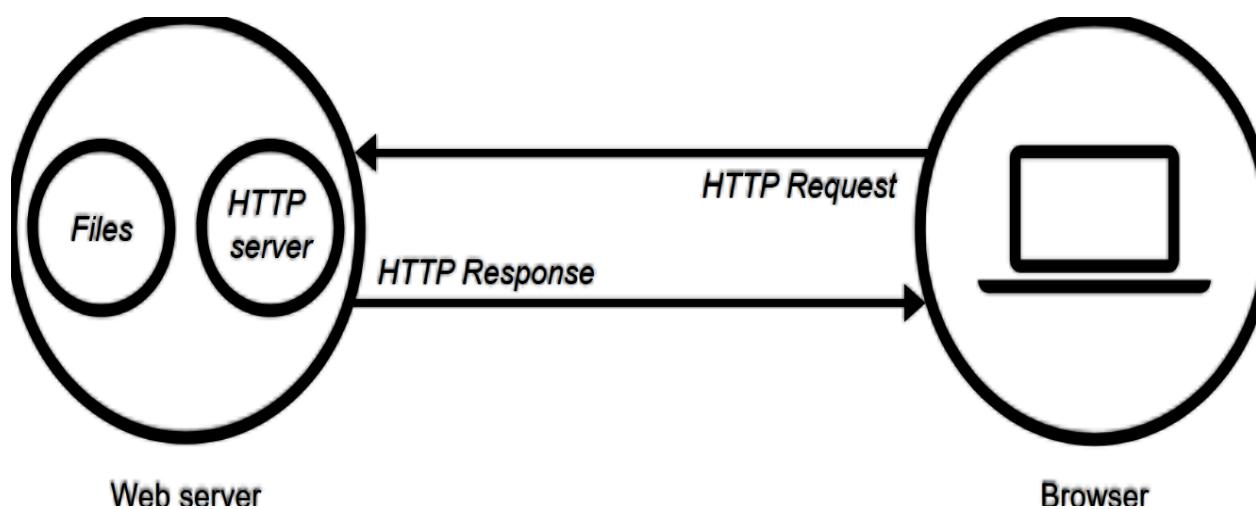
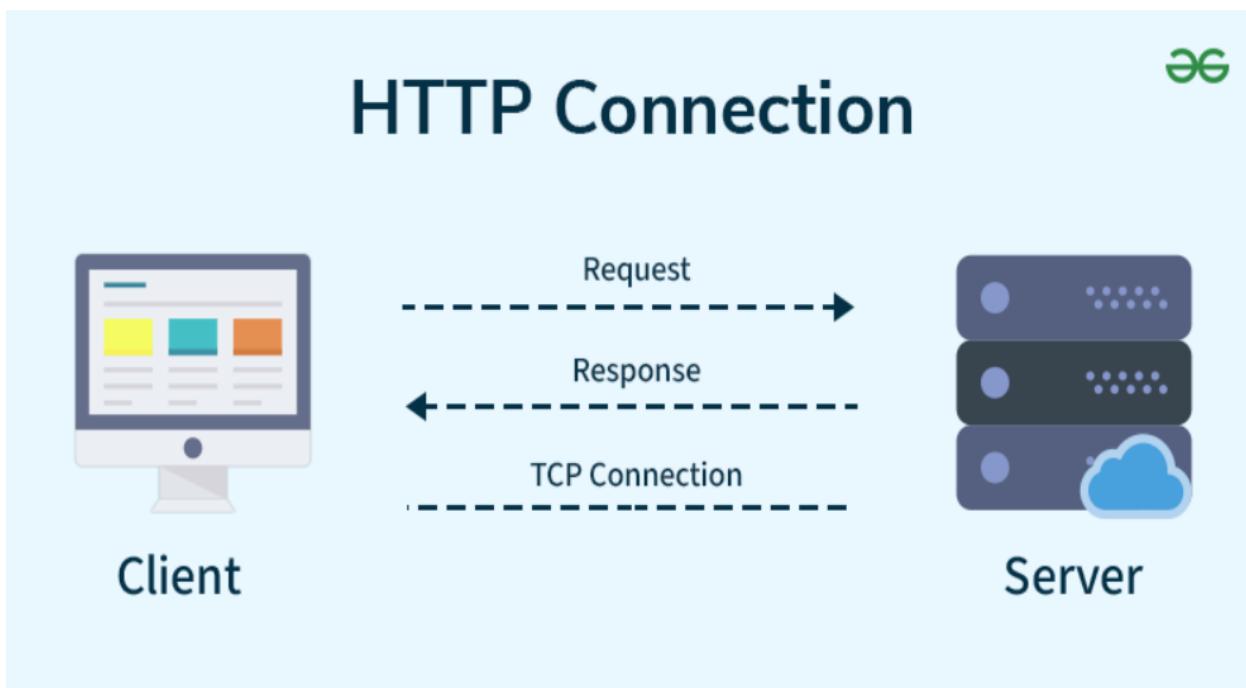


