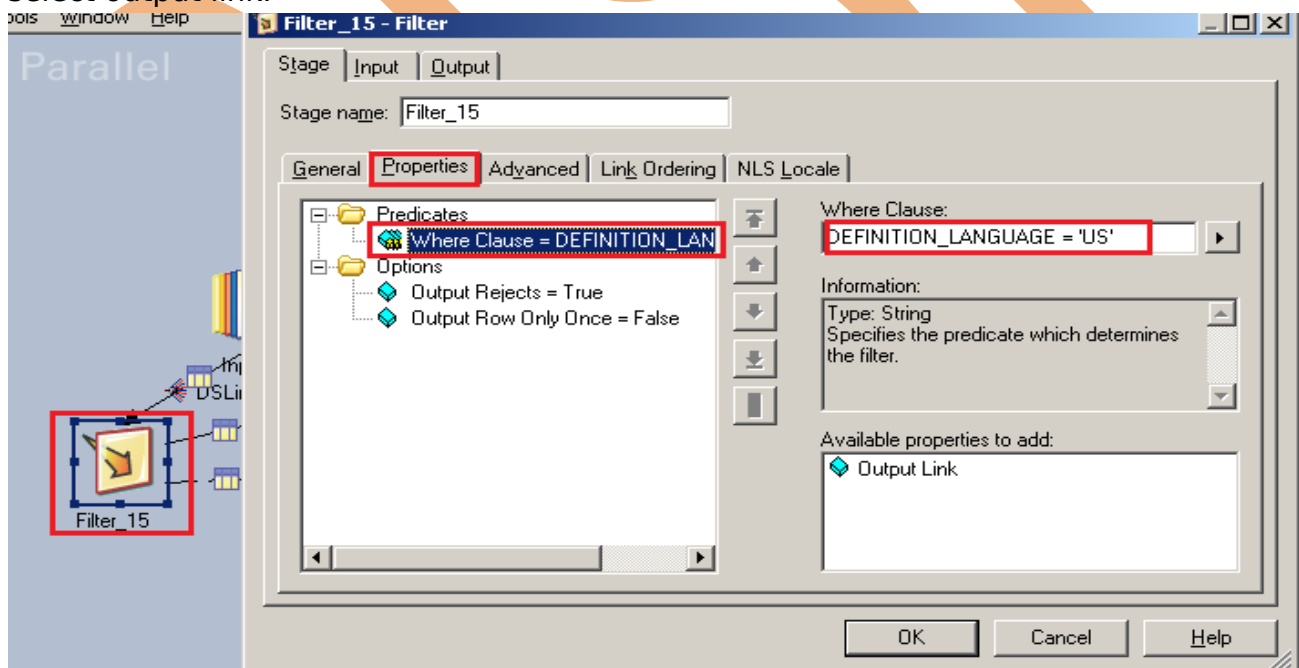
Step-12:- After choosing file, select 'True' from First line in column Names dropdown for removing first line from Input file.



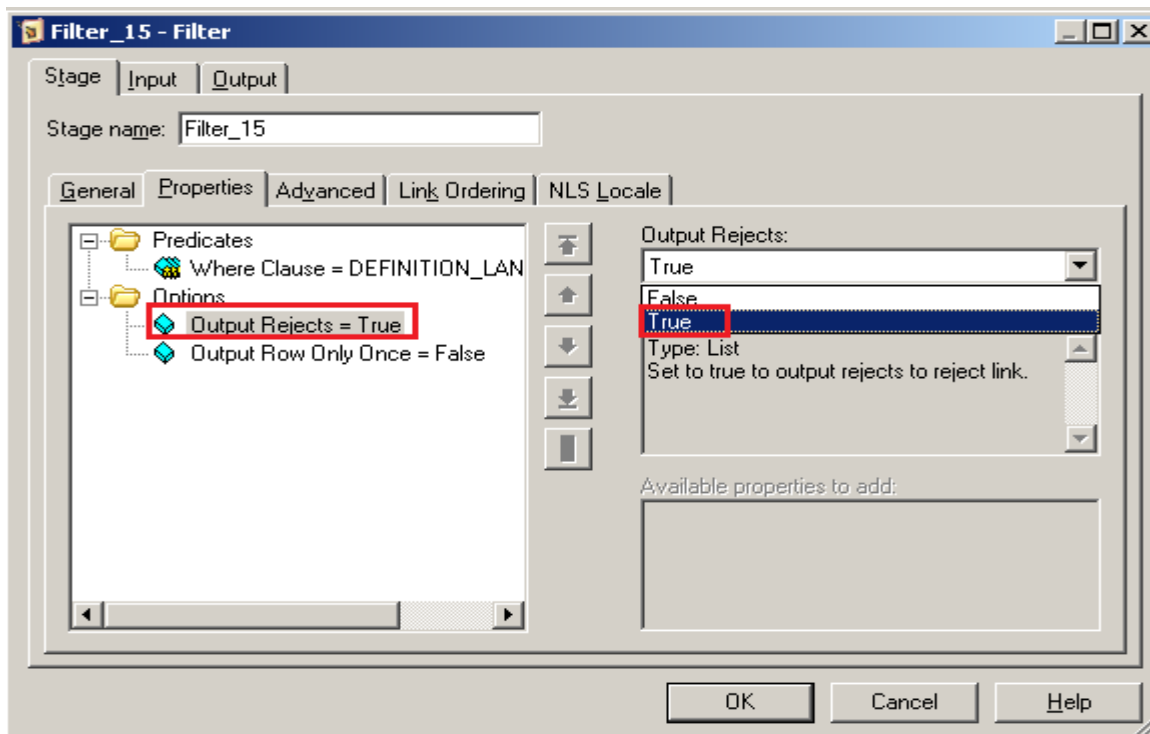
Step-13 :- Make input file and remember column names.

ACCOUNT_OFFICER_CD	CREATED_BY	CREATION_DATE	DEFINITION_LANGUAGE	ENABLED_FLAG	LAST_MODIFIED_BY	LAST_MODIFIED_DATE	LEAF_ONLY_FLAG	ACCOUNT_OFFICER_DISPLAY_CD
52223,	11-JUN-10	07.19.36.000000	PM,US,Y,	11-JUN-10	07.19.36.000000	PM,Y,	52223.36,	
52535,	11-JUN-10	07.19.36.000000	PM,US,Y,	11-JUN-10	07.19.36.000000	PM,Y,	52534.89,	
53110,	11-JUN-10	07.19.36.000000	PM,US,Y,	11-JUN-10	07.19.36.000000	PM,Y,	53110.24,	
53458,	11-JUN-10	07.19.36.000000	PM,US,Y,	11-JUN-10	07.19.36.000000	PM,Y,	53457.6,,	
53961,	11-JUN-10	07.19.36.000000	PM,US,Y,	11-JUN-10	07.19.36.000000	PM,Y,	53960.7,,	
54254,	11-JUN-10	07.19.36.000000	PM,IND,Y	11-JUN-10	07.19.36.000000	PM,Y,	54253.88,	
54608,	11-JUN-10	07.19.36.000000	PM,US,Y,	11-JUN-10	07.19.36.000000	PM,Y,	54607.99,	
54706,	11-JUN-10	07.19.36.000000	PM,IND,Y	11-JUN-10	07.19.36.000000	PM,Y,	54705.91,	
55304,	11-JUN-10	07.19.36.000000	PM,US,Y,	11-JUN-10	07.19.36.000000	PM,Y,	55303.81,	
55362,	11-JUN-10	07.19.36.000000	PM,IND,Y	11-JUN-10	07.19.36.000000	PM,Y,	55362.01,	
55675,	11-JUN-10	07.19.36.000000	PM,US,Y,	11-JUN-10	07.19.36.000000	PM,Y,	55674.97,	
56174,	11-JUN-10	07.19.36.000000	PM,IND,Y	11-JUN-10	07.19.36.000000	PM,Y,	56173.79,	
56339,	11-JUN-10	07.19.36.000000	PM,US,Y,	11-JUN-10	07.19.36.000000	PM,Y,	56338.61,	
56619,	11-JUN-10	07.19.36.000000	PM,IND,Y	11-JUN-10	07.19.36.000000	PM,Y,	56618.92,	
57060,	11-JUN-10	07.19.36.000000	PM,US,Y,	11-JUN-10	07.19.36.000000	PM,Y,	57059.61,	
57619,	11-JUN-10	07.19.36.000000	PM,IND,Y	11-JUN-10	07.19.36.000000	PM,Y,	57619.17,	
58010,	11-JUN-10	07.19.36.000000	PM,US,Y,	11-JUN-10	07.19.36.000000	PM,Y,	58010.18,	
58235,	11-JUN-10	07.19.36.000000	PM,IND,Y	11-JUN-10	07.19.36.000000	PM,Y,	58235.35,	
58616,	11-JUN-10	07.19.36.000000	PM,US,Y,	11-JUN-10	07.19.36.000000	PM,Y,	58616.48,	
58900,	11-JUN-10	07.19.36.000000	PM,IND,Y	11-JUN-10	07.19.36.000000	PM,Y,	58899.61,	
59154,	11-JUN-10	07.19.36.000000	PM,US,Y,	11-JUN-10	07.19.36.000000	PM,Y,	59153.7,,	
59567,	11-JUN-10	07.19.36.000000	PM,IND,Y	11-JUN-10	07.19.36.000000	PM,Y,	59566.99,	
60254,	11-JUN-10	07.19.36.000000	PM,US,Y,	11-JUN-10	07.19.36.000000	PM,Y,	60254.29,	
60740,	11-JUN-10	07.19.36.000000	PM,US,Y,	11-JUN-10	07.19.36.000000	PM,Y,	60740.15,	
60951,	11-JUN-10	07.19.36.000000	PM,US,Y,	11-JUN-10	07.19.36.000000	PM,Y,	60951.47,	
61134,	11-JUN-10	07.19.36.000000	PM,US,Y,	11-JUN-10	07.19.36.000000	PM,Y,	61133.62,	

