REAL-TIME PROJECTS

Array, String, Number Manipulation

Doing different challengeable Machine tests which are conducted in top MNCs.

Skills:

String | Array | Object | SetTimeout | SetInterval | Form | DOM Manipulations

Movie, Jokes & User APIs calls

An app with Registration, login, access different APIs via AJAX, logout.

Skills:

Local Storage | Session Storage | JSON | AJA | XH | HTT

Product Management in Angular

A real-time project with Product Management which includes, Add, Edit, Delete and Search!

Skills:

Data Binding | Inbuilt Directive | Custom Directive | Inbuilt Pipes | Custom Pipes | TD & Reactive Forms

Auth, Weather, News & Zomato App

A Project which accesses your JSON data and authenticate the credentials. Call Weather, News & Zomato APIs.

Skills:

Http Client | RXJS Observable | Routing | Custom | RXJ

CREDO SYSTEMZ
Simplifying IT

REAL-TIME PROJECT - SHOPPING CART APPLICATION

A real-time Shopping cart app from very scratch to Advanced level. The project includes Register, Login, Client- side Authorization, Server-side Authorization, Add Products, List products, Filter products by category wise, Add to cart, View cart, Update cart, Delete cart items, Search, View Product details, Logout.

How to convert HTML app into Angular App, How to load external CSS, JS & Jquery, Routing, Route Guard, Dynamic Routing, Connect REST API, Observable, Subject, Behaviour Subject, Event Emitter, HTTP,Interceptor, Child Routes, File upload, Split app into different Modules, Eager Loading, Lazy Loading, Async Loading.

Integrate Angular Material Module and UI Components

HTML 5, CSS, BOOTSTRAP, JS & TS - Curriculum

HTML 5

- Web Introduction
- Client-side Technologies overview
- Different Types of Web Apps overview
- Web Designer vs Web Developer
- HTML Introduction
- Structure of HTML
- Tag vs Element
- Semantic vs Non-semantic elements
- Block level elements vs Inline elements
- HTML Elements deep dive
- HTML Forms & its Attributes
- HTML Input Elements
- HTML Global Attributes
- HTML Element Specific Attributes
- HTML5 Validations

Hands-on Practicals

- Create a Registration form with all possible input elements and implement the below things,
  - Use all possible attributes
  - Add Client-side Validations
  - Use form and submit the form data

CSS

- What is CSS?
- Understanding the CSS Syntax.
- CSS Selectors.
- How To Add CSS in HTML.
- Cascading Order.
- CSS Colors.
- CSS Backgrounds.
- CSS Borders
- CSS Margins
- CSS Padding
- CSS Height and Width
- CSS Text
- CSS Fonts
- CSS Links
- CSS Tables
- CSS - Display Property
- CSS - Position Property
- CSS - Overflow Property
- CSS - Float and Clear
- The display: inline-block Value
- CSS Attribute Selectors
- CSS Box Sizing

Hands-on Practicals

- Implement all the above CSS concepts in real-time.
- Create a Nice template with mobile responsiveness.

BOOTSTRAP

- Bootstrap Introduction
- Get Start with Bootstrap
- Containers
- Grid System
- Structure of a Bootstrap Grid
- Bootstrap Colors
- Bootstrap Tables
- Bootstrap Jumbotron
- Bootstrap Alerts
- Bootstrap Buttons
- Bootstrap Navs
- Navigation Bars
- Bootstrap Forms
- Bootstrap Modal

Hands-on Practicals

- Apply All above Bootstrap classes in real-time.
- Create a Mobile responsive Template with header, navs, footer, etc

JAVASCRIPT

Section 1: JavaScript Introduction

- Introduction to Client Side Scripting
- Introduction to JavaScript
- Variables in JavaScript
- Rules to create variables in JS
- What is varibale declaration and What is variable definition?
- Variable Scopes
- List of Data Types in JavaScript

Section 2: JS Events

- What is Event in JS ?
- Onload, Onunload, Onsubmit, OnFocus, Onchange Event, Onblur Event, Onmouseover, Onclick, Ondbclick Events, etc.,

Section 3: Functions in JavaScript

- What is function?

- How to define Functions in JS?

- What are the functions available in JS?
- Function Invocation Types.
- How to pass Arguments & Parameters in Function?

Hands-on Practicals

- Create a Simple Calculator app and practice the below
  - Function call with Arguments
  - Callback function
  - Importance of return statement

Section 4: Inbuilt methods in JS

- String inbuilt methods
- Number and Math inbuilt methods
- Array inbuilt methods

Hands-on Practicals

- Username check availability with case sensitive & insensitive
- Find & Replace words
- Validations against Regex
- Zoom In & Zoom Out image

Section 5: Arrays in JavaScript

- Array Overview.
- How to Manipulate (Add, Edit, Delete) Array Elements ?
- Array Sort.

