

## Course duration

- 2 days

## Course Benefits

- Gain a thorough understanding of the philosophy and architecture of .NET Core.
- Understand packages, metapackages, and frameworks.
- Acquire a working knowledge of the .NET programming model.
- Implement multi-threading effectively in .NET applications.

## Course Outline

1. .NET Fundamentals
  1. What is Microsoft .NET?
  2. Common Language Runtime
  3. Framework Class Library
  4. Language Interoperability
  5. Managed Code
  6. .NET Core and Cross-Platform Development
2. Class Libraries
  1. Components in .NET
  2. Class Libraries Using Visual Studio
  3. Using References
3. Packages and Frameworks
  1. NuGet Packages and Gallery
  2. Metapackages and Frameworks
  3. Packages in .NET Core
  4. Porting from Classical .NET to .NET Core
  5. Visual Studio Package Manager
  6. Installing Packages
  7. Creating Packages
4. I/O and Serialization
  1. Directories
  2. Files and Streams
  3. XML Serialization
5. Delegates and Events
  1. Delegates
  2. Random Number Generation
  3. Anonymous Methods
  4. Lambda Expressions
  5. Events

6. .NET Programming Model
  1. Garbage Collection
  2. Finalize and Dispose
  3. Processes
  4. Command-Line Arguments
  5. Threads
7. .NET Threading
  1. Threading Fundamentals
  2. ThreadPool
  3. Foreground and Background Threads
  4. Synchronization
  5. Task Parallel Library

## Class Materials

Each student will receive a comprehensive set of materials, including course notes and all the class examples.

### Class Prerequisites

Experience in the following *is required* for this ASP.NET class:

- Experience as an application developer or architect with a working knowledge of C#.