

Extraction, Transformation , & Loading

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Objective

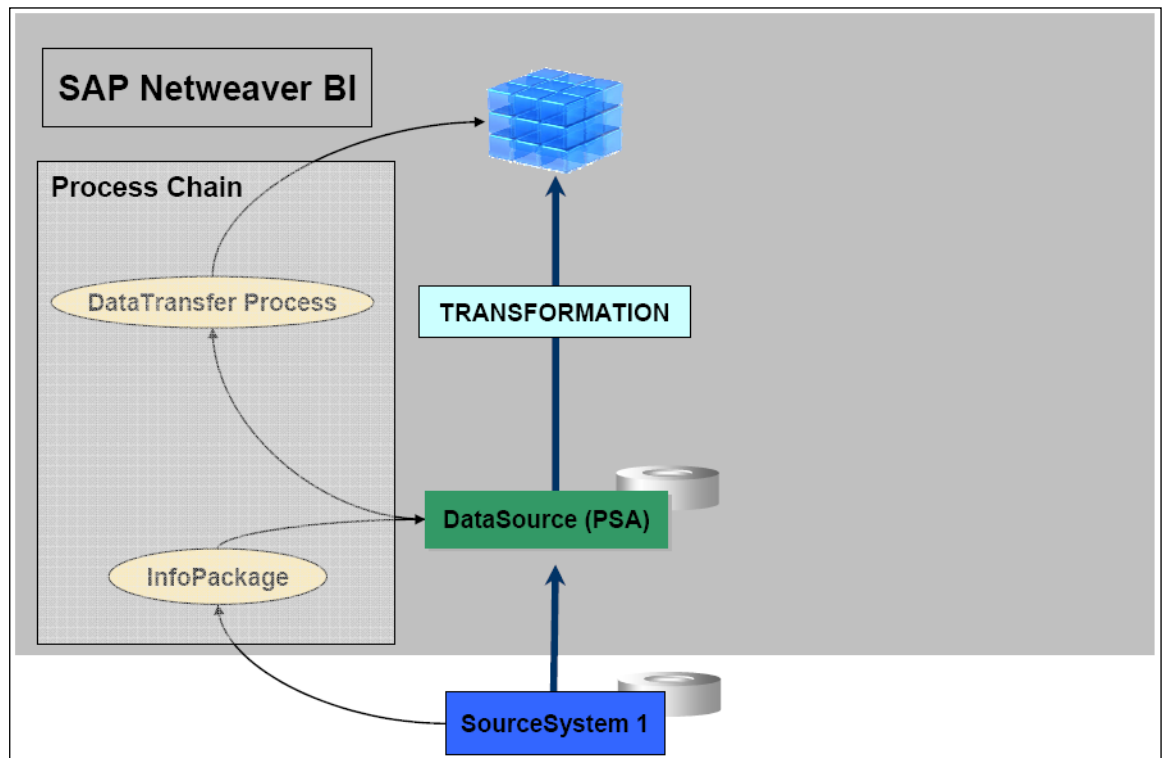
The exercise is designed to help the student acquire the ability to

- Use the Source system created in the previous exercise
- Use the Application Component created in the previous exercise
- Create a Data Source
- Create Transformation
- Create Info Package
- Create Data Transfer
- Load Text Data
- Create Transformation to Cube
- Create and start Data Transfer Process to Cube

Master Data

Master Data are used to validate when we load the transaction data. When we say we are loading master data we are actually loading Attribute and Text data. Loading master data involves creating/using

1. Source System
2. DataSource
3. Transformation
4. InfoPackage
5. Data Package

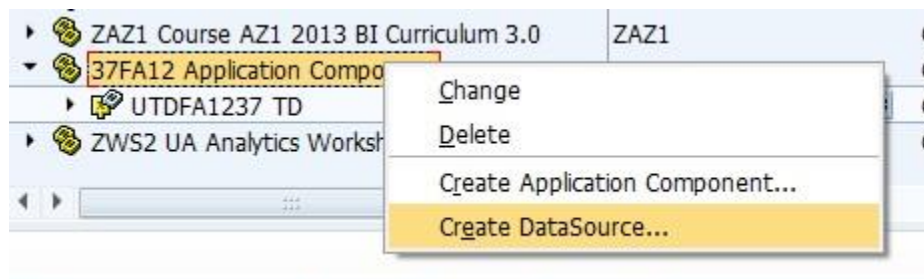


1) Create a Data Source

To distribute information about attributes and texts to the respective tables of your cost center characteristic, create a DataSource for flat file upload and extract the CSV file by using the flat file interface.

Note: We do not add Master Data for display attribute. They are added along with Characteristic with which they are associated.

1-1: Right-click the created Application Component previously and then select Create DataSource.



1-2: Select the option for Data type DataSource: Master Data Attribute and enter the DataSource Name: **CustAttributeDataSource_AM14001**. Then click continue.

Create DataSource

DataSource **CUSTATTRIBUTEDATASOURCE_AM1400**

Source system UTDA14_001

DataSource Data Type Master Data Attributes

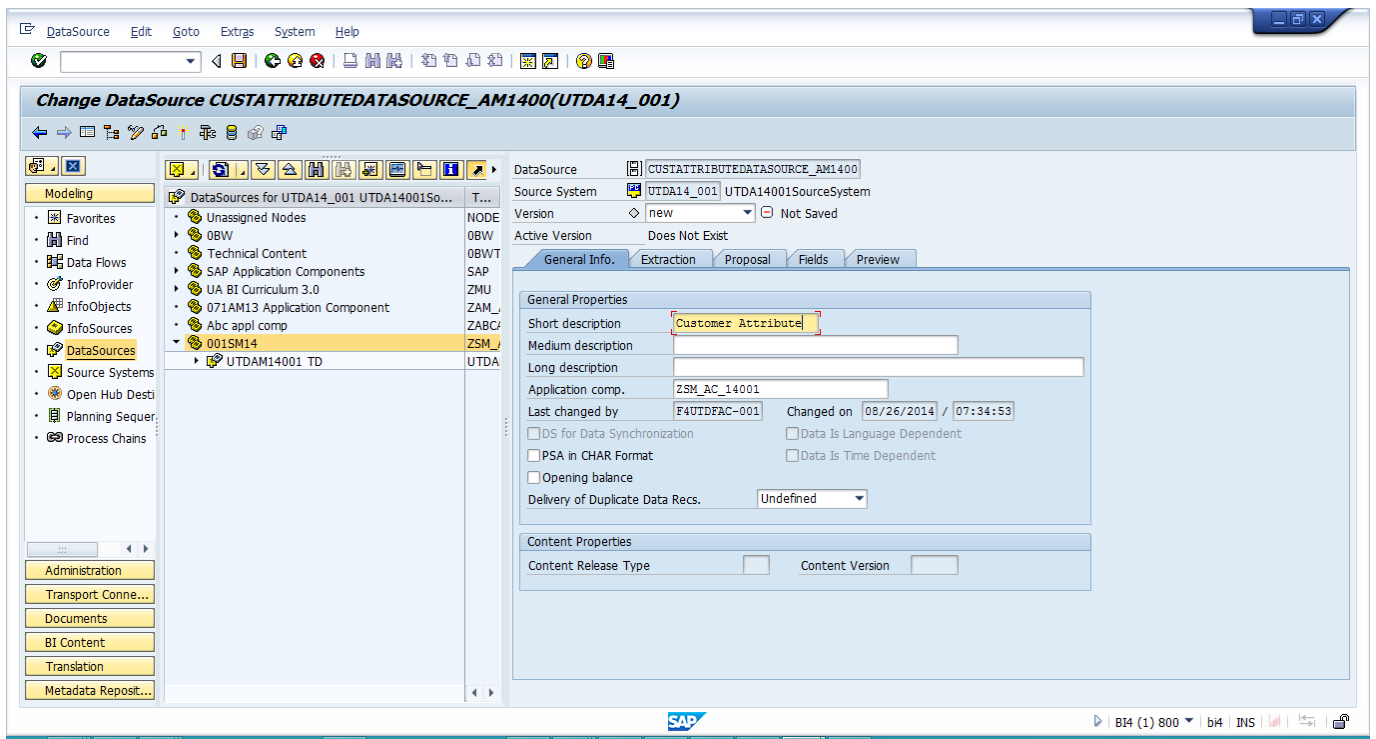
Template


Object Type

Name





OK Cancel

1-3: In the General Tab Enter the Short Description: Customer Attribute




1-4: In the Fields Tab, Enter under Template infoObject: CIDA14001 and then click on the icon  to add new line.


1-5 If a Pop Windows come asking to copy fields of the template say **COPY**.

DataSource  CUSTATTRIBUTEDS_B213037 Customer Attribute
Source System  UTDFA12_37 UTDFA1237Source System
Version  new  Not Saved
Active Version Does Not Exist



General Info. Extraction Proposal **Fields** Preview















| Pos. | Field | Descript. | D... | Tr... | InfoObjec... | Data type | Lngh | Deci... | Exter... | L.. | K.. | Con... | Format | SS ... | cur/uni |
|------|-------|-----------|---|-------------------------------------|--------------|-----------|------|---------|----------|--------------------------|--------------------------|--------|----------|--------|---------|
| 1 | | |  | <input checked="" type="checkbox"/> | CIDFA1237 | | | | | <input type="checkbox"/> | <input type="checkbox"/> | | Inter... | | |


Default from InfoObjects

 Copy Field Properties from the InfoObject? Existing Entries May Be Overwritten


☐ Do Not Show This Question Again in This Session

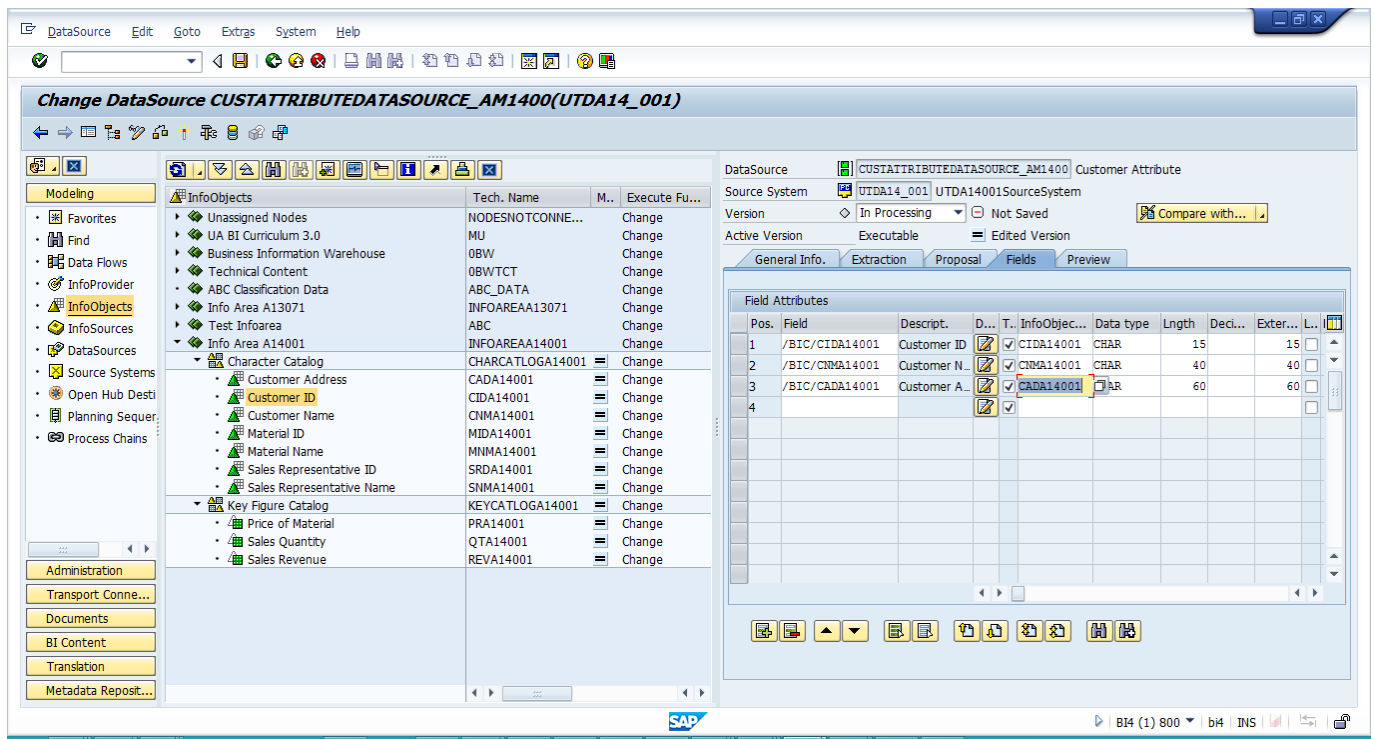
 copy  Do Not Copy



             