Hands-on Practicals

- To Do List App
- Find the longest word from the Array.
- Array filters

Section 6: Objects in JavaScript

- JS Object Overview.
- Object Structure in JS.
- Object Properties and Methods.
- How to add New Properties and Methods in Existing Object ?
- Object Creation ways in JS

Section 7: Conditional and loops in JavaScript

- Conditions Statements (If, If Else, Switch)
- JavaScript Loops (For Loop, While Loop, Do While Loop and for in loop)

Hands-on Practicals

- Calculator using Switch & If else if

Section 8: HTML DOM Manipulation

- DOM Introduction.
- Methods of Finding HTML Elements.
- Methods of Finding HTML Elements.
- Methods of Changing HTML Elements.
- Methods of Add/Delete HTML Elements.
- Event Listener Overview.

Hands-on Practicals

- Dynamically add or remove events on the DOM

Section 9: Timer functions in JavaScript

- What is timer function?
- setTimeout() - overview
- setInterval() - Overview

Hands-on Practicals

- Start and Stop Timer by using setInterval

Section 10: Local Storage & Session Storage

- Client-side Storage Overview
- What is Local Storage?
- What is Session Storage?
- Difference between Local Storage & Session Storage
- Set, Get, Remove methods in Local Storage & Session Storage

Hands-on Practicals

- Real-time App with Register & login by using Local Storage
- Implement Authentication and Authorization

Section 11: JSON

- What is JSON?
- Purpose of the JSON
- How to convert JS object into JSON object?
- How to convert JSON object into JS object?
- How to parse complex JSON Data Structure.

Section 12: AJAX

- What is AJAX?
- Synchronous vs Asynchronous.
- What is XMLHttpRequest Object?
- What are the properties and methods available in XMLHttpRequest Object?
- How to receive HTTP response?

Hands-on Practicals

- Call Different APIs by using AJAX

TYPESCRIPT

Section 1: TypeScript Introduction

Learning Objective: Here you will learn about JavaScript vs TypeScript, and the pros and cons of TS. Understand the process of how to compile TS into JS, Why we need to move to TS instead of JS, etc.,

Topics

- What is TypeScript?
- Features of TypeScript.
- How to compile TypeScript into JS?
- What is Transpilation?

Hands-on Practicals:

- Installing Typescript Engine in Node.
- Compiling TS code (source) to JS code (source).

Section 2: Node Introduction

Learning Objective: Here you understand importance of Node JS and its NPM types. How to install NPMs as a globally and locally. You can realize the benefits of NPMs and its features.

Topics

- What is Node?
- Node Environment setups.
- A Brief Node Introduction.
- What is Node Modules?
- What are the Types of Node Modules available?
- What is Local & Global Module?

Section 3: TypeScript Environment Setups

Learning Objective: Write your own 1st TypeScript code, compile into JavaScript and see the output in browser as well as cmd terminal.

Topics

- Install TypeScript Engine in Node.
- Execute the 1stTypeScript code.
- What is watcher?
- Introduction of ts-node NPM.
- Hands-on Practicals:
- Practicing Watcher mode.

Section 4: Variables in TS

Learning Objective: Learn here that How variables are strongly specified and also get knowledge in Static vs Dynamic type checking.

Topics

- Difference between Static & Dynamic type checking.
- How to Declare & Define Variables in TS?
- What is any in TS?
- Difference between let & var.
- Template string introduction.

Section 5: Datatypes in TS

Learning Objective: Understand different Data Types and their features in TS and ECMA script. Learn, How these variables are very much needed in the real-time project.

Topics

- Brief Introduction of below types,
  - String
  - Number
  - Boolean
  - Array
  - Object
  - Tuple
  - Enum
  - Any
  - Void
  - Never
  - Null
  - Undefined

Hands-on Practicals:

- Practicing different types of Data types in TS.

Section 6: Different Types of Parameters in TS

Learning Objective: Explore the difference between the JS & TS Parameter and different list of Parameters available in TS & how it works.

Topics

- Difference between JS parameter & TS Parameter.
- Let vs var vs const
- Passing Parameters to the functions.
- How to pass optional parameter?
- What is Default Parameter?
- How to use default parameter before required parameter?
- Rest Parameter overview.

Hands-on Practicals:

- Passing all above parameters in a single function.

Section 7: Features in TS.

