



## Curriculum Of Full Stack With Mean

### WEB DESIGNING (HTML)

#### **MODULE 1:** WEB PROGRAMMING INTRODUCTION

- Architecture of a website
- Different technologies in making the website
- Web Development Introduction

#### **MODULE 2:** HTML-INTRODUCTION

- History of HTML
- What you need to do to get going and make your first HTML page
- What are HTML Tags and Attributes?
- HTML Tag vs. Element
- HTML Attributes

#### **MODULE 3:** HTML-HEADERS

- Title
- Base
- Link
- Styles
- Script
- Meta

#### **MODULE 4:** HTML-BASIC FORMATTING TAGS

- HTML Basic Tags
- HTML Formatting Tags
- HTML Color Coding

#### **MODULE 5:** HTML-GROUPING USING DIV SPAN

- Div Tag, Span Tags

#### **MODULE 6:** HTML SEMANTIC ELEMENTS

- <article>
- <aside>
- <details>

- <figure>
- <footer>
- <header>
- <main>
- <mark>
- <nav>
- <section>
- <summary>
- <time>

#### **MODULE 7:** HTML-LISTS

- Unordered Lists
- Ordered Lists
- Definition list

#### **MODULE 8:** HTML-IMAGES

- Image and Image Mapping
- Background Images

#### **MODULE 9:** HTML-HYPERLINK

- Anchor Tag.
- URL - Uniform Resource Locator
- Relative and Absolute Address

#### **MODULE 10:** HTML-TABLE

- < table >
- < th >
- < tr >
- < td >
- < caption >
- < the ad >
- < t body >
- < toot >
- < cogroup >
- < col >

#### **MODULE 11:** HTML-I FRAME

- Using I frame as the Target



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### **MODULE 12:** HTML-FORM

- HTML Forms
- HTML Form Attributes
- HTML Form Elements
- HTML Input Types
- HTML Input Attributes
- HTML Input form Attributes
- < text area >
- < button >
- < select >
- < label >

### **MODULE 13:** HTML GRAPHICS

- HTML Canvas & SVG Graphics

### **MODULE 14:** HTML MEDIA

- HTML Media
- HTML Video, HTML Audio
- HTML Plug-in
- HTML You Tube

### **MODULE 15:** HTML APIS

- HTML Geolocation
- HTML Drag/Drop
- HTML Web Storage
- HTML Web Workers
- HTML SSE

## CSS

### **MODULE 1:** CSS INTRODUCTION

- What is CSS?
- Why Use CSS?
- CSS Syntax

### **MODULE 2:** CSS CORE PROPERTIES

- CSS Color
- CSS Backgrounds

- CSS Box Model
- CSS Borders
- CSS Margins
- CSS Paddings
- CSS Box Sizing

### **MODULE 3:** CSS UNITS

- Absolute Units
- Relative Units
- Max-Width
- Min-Width

### **MODULE 4:** CSS STYLING

- CSS Text
- CSS Fonts
- CSS Outline
- CSS Alignment
- Important

### **MODULE 5:** STYLING ELEMENTS

- Links
- Lists
- Dropdowns
- Tables
- Images, Image-Sprite, Image-Filters
- Clip-Path
- Forms

### **MODULE 6:** NAVBAR

- Vertical-Navbar
- Horizontal-Navbar

### **MODULE 7:** CSS SELECTORS

- Simple Selectors
- Combinator selectors
- Pseudo-class selectors
- Pseudo-elements selectors
- Attribute selectors



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### **MODULE 8: CSS POSITIONS**

- Position
- Z-Index
  - Float
- Clear
- Overflow

### **MODULE 9: CSS LAYOUTS**

- Display
- Block
- Inline
- Inline-Block
- Grid
- Flex-Box

### **MODULE 10: CSS TRANSFORMATION**

- CSS 2D Transforms
- CSS 3D Transforms
- CSS Transition
- CSS Animations

### **MODULE 11: CSS RESPONSIVE**

- Responsive Introduction
- Responsive Viewport
- Responsive Breakpoint
- Media Queries

