

Informatics Practices

Class XII (As per CBSE Board)

New
syllabus
2023-24

Chapter 7
Website
concepts

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Website concepts

Website –

One of the most common reasons for us to be using Internet every day is the information it is loaded with. The information is generated by multiple sources and is carefully organized in the form of files and web pages, which, when grouped together to form a single entity, become a website.

So, a collection of web pages which are grouped together and usually connected together in various ways. Often called a "web site" or simply a "site."



Website concepts

WEBSITE IMPORTANCE AND USES –

The websites are utilized for various purposes like Web surfing, Email and chatting, Social Networking, Videos, Online Business, Searching Jobs, News and Information, Classified Ads, Blogs, Downloads, Online payments, Online Banking, File sharing, Online games etc.

- Open for Business 24 Hours a Day.
- Reach New Markets With a Global Audience.
- Improved Customer Service.
- Save Money on Printing and Distribution Costs.
- Create A Product Or Service Showcase.
- Sell Your Products and Services Online.
- Stability.
- Viral Marketing without a Marketing Cost.



Website concepts

Why Do People Visit Websites?

Generally, people look at websites for two primary reasons:

- ❑ To find information they are in need. This could be anything from a tourist searching information of a city or location ,student looking for pictures for a school project, to finding the latest stock quotes, to getting the address of the nearest restaurant.
- ❑ To complete a task. people may want to buy the latest best-seller of a product or best product, download a software program, or participate in an online discussion about a favorite hobby.



Components of a good website

- ❖ Easy navigation
- ❖ Secured contents
- ❖ Proper layout
- ❖ Proper links
- ❖ Effective color scheme
- ❖ Fast load time
- ❖ Mobile friendly
- ❖ Font that suits website
- ❖ Good quality images with less size
- ❖ Consistency of design among all pages



Website concepts

Things we need in order to build a website

- Domain name (our custom web address, `www.OurWebSiteName.com`)
- Website hosting (service that hosts our website)
- Website designing tools / languages –tools(Firefox Developer, Photoshop, PanicCoda, dreamweaver, Fireworks etc.),languages(html,asp,php,jsp,.net etc)

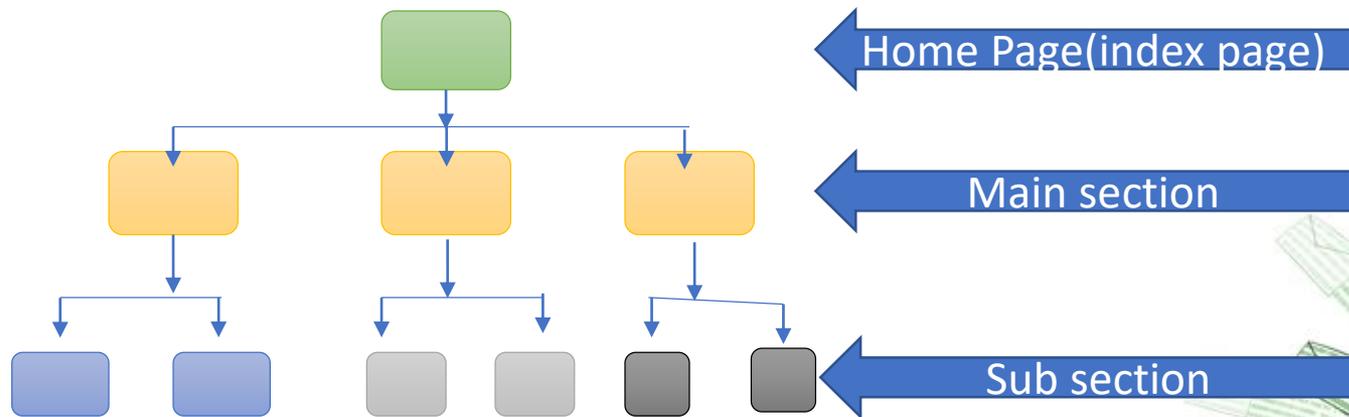
Two of the most common methods for designing websites that work well both on desktop and mobile are responsive and adaptive design. In responsive design, content moves dynamically depending on screen size; in adaptive design, the website content is fixed in layout sizes that match common screen sizes.