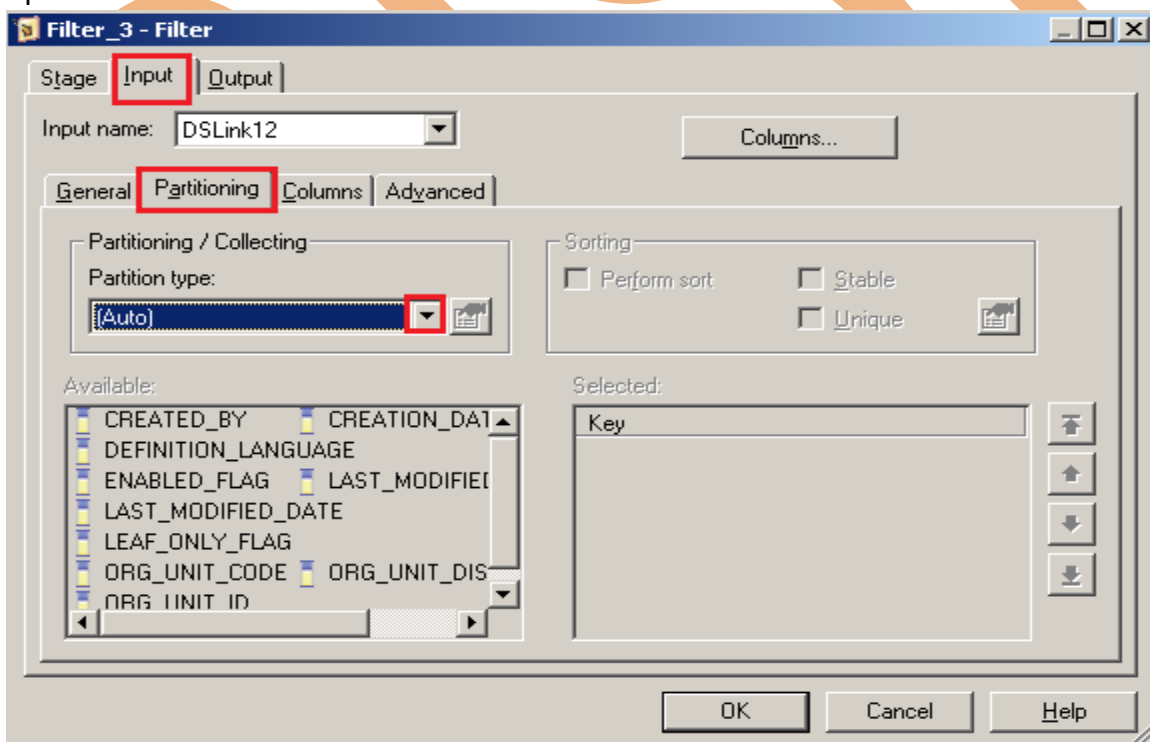
Step-14:- Double click on Filter then specify the where condition what we want and select output link.



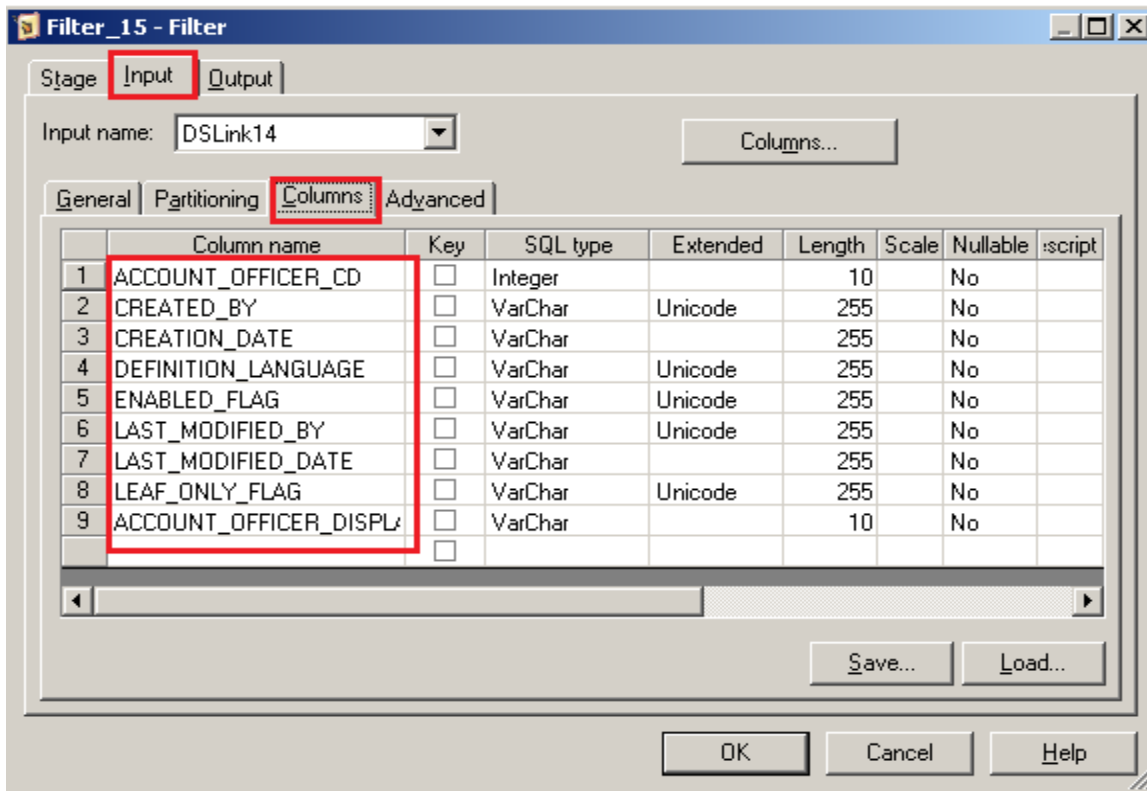
Step-15:- Now see here we want to save rejected data that's why we select true then rejected values goes to oracle enterprise stage.