1-6: Now in the 2nd row under template type in: CNMA14001 and then click on the icon  to add new line.


1-7: If a Pop Windows come asking to copy fields of the template say COPY.


1-8: Now in the 3rd row under template info object type in: CADA14001. Click on the icon  to add new line. If a Pop Windows come asking to copy fields of the template say COPY.





1-9: Delete the 4th empty row created by clicking Add row icon  , By selecting the row as a whole (click on the grey button to the left of pos.4) and select delete row button .

1-10: Look at the Fields tab content. If Data Type field and Lngth are not automatically filled choose “**CHAR**” for the three characteristics for “Data type” and enter the length of the characteristics in “**Lngth**” as shown in the screen shot below.

DataSource  CUSTATTRIBUTEDS_B213037 Customer Attribute




Source System  UTDF12_37 UTDF1237Source System













Version  new  Not Saved

Active Version Does Not Exist

General Info. Extraction Proposal **Fields** Preview

Field Attributes

| Pos. | Field | Descript. | D... | Tr... | InfoObjec... | Data type | Lngh | Deci... | Exter... | L... | K... | Con... | Format | SS ... | cur/uni |
|------|----------------|---------------|---|-------------------------------------|--------------|-----------|------|---------|----------|--------------------------|--------------------------|----------------|--------|--------|---------|
| 1 | /BIC/CIDFA1237 | Customer id |  | <input checked="" type="checkbox"/> | CIDFA1237 | CHAR | 15 | | 15 | <input type="checkbox"/> | <input type="checkbox"/> | ALPHA Exter... | | | |
| 2 | /BIC/CNMFA1237 | Customer n... |  | <input checked="" type="checkbox"/> | CNMFA1237 | CHAR | 40 | | 40 | <input type="checkbox"/> | <input type="checkbox"/> | ALPHA Exter... | | | |
| 3 | /BIC/CADFA1237 | customer ad.. |  | <input checked="" type="checkbox"/> | CADFA1237 | CHAR | 60 | | 60 | <input type="checkbox"/> | <input type="checkbox"/> | ALPHA Exter... | | | |

1-11: Make sure your screen in the fields tab looks exactly the same and Now check & activate the component by clicking on the “check” Icon, if check is successful stay on the fields tab and click on “Activate” icon.

1-13: Navigate to the extraction tab and Select “In processing” for the version field and do the following Changes:

Step 1: *Data Format: Separated with Separator (for Example, CSV)*

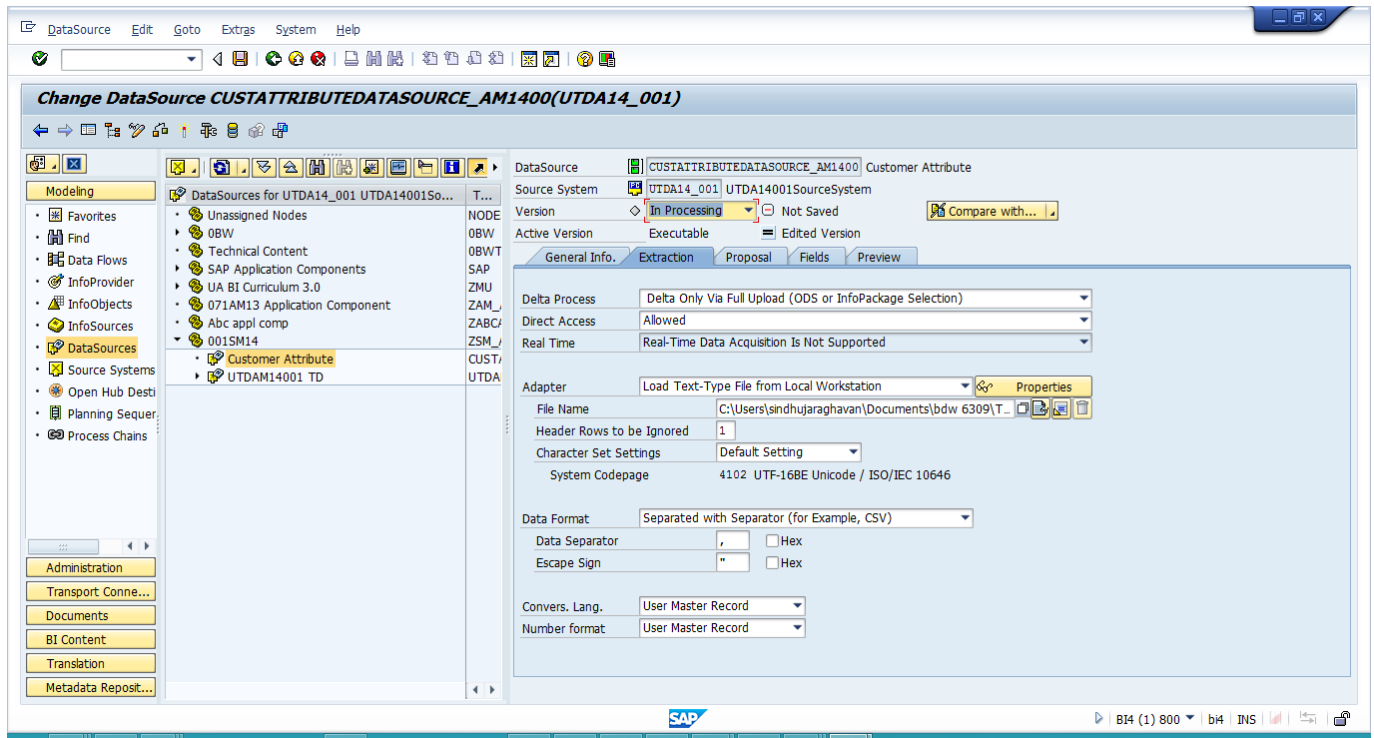
Step 2: *Data Separator: ‘ , ‘*

Step 3: *Adapter: Load Text Type File from Local Work Station*

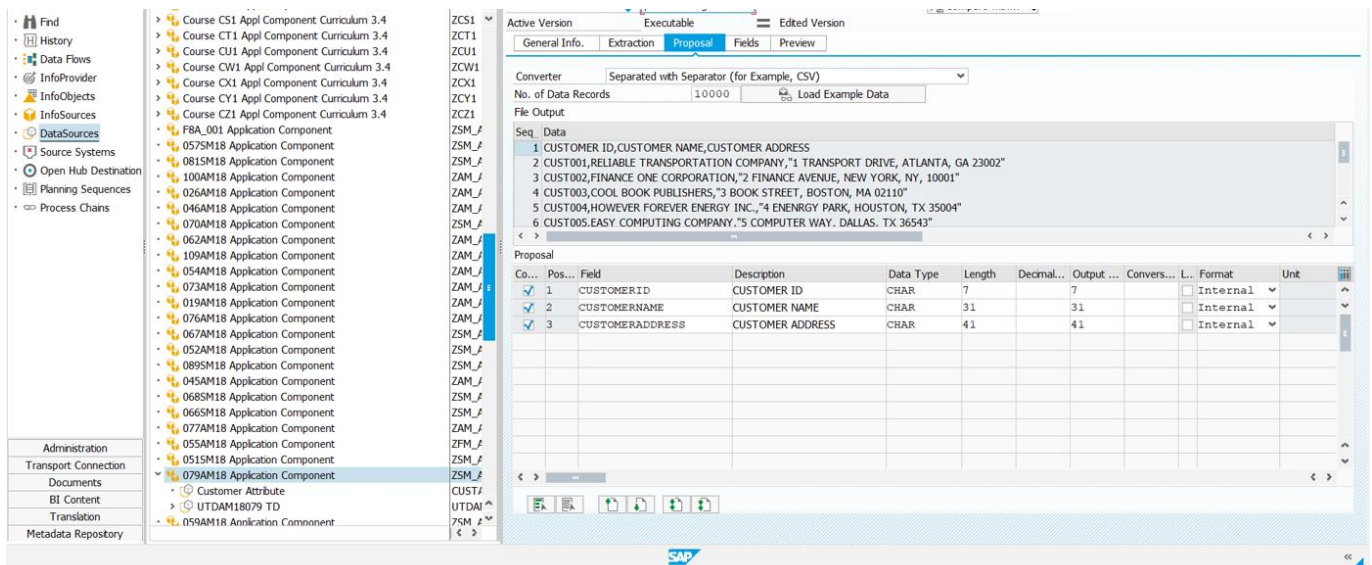
Step 4: *Name of the File: Select the location where the csv file is stored. (For Customer: CustomerAttribute.csv)*

Step 5: *Header rows to be ignored: 1*

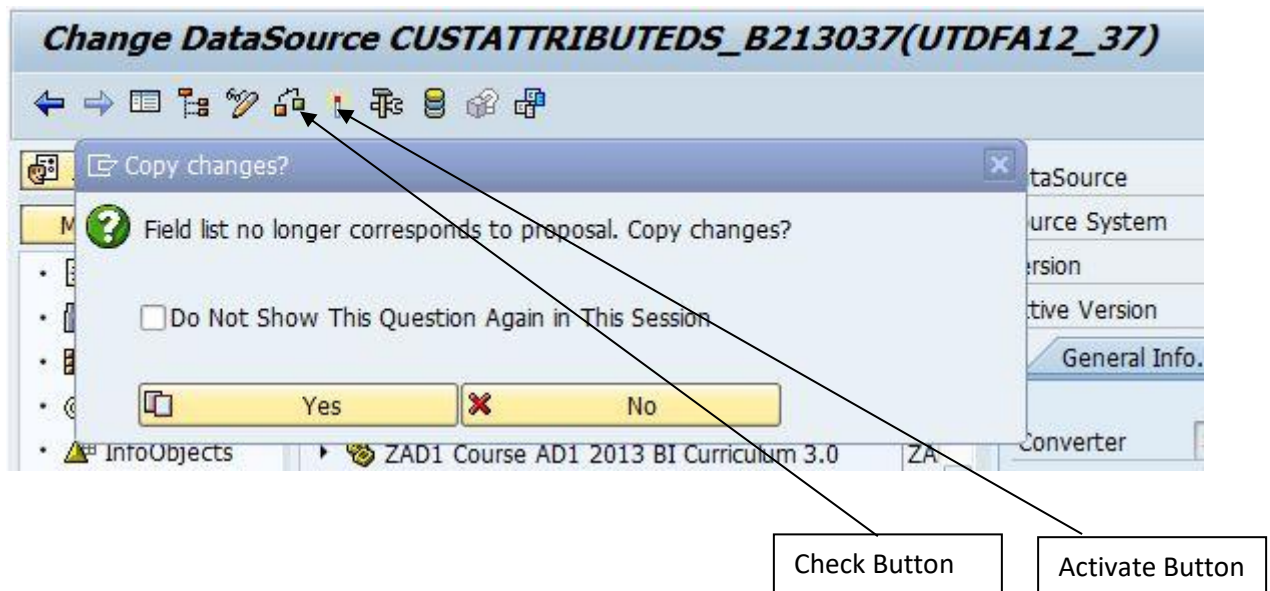
Step 6: Select “Allowed” for Direct Access. This means that the data are not loaded from the PSA but from the DataSource. Your screen should look like the one below.



