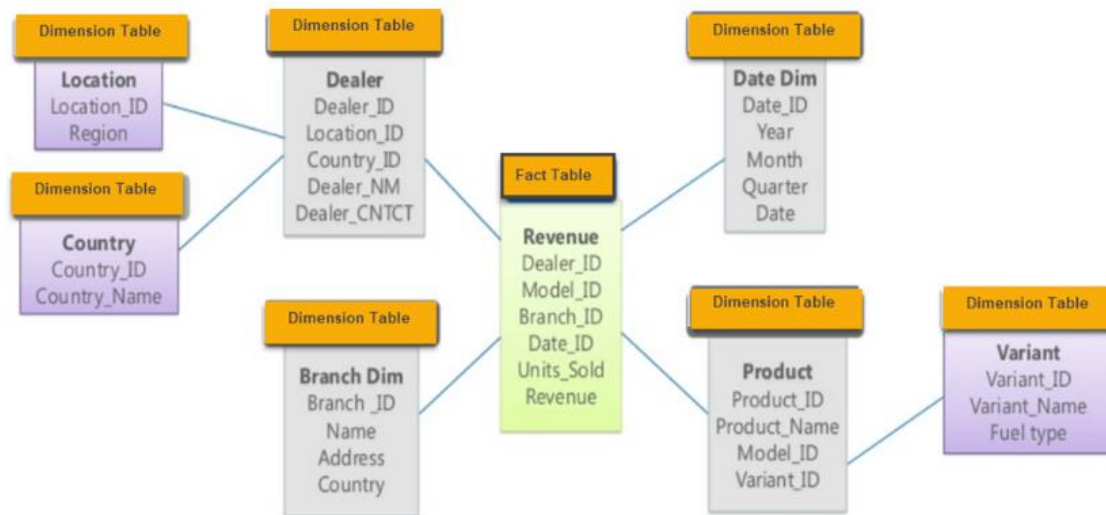**What is a Snowflake Schema?**

Snowflake Schema in data warehouse is a logical arrangement of tables in a multidimensional database such that the ER diagram resembles a snowflake shape. A Snowflake Schema is an extension of a Star Schema, and it adds additional dimensions. The dimension tables are normalized which splits data into additional tables.

In the following Snowflake Schema example, Country is further normalized into an individual table.

Example of Snowflake Schema

Characteristics of Snowflake Schema:

- The main benefit of the snowflake schema it uses smaller disk space.
- Easier to implement a dimension is added to the Schema
- Due to multiple tables query performance is reduced
- The primary challenge that you will face while using the snowflake Schema is that you need to perform more maintenance efforts because of the more lookup tables.

Star Schema Vs Snowflake Schema: Key Differences

Following is a key difference between Snowflake schema vs Star schema:

Star Schema	Snowflake Schema
Hierarchies for the dimensions are stored in the dimensional table.	Hierarchies are divided into separate tables.
It contains a fact table surrounded by dimension tables.	One fact table surrounded by dimension table which are in turn surrounded by dimension table
In a star schema, only single join creates the relationship between the fact table and any dimension tables.	A snowflake schema requires many joins to fetch the data.
Simple DB Design.	Very Complex DB Design.
Denormalized Data structure and query also run faster.	Normalized Data Structure.
High level of Data redundancy	Very low-level data redundancy
Single Dimension table contains aggregated data.	Data Split into different Dimension Tables.
Cube processing is faster.	Cube processing might be slow because of the complex join.
Offers higher performing queries using Star Join Query Optimization. Tables may be connected with multiple dimensions.	The Snowflake schema is represented by centralized fact table which unlikely connected with multiple dimensions.

What is a Galaxy Schema?

A **Galaxy Schema** contains two fact table that share dimension tables between them. It is also called Fact Constellation Schema. The schema is viewed as a collection of stars hence the name Galaxy Schema.
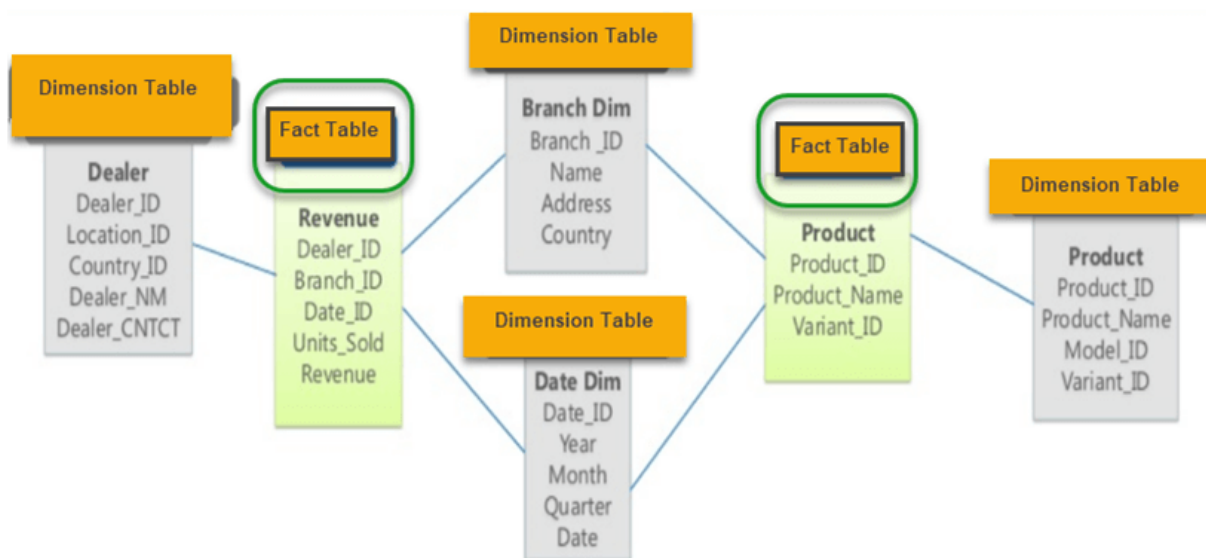As you can see in following example, there are two facts table

1. Revenue
2. Product.

In Galaxy schema shares dimensions are called Conformed Dimensions.

Characteristics of Galaxy Schema:

- The dimensions in this schema are separated into separate dimensions based on the various levels of hierarchy.
- For example, if geography has four levels of hierarchy like region, country, state, and city then Galaxy schema should have four dimensions.
- Moreover, it is possible to build this type of schema by splitting the one-star schema into more Star schemes.
- The dimensions are large in this schema which is needed to build based on the levels of hierarchy.
- This schema is helpful for aggregating fact tables for better understanding.

Example of Galaxy Schema