## **JAVASCRIPT**

### **MODULE 1: INTRODUCTION**

- What is JavaScript?
- Why Use JavaScript?
- Syntax
- Statements
- Comments

### **MODULE 2: LANGUAGE SYNTAX**

- Data Types
- Variable Declarations

- Var vs. Let
- Constant
- Dynamic Type
- Type of
- Type Conversion
- Objects
- Arrays

### **MODULE 3: OPERATORS**

- JavaScript Operators.
- Arithmetic Operators
- Assignment Operators
- Comparison Operators
- Equality Operators
- Ternary Operators
- Logical Operators
- Bitwise Operators

### **MODULE 4: CONTROL STATEMENT**

- if
- else
- if/else
- switch/case

### **MODULE 5: LOOP STATEMENT**

- for
- for/in
- for/off
- while
- do/while
- Infinite loop
- Break
- continue

### **MODULE 6: JAVASCRIPT HTML DOM**

- HTML Document object Model
- DOM Methods
- DOM Documents



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- DOM Elements
- DOM HTML
- DOM Forms
- DOM CSS
- DOM Events
- DOM Event Listener
- DOM Navigation
- DOM Nodes
- DOM Collections
- DOM Node Lists

### **MODULE 7: JAVASCRIPT HTML BOM**

- TML Browser object Model
- JS Window
- JS Screen
- JS Location
- JS History
- JS Navigator
- JS Popup Alert
- JS Timing
- JS Cookies

### **MODULE 8: ARRAY**

- Array Introduction
- Adding Element
- Deleting Element
- Modifying Element
- Searching Element
- Emptying Element
- Combining and Slicing Array
- Spread Operator
- Looping with Array
- Filtering with Array
- Mapping with Array
- Reducing an Array

### **MODULE 9: FUNCTIONS**

- Function Declarations.

- Hoisting
- Arguments
- The Rest Operators
- Default Parameters
- Getter and Setters
- Try and Catch
- Local vs. Global Scope
- this keyword

### **MODULE 10: OBJECTS**

- Basics
- Factory Functions
- Constructor
- Dynamic Nature of Object
- Functions are Objects
- Value vs. Reference Type
- Enumerating Properties of an Object
- Cloning an Object
- String
- Date

### **MODULE 11: BUILT-IN OBJECTS**

- Number
- Math
- String
- Array
- Date
- Boolean
- Regex

### **MODULE 12: EVENTS**

- Introduction
- Mouse, Keyboard, Form Events
- Document, Window Events

### **MODULE 13: INTRODUCTION TO OOP CONCEPT**

- Prototype, Module pattern



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- Augmenting type
- Closure
- ES6 Introduction
- Let & Const
- Arrow Functions
- Class and Inheritance
- Rest and Map Operators
- Export and Import
- Modules

### **MODULE 14:** JAVASCRIPT WEB API

- API Introduction
- Forms API
- History API
- Storage API
- Worker API
- Fetch API
- Geolocation API

### **MODULE 15:** JAVASCRIPT AJAX

- AJAX Introduction
- AJAX XMLHttpRequest
- AJAX Request
- AJAX Response

### **MODULE 16:** JAVASCRIPT JSON

- JSON Introduction
- JSON Syntax
- JSON Data Types
- JSON Parse
- JSON Stringify
- JSON Objects
- JSON Arrays

## JQUERY

- Getting started with jQuery
- Selecting elements

- Manipulating the page
- Traversing the DOM and chaining
- jQuery Utility Methods
- Handling events and event delegation
- AJAX, JSON and Deferred
- Enhancing with Animation effects
- Grids, Tables with AJAX, Pagination, Query UI
- jQuery Best Practices

## BOOTSTRAP 5

### **MODULE 1:** INTRODUCTION

- Introduction
- Quick Start After Dark
- Our First Web Page
- What's inside?
- Scripts & Styles
- Core concepts
- Summary

