

Introduction



RITU DEVI

Internet



- It is a network of networks connected and communicating using TCP/IP communication protocol



World Wide Web(WWW)



- Commonly known as the Web.
- It is a collection of information stored on the networked computers over the world.
- Individual document pages on the World Wide Web are called web pages and are accessed with a software application running on the user's computer, commonly called a web browser.
- Web pages may contain text, images, videos, and other multimedia components, as well as web navigation features consisting of hyperlinks.
- The WWW was proposed in 1991 by Tim Berners-Lee at CERN.



Web or Internet?



- Web or Internet, both are not the same things.
- The Internet is a collection of computers or networking devices connecting together.
- Devices can communicate with each other.
- The Web is a collection of documents that are interconnected by hyper-links.
- These documents are accessed by web browsers and provided by web servers

Components of Web



- Web pages and Web Site.
- Web Browsers and Web Servers.
- HTML.
- HTTP.
- Internet Protocol.
- Uniform Resource Locator(URL).

Web Page vs Website



- A web page is a part of a complete web site. It is a document or information resource that is suitable for World Wide Web and it can be accessed through a web browser.
- Website is a collection of interlinked web pages that is hosted on the Internet. It consists of few web pages or many hundreds of web pages.

Web Browsers



- A software or program that receives information from the web.
- It lets you visit web pages and use web applications.
- Types:
 - Internet Explorer
 - Mozilla Firefox
 - Netscape Navigator
 - Google Chrome
 - Opera
 - ...

