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**Learning Style: Virtual Classroom**

**Technology: Microsoft**

**Difficulty: Advanced**

**Course Duration: 2 Days**

## **Mastering Angular (MS-55267)**



## About this Course:

This program should lead you from being an ordinary Angular developer to being amazing. You will obtain further insight into Angular's workings and discover further specialized programming methods such as RxJS and interacting with Redux. Advanced Forms do not carry any secrets, and you must obtain the assets to ready the development of Angular applications.

## Course Objectives:

- Boost An Angular device output
- Creation of an effective framework for large uses
- Enable server-side Uniform rendering with Angular
- Using Reactive Extensions to work efficiently
- Streamline architecture with both dumb and smart components
- To add the redux pattern to an Angular app, using ngrx
- Employ more highly sophisticated forms

## Audience:

- This program is targeted at experienced web developers who do want to learn Angular. Attendees in this online training ought to grasp Angular and TypeScript with dignity.

## Prerequisites:

- Understanding of Angular
- Understanding of TypeScript
- An application creation IDE, such as WebStorm or Visual Studio Code

## Course Outline:

### Module 1: Reactive Extensions for JavaScript

- What are Reactive Extensions
- Observable and Observer
- Subjects
- Cold versus Hot Observables
- Making Async Calls
- Combining Observables
- Error Handling

- Dealing with Backpressure
- Lab 1: Search Spotify
  1. Baby steps
  2. Debounce
  3. Calling an async method
  4. Cancellation
  5. Error handling
  6. Combining streams

## **Module 2: Change Detection**

- Zones
- How Change Detection Works
- Immutables and Observables

## **Module 3: State management with Redux**

- Why Redux?
- Smart & dumb components
- Major Principles
- The Store, Actions and Reducers
- Tools
- Lab 1: Redux Todo App
  1. The Store
  2. Actions and Action Creators
  3. Reducers
  4. Reading data and dispatching events
  5. Debuggin using the Redux DevTools

## **Module 4: Bringing Redux to Angular with ngrx**

- Using RxJS within Redux
- Efficient Slicing
- Using Async Pipes

## **Module 5: The ngrx Store**

- Responsibilities
- Normalizing Data
- Initializing the Store

## **Module 6: ngrx Reducers**

- Useful Operators

- Splitting Up Reducers
- ngrx Effects
- Lab 1: Spotify Reducers
  1. Playlist action and reducers
  2. The 'recent' list
  3. The search actions
  4. Displaying tracks
  5. Combining reducers

## **Module 7: Smart and Dumb Components**

- Characteristics of Dumb Components
- Characteristics of Smart Components
- Performance Impact
- Lab 1: Spotify Dispatch and Select
  1. Smart and dumb components
  2. Selecting in the Playlist component
  3. Selecting in the Recent component
  4. Dispatching from the App component
  5. Search
  6. View Tracks

## **Module 8: Structuring an Application**

- Domain, Routing, Core and Shared Modules
- Exporting and Providing
- Clean Imports
- Creating Libraries
- Lab 1: Structuring the Weather App
  1. Creating modules
  2. Creating Feature Components
  3. Set up routing
  4. Services
  5. Clean imports
  6. Using shared module
  7. Using a library

## **Module 9: Forms Advanced**

- Dynamically Adding Elements
- FormArray
- Nested Forms
- Lab 1: FormArray and Nesting
  1. Working with FormArray
  2. Nesting Forms

## **Module 10: Angular Universal**

- Server-side rendering with Angular Universal
  - Hot-Loading with preboot