Website concepts

WEBSITE STRUCTURE

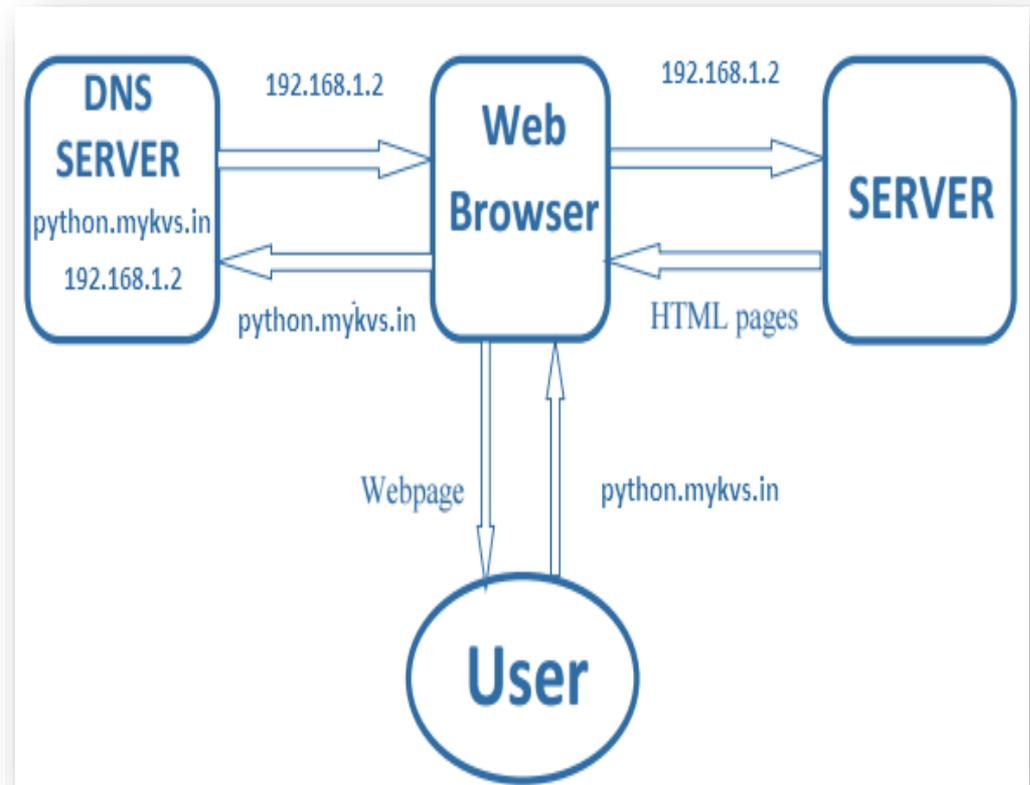
Proper structuring of a website and breaking them into sub sections on the basis of file type and subject matter is very important. Website structure refers to the framework in which the information or content of a website employs for both usability and presentation.



Website concepts

Working of a website

When a user requests the Web page, the browser employed by the user requested the server through DNS server and by fetching and interpreting the requested files, displays it on users screen. DNS server convert domain name to ip address(unique address) –this process is known as dns resolution



Website concepts

Some examples of websites

- wikipedia.org,
- google.com,
- amazon.com,
- cbse.nic.in
- Facebook.com
- Yahoo.com
- Flipkart.com



Website concepts

Web page -or webpage is a document or html document commonly written in HTML, that is viewed in an Internet browser. A web page can be accessed by entering a URL address into a browser's address bar. A web page may contain text, graphics, and hyperlinks to other web pages and files.

A web page is often used to provide information to its visitor, including pictures or videos to help illustrate important topics. A web page may also be used as a method to sell products or services to visitors.