Common Network Protocols — Purpose, Ports & Real-Life Usage

Networking relies on standardized protocols to allow communication between devices.

Below are some of the most widely used protocols on the internet.

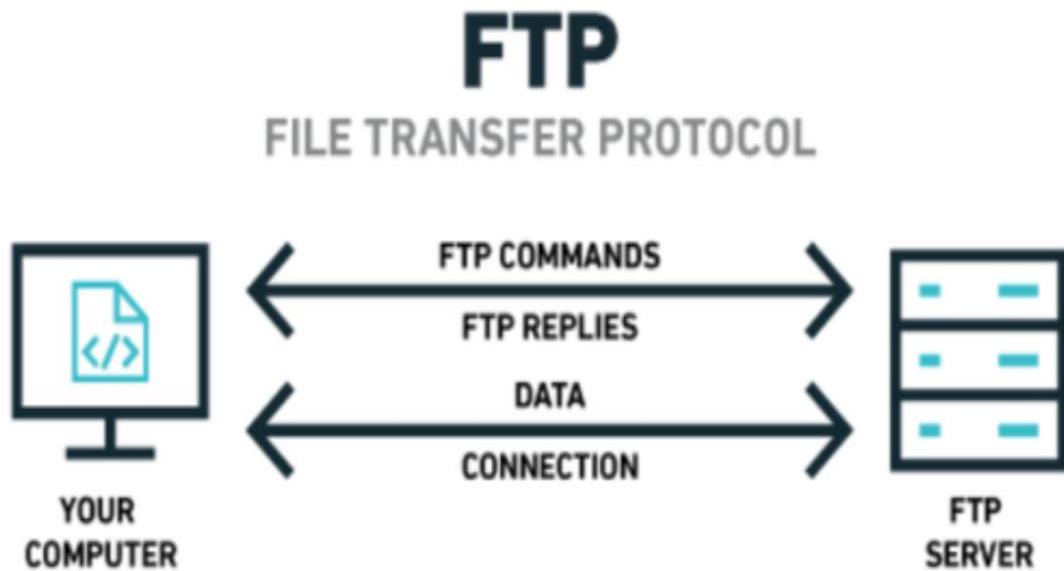