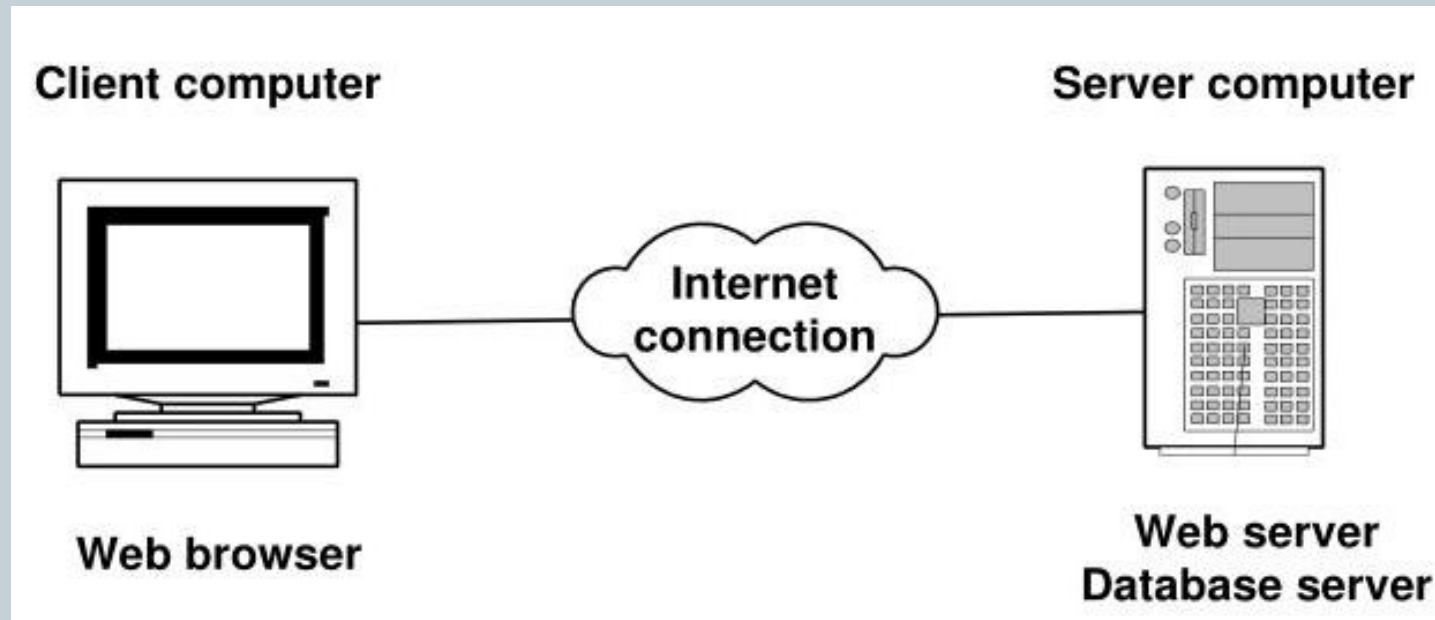


Web Servers



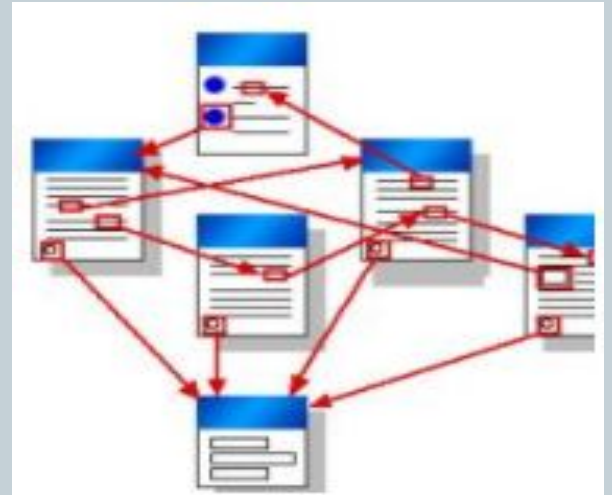
- The term web server can refer to either the hardware (computer) or the software (computer application) that helps to deliver web content that can be accessed through the Internet.
- The web server hosts pages, programs, and multimedia files and serves them using HTTP, a protocol designed to send files to web browsers and other protocols.

Accessing a web sites



HTML(HyperText Markup Language)

- HTML is an coding language used to create hypertext/hypermedia documents known as web pages.
- Hypertext documents are the documents that contain links to other hypertext documents.



Hypertext Transfer Protocol(HTTP)

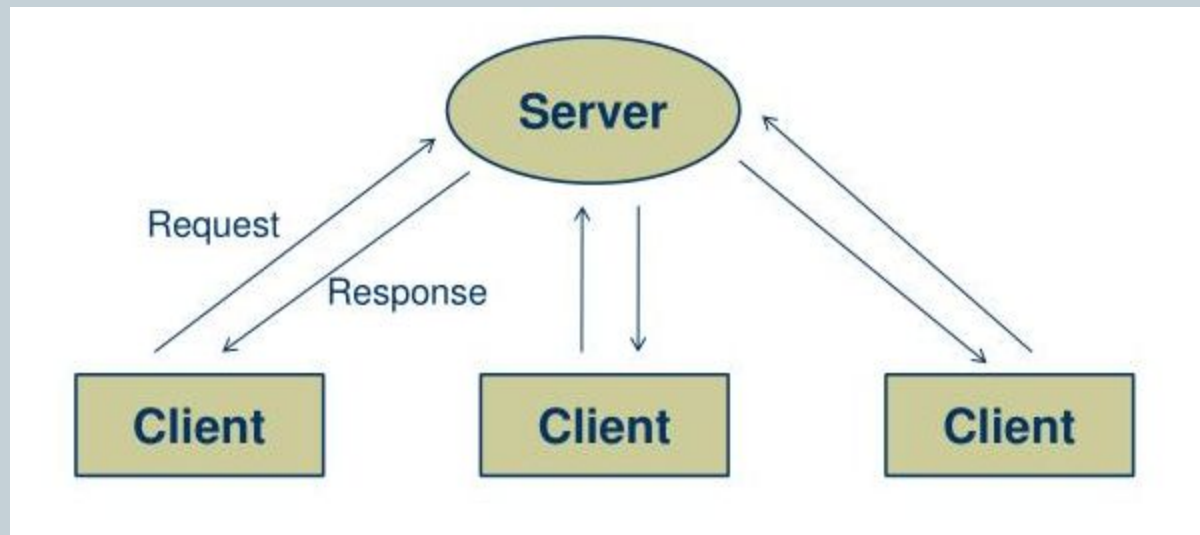


- Provides a standard for web browsers and server to communicate.
- Set of rules for transferring files (Text, graphic images, sound, video, and other multimedia files) on World Wide Web.
- Protocol for HTML retrieval of and other documents from website throughout the Internet.

Contd.

- HTTP is based on the request-response communication model:

- ▢ Client sends a request.
- ▢ Server sends a response.



Client/Server Computing

- Client/ Server Processing with Request-Response Cycle.



Web-Enabled Application



Internet Protocols



What is a protocol?

- A set of rules governing the exchange of data between two or more hosts.
- The Internet Protocol (IP) is the method or protocol by which data is sent from one computer to another on the Internet.