Learning Objective: Explore the features of TS and how it differs from JS. You can understand that how these features are simplifying our JS works.

Topics

- Arrow functions.
- Where to use Arrow functions?
- Destructing an Array.
- Destructing and Object.

Hands-on Practicals:

- Arrow functions.
- Where to use Arrow functions?
- Destructing an Array.
- Destructing and Object.

Section 8: OOPS in TypeScript

Learning Objective: Learn OOPS concepts in TypeScript. It is one of the main and important feature in TS. You can learn how to write JavaScript with OOPS concepts and build your Application with Programing structure, Reusability and Code maintainability.

Topics

- What is Class?
- What is Class definition? ?
- What is Object? ?
- How to Create Object?
- Brief introduction about,
  - Property
  - Method
  - Constructor
- What is Inheritance?
- Different types of Inheritance in TS. ?
- Access modifiers in TS. ?
- Readonly in TS. ?
- Static Property & Methods in TS.
- Interface in TypeScript.

Hands-on Practicals:

- Practicing all opps in a real-time examples.
- Converting JS function into TS Class with oops concepts.

Angular 12 Course Content

Section 1: Introduction to Angular

Learning Objective: In this section, you will learn about How the Angular framework was invented and its version history, SPA vs Traditional App, etc., Also you can gain knowledge of how MVC works in both front-end & back-end.

Topics

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

Section 2: Angular Environment setups

Learning Objective: In this section, you will learn about How the Angular framework was invented and its version history, SPA vs Traditional App, etc., Also you can gain knowledge of how MVC works in both front-end & back-end.

Topics

- What is Angular CLI?
- 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.
- Angular libraries
- Brief explanation about the structure of the Angular App.

Hands-on Practicals:

- Create a New Angular App using CLI.
- Compile & Run Angular app in different ports.

Section 3: Main Building Blocks of Angular

Learning Objective: Here you can understand the pillers of Angular. You came to know that how an Angular app structured with these main building blocks.

Topics

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

Section 4: Angular Modules

Learning Objective: Here, gain deep knowledge of why Angular Modules are very much important & Why its very much needed, How to Create & Utilize the Modules and explore what are the different types of Modules Available.

Topics

- Angular Module Overview.
- 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.

- How to Import & Export Module?

Hands-on Practicals:

- Create a Feature Module without CLI.
- Create a Shared Module and import it into different modules

Section 5: Components

Learning Objective: Learn how to render a template in the browser by using Components and what are the ways to bring the components into view. Also, know how to use styles and their scope.

Topics

- Angular Component - Overview.
- @Component decorator & its Meta data properties.
- Root Component - Overview
- How to create a Component manually and through CLI?
- Component's Structure overview.
- Component in an Action
- What is Instance of the Component?
- What are the ways to render a Component in the view?
- Component Lifecycle Hooks.
- Nested or Parent & Child Component - Overview
- Components Interactions overview.
- How to pass Data from Parent to Child & Child to Parent?

Hands-on Practicals:

- Create and Configure a Component with & without CLI.
- Practice on Nested Components.
- Call a Component as Element, Attribute & Class.
- Transfer the data from Parent to Child & Child to Parent.

Section 6: Data Binding, Property Binding, Event Binding & 2-way Data Binding

Learning Objective: Here you can learn how to bind the application data into the view by using different types of Bindings. Also you can understand the 2-way Data binding that is the main feature of Angular.

Topics

- Data Binding Introduction
- String Interpolation.
- Property Binding - Overview.
- Custom Property Binding.
- Overview of Event Binding.
- String Interpolation VS Property Binding
- Two-way Data Binding - Deep dive.
- Implementing the 2-way Data Binding and understanding the process.
- Style Binding, Class Binding.

- Element reference and $event service in Angular.

- Event Filtering

Hands-on Practicals:

- Practice on Event Binding, $event, String Interpolation with certain conditions.
- Implement few real-time Property Bindings.
- Applying 2-way Data Binding in a form.

Section 7: Services

Learning Objective: Explore the importance of Services, Difference between Singleton Object vs Regular Object. Also you can understand how to maintain the data throughtout the application and Globalization methods.

Topics

- Service - Introduction.
- 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?
- Singleton Object - Overview
- Singleton Obj VS Regular Obj
- What is Providers?
- What is @Injectable()?
- Registering a Service in Providers VS @Injectable() Decorators
- What is Hierarchical DI?

Hands-on Practicals:

- Create a Service with and without CLI.
- Share the data & methods in different components by using Service.
- Practice on Dependency Injection & Singleton Object.

