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## IBM Data Stage Lab Guide#15

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### Working with Switch Transformation

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#### **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 guide you through how to Load sorted data into SQL Server from Flat File. **Join our professional training to learn from Experts.***

#### **History:**

##### **Version**

0.1  
0.1

##### **Description Change**

Initial Draft  
Review#1

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# Mapping Sheet

## Switch Transformation.

### Source- Flat File

### Target- Oracle, SQL Server and Flat File

Transformation	Switch Transformation											
Source Name	Flat File											
Target Name	Oracle, Sql Server, FlatFile											
Flat File Source Details			Oracle Details				SQL SERVER Details			Flat Files		
Entity Name	Data Types	Is Null	Destination Entity Name	Destination Entity Name	DataTypes	Is Null	Destination	DestinationField Name	DataTypes	DestinationField Name	DataTypes	
ACCOUNT_OFFICER_CD	NUMBER(5)	N	src_creditcard	ACCOUNT_OFFICER_CD	NUMBER(5)	N	sa	BRANCH_CD	NUMBER(5)	ACCOUNT_OFFICER_CD	NUMBER(5)	
CREATED_BY	VARCHAR2(30)	y	src_creditcard	CREATED_BY	VARCHAR2(30)	y	sa	CREATED_BY	VARCHAR2(30)	CREATED_BY	VARCHAR2(30)	
CREATION_DATE	TIMESTAMP(6)	y	src_creditcard	CREATION_DATE	TIMESTAMP(6)	y	sa	CREATION_DATE	TIMESTAMP(6)	CREATION_DATE	TIMESTAMP(6)	
DEFINITION_LANGUAGE	VARCHAR2(4)	y	src_creditcard	DEFINITION_LANGUAGE	VARCHAR2(4)	y	sa	DEFINITION_LANGUAGE	VARCHAR2(4)	DEFINITION_LANGUAGE	VARCHAR2(4)	
ENABLED_FLAG	VARCHAR2(1)	y	src_creditcard	ENABLED_FLAG	VARCHAR2(1)	y	sa	ENABLED_FLAG	VARCHAR2(1)	ENABLED_FLAG	VARCHAR2(1)	
LAST_MODIFIED_BY	VARCHAR2(30)	y	src_creditcard	LAST_MODIFIED_BY	VARCHAR2(30)	y	sa	LAST_MODIFIED_BY	VARCHAR2(30)	LAST_MODIFIED_BY	VARCHAR2(30)	
LAST_MODIFIED_DATE	TIMESTAMP(6)	y	src_creditcard	LAST_MODIFIED_DATE	TIMESTAMP(6)	y	sa	LAST_MODIFIED_DATE	TIMESTAMP(6)	LAST_MODIFIED_DATE	TIMESTAMP(6)	
LEAF_ONLY_FLAG	VARCHAR2(1)	y	src_creditcard	LEAF_ONLY_FLAG	VARCHAR2(1)	y	sa	LEAF_ONLY_FLAG	VARCHAR2(1)	LEAF_ONLY_FLAG	VARCHAR2(1)	
ACCOUNT_OFFICER_DISPLAY_CD	VARCHAR2(10)	y	src_creditcard	ACCOUNT_OFFICER_DISPLAY_CD	VARCHAR2(10)	y	sa	BRANCH_DISPLAY_CD	VARCHAR2(10)	ACCOUNT_OFFICER_DISPLAY_CD	VARCHAR2(10)	

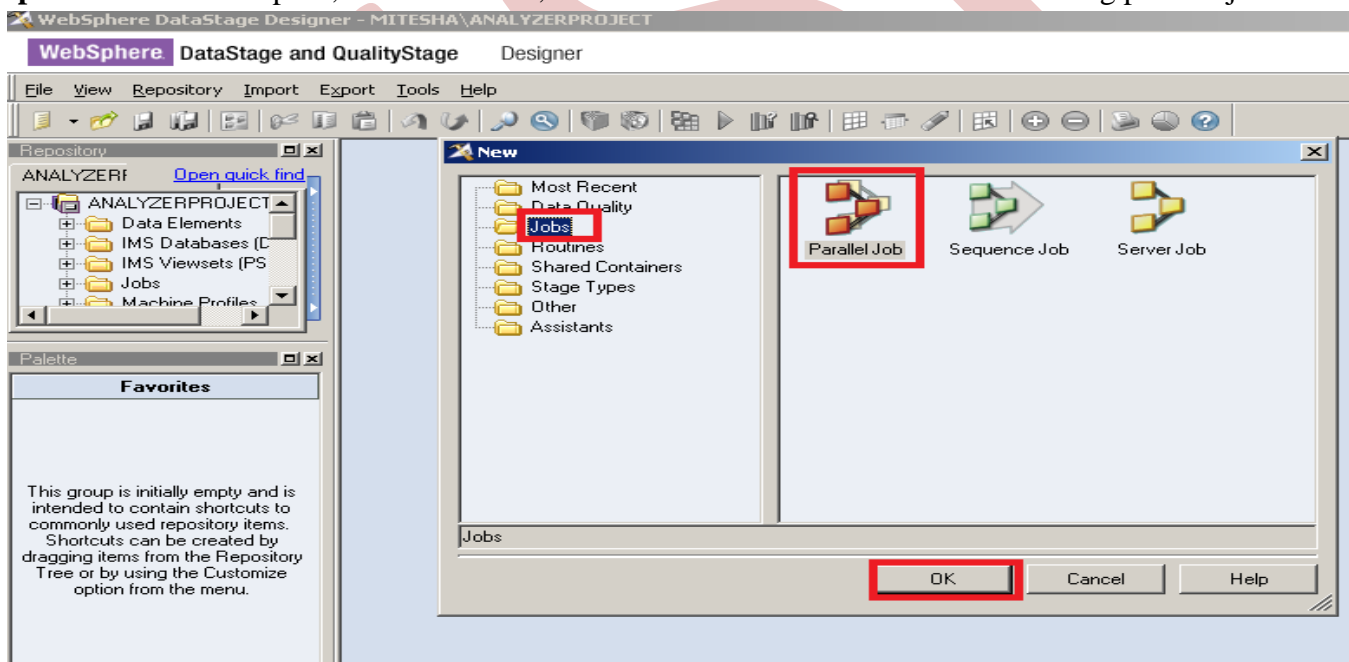
## EXPRESSION:-

INSERT INTO SRC\_ACCOUNT\_OFFICER\_SWITCH  
 WHERE DEFINITION LANGUAGE ='IND' Goes to Oracle  
 DEFINITION LANGUAGE ='UK' Goes to SQL Server  
 DEFINITION LANGUAGE ='US' Goes to Flat File

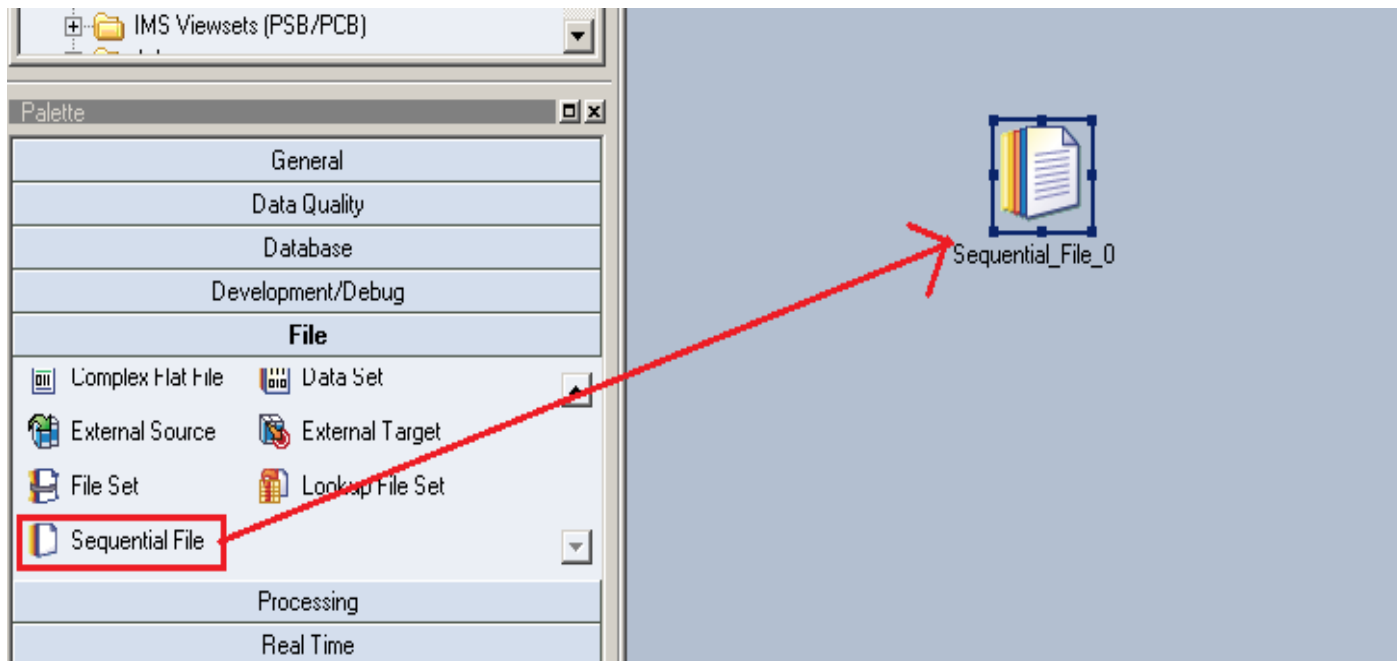
### Step-1 :- In Windows Click Designer Client of Datastage



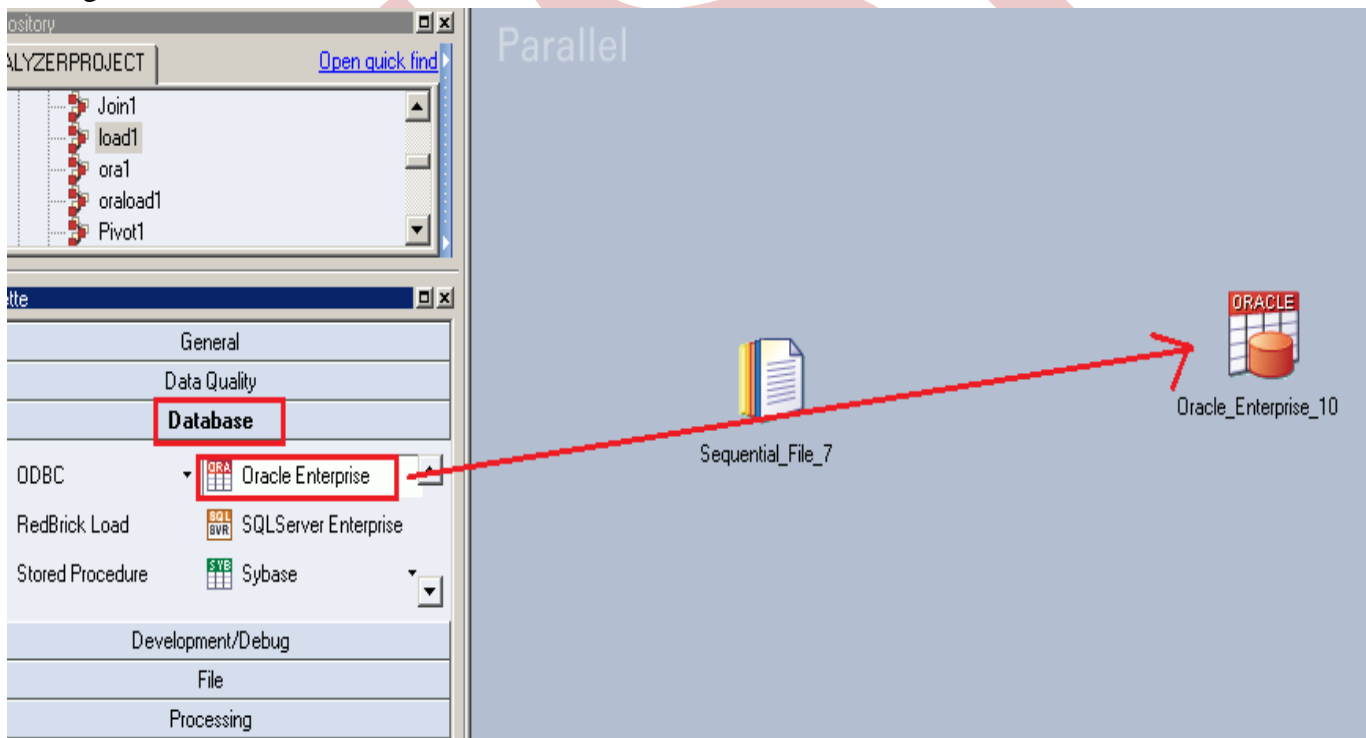
### Step-2 New Window opens, then click Jobs, then click Parallel Job because we are using parallel jobs.



