TypeScript Fundamentals

* TypeScript Data Types
* Numbers
* Strings
* Loops

Functions

• Functions

• Arrow Function

• Default and Optional Parameters

• Function overloading

Classes, Access Modifiers and Constructors

• Classes

• Access Modifiers

• Constructor

• Constructor Overloading

• Static Members

Inheritance and Interfaces

• TypeScript Inheritance

• Introduction to Interface

• Using Interfaces

Generics and Modules

• Generics

• Creating Modules

• Importing Modules

Angular CLI

• Introduction to Angular CLI

• Creating new project - ng new

• Building Project - ng build and ng serve

• Angular CLI Commands and Options

Exploring Angular App Structure

• Understanding Angular folder structure

• Angular Initialization Process

• Angular Building Blocks

Modules and Components

• Understanding Modules

• Introduction to Component and Template

• Creating a Component

• Bootstrapping the Component

Decorators and Metadata

• Understanding Decorators

• Understanding Metadata

Databinding

• Understanding Data Binding

• Interpolation

• Property Binding

• Two-way Data Binding

• Event Binding

Directives

• Introduction to Directive

• Built in Directives - ngIf, ngFor, ngSwitch etc.

• Creating Custom Directives

• Using Custom Directive

Pipes

• Introduction to Pipes

• Built-in Pipes – lowercase, uppercase, currency

• Using third-party pipes

• Creating Custom Pipes

Routing

• Understanding Routing

• Defining Routes

• Understanding Location Strategies

Navigation and Route Parameters

• Adding a Navigation Bar

• Styling Active Router Links

• Navigation using code

• Route Parameters – Required, Optional and Query Params

Nested Routes and Lazy Loading

• Setting up Child or Nested Routes

• Setting up and navigating to Lazy loading module

Angular Route Guards

• Introduction to Angular Route Guards

• Types of Route Guards

• Using Route Guards

Advanced Components

• Components Life Cycle Hooks

• Nested Components

• Data Sharing using @Input and @Output Decorators

Inheritance

• Components Inheritance

• Constructor Inheritance

• Metadata Inheritance

• Lifecycle hooks Inheritance

Angular Content Projection

• Introduction to content projection

• Reusing code using content projection

Angular Forms and Controls

• Introduction to Angular Forms

• Angular Form Building Blocks

• Angular Forms and Forms Control States

Template Driven Form

• Understanding Template Driven Form

• Creating Template Driven Form

• Angular form input controls

• Angular form built-in validation

• Template Driven Form validation

Model Driven Form

• Understanding Model Driven (Reactive) Form

• Creating Model Driven Form

• Creating form using Form Builder

• Reactive Form validation

• Custom Validations

• Template Driven vs. Model Driven Forms

Debugging

• Understanding Angular Error Messages

• Debugging Code in the Browser

• Debugging Code using IDE

ReactiveX and Observables

• Introduction to ReactiveX

• Understanding Observables and Observers

• Observables Operators

• Observables vs. Promises

Services in Angular

• Understanding Angular2 Services

• Creating Services Change Detection

• Introduction to Zone.js

• Understanding Change Detection

• Change Detection Strategies

Angular Material

• Understanding Angular Material

• Angular Material Components

• Angular Material Layout

• Angular Material Navigation

• Angular Material Buttons

• Form Controls

Database Operations with REST Service

• Introduction to REST

• Developing REST services using Express

• REST Service CRUD Operations

Unit Testing

• Understanding Unit Testing

• Angular Unit Testing Framework

• Unit Testing with Jasmine and Karma

• Writing Unit Tests Angular Unit Tests

• Unit tests for component

• Unit tests for Angular forms

• Unit Testing test for services

• Test code coverage • Running and Debugging Unit Tests

Module 10 (Project: ECommerce Site Development) Discussing Project Architecture

• Understanding Application layers

• Discussing Application Entities Properties

• Discussing Relationship among Application Entities Developing Application Architecture

• Designing Application Architecture

• Developing REST API

• Developing User Login and Signup Page

(Project: ECommerce Site Development) Security

• Implementing Token based Authentication

• Managing User session

• Implementing Authorization Route Protection

• Protecting a Route from Unauthorized Access

• Need of Route Protection Developing Category, Product Operations

• Developing Category CRUD Operations

• Developing Product CRUD Operations Product Listing

• Displaying Products to Users

• Applying Paging and Sorting Page 7

(Project: ECommerce Site Development) Cart

• Creating Cart

• Adding Products to Cart

• Removing Products from Cart Github

• Understanding Github

• Creating Github Repository

• Uploading code to Github repository

• Performing operations on repository Deployment

• Deploying using Github

• Angular Hosting Options

• Hosting Angular App on cloud server