.NET Full stack

# Duration

30 Days

# Course Outline

## Part 1 C# Programming (8.5 Days)

### Overview of .NET and C#

* The Big Picture!
* What is .NET framework?
* .NET and C#
* Use Case
* .NET Core

### C# Architecture

* Language Syntax
* CLI
* Class
* Methods
* Namespace
* Assembly
* Project
* Solution
* Visual Studio Solution

### C# Language Fundamentals

* Data Types
* Statements
* Arrays
* Object Oriented Design
* Lambda Functions
* Extension Methods

### Unit Testing and TDD

* What is Unit Testing
* How Unit Testing Works
* Fundamental Asserts

### More C#

* Exception Handling
* File IO
* Collection and Generics
* Reflection

## Part 2 Database and Integration (3.5 Days)

### Sql Overview

* Introduction to database and SQL
* RDBMS concepts
* DDL
* Queries
* Joins
* Stored Proc

### Accessing Data via .NET Application

* Understanding ADO.NET
* Making Requests
* EF

## Part 3 Web Application Development using .NET core (9 Days)

### Application Development

* Introduction to ADO.NET
* Middleware architecture
* Services and Dependency Injection
* Web Page development
  + CHTML Page
* Data Validation
* RESTful Architecture
* Handling Errors and Exceptions

## Part 4 Deployment and Management (5 days)

### Azure (2 days)

* Introduction to Cloud and Azure
* Azure services
  + Virtual Machines
  + App Services
  + Storage
  + Sql Database
* Azure Web
* Azure Resource
* Azure Identity and Access
* Azure Functions

### DevOps (2 days)

* Introduction to DevOps
* CI/CD
* Version Control System
* Configuration Management
* Build Automation and Deployment
* Monitoring and dependency management

### Agile (2days)

* Agile Principles
* Scrum, Kanban
* Roles and Responsibilities
* Sprint planning, backlog management, user stories
* Agile estimation and prioritization
* Agile ceremonies (stand-ups, retrospectives)

System Requirements

* Visual Studio Community Edition and Above
* Sql Server Express or above
* Postman
* Git
* Azure CLI
* Devop tools (client should specify)