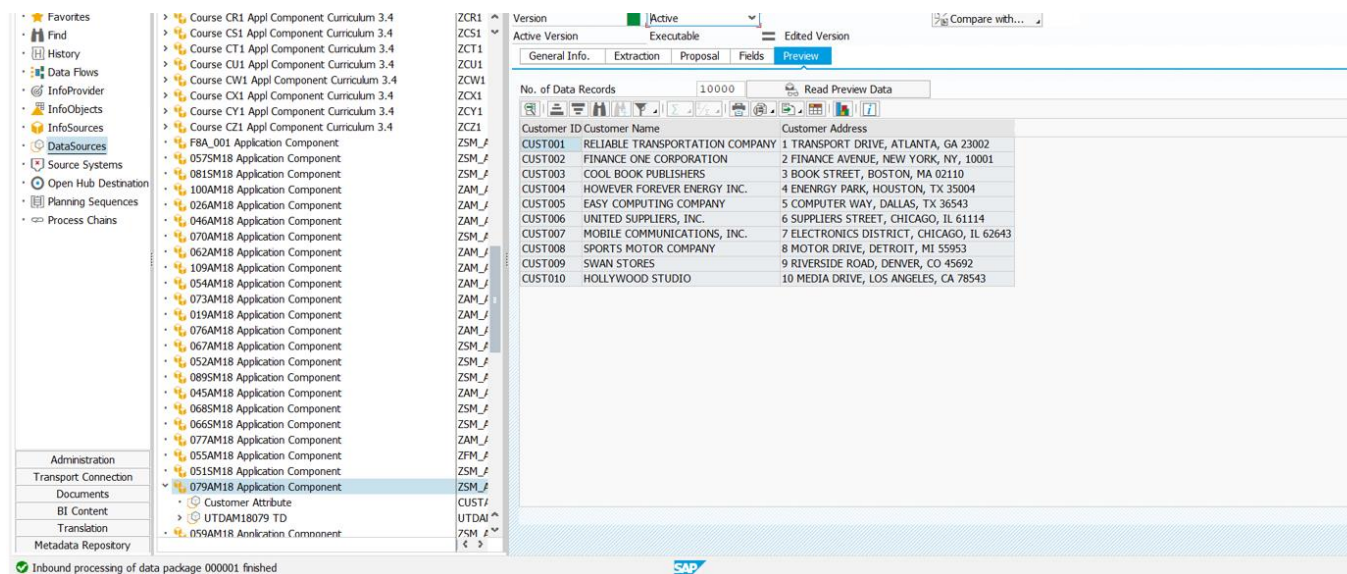
1-14: In the Proposal Tab, click on Load Example Data to check if the format is correct. (If you get any SAP security pop-up make sure that you should always select “Always allow” and then move ahead)



1-16: Now **Check & Activate** the DataSource. A window “Copy changes” Pops up, always click **NO**.



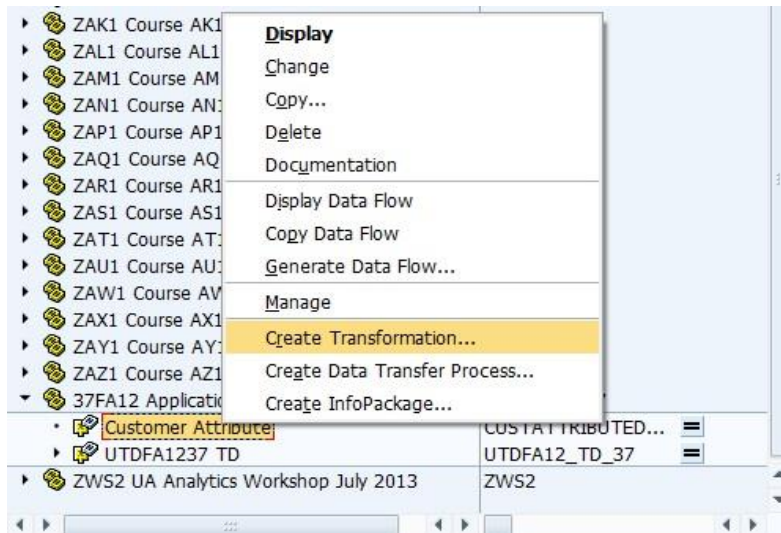
1-17: Click on **Preview** Tab now. Click on Read Preview Data.



2) Create Transformation

Connect your DataSource with the attributes and text tables of your characteristics InfoObject. To do this, create transformations between the two objects. You need to create one set of transformations for uploading the text data to the text table, and another one for filling the attribute data.

2-1: Right click on the new data source created in the center panel and select Create Transformation.



2-2: In the Create Transformation window enter the following details:

Target of the Transformation:

Step 1: Object Type: Info Object

Step 2: Subtype of Object: Attribute

Step 3: Name: CIDA14001

2-3: Click Continue.

The 'Create Transformation' dialog box is shown. It has two main sections: 'Target of the Transformation' and 'Source of the Transformation'.

Target of the Transformation:

- Object Type: InfoObject
- Subtype: Attributes
- Name: CIDA14001

Source of the Transformation:

- Object Type: DataSource
- DataSource: CUSTATTRIBUTEDATASOURCE_AM1400
- Source System: UTDA14_001

At the bottom right, there are two buttons: a green checkmark (Continue) and a red X (Cancel).

Note: If you get a pop up that says the "InfoObject is not assigned to InfoArea", close the pop-up and do the following steps:

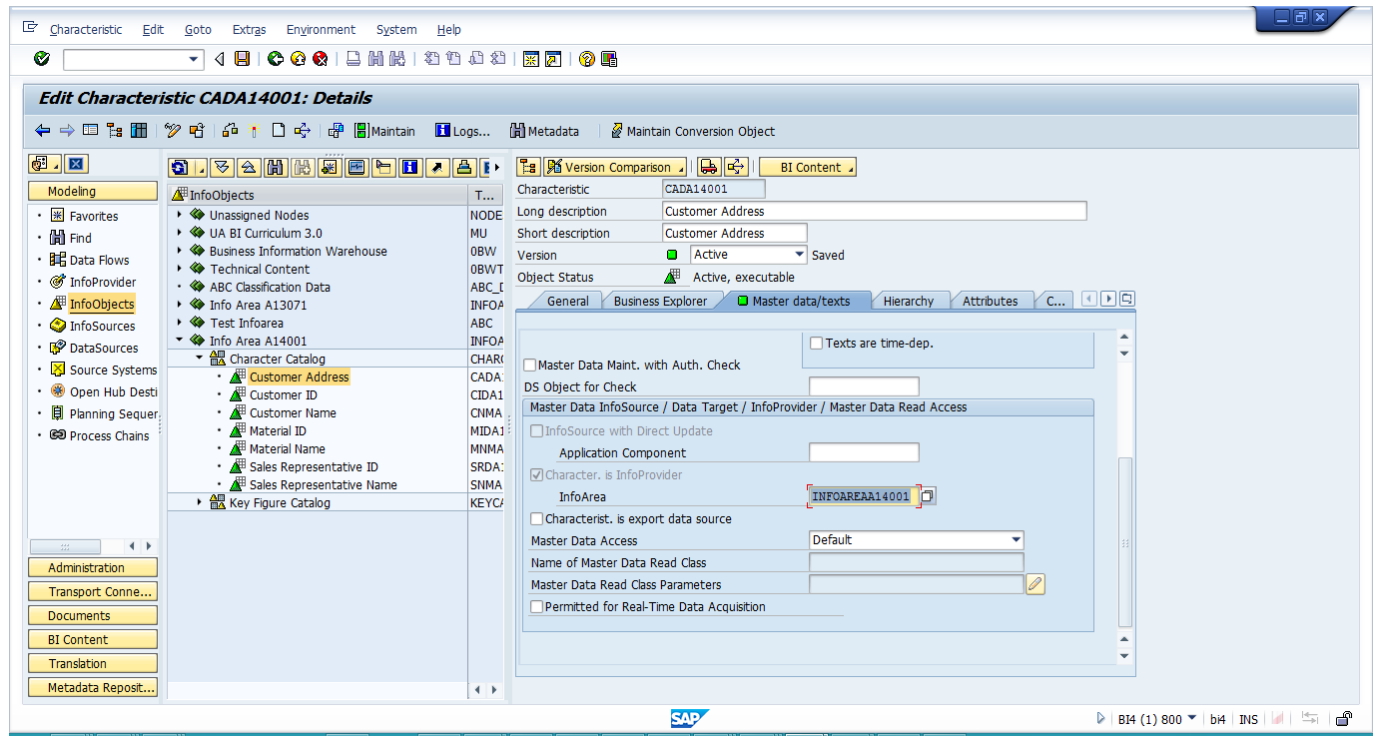
Type RSA1 in the Commandline.

Click on InfoObjects under Modeling. Locate your InfoArea.

Expand the Character catalog under your InfoArea.

Right click on the InfoObject(say CustomerAddress)->Select Change from the context menu

Click on the "Master data/texts" tab and enter the name of your InfoArea



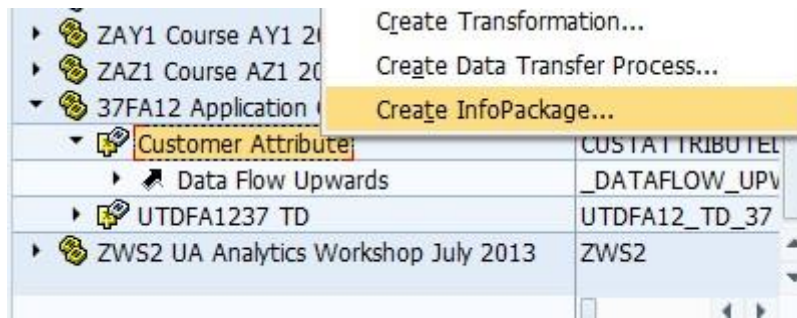
Save, check and activate the InfoObject.

