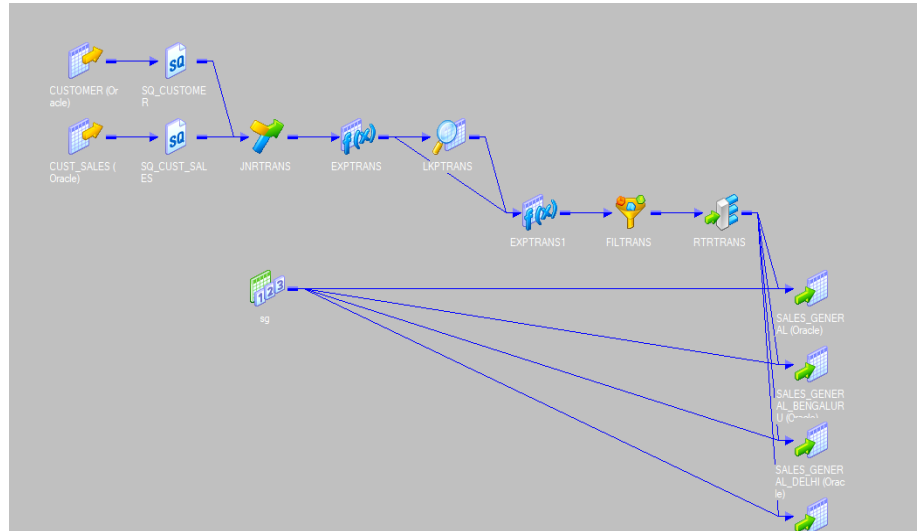


## Source to Target Mapping Sheet and Rules for ETL Pipeline

Source Name	Source Field Name	Transformation Logic	Target Name	Target Field Name	Comments
		Unique Number Generator	Sales_General	salesid	
Customer	custid	custid	Sales_General	custid	
Customer	custname	First part of custname before space separator	Sales_General	firstname	
Customer	custname	Last part of custname before space separator	Sales_General	lastname	
Customer	custcity		Sales_General	city	
Customer	custcountry		Sales_General	country	
Product	productid		Sales_General	product_id	
Product	productname		Sales_General	Product_name	
Product	productunitprice		Sales_General	product_unitprice	
Cust_Sales	custid				
Cust_Sales	productid				
Cust_Sales	salesqty		Sales_General	sales_qty	
			Sales_General	total_salesamt	
Rules					
	1 If customer city is blank, make entry as Bengaluru				
	2 Load target tables based on custcity				
	3 product with unit price <2000, should not be loaded in Target				

## Designer Window

### Design Mapping



### Transformations in this Mapping

1. Source Qualifier
2. Joiner Transformation
3. Expression Transformation
4. Look Up Transformation
5. Filter Transformation
6. Router Transformation
7. Sequence Generator Transformation

### Create Transformation

#### Joiner Transformation with Master Outer Join

Edit Transformations

Transformation | Ports | Properties | Condition | Metadata Extensions

Select transformation: JNRTRANS

Transformation type: Joiner

Transformation Attribute	Value
Cache Directory	\$PMCacheDir
Join Condition	CUSTID1 = CUSTID
Join Type	Master Outer Join
Null ordering in master	Null Is Highest Value
Null ordering in detail	Null Is Highest Value
Tracing Level	Normal
Joiner Data Cache Size	Auto
Joiner Index Cache Size	Auto
Sorted Input	<input type="checkbox"/>

**Cache Directory**  
Directory for caching master records

OK Cancel Apply Help

#### Expression Transformation to get First & Last names

Edit Transformations

Transformation | Ports | Properties | Metadata Extensions

Select transformation: EXPTRANS

Transformation type: Expression

Port Name	Datatype	Prec	Sc...	I	O	V	Expression
1 CUSTID	decimal	38	0	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CUSTID
2 CUSTNAME	nstring	20	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3 First_name	nstring	20	0	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	First_name1
4 First_name1	nstring	20	0	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	substr(CUSTNAME,1,inst...
5 Last_name	nstring	20	0	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Last_name1
6 Last_name1	nstring	20	0	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	substr(CUSTNAME,instr(...
7 CUSTCITY	nstring	10	0	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CUSTCITY
8 CUSTCOUNTRY	nstring	20	0	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CUSTCOUNTRY

Default value:

Description:

OK Cancel Apply Help

## Look Up Transformation

Edit Transformations

Transformation | Ports | Properties | Condition | Metadata Extensions

Select transformation: LKPTRANS

Transformation type: Lookup Procedure

Transformation Attribute	Value
Lookup Sql Override	
Lookup table name	PRODUCT
Lookup Source Filter	
Lookup caching enabled	<input checked="" type="checkbox"/>
Lookup policy on multiple match	Use Any Value
Lookup condition	PRODUCTID = PRODUCTID_IN
Connection Information	\$Source
Source Type	Database
Tracing Level	Normal
Lookup Sql Override	
Replacement query for lookup values	