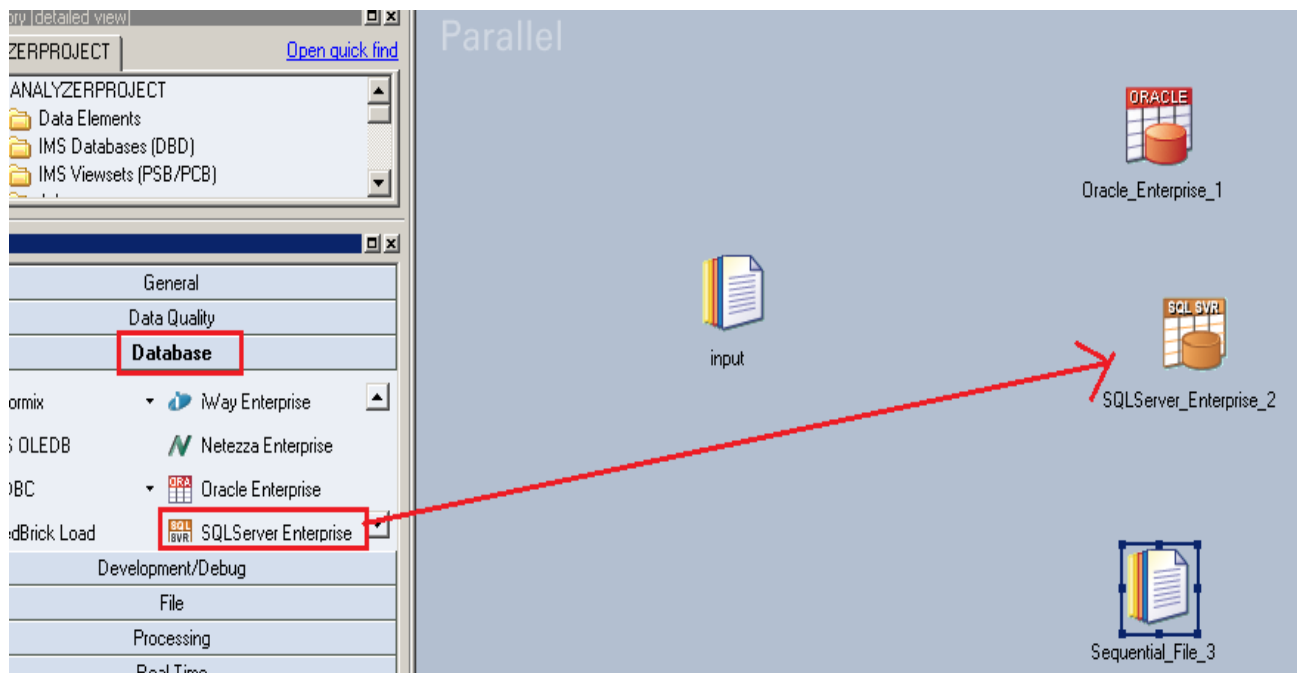
### Step3 First go on File Palette then scroll the cursor and choose Sequential File and drag it to Parallel pane and rename it. This file is used for input data.



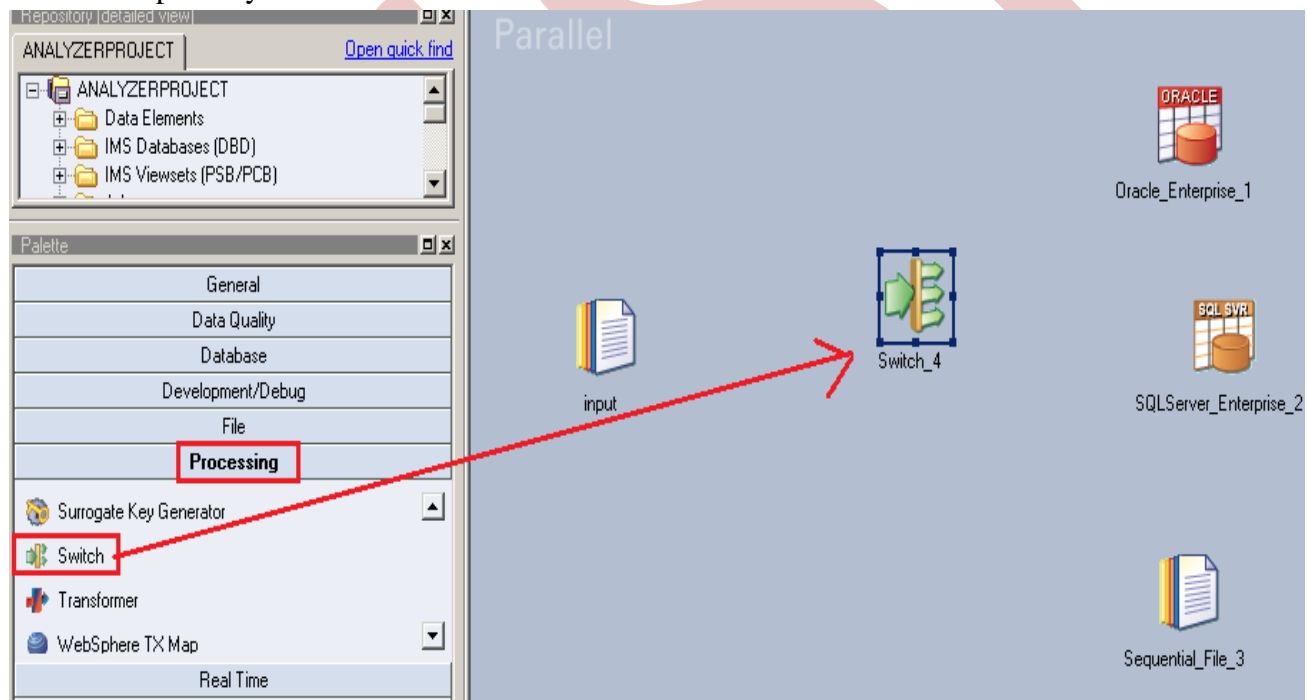
**Step-4** Choose Oracle Enterprise from database Database Palette and drag it to parallel pane. This is used for loading data into oracle from flat files.



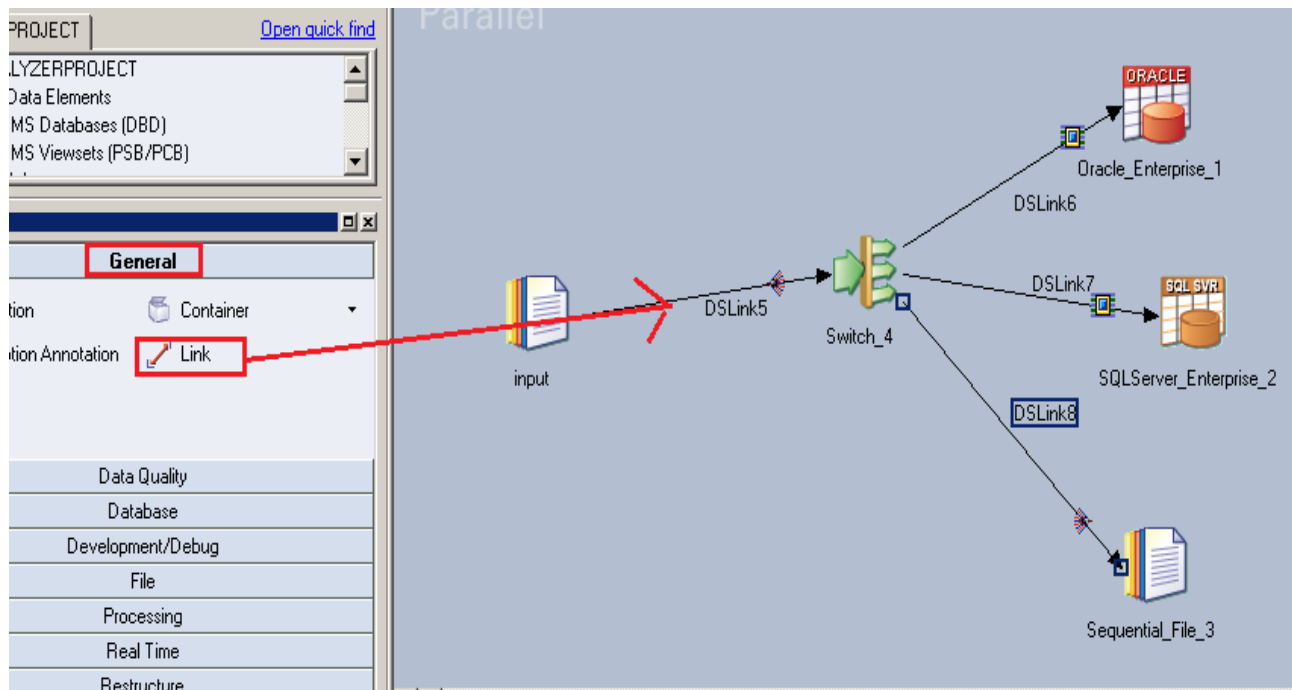
**Step-5** Choose SQL Server Enterprise from database Database Palette and drag it to parallel pane. This is used for loading data into SQL server from flat files.



**Step-6:-** Now Choose switch stage from processing palette, this is used for switch data into multiple targets with the help of key based selection.



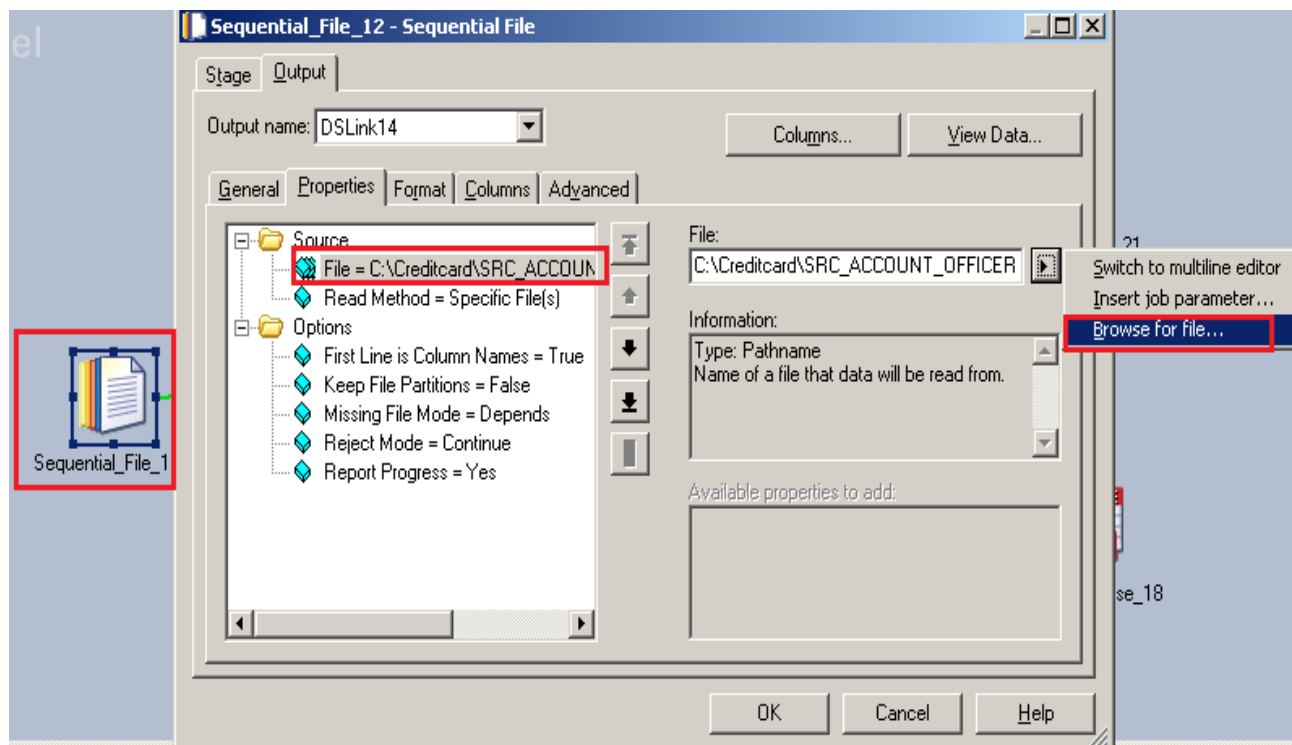
**Step-7:-** Now make an connection with these stages, that's why we have to use this link stage for connecting these stages.