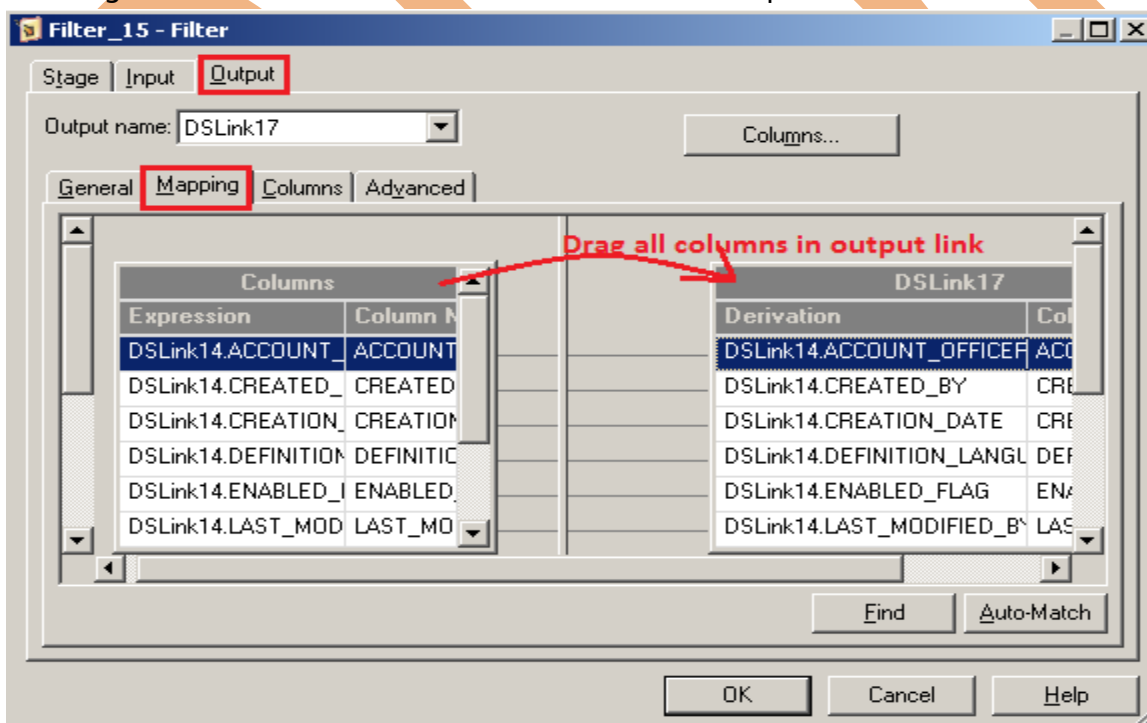
Step-16:- Go to Input tab and then choose Auto. Remember always choose Hash if you use Key based transformation. When we select hash key then the sorting options will be visible.



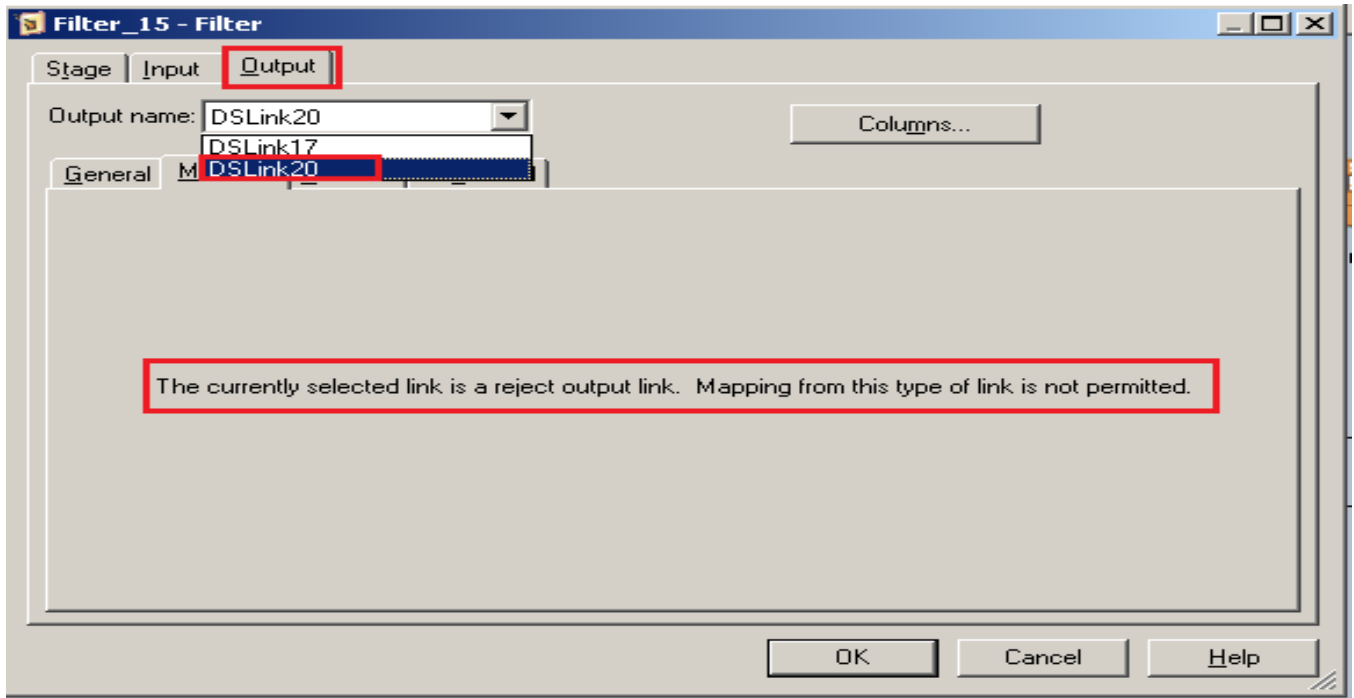
Step-17:- Click on Input and see all columns are available or not



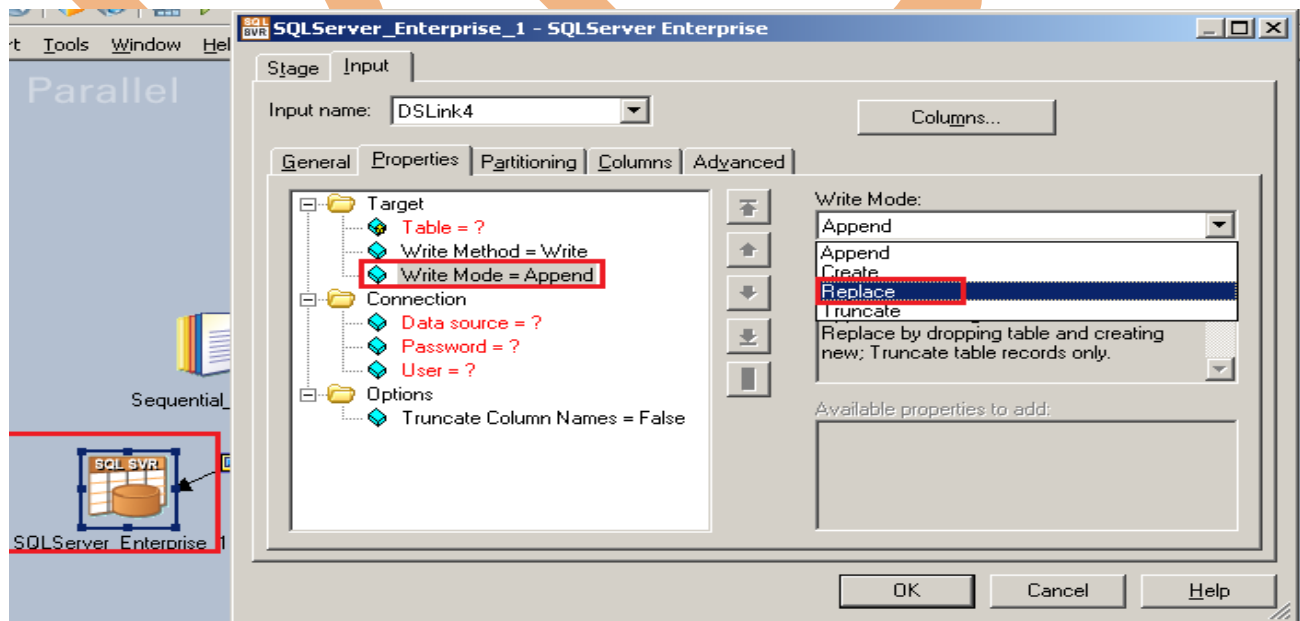
Step-18:- Now go to output tab then select all links and drag them into OutLink for sending data which satisfies filter condition into output links.



