

Client-Server Architecture

Client-Server Architecture consists of 2 parts:

- 1) Client: It is responsible for making requests to the server.
- 2) Server: It is responsible for processing those requests and sending back responses.

This type of architecture where the client sends requests to the server, and the server responds with data or instructions for the client to execute is called Client-Server Architecture.

Thick and Thin Client-

- A Thick Client is the one where the majority of processing happens on the Client side (logic lies on the client side). Eg:- Video Editing softwares - majority processing happens on the client side.
- A Thin Client is the one where the majority of processing happens on the Server side (logic lies on the Server side). Eg:- Streaming platforms - all the processing happens on the backend.

2-Tier, 3-Tier and N-Tier Architecture

- 2-Tier -
 - It has two main components: a client and a server.
 - The Client communicates directly with the Server, which processes the client's requests and returns the appropriate response.
 - This architecture is simple and efficient, but can lead to performance issues and scalability problems as the application grows.
- 3-Tier -
 - It has 3 main components: Presentation Layer, Application Layer, and the Database Layer.
 - The presentation layer is responsible for presenting the user interface to the client.
 - The application layer handles the application logic and business rules.
 - The database layer stores and manages the application data.
 - This architecture allows for greater flexibility and scalability than a 2-tier architecture.
- N-Tier -

- It can have multiple layers depending on the application's complexity and requirements.
- It can include additional layers for security, messaging, caching, or other specialised functions.
- This architecture is highly flexible, but it can also be complex and difficult to manage.