**Step-8** 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.

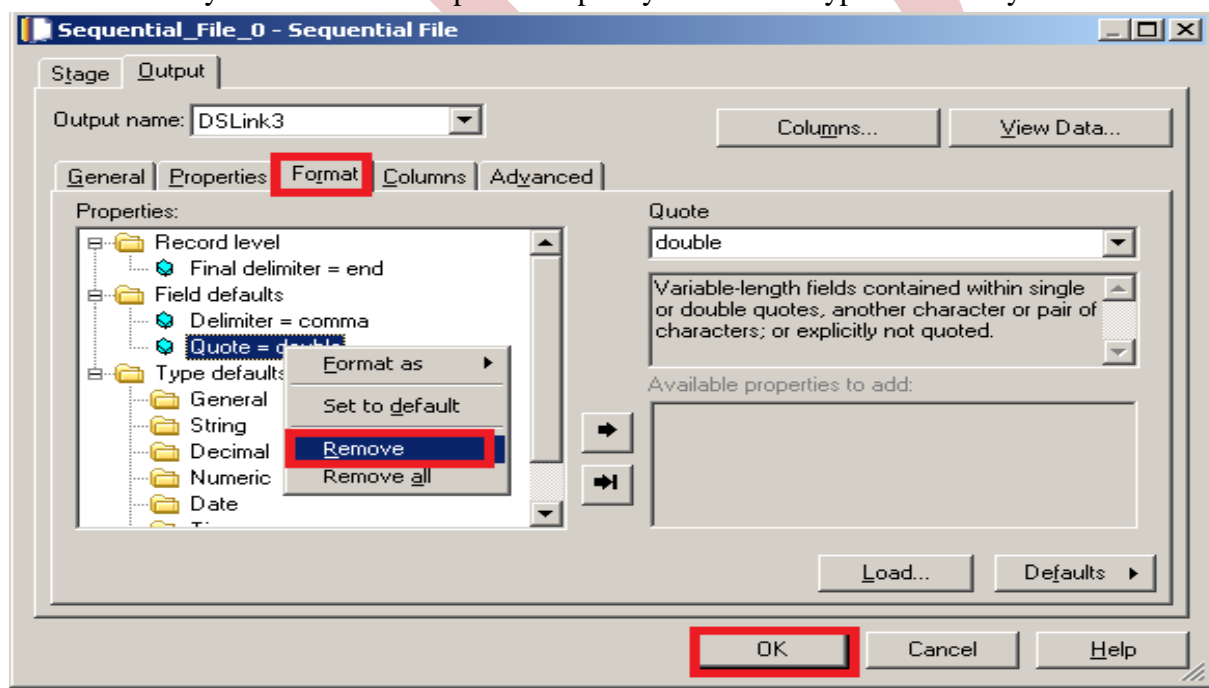
```
SQL> CREATE TABLE SRC_ACCOUNT_OFFICER_CD_FILT
2   ( ACCOUNT_OFFICER_CD NUMBER(5,0) PRIMARY KEY,
3   CREATED_BY VARCHAR2(30 BYTE),
4   CREATION_DATE VARCHAR2 (100),
5   DEFINITION_LANGUAGE VARCHAR2(4 BYTE),
6   ENABLED_FLAG VARCHAR2(1 BYTE),
7   LAST_MODIFIED_BY VARCHAR2(30 BYTE),
8   LAST_MODIFIED_DATE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

**Step-9:-** Double click on Input file and browse an input file that can be .txt, .csv any test file.

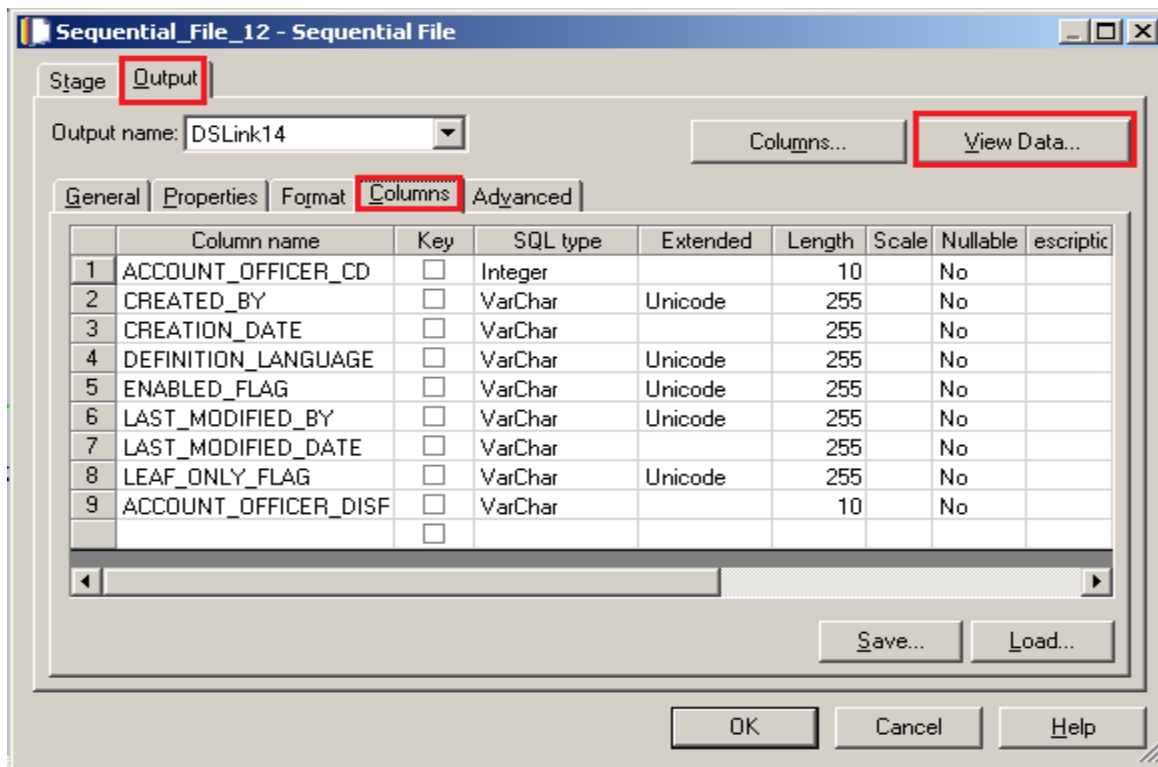


**Step-10:-** Go to Format tab and Remove double Quote because we don't need them then Click on OK.

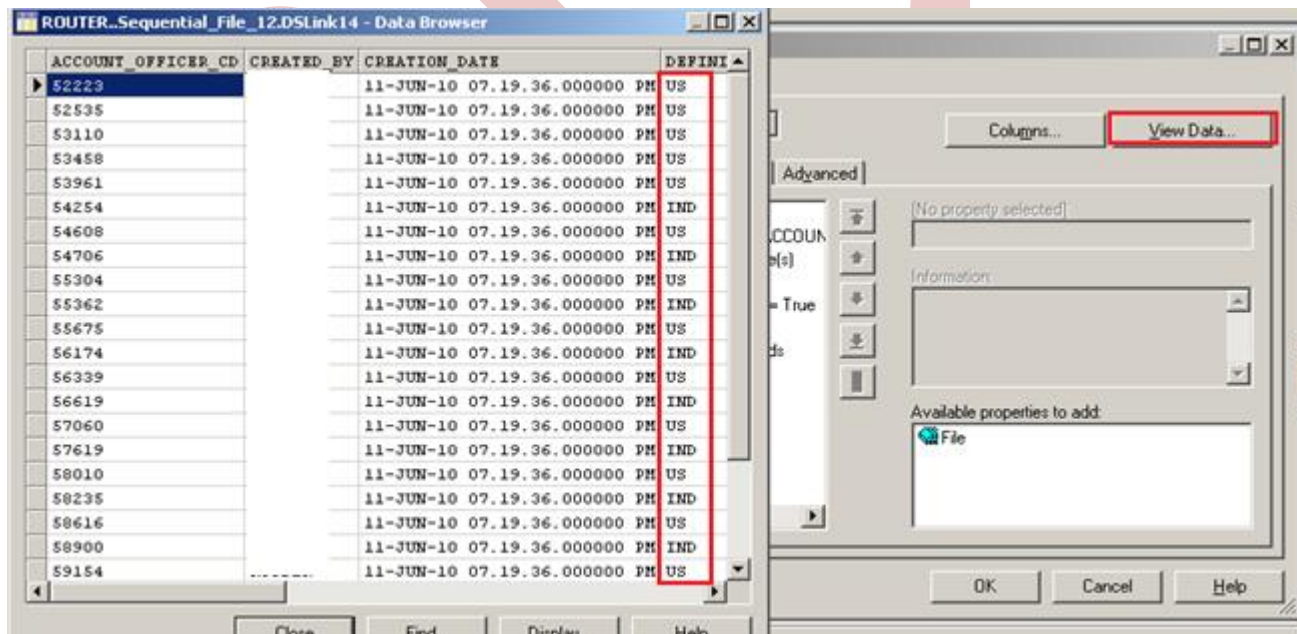
Note:- If you use date as a input than specify here which type of format you used



**Step-11** Go to Columns tab and enter same column names as declared in Input file and put data type, length than click on View Data. This will show your Input Data.

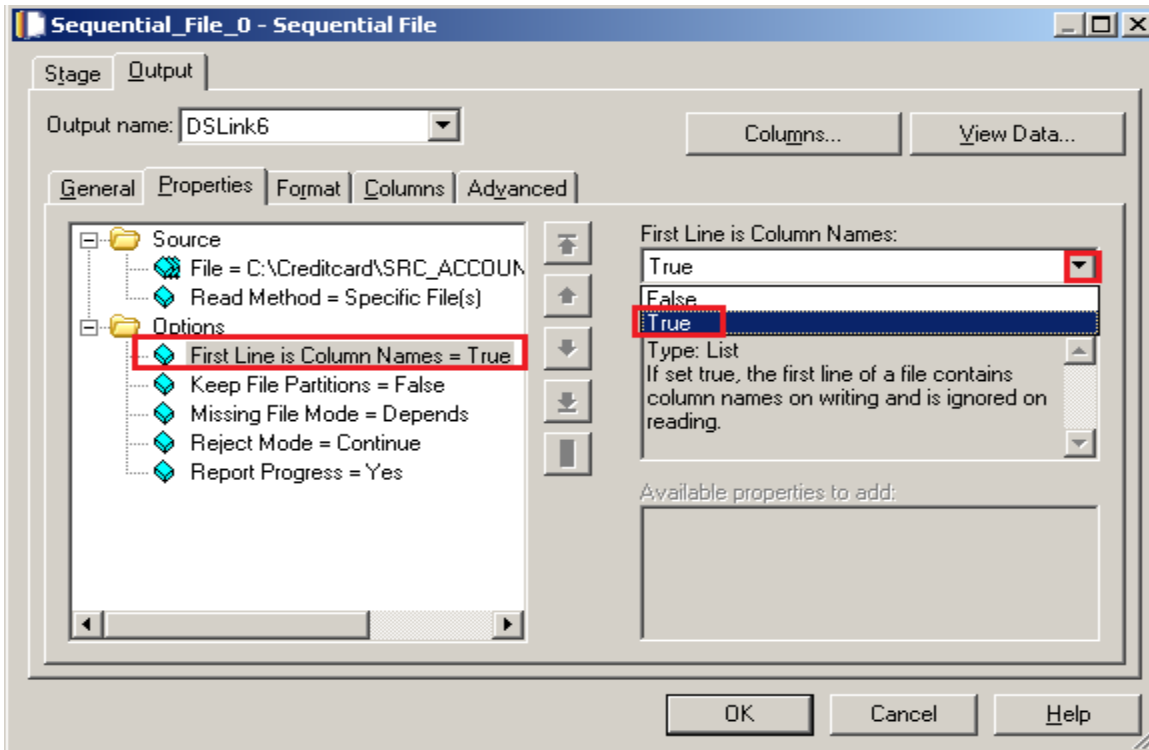


**Step-12:-** Now click on View Data and Ok. If your data is shown like this that means you have made successful connection between input file and Datastage otherwise it will give some error like column mismatch error.



**Step-13:-** After choosing file, select 'True' from First line in column Names dropdown for removing first line from Input file.

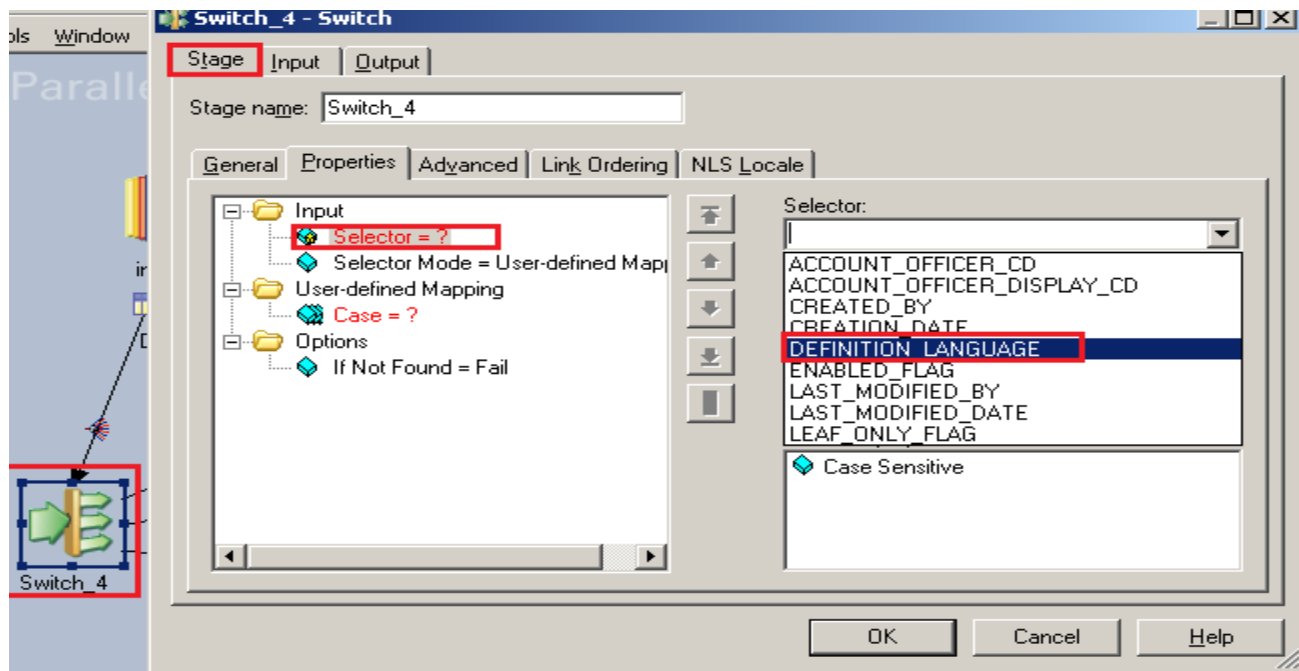




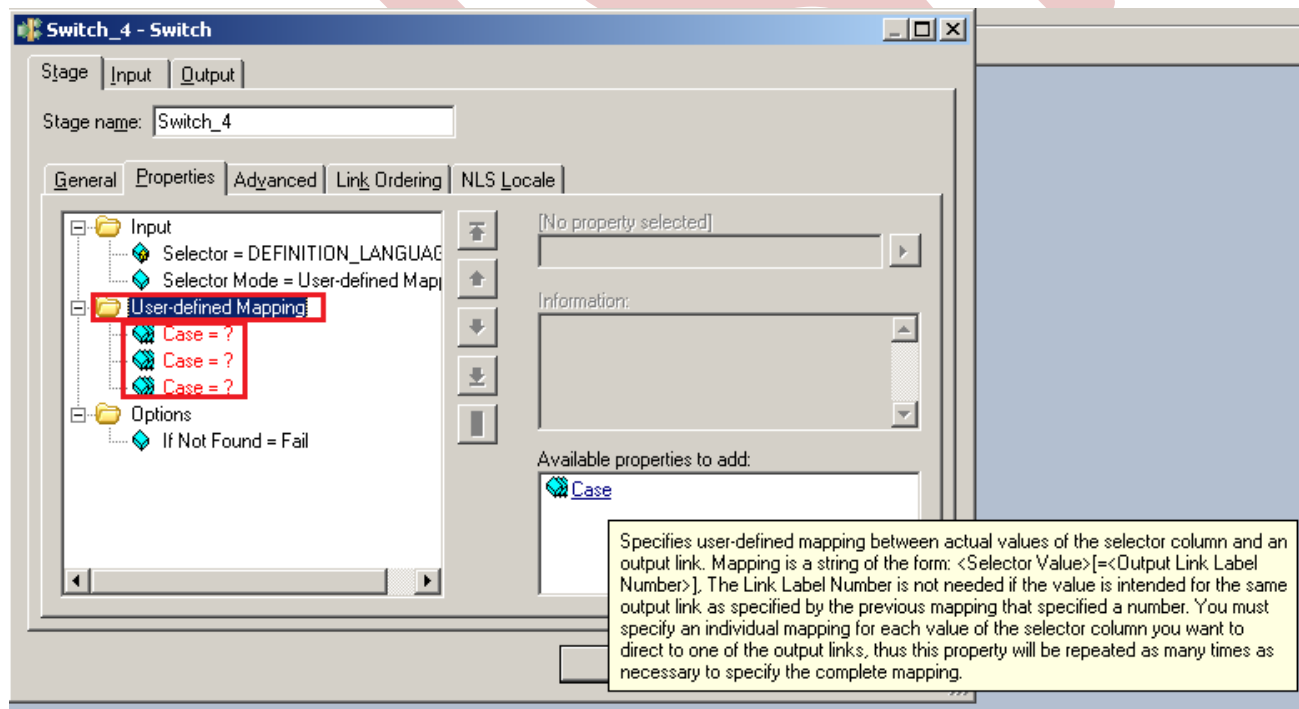
**Step-14 :-** Make input file and remember column names.

