

## Introduction to .NET Framework

- What is .NET Framework?
- Comparison to other programming languages
- .NET Framework architecture
- Benefits of using .NET in web development

## C# Programming Basics

- C# programming language syntax and structure
- Data types, variables, and constants
- Control structures (if-else statements, loops)
- Methods and parameters
- Object-oriented programming (OOP) basics in C#

## .NET Framework Libraries and Tools

- Introduction to .NET Framework libraries (ASP.NET, ADO.NET, LINQ)
- Creating and using classes in .NET Framework libraries
- Introduction to Visual Studio IDE
- Debugging and troubleshooting .NET applications
- Unit testing with .NET Framework

## Creating Web Applications with ASP.NET

- Creating an ASP.NET project
- Web forms and server controls
- Working with data in ASP.NET applications
- Security in ASP.NET applications
- Deploying an ASP.NET application to a web server

## Working with Databases in .NET

- Introduction to database programming with .NET
- Connecting to databases with ADO.NET
- Retrieving data with SQL
- Using .NET to manipulate data
- Object Relational Mapping (ORM) with Entity Framework

## Web Services and APIs with .NET

- Introduction to web services and APIs
- Creating and consuming web services with .NET
- Representational State Transfer (REST) and its implementation in .NET
- Building and consuming APIs with .NET

## Full Stack Application Development with .NET

- Integrating .NET with a full stack web application
- Designing the application architecture with .NET

Handling user authentication and authorization with .NET  
Best practices for using .NET in full stack web development