Database Architecture

2-tier and 3-tier Architecture

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DBMS architecture

- DBMS architecture helps in design, development, implementation and maintenance of the database.
- The design of a DBMS depends on its architecture. It can be
  - Centralized
  - Decentralized
  - Hierarchical.

DBMS architecture

- The architecture of a DBMS be either single tier or multi-tier.
- Selecting the correct database architecture helps in quick and secure access to this data.
- The tiers are classified as follows :
  - 1-tier
  - 2-tier
  - 3-tier

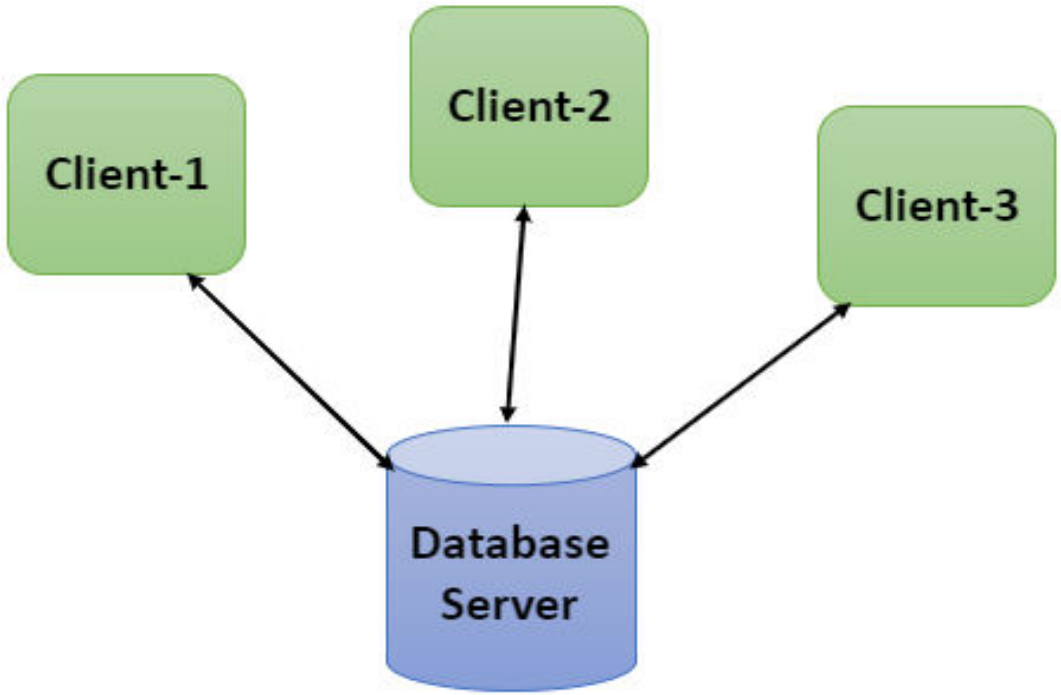
1-tier or Single-tier architecture

- The simplest of database architecture is 1 tier where the Client, Server, and Database all reside on the same machine.
- But such architecture is rarely used in production.

2-tier Architecture

- Two-tier is based on Client-Server architecture.
- In this type of architecture we have:
  - Presentation layer which runs on client (PC, mobile, tablet etc.)
  - Data is stored on server
- An application interface which is called ODBC (Open Database Connectivity) an API which allows the client-side program to call the DBMS.