1 HTTP — HyperText Transfer Protocol

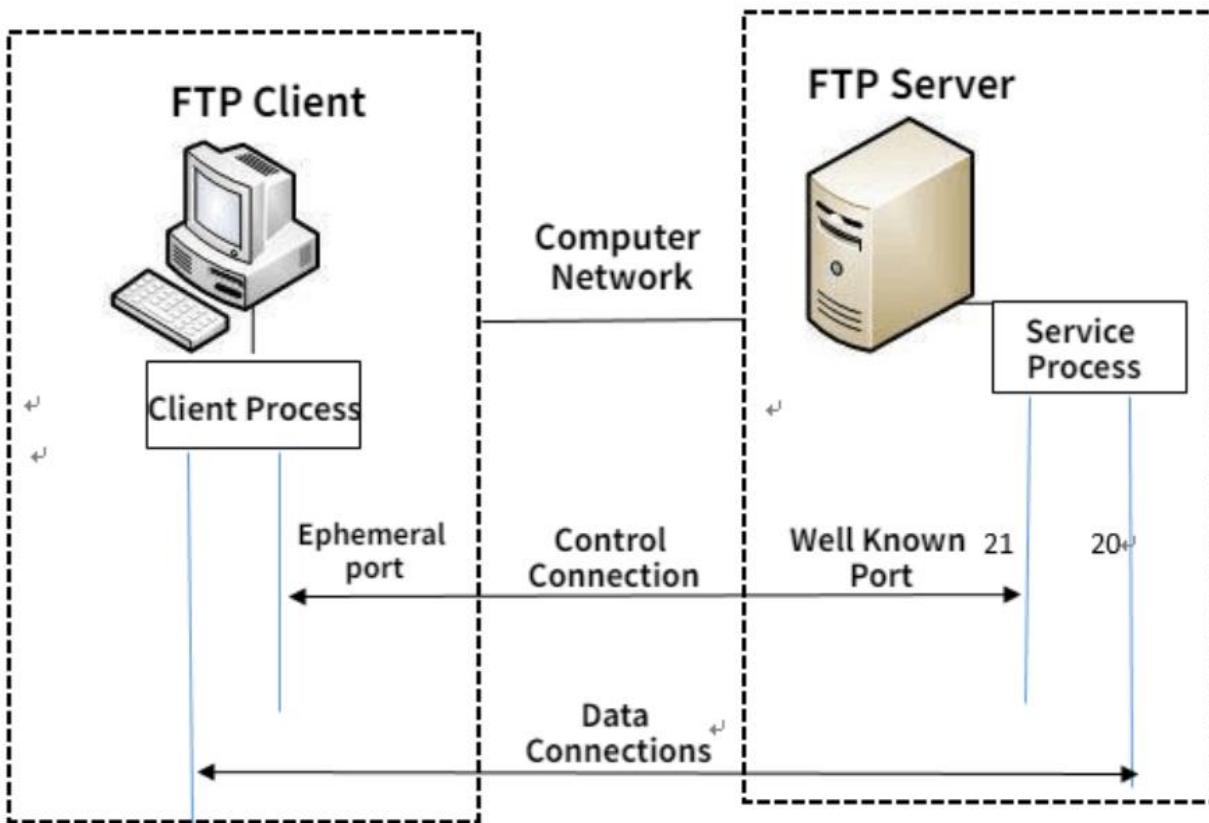


Feature	Details
Purpose	Transfers web pages between browser and web server
Default Port	80 (HTTP) / 443 (HTTPS - encrypted)
Transport Layer	TCP
Real-World Use	Browsing websites, APIs, online services

