

FUNDAMENTALS OF FULL STACK DEVELOPMENT

(COURSE 1/3 UNDER FULL-STACK DEVELOPMENT TRACK)

L-T-P-C: 2-1-1-4

UNIT - 1

- Introduction
- What is a web application? History
- What is a webserver
- Browser
- HTTP/HTML/CSS



INTRODUCTION

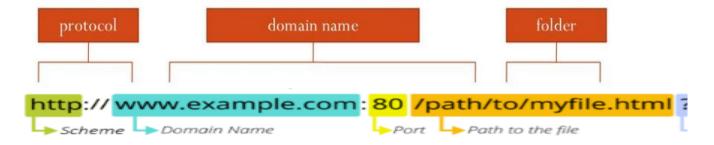
- The Internet and the Web
 - Internet is a network of networks and Interconnected using standardized communication protocols.
 - Who governs the Internet?
 - World Wide Web:
 - Access information through the Internet.
 - stores electronic documents (Web Page):
 - communication between web clients and web servers.

- Web page: formatted document (contains text, image, interactive element and hyperlink)
- Website: Group of Related Web pages



- World Wide Web (WWW)
 - Global hypertext network of millions of Web servers & browsers
 - Connected by Hypertext Transfer Protocol (HTTP)
 - Web pages can be designed by Hypertext Markup Language (HTML)
- Browser is used to view web pages.
 - Hyperlinks let you move around different websites and web pages by clicking on them.
 - images
 - buttons
 - text

- Uniform resource allocator (URL)
 - address of a given unique resource on the Web
 - each valid URL points to a unique resource
 - URLs: The web page is accessed by using a unique URL address.
 - Hyperlinks



WEB APPLICATIONS

- A web application (or web app) is application software that runs on a web server
- Accessed by the user through a web browser with an active network connection.
- Programmed using a client-server modelled structure
- web documents are written in a standard format
 - HTML and JavaScript,
- Example: Email, online retail sales, online auctions, wikis, instant messaging services, etc
- HTML, CSS, and JavaScript.

- Writing web applications is often simplified by the use of a <u>web application framework</u>.
- Web application frameworks
 - Software framework that is designed to support the development of web application
 - facilitate rapid application development
 - Use of can often reduce the number of errors in a program
 - Use of best practices
 - Provide libraries for database access, templating frameworks, and session management and they often promote code reuse.

WHAT IS HTTP?

- **WWW** is about communication between web **clients** and **servers**
- HTTP stands
 for HyperText Transfer Protocol
- Communication between client computers and web servers is done by sending HTTP Requests and receiving HTTP Responses

- HTTP Request / Response
 - A client (a browser) sends an HTTP request to the web
 - A web server receives the requests.
 - The server runs an application to process the request
 - The server returns an HTTP response (output) to the browser.
 - The client (the browser) receives the response

WEB DEVELOPMENT ROADMAPS

Front-End Roadmap

- Learn the Basics
- Responsive Web Design is used in all types of modern web development.
 - HTML
 - CSS
 - JavaScript
 - JavaScriptECMAScript 5
- Choose Frameworks
 - CSS side you should choose a framework for responsive web design:
 - Bootstrap / Material Design / W3.CSS
 - On the JavaScript side you should learn at least one modern framework:
 - React.js / Angular.js / Vue.js / W3.JS

Back-End Roadmaps

Fullstack

- SQL, PHP, ASP, Python
- Fullstack JS
- SQL,
- Node.js
- MySQL
- Mongo.db