

INTERNET STUDY NOTES

Internet

The Internet is a global network of interconnected computers and devices that communicate using standardized protocols. It allows users to access, share, and exchange information and resources from around the world. It provides various services like email, file transfer, and web browsing, connecting billions of devices and enabling data sharing and communication across the globe.

Components of the Internet

Client: A client is a device or software that requests services or resources from a server over a network. Examples include personal computers, smartphones, and web browsers.

Server: A server is a computer or program that provides resources, data, or services to clients over a network. Types of servers include web servers (for web pages), file servers (for file storage), and mail servers (for email).

Protocol: A protocol is a set of rules that govern data transmission between devices. Key Internet protocols include:

- **HTTP/HTTPS:** Hypertext Transfer Protocol, used for accessing web pages.
- **FTP:** File Transfer Protocol, used for transferring files.
- **TCP/IP:** Transmission Control Protocol/Internet Protocol, the fundamental suite for managing communication across the Internet.

DSL Modem: A Digital Subscriber Line (DSL) modem is a device that connects a computer to the Internet via a phone line. It converts digital signals to analog signals and vice versa, enabling high-speed Internet access.

ICS (Internet Connection Sharing): ICS is a feature in Windows that allows one computer to share its Internet connection with other devices on the same network.

Firewall: A firewall is a security system, either hardware or software, that monitors and controls incoming and outgoing network traffic. It helps protect networks from unauthorized access and cyber threats.

WWW (World Wide Web)

The WWW is a collection of interconnected documents and resources, accessed via the Internet. It uses HTTP as its protocol and HTML for structuring and linking information on web pages.

- **Difference Between WWW and the Internet:** The Internet is the physical network of computers, while the WWW is a system of linked content available over the Internet. In short, the WWW is a part of the Internet dedicated to web pages and browsing.

Web Browser

Web browser is software that allows users to access and view web pages on the WWW. It interprets and displays HTML content, enabling navigation and interaction with web pages. Browsers retrieve data from a web server using URLs, render HTML and multimedia, and may support additional features like bookmarks, plugins, and private browsing.

- **Examples of Web Browsers:** Chrome, Firefox, Safari, Edge, etc.

Search Engine

Search engine is specialized software that helps users find information on the Internet. It indexes web pages and retrieves results based on keywords entered by the user. Search engines use algorithms to index websites, organize them, and rank them based on relevance and quality of content. When a user enters a query, the search engine retrieves a list of relevant pages.

- Examples of Search Engines: Google, Bing, Yahoo, DuckDuckGo, etc.

Feature	Web Browser	Search Engine
Function	Displays web content (websites)	Finds and lists websites based on search queries
Examples	Google Chrome, Firefox, Safari, Edge	Google, Bing, Yahoo, DuckDuckGo
Role	Tool to access and view content on the internet	Tool to help you search for content or websites
User Interaction	Enter URLs, navigate between pages	Enter search queries to find content
Technology Used	HTML, CSS, JavaScript, etc.	Algorithms for crawling, indexing, and ranking content
Direct Access	Directly accesses specific websites	Provides a list of links based on search terms