IMPORT THE DATAWAREHOUSE DATA IN MICROSOFT EXCEL AND CREATE PIVOT TABLE AND PIVOT CHART

Open excel

Go to data tab->get external data -from other sources – from data connection wizard

In the data connection wizard – select ms SQL server – click next

In connect to data base server provide server name (ms sql Server name)

Provide the password for the account as given during installation of sql server

Click next

In select database and table -select SelectSales_DW(already create in sql) – check all the dimensions and import relationships between selected tables

In save data connection files browse path and click on finish

In the import data select pivot chart and click on OK

In the fields put SalesDatekey in filters,FullDateUK in axis and Sum of ProductActualCost in values

In insert tab go to pivot table

Click on the choose connection to select existing connrction with Sales_DW and click open

Pivot table and pivot chart is created.

PERFORM ETL PROCESS TO CONSTRUCT DATABASE IN SQL

Open sql server managemt tool to restore backup files

Right click on the databases – Restore database

Select device - click on more option icon towards the end of device box

Click on the add- select path of backup files

Select both the files

Click ok and select backup devices window add both files of Adventureworks

Main

Open sql server data tools

Select file – new-project – BI – Integration services project and give appropriate project name

Environment consists of sql server integration serveices (SSIS)

Right click on the connection manager in solution explorer and click on New Connection Manager

Add SSIS connection manager window appears

Select OLEDB connection manager and click on add

Configure OLEDB connection manager window appears – click on New

Select server name as per ur machine form dropdown and database name and click on test connection

If test connection succeeded click ok

Connection is added to the Connection manager

Drag and drop data flow task in Control Flow Tab

Drag OLEDB source from other Sources and drop into Data flow tab

Double click on OLEDB source – OLEDB-Oledb source editor appears- click on New to add connection manager

Select [Sales].[Store] table from drop down and click ok

Drag oledb destination in data flow tab and connect both

Double click on oledb destination

Click on new to run the query to get [OLEDB Destination]

In the name of table or view

Click on OK .click on Start

Go to sql server management studio

In databse tab-Adventureworks-right click on [dbo].[OLEDB Destination]-scrip table as-SELECT To New query editor window

Execute following query to get the output

```
USE[AdventureWorks2012]
Go

SELECT[BusinessEntityID]
      ,[Name]
       ,[SalesPersonID]
      ,[Demographics]
      ,[rowguid]
      ,[modified date]
FROM[dbo].[OLEDB Destination]
GO
```

Output is created

Create the cube with suitable dimension and fact tables based on OLAP

Step 1: Creating Data Warehouse

Let us execute our T-SQL Script to create data warehouse with fact tables,
dimensions and populate them with appropriate test values.

Download T-SQL script attached with this article for creation of Sales Data Warehouse or download from this article “Create First Data Warehouse” and
run it in your SQL Server.

Downloading "Data_WareHouse__SQLScript.zip" from the article https://www.codeproject.com/Articles/652108/Create-First-Data-WareHou
seAfter downloading extract file in folder.

Follow the given steps to run the query in SSMS (SQL Server Management
Studio).

1. Open SQL Server Management Studio 2012
2. Connect Database Engine
Password for sa : admin123 (as given during installation)
Click Connect.
3. Open New Query editor
4. Copy paste Scripts given below in various steps in new query editor window one by one
5. To run the given SQL Script, press F5
6. It will create and populate “Sales_DW” database on your SQL Server

OR

1. Go to the extracted sql file and double click on it.
2. New Sql Query Editor will be opened containing Sales_DW Database.3. Click on execute or press F5 by selecting query one by one or directly click on Execute.
4. After completing execution save and close SQL Server Management studio & Reopen to see Sales_DW in Databases Tab.Step 2: Start SSDT environment and create New Data Source

Go to Sql Server Data Tools --> Right click and run as administrator
Click on File ❼ New ❼ ProjectIn Business Intelligence ❼ Analysis Services Multidimensional and Data
Mining models ❼ appropriate project name ❼ click OK
Right click on Data Sources in solution explorer ❼ New Data SourceData Source Wizard appears
Click on NewSelect Server Name ❼ select Use SQL Server Authentication ❼ Select or enter
a database name (Sales_DW)
Note : Password for sa : admin123 (as given during installation of SQL 2012
full version)
Click NextSelect Inherit ❼ NextClick Finish

Sales_DW.ds gets created under Data Sources in Solution ExplorerStep 3: Creating New Data Source View
In Solution explorer right click on Data Source View ➏ Select New Data Source View
Click NextClick Next
Select FactProductSales(dbo) from Available objects and put in Includes Objects by clicking onClick on Add Related TablesClick Next
Click Finish

Sales DW.dsv appears in Data Source Views in Solution Explorer.
Step 4: Creating new cube
Right click on Cubes ➏ New CubeSelect Use existing tables in Select Creation Method ➏ NextIn Select Measure Group Tables ➏ Select FactProductSales ➏ Click Next
In Select Measures ➏ check all measures ➏ NextIn Select New Dimensions ➏ Check all Dimensions ➏ Next
Click on FinishSales_DW.cube is created
Step 5: Dimension Modification
In dimension tab ➏ Double Click Dim Product.dimDrag and Drop Product Name from Table in Data Source View and Add in
Attribute Pane at left side
Step 6: Creating Attribute Hierarchy in Date Dimension
Double click On Dim Date dimension -> Drag and Drop Fields from Table shown in Data Source View to Attributes-> Drag and Drop attributes from leftmost pane of attributes to middle pane of Hierarchy.
Drag fields in sequence from Attributes to Hierarchy window (Year, Quarter
Name, Month Name, Week of the Month, Full Date UK)Step 7: Deploy Cube
Right click on Project name ➏ Properties

This window appaers
Do following changes and click on Apply & okRight click on project name ➏ Deploy
Deployment successful To process cube right click on Sales_DW.cube ➏ Process
Click runBrowse the cube for analysis in solution explorer

Execute the MDX queries to extract the data from the datawarehouse.

Step 1: Open SQL Server Management Studio and connect to Analysis Services.

Server type: Analysis Services

Server Name: (according to base machine)

Click on connect

Step 2: Click on New Query & type following query based on Sales_DWselect [Measures].[Sales Time Alt Key] on columns
from [Sales DW]

Click on execute

```
select [Measures].[Quantity] on columns
from [Sales DW]select [Measures].[Sales Invoice Number] on columns
from [Sales DW]
select [Measures].[Sales Total Cost] on columns
from [Sales DW]select [Measures].[Sales Total Cost] on columns
, [Dim Date].[Year].[Year] on rows
from [Sales DW]
select [Measures].[Sales Total Cost] on columns
, NONEMPTY({[Dim Date].[Year].[Year]}) on rows
from [Sales DW]select [Measures].[Sales Total Cost] on columns
from [Sales DW]
Where [Dim Date].[Year].[Year].&[201
```

Import the cube in Microsoft Excel and create the Pivot table and Pivot Chart
to perform data analysis.

Step 1: Open Excel 2013 (Professional)
Go to Data tab ➹ Get External Data ➹ From Other Sources ➹ From Analysis
Services
Step 2: Select Server name and Windows Authentication and click on NextStep 3: Select OLAP(as per created before) click on Next
Step 4: Browse and select path name and click on FinishStep 5: Select PivotTableReport ➹ OK
Step 6 : Drag and Drop Fields in rows column and values Step 7: Go to Insert tab ➹ pivot chart and select Pivot Chart from drop down
Step 8: Select existing connection OLAP Sales DW and click on OpenStep 9: Click on Choose connection to select path
Step 10: Click on OK