CHAPTER- 9
WEB APPLICATION DEVELOPMENT

WEB BROWSER

A web browser is a WWW client that navigates through the World Wide Web and displays web pages.

OR

A browser is a software program that allows users to access and navigate the World Wide Web.

Some most popular open source web browsers are Mozilla firefox, Google chrome, opera etc.

WEB SERVER

Web Documents that you view on the Internet are stored on different Web servers. Web servers are computers on which web documents reside.

OR

A web server is a WWW server that stores web documents and responds to the requests made by web browsers.

Some most popular web servers are: Apache web server, Microsoft Internet Information server etc.

WEB ADDRESS

Each web site has a unique address called URL(Uniform Resource Locator). e.g., the web site of Microsoft has an address or URL called

http://www.microsoft.com

The format of writing URL is :

type://address/path

where

type: specifies the type of sever in which the file is located.

address: is the address of server.

path: tells the location of file on the server.

e.g.

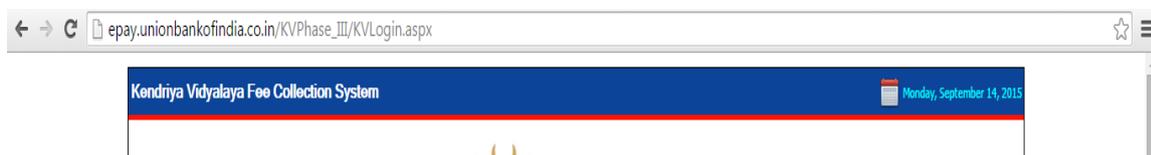in URL http://gmail.com/home

http: specifies the type of sever or protocol

gmail.com : name/address of the server on the Internet (domain name).

home : location of the file on the server.

COMMUNICATING WITH WEB SERVER

What happen when you type URL in the address box of your browser?

The browser (client) sends the request in form of the URL to the server. The server interprets this request and gives an answer.
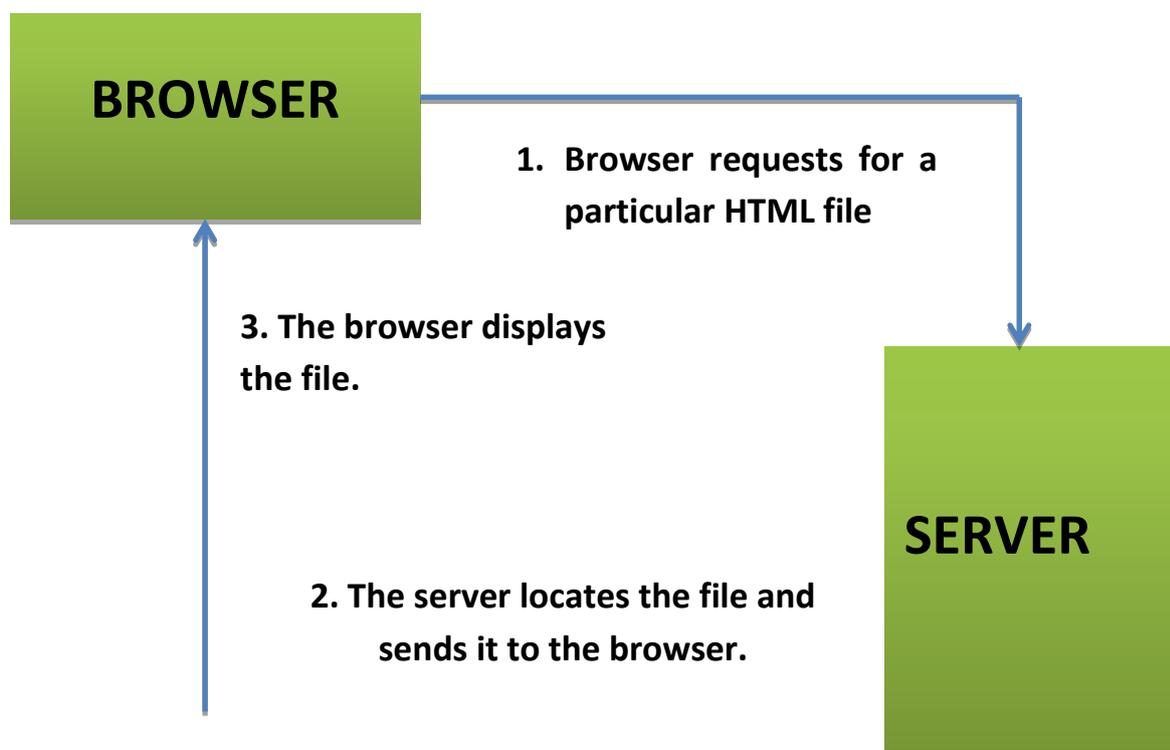
PROTOCOLS