Repeat the same procedure for all the InfoObjects under the Character Catalog.

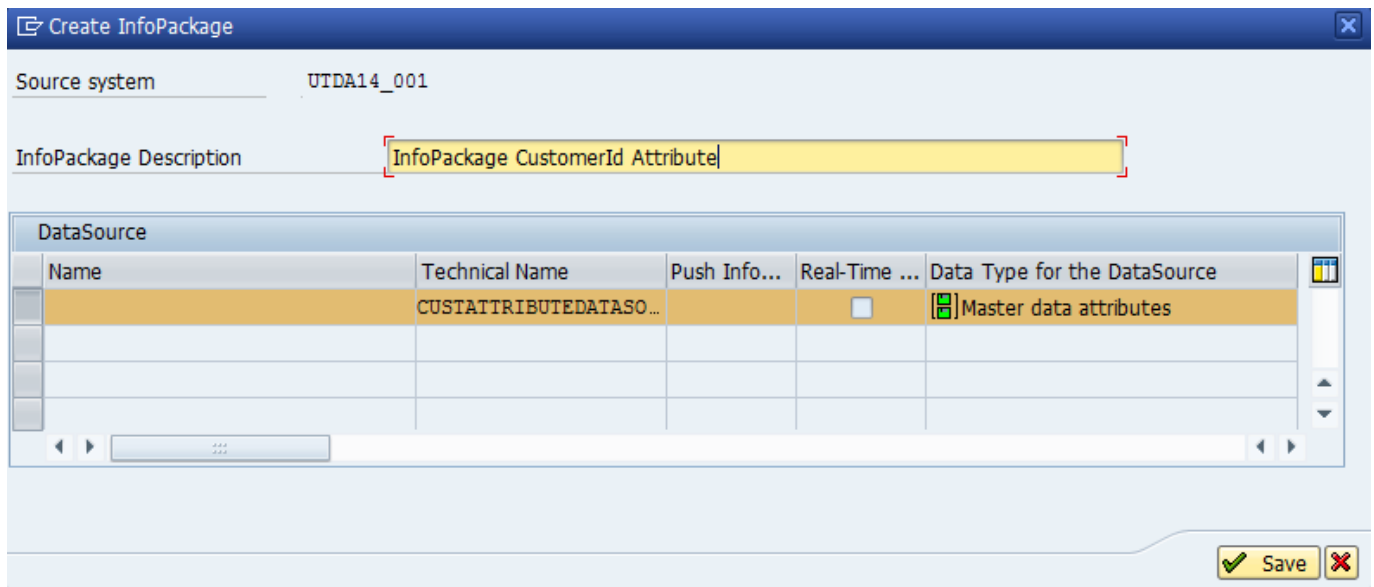
Now, Continue with the "Create Transformation" process.

2-4: In the next screen the connections are automatically generated with a message along with letting us know about the number of transformation rules that have been created for the transformation.

(Note if the connections are not generated automatically please make the connections as shown below)



3-2: Select the DataSource Customer Attribute Data, enter Infopackage description: “InfoPackage CustomerId Attribute “,and then save to continue.



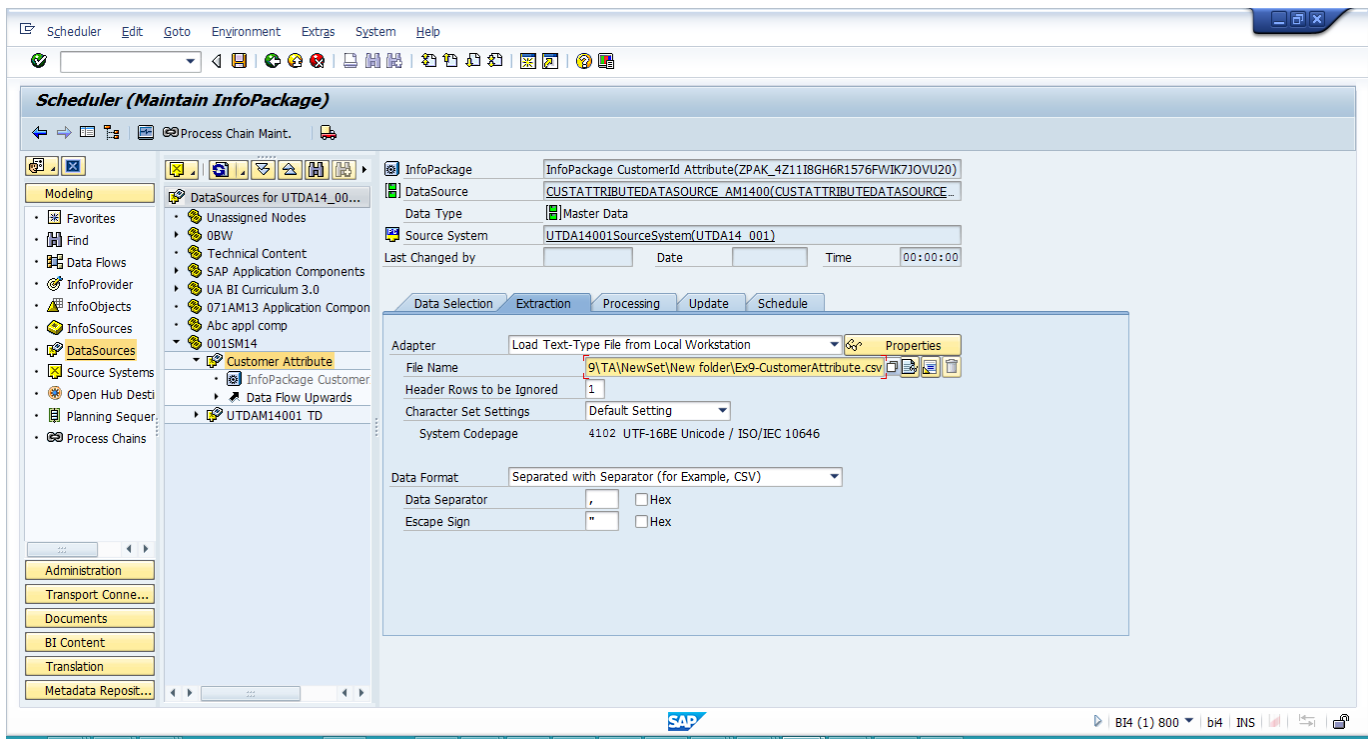
3-3: In Extraction tab, select options as shown in the screen.

Step 1: File type: CSV file

Step 2: Data separator ‘ , ’


Step 3: Number of Header Rows to be Ignored: ‘1’.

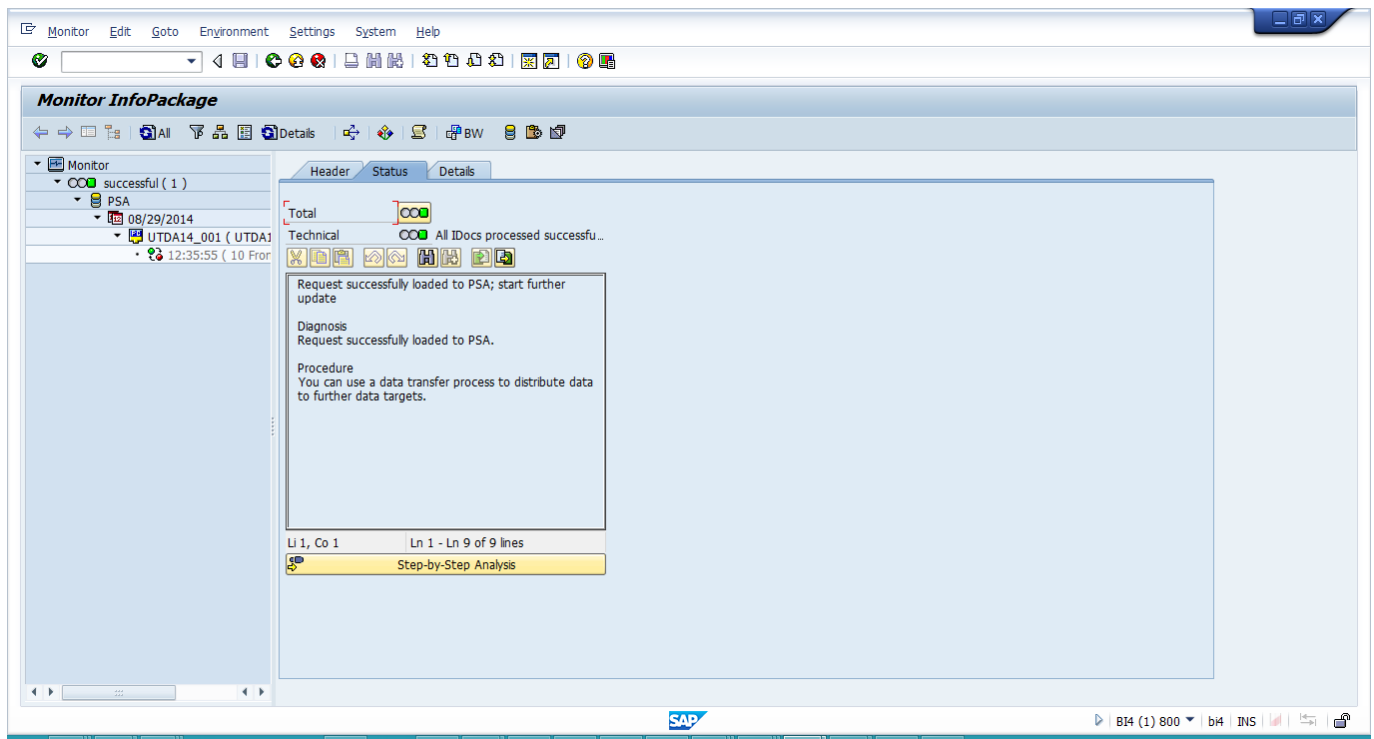
Step 4: File name is populated automatically.



3-4: Click the Schedule tab, select the option Start data load immediately, and then click start to load data. (Note : choose Allow if a pop up box appears to ask for the access permission)



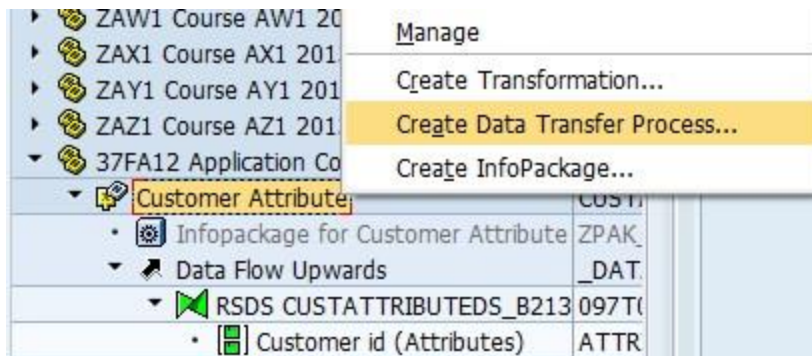
3-5: On top there is a monitor button  to check the status of the load. Check the status it should be green if successful. (To get the screen like the one below click on the Green square the details of the load will be displayed)



4) Creating Data Transfer Process

Create and schedule data transfer processes, one for the attribute and one for the text data, to load the master data from the PSA table to the master data tables of your characteristics InfoObject.