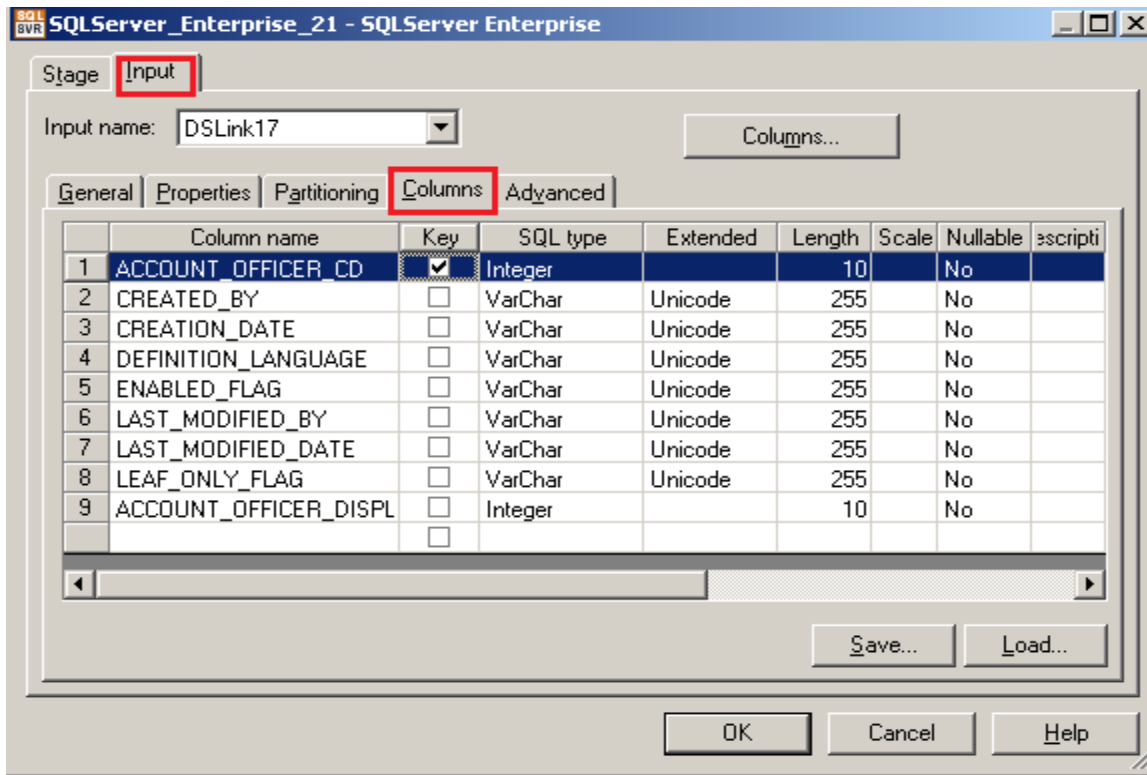
Step-19:- Now when we choose rejected link then see we can't put any column here all rejected data automatically goes on it. and click on OK



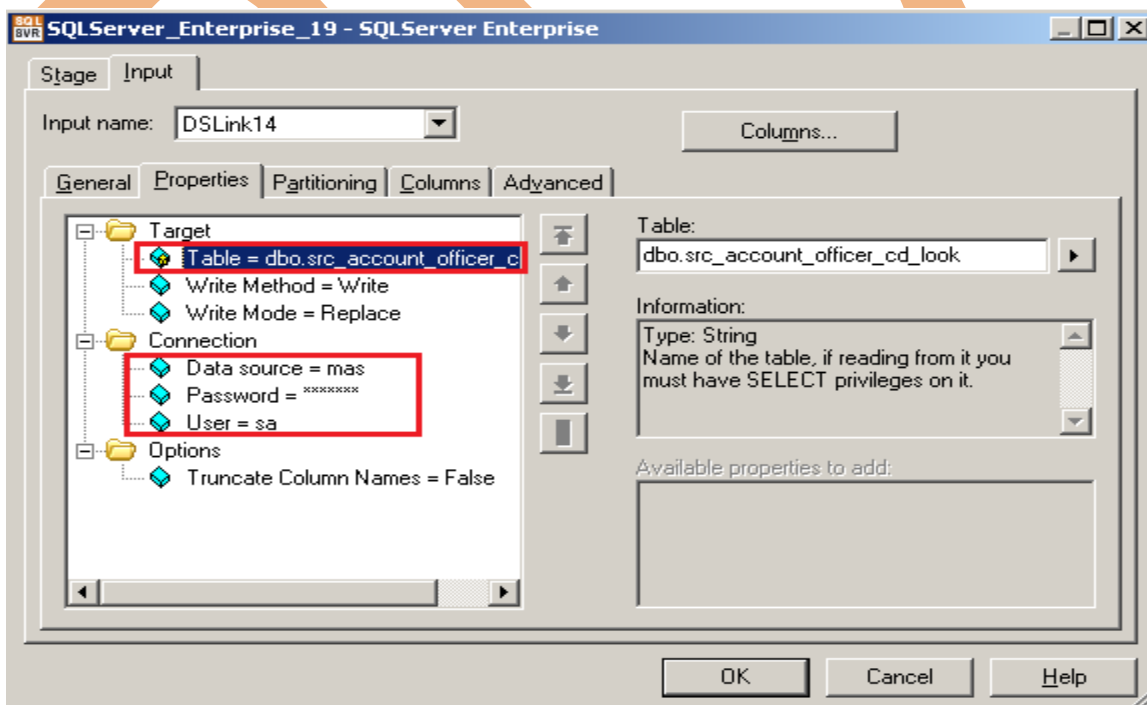
Step-20:- Now double click on Sql Server enterprise stage then it looks like below screenshot. Here we have to enter our table name where we want to insert our data. Multiple options are there for write mode dropdown. If we directly want to load data then we simply used write method as load otherwise we manually put queries on it. Also we have to specify username and password and this password should match with oracle username and password. Below we specify Replace as write Mode that means if already data is present in table then replace the data with new data.



Step-21:- Click on column tab and see all the columns are showing or not.

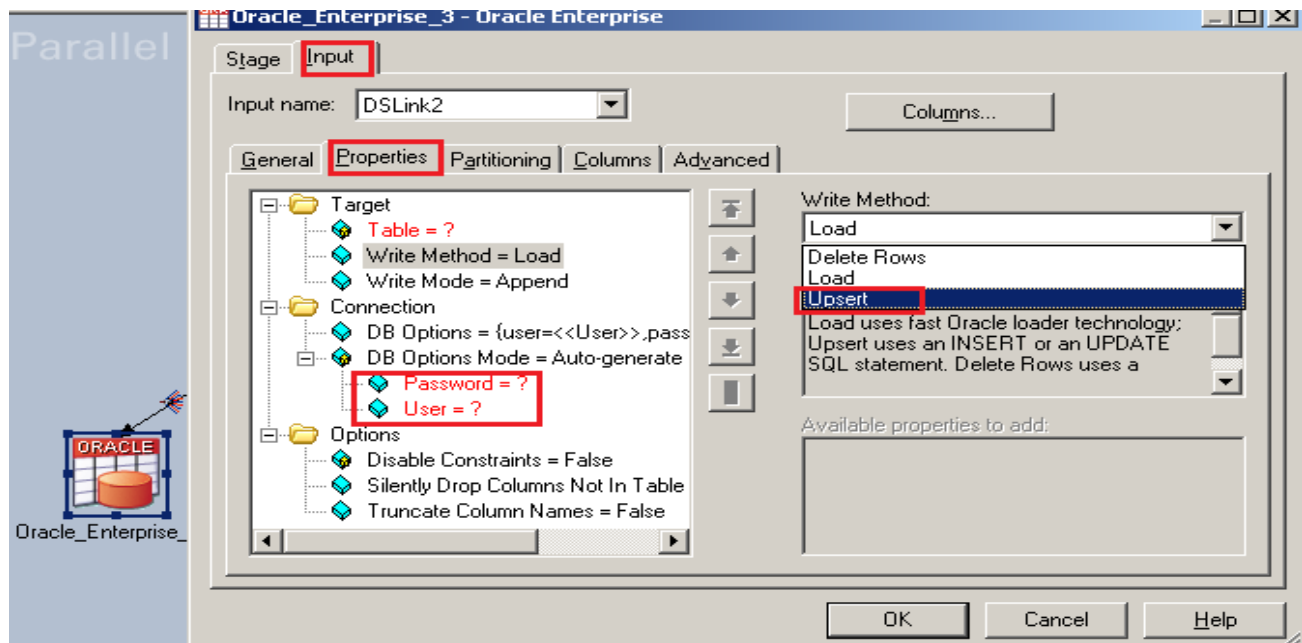


Step-22:- Now here we have to specify the table name and schema name and make an ODBC connection. System DSN and all the other entries should be same as where your table is situated and whatever you specify in System DSN.