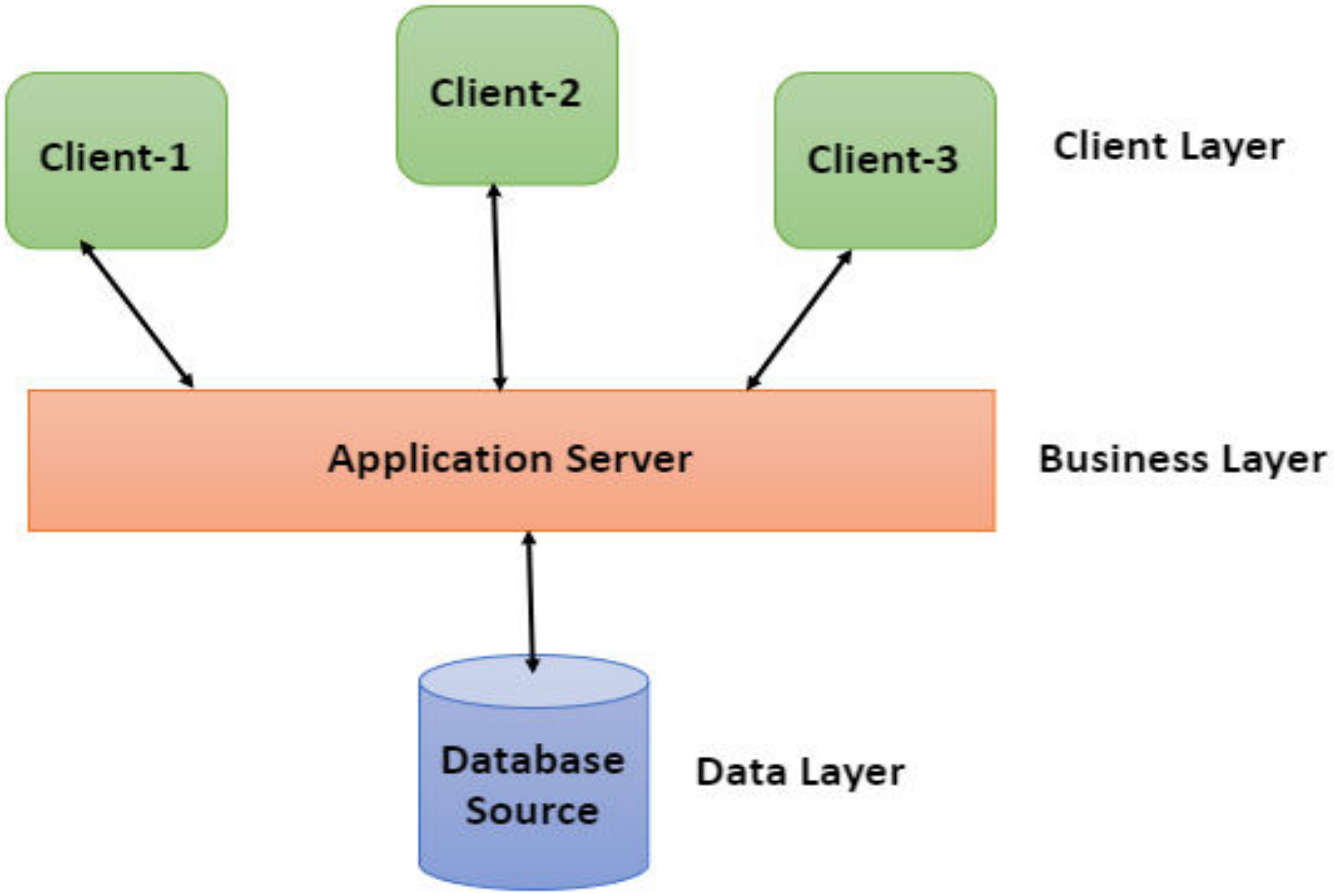
2-Tier Architecture



3-Tier Architecture

- 3-tier schema is an extension of the 2-tier architecture. 3-tier architecture has following layers:
  - Presentation layer (your PC, Tablet, Mobile, etc.)
  - Application layer (server)
  - Database Server
- It can be used in web applications and distributed applications.
- It is the most widely used architecture to design a DBMS.

3-Tier Architecture



When you install a DB in your system and access it to practice SQL queries is which type of architecture?

When you book train ticket online follows which type of architecture?