OK Cancel Apply Help

## Router Transformation

Edit Transformations

Transformation | Ports | Properties | Groups | Metadata Extensions

Select transformation: RTRTRANS

Transformation type: Router

Group Name	Group Filter Condition
Bengaluru	O_CUSTCITY = 'Bengaluru'
Delhi	O_CUSTCITY = 'Delhi'
Lodon	O_CUSTCITY = 'London'
DEFAULT1	

Description:

OK Cancel Apply Help

## Replace Null values in city column & Get total Sales Value

Select transformation: EXPTRANS1

Transformation type: Expression

Port Name	Datatype	Prec	Sc...	I	O	V	Expression
1 CUSTID	decimal	38	0	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CUSTID
2 First_name	nstring	20	0	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	First_name
3 Last_name	nstring	20	0	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Last_name
4 CUSTCITY	nstring	10	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5 O_CUSTCITY	nstring	10	0	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	O_CUSTCITY1
6 O_CUSTCITY1	nstring	10	0	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	if(isnull(CUSTCITY), 'Mumb...
7 CUSTCOUNTRY	nstring	20	0	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CUSTCOUNTRY
8 PRODUCTID_IN	decimal	38	0	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	PRODUCTID_IN
9 PRODUCTNAME	nstring	20	0	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	PRODUCTNAME
10 PRODUCTUNITPRICE	decimal	38	0	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	PRODUCTUNITPRICE
11 SLAESQTY	decimal	38	0	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	SLAESQTY
12 Total_QTY	decimal	38	0	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Total_QTY1
13 Total_QTY1	decimal	38	0	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	SLAESQTY*PRODUCT...

## Filter Transformation

Edit Transformations

Transformation | Ports | Properties | Metadata Extensions

Select transformation: FILTRANS

Transformation type: Filter

Transformation Attribute	Value
Filter Condition	PRODUCTUNITPRICE > 2000
Tracing Level	Normal

Filter Condition

Filter applied to records

OK Cancel Apply Help

## Sequence Generator Transformation

Edit Transformations

Transformation | Ports | Properties | Metadata Extensions

Select transformation: sg

Transformation type: Sequence

Transformation Attribute	Value
Start Value	0
Increment By	1
End Value	9223372036854775807
Current Value	0
Cycle	<input type="checkbox"/>
Number of Cached Values	0
Reset	<input type="checkbox"/>
Tracing Level	Normal

Start Value

First value generated for the sequence

OK Cancel Apply Help

## Filter Condition

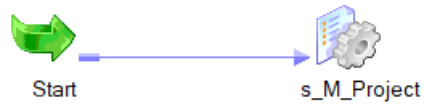
Select transformation: FILTRANS

Transformation type: Filter

Transformation Attribute	Value
Filter Condition	PRODUCTUNITPRICE > 2000
Tracing Level	Normal

## Workflow Manager

### Work flow



### Configure Connections

Edit Tasks

General Properties Config Object Mapping Components Metadata Extensions

Select task: s\_M\_Project

Task type: Session

**Start Page**

**Configure Mapping**

To configure connections, select the [Connections](#) node in the tree in the Transformations view.

To edit the reader/writer properties of a source/target, select the [Sources](#) or the [Targets](#) node in the tree.

To edit the partitions, go to the [Partitions](#) tab and select a transformation from the tree.

Transformations

- EXPTRANS
- EXPTRANS1
- FILTRANS
- RTTRANS
- eg
- JNRTRANS

Transformor... Partitions

OK Cancel Apply Help

## Workflow Monitor

### Run Properties

Repositories

rep

is

Workflow Run

wf\_M\_Project

wf\_M\_Project

s\_M\_Project

Start Time

29-02-2024 20:28:00

Completion Time

29-02-2024 20:28:05

Status

Succeeded

29-02-2024 20:28:00

29-02-2024 20:28:03

Succeeded

Succeeded

Gantt Chart

Task View

s\_M\_Project [29-02-2024 20:28:00]

Task Details

Source/Target Statistics

Transformation Name	Node	Applied Rows	Affected Rows	Rejected Rows	Throughput (Rows/Sec)
SALES_GENERAL	node01	1	1	0	1
SALES_GENERAL	node01	1	1	0	1
SALES_GENERAL	node01	1	1	0	1
SALES_GENERAL	node01	1	1	0	1
SQ_CUST_SALES	node01	5	5	0	5
SQ_CUSTOMER	node01	7	7	0	7