Internet Protocol address (IP address)



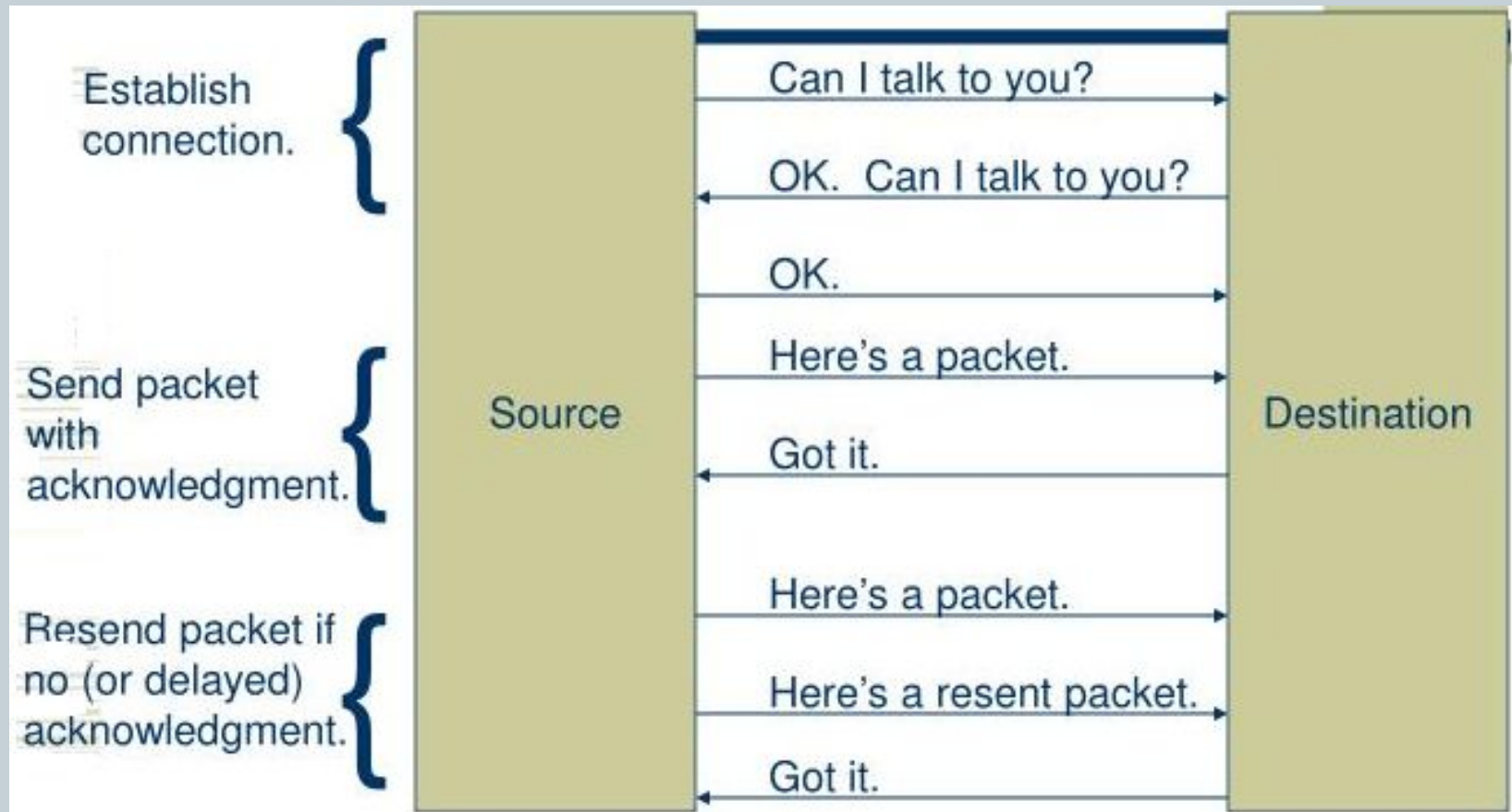
- It is a usually numerical label assigned to each device participating in a computer network that uses the Internet Protocol for communication.
- IP address:
 - 32-bit number (in IPv4) •
 - Written as four dot-separated bytes,
 - e.g. 192.168.2.1 (www.xyz.edu)

Transmission Control Protocol (TCP)



- TCP enables two hosts to establish a connection and exchange streams of data.
 - Provides guarantee that packets delivered
 - Provide two-way (full duplex) communication

TCP



Uniform Resource Locator

- URL is a standard way to specify the location of a resource
- URLs are the unique addresses of Internet Resources.
- A URL is divided into four parts.
 - Transfer protocols
 - Server name
 - Directory path
 - File name



General URL syntax



<scheme>:<scheme-dependent-information>

- **Scheme examples:**

- http (Hyper Text Transfer Protocol)
- ftp (File Transfer Protocol)
- news (News protocol)

- **scheme://Server name/path/filename**

Example



<http://www.nsit.ac.in/academics/courses/xyz.html>

- Transfer Protocol:
- Server name:
- Directory Path:
- File name:

Domain Name Service (DNS)



- DNS is the “phone book” for the Internet
 - ▢ Map between host names and IP addresses
- Host names
 - Labels separated by dots, e.g.,
 www.example.org
 - Final label is top-level domain
 - ▢ Generic: .com, .org, etc.
 - ▢ Country-code: .us, .sa, .eg, etc.

http://en.wikipedia.org/wiki/List_of_Internet_top-level_domains