

Web server

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Introduction

- A webserver is a distributed client server service that uses HTTP to serve the files that form Web pages to users, in response to their requests, which are forwarded by their computers' HTTP clients.
- The browser is a software which your computer uses to view WWW documents
 - The main function of webserver is to supply webpages to the clients
- Leading Web servers include , Microsoft's Internet Information Server (IIS), Apache Server

WWW

- www initially developed in 1989 by Tim Berners Lee at the CERN in switzerland to share research documents among scientists

Request

Client-----> site A

|

webpageA <-----

Components of WWW

- HTML To construct Hypertext Documents
- HTTP Application Layer protocol for transfer HTML documents
- URI To identify resources on the web
- Web server h/w and s/w
- Web client h/w and s/w

Web browser

- Browser programs retrieves hypertext documents and display them.
- Browser consists of 3 parts
- 1. Controller- Receives i/p from keyboard to access webpages with the help of client program
- 2. Client program -Establish TCP sessions with the server and acces the document(HTTP,FTP,Telnet)
- 3. Interpreter -Displays the document on screen
Interpreters (HTML,CGI and Java)

URL

- Uniquely identifies a webpage
- <http://rediffmail.com/index.html>
- http --- protocol
- Rediffmail.com --- domain name
- Index.html --- file name

Working mechanism

- Typing URL of the page in to web browser
- Server name portion of the url is resolved in to ip address using domain name system
- The browser sends request by sending HTTP request to the server
- Having received the required files from webserver the browser renders the page in to screen specified by HTML CSS and other web languages

Web hosting

- A **web hosting service** is a type of service that allows individuals and organizations to make their website accessible via the WWW. Web hosts are companies that provide space on a server owned or leased for use by clients.
- The World Wide Web Consortium (**W3C**) is the main international standards organization for the World Wide Web. The W3C was founded in 1994 by Tim Berners-Lee, the original architect of the World Wide Web. The organization's purpose is to develop open standards so that the Web evolves in a single direction rather than being splintered among competing factions.

- **DNS** is an abbreviation for **Domain Name System**
- **DNS** naming is used in TCP/IP networks, such as the Internet, to locate computers and services through user-friendly names.
- The Internet however, is really based on IP addresses . Every time you use a domain name, therefore, a DNS service must translate the name into the corresponding IP address.
- DNS server contains a database of network names and IP addresses for other Internet hosts.

Web documents

- Classified in to three
- Static documents – Fixed content documents stored in the server.
- Client can access the copy of it. cannot changed by the user.
- Advantage is to show the same webpage to many people simultaneously
- Dynamic documents---Whenever the browser requests a document that time server runs an application program.fresh document is created for each request
ex: retrieval of date and time from web server

2 ways to create dynamic document

1.Common gateway interface

2.Scripting technologies (PHP,ASP,JSP)embedded in HTML

Dynamic web page make use of two types of inter activities

Client side scripting:

The client-side environment used to run scripts is usually a browser. The processing takes place on the end users computer.The source code is transferred from the web server to the users computer over the internet and run directly in the browser. he code required to process user-input is downloaded and compiled by the browser

- Ex:-Javascript

Server Side Scripting

server-side Scripting:- A user's request is fulfilled by running a script directly on the web server to generate dynamic HTML pages. This page is then sent to the client browser.

- The server then runs a program that process the information and returns the results, to the server typically a webpage.
- Ex:-ASP,JSP,Perl and PHP

Common Gateway interface

- Server side program launched by server to generate dynamic document
- Server encodes the client's form input data and CGI program decodes the form and generates output. Steps
- User enter data->press submit → data sent to server → server sends data to CGI s/w → CGI processes data by creating a database statement (add,delet,update)and executes then passed to the database driver for execution data base driver sends the result to the CGI s/w again it is manipulated into desired format by cgi s/w
- Result is transferred to server
- Server send the result to the browser.

Active Documents

- Active documents—in active documents the script is running at the client side. here the server sends a copy of the document or script then it is run by the client site
- Java Applets-pgm written in java on the server run by browser to get the result
- Server sends the script and browser run the javascript to get the result