

Internet & WWW

Concept of ISP and Protocol

Introduction to IP address

An IP (Internet protocol) address, a logical address in the Internet, is a 32-bit (IPv4) address that can uniquely define a host or computer connected to the Internet. No two addresses in the same network can have the same IP address.

An IP address is a numeric identifier assigned to each computer on an IP network.

An IP address consists of 32 bits (4 bytes) of information. These bits are divided into four sections, referred to as octets or bytes, each containing 8 bits (1 byte).

For example: 192.168.32.45

ISP and Role of ISP:

Internet Service Provider (ISP) is the company to which we pay a fee for accessing the Internet. ISP provides to an individual or organization to access the services of Internet. Any request or response goes and arrives via ISP. Most telephone companies are Internet service providers. Examples of some ISPs are Tata Communication (formerly called VSNL), BSNL, Reliance, Vodafone, Bharti Airtel etc.

Role of ISP

They provide services such as connection to the Internet and provide a unique IP address to us so that we can connect to the server. We all have devices like home or business that connects us to the internet. The ISP connects our phone, laptop, desktop computer and other internet capable devices to reach the rest of the world.

Internet Protocols

Protocol is a set of rules or procedures for transmitting data between electronic devices, such as computers. In order to exchange information, there must be a predefined agreement to how the information will be structured and how each side will send and receive it. The most common internet protocols are:

Protocols	Description
Transmission Control Protocol (TCP)	Create a connection between computers or devices and ensuring the delivery of messages over Internet.
Internet Protocol (IP)	Route and deliver individual packets from the source to the destination via different inter-network based on IP address.
File Transfer Protocol (FTP)	File transfers over internet like downloading and uploading a file.
Simple Mail Transfer Protocol (SMTP)	Transfer e-mail from source to destination between mail servers.

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Domain Name System (DNS)	Translate domain names into IP addresses (because it is not easy to remember IP address for e.g. google.com is translated into its equivalent IP address).
Hyper Text Transfer Protocol (HTTP)	Main protocol that is used by web browsers to access file over world wide web.
Hyper Text Transfer Protocol Secure (HTTPS)	HTTPS is the secure version of HTTP. It means all communications between the browser and the website are encrypted (encoded) and no one can access the data between transmissions. The data is decrypted (decoded) only at the intended receiver side. HTTPS is used to protect login credentials, online transactions like online banking and online shopping etc.