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Intro to Angular JS Programming

Course Summary

Description

AngularJS is a powerful client-side JavaScript MVC framework from Google that supports simple, maintainable, responsive and modular Rich Internet Applications. It supports automatic bi-directional data binding to and from JavaScript model objects, form controllers, and validation. Direct support for working with REST services and customizable routing, a comprehensive set of HTML tag-driven directives for View description, and the ability create your own custom directives are among the many reasons that AngularJS is so widely used in the RIA JS developer community.

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Topics

- Introduction to AngularJS
- Our first AngularJS Application
- Single page applications
- Controllers
- Working with the View
- Scopes
- Providers
- Ajax, Data and Angular
- Directives: an Introduction
- Using Templates in Angular
- Directives
- Unit testing
- Building a full-stack AngularJS Application

Objectives: At the completion of this course the student will be able to:

- Understand the AngularJS model
- Understand single page applications
- Understand controllers, views, scopes and providers
- Build a full-stack AngularJS

Prerequisites

Attending students should have taken these courses or should have skills equivalent to topics in these classes:

- HTML5, CSS3, and JavaScript for Java Developers or equivalent experience
- Introduction to jQuery or equivalent experience
- RESTful Web Services with JAXRS
  or
- RESTful Web Services with SpringMVC
- RESTful Web Services with ASP.NET

Audience

This course is designed for experienced web developers.

Duration

Three days

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Introduction to AngularJS

Course Outline

I. Introduction to AngularJS
- A. What does AngularJS do for me?
- B. Who controls AngularJS?
- C. How can I get AngularJS?

II. Our first AngularJS application
- A. A basic application
- B. Using angular-seed
- C. The pieces of the puzzle
  1. Two-way data binding
  2. Directives
- D. How it fits together
  1. How much of the page is an Angular application?
  2. What does Angular see as a model?
- E. Model, View, Controller from the AngularJS Perspective

III. Single Page Applications
- A. What do we mean by Single Page Application?
- B. Creating Angular Modules
- C. Using Angular's Routing Service
  1. Routing Basics
  2. Accessing URL Data
  3. Using the $location Service
- D. Creating a Skeleton Single Page Application

IV. Controllers
- A. Where Controllers fit in, and what they do, from Angular's perspective
- B. Managing Scope
- C. Setting up Behavior
- D. Building a basic controller
- E. A more advanced controller

V. Working with the View
- A. Displaying data in the view with Expressions
- B. Looping over data with repeaters
- C. Filters
  1. Standard filters
  2. Writing your own filter
  3. Tying filters together
- D. Event handling

VI. Angular mechanics
- A. Scopes
  1. What are scopes?
  2. What do scopes provide?
  3. Scope lifecycle
  4. Scopes as glue between controller and view
  5. Scope hierarchies
  6. Scope and events
- B. Providers
  1. What is a Provider?
  2. Values and Constants
  3. Factories
  4. Services

VII. Ajax, Data, and Angular
- A. High level interactions with servers
- B. Low-level server interactions with $http
- C. The deferred/promises API
- D. Making RESTful Service calls with $resource

VIII. Directives: an Introduction
- A. Writing our own directives
- B. Using scope

IX. Using templates Testing in Angular
- A. Unit testing with Jasmine and Angular
- B. End to End testing with Protractor

X. Building a full-stack Angular application
- A. Introduction to the application
  1. Behind-the-scenes on the server-side
  2. Data provided by MongoDB
- B. Organizing the project
- C. Building controllers
- D. Testing
- E. Shaping data in the view

XI. Conclusion