

# Building Web Applications using AngularJS

## Course 3357 - 32 Hours

### Overview

We want rich, interactive and impressing web applications. We do not want to write a lot of JavaScript code. We need a modern client side framework to allow modeling and ease of maintenance. AngularJS by Google is the most popular framework for this task.

AngularJS brings a Model-View-Controller architecture to the client side. It has an impressive HTML compilation process where the developer can create its own domain HTML language. In addition, the developer is free from updating the DOM manually. AngularJS automatically detects changes to the application's model and updates the DOM accordingly. These features plus many others made AngularJS to be the 1<sup>st</sup> framework to be considered when building Single Page Applications.

### On Completion, Delegates will be able to

- Build Single Page Application with AngularJS
- Understand AngularJS lifecycle
- Create controllers, views and services
- Build custom directives

### Who Should Attend

This course intends to back end developers who wish to focus on rich client-side application development using AngularJS.

### Prerequisites

Before attending this course, students must have:

- Previous experience in Object Oriented Programming (like: Java, C++ or C#)
- Basic understanding of the HTTP protocol
- Basic knowledge of HTML, CSS and JavaScript
- Basic knowledge of Server Side Processing development lifecycle

## Course Contents

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### **Module 1: Advanced JavaScript**

- The Challenge
- Closure
- Avoiding Globals
- Module
- Classes, objects and Inheritance
- Namespace
- Threading Model
- Asynchronous Programming

### **Module 2: Building Single Page Application**

- The Challenge
- What is Single Page Application
- Popular Frameworks/Libraries
- Introducing AngularJS
- Controller
- Scope
- Template
- Basic directives

### **Module 3: Understanding AngularJS**

- Application bootstrapping
- Module
- Dependency Injection
- Scope inheritance
- Automatic DOM update
- Dirty Checking
- Services and other Injectables

### **Module 4: Enhancing Views**

- Referencing Directives
- Interpolation directive
- Rendering HTML
- Conditional Display
- DOM Event Handlers
- Filters
- Custom Filter
- Validation



### Module 5: Routing

- The Challenge
- Hashbang technique
- HTML5 History API
- \$location service
- Using angular-route
- Using UI-Router

### Module 6: Communicating with Back End Server

- \$http service
- JSONP and CORS
- What is a Promise?
- \$q service
- What is Restful Service?
- \$resource service

### Module 7: Custom Directive

- Directive lifecycle
- Isolated Scope
- Directive shortcuts @ = and &
- Transclusion
- Other Directive properties
- Directive's controller
- Terminal property

### Module 8: Testing

- Getting Started
- Specs, Suites & Expectations
- Matchers & Custom Matchers
- Setup and Teardown
- Spy
- jasmine.clock
- jasmine.ajax
- Dealing with Promises
- Dealing with AngularJS

### Introduction to Angular 2.0

- What's new with Angular 2.x version?
- What about versions compatibility?
- Upgrading from version 1.x to 2.x
- When is the time to move to 2.x ?