How a Server Works

What is a Server?

A server is a computer or system that provides services, data, or resources to other computers, called clients.

The most common example is a web server--it delivers web pages to your browser.

How Server Works (Step-by-Step)

1. Client Makes a Request: You open a browser and type www.google.com. This is a request to the server.

2. DNS Resolves the Name: The name is translated into an IP address using DNS.

3. Request Sent to Server: Request travels to the server over the internet using HTTP/HTTPS.

4. Server Receives Request: It listens on a port (e.g., 80 or 443) and reads the request.

5. Server Processes the Request: It finds the file or runs backend code, maybe querying a database.

6. Server Sends Response: It returns the response (HTML/CSS/JS) to the client.

7. Client Renders the Page: The browser displays the webpage.

Server Example Diagram

You (Client)

v

www.google.com

v DNS

IP: 142.250.193.4

v

Internet

v

[Server]

- Receives Request

How a Server Works

- Processes Logic

- Sends Response (HTML)

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Back to Browser (Client)

Types of Servers

Web Server: Serves web pages (Apache, Nginx)

Application Server: Runs backend logic (Tomcat, Node.js)

Database Server: Stores and serves data (MySQL, MongoDB)

File Server: Shares files over a network

Mail Server: Sends/receives emails

Bonus: Security

Servers use:

- SSL/TLS (HTTPS) for encryption

- Firewalls to block bad traffic

- Authentication to verify users

Summary

Clients ask, servers respond.

Servers work continuously, waiting for requests.

Everything on the internet--websites, apps, games--relies on servers.