```
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,RTUSER,11-JUN-10 07.19.36.000000 PM,Y,52223.36,
52535, 11-JUN-10 07.19.36.000000 PM,US,Y,RTUSER,11-JUN-10 07.19.36.000000 PM,Y,52534.89,
53110, 11-JUN-10 07.19.36.000000 PM,US,Y,RTUSER,11-JUN-10 07.19.36.000000 PM,Y,53110.24,
53458, 11-JUN-10 07.19.36.000000 PM,US,Y,RTUSER,11-JUN-10 07.19.36.000000 PM,Y,53457.6,,
53961, 11-JUN-10 07.19.36.000000 PM,US,Y,RTUSER,11-JUN-10 07.19.36.000000 PM,Y,53960.7,,
54254, 11-JUN-10 07.19.36.000000 PM,IND,Y,RTUSER,11-JUN-10 07.19.36.000000 PM,Y,54253.88,
54608, 11-JUN-10 07.19.36.000000 PM,US,Y,RTUSER,11-JUN-10 07.19.36.000000 PM,Y,54607.99,
54706, 11-JUN-10 07.19.36.000000 PM,IND,Y,RTUSER,11-JUN-10 07.19.36.000000 PM,Y,54705.91,
55304, 11-JUN-10 07.19.36.000000 PM,US,Y,RTUSER,11-JUN-10 07.19.36.000000 PM,Y,55303.81,
55362, 11-JUN-10 07.19.36.000000 PM,IND,Y,RTUSER,11-JUN-10 07.19.36.000000 PM,Y,55362.01,
55675, 11-JUN-10 07.19.36.000000 PM,US,Y,RTUSER,11-JUN-10 07.19.36.000000 PM,Y,55674.97,
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57060, 11-JUN-10 07.19.36.000000 PM,US,Y,RTUSER,11-JUN-10 07.19.36.000000 PM,Y,57059.61,
57619, 11-JUN-10 07.19.36.000000 PM,IND,Y,RTUSER,11-JUN-10 07.19.36.000000 PM,Y,57619.17,
58010, 11-JUN-10 07.19.36.000000 PM,US,Y,RTUSER,11-JUN-10 07.19.36.000000 PM,Y,58010.18,
58235, 11-JUN-10 07.19.36.000000 PM,IND,Y,RTUSER,11-JUN-10 07.19.36.000000 PM,Y,58235.35,
58616, 11-JUN-10 07.19.36.000000 PM,US,Y,RTUSER,11-JUN-10 07.19.36.000000 PM,Y,58616.48,
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59154, 11-JUN-10 07.19.36.000000 PM,US,Y,RTUSER,11-JUN-10 07.19.36.000000 PM,Y,59153.7,,
59567, 11-JUN-10 07.19.36.000000 PM,IND,Y,RTUSER,11-JUN-10 07.19.36.000000 PM,Y,59566.99,
