

ByteWise Fellowship – Week 1

Module: DE Basics

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1. What is 3 tier architecture?

The design of the databases depends on its architecture. In three tier architecture the client and server do not communicate directly. The three tier architecture consists of following three layers

- **Presentation Layer** : The layer from which the user interacts with the application is known as the presentation layer. It represents data in a way that a user can easily interact.
- **Application Layer** : The business logic layer which acts as a middle layer. The application is responsible for processing users requests and its interaction with the data layer.
- **Data Layer** : Data layer contains all the information stored in the data layer. It has data storage, data management and retrieval systems. This layer also makes sure about integrity and security of the data.

2. What is ETL?

ETL stands for extract, transform and load. In this process the data is extracted from multiple sources; these sources can be databases, websites and APIs.

After Data extraction is transformed to the desired type for further operations. Through this transformation all the data transforms into one single format.

In the loading part the transformed data is loaded to data repositories for operations like analytics, machine learning etc.

3. What is ELT?

ELT stands for extract, load and transform. In this process after data extraction the data is loaded before transformation so results can be obtained by native data in its true form. The consumers transform the data as per their need and because of this ELT comes in handy.

4. ETL Tools

- **Apache Airflow**
- **Apache Kafka**
- **Informatica PowerCenter**