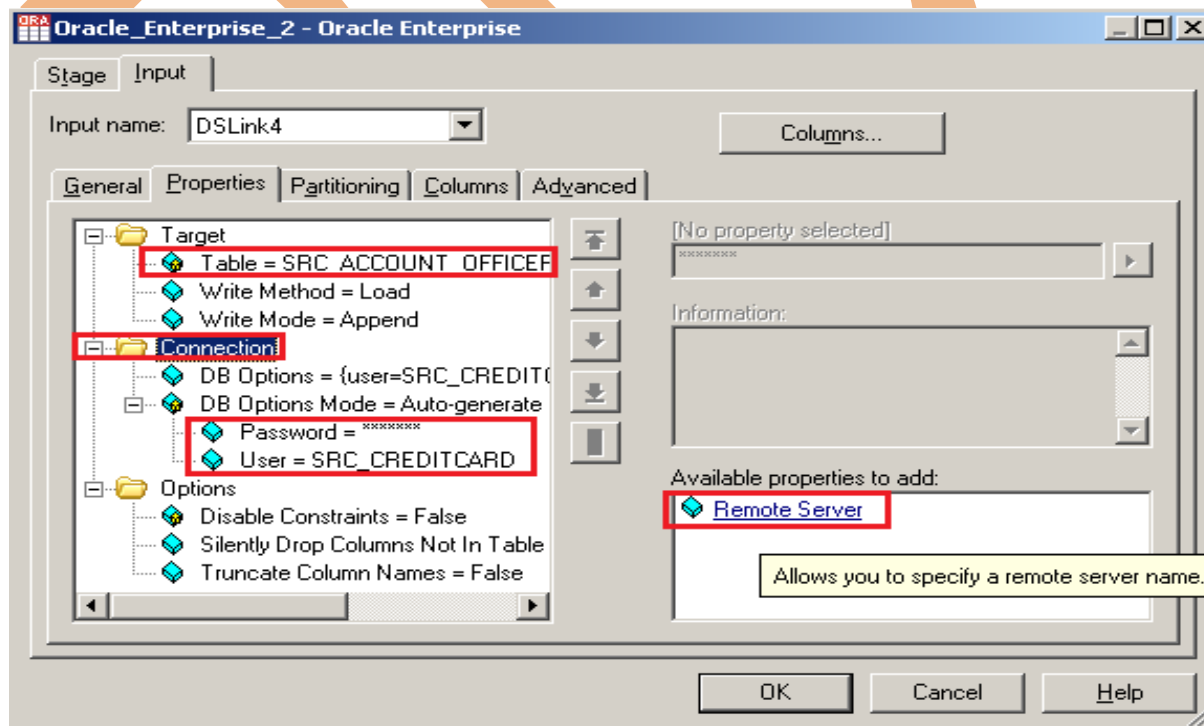


Step-23 :- Now double click on Oracle enterprise stage then it looks like it and we have to enter our table name here in which table we want to insert our data and

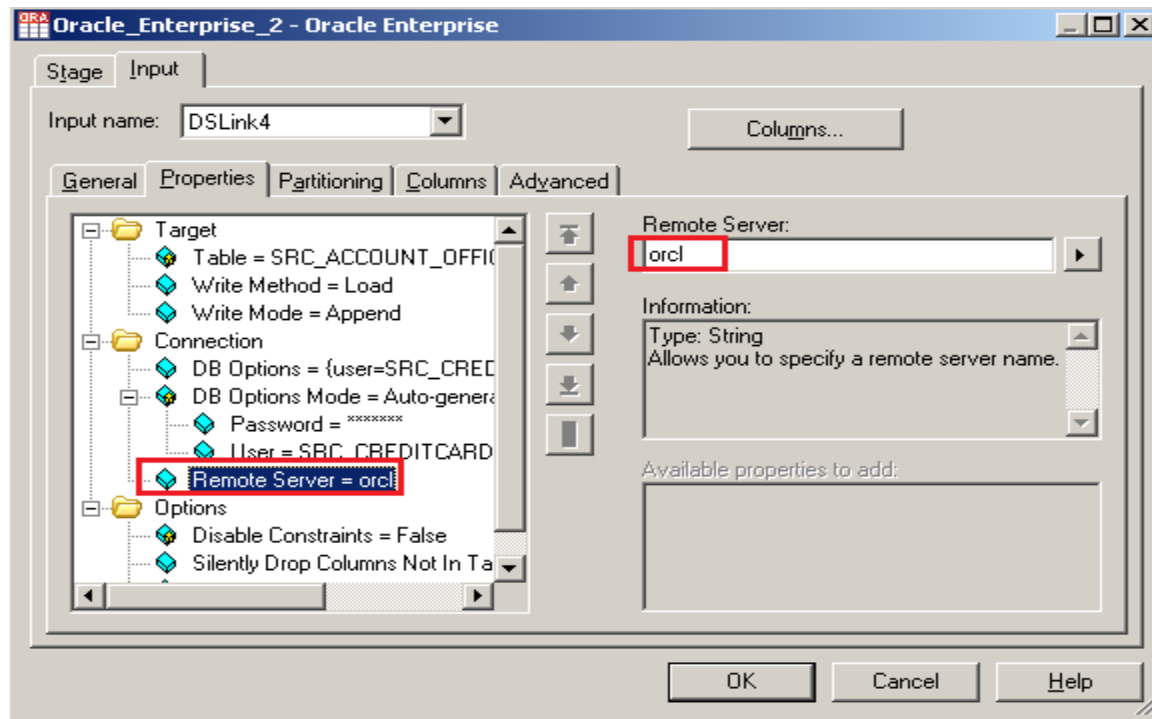
there multiple options if we directly want to load data then we simple used write method as load otherwise we manually put queries on it and also we have to specify username/password on it this password should be matched with oracle username/password..



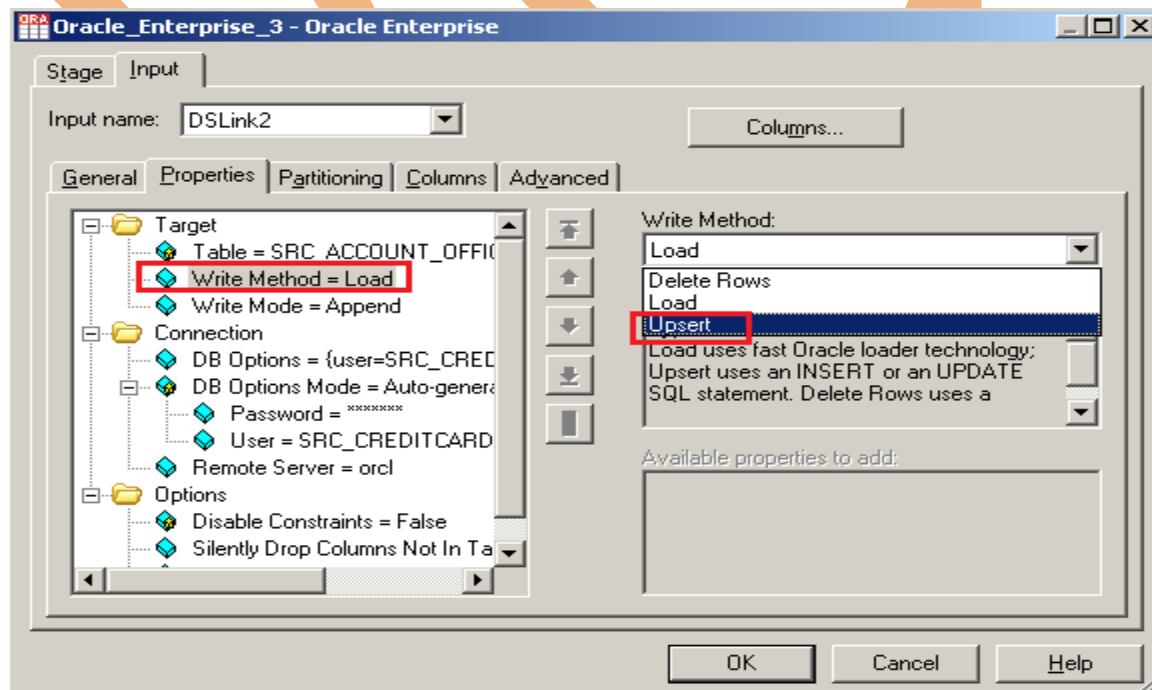
Step-24:- There's one more option here once you click on connection tab then remote server options are popup then we have to specify our server name of oracle.