4-1: Right click the Datasource and select Create Data Transfer process.



4-2: Click continue. In the Pop up window, enter/ ensure details according to the following screenshot.

Name : CIDA14001

Object Type: InfoObject

Subtype of Object : Attributes

The Data Transfer Proc. Field will get auto-populated.

(Note: If it is not populated automatically, try to logoff and login again).

Create Data Transfer Process

Data Transfer Proc. **CUSTATTRIBUTEDATASOURCE_AM1400 / UTDA14_001 -> CIDA14001**

DTP Type **Standard (Can Be Scheduled)**

Target of DTP

Object Type **InfoObject** Subtype of Object **Attributes**



Name **CIDA14001** **List** Customer ID

Source of DTP

Object Type **DataSource**

DataSource **CUSTATTRIBUTEDATASOURCE_AM1400**

Source System **UTDA14_001**


Click Enter.

4-3: Extraction Tab:


Step 1: Extraction Mode: Full



Step 2: In the Update Tab - Error Handling: Valid Records Update, No Reporting (Request Red)

Extraction | Update | Execute

Data Source  DataSource

CUSTATTRIBUTEDS_B213037 UTDA12_37

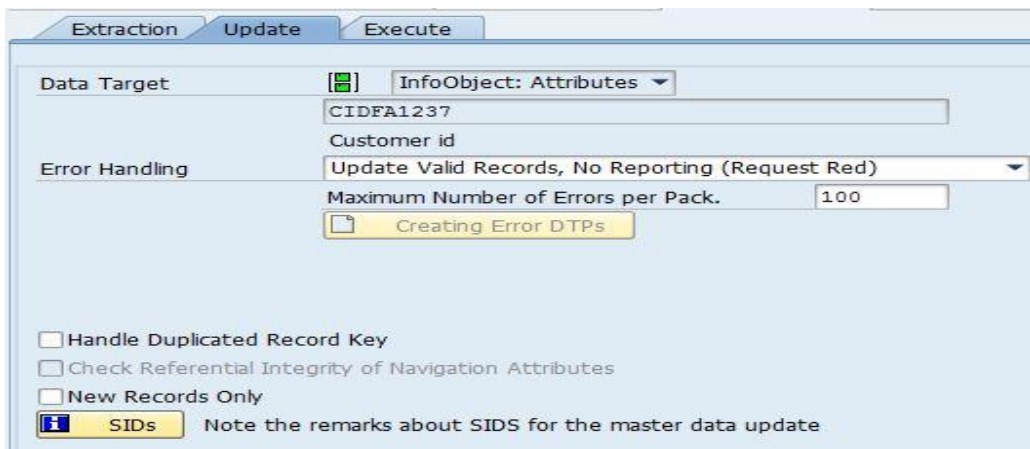
Extraction Mode **Full**  Filter

 Semantic Groups 

☐ Only retrieve last request

Package Size **50,000**

☐ Do not extract from PSA; use direct access to data source (for low data volumes)

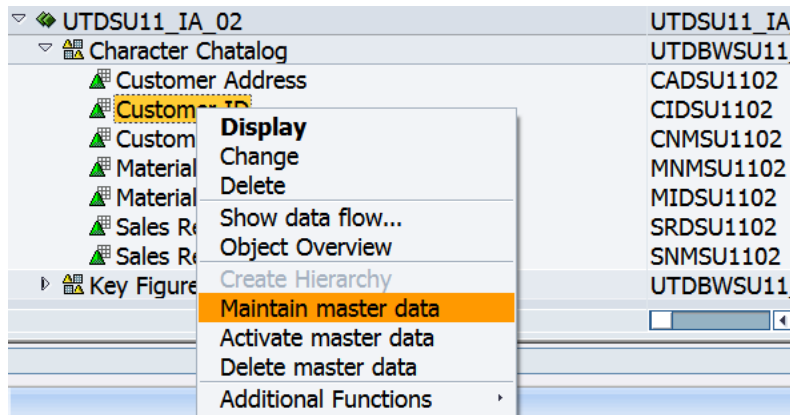


4-4: Activate the Data Transfer process

4-5: Execute Tab: Click Execute Button

4-6: Pop up window say YES.

1. **Navigate to your Customer ID characteristic (Info Objects section) and maintain the master data in order to check the data load.**

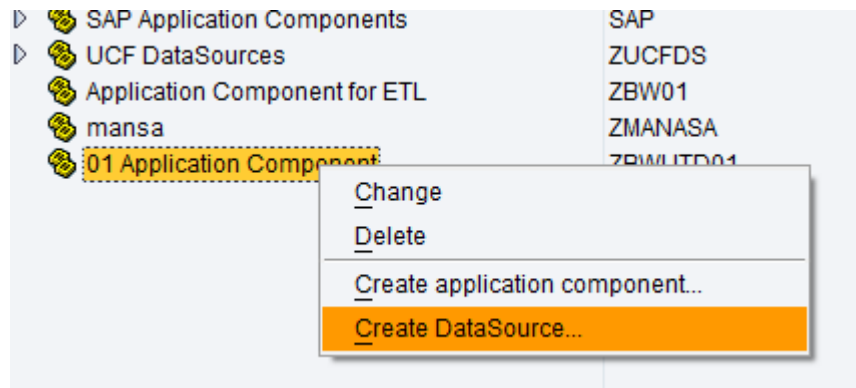


Click on "Execute" icon.

Loaded data appear on the screen:

5) Load Text Data

5-1: Right-click the previously created Application Component , and then select Create DataSource.



5-2: Select the option for Data type DataSource: Master Data Text and enter the DataSource Name: **CustomerTextDataSource_001**. Then click continue.

The 'Create DataSource' dialog box is shown with the following fields and values:

- DataSource:** CUSTOMERTEXTDATASOURCE_001
- Source system:** UTDA14_001
- DataSource Data Type:** Master Data Text








Below these fields is a 'Template' section with the following fields:

- Object Type:** (empty dropdown)
- Name:** (empty text box)

At the bottom right of the dialog, there are two buttons: a green checkmark (Continue) and a red X (Cancel).


5-3: Click Continue

5-4: In the General Tab Enter Short Description: Customer Text

| | | |
|----------------|---|---|
| DataSource |  CUSTOMERTEXTDATASOURCE_01 | ustomer Text |
| Source System |  BWUTD01 | 01FFSource System |
| Version |  In Processing  Saved |  Compare with...  |
| Active Version | Executable |  Edited Version |


General Info.
Extraction
Proposal
Fields
Preview

General Properties


| | | | |
|--|---|------------|-----------------------|
| Short description | Customer Text | | |
| Medium description | | | |
| Long description | | | |
| Application comp. | ZBWUTD01 | | |
| Last changed by | UTD9-01 | Changed on | 11/01/2009 / 21:04:20 |
| <input type="checkbox"/> DS for Data Synchronization | <input type="checkbox"/> Data Is Language Dependent | | |
| <input type="checkbox"/> PSA Not Categorized | <input type="checkbox"/> Data Is Time Dependent | | |
| <input type="checkbox"/> Opening balance | | | |
| Delivery of Duplicate Data Recs. | Undefined  | | |


Content Properties

| | | | |
|----------------------|--|-----------------|--|
| Content Release Type | | Content Version | |
|----------------------|--|-----------------|--|



5-5: In the Fields Data, Enter under Template infoObject: OLANGU and then click on the icon  to add new line.

5-6: If a Pop Windows come asking to copy fields of the template say COPY.


 Default from InfoObjects

 ? Copy Field Properties from the InfoObject? Existing Entries May Be Overwritten

☐ Do Not Show This Question Again in This Session

 copy
 Do Not Copy

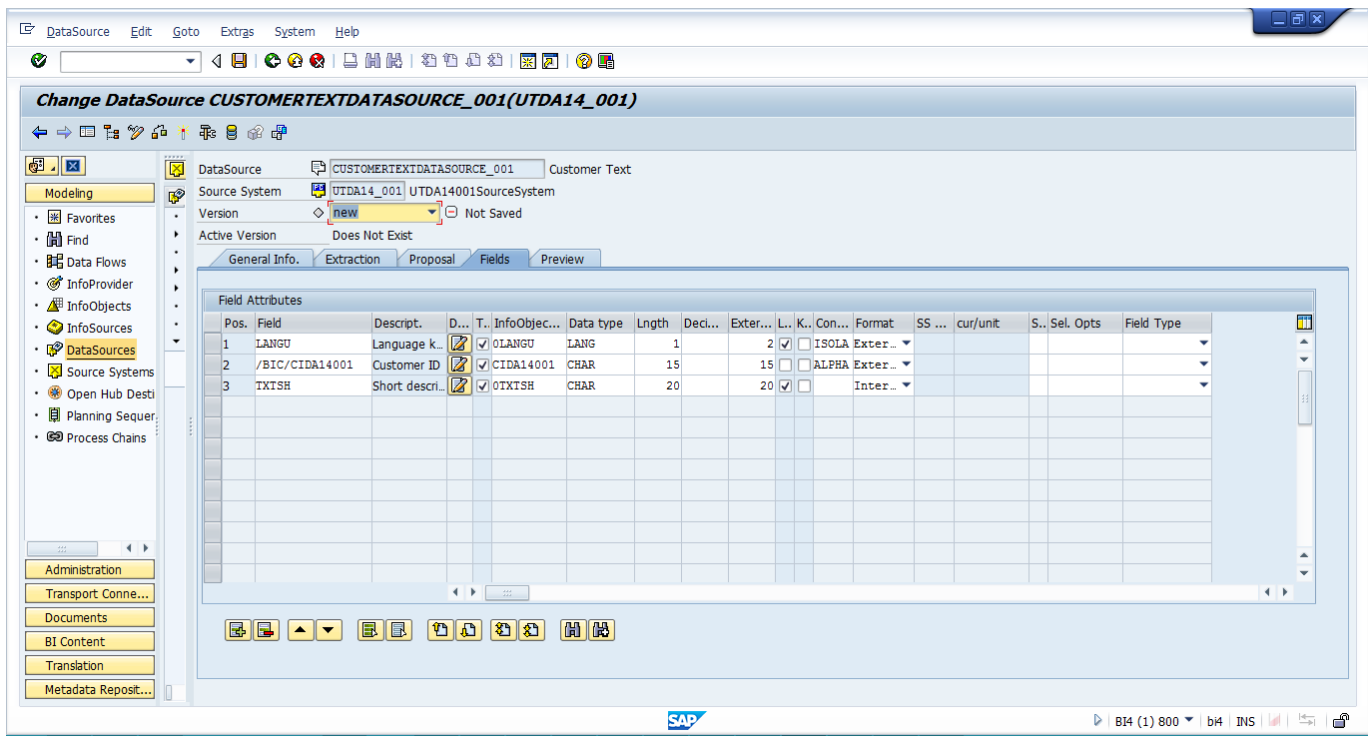
5-7: Change the Field Length of Lang to 2 and add in "Data type" field "LANG".

