

KOENIG SOLUTIONS · COURSE OUTLINE

Build Web Applications with ASP.NET Blazor

Learn to build web applications with ASP.NET Blazor, from components and data binding to security, EF Core and REST APIs.

12

MODULES

115

TOPICS

COURSE OVERVIEW

This course covers Blazor within ASP.NET Core 6.0, including its hosting models, project structure and fundamentals such as routing, dependency injection and logging. It then addresses Razor components, data binding, forms, validation and advanced component configuration, followed by state management and data access with Entity Framework Core. Later modules cover authentication and authorization, building and consuming RESTful APIs from Blazor, and interacting with JavaScript from Blazor components.

WHO THIS COURSE IS FOR

Web Developers

Software Engineers

Full Stack Developers

.NET Developers

API Developers

LEARNING OBJECTIVES

- Explain Blazor hosting models including Server, WebAssembly and Hybrid
- Describe the structure of Blazor Server and WebAssembly projects
- Apply routing, dependency injection and logging in Blazor apps
- Implement Razor components with data binding and event handling
- Build Blazor forms with validation and custom input components
- Configure state management across circuits and browser storage
- Implement authentication and authorization in Blazor applications
- Develop and consume RESTful APIs from Blazor components

12 Modules, 115 Topics

01

Blazor (ASP.NET Core 6.0) Overview

TOPICS

- What is Blazor?
- Configuring Core 6.0
- Discuss the rapid development and evolution of ASP.NET
- Components
- Blazor Server
- Blazor WebAssembly
- Blazor Hybrid
- JavaScript interop
- **Demo:** Creating your first Blazor Web Application

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Introduction to Blazor Application

TOPICS

Overview of Blazor · Blazor and Razor Components · Installing Blazor Templates · Debugging Blazor Applications · Supported Platforms | Browser Compatibility · Tooling configuration

03

Blazor Project Structure

TOPICS

- Describe all files and directories and their purpose
- Compare the structure of the server and web assembly
- **Demo:** Build a Blazor Todo List app
- **Demo:** Use ASP.NET Core SignalR with Blazor

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ASP.NET Core Blazor Fundamentals

TOPICS

- ASP.NET Core Blazor routing and navigation
- ASP.NET Core Blazor dependency injection
- ASP.NET Core Blazor logging
- ASP.NET Core Blazor static files
- **Demo:** Understanding fundamentals using a sample app

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Blazor Razor Components and Data Binding

TOPICS

- Blazor Razor components
- Blazor Split components
- Blazor Model Classes
- Create Employee List Component
- Blazor Loading Indicator
- Blazor data access strategies
- Binding data with Blazor
- Blazor event handling
- Blazor data binding
- Blazor two-way binding
- Component Parameters
- Blazor EventCallback
- ASP.NET Core Razor component lifecycle
- ASP.NET Core Blazor layouts
- **Demo:** Understanding components and data binding

06

Blazor Component Advance Configuration

TOPICS

- AutoMapper in ASP.NET Core
- Edit and Update
- Create Operation
- Force reload the component
- Delete Operation
- Component Communication
- Delete Confirmation
- Attribute Splatting
- Arbitrary Attributes
- Cascading Values
- Multiple Cascading Parameters
- Cascading Values Performance
- **Demo:** Implementing advanced configuration

07

Razor Component Forms

TOPICS

- What is the purpose of Form?
- Building blazor form
- Blazor Select List
- Custom Input Component
- RCL Project
- Bind Enum to Select
- Blazor DatePicker
- Blazor Form Validation
- Custom Form Validation
- Compare Validation
- Complex Model Validation
- **Demo:** Creating Blazor form app

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ASP.NET Core Blazor State Management

TOPICS

- Persist state across circuits
- Where to persist state
- Server-side storage
- URL
- Browser storage
- ASP.NET Core Protected Browser Storage
- In-memory state container service
- **Demo:** Understanding blazor state management

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ASP.NET Core Blazor Server with Entity Framework Core (EF Core)

TOPICS

- Database access
- New DbContext instances
- Scope to the component lifetime
- Enable sensitive data logging
- Executing Raw Sql Queries/ Procedures from EF Core
- **Demo:** Accessing database and Executing SQL queries from EF Core

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Security Management

TOPICS

- Identity Setup in Blazor
- Cookie Authentication
- Authentication - Login Page
- Authentication - Logout Page
- Authorization in Blazor
- Blazor Authorize Attribute
- Blazor Authorization in Code
- **Demo:** Implementing authentication in Blazor

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Using RESTful APIs

TOPICS

- What are RESTful APIs
- Create REST API
- REST API DbContext
- Repository Pattern in REST API
- REST API Get List
- REST API Get By Id
- Post in REST API
- REST API Model Validation
- Put in REST API
- Delete in REST API
- Search in REST API
- Call REST API from Blazor
- Blazor Route Parameters
- Data from multiple tables
- **Demo:** Implementing REST API and perform CRUD operation

Interacting with JavaScript

TOPICS

- What is the JavaScript Interop?
- When is JavaScript needed?
- Synchronous vs. Asynchronous Calls
- How to call a JavaScript function from a Component
- How to call C# code from JavaScript
- Calling Static Methods
- Calling Instance Methods
- Organizing JavaScript Code within a Blazor WebAssembly App
- Explore JavaScript Ecosystem
- Client-Side Libraries
- NPM & Yarn
- Useful Libraries
- **Demo:** Calling JavaScript functions from Blazor
- **Demo:** Calling Blazor C# functions from JavaScript

WHAT IS INCLUDED

Everything You Need to Succeed

- Koenig course material for every module
- Delivery by certified instructors and subject matter experts
- Hands-on exercises throughout the course
- Course completion certificate from Koenig

ABOUT KOENIG

Who We Are

Established in 1993, Koenig Solutions is a globally recognised training provider with 35+ technology partnerships, 5,000+ training programmes and a network of certified instructors and subject matter experts, supporting individuals and enterprise teams worldwide.

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✉ info@koenig-solutions.com