

# 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 web application framework.
- 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