5-8: Now in the 2nd row under template type: CIDA14001 and then click on the icon  to add new line.

5-9: If a Pop Windows come asking to copy fields of the template say COPY.

5-10: Now in the 3rd row under template info object type in: OTXTSH and then click on the Extraction Tab.

5-11: If a Pop Windows come asking to copy fields of the template say COPY.



5-12: In the extraction tab do the following Changes:

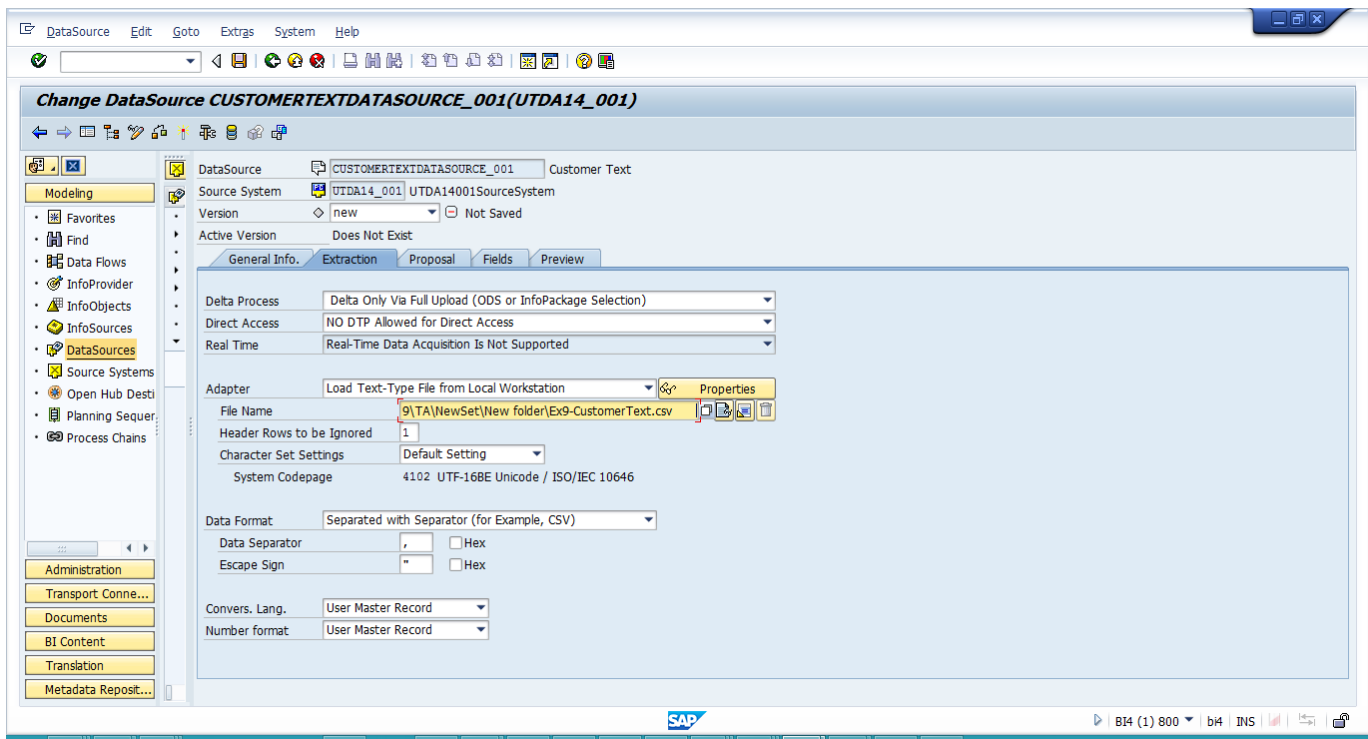
Step 1: Data Format: Separated with Separator (for Example, CSV)

Step 2: Data Separator: ' , '

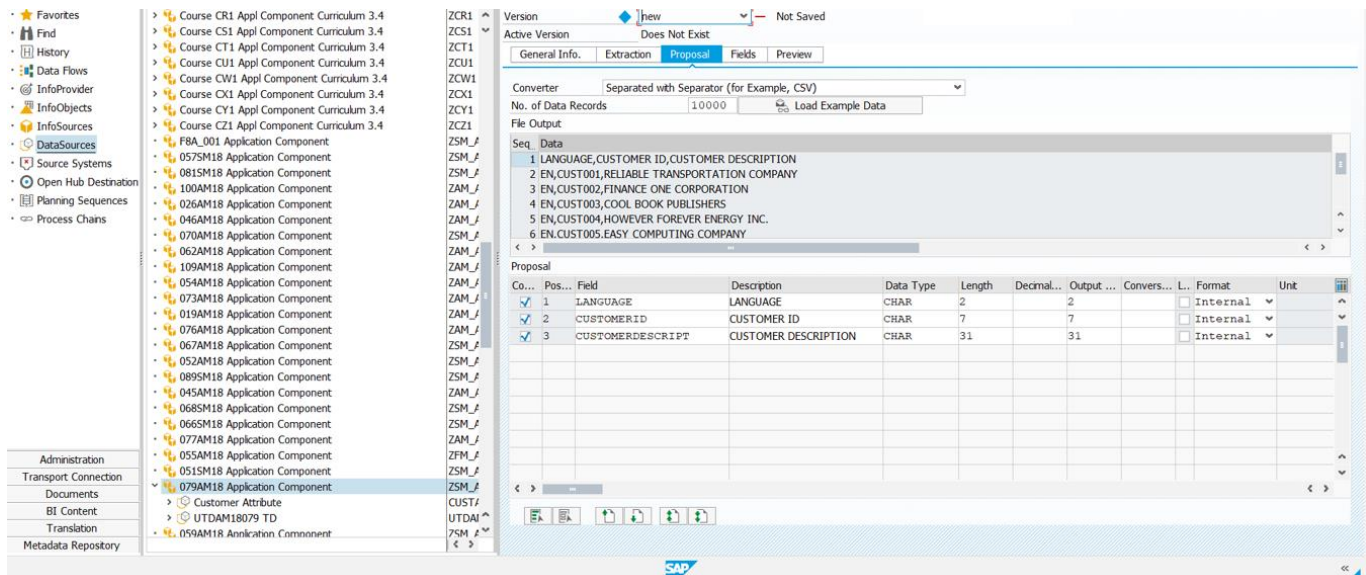
Step 3: Adapter: Load Text Type File from Local Work Station

Step 4: Name of the File: Select the location where the csv file is stored.(For Customer: CustomerText.csv)

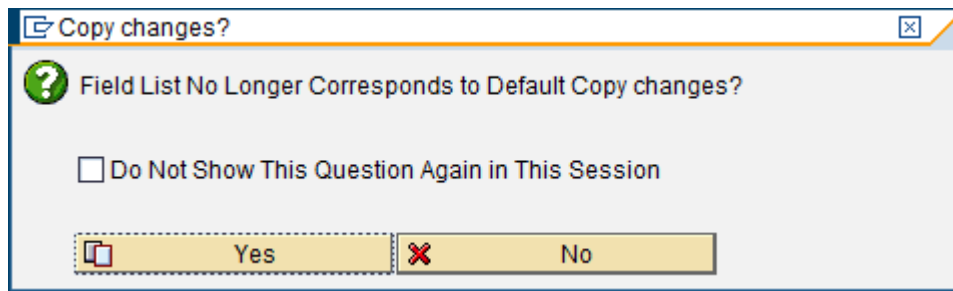
Step 5: Header rows to be ignored: 1



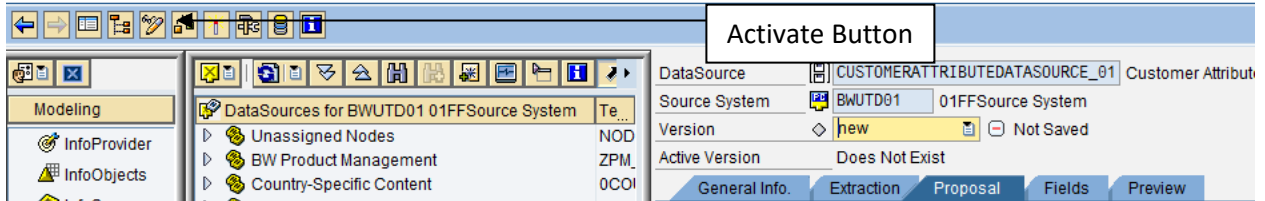
5-13: In the Proposal Tab click on Load Example Data to check if the format is correct. After clicking the button you should get the below Screen shot. (If you get SAP GUI security pop-up, always select “Always allow”)



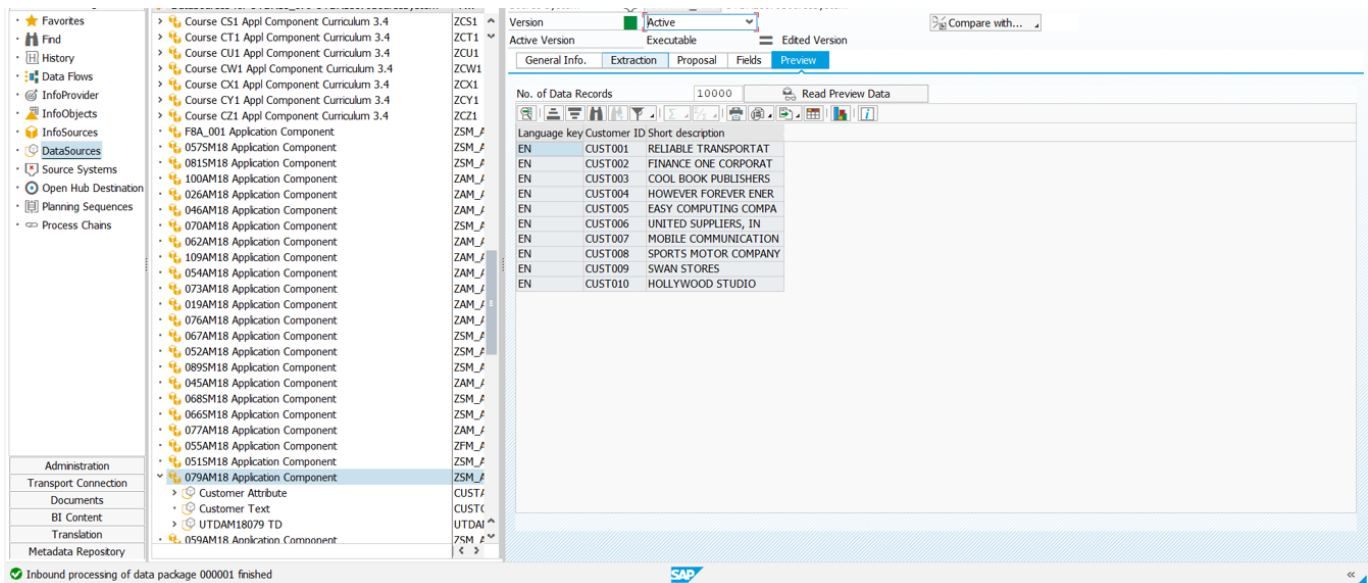
5-15: Now Activate the DataSource. A window Pops up say NO



Change DataSource CUSTOMERATTRIBUTEDATASOURCE_01(BWUTD01)



5-16: Click on Preview Tab now. Click on Read Preview Data.



