**Angular *version 11 outline***

***Duration: 5 days (full day trainings)***

***Prerequisite: Knowledge of Javascript,OOPS in any language, DOM & Ajax Mode: VILT (virtual instructor led training)***

***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Day 1 Start\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_***

**Introduction & Agenda**

**ES6 & Typescript – Essentials**

**Introduction**

**Types & Strict Typing**

**Built-in types**

**Interfaces & Type Alias**

**Classes & Modules**

**Constructors**

**Inheritance**

**Annotations**

**Tuples**

**Nuance of 'this' keyword**

**Fat Arrow Functions**

**Template Strings**

**Generics**

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**RXJS – Essentials**

**Introduction to FRP**

**FRP Vs Imperative programming**

**Async Data & Event Streams**

**Observer pattern**

**RXJS Core concepts**

**Observables & Observer**

**Generating Event streams**

**Hot,Cold & Warm Observables**

**Subjects**

**Error handling**

**Common Operators**

**Introduction to Angular**

**Creating our first Angular App:**

**Angular Architecture & Building Blocks**

**Architecture Overview**

**Bootstrap our project with Angular-cli**

**Introducing component**

**Component Decorator Properties**

**Introducing Template**

**Interpolation**

**Introducing Angular Module**

**Decorator Properties**

**Registering our component**

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**Understanding Dependency Injection**

**Role of Injector service**

**Understanding role off Helper modules**

**Introducing Augury**

**Understanding the Bootstrapping process**

**Creating Model & Adding data**

**Working with Bindings**

**Introducing Inbuilt directives**

**Property & Event bindings**

**Attribute Vs Structural directives**

**Working with Inbuilt directives**

**Template Vars & Template Refs**

**Inverse Data flows & Two way data bindings**

**Filtering our data**

**Configuring & Integrating Bootstrap.js**

***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Day 2 Start\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_***

**Debugging our App**

**Creating a More Robust App: Ecommerce App**

**Configurations,Structure & Data**

**Architecture & Walkthrough**

**Breaking our App into Components & Modules**

**Bootstrapping our App with Angular-cli**

**Adding REST API,Authentication & Styles**

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**Root Vs Feature components & modules**

**Adding Structure for our App**

**Introducing Service**

**Dependency Injection with Services**

**Introducing HTTP client & injection**

**REST Data with Observables & Operators**

**Facilitating CRUD operations**

**Creating Shared Modules**

**Working with Components,Services & Routing**

**Preparing our Feature components & template**

**Introducing Pipes**

**Using Inbuilt Pipes**

**Creating a Custom Pipe**

**Pure Vs impure pipes**

**Adding Property & Event bindings**

***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Day 3 Start\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_***

**Preparing other feature components Component Intercommunication with Services Creating a utility Custom Directive Understanding Host Binder & Listener Understanding Route elements**

**Dynamic load components via Routing Securing routes with Auth guard**

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**Angular Forms & Validation**

**Adding a Angular Form to our App**

**Adding Validation Criteria**

**Adding Styles for Error Handling**

**Throwing Error Notifications**

**Form Control & Group Validations**

**Sending Form & Order details to Server**

**Advanced Routing**

**Lazy loading an Angular module**

**Restricting Access with Authentication with JWT (JSON web token)**

**Preparing the feature components & services**

**Navigation with Sub routing features**

**Route params & Query params**

**REST API Interactions**

***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Day 4 Start\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_***

**Multitenant Architecture**

**Creating an Angular project**

**Configuring the package.json**

**New tenant based structure**

**Configuring typescript settings**

**Moving a folder under tenants**

**Appending tenant path in angular.json**

**Shared or Common**

**Generate shared components module**

**Dealing with Multiple tenants**

**Building and previewing the application**

**PWA & Deployment**

**Introduction to PWA & Service workers**

**Adding the PWA module**

**Deterring what needs to be cached**

**Apply configurations**

**Offline App detection & Features**

**Integrating middleware modules Wiring up our Configurations Preparing a Basic File Server Adding Security Certificates**

**Introduction to Angular Material**

**Technical requirements**

**Introducing Material Design**

**Introducing Angular Material**

**Adding core UI controls**

**Introducing the Angular CDK**

**Designing layouts using flexbox**

**Micro Front end with Angular**

**Introduction**

**Split Apps**

**Approaches to Micro-Frontends**

**Micro-Frontend Frameworks**

**Micro-frontend with Angular Project**

**Reactive Forms/Model driven Forms**

**Limitations of Template Driven Forms**

**Delegating Template features to Model**

**Adding our Feature component**

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**Importing the Reactive Forms module**

**Service to Delegate Form features**

**Extending Form Control & Group classes**

**Programatically Generate Form controls & validation**

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**Handling Errors & Custom validators**

**Introducing Form Builder**

**Driving the Form with Form Builder features**

**Angular Hooks & Component Intercommunication**

**Creating our Feature Components**

**Understanding Component Lifecycle process**

**Using the ngOninit & ngOnchange**

**Gather dynamic data with @input**

**Introduction to Event emitter**

**Throwing events with @output**

**Using the ngDoCheck hook**

**Using Template Refs to Cache components**

**Working with DOM query methods**

**- View Child & View Children Using the ngDestory Hook**

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**Unit Testing**

**Introduction to Jasmine and Karma**

**Benefits of Unit Testing**

**The ‘AAA’pattern of testing**

**Creating our Test suite & Write test**

**Working with Jasmine matchers**

**Testing Data & Event Bindings**

**Testing Components with Services**

**Testing Async Data**

**Best Practices & Performance**

**Utilizing Angular-cli,Typescript & ES6 features Angular Routing**

**Planning a Highly Scalable Architecture Modular development for Clean Structure**

**Utilizing Lazy loading for reducing initial load times Breaking down an Application in Components Differentiation between Smart & Dumb components Clean-code Practices to easily locate file & Code structures Getting the best of REST services**

**Caching API calls for performance with Service workers & PWA Use Async Pipes for saving memory bytes**

**using trackByalong with \*ngFor Declare Safe strings**

**Security Best Practices**

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