

UI Development Angular with React

Day 1

JavaScript: Intro to ES6

- What's new in ES6
- Variable Declarations with LET and CONST
- Strings in ES6
- Arrow Functions: Basics
- Arrow Functions: Lexical 'this' Keyword
- DE structuring
- Arrays in ES6
- The Spread Operator
- Rest Parameters
- Default Parameters
- Classes

TypeScript

- What is typescript?
- Typescript installation
- TypeScript vs. JavaScript o OOPs in TypeScript
- Creating Classes and class properties
- Methods
- Access Modifiers
- Constructor
- Getters and Setters
- Static properties and methods
- Inheritance
- Interfaces
- Modules and Namespaces

Introduction and Setup

- **React**
 - Installation and Setup
 - Overview of React and comparison with other frameworks
 - Understanding JSX: Syntax and usage
 - Basics of Class Components and Functional Components
- **Angular**
 - Introduction to Angular and its ecosystem

- TypeScript Fundamentals: Introduction, types, and interfaces
- Installing Angular CLI and creating the first Angular app

Day 2: Component Architecture

- **React**
 - Components in React: Functional and Class Components
 - Component Props and Component State
 - Hooks: useState, useEffect, and custom hooks
 - Communication between components
- **Angular**
 - Components and templates in Angular
 - Metadata with decorators
 - Bootstrapping the App Component
 - Data Binding: Property, Attribute, and Event Binding

Day 3: State Management and Services

- **React**
 - Introduction to Redux for state management
 - Store, Actions, Dispatchers, and Reducers in Redux
 - State immutability and middleware setup
 - Integrating Prime React UI component library
- **Angular**
 - Dependency Injection in Angular
 - Creating and injecting services
 - Two-way data binding with Forms
 - Custom Pipes for data transformation

Day 4: Routing and Navigation

- **React**
 - React Router: Creating routes and router layouts
 - Nested routes and routing context
 - Passing parameters via routes

- Authentication and protected routes
- **Angular**
 - Angular Routing basics: Configuring routes and navigation
 - RouterLink, RouterOutlet, and RouterLinkActive
 - Query parameters and programmatic navigation
 - Role-based route protection with CanActivate interface

Day 5: Handling Data with APIs

- **React**
 - Fetching API data using fetch and axios
 - Handling asynchronous data and loading states
 - Error handling and retry mechanisms
- **Angular**
 - Introduction to RxJS and Observables
 - Making HTTP requests with HttpClient
 - Observables vs Promises
 - Error handling in Angular services and components

Day 6: Advanced Forms

- **React**
 - React Forms: Building forms using vanilla React
 - Using Formik library for form management and validation
 - Handling form submissions and validation errors
- **Angular**
 - Reactive Forms: Building forms programmatically
 - Implementing validation (sync/async) and custom validation
 - Nested FormGroups and FormArray usage
 - Handling form submission and error displays

Day 7: Animations and UI Libraries

- **React**
 - Introduction to animations in React

- Using CSS animations and integrating React libraries for animations
- Creating reusable UI components with Prime React
- **Angular**
 - Angular Animations: Understanding states, transitions, and animatable properties
 - Implementing common animations like fade-in/out
 - Introduction to Angular Material 2: Setup and basic components (e.g., buttons, inputs)

Day 8: Authentication and Authorization

- **React**
 - Implementing authentication with JSON Web Tokens (JWT)
 - Protecting routes based on user roles and permissions
 - Persisting user sessions and handling logout
- **Angular**
 - Authentication and Authorization using JWT
 - Protecting routes and managing user sessions
 - Role-based access control and authorization checks

Day 9: Unit Testing

- **React**
 - Introduction to Jest for testing React components
 - Mocking functions and modules
 - Snapshot testing and async testing with Jest
- **Angular**
 - Unit testing in Angular using Karma and Jasmine
 - Writing test cases for components, directives, and services
 - Test coverage and best practices for Angular testing

Day 10: Deployment and Best Practices

- **React**
 - Preparing React applications for production
 - Code splitting and lazy loading in React
 - Deploying React apps on cloud platforms

- **Angular**

- Angular production build: JIT vs AOT compilation
- Linting and optimizing Angular code
- Deploying Angular applications with Angular CLI and