60254, 11-JUN-10 07.19.36.000000 PM,US,Y,RTUSER,11-JUN-10 07.19.36.000000 PM,Y,60254.29,
60740, 11-JUN-10 07.19.36.000000 PM,US,Y,RTUSER,11-JUN-10 07.19.36.000000 PM,Y,60740.15,
60951, 11-JUN-10 07.19.36.000000 PM,US,Y,RTUSER,11-JUN-10 07.19.36.000000 PM,Y,60951.47,
61134, 11-JUN-10 07.19.36.000000 PM,US,Y,RTUSER,11-JUN-10 07.19.36.000000 PM,Y,61133.62,
```

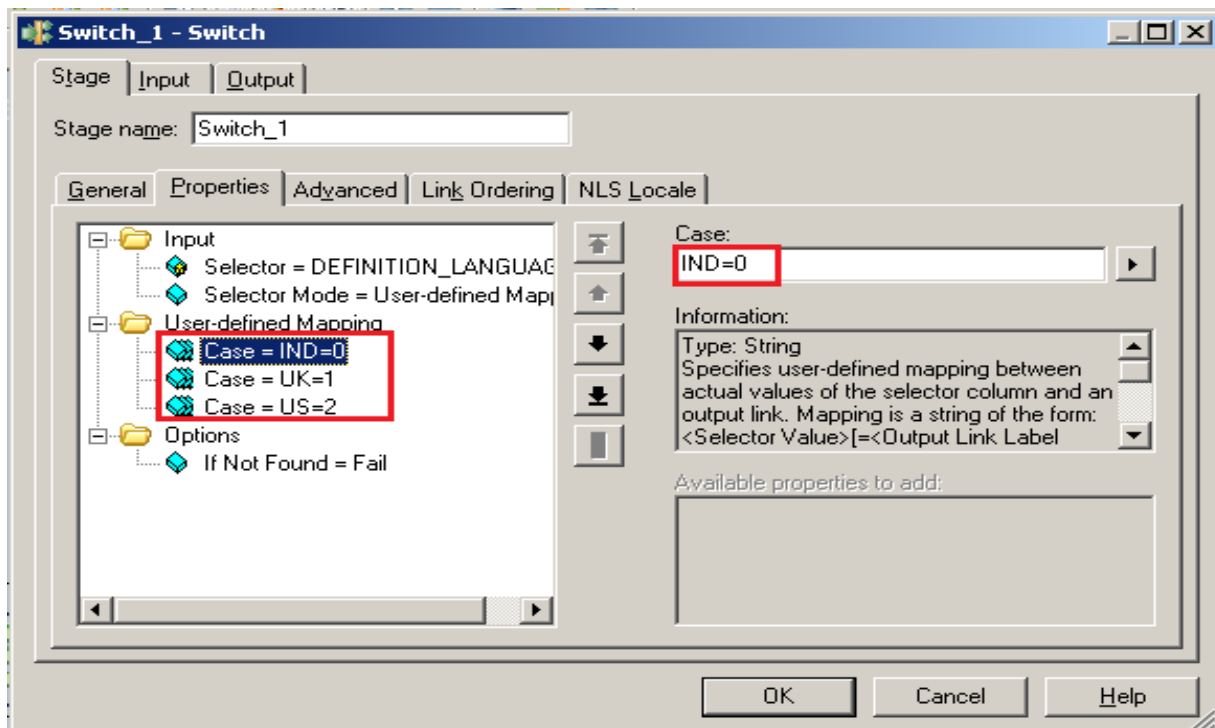
**Step-15:-** Now double click on switch stage see here there are some option available now click on selector button than select a definition language column because we want to split our source data based on definition language.



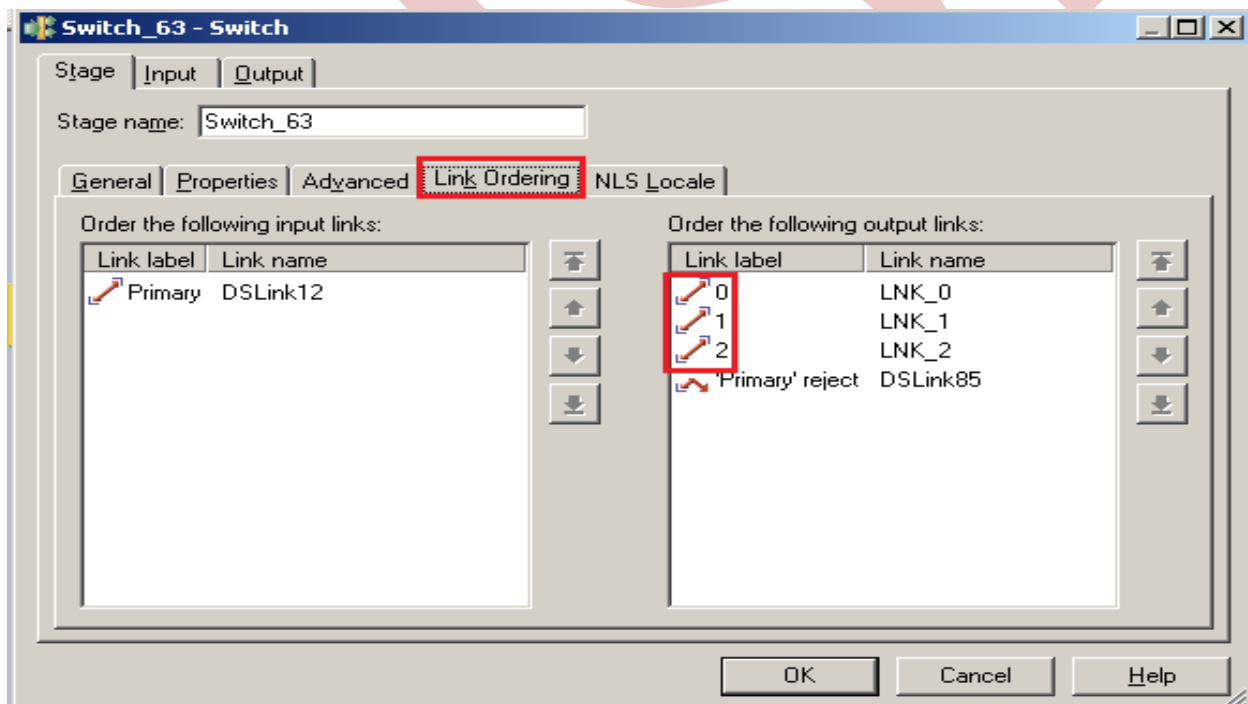
**Step-16:-** Now we want to store our data into 3 target files, so we have to use 3 cases statement and remember that in every time put statement and after statement you have to put the output link number and by default link number is started with 0 and further.



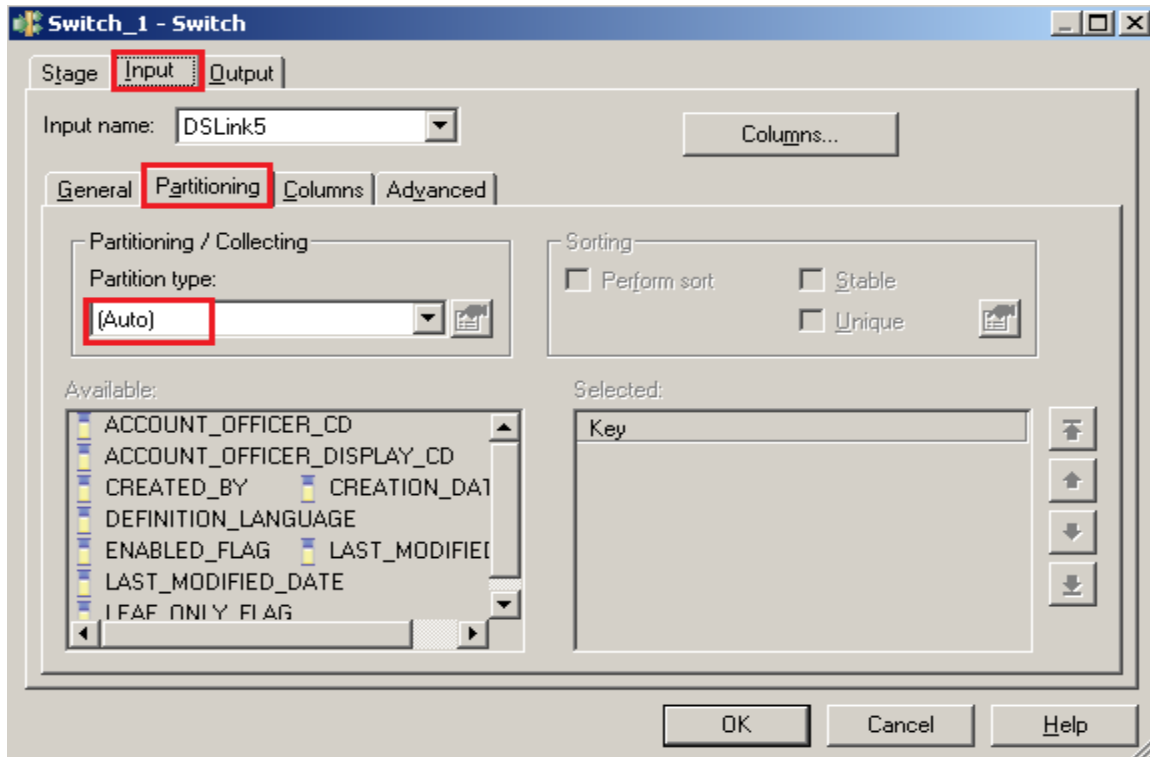
**Step-17:-** See I'm used three statement in first link IND based data goes to link number 0 means first target so it's better if you specify the link name by 0,1,2 likewise so you have to specify like this.



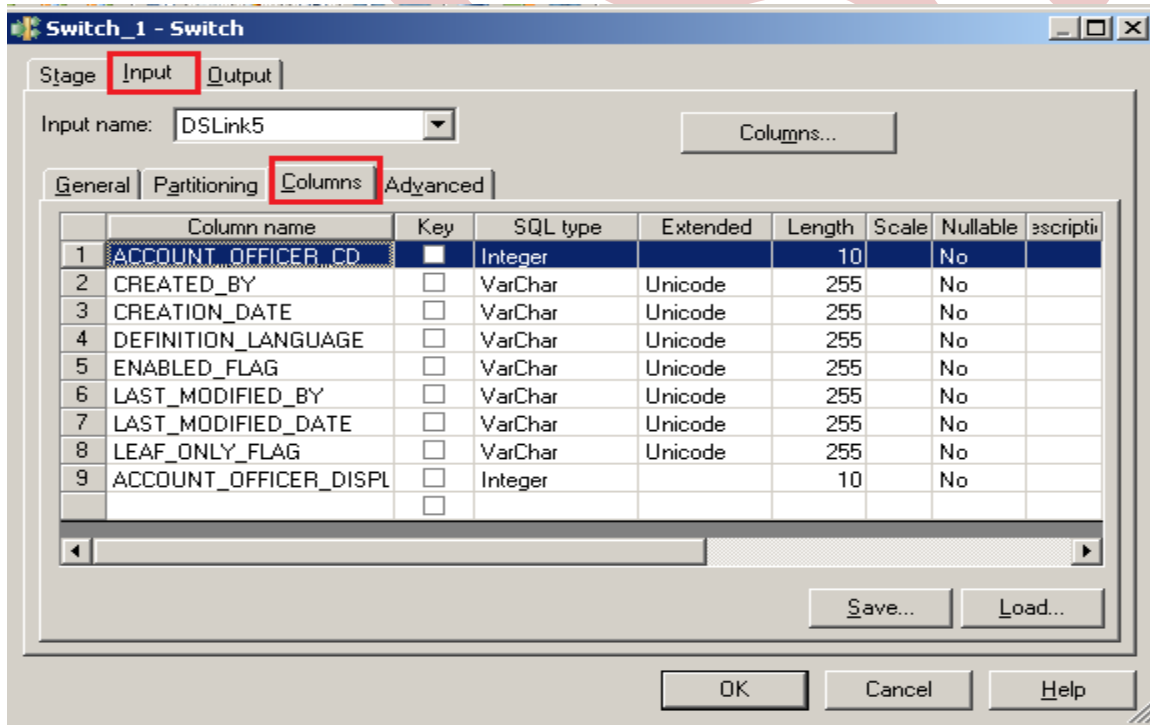
**Step-18:-** You can see it ordering of link and link name as i specify link name LNK\_0, likewise so it's better to understand.



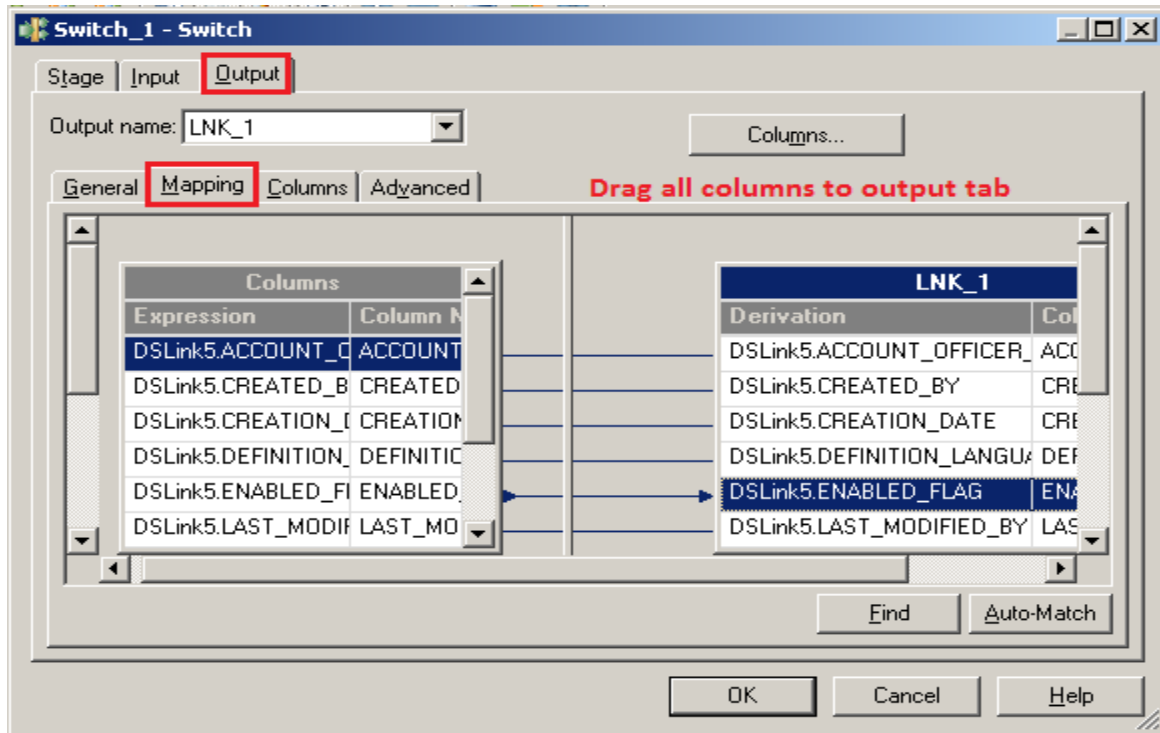
**Step-19:-** Now go to input tab and select partitioning and you can hash key partition because every time if we use key base technology than we have to use hash otherwise you can also specify Auto instead of Hash.



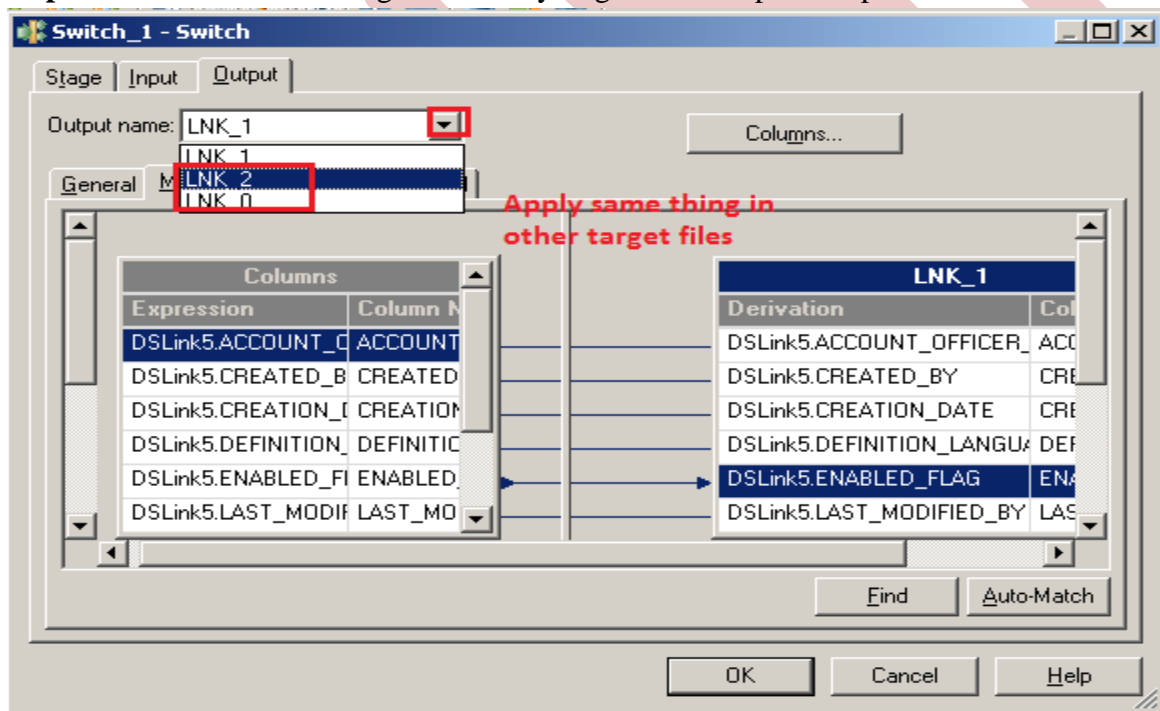
