Data Warehouse Reporting

Estimated time needed: **30** minutes.

About This SN Labs Cloud IDE

This Skills Network Labs Cloud IDE provides a hands-on environment for course and project related labs. It utilizes Theia, an open-source IDE (Integrated Development Environment) platform, that can be run on desktop or on the cloud. To complete this lab, we will be using the Cloud IDE based on Theia. You will also need an instance of DB2 running in IBM Cloud.

Scenario

You are a data engineer hired by an ecommerce company named SoftCart.com . The company retails download only items like E-Books, Movies, Songs etc. The company has international presence and customers from all over the world. You have designed the schema for the data warehouse in the previous assignment. Data engineering is a team game. Your senior data engineer reviewed your design. Your schema design was improvised to suit the production needs of the company. In this assignment you will generate reports out of the data in the data warehouse.

Objectives

In this assignment you will:

- Load data into Data Warehouse
- Write aggregation queries
- Create MQTs

Tools / Software

- Cloud instance of IBM DB2 database

Note - Screenshots

Throughout this lab you will be prompted to take screenshots and save them on your own device. You will need these screenshots to either answer graded quiz questions or to upload as your submission for peer review at the end of this course. You can use various free screengrabbing tools to do this or use your operating system's shortcut keys to do this (for example Alt+PrintScreen in Windows).

About the dataset

The dataset you would be using in this assignment is not a real life dataset. It was programmatically created for this assignment purpose.

Prerequisites

You need access to a cloud instance of IBM DB2 to proceed with this assignment.

If you do not have an instance of IBM DB2 on cloud, follow the instructions in this lab to create one.

Exercise 1 - Load data into the Data Warehouse

In this exercise you will load the data into the tables.

You will load the data provided by the company in csv format.

Task 1 - Load data into the dimension table DimDate

Download the data from this link

Load this data into DimDate table.

Take a screenshot of the first 5 rows in the table DimDate.

Name the screenshot `DimDate.jpg`. (Images can be saved with either the .jpg or .png extension.)

Task 2 - Load data into the dimension table DimCategory

Download the data from this link

Load this data into DimCategory table.

Take a screenshot of the first 5 rows in the table DimCategory.

Name the screenshot `DimCategory.jpg`. (Images can be saved with either the .jpg or .png extension.)

Task 3 - Load data into the dimension table DimCountry

Download the data from this link

Load this data into DimCountry table.

Take a screenshot of the first 5 rows in the table DimCountry.

Name the screenshot `DimCountry.jpg`. (Images can be saved with either the .jpg or .png extension.)

Task 4 - Load data into the fact table FactSales

Download the data from this link

Load this data into FactSales table.

Take a screenshot of the first 5 rows in the table FactSales.

Name the screenshot `FactSales.jpg`. (Images can be saved with either the .jpg or .png extension.)

Exercise 2 - Queries for data analytics

In this exercise you will query the data you have loaded in the previous exercise.

Task 5 - Create a grouping sets query

Create a grouping sets query using the columns country, category, totalsales.

Take a screenshot of the sql and the output rows.

Name the screenshot `groupingsets.jpg`. (Images can be saved with either the .jpg or .png extension.)

Task 6 - Create a rollup query

Create a rollup query using the columns year, country, and totalsales.

Take a screenshot of the sql and the output rows.

Name the screenshot `rollup.jpg`. (Images can be saved with either the .jpg or .png extension.)

Task 7 - Create a cube query

Create a cube query using the columns year, country, and average sales.

Take a screenshot of the sql and the output rows.

Name the screenshot `cube.jpg`. (Images can be saved with either the .jpg or .png extension.)

Task 8 - Create an MQT

Create an MQT named total_sales_per_country that has the columns country and total_sales.

Take a screenshot of the sql.

Name the screenshot `mqt.jpg`. (Images can be saved with either the .jpg or .png extension.)

End of the assignment.

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