- Browsers interact with the server using a set of instructions called protocols.
- These Protocols help in the accurate transfer of data through request from a browsers and responses from the server.
- Some common Internet Protocols are:
1. **HTTP(HyperText Transfer Protocol)** used on World Wide Web(WWW) for transferring web pages and files contained in web server such as images.
2. **FTP(File Transfer Protocol)** employed for transferring files from one machine to the other.
3. **SMTP(Simple Mail Transport Protocol)** used for email.
4. **Telnet Protocol** used to open remote- machine access sessions.

CLIENT SERVER COMMUNICATION MODELS

1. For accessing static HTML Pages.
2. For accessing dynamic web pages.

MODEL 1 OF THE CLIENT SERVER COMMUNICATION – STATIC HTML PAGES

1. The client(browser) requests for an HTML (HyperText Markup Language) file stored on the remote machine through the server software.
2. The server locates this file and passes it to the client.
3. The client then displays this file on your machine.

BROWSER

1. Browser requests for a particular HTML file

3. The browser displays the file.

SERVER

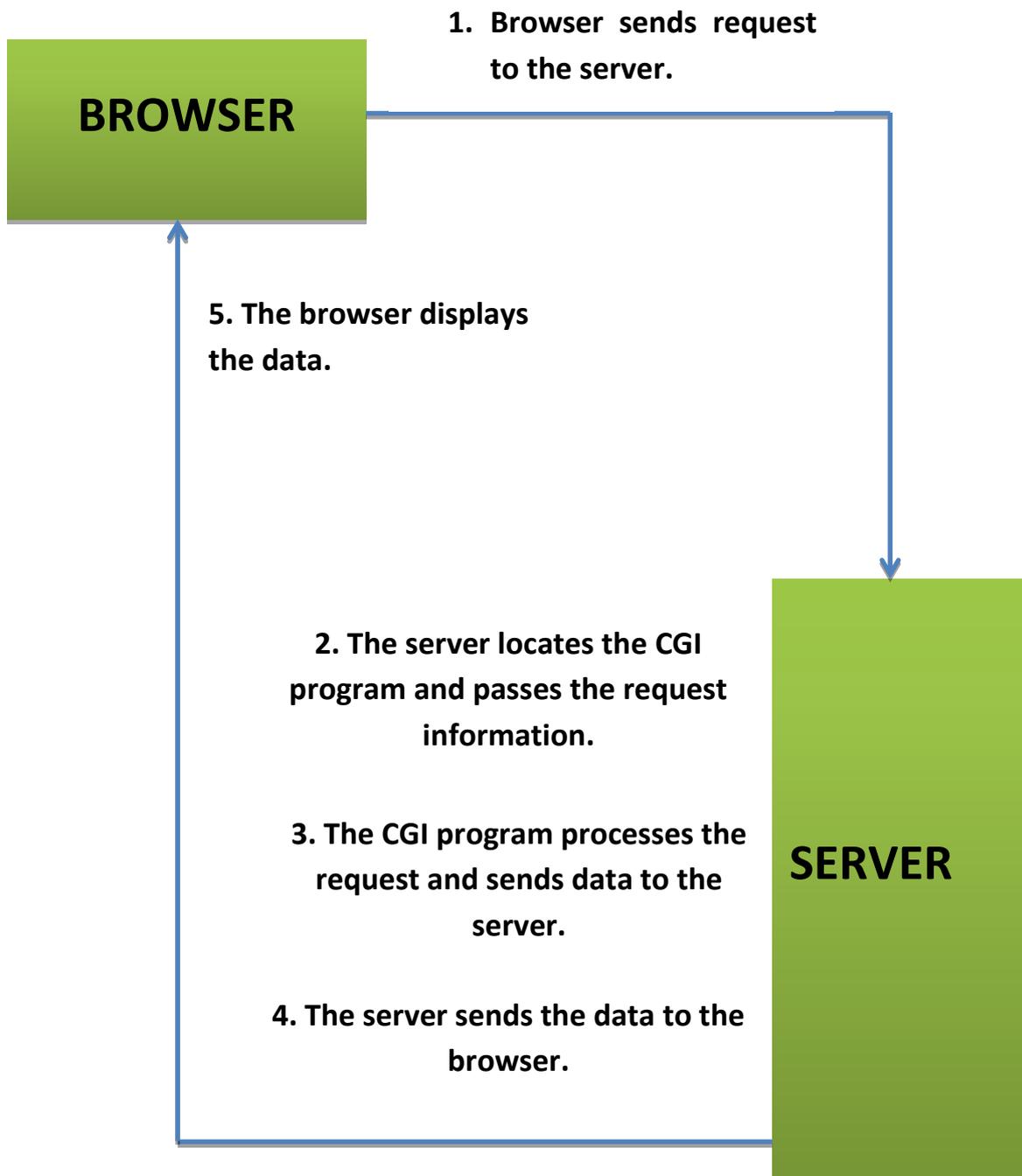2. The server locates the file and sends it to the browser.

