MEAN STACK COURSE SYLLABUS

SECTION 1: HTML 5

- ➤ Introduction - Web
- ➤ What are the different Types of Web Apps overview?
- ➤ Introduction to HTML
- ➤ Define HTML Structure
- ➤ Difference between Tag vs Element
- ➤ Difference between Semantic vs Non-semantic elements
- ➤ Difference between Block level elements vs Inline elements
- ➤ HTML Elements
- ➤ HTML Forms & its Attributes
- ➤ HTML Input Elements
- ➤ HTML Global Attributes
- ➤ HTML Element Specific Attributes

SECTION 2: CSS & Bootstrap

- ➤ What is CSS?
- ➤ Understanding the CSS Syntax.
- ➤ CSS Selectors
- ➤ How To Add CSS in HTML
- ➤ CSS Colors & Backgrounds
- ➤ CSS Borders, Margins, Padding, Height and Width
- ➤ Responsive Web Design – Media queries
- ➤ What is Bootstrap?
- ➤ Get Start with Bootstrap
- ➤ Containers
- ➤ Grid System
- ➤ Structure of a Bootstrap Grid
- ➤ Bootstrap Colors
- ➤ Bootstrap Tables
- ➤ Bootstrap Jumbotron
- ➤ Bootstrap Alerts, Bootstrap Buttons

SECTION 3: JavaScript

- Introduction – Javascript
- JavaScript Events
- JavaScript Functions
- Inbuilt methods in JS
- Arrays in JavaScript
- Objects in JavaScript
- Conditional and loops in JavaScript
- HTML DOM Manipulation

SECTION 4: TypeScript

- TypeScript Introduction
- TypeScript Environment Setups
- Variables in TS
- Datatypes in TS
- OOPS in TypeScript
- Features in TS

SECTION 5: Angular Introduction

- Angular- Definition
- Difference between Framework & Library?
- History of Angular and its versions.
- Why Angular?
- What are the Features of Angular
- Define Single Page Application
- What is the Difference between SPA & Traditional Application?
- Define MVC
- How MVC works in Client & Server sides?

SECTION 6: Angular Environment setups

- ➤ What is Angular CLI?
- ➤ What is the Purpose of the CLI?
- ➤ Angular CLI installation.
- ➤ CLI vs Without CLI Overview.
- ➤ Create an Angular App by using CLI.
- ➤ Compiling the Angular App & Open it in a browser.
- ➤ Angular app Bootstrapping process.
- ➤ About Angular libraries
- ➤ Brief explanation about the structure of the Angular App.

SECTION 7: Main Building Blocks of Angular

- ➤ An Overview of the below Main Building blocks of Angular
- ➤ Modules
- ➤ Components
- ➤ Decorator
- ➤ Metadata
- ➤ Templates
- ➤ Data binding - Directives
- ➤ Services
- ➤ Dependency Injection.

SECTION 8: Angular Modules

- ➤ Angular Module Overview.
- ➤ Define the Importance of the Module?
- ➤ Why Modules?
- ➤ Root Module, Core Module, Feature Module and Shared Module - Overview.
- ➤ How to create Angular Modules?
- ➤ @NgModule Decorator & its Meta data properties - Overview

SECTION 9: Components

- ➤ Angular Component - Overview.
- ➤ @Component decorator & its Meta data properties.
- ➤ Component's Structure overview.
- ➤ What are the ways to render a Component in the view?
- ➤ Component Lifecycle Hooks.
- ➤ Nested or Parent & Child Component - Overview

SECTION 10: Data Binding, Property Binding, Event Binding & 2-way Data Binding

- ➤ Data Binding Introduction
- ➤ Define String Interpolation.
- ➤ Property Binding - Overview.
- ➤ what is Custom Property Binding?
- ➤ Overview of Event Binding.
- ➤ String Interpolation VS Property Binding
- ➤ Two-way Data Binding
- ➤ Implementing the 2-way Data Binding

SECTION 11: Services

- ➤ Introduction - Service.
- ➤ Importance of Service.
- ➤ How to create Services in Angular?
- ➤ What are the ways to Provide Services in Angular?
- ➤ Dependency Injection - Overview.
- ➤ How to use Dependency Injection?
- ➤ What is @Injectable()?

SECTION 12: Directives

- ➤ Directives - Introduction.
- ➤ Component VS Directives
- ➤ What are the Different kind of Directives available in Angular?

- Difference between Structural & Attribute Directives.
- Overview of All Structural & Attribute Directives.
- @Input decorator and its methods.
- What is ElementRef and its purpose?

SECTION 13: Components Communication

- Overview of Components Interaction.
- Component Interaction from Parent to Child.
- Component Interaction from Child to Parent.
- @ViewChild decorator overview
- @Input & @Output decorator overview

SECTION 14: Reactive Form in Angular

- What is Reactive Form?
- Difference between Template Drive & Reactive Form
- What is form group & form control?
- How to sync view & Reactive form TS?
- What is Patch Values & Set Values?
- How to get Reactive from Values?

SECTION 15: Service and Dependency Injection in Angular

- Service in Angular
- Create & configure Service in Angular.
- How to do Dependency Injection in Angular?
- Define Singleton Object

SECTION 16: Routing in Angular

- What is Routing?
- How Routing makes our App into SPA?
- How to configure Routing in an Application?
- Load our components dynamically based on url path.
- How to create Child Route?
- Navigating to other links programmatically.