## Session Logs

					SESSION LOAD SUMMARY
					=====
INFO	29-02-2024 20:28:03	node01	DIRECTOR	TM_6252	Source Load Summary.
INFO	29-02-2024 20:28:03	node01	DIRECTOR	CMN_1740	Table [SQ_CUSTOMER] (Instance Name: [SQ_CUSTOMER]) Output Rows [7], Affected Rows [7], Applied Rows [7], Rejected Rows [0]
INFO	29-02-2024 20:28:03	node01	DIRECTOR	CMN_1740	Table [SQ_CUST_SALES] (Instance Name: [SQ_CUST_SALES]) Output Rows [5], Affected Rows [5], Applied Rows [5], Rejected Rows [0]
INFO	29-02-2024 20:28:03	node01	DIRECTOR	TM_6253	Target Load Summary.
INFO	29-02-2024 20:28:03	node01	DIRECTOR	CMN_1740	Table [SALES_GENERAL] (Instance Name: [SALES_GENERAL]) Output Rows [1], Affected Rows [1], Applied Rows [1], Rejected Rows [0]
INFO	29-02-2024 20:28:03	node01	DIRECTOR	CMN_1740	Table [SALES_GENERAL_BENGALURU] (Instance Name: [SALES_GENERAL_BENGALURU]) Output Rows [1], Affected Rows [1], Applied Rows [1], Rejected Rows [0]
INFO	29-02-2024 20:28:03	node01	DIRECTOR	CMN_1740	Table [SALES_GENERAL_DELHI] (Instance Name: [SALES_GENERAL_DELHI]) Output Rows [1], Affected Rows [1], Applied Rows [1], Rejected Rows [0]
INFO	29-02-2024 20:28:03	node01	DIRECTOR	CMN_1740	Table [SALES_GENERAL_LONDON] (Instance Name: [SALES_GENERAL_LONDON]) Output Rows [1], Affected Rows [1], Applied Rows [1], Rejected Rows [0]
INFO	29-02-2024 20:28:03	node01	DIRECTOR	TM_6023	
					=====
INFO	29-02-2024 20:28:03	node01	DIRECTOR	TM_6020	Session [s_MProject] completed at [Thu Feb 29 20:28:03 2024]

### Source Vs Target

Source

The screenshot displays the SQL Developer interface with two queries and their results.

**Query 1: select \* from customer;**

CUSTID	CUSTNAME	CUSTCITY	CUSTCOUNTRY
1	10 Mayank Singh	Delhi	India
2	11 Robert Andrews	Bengaluru	India
3	12 Andrew simon	London	United Kingdom
4	13 Brian Sullivan	London	United Kingdom
5	14 Akash Shah	Delhi	India
6	15 Venkat Rajesh	(null)	India
7	16 Siddharth	Bengaluru	India

**Query 2: select \* from product;**

PRODUCTID	PRODUCTNAME	PRODUCTUNITPRICE
1	1000 LG Washing Machine	20000
2	1001 Samsung Refrigerator	40000
3	1002 Oven	6000
4	1003 Polo T-Shirt	1000

Target

Worksheet      Query Builder

1      `select * from sales_general;`

Query Result    Query Result 1    Query Result 2

SQL | All Rows Fetched: 1 in 0.002 seconds

	SALES_ID	CUST_ID	FIRSTNAME	LASTNAME	CITY	COUNTRY	PRODUCTID
1	54	15 Venkat	Rajesh	Mumbai	India		1000 LG

Worksheet      Query Builder

3      `select * from sales_general_bengaluru;`

Query Result    Query Result 1    Query Result 2

SQL | All Rows Fetched: 1 in 0.002 seconds

	SALES_ID	CUST_ID	FIRSTNAME	LASTNAME	CITY	COUNTRY	PRODUCTID
1	51	11 Robert	Andrews	Bengaluru	India		1002 O

Worksheet      Query Builder

5      `select * from sales_general_delhi;`

Query Result    Query Result 1    Query Result 2

SQL | All Rows Fetched: 1 in 0.005 seconds

	SALES_ID	CUST_ID	FIRSTNAME	LASTNAME	CITY	COUNTRY	PRODUCTID	PRODUCT_N
1	52	10 Mayank	Singh	Delhi	India		1001 Samsung Ref	

Worksheet      Query Builder

7      `select * from sales_general_london;`

Query Result    Query Result 1    Query Result 2

SQL | All Rows Fetched: 1 in 0.008 seconds

	SALES_ID	CUST_ID	FIRSTNAME	LASTNAME	CITY	COUNTRY	PR
1	53	12 Andrew	simon	London	United Kingd		

- Import source and target details to the Designer
- Design Mapping from source to target with necessary transformation
- Use Substr and instr functions to trim names to get first name and last name to load in the target table
- Use Joiner transformation to join to two tables with required join type to get the data
- Lookup transformation to get data from the lookup table
- Filter transformation to limit the entry of data into target table
- Router transformation to route the data according to city

#### Data Validation

- Check Run properties and session logs for the detailed report
- Check Count in Source and Target tables
- Check all the transformation logic are fulfilled such as (First/Last name, Total Sales Field, Null Cities Replaced, Product Price < 2000 are not entered)
- Check the rules of Data Loading are adhered