

Unit -1

Introduction of Web:-

Definition :- WWW is stands for World Wide Web. The World Wide Web (WWW) is a global information medium which users can read and write via computer connected to the internet. The Web, or World Wide Web, is basically a system of Internet servers that support specially formatted documents. The documents are formatted in a markup language called HTML (Hypertext Markup Language) that supports links to other documents, as well as graphics, audio, and video files. Web pages are primarily text documents formatted and annotated with Hypertext Markup Language (HTML). There are several applications called Web browsers that make it easy to access the World Wide Web; For example: Firefox ,Microsoft's Internet Explorer, Chrome etc.

What is The Internet?

Definition:-

The Internet is a massive network of networks, a networking infrastructure. It connects millions of computers together globally, forming a network in which any computer can communicate with any other computer as long as they are both connected to the Internet. The Web is a Portion of The Internet. The Web is just one of the ways that information can be disseminated over the Internet. It not the Web, is also used for email, which relies on SMTP, Usenet news groups, instant messaging and FTP. Errors on the Internet can be quite frustrating — especially if you do not know the difference between a 404 error and a 502 error. These error messages, also called HTTP status codes are response codes given by Web servers and help identify the cause of the problem. For example, "404 File Not Found" is a common HTTP status code.

HTTP

Definition:-

Header fields provide required information about the request or response, or about the object sent in the message body. There are four types of HTTP message headers:

❖ **General-header:**

These header fields have general applicability for both request and response messages.

❖ **Request-header:**

These header fields have applicability only for request messages.

❖ **Response-header:**

These header fields have applicability only for response messages.

❖ **Entity-header:**

These header fields define Meta information about the entity-body.

Web Browser and Web Server

Web Browser

Web browser is a client, program, software or tool through which we send HTTP request to web server. The main purpose of web browser is to locate the content on the World Wide Web and display in the shape of web page, image, audio or video form. We can also call it a client server because it contacts the web server for desired information. If the requested data is available in the web server data then it will send back the requested information again via web browser.

Example:-

Microsoft Internet Explorer, Mozilla Firefox, Safari, Opera and Google Chrome are examples of web browser. Web browser because they are capable to understand the HTML, JavaScript, AJAX, etc.

Web Server

Definition:-

It is a computer system, which provides the web pages via HTTP (Hypertext Transfer Protocol). IP address and a domain name is essential for every web server. Whenever, we insert a URL or web address into your web browser, this sends request to the web address where domain name of your URL is already saved. Lot of web server software is available in the market in shape of NCSA, Apache, Microsoft and Netscape. Storing, processing and delivering web pages to clients are its main function. All the communication between client (web browser) and server takes place via HTTP.

Domain Name System(DNS)

Defintion:- It is a naming database in which internet domain names are located and translated into internet protocol (IP) addresses. The domain name system maps the name people use to locate a website to the IP address that a computer uses to locate a website. For example, if someone types example.com into a web browser, a server behind the scenes will map that name to the corresponding IP address, something similar in structure to 192.23.11.11. Web browsing and most other internet activities rely on DNS to quickly provide the information necessary to connect users to remote hosts.

DHCP

It stands for dynamic host configuration protocol and is a network protocol used on IP networks where a DHCP server automatically assigns an IP address and other information to each host on the network so they can communicate efficiently with other endpoints. In addition to the IP address, DHCP also assigns the subnet mask, default gateway address, domain name server (DNS) address and other pertinent configuration parameters. It is greatly reduces the errors that are made when IP addresses are assigned manually, and can stretch IP addresses by limiting how long a device can keep an individual IP address.

Internet Protocol

The **Internet Protocol (IP)** is the principal communications protocol in the Internet protocol suite for relaying datagrams across network boundaries. Its routing function enables internetworking, and essentially establishes the Internet. IP has the task of delivering packets from the source host to the destination host solely based on the IP addresses in the packet headers. In 1974, which was complemented by a connection-oriented service that became the basis for the Transmission Control Protocol (TCP). The Internet protocol suite is therefore often referred to as *TCP/IP*. It is responsible for addressing host interfaces, encapsulating data into datagrams (including fragmentation and reassembly) and routing datagrams from a source host interface to a destination host

TCP/IP

The **OSI Model** we just looked at is just a reference/logical model. It was designed to describe the functions of the communication system by dividing the communication procedure into smaller and simpler components. But when we talk about the TCP/IP model, it was designed and developed by Department of Defense (DoD) in 1960s and is based on standard protocols. It stands for Transmission Control Protocol/Internet Protocol. The **TCP/IP model** is a concise version of the OSI model. It contains four layers, unlike seven layers in the OSI model. The layers are:

1. Process/Application Layer
2. Host-to-Host/Transport Layer
3. Internet Layer
4. Network Access/Link Layer

TCP/IP MODEL
Application Layer
Transport Layer
Internet Layer
Network Access Layer

OSI MODEL
Application Layer
Presentation Layer
Session Layer
Transport Layer
Network Layer
Data Link Layer
Physical Layer