👉 **HTTPS adds TLS encryption for secure browsing.**

2 FTP — File Transfer Protocol



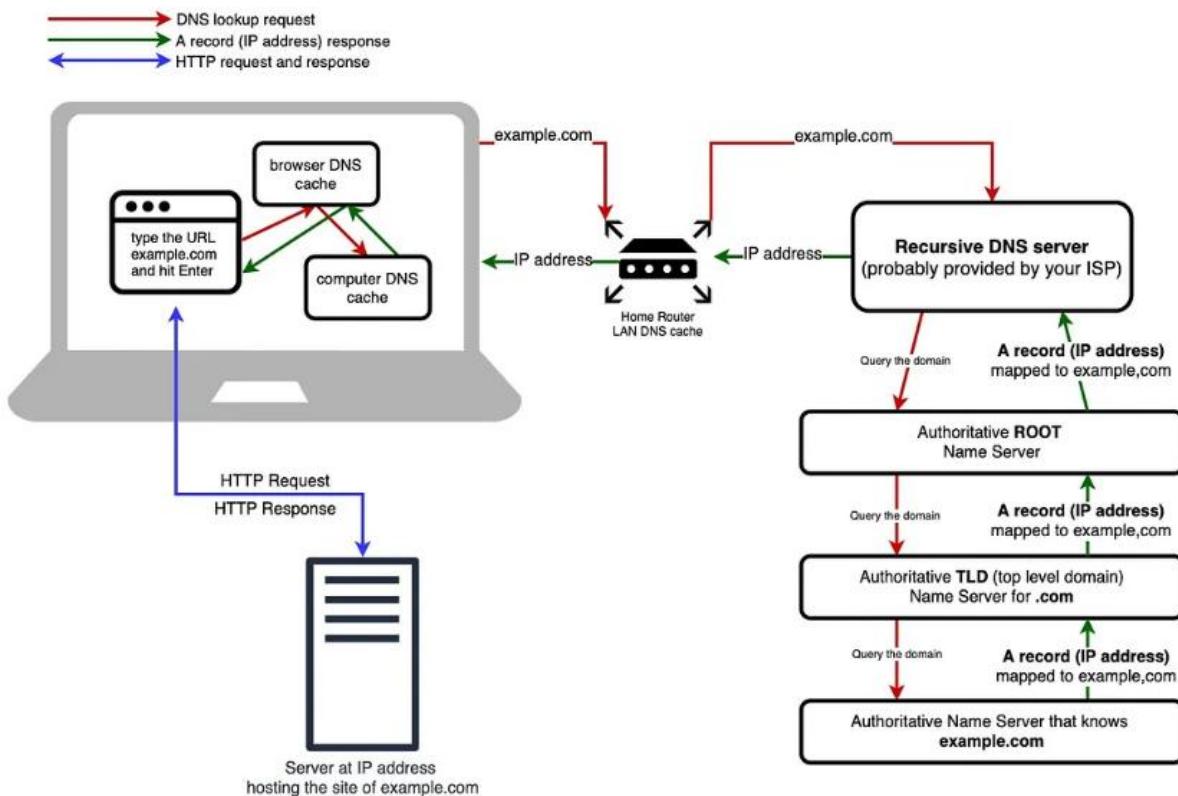
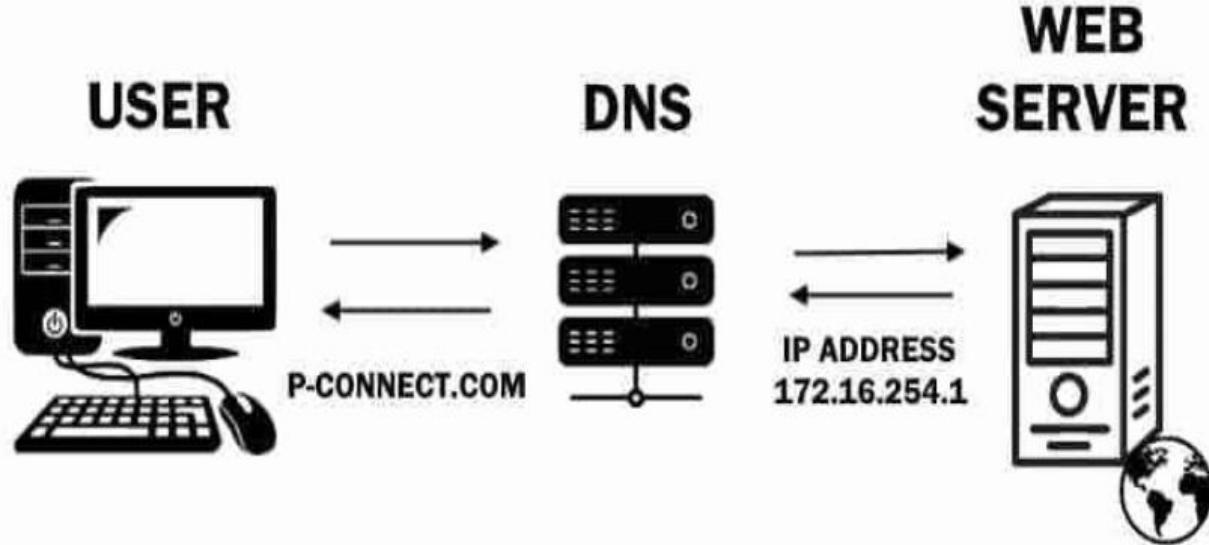