Section 8: Directives & Custom Directives

Learning Objective: Understand the power of Directives and how it's reducing the multiline code which we used for DOM manipulations. You can able to create your custom Directive.

Topics

- 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.
    - ngIf

- ngFor

- ngSwitch
- hidden
- ngClass
- ngStyle - ngNonBindable
- ngTempate
- ngContent
- ng-container
- ng-template

- Difference between ngIf & hidden directives.
- How to create Custom Directives?
- @Directive Decorator and its Meta data properties.
- How to pass Input property to the custom directive?
- How to receive Input property from the outside of the directive?
- @Input decorator and its methods.

- What is ElementRef and its purpose?
- @HostListner decorator overview.

Hands-on Practicals:

- Implement all the Directives and Custom Directives in a Real-time Project
- Create 2 Custom Directives.
- Using Custom Directive change the Form values.

Section 9: Pipes in Angular

Topics

- What is Pipe in Angular?
- Purpose of the Pipes.
- Difference between Pipes & Directives.
- Detailed explanation of the below Pipes,
  - Lowercase
  - Uppercase
  - Titlecase
  - Slice
  - Json
  - Number
  - Percent
  - Currency
  - Date
- What is Pure Pipe & Impure Pipe?
- How to create Custom Pipes?
- What is chaining Pipes?
- What is Parameterized Pipe?

Hands-on Practicals:

- Practice on All kind of default Pipes.

- Transform the form & table data with 7 different custom Pipes.

Section 10: Components Communication

Topics

- Overview of Components Interaction.
- Share data between components by using Service.
- Component Interaction from Parent to Child.
- Component Interaction from Child to Parent.
- @ViewChild decorator overview
- @Input & @Output decorator overview
- Custom Event Binding
- Components Interaction by using Event Emitter & Subject and observable

Hands-on Practicals:

- Practice on Pass data from Parent to Child and vice versa.
- Create Custom Events and Emit Data.

Section 11: Event Emitter and other special Directives

Topics

- What is Event Emitter?
- When to use Event Emitter?
- How to transfer data with Event Emitter?
- How to create Custom Events and Trigger?
- View Encapsulation Overview.
- What is ng-content and its purpose?
- ng-container Directive overview.

Hands-on Practicals:

- Applying View Encapsulation in a real-time Project.
- Trigger custom events from component and subscribing it from another component.

Section 12: Template Driven Form in Angular

Topics

- What is Template Driven Form?
- Purpose of Form in Angular.
- How to setup a form in Angular?
- What is form control and how to set it?
- What is ngForm?
- How to Access form values?

- What are the form states available in Angular?

- TD form Validations.
- HTML5 Validation vs Angular form Validation.
- How to set prepopulate values in form fields?
- Setup One-way data binding in Angular.

Hands-on Practicals:

- Create a TD form and get values in Form submission.
- Apply all kind of form validations.
- Get and Set values from Form fields.

Section 13: Reactive Form in Angular

Topics

- 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 attach Dynamic Validations?
- How to get Reactive from Values?
- Create Dynamic Form by using Reactive Form

Hands-on Practicals:

- Create a Dynamic form.
- Login form using Reactive Form.

Section 14: Service and Dependency Injection in Angular

Topics

- What is Service in Angular?
- Create & configure Service in Angular.
- How to do Dependency Injection in Angular?
- What is Singleton Object?
- Multiple DI in single Class.

Section 15: Routing in Angular

Topics

- 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.
- Static Route vs Dynamic Route.
- Fetching Route Params.
- Router Directives overview
- Client-side authorization using Route Guard

Hands-on Practicals:

- Create a SPA.
- Practice on Client-side Authorization.

Section 16: HTTP & Observable in Angular

Topics

- 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?
- What is Observable & Observer?
- What are the call back methods available in Observable?
- How to create a Custom Observable?
- What is next(), error() and complete() ?
- How to send Query Params & Custom Headers?
- How to connect any backend & APIs?
- What is CORS?
- How to resolve CORS errors?

Hands-on Practicals:

- A real-time HTTP Project by using connecting 4 APIs

Section 17: Authorization in Angular & JWT

Topics

- 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?

Hands-on Practicals:

- Create and Verify JWT key in real-time project.
- Validate the request using HTTP interceptors.

Section 18: File Upload in Angular

Topics

- Angular form setups for File Upload.
- FormData() in Angular
- Server side setups for File Upload.
- Multer NPM in Node.
- How to use Multer NPM as middleware in Node?
- Attach the Multer middleware in server-side routing.

Hands-on Practicals:

- Upload Product Images with validations.
- Move the uploaded files in a directory and save data in DB.

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 choosed MongoDB for CURD Operations.