

- Online Training
 - C# .NET Online Training Program
 - ASP.NET Core Training
 - Microservices Online training using .NET Core
 - Microsoft Azure Training

Introduction & Environment Setup

- How Computer Works
- Introduction to Programming Languages
- How Computer Programs Work
- Different Types of Applications
- Programming Methodologies
- Algorithm, Pseudocode, Programs, Flowcharts
- Introduction to .NET Framework
- .NET Framework Architecture and Frameworks
- Introduction to C# Programming Language
- How to Download and Install Visual Studio on Windows
- Creating First Console Application using Visual Studio
- .NET Developer Roadmap for 2025
- Coding Standard Best Practices

C# .NET Basics

- Basic Structure of C# Program
- Methods and Properties of Console Class in C#
- Data Types in C#
- Literals in C#
- Type Casting in C#
- Variables in C#
- Operators in C#
- Control Flow Statements in C#
- If-Else Statements in C#
- Switch Statements in C#
- Loops in C#
- While Loop in C#
- Do While Loop in C#
- For Loop in C#
- Break Statement in C#
- Continue Statement in C#
- Goto Statement in C#
- Functions in C#
- User-Defined Functions in C#
- Call By Value and Call By Reference in C#
- Recursion in C#
- User Input and Output in C#
- Command Line Arguments in C#
- String in C#
- Static Keyword in C#
- Static vs Non-Static Members in C#
- Const and Read-Only in C#
- Properties in C#
- Why We Should Override ToString Method in C#
- Override Equals Method in C#
- Difference Between Convert.ToString and ToString Method in C#
- Checked and Unchecked Key words in C#
- Stack and Heap Memory in .NET
- Boxing and Unboxing in C#

OOPs in C#

- Object Oriented Programming (OOPs) in C#
- Class and Objects in C#
- Constructors in C#
- Types of Constructors in C#
- Why We Need Constructors in