➢ Passing Parameter to the Routes.
➢ Client-side authorization using Route Guard

SECTION 17: HTTP & Observable in Angular

➢ HTTP Client in Angular.
➢ REST API - Overview
➢ How to establish HTTP request to Server side.
➢ How HTTP Mechanism works?
➢ What are the methods available in HTTP?
➢ Define Observable & Observer
➢ What are the call back methods available in Observable?
➢ Creation of a Custom Observable
➢ Define next(), error() and complete()
➢ How to send Query Params & Custom Headers?
➢ How to connect any backend & APIs?

SECTION 18: Authorization in Angular & JWT

➢ Client side Authorization vs Server side Authorization.
➢ Server side Authorization by using JWT Token.
➢ Set JWT Key Expiry time.
➢ HTTP interceptors - Overview.
➢ How to configure HTTP interceptors?

SECTION 19: Real-time Project in Angular

During the course we will take one Real-time E-commerce application and apply all the above sections into the project. In the project Front-end will be in Angular and Back-end will be in Node JS. On top of the Node JS we will write Express JS as a REST Api. For Database, we choose MongoDB for CURD Operations.

SECTION 20: Getting Started with Node Js

➢ Welcome Preview
➢ What is Node Preview
➢ Node Architecture Preview

- ➢ How Node Works Preview
- ➢ Installing Node Preview
- ➢ Your First Node Program

SECTION 21: Understanding Node Module System

- ➢ Introduction
- ➢ Creating a Module
- ➢ Loading a Module
- ➢ Modules and modularity
- ➢ Global Object
- ➢ OS Module
- ➢ Path Module
- ➢ File System Module
- ➢ Events Module
- ➢ HTTP Module

SECTION 22: Node Package Manager

- ➢ Introduction to NPM
- ➢ Installing a Node Package
- ➢ NPM Packages and Source Control
- ➢ Semantic Versioning
- ➢ Registry Info for a Package
- ➢ How to install specific version of the package
- ➢ How to update Local Packages
- ➢ Uninstall the packages
- ➢ Dev Dependencies
- ➢ Publishing Package

SECTION 23: Asynchronous Programming

- ➢ What is Asynchronous Programming in JavaScript?
- ➢ Synchronous vs Asynchronous
- ➢ JavaScript EventLoop
- ➢ Callbacks

- ➢ Callback Hell
- ➢ Promises in JavaScript
- ➢ Promise Chaining
- ➢ Async Await

SECTION 24: Rest API & HTTP

- ➢ What is HTTP
- ➢ Understand how HTTP works?
- ➢ List of HTTP response codes
- ➢ HTTP Module in Node
- ➢ HTTP Methods - GET, POST, PUT & DELETE
- ➢ Processing Form Data
- ➢ Sending response back to Server

SECTION 25: Understanding Express JS

- ➢ What is Express JS?
- ➢ Installing Express JS
- ➢ Creating HTTP Server
- ➢ Nodemon
- ➢ Environment Variables
- ➢ Routing
- ➢ Route Parameters
- ➢ Handling Multiple Routes
- ➢ Input Validation
- ➢ Handling HTTP Method - Get, Post, Put & Delete using Express

SECTION 26: MongoDB & Mongoose

- ➢ What is MongoDB
- ➢ MongoDB Advantages
- ➢ Installing MongoDB
- ➢ Mongoose ODM
- ➢ Schemas
- ➢ Models

- ➢ Documents
- ➢ Saving a Document
- ➢ Querying Documents
- ➢ Logical & Comparison Query Operators
- ➢ Regular Expressions
- ➢ Counting
- ➢ Pagination
- ➢ CRUD Operations in MongoDB using Mongoose and Express

SECTION 27: Data Validation in MongoDB

- ➢ Understanding Validation in MongoDB
- ➢ Built-in Validators
- ➢ Custom Validators
- ➢ Validation Errors

SECTION 28: Authentication and Authorization

- ➢ Introduction
- ➢ User Model
- ➢ User Registration
- ➢ Hashing Passwords
- ➢ Authenticating Users
- ➢ JSON Web Token
- ➢ Generating Authentication Tokens
- ➢ Setting Response Headers
- ➢ Auth Protect Middleware
- ➢ Protecting Routes
- ➢ Role-based Authorization

SECTION 29: Handling Errors

- ➢ Introduction
- ➢ Express Async Errors
- ➢ Logging Errors

SECTION 30: Deployment

- Preparing the App for Production
- Adding the Code to a Git Repository
- Setting Environment Variables

SECTION 31: Real Time Projects

- 5+ Real-time projects (Full stack coverage)
- Setup Git for local repository
- Create a GitHub account
- Sync the code base with GitHub repo
- Firebase Hosting Overview
- Setting up Firebase in local
- Host your project in Firebase

SECTION 32: Placements

- Build your Professional Resume
- Update LinkedIn Profile
- Interview based Training – GD, Tech round, HR panel
- Minimum 5 Mock interviews before Real interview
- 100% Placement Guaranteed
- Join your Dream Job