Working Principle of FTP

Feature	Details
Purpose	Uploading & downloading files between computers
Default Ports	20 & 21
Transport Layer	TCP
Real-World Use	Hosting servers, website file updates, backups

🔒 Secure versions: **FTPS, SFTP**

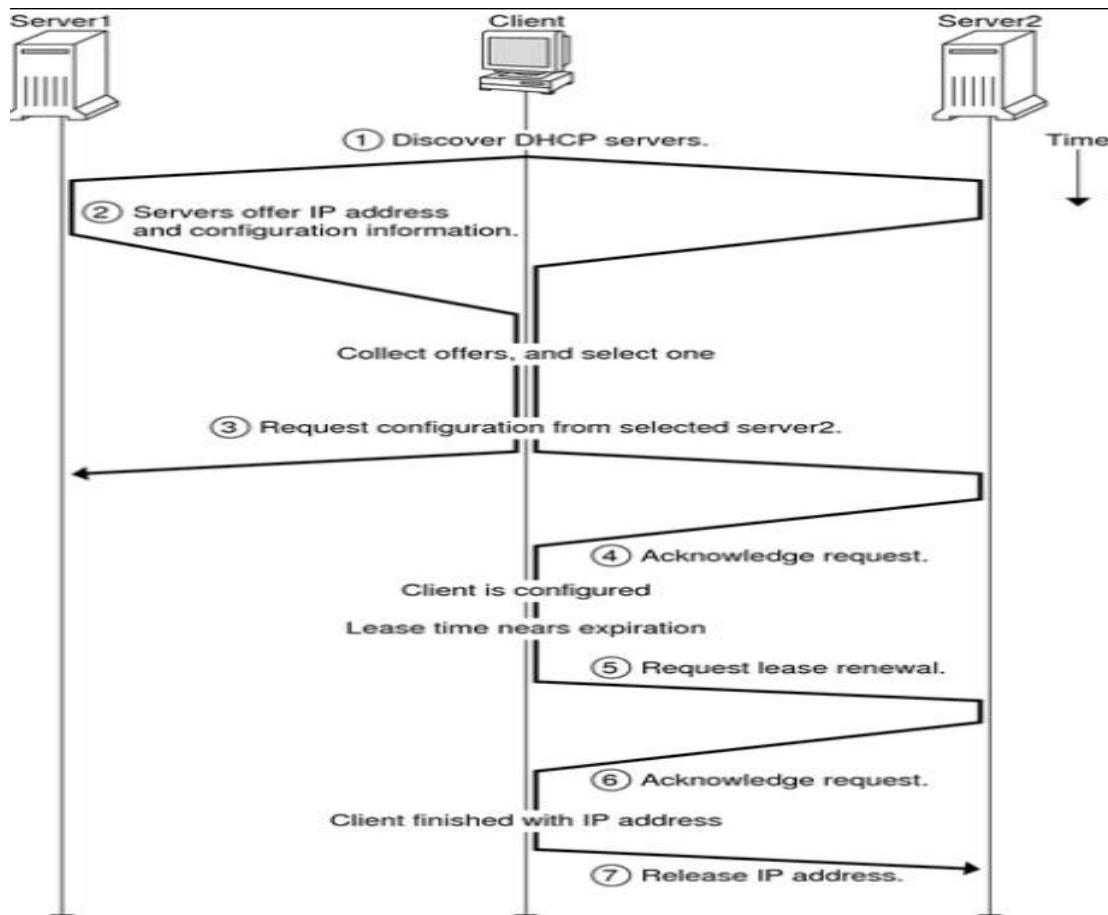
3 DNS — Domain Name System