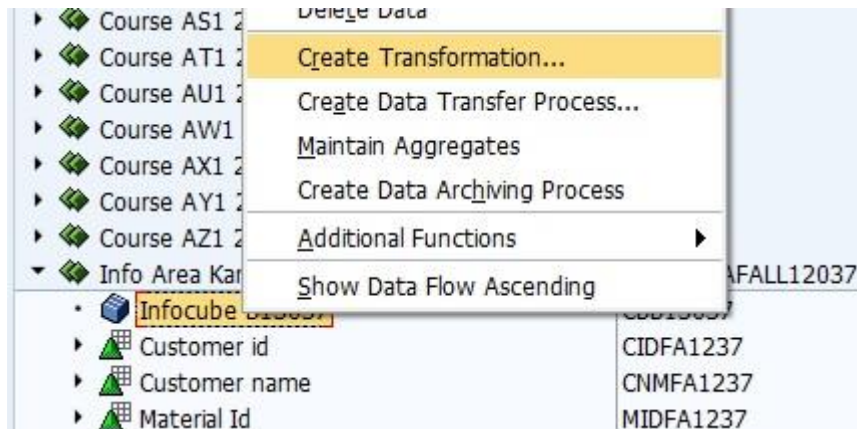
Repeat the above procedure to load Attribute of Material (using the CSV File given)

Load Text Master Data for Material

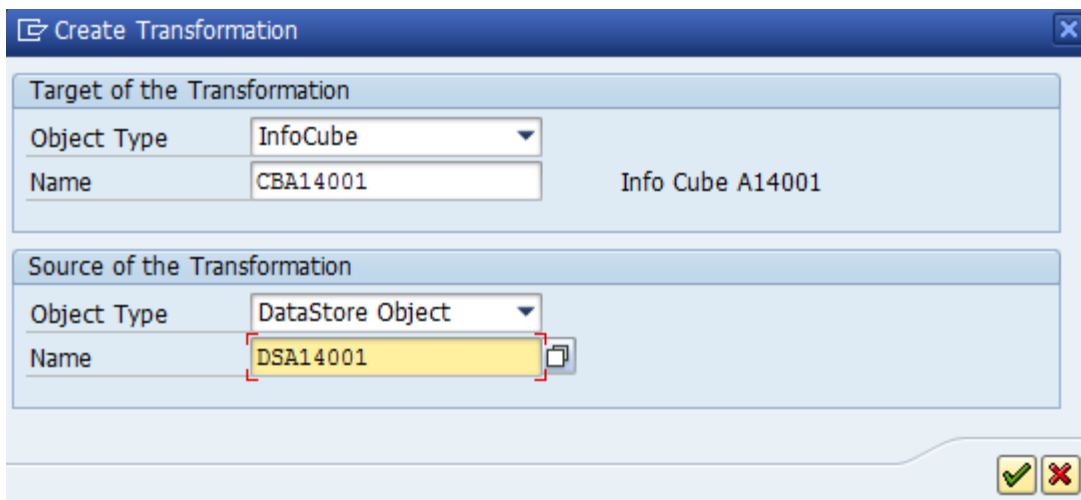
5-21: Repeat the above procedure to load Attribute of Sales Representative (using the CSV File given)

Step 6: Creating Transformation to load InfoCube

1. Go to RSA1 and select 'InfoProvider' section under Modeling.
2. Right click your InfoCube (**A14001**) and select 'Create Transformation'.



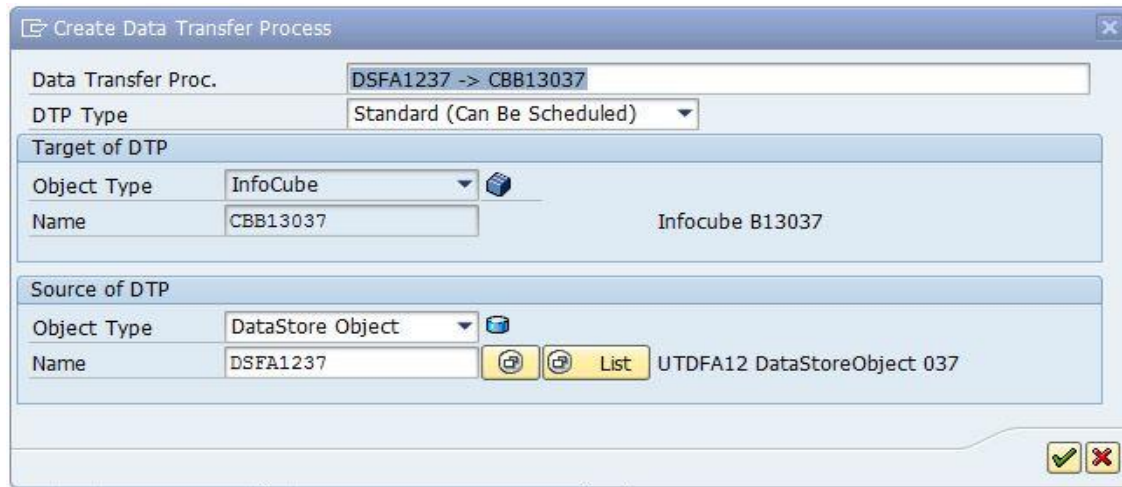
3. Select 'DataStore Object' as Object Type and 'DSA14001' as Name and hit the green check mark.



Click on the green check mark.

4. The proposal is automatically generated with rules . Check &Activate the transformation.

5. Right click your InfoCube and create Data Transfer Process. Leave the changes the way they are and hit the green check mark.

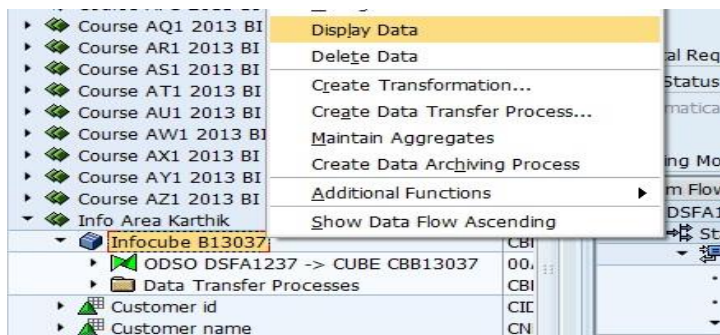


6. Go to 'Extraction' tab and make sure you select 'Full' extraction mode.
7. Check & Activate the DTP. Go to 'Execute' tab and select 'Execute'. Choose 'Yes' to display the monitor.

Paste your screen shot of the monitor here.-----

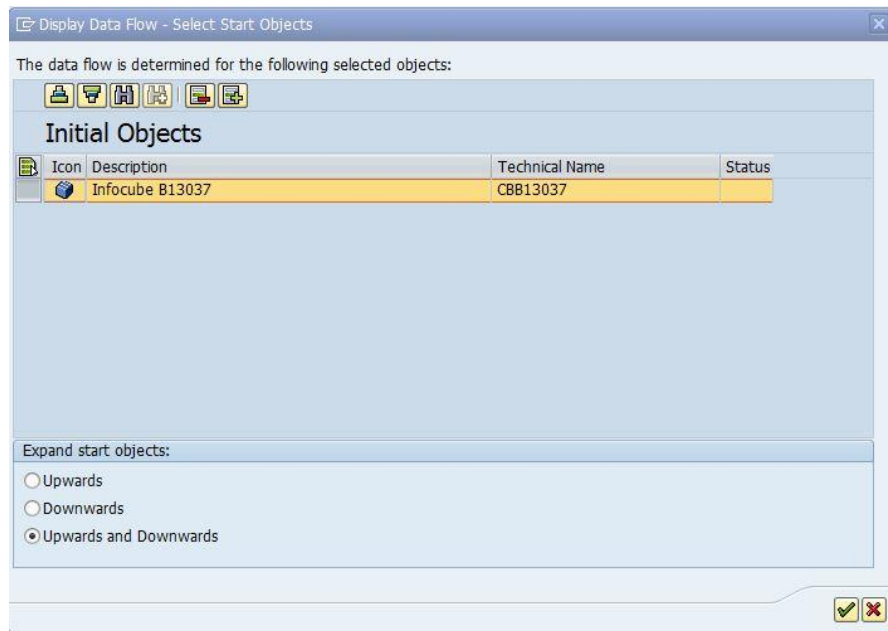
Step 7: Displaying InfoCube's Data and Data Flow.

1. In RSA1 -> InfoProvider locate your InfoCube and right click it. Then select Display Data.
2. Select 'Fld Selection for Output' -> 'Select All' -> hit 'Execute' twice.

