Course : ASP NET MVC, full stack Web application development

Practical course - 5d - 35h00 - Ref. ASN
Price : 3230 CHF E.T.

★★★★½   4,4 / 5

(BEST)

With Visual Studio 2022, in C# language, learn how to design and build a .NET-based web application, both client-side (HTML5, JavaScript, Bootstrap) and server-side (MVC, REST and Entity Framework Core), with user creation/management (authentication).

◎ Teaching objectives

At the end of the training, the participant will be able to:

- ✓ Understand the concepts inherent in the MVC architecture of a web application
- ✓ Develop a responsive and dynamic web interface to manipulate data in Razor views
- ✓ Implement server behavior with controllers, actions, filters and REST APIs
- ✓ How to create and implement a relational database with Entity Framework Core
- ✓ Manage access to protected pages with user management in a local database

Intended audience

Developers familiar with Web Forms. Project managers looking for an overview of ASP NET web application creation with Visual Studio 2022.

Prerequisites

Good knowledge of the .NET environment with practical experience of the C# language. Knowledge of HTML, CSS and relational databases.

PARTICIPANTS
Developers familiar with Web Forms. Project managers looking for an overview of ASP NET web application creation with Visual Studio 2022.

PREREQUISITES
Good knowledge of the .NET environment with practical experience of the C# language. Knowledge of HTML, CSS and relational databases.

TRAINER QUALIFICATIONS
The experts leading the training are specialists in the covered subjects. They have been approved by our instructional teams for both their professional knowledge and their teaching ability, for each course they teach. They have at least five to ten years of experience in their field and hold (or have held) decision-making positions in companies.

ASSESSMENT TERMS
The trainer evaluates each participant's academic progress throughout the training using multiple choice, scenarios, hands-on work and more.
Participants also complete a placement test before and after the course to measure the skills they've developed.

Practical details

Hands-on work

Alternating between explanations/reminders of concepts, presentations of concrete examples and practical work.

Teaching methods

The workshops enable you to progressively build a typical web application that manipulates, manages and authenticates data (Identity system), from preparation to deployment.

Course schedule

1) Web application concepts

- A reminder of the HTTP protocol and how to design a web interface using HTML5 and CSS3.
- Make pages dynamic (Media Queries, JavaScript and Ajax).
- Distribution of operations and data exchanges between the browser and the application.
- Introduction to ASP NET (features and roadmap).

Hands-on work

Overview of the main web frameworks and APIs available (Bootstrap, Angular, Canvas, Local Storage, Geolocation, etc.).

2) MVC in NET

- General rules of application architecture (SOLID concepts).
- The benefits of the MVC model for a web application.
- Installation and familiarization with the .NET development environment (Visual Studio, NET Standard, NuGet, etc.).
- ASP NET web application organization (tree structure, startup, configuration).
- Principle of the MVC model in .NET (Razor views, controllers, actions and filters).

Hands-on work

Configure the development environment and create a standard MVC application.

3) Service configuration

- Configure application environment and services.
- Principle and implementation of dependency injection.
- Implementation of MVC with the URL routing system.

Hands-on work

Configuration of the main services (management of static files, route system and error pages), with an overview of common NuGet packages.

4) Front-end development

- Designing a responsive interface with Bootstrap.
- Make a page dynamic with JavaScript and Ajax.

Hands-on work

DOM manipulation in JavaScript. Bootstrap integration.

(5) Entity Framework Core

- Getting to grips with Entity Framework Core (CodeFirst or reverse engineering).
- Define mapping using annotations or the Fluent API.
- Feed the database, extract data (LINQ queries and entity navigation, Lazy Loading or Include).
- Update data with ViewModels.
- Base migration techniques.

Hands-on work
Create and manipulate database data using the CodeFirst approach.

(6) View/controller management

- Design and organization of dynamic Razor views (syntax, typing, shared views).
- Implementation of a view generation system based on a standard controller.
- Receive parameters in actions with validations.
- Production and implementation of stock filters.
- Design and implementation of a web API.

Hands-on work
Design of dynamic pages using Razor views for data editing operations integrating dynamic content based on Bootstrap and an API controller.

(7) User management

- Reminder of web security rules (authentication, validation, SQL injection, etc.).
- Local user and role management with Identity.
- Session management.

Hands-on work
Implementation of user management to restrict access to actions requiring authentication and a session to manage a selection of items.

Dates and locations

REMOTE CLASS
2026 : 30 Mar., 22 June, 2 Nov.