Introduction to .NET Core for Web Services Training

Duration: **3 Day**

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Overview

This course is designed for developers who already have experience with .NET technologies and want to become familiar with the .NET Core platform.

Participants learn how to build cross-platform web applications using C#, Entity Framework Core, and ASP .NET Core. The course covers the core .NET Core development workflow, including project creation, dependency management, testing, building, publishing, and the development of web services.

An optional refresher on the latest C# language features can also be included to help participants update and strengthen their existing C# knowledge.

Prerequisites

Participants should have:

- At least two years of experience working with .NET
- Previous exposure to ASP .NET
- Experience using Entity Framework

Outline

1. Introduction

- The history and evolution of .NET
- Platforms, frameworks, and targeting
- .NET Standard
- .NET Core
- Entity Framework Core
- ASP .NET Core

2. Setting Up the Development Environment

- Installing the SDK and CLI
- Extending command-line functionality
- Comparing Visual Studio Code and Visual Studio
- Visual Studio Code extensions
- JetBrains Project Rider
- Project JSON versus MSBuild
- Running a first Hello World application

3. Refresher on Latest C# Syntax

- Async / Await
- Caller and Element Information

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- Improved auto-properties
- Expression-bodied functions
- Static imports
- Null-conditional and null-coalescing operators
- String interpolation
- Index initialisers
- Exception filters

4. C# 7 Features

- Improved out parameters
- Pattern Matching
- Improved Tuple support
- Deconstructions
- Local Functions
- Literal improvements
- Ref returns and locals
- Generalized Async return type
- Additional expression-bodied members
- Throw expressions

5. .NET Core Projects

- Creating projects
- Adding dependencies
- Writing tests
- Building, testing, and running applications
- Publishing with the runtime

6. ASP .NET Core

- Differences between ASP .NET and ASP .NET Core
- Kestrel
- Building services
- Dependency Injection
- Middleware
- Routing and MVC
- Razor in ASP .NET Core
- Logging and debugging
- Building an Angular 2 SPA
- Authentication

7. Entity Framework Core

- Differences between Entity Framework and Entity Framework Core
- Dependency Injection
- Database Providers
- Logging and debugging
- Performance considerations
- Migrations