ETL Testing with concept of ETL Development in Informatica and DataStage

Introduction to ETL and DW Concepts

- What is Data Warehousing?
- Differences between OLTP and Data Warehousing
- Why we need two separate solution for real time and warehousing

Data Acquisition

Data Extraction

How to extract data from several sources and load into same target table

Data Transformation

How to perform transformation logics on data

Data Loading

How to load data into final target table

Data Marts

Need and usage of data marts and types of data marts
• Dependent DM
• Independent DM

Data Warehousing Life Cycle

Types of Tables

- Fact Table
- Dimension table

Schemas

- Star Schema
- Snowflake Schema
- Fact Constellation Schema

SCD (Slowly Changing Dimensions)
Different types of SCD's which developer develops and a tester has to test as per different types of data needs of clients. We implement SCD-1 and SCD-2 in class to show the implementation part more transparently and explain SCD-3 to define how to work on limited historical data as well which is used sometimes and its types:

• TYPE1 SCD
• TYPE2 SCD
• TYPE3 SCD

ETL Tool Implementation and Testing Concepts

Basic Concepts in SQL (Select, Update, Insert and Delete)
How to design frequently used testing queries to validate the data in source and target for both of the reasons Data Quality and Correctness to ensure that expected data came into the final and mediator target tables or not.

Overview of ETL Tool Architecture

- How ETL tool works and what is the basic need of ETL tools in the market?
- What are the similarities between ETL tools and SQL?
- Why we use ETL Tools if SQL is the only standard which any Database or Data
- Warehouse can use?
- How ETL Tools work at back end?
- Different ETL Tools in the market?
- What types of tasks tester performs on ETL for testing purpose?
- Informatica PowerCenter (Leading tool in the market)

Coding and Testing Process in Different Transformation Rules

• Sample Loading from source to target
• Sorter Transformation
• Filter Transformation
• Expression Transformation
• Joiner Transformation
• Union Transformation
• Aggregator Transformation
• Sequence Generator Transformation
• SQL Transformation

We provide this practice as additional benefit to you so that you can implement jobs by yourself to understand that what developers do in real time which you have to test.

Testing Techniques in ETL

- Minus Query
- Count Query
- Union Query
- Join Query

Informatica PowerCenter

- How developers work on PowerCenter?
- Different components of PowerCenter
- Tasks developed in different components

Data Stage

- What is Data Stage
- Differences between Informatica PowerCenter and Data Stage
- Components of Data Stage
- Differences between ETL development process in Informatica and Data Stage

Additional benefits

- Interview Questions
- Resume preparations
- Real-time Scenarios examples and solution discussion
- Assignments