**Step-20:-** Click on Input and see all columns are available or not



**Step-21:-** Now go to output tab then select all links and drag them into Out Link for sending data which satisfies switch condition into output links..

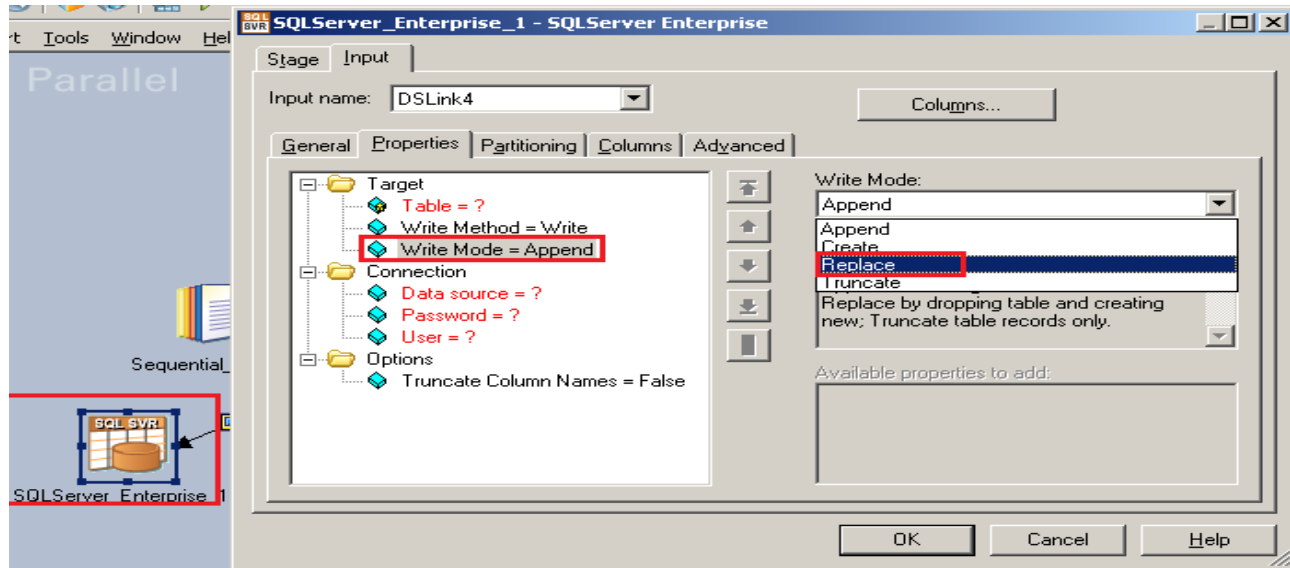


**Step-22:-** Now we have 3 targets for every target we have provide path like above one.

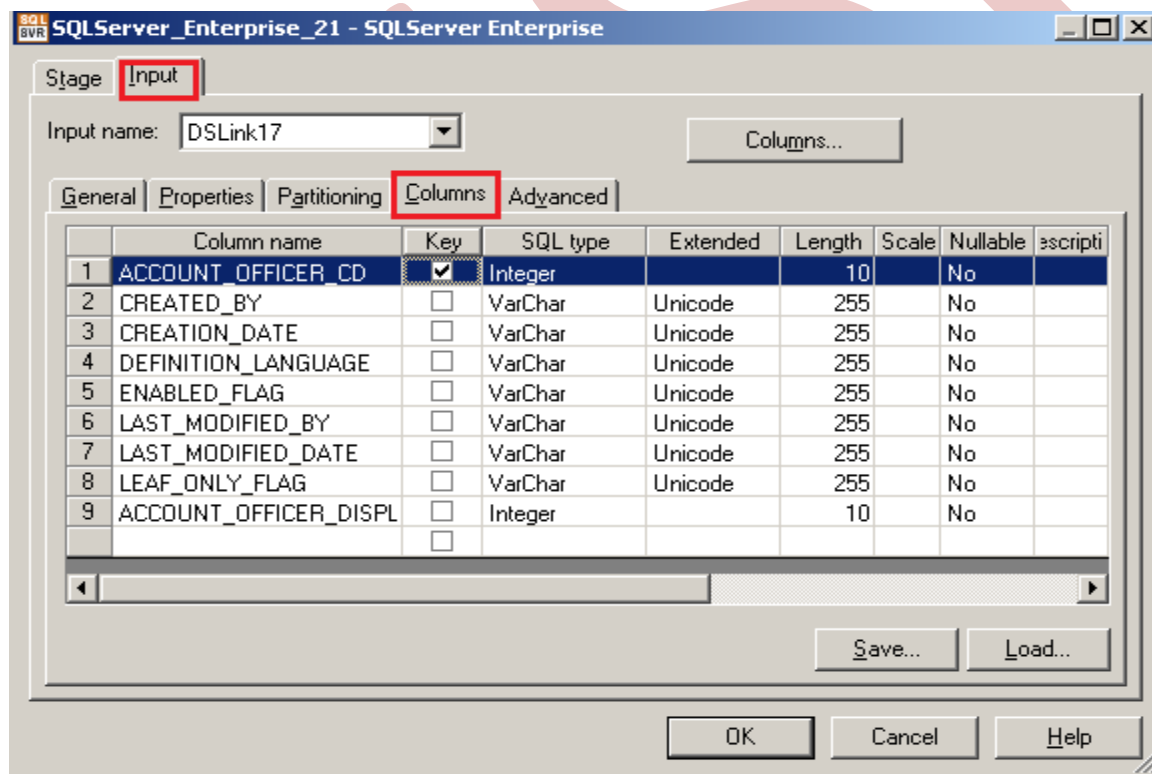


**Step-23:-** Now double click on Sql Server enterprise stage then it looks like below screen shot. Here we have to enter our table name where we want to insert our data. Multiple options are there for write mode drop down. If we directly want to load data than we simple used write method as load otherwise we manually put queries on it. Also we have to specify username and password and this password should match with oracle

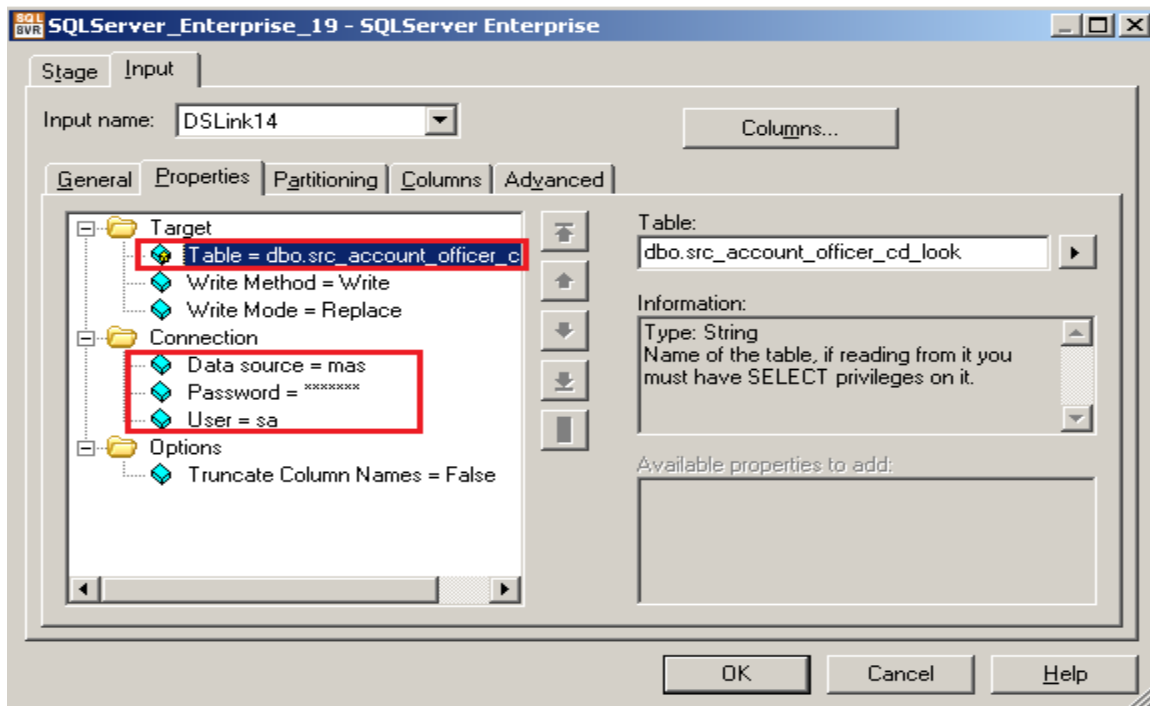
username and password. Below we specify Replace as write Mode that means if already data is present in table than replace the data with new data.



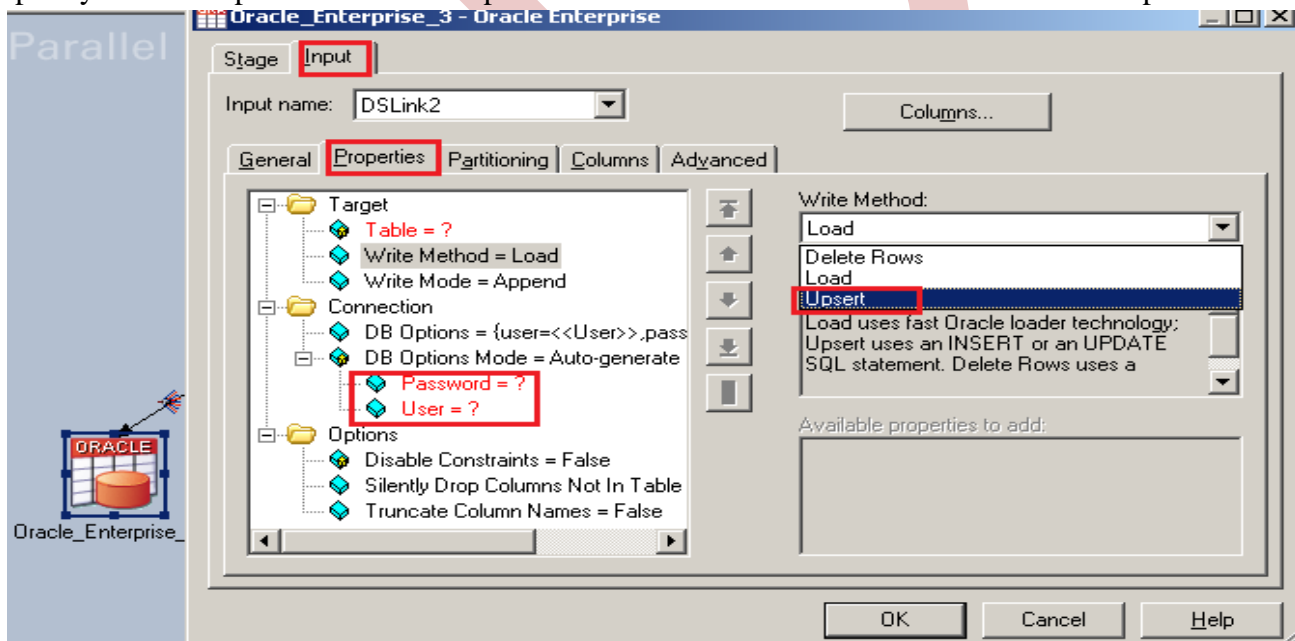
**Step-24:-** Click on column tab and see all the columns are showing or not.



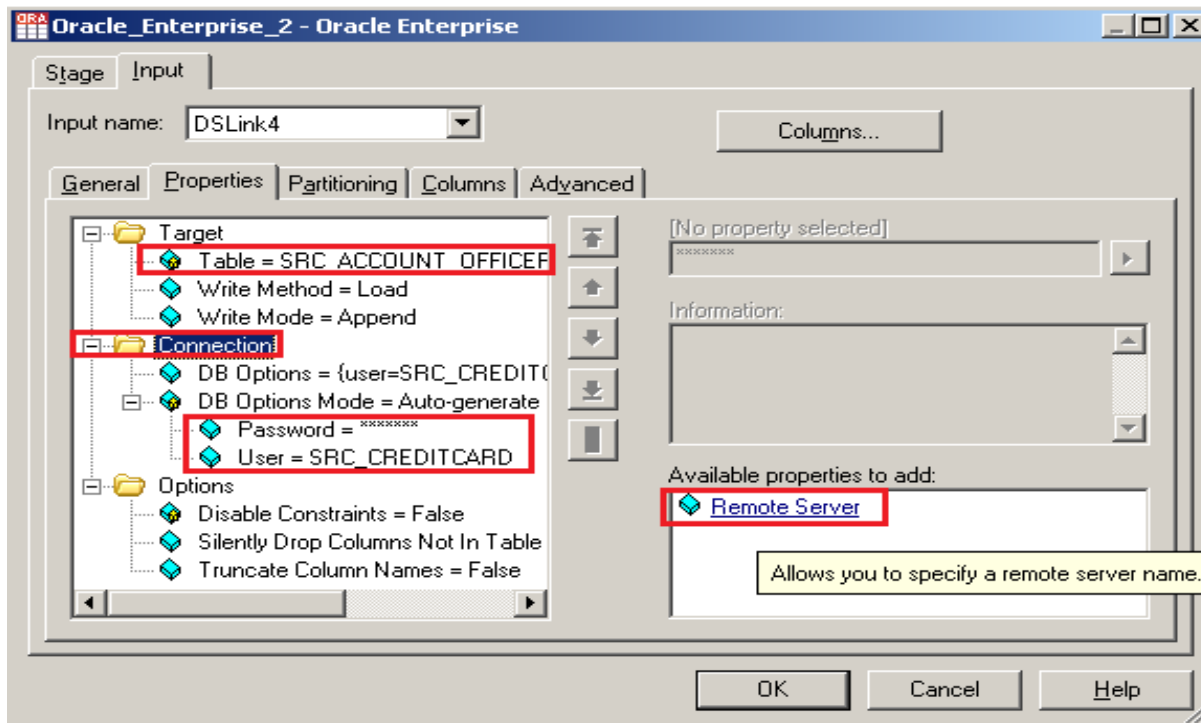
**Step-25:-** Now here we have to specify the table name and schema name and make an ODBC connection. System DSN and all the other entries should be same as where your table is situated and whatever you specify in System DSN.



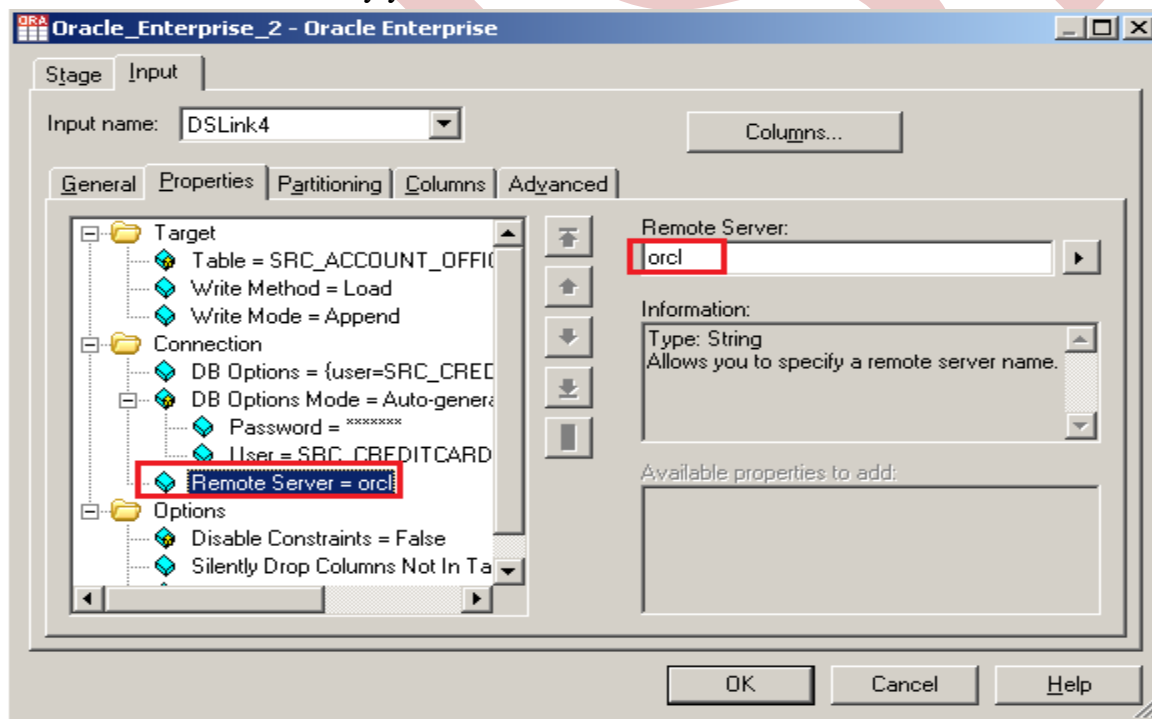
**Step-26 :-** Now double click on Oracle enterprise stage then it looks like it and we have to enter our table name here in which table we want to insert our data and there multiple options if we directly want to load data then we simple used write method as load otherwise we manually put queries on it and also we have to specify username/password on it this password should be matched with oracle username/password..