### **MODULE 2:** LAYOUT WITH BOOTSTRAP

- Introduction
- Grid Layouts
- Simple Layout
- Fixed Grids
- Fluid Grids
- Responsive Design
- Responsive Utilities
- Inspiration
- Summary

### **MODULE 3:** EVERYDAY BOOTSTRAP

- Introduction
- Typography
- Tables
- Forms
- Buttons
- Images & Icons
- Summary



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### **MODULE 4: BOOTSTRAP COMPONENT**

- Introductions
- Drop Down Menu
- Buttons with Menus
- Tabs & Pill
- The Navbars
- Heros
- Badgets
- Labels and media
- Summary

### **MODULE 5: BOOTSTRAP AND JAVASCRIPT**

- Introduction
- More Buttons
- Modals
- Tooltips and Popovers
- Carousel
- Summary

## **GITHUB**

- Real-Time environmental setup with GitHub

## **ANGULAR**

### **MODULE 1: INTRODUCTION TO ANGULAR**

- What is Angular?
- Advantages of Angular
- Disadvantages of Angular
- Key Features of Angular
- Comparison between Angular & other frameworks

### **MODULE 2: INTRODUCTION TO TYPESCRIPT**

- Why Use Typescript
- Basic Types
- Classes & Interfaces
- Type Definitions
- Compiling Typescript

### **MODULE 3: ENVIRONMENT SETUP**

- Node
- NPM
- Angular CLI
- Application File Structure
- Code Editors

### **MODULE 4: MODULES**

- Why use Modules
- Ng Module
- Declarations
- Providers
- Imports
- Bootstrapping
- The Core Module
- Shared Modules

### **MODULE 5: COMPONENTS**

- Introduction to Components
- Components Architecture Pattern
- Decorator Metadata
- State & Behavior

### **MODULE 6: TEMPLATES**

- Inline vs External
- Template Expressions
- Data Bindings
- \*ngIf else, \*ngFor and \*ngSwitch
- Built-in Structural Directives
- Built-in Attribute Directives

### **MODULE 7: CUSTOM DIRECTIVES**

- Create your own Structural Directives
- Create your own Attribute Directives

### **MODULE 8: PIPES**

- Built-in Pipes
- Custom Pipes





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### **MODULE 9: SERVICES**

- Introduction to services
- Building a Service

### **MODULE 10: DEPENDENCY INJECTION**

- Introduction to dependency Injection
- Injectors & Providers
- Registering Providers

### **MODULE 11: LIFECYCLE HOOKS**

- Component Lifecycle
- All Lifecycle hooks

### **MODULE 12: ROUTING**

- The component router
- Defining Router
- Navigation
- Route Params
- Child Routes

### **MODULE 13: ADVANCED ROUTING**

- Route Guard

### **MODULE 14: TEMPLATE-DRIVEN FORMS**

- Introduction to forms
- Template-driven forms
- Validation

### **MODULE 15: MODEL-DRIVEN FORMS**

- Introduction to Reactive Forms
  - Form group & form control
- Validators
- Custom Validation

### **MODULE 16: ASYNCHRONOUS OPERATIONS**

- Introduction to Async
- Observables

- Observables vs. Promise
- HTTP Request / Response

### **MODULE 17: COMMUNICATION BETWEEN COMPONENTS**

- @Input()
- @Output()
- @ViewChild()
- Shared Service

### **MODULE 18: SERVER-SIDE RENDERING**

- Introduction to server-side Rendering
- Angular Universal

### **MODULE 19: ANGULAR TESTING**

- Introduction to testing
- Unit Testing
- Lazy Loading
- Angular Material
- Prime NG Implementation

### **MODULE 20: THIRD-PARTY NPM PACKAGE**

- Social Login Authentication
- Cookies, Local Storage, Session Storage
- Angular File Upload
- Angular Pagination
- JWT Token

### IMPLEMENTATION OF MINI APPLICATION

### DEPLOYMENT OF ANGULAR APPLICATION

## NODE JS AND EXPRESS FRAMEWORK

### **MODULE 1: INTRODUCTION TO NODE.JS**

- Introduction to Node.js
- History of Node.js



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- Introduction to io.js
- What is Node.js Foundation
- V8 Java Script Engine
- Why Server Side Java Script?