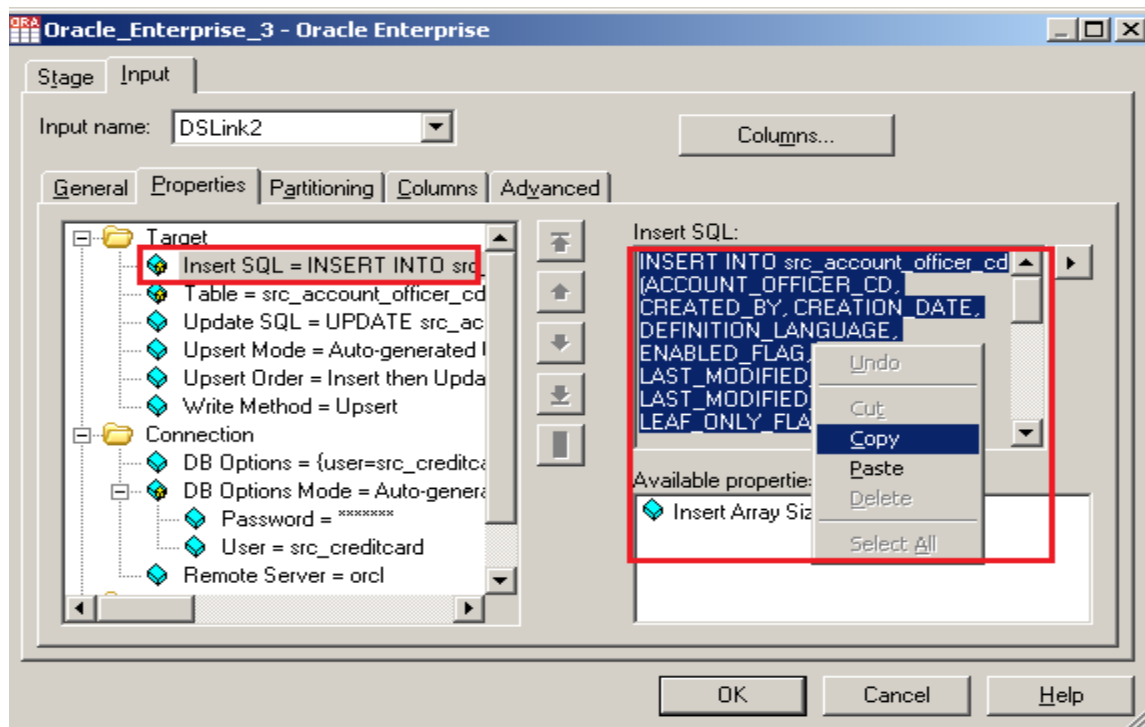
Step-25:- See below,my server name is ORCL and username/password and table name.Ensure that you put correct information then only you will be able to load the data into table.



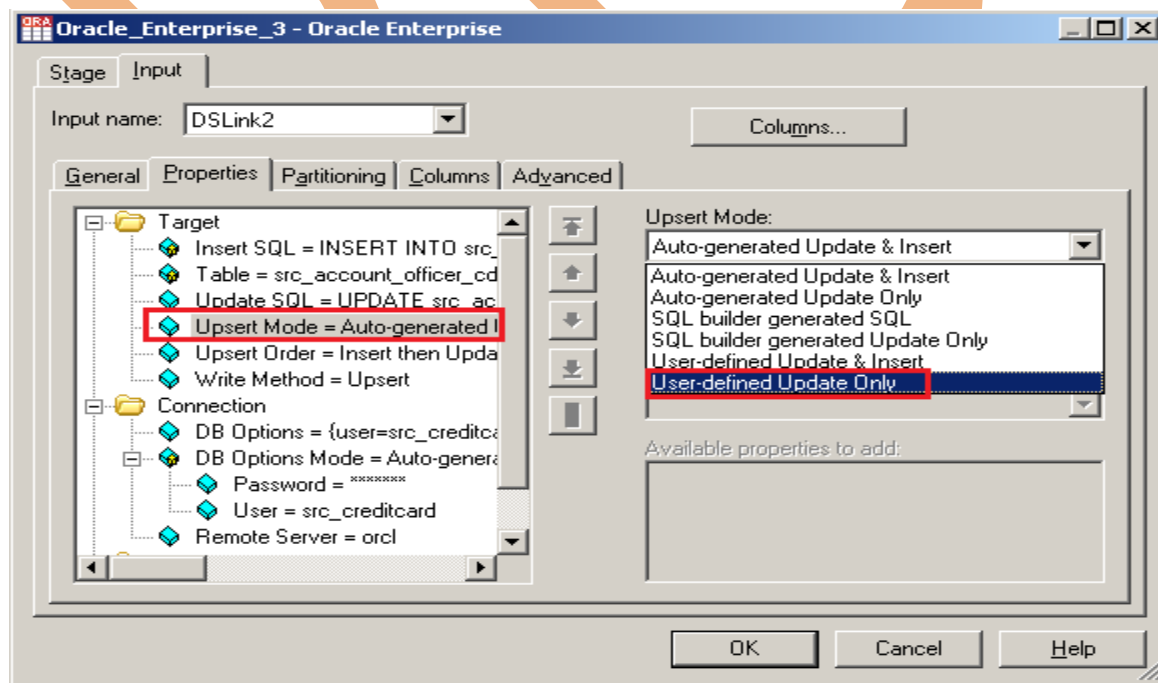
Step-26:- Now there are two ways to load data, directly load or user define load.We choose user define that's why we choose upsert.



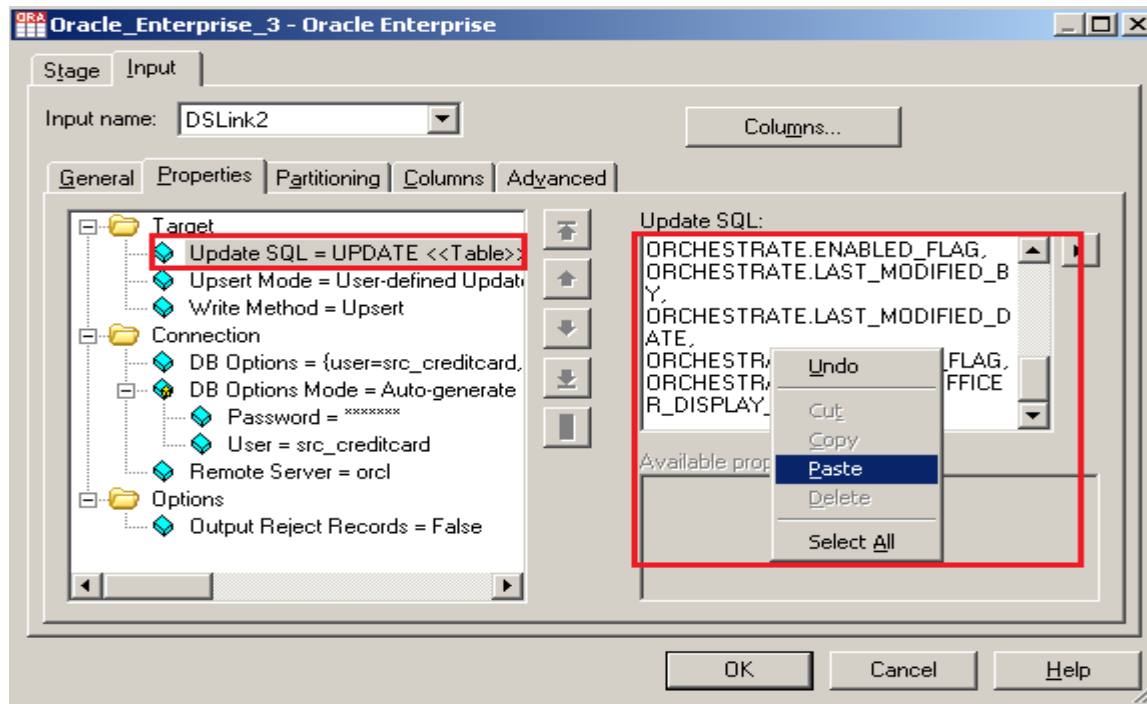
Step-27:- See below ,there is insert query and update we want to insert data in oracle so copied the insert query.



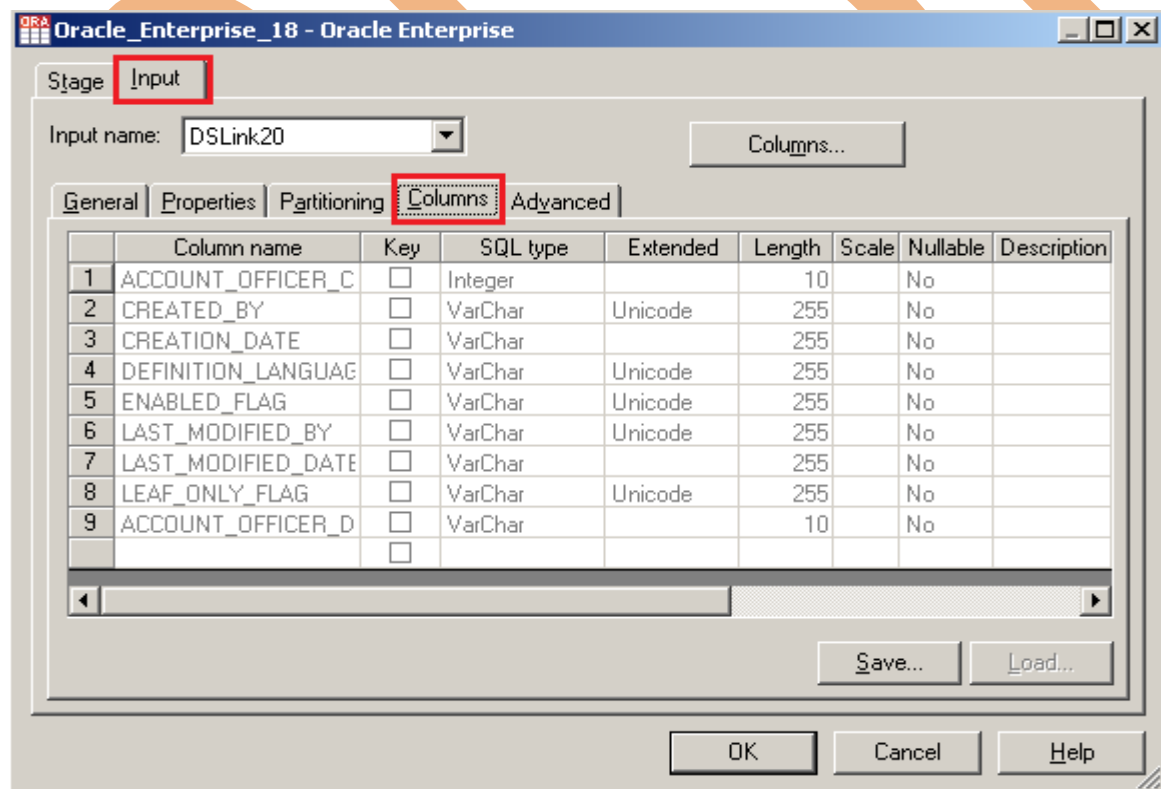
Step-28:- We only want to update our data by insert data in table ,so we copied the insert query and put in this and because we only want to update so we have choosen update only method.