**Step-27:-** There's one more option here once you click on connection tab than remote server options are popup than we have to specify our server name of oracle.

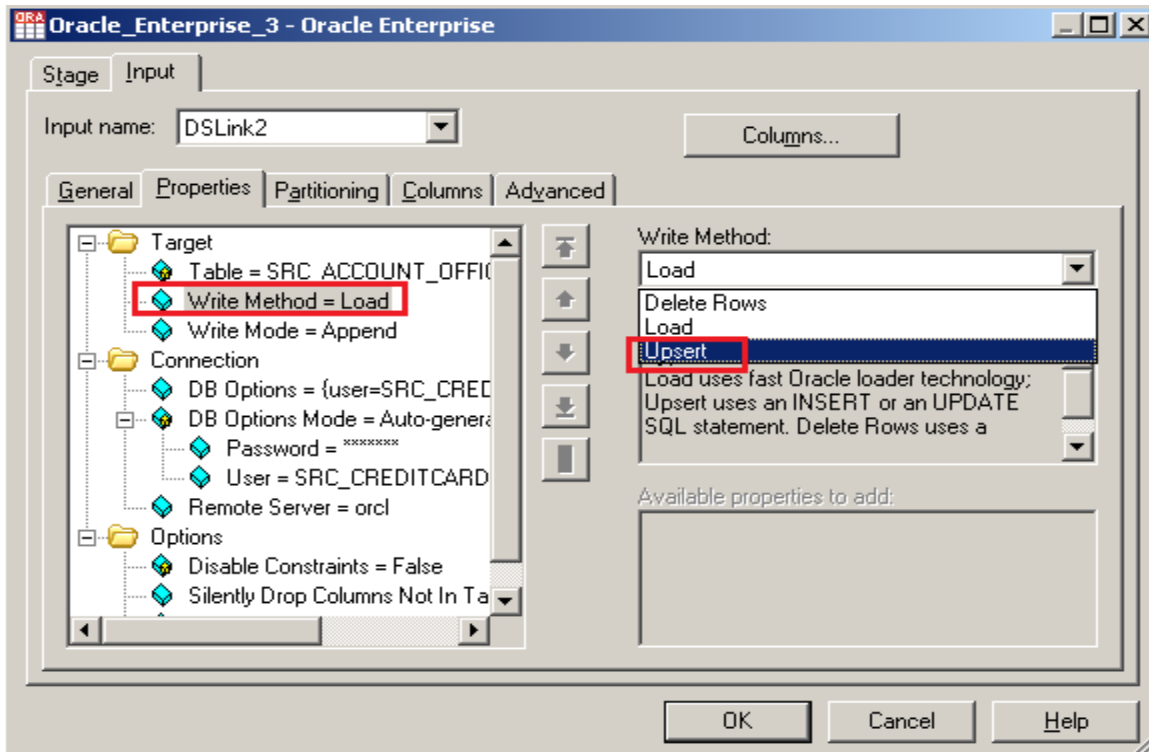


**Step-28:-** See below, my server name is ORCL and username/password and table name. Ensure that you put correct information than only you will be able to load the data into table.

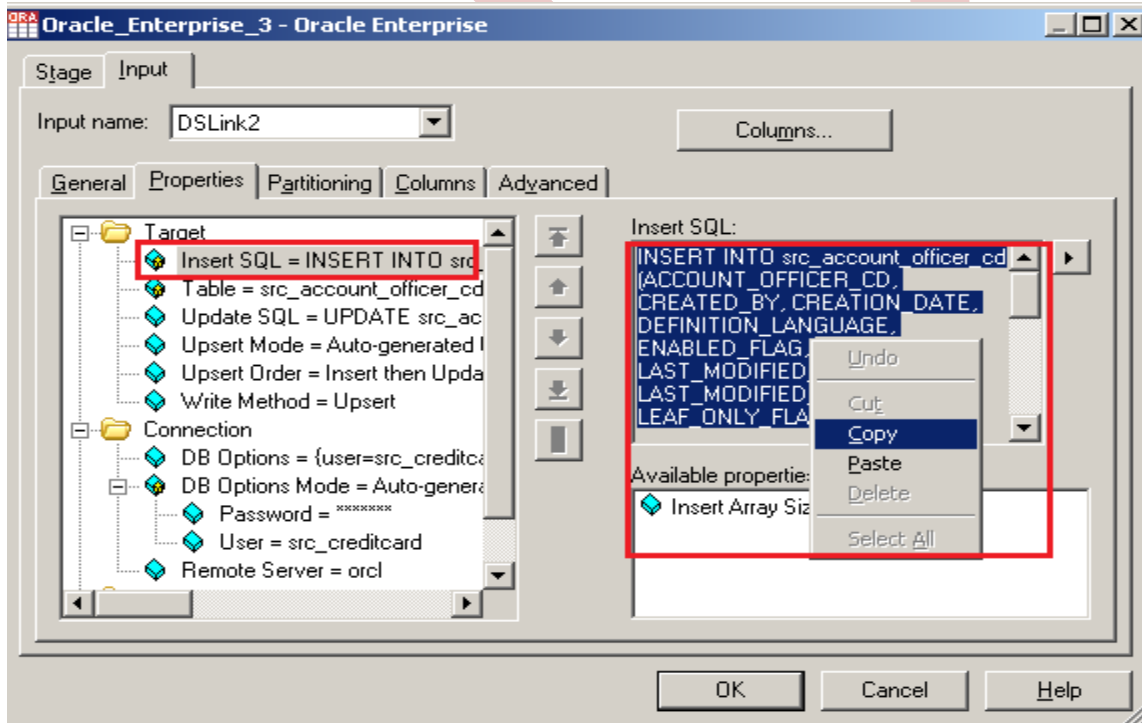


**Step-29:-** Now there are two ways to load data, directly load or user define load. We choose user define that's why we choose upsert.



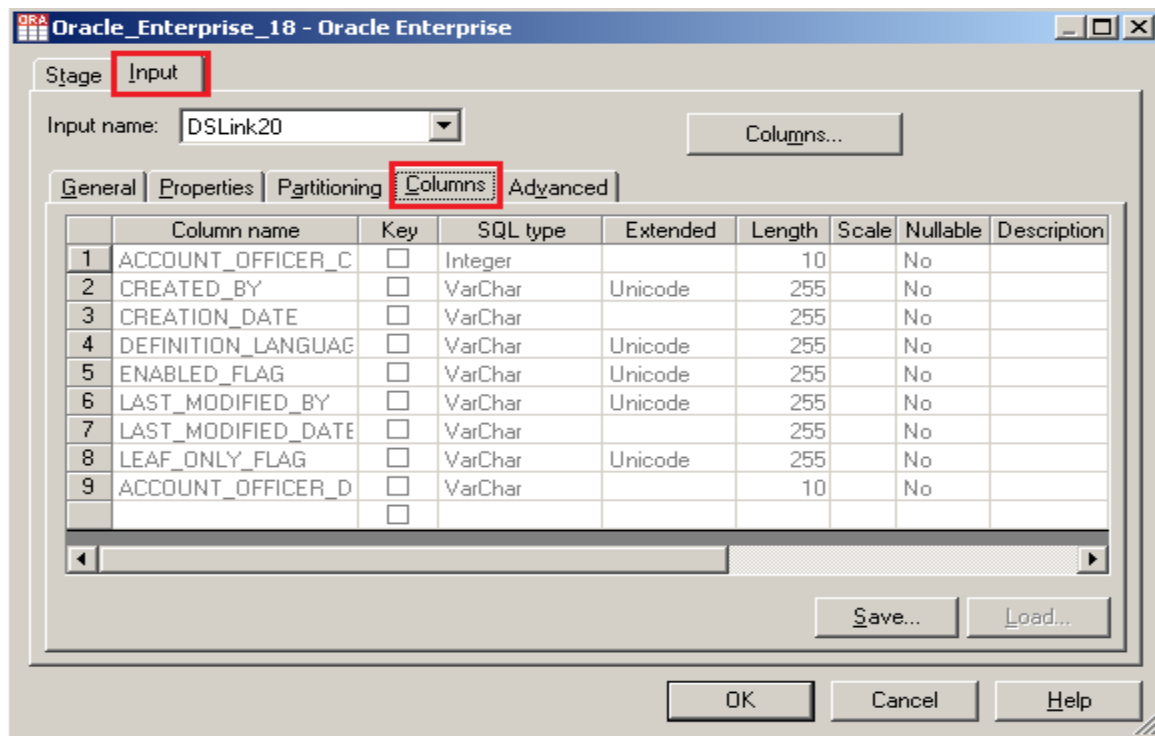


**Step-30:-** See below, there is insert query and update we want to insert data in oracle so copied the insert query.

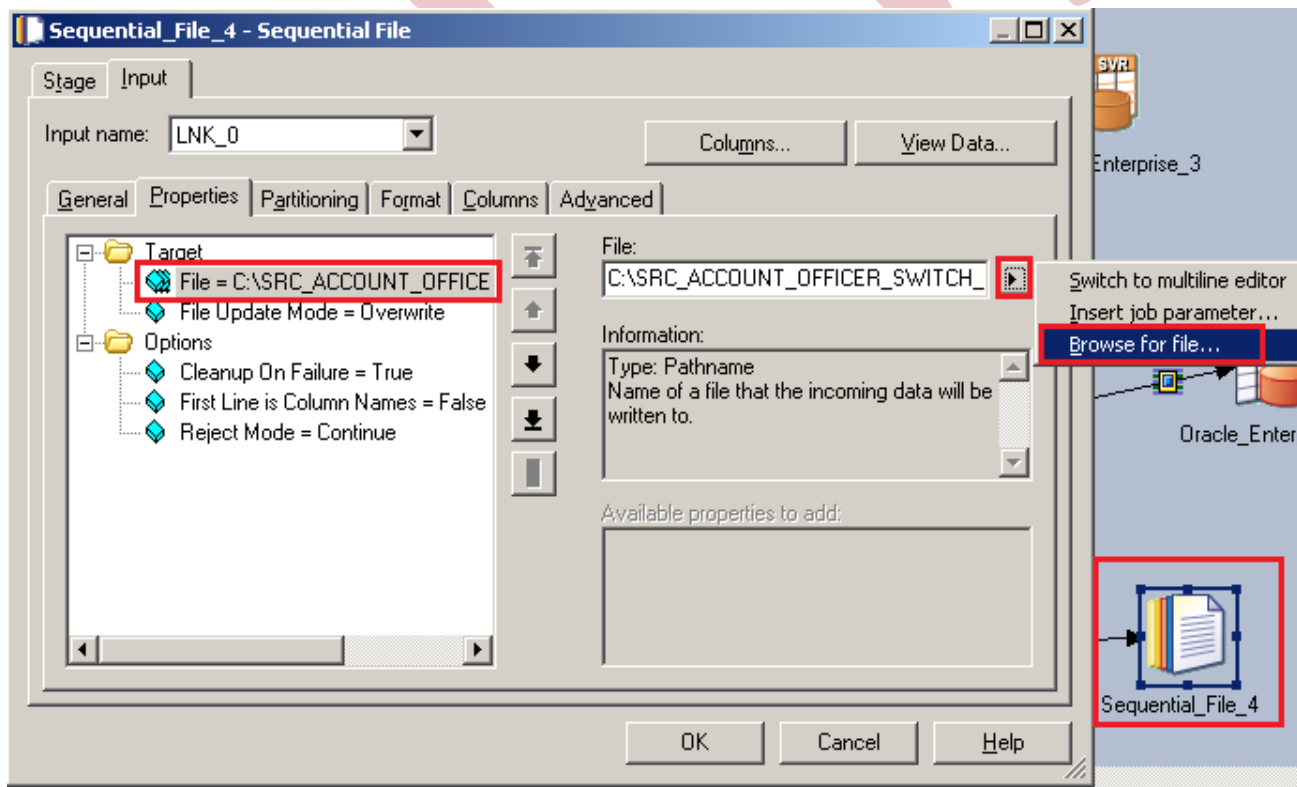


**Step-31:-** We only want to update our data by insert data in table, so we copied the insert query and put in this and because we only want to update so we have chosen update only method.

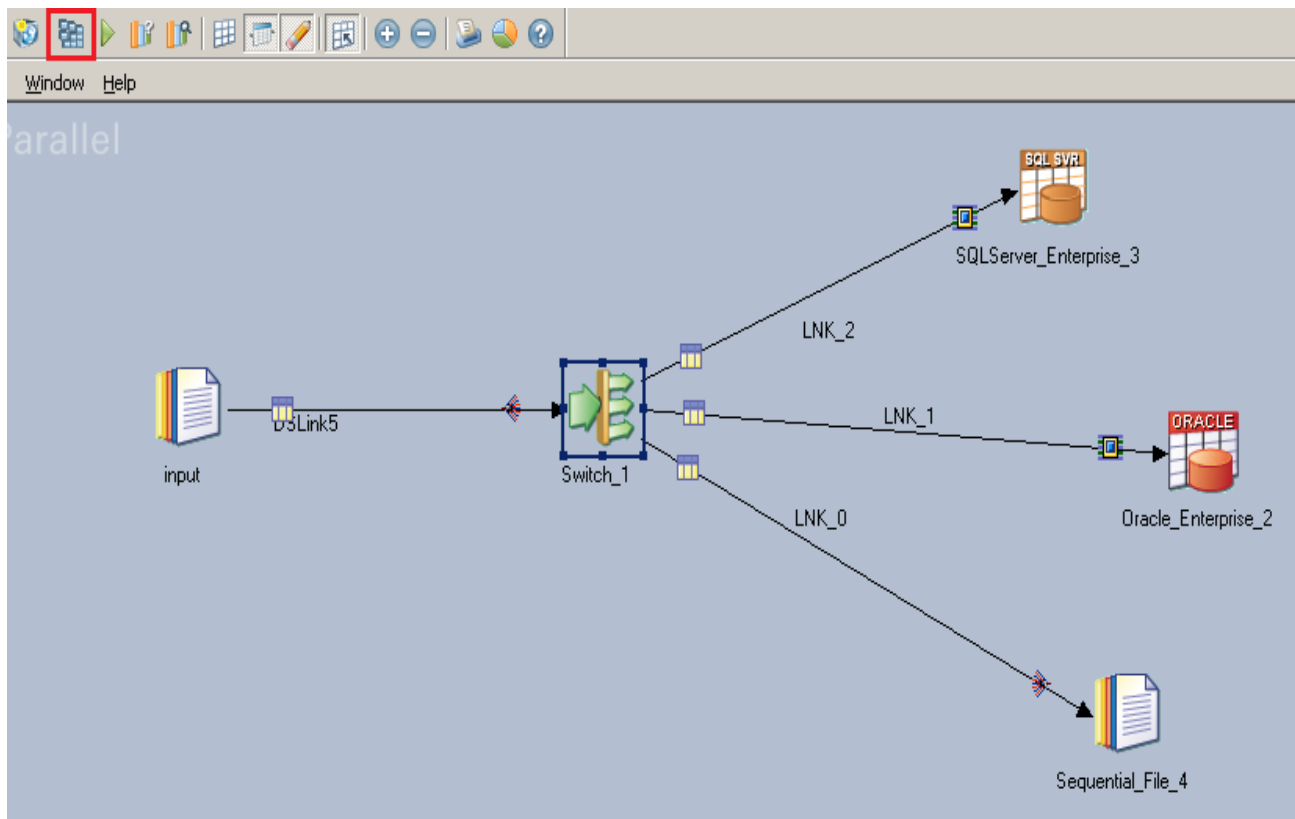




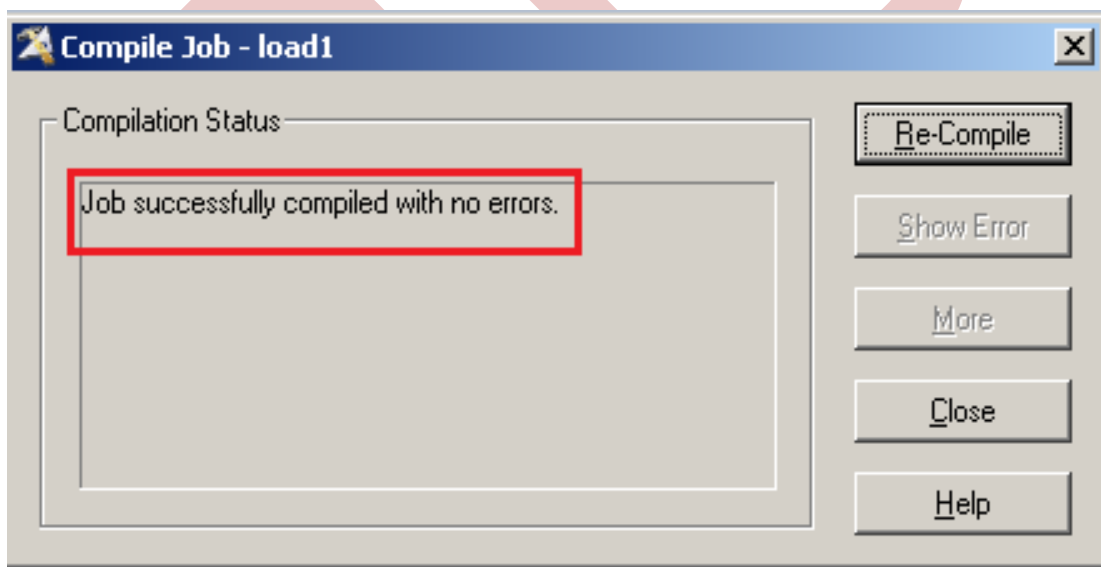
**Step-34:-** Now double click on target file and specify the output file name.



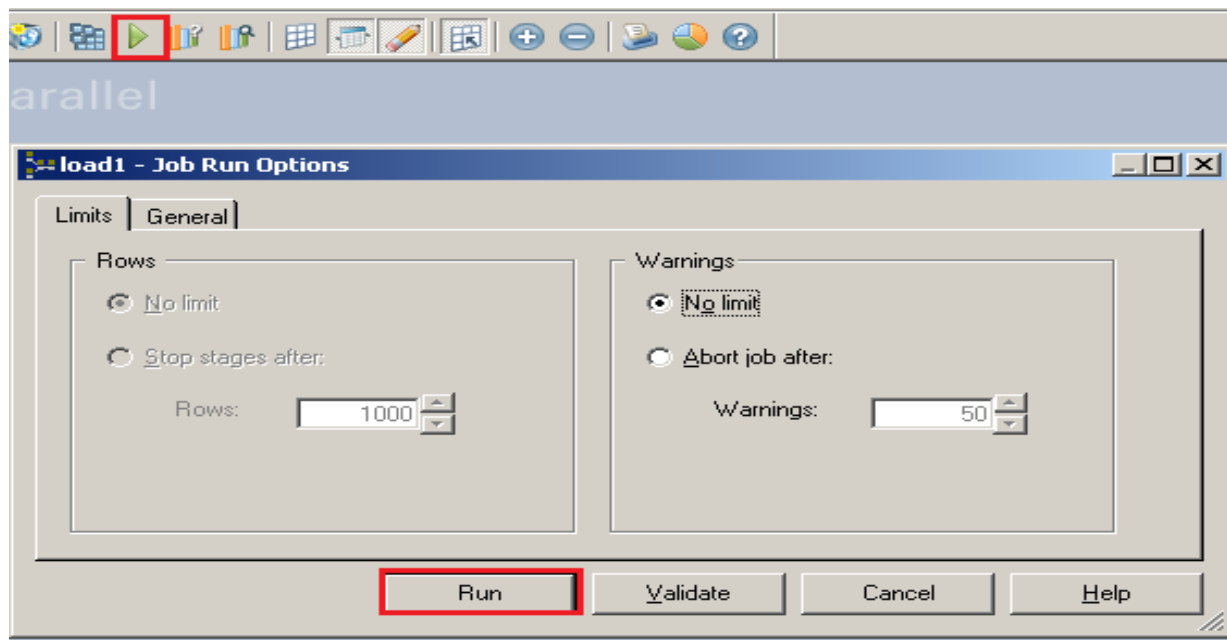
**Step-35:-** Now compiling the job so click on compile button.



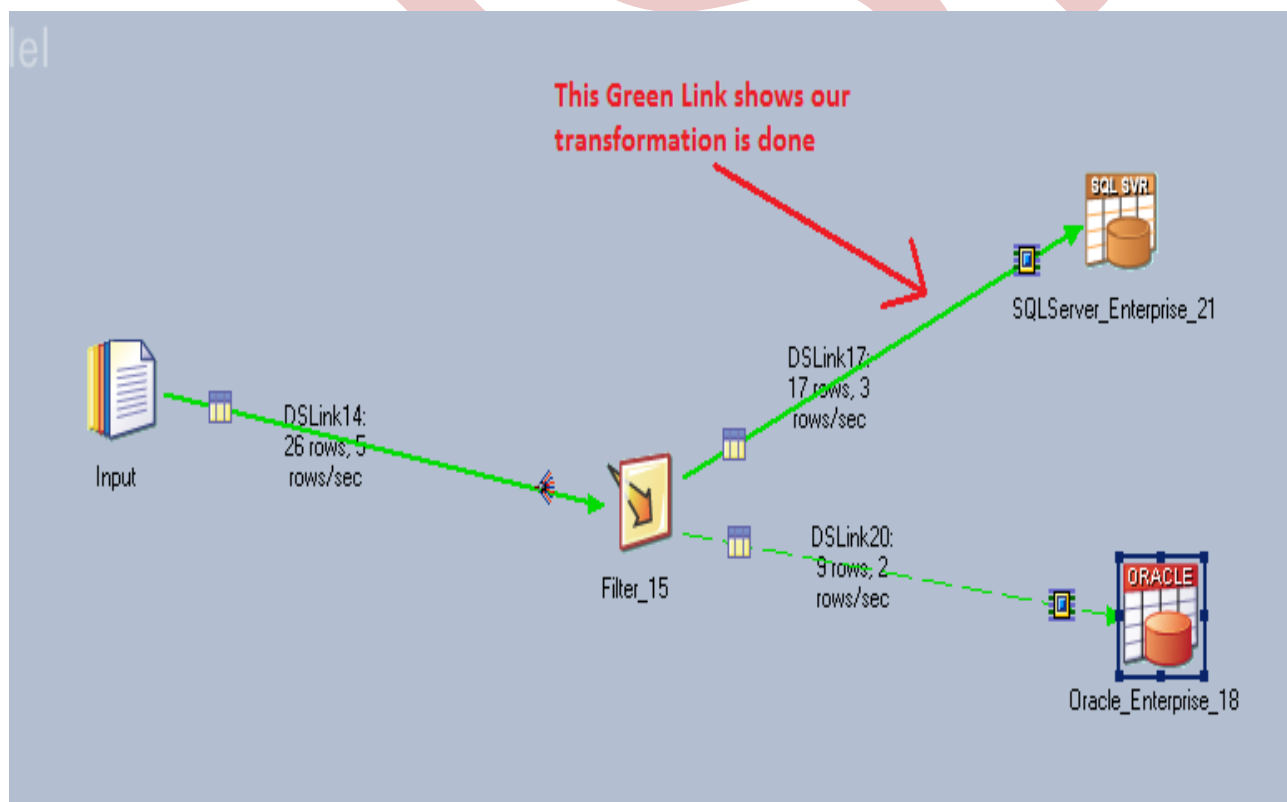
**Step-36:-** If this is shown that means your compilation is done otherwise it shows error. Now click on run button or (CTRL+F5).



**Step-37:-** 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-38:-** 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-39:-** Now Goto 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. than simple query:

