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SPA Web Development in ASP.NET Core (5 days)

Course overview

Web development has changed dramatically in recent times. The focus has moved away from monolithic server-side applications towards modular and dynamic client-side single page applications.

This course covers all aspects of SPA web development using Visual Studio 2015, ASP.NET Core. You'll learn about the new unified programming model for creating ASP.NET MVC web pages and Web API RESTful services, and then see how to create dynamic, adaptable, and eye-catching SPA user interfaces using HTML5, CSS3, and best-of-breed JavaScript libraries such as Angular, Bootstrap, and jQuery.

What you'll learn

- Creating ASP.NET Core web sites and Web API RESTful services
- Utilizing HTML5 and CSS3 features
- Implementing robust and maintainable JavaScript code
- Using JavaScript libraries effectively
- Getting the most out of Visual Studio 2015 tooling

Prerequisites

- Programming experience in C#
- Some familiarity with HTML, CSS, and JavaScript

Course details

- Getting Started with ASP.NET Core: Overview of ASP.NET Core; Understanding the structure of an ASP.NET Core project; Creating views; Defining controllers; Defining a data model
- Creating a Complete ASP.NET MVC Application: Strongly-typed views; Razor syntax; Understanding URLs and action methods; Tag helpers; Form post-backs; Data validation; Using Entity Framework Core
- Creating RESTful Services using Web API: Overview of Web API; Building servers and clients; Content negotiation; Attribute routing; Custom model binding
- Web API 2 Techniques: Managing flexible HTTP requests and responses; HTTP message handlers; Filters; Attribute routing; Model binding; Dependency injection
- Effective JavaScript Coding: JavaScript quick recap; Object-oriented programming in JavaScript; Using jQuery; Managing namespaces; Immediately-Invoked Function Expressions (IIFEs)
- JavaScript Platform Integration: Using the File API; Implementing drag-and-drop; Incorporating audio and video; Using the Geolocation API

- Creating Effective User Interfaces: Using the canvas API; HTML5 layout features; CSS3 animations and effects
- Creating Adaptive User Interfaces: Media queries; Creating applications that look good in different form factors; Creating printer-friendly applications; Using Bootstrap for adaptive user interfaces
- Creating Performant User Interfaces: Full-duplex communication with web sockets and SignalR; Asynchronous programming with web workers; Disconnected operation with local storage and offline working
- Implementing Ajax-Enabled Web Pages: Overview of Ajax; Using Ajax manually; Using Ajax with jQuery; Using Ajax2 and Cross-Origin Requests (CORS); Working with JSON data
- Structuring Client-Side Code with AngularJS: Angular essential syntax; Models, views. and controllers; Implementing services; REST integration
- Tooling for SPA: Using GruntJS; Using NPM for Node.js modules; Using Bower for Angular modules