Feature	Details
Purpose	Converts domain names → IP addresses
Default Port	53
Transport Layer	UDP (mainly), TCP (for large queries)
Real-World Use	Resolving website addresses (google.com → IP address)

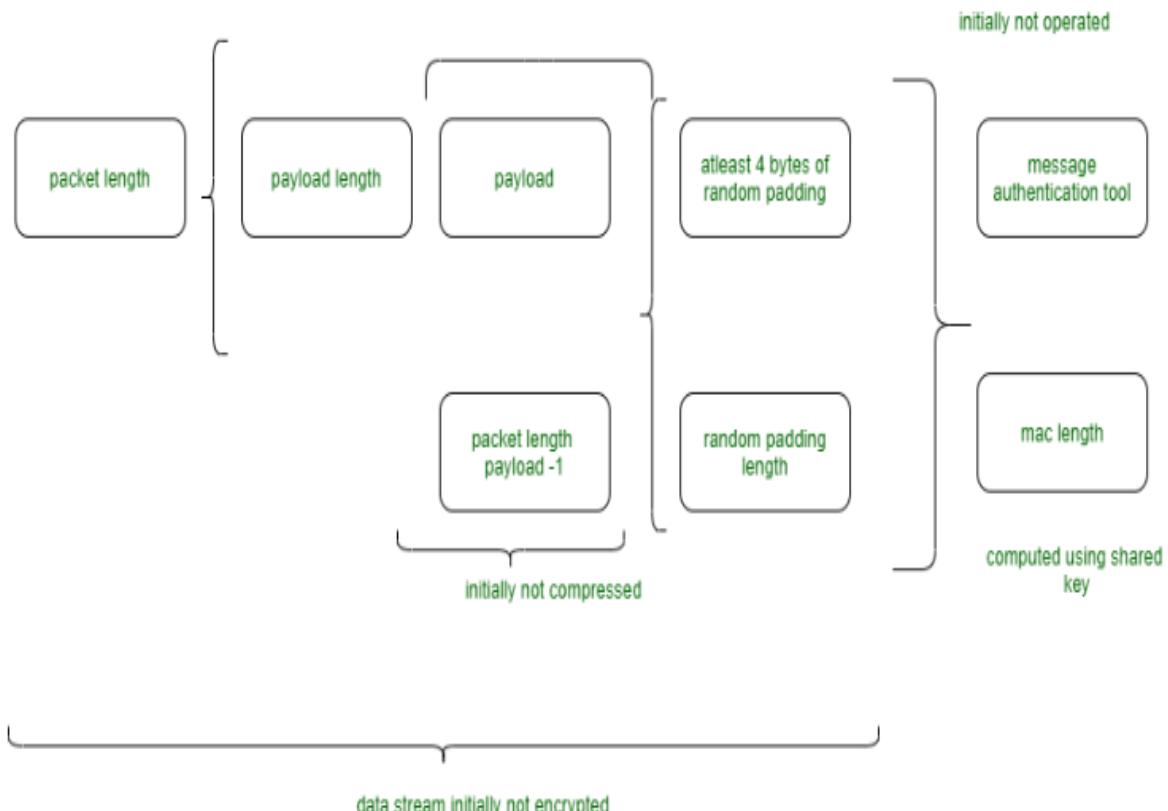
◆ Known as the **phonebook of the Internet**.