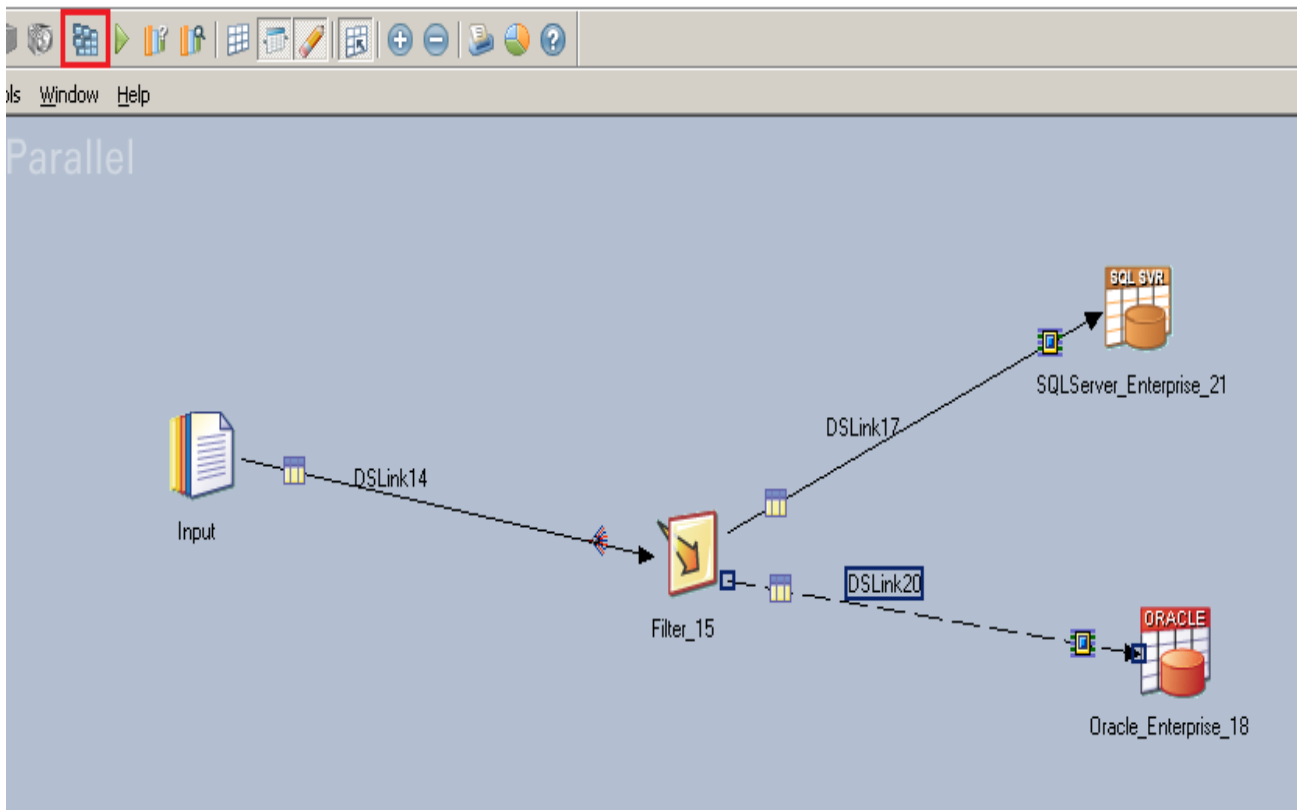
Step-29:- Now paste the query into update space.



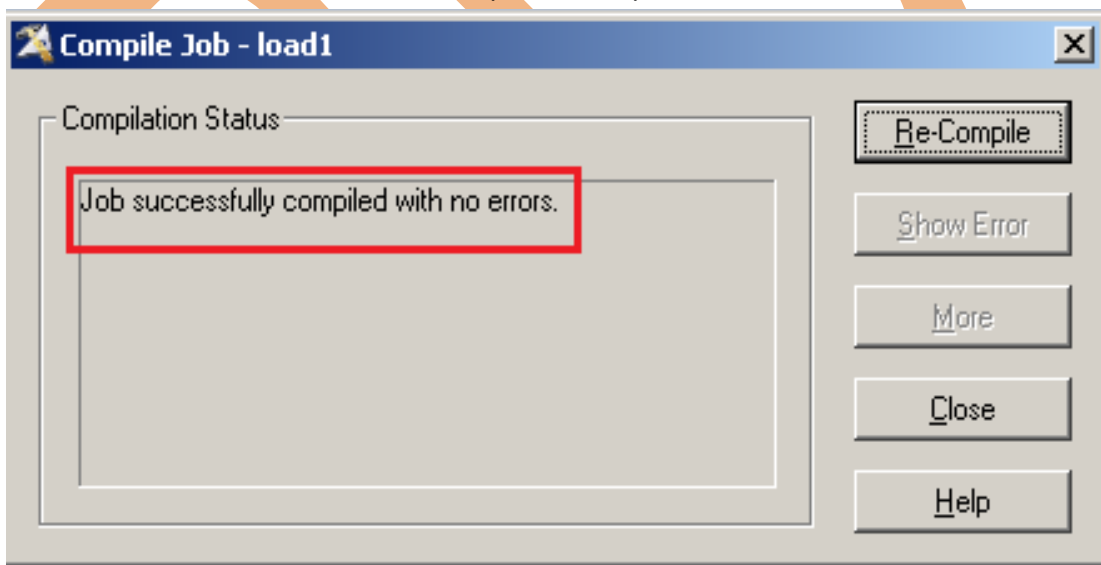
Step-30:- Click on column tab and see all the columns are showing or not.



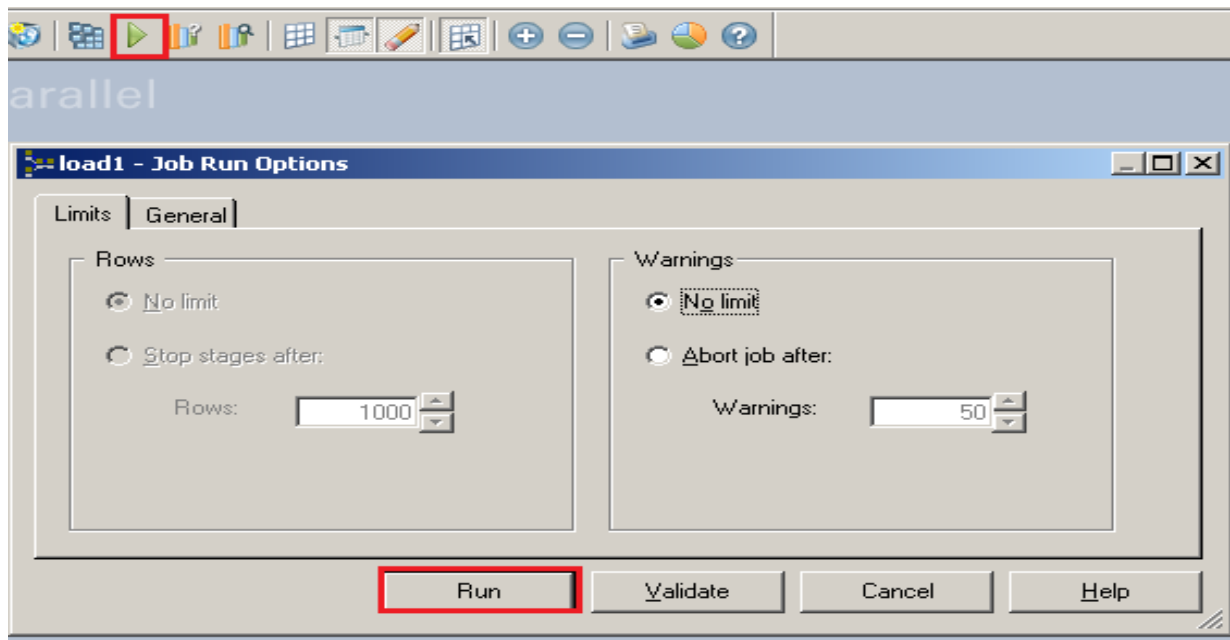
Step-31:- Now compiling the job and notice which file is rejected file.



