ASP.NET Core Web API

Duration: 3 days **Price: € 1999**

Open Schedule

Audience Course ASP.NET Core Web API
The course ASP.NET Core Web API is intended for Web Developers who want to understand and develop REST APIs with ASP.NET Core.

Prerequisites Course ASP.NET Core Web API
To participate in this course, knowledge of Web Protocols such as HTTP and HTTPS is desirable and knowledge of the fundamentals of C# is required.

Realization Training ASP.NET Core Web API
The course alternates between theory and practice. Explanations using slides and demos are followed by practical exercises.
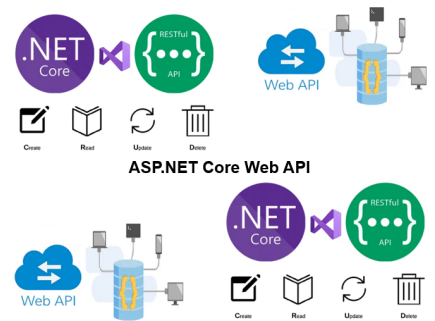
Certificate ASP.NET Core Web API
After successfully completing the course, the attendants will receive a certificate of participation in ASP.NET Core Web API.

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Content Course ASP.NET Core Web API

In the course ASP.NET Core Web API developers and architects learn to create flexible and interoperable RESTful services, addressing key concepts such as routing, serialization, versioning, and security. The course program provides hands-on experience in building powerful APIs using the ASP.NET Core framework.

Intro to ASP.NET Core Web API
The course ASP.NET Core Web API starts with an overview of the architecture of REST Services, in particular the Web API. Standard features of REST such as resources with IDs, URL patterns and standard HTTP methods are discussed. Attention is also paid to the creation and structure of a Web API project in Visual Studio.

Routing and Controllers
Next routing in the ASP.NET Core Web API is covered, where the definition of routes, routing parameters, route configuration and routing attributes are treated. Attention is also paid to controllers and the mapping of routes to controller actions.

Request and Response Handling
Then the course ASP.NET Core Web API covers request and response handling and the implementation of controller actions that produce responses based on incoming requests. Furthermore, model and parameter binding, content negotiation and the processing of HTTP status codes are treated.

Data Validation
Part of the ASP.NET Core Web API course also includes data validation and error handling. Model binding, model validation and validation errors are discussed. Error responses, exception filters and the implementation of global error handling are covered as well.

Security
Security and authentication mechanisms in the Web API are also part of the course content. Topics include various authentication mechanisms, role base authorization, the implementation of authentication with JSON Web Tokens (JWT) and the protection of sensitive data with HTTPS.

Data Access
Finally attention is paid to data access with the Web API, the Open Data Protocol (OData) and the Entity Framework. Explained is how OData CRUD operations can be performed on Entities based on Model classes.

Modules Course ASP.NET Core Web API

Module 1 : Intro Web API	Module 2 : Routing and Controllers	Module 3 : Requests and Responses
What is Web API?	Handling HTTP Requests	HTTP Requests
REST Services	API Controllers	GET, POST, PUT and DELETE
Comparison with WCF	Action Methods	HTTP Verbs
REST versus SOAP	Routing Requests	Model Binding
Resources	Action Selection	Parameter Binding
Unique ID's	Routing Templates	Media Types
URL Patterns	Routing Configuration	Content Negotiation
HTTP Methods	Routing Parameters	Creating HTTP Responses
Routing	Routing by Attribute	Handling Status Codes
Content Negotiation	Routing in Web API2	Serialisatie
Web API Projects	Self Hosting	HttpClient
Module 4 : Data Validation	**Module 5 : Security**	**Module 6 : Data Access**
Model Binding	Authentication	Open Data Protocol
Model Validation	Thread.CurrentPrincipal	CRUD Operations
Data Annotations	Authorization	OData Packages
Validation Properties	Role Based Authorization	Model Classes
Under Posting	AuthorizeAttribute Filter	Using Entity Framework
Over Posting	Prevent CSRF Attacks	OData Endpoints
Validation Errors	Enabling CORS	OData Controllers
Http Errors	Authentication Filter	Query Entity Set
HttpResponseException	Authentication Mechanisms	Creating Entities
Exception Filters	JSON Web Tokens	Updating Entities
Global Error Handling	Working with SSL	Deleting Entities