

Full Stack ASP.NET 8 Application Development with Angular

Module 1: Understanding Distributed Architecture With .NET 8 (Backend) & Angular (Frontend)

- Overview Of .NET 8 Framework And Its Key Features
- Comparison With Older Versions
- Role Of Angular In This Architecture
- Understanding The MVC (Model-View-Controller) Architecture In ASP.NET Core
- Setting Up Development Environment For .NET 8 MVC Applications

Lab :

- Creating .NET 8 Application & Understanding Its Project Structure
- Creating A Simple MVC Structured Application Using Template
- Developing & Understanding Project Structure Of Angular WRT Visual Studio 2022

Module 2: Minimal API In ASP.NET Core

- Introduction To Middleware And Its Role In ASP.NET Core Pipeline
- Implementing Custom Middleware For Request Processing And Response Handling
- Working With Minimal API

Lab:

- Understanding & Creating Middleware Pipeline With Different Middleware
- Developing Minimal API Using Map() Middleware

Module 3: Model View Controller Structure

- Understanding Role & Working Of Model, View & Controller
- Developing Action In Controller & Working Of Action Filters
- Use Of Data Annotation & Model Validation
- Dependency Injection At Controller & View

Lab :

- Creating An Simple MVC Structured Application From Scratch
- Preparing Controller With Different Type Of Actions
- Processing Data Using Services In Controller & Views
- Sending Data Across Controller & Views
- Models & Applying Validation On Model With Data Annotation
- Working With Action Filters By Accessing Action Route

Module 4: Working With Entity Framework Core (ORM)

- Overview Of Entity Framework Core And Its Advantages For Data Access

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- Creating Database Models And Configuring Dbcontext For Data Persistence

Lab:

- Connecting MVC Application With Sqlserver Database Using EF Core
- Reading Data & Fetching On View Files By Using Entity Framework Core

Module 5: Building Apis With ASP.NET Core

- Introduction To ASP.NET Core Web API For Building Restful Apis
- Implementing Controllers, Routes, And Actions For API Endpoints
- Serializing And Deserializing JSON Data In ASP.NET Core Web API

Lab :

- Developing An API Project That Connects With SQL Server
- Authentication Over API using JWT
- Performing CRUD Operations

Module 6: Introduction To Angular And Typescript

- Overview Of Angular Framework And Its Key Concepts
- Understanding SPA & MVVM Architecture
- Introduction To Typescript Language And Its Benefits For Angular Development
- Setting Up A New Angular Project And Understanding Project Structure

Lab :

- Developing & Understanding Typescript Code Constructs
- Developing Angular Application Using Visual Studio 2022 Template

Module 7: Components And Services In Angular

- Creating Reusable UI Components Using Angular Components
- Data Binding, Directives, Two Data Binding
- Implementing Services For Data Sharing
- Communication Between Components Using Input/Output Bindings And Angular Services

Lab :

- Developing & Routing Components In Angular
- Sharing Data Across Components Using Binding
- Performing Two Way Data Binding
- Creating Services To Access Data from Http

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Module 8: Integration Of Angular With .NET

- What Is Integration Of Angular With .NET
- Understanding HTTP Context
- Understand PUB- SUB Model
- Understanding Role Of CORS Policy

Lab:

- Consuming ASP.NET Core Web API Endpoints In Angular For Data Retrieval And Manipulation
- Implementing HTTP Requests Using Angular HttpClient Module
- Authentication In Angular Applications Integrated With .NET Backend

Module 9: Unit Testing In .NET

- Introduction To Unit Testing And Its Importance In Software Development
- Writing Unit Tests For ASP.NET Core MVC Controllers And Services Using Xunit Or NUnit
- Using Mocking Frameworks Like Moq For Isolating Dependencies In Unit Tests

Lab:

- Preparing Unit Testing Using .NET Testing Template In Visual Studio 2022
- Testing API Using Unit Testing

Module 10: Testing In Angular

- Overview Of Testing Strategies In Angular Applications

Lab:

- Writing Unit Tests For Angular Components And Services Using Jasmine Or Karma
- Testing Components & Services