Web Application

What is a web application?

A Web Application provides dynamic data that can be read and written/manipulated on the web page. Web Application runs on a web server. They are simply the applications that run on the web.

In short,

Web Applications = Website + Additional Functionalities + Interactive Elements

Example:

In a web application like youtube, the user can stream videos, upload videos, and download content.

Web Applications: YouTube, Twitter, Google apps

Components of Web Applications:

1. Frontend/Visualisation Layer
2. Business/Backend Layer
3. Data Storage Layer

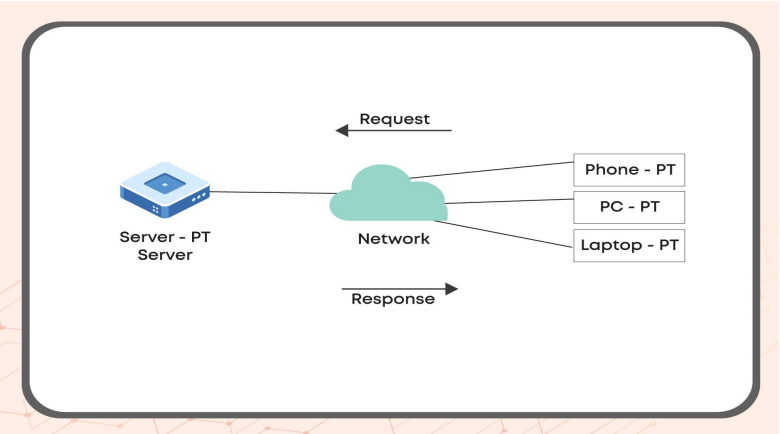
Client-Server Application:

Client-Server Applications are types of applications in which the process runs on the client system and requests information from the server system over the Network. Client-server architecture is the basic building block of the web and it is based on the Request-Response model.

Example: World Wide Web, Network Printing etc. In an e-commerce web application, the shopping cart system makes a request to the inventory to check on the availability of a certain product and then add it to the cart. The shopping cart system is the client and the inventory is the server here.

Client: System that initiates the communication over the Network

Server: System that receives the request over the Network



Advantages of Client-Server Model

1. Centralized System: The system is centralized since all the data is stored on the server.
2. Cost-Efficient: Cost efficient because the model doesn't require much maintenance and provides data-recovery methods.
3. Increased System Capacity: The model is dynamic since the roles are not fixed. Server can also behave as client in other situations and client can behave as server when required.
4. Secure: Since all the data is centrally stored, the architecture is comparatively secure than peer-to-peer architecture.

Disadvantages of Client-Server Model

1. Denial Of Service(DOS) Attacks: The client server model is prone to denial of service attacks. Denial of service attacks are cyber attacks when the system is made unavailable by disrupting service to the target users.
2. Overloading: In case if multiple clients simultaneously make a request to the same server, the server can be overloaded leading to failure and network congestion.
3. Network Failure: The client server model is based on request-response model over the network. During any network disruption or failure, the complete model can be affected.