Explain the client-server approach

Before understanding the client-server approach we have to understand why it was developed and what was the old approach that the internet used.

Before the client server approach the Peer-To-Peer (P2P) approach was the norm of the internet.

So what is the P2P architecture or what are its characteristics?

1)No always on server : means that the connection is going to be initiated when the peer wants something from the other peer.

2)Arbitrary end systems communicate directly

3)Peers request service from other peer, and provide service in return to other peers. And because of this characteristic the self scalability advantage/disadvantage came into play where each new peer bring new service capacity , but also brings new service demand

4)Peers are intermittently connected and change IP address. Because of this frequent IP change, the management of the IPs and their connections became more complex.

Client Server Architecture

This structure or architecture has been implemented the solve the complexity of the P2P structure.

• Client: browser that requests, receives, (using HTTP protocol) and “displays” Web objects

• Server: Web server sends (using HTTP protocol) objects in response to requests

Server characteristics :

.Always on host

.Permanent IP address

.Data centers are often using for scaling reasons

Client characteristics :

.It contact and communicate with server

.May be intermittently connected

.May have dynamic IP addresses

.Do not communicate directly with each other

.Examples : HTTP, SMPT, FTP, IMAP

HTTP uses TCP:

1. client initiates TCP connection (creates socket) to server, port 80
2. server accepts TCP connection from client
3. HTTP messages (application-layer protocol messages) exchanged between browser (HTTP client) and Web server (HTTP server)
4. TCP connection closed