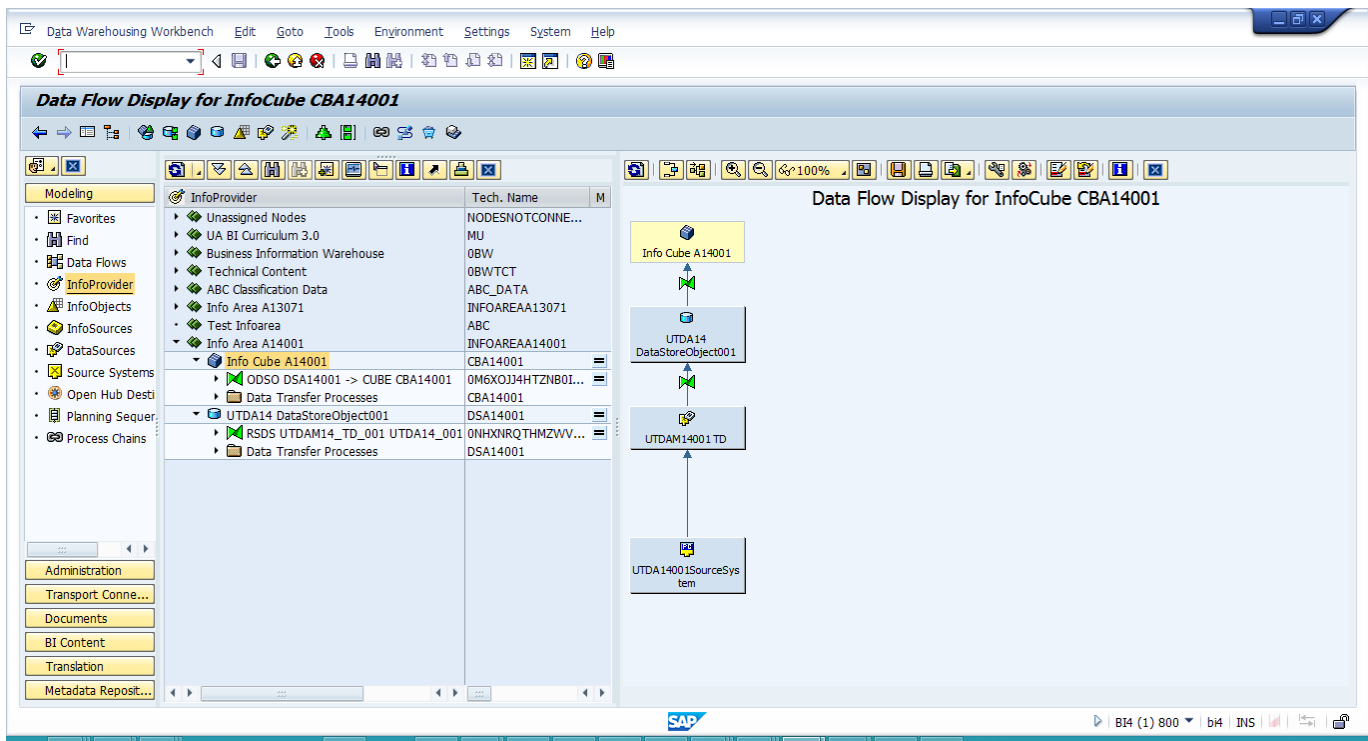


3. Paste your screen shot with the result.

4. Go back to your InfoCube and right click 'Display Data Flow'. Choose upwards & downwards

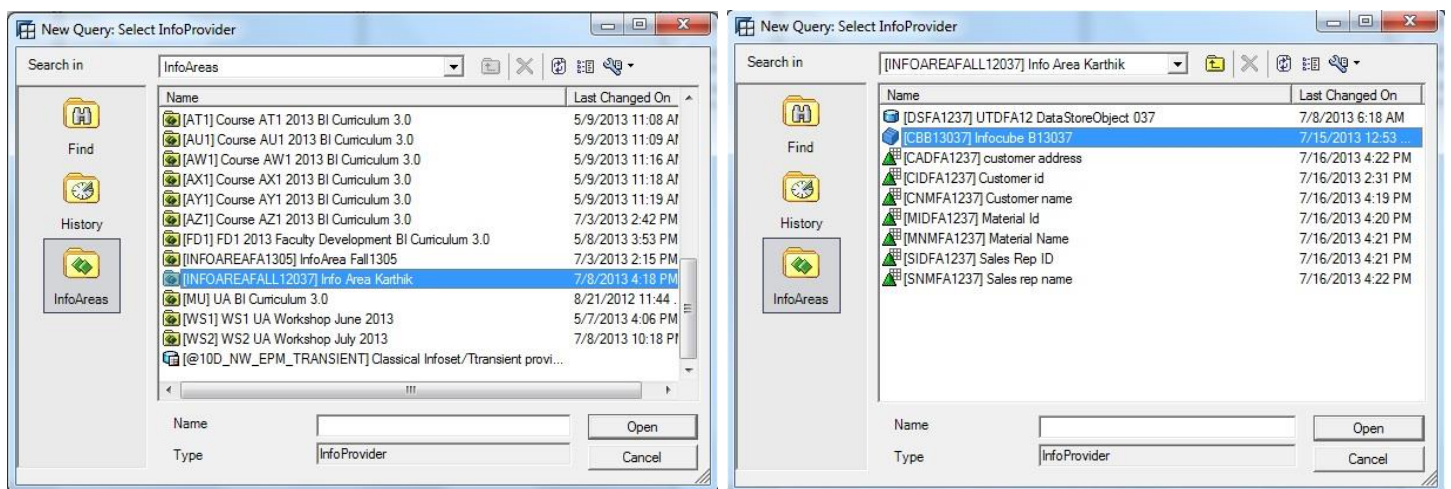


The screenshot displays the SAP BW Data Flow Designer interface. The main window is titled 'Display Data Flow'. On the left, there is a navigation pane with tabs for 'Modeling', 'Administration', 'Transport Conn...', 'Documents', 'BI Content', 'Translation', and 'Metadata Reposi...'. The 'Modeling' tab is active, showing a tree view of the data flow structure. The tree is organized into folders: 'InfoProvider' and 'Info Cube S1116'. Under 'InfoProvider', there are several 'Info Area' objects (e.g., 'Info Area FALL1102', 'Info Area FALL1103'). Under 'Info Cube S1116', there are 'Info Source' objects (e.g., 'Info Source for Cube', 'Info Source for Cube for Source system 16Fall11Source System') and 'Data Transfer Process' objects (e.g., 'BWD50XX -> CUBS1116', 'ODSO BWD50XX -> CUBE CUBS1116'). The right pane shows a diagram of the data flow. The diagram starts with 'Info Cube S1116' at the top, which is connected to 'Info Source for Cube'. This source is connected to 'BFD1116_AR', which is connected to 'Info Source for Cube for Source system 16Fall11Source System'. This source is connected to '16Fall11Source System' at the bottom. The diagram also shows 'Info Cube S1116' connected to 'Info Source for Cube' via a 'UTD Data Store Object-XX'.

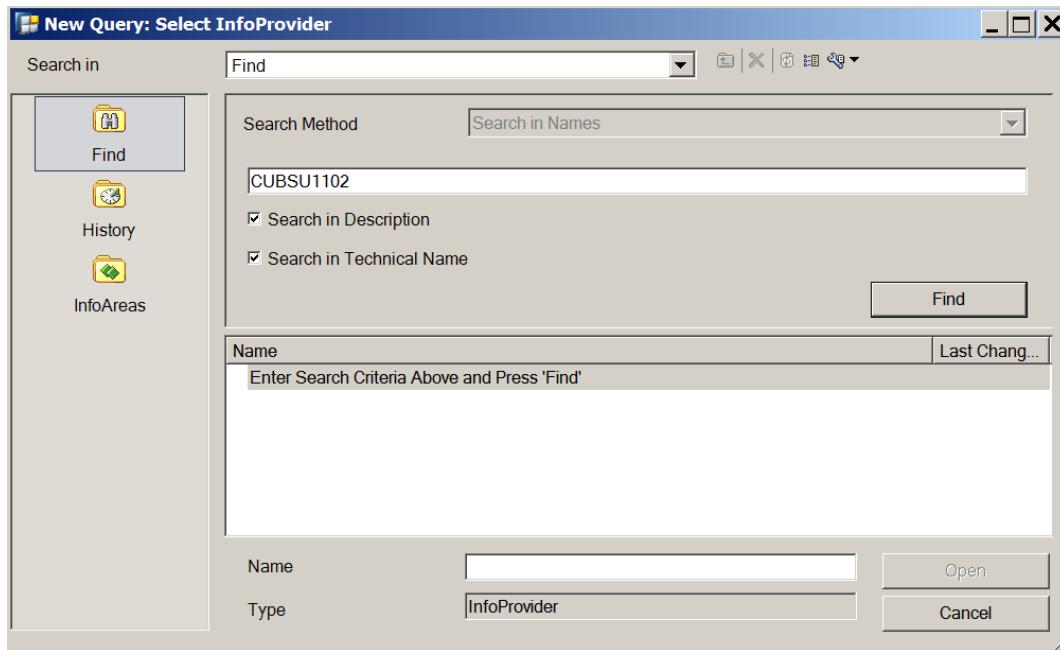


Step 8: Creating a query against InfoCube.

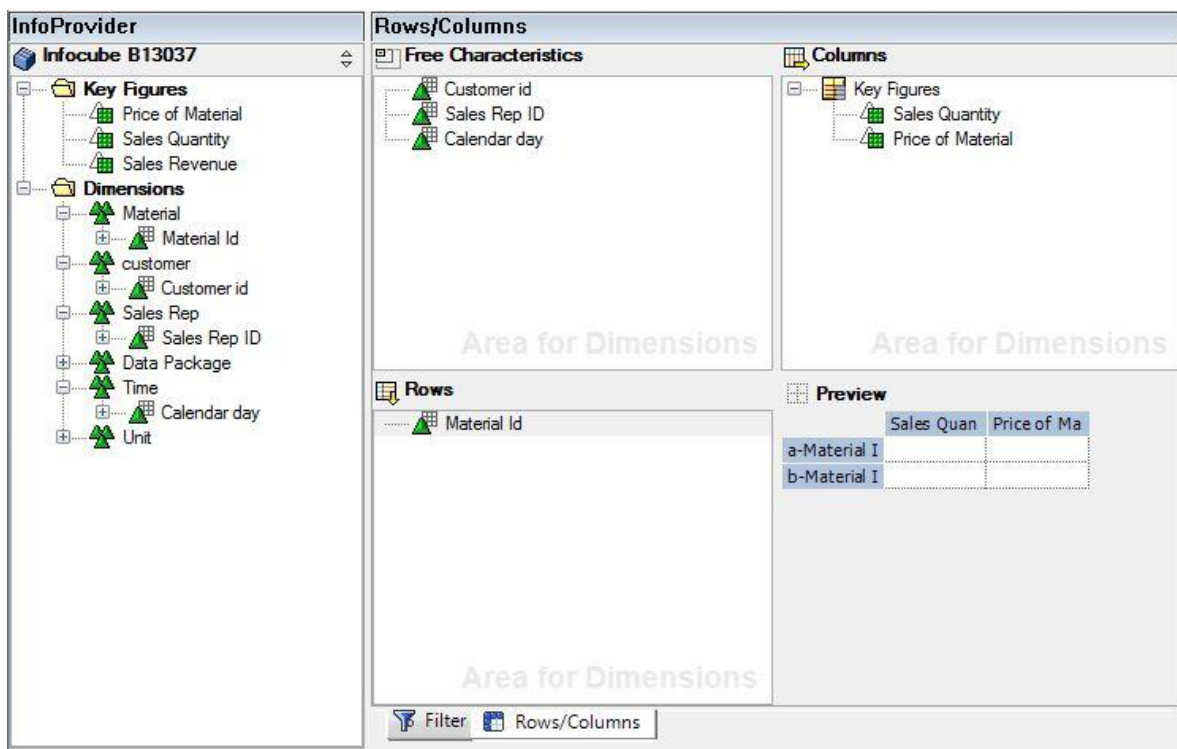
1. Open your Query Designer and go to Query -> New to create a new query.
2. Navigate to your Info Area and find your cube



Or Type 'CBA14001' in find box as shown below to find your InfoCube->Enter.



3. Double click your InfoCube (or hit Open).
4. Drag the objects to the proper place as shown below:



5. Save your query with the tech.name and description: UTDA14001.
6. Run your query using the BEx Analyzer and click on Filter.

Your screen should look like the one below:

| | | | |
|----|-----------------|----------------|-------------------|
| 2 | Author UTDT-005 | | |
| 3 | Chart | Filter | Information |
| 4 | | | |
| 12 | | | |
| 13 | | | |
| 14 | Table | | |
| 15 | Material Id | Sales Quantity | Price of Material |
| 16 | MAT001 | 1 EA | \$ 2.00 |
| 17 | MAT002 | 2 EA | \$ 2.00 |
| 18 | MAT003 | 4 EA | \$ 5.00 |
| 19 | MAT004 | 5 EA | \$ 50.00 |
| 20 | MAT006 | 8 EA | \$ 200.00 |
| 21 | MAT007 | 9 EA | \$ 20.00 |
| 22 | MAT008 | 10 EA | \$ 3.00 |
| 23 | MAT009 | 3 EA | \$ 2.00 |
| 24 | MAT010 | 13 EA | \$ 30.00 |
| 25 | Overall Result | 55 EA | \$ 314.00 |
| 26 | | | |