MODEL 2 OF THE CLIENT SERVER COMMUNICATION – DYNAMIC WEB PAGES

- The dynamic web pages are different from static web pages as they can have different content depending upon the result of script executed.

- e.g., a dynamic web page can show different weather report when opened at different location e.g. if you open it in USA or in India, you'll find that it is different weather report as per local conditions.
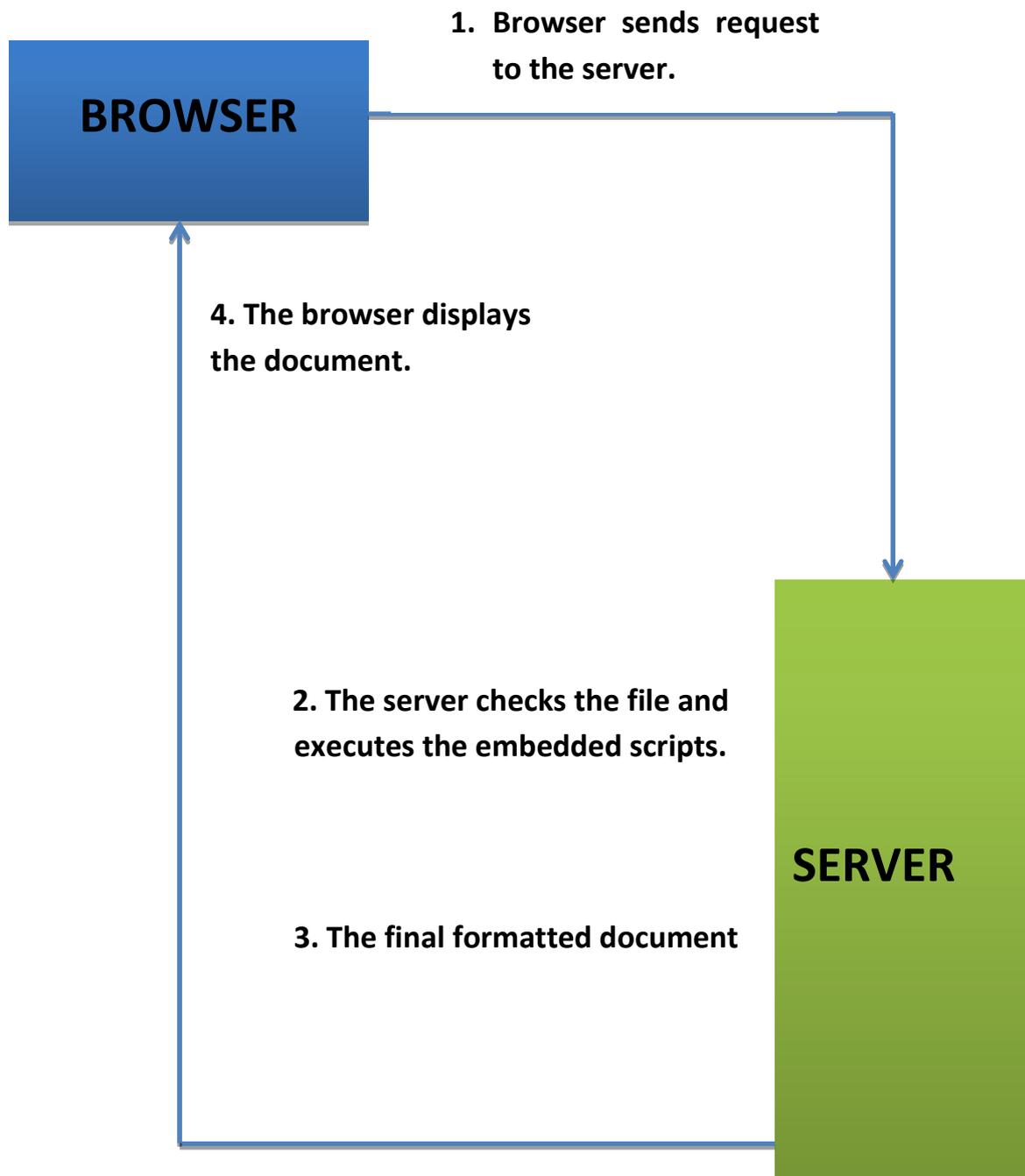
Dynamic web pages are generated via two different technologies:

