



Course Outline: NTMC100 - C#.Net Development

Course Overview

This course delivers hands-on experience with modern C# and .NET technologies, focusing on desktop, web, and mobile application development. Participants will learn to design user interfaces, integrate databases, and deploy real-world solutions using WPF, XAML, ADO.Net, and .NET MAUI.

Learning Outcomes

Participants completing the C#.Net Development course will be able to:

- **Describe and apply C# language fundamentals**, including types, data structures, control flow, and object-oriented programming principles in building .NET applications.
- **Design user interfaces for Windows desktop applications using WPF and XAML**, incorporating event handling, data binding, and responsive layout techniques.
- **Establish secure connections to a database and perform CRUD operations using ADO.Net**, ensuring effective data management and integration within applications.
- **Develop and deploy mobile and cross-platform apps using .NET MAUI**, utilizing a unified codebase for Android, iOS, macOS, and Windows.
- **Demonstrate proficiency in building real-world application projects** encompassing both desktop and mobile environments and integrating business requirements.
- **Collaborate effectively using best practices in application architecture, source control, and technical documentation** for .NET development projects.
- **Employ debugging, testing, and performance tuning strategies** to optimize application reliability and efficiency.
- **Communicate technical concepts and project deliverables clearly**, both in writing and orally, with peers and stakeholders.

Prerequisites

Participants completing the C#.Net Development course should be able to code in another programming language such as Java or C++. Python at minimum. Participants should have some basic knowledge of Databases such as MySQL or Oracle. SQL Server preferred.



Course Modules

- **Module 1: Introduction to C# and .NET**
 - Overview of the .NET ecosystem
 - Language syntax and core concepts
- **Module 2: Windows Desktop Development with WPF and XAML**
 - Introduction to the WPF framework
 - UI design using XAML
 - Event handling and data binding
 - Creating responsive desktop interfaces
- **Module 3: Database Connectivity with ADO.Net**
 - Introduction to databases and SQL basics
 - Connecting C# applications to databases using ADO.Net
 - Performing CRUD operations (Create, Read, Update, Delete)
 - Working with data models and parameterized queries
- **Module 4: Mobile App Development with .NET MAUI**
 - Fundamentals of cross-platform development
 - Setting up a .NET MAUI project
 - Designing and deploying mobile apps for iOS and Android
 - Integrating device-specific capabilities and APIs

Key Features

- Hands-on learning with practical projects and exercises
- Expert-led, up-to-date curriculum
- Flexible delivery options (online or onsite)
- Tailored content for business and individual goals