

Question 1 : What is Data Warehouse and its features ?

Ans : Data Warehouse (DW) is a Subject oriented, integrated, time variant, non-volatile collection of data in support of management's system.

Data warehouse is a relational database used for data reporting and analysis based on OLAP. Data is sourced from operational systems. Operational systems access operational databases.

1. Subject-oriented – A data warehouse is always a subject oriented as it delivers information about a theme instead of organization's current operations.
2. Integration - A data warehouse is built by integrating data from various sources of data such that a mainframe and a relational database. In addition, it must have reliable naming conventions, format and codes.
3. Time-Variant – In this data is maintained via different intervals of time such as weekly, monthly, or annually etc.
4. Non-Volatile – As the name defines the data resided in data warehouse is permanent. It also means that data is not erased or deleted when new data is inserted.

Question 2 : What is OLTP(Online Transaction Processing) ?

Ans : OLTP or Online Transaction Processing is a type of data processing that consists of executing a number of transactions occurring concurrently—online banking, shopping, order entry, or sending text messages. OLTP is a methodology to provide end users with access to large amounts of data.

Queries on data warehouse is OLTP.

- It works in an intuitive and rapid manner to assist with deductions based on investigative reasoning.
- OLTP refers to a class of systems that facilitate and manage transaction-oriented applications, typically for data entry and retrieval transaction processing.

Question 3 : What is OLAP (Online Analysis Processing)?

Ans : Online analytical processing (OLAP) is software technology you can use to analyze business data from different points of view.

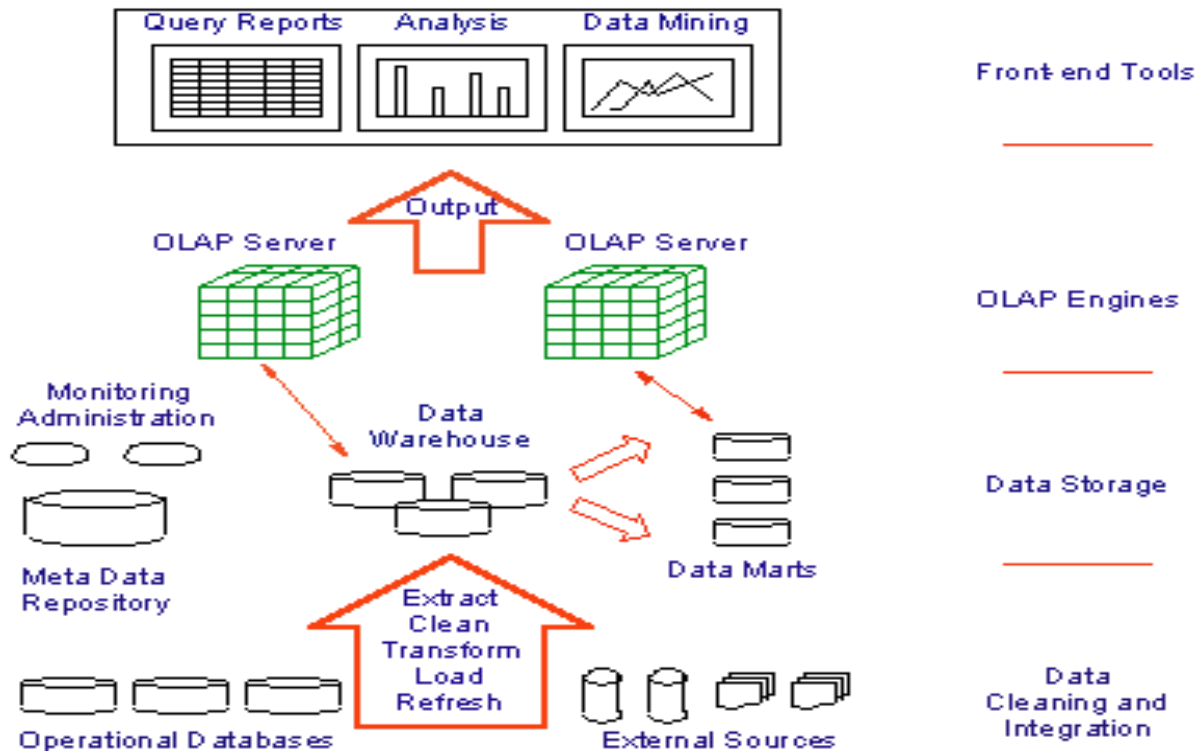
Organizations collect and store data from multiple data sources, such as websites, applications, smart meters, and internal systems. It is an approach used to analyze data from multi dimensions.

Queries on data warehouse is OLAP.

- OLAP Server receives the data from data warehouse by which it

represents the data in a user understandable format which actually supply analytical functionality for the DSS system.

- OLAP Server generally performs data analysis in two forms
 - ROLAP(Relational OLAP)
 - MOLAP(Multi-dimensional OLAP)



Question 4 : What is RDBMS?

Ans: The software used to store, manage, query, and retrieve data stored in a relational database is called a relational database management system (RDBMS).

A relational database is a database system that stores and retrieves data in a tabular format. The columns of a table contain attributes of the data, and each row is a record with a unique ID.

RDBMS is the basis for all modern database systems, including MySQL, Microsoft SQL Server, Oracle, and Microsoft Access. RDBMS uses SQL queries to access the data in the database.

Some of the most well-known RDBMSs include: MySQL, PostgreSQL, MariaDB, Microsoft SQL Server, Oracle Database. RDBMS provides an interface between users

and applications and the database. It also provides administrative functions for managing data storage, access, and performance.

Question 5 : What is SQL and its features ?

Ans: Structured query language (SQL) is a programming language for storing and processing information in a relational database. A relational database stores information in tabular form, with rows and columns representing different data attributes and the various relationships between the data values.

SQL statements are used to store, update, remove, search, and retrieve information from the database and to maintain and optimize database performance.

Structured query language (SQL) commands are specific keywords or SQL statements that developers use to manipulate the data stored in a relational database. You can categorize SQL commands as follows.

Data definition language : Data definition language (DDL) refers to SQL commands that design the database structure. Database engineers use DDL to create and modify database objects based on the business requirements. For example, the database engineer uses the CREATE command to create database objects such as tables, views, and indexes.

Data query language : Data query language (DQL) consists of instructions for retrieving data stored in relational databases. Software applications use the SELECT command to filter and return specific results from a SQL table.

Data manipulation language : Data manipulation language (DML) statements write new information or modify existing records in a relational database. For example, an application uses the INSERT command to store a new record in the database.

Data control language : Database administrators use data control language (DCL) to manage or authorize database access for other users. For example, they can use the GRANT command to permit certain applications to manipulate one or more tables.

Transaction control language : The relational engine uses transaction control language (TCL) to automatically make database changes. For example, the database uses the ROLLBACK command to undo an erroneous transaction.