1. CGI (common gateway interface) scripts
2. Server side scripts

1. **CLIENT SERVER COMMUNICATION WITH CGI SCRIPTS**

BROWSER

1. Browser sends request to the server.

5. The browser displays the data.

SERVER

2. The server locates the CGI program and passes the request information.

3. The CGI program processes the request and sends data to the server.

4. The server sends the data to the browser.

2. CLIENT-SERVER COMMUNICATION WITH SERVER SIDE SCRIPTING

BROWSER

1. Browser sends request to the server.

4. The browser displays the document.

2. The server checks the file and executes the embedded scripts.

SERVER

3. The final formatted document

CBSE BOARD/PRE-BOARD QUESTIONS

Q1. Kristen has typed the following text in the address bar:

http:// www.cbse-international.com/help.htm

Explain to her the main concept of URL and Domain name with reference to the example given above.

Q2. Given below are two addresses:

(i)   http://www.abc.com/index.htm
(ii)   182.68.9.165

Identify which one of the above is an IP address and which one is a URL.

Q3. Write the name of a web server and a web browser.

Q4. Mr. Gupta wants to transfer hypertext, i.e. combination of text, audio/video, graphics, animation, images, etc. on the web page. Write the name of the protocol which will let him to do the same.

Q5. Tara Naithani wants to upload and download files from/to a remote Internet server, write the name of the relevant communication protocol, which will let her do the same.

SOLUTIONS

1. URL(Uniform Resource Locator) is the complete address of a document on the web, whereas a domain name specifies the location of document's web server. A domain name is a component of the URL used to access web sites.

   http:// www.cbse-international.com/help.htm is a URL and www.cbse-international.com is the domain name.

2. (i) http://www.abc.com/index.htm   - URL
   (ii)182.68.9.165 – IP address

3. Web server – Apache web server, Microsoft Internet information server. Web browser – Mozilla Firefox, Google Chrome.

4. HTTP(HyperText Transfer Protocol)
5. FTP(File Transfer Protocol)