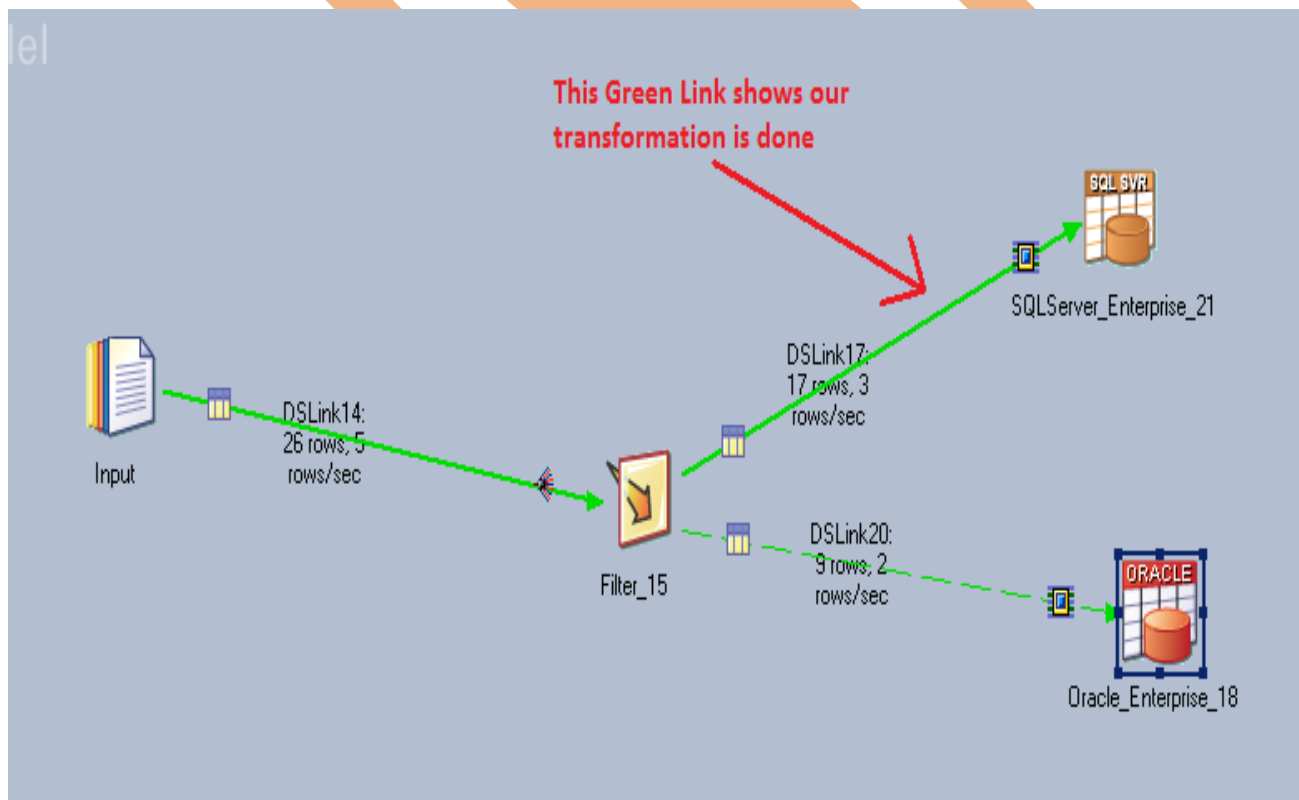
Step-32:- If this is shown that means your compilation is done otherwise it shows error. Now click on run button or (CTRL+F5).



Step-33:- Now click on Run tab and notice some options available here. We have selected No limit of warnings and we can validate before run the job.



Step-34:- After click on run wait for a while than it shows GREEN line that means your transformation is successfully done otherwise if it shows RED Line that means not Done and BLUE Line means Under Process.



Step-35:- Now Go to SQL Console and connect with the same login credentials as I mentioned in oracle enterprise stage src_creditcard/password so you can choose

your own username and password. Before loading, remember to check structure of this file is available and then you should be able to load the data. then simple query:

```
<SELECT * FROM SRC_ACCOUNT_OFFICER_CD_FILT;>
```

ACCOUNT_O...	CREATED_BY	CREATION_DATE	DEFINITIO...	ENABLE...	LAST_MODIFI...	LAST_MODIFIED_DATE	LEAF_ONL...	ACC...
53110	RTUSER	11-JUN-10 07.19.36.000000...	IND	Y	RTUSER	11-JUN-10 07.19.36.000000...	Y	53110
54254	RTUSER	11-JUN-10 07.19.36.000000...	IND	Y	RTUSER	11-JUN-10 07.19.36.000000...	Y	54253
55304	RTUSER	11-JUN-10 07.19.36.000000...	IND	Y	RTUSER	11-JUN-10 07.19.36.000000...	Y	55303
58010	RTUSER	11-JUN-10 07.19.36.000000...	IND	Y	RTUSER	11-JUN-10 07.19.36.000000...	Y	58010

Step-36:- Now Go to SQL Console and connect with the same login credentials as I mentioned in Sql server enterprise stage sa/password123 so you can choose your own username and password. Before loading, remember to check structure of this file is available and then you should be able to load the data. then simple query:

```
<SELECT * FROM SRC_ACCOUNT_OFFICER_CD;>
```

MITSHNA.masc...Query1.sql Summary

```
select * from dbo.src_account_officer_cd;
```

Results Messages

	ACCOUNT_OFFICER_CD	CREATED_BY	CREATION_DATE	DEFINITION_LANGUAGE	ENABLED_FLAG	LAST_MODIFIED_BY	LAST_MODIFIED_DATE	LEAF_ONLY_FLG
1	52223		11-JUN-10 07.19.36.000000 PM	US	Y	RTUSER	11-JUN-10 07.19.36.000000 PM	Y
2	52535		11-JUN-10 07.19.36.000000 PM	US	Y	RTUSER	11-JUN-10 07.19.36.000000 PM	Y
3	53110		11-JUN-10 07.19.36.000000 PM	US	Y	RTUSER	11-JUN-10 07.19.36.000000 PM	Y
4	53458		11-JUN-10 07.19.36.000000 PM	US	Y	RTUSER	11-JUN-10 07.19.36.000000 PM	Y
5	53961		11-JUN-10 07.19.36.000000 PM	US	Y	RTUSER	11-JUN-10 07.19.36.000000 PM	Y
6	54608		11-JUN-10 07.19.36.000000 PM	US	Y	RTUSER	11-JUN-10 07.19.36.000000 PM	Y
7	55304		11-JUN-10 07.19.36.000000 PM	US	Y	RTUSER	11-JUN-10 07.19.36.000000 PM	Y
8	55675		11-JUN-10 07.19.36.000000 PM	US	Y	RTUSER	11-JUN-10 07.19.36.000000 PM	Y
9	56339		11-JUN-10 07.19.36.000000 PM	US	Y	RTUSER	11-JUN-10 07.19.36.000000 PM	Y
10	57060		11-JUN-10 07.19.36.000000 PM	US	Y	RTUSER	11-JUN-10 07.19.36.000000 PM	Y
11	58010		11-JUN-10 07.19.36.000000 PM	US	Y	RTUSER	11-JUN-10 07.19.36.000000 PM	Y
12	58616		11-JUN-10 07.19.36.000000 PM	US	Y	RTUSER	11-JUN-10 07.19.36.000000 PM	Y
13	59154		11-JUN-10 07.19.36.000000 PM	US	Y	RTUSER	11-JUN-10 07.19.36.000000 PM	Y
14	60254		11-JUN-10 07.19.36.000000 PM	US	Y	RTUSER	11-JUN-10 07.19.36.000000 PM	Y
15	60740		11-JUN-10 07.19.36.000000 PM	US	Y	RTUSER	11-JUN-10 07.19.36.000000 PM	Y