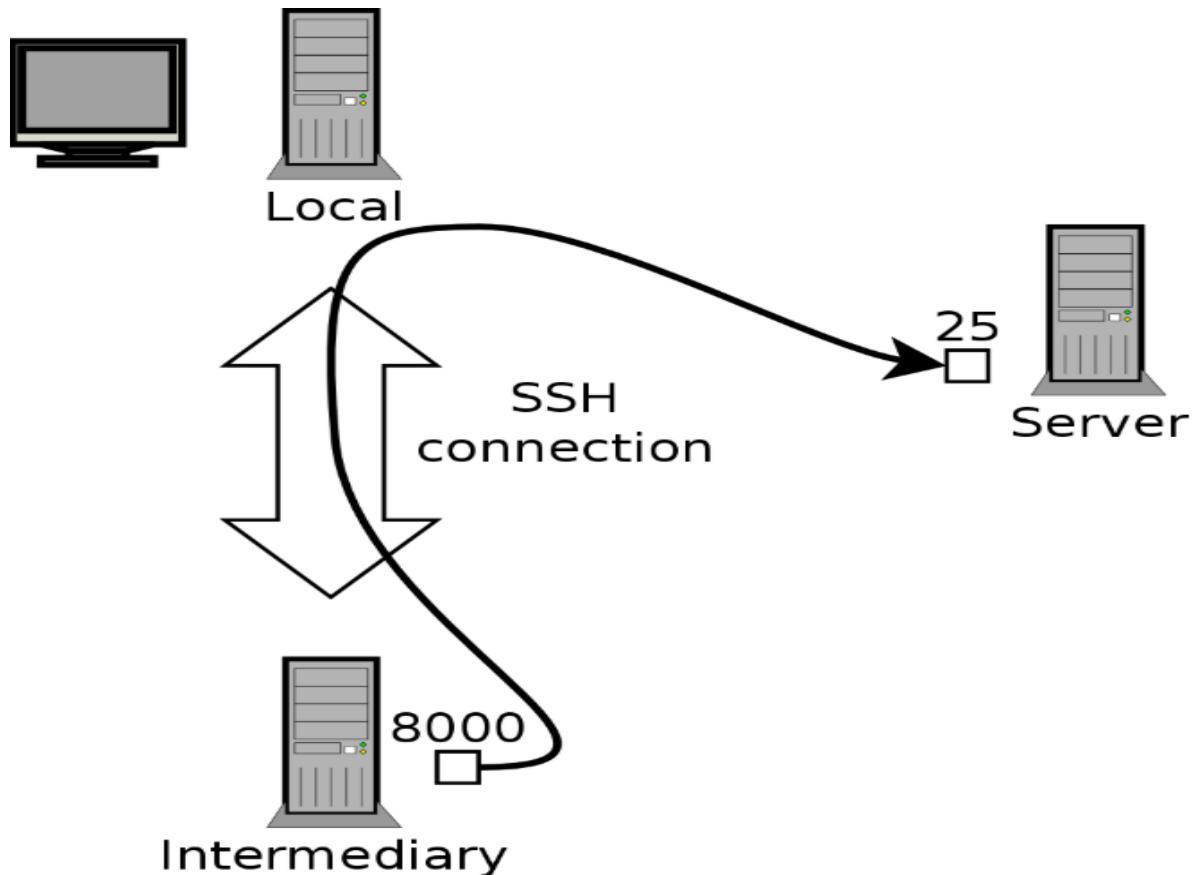
4 DHCP — Dynamic Host Configuration Protocol



Feature	Details
Purpose	Automatically assigns IP configuration to devices
Default Ports	67 (server) / 68 (client)
Transport Layer	UDP
Real-World Use	Auto IP assigning in Wi-Fi networks, offices, homes
	👉 Helps avoid manual IP configuration.

5 SSH — Secure Shell





Feature	Details
Purpose	Secure remote login & administration
Default Port	22
Transport Layer	TCP
Real-World Use	Managing remote servers (e.g., Linux), secure file transfer (SCP)

Fully encrypted — protects passwords & data.