Website concepts

Difference between website and web page

Web page	Website
Single document on the internet	A collection of related web pages linked together under same domain
Development requires minimum amount of time	Development takes a long time
Web page has content about a single entity	Has content about several entities
Address of the URL of web page depends on website	URL of website does not depends upon webpage
It is the content that is to be displayed on a website	Website is a place used to display the content
Webpage URL has an extension Like <code>python.mykvs.in/syllabus.html</code>	No extension used in URL of a website <code>Python.mykvs.in</code>



Website concepts

Static web page –

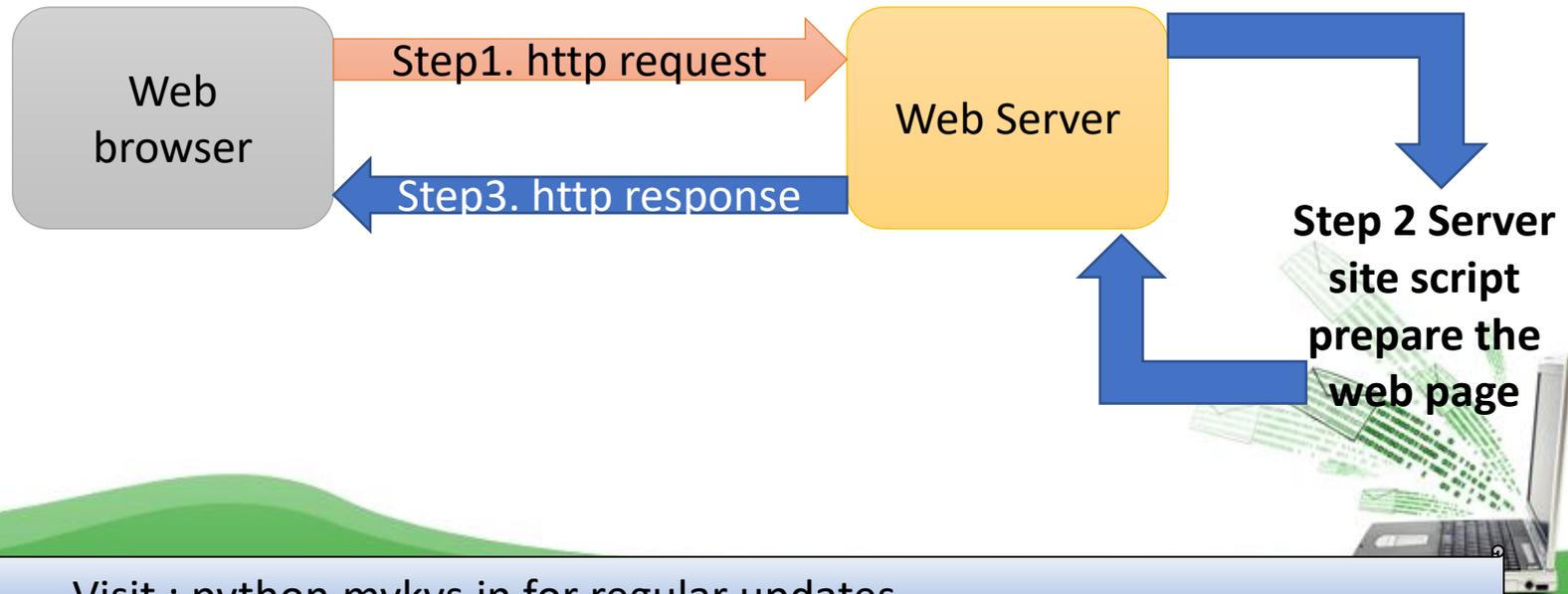
Static Web pages are very simple pages written in languages such as HTML, JavaScript, CSS, etc. When a server receives a request for a static web page, then the server sends the response to the client without doing any additional process. And these web pages are seen through a web browser as these were designed. In static web pages, Pages will remain the same until someone changes it manually and deploy these on the webserver.



Website concepts

Dynamic web page –

Dynamic Web Pages are written in languages such as JSP,ASP,.NET,PHT etc. In dynamic web pages, the Content of pages varies as per the requirement of its visitor.for e.g. if we login to any web site then our name is displayed similarly if other person login on the same site his name will be displayed. It takes more time to load than the static web page. Dynamic web pages are used where the information is changed frequently, for example, stock prices, weather information, etc.