```
<SELECT * FROM SRC_ACCOUNT_OFFICER_SWITCH;>
```

	ACCOUNT_OFFICER_CD	CREATED_BY	CREATION_DATE	DEFINITION...	EN...	LAST_MO...	LAST_MODIFIED_DATE	...	ACCOUNT...
1	53110	RTUSER	11-JUN-10 07.19.36.000000...	IND	Y	RTUSER	11-JUN-10 07.19.36.000000000 PM Y		53110
2	54254	RTUSER	11-JUN-10 07.19.36.000000...	IND	Y	RTUSER	11-JUN-10 07.19.36.000000000 PM Y		54253
3	55304	RTUSER	11-JUN-10 07.19.36.000000...	IND	Y	RTUSER	11-JUN-10 07.19.36.000000000 PM Y		55303
4	58010	RTUSER	11-JUN-10 07.19.36.000000...	IND	Y	RTUSER	11-JUN-10 07.19.36.000000000 PM Y		58010

**Step-40:-** 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_SWITCH;>
```

MITESHA.mast...QLQuery1.sql* Summary								
SELECT * FROM DBO.SRC_ACCOUNT_OFFICER_SWITCH;								
Results Messages								
	ACCOUNT_OFFICER_CD	CREATED_BY	CREATION_DATE	DEFINITION_LANGUAGE	ENABLED_FLAG	LAST_MODIFIED_BY	LAST_MODIFIED_DATE	LEAF_ONLY_I
1	52535		11-JUN-10 07.19.36.000000 PM	UK	Y	RTUSER	11-JUN-10 07.19.36.000000 PM	Y
2	53458		11-JUN-10 07.19.36.000000 PM	UK	Y	RTUSER	11-JUN-10 07.19.36.000000 PM	Y
3	55362		11-JUN-10 07.19.36.000000 PM	UK	Y	RTUSER	11-JUN-10 07.19.36.000000 PM	Y
4	57619		11-JUN-10 07.19.36.000000 PM	UK	Y	RTUSER	11-JUN-10 07.19.36.000000 PM	Y
5	59567		11-JUN-10 07.19.36.000000 PM	UK	Y	RTUSER	11-JUN-10 07.19.36.000000 PM	Y
6	52535		11-JUN-10 07.19.36.000000 PM	UK	Y	RTUSER	11-JUN-10 07.19.36.000000 PM	Y
7	53458		11-JUN-10 07.19.36.000000 PM	UK	Y	RTUSER	11-JUN-10 07.19.36.000000 PM	Y
8	55362		11-JUN-10 07.19.36.000000 PM	UK	Y	RTUSER	11-JUN-10 07.19.36.000000 PM	Y
9	57619		11-JUN-10 07.19.36.000000 PM	UK	Y	RTUSER	11-JUN-10 07.19.36.000000 PM	Y
10	59567		11-JUN-10 07.19.36.000000 PM	UK	Y	RTUSER	11-JUN-10 07.19.36.000000 PM	Y

**Step-41:-** See the output of flat file there is only US based row are available.

52223,	"11-JUN-10 07.19.36.000000 PM",	"US",	"Y",	, "11-JUN-10 07.19.36.000000 PM",	"Y",	52223
53110,	"11-JUN-10 07.19.36.000000 PM",	"US",	"Y",	, "11-JUN-10 07.19.36.000000 PM",	"Y",	53110
54254,	"11-JUN-10 07.19.36.000000 PM",	"US",	"Y",	, "11-JUN-10 07.19.36.000000 PM",	"Y",	54253
54608,	"11-JUN-10 07.19.36.000000 PM",	"US",	"Y",	, "11-JUN-10 07.19.36.000000 PM",	"Y",	54607
55304,	"11-JUN-10 07.19.36.000000 PM",	"US",	"Y",	, "11-JUN-10 07.19.36.000000 PM",	"Y",	55303
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