### **MODULE 2: GETTING STARTED WITH NODE.JS**

- Node.js Architecture
- JavaScript Event Loop
- Node.js vs. others Server-Side Frameworks
- Node.js Application Area
- Advantages of Node.js
- Limitations of Node.js

### **MODULE 3: JAVASCRIPT WITH NODE.JS**

- Writing Asynchronous Code
- Blocking vs. Non-Blocking Code

### **MODULE 4: MODULES**

- Understanding Modules
- Built-In Modules
- Creating Module
- Exporting Module
- Importing Modules Node.js CLI and NPM
- Understanding CLI
- Node's Package Manager: NPM
- Local Packages and Global Packages
- Installing
- Updating and Removing Module using NPM
- Understanding package. Son file

### **MODULE 5: NODE.JS PACKAGE AND PUBLISHING**

- Creating a Node Package
- Publishing Package
- Using published package

### **MODULE 6: PACKAGE**

- Introduction of NPM Package
- Express NPM Package
- Multer NPM Package
- Node Mail NPM Package
- Boot Stripe NPM Package integration
- JSONWEBTOKEN NPM Integration
- Introduction of crypto-JS

### **MODULE 7: CODE DEBUGGING**

- Built-In Debugger
- Node Inspector
- IDE Debuggers

### **MODULE 8: EXCEPTIONS HANDLING**

- Try. Catch
- Call back
- Event Emitters

### **MODULE 9: EVENTS**

- Understanding Events
- Event Emitter class
- Emitting Event
- Listening Event

### **MODULE 10: STREAMS**

- Creating streams
- Streams types
- Readable Stream
- Writable Stream
- Stream Pipe
- Creating Buffer
- Buffer decoding

### **MODULE 11: FILE SYSTEM AND PATH MODULE**

- Introduction to fs Module
- The fs modules operations





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- Manipulating Files Create, Open, Read, write,
- Close, Rename, Delete
- Manipulating Directives Create, Read, Remove
- The path Module
- Building a Web server
- HTTP Request Methods, Headers
- Response Codes and Headers

### **MODULE 12: EXPRESS FRAMEWORK**

- Understanding Express
- Installing Express
- Creating and Running Express App

### **MODULE 13: ROUTING AND VIEW ENGINES**

- Router Object
- Router Object Methods
- View Engine -Handlebars
- Response Methods

### **MODULE 14: MIDDLEWARE AND REQUEST PROCESSING**

- Middleware
- Express Middleware
- Express Request Processing

## **MONGODB**

### **MODULE 1: UNDERSTANDING NOSQL DB**

- NoSQL vs. SQL DB
- Understanding Mongo DB
- Introduction of mongoose Atlas

- MongoDB Data types
- MongoDB Shell Commands
- Understanding db, collection & document
- Understanding Embedded documents
- Querying database Tools & API
- MongoDB Tools
- Introduction to Mongo Chef
- Mongo Chef for database operations

### **MODULE 2: INDEXING AND RELATIONSHIPS**

- Types of Indexes
- Creating an Indexes
- Dropping an Indexes
- Defining Relationships between Documents

### **MODULE 3: MONGO DB ODM -MONGOOSE AND POSTMAN**

- Introduction to Mongoose
- Exploring fundamentals of Mongoose
- Mongoose Models
- Mongoose Data Types
- Mongoose Relationships
- Mongoose CRUD operations

### **MODULE 4: REST API WITH MONGOOSE, MONGODB AND POSTMAN**

- Creating REST API using Express and Mongoose

### **IMPLEMENTING THE PROJECT DEPLOYMENT OF MEAN APPLICATION**