Website concepts

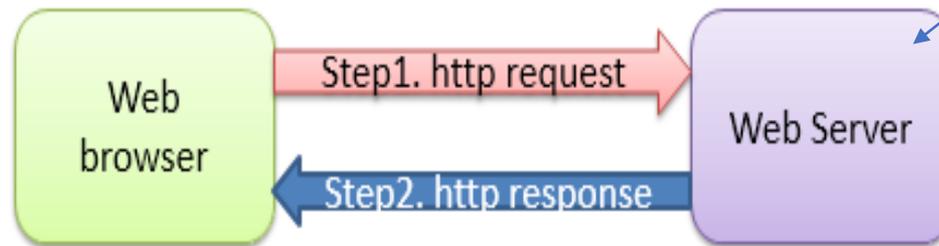
Difference between static webpage and dynamic web page

SL.NO	STATIC WEB PAGE	DYNAMIC WEB PAGE
1.	Pages will remain same until someone changes it manually.	Content of pages are different for different visitors.
2.	Static web pages are written in languages such as: HTML, JavaScript, CSS, etc.	Dynamic web pages are written in languages such as: CGI, AJAX, ASP, ASP.NET, etc.
3.	less complexity.	complicated.
4.	Information are change rarely.	Information are change frequently.
5.	less time for loading	more time for loading.
6.	database is not used.	database is used.

Website concepts

Web Server -Web server is a computer where the web content is stored. Basically web server is used to host the web sites and deliver the resources requested through web browser.

In more technical term it is a program that uses HTTP for serving files that create web pages for users in response to their requests that are sent by the HTTP clients of their computer is called a web server.



Features of a Web Server –

- Secure
- Fast in speed means high bandwidth
- Able to mitigate bandwidth congestion
- Maximum uptime-means always response
- Support most of server site scripting languages
- Easy user interface
- Virtual hosting



Functions of a Web Server –

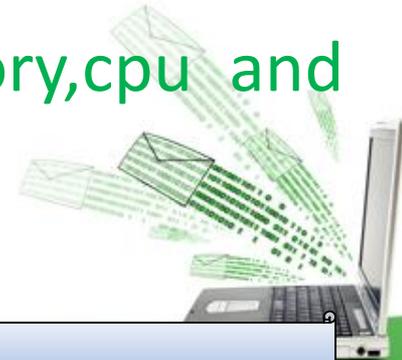
- Stores and secures website data
- Provides web database access
- Serve the end user requests
- Bandwidth controlling to regulate network traffic
- Virtual hosting
- Server side web scripting



Website concepts

Web Server examples –

- **Apache web server** -1996 ,maintained by apached foundation,most used web server
- **IIS** –Internet information services by Microsoft
- **NGINX**- 2002 by igor sysoev, Used for large web sites with too much traffic
- **Apache Tomcat**- initiate by sun microsystem an in 1999 transferred to apache software foundation
- **Lighthttpd** -2003, Uses a very low memory,cpu and disk space, for small web hosting projects



Website concepts

Web hosting - Web hosting is the place where all the files of your website live. It is like the home of our website where it actually lives.

A good way to think about this is if the domain name is the address of our house, then web hosting is the actual house that address points to. All websites on the internet, need web hosting.

Domain names and web hosting are two different services. However, they work together to make websites possible. It is possible with the system known as DNS.



Website concepts

There are four main types of web hosting:

- **Shared hosting** – share by multiple domains/web sites.
- **VPS (virtual private server) hosting** - The main server is split into multiple virtual servers—hence the name. These virtual servers can be customized by individual websites.
- **Dedicated hosting** - Websites being hosted on a dedicated server have complete technical control over the server settings. We choose the software, configurations, and anything else we need.
- **Cloud hosting** - Cloud hosting plans come with multiple remote servers. Each server has different responsibilities. If one of the servers is compromised or has a problem, the other servers on the network will take over those responsibilities and pick up the slack.
- **Reseller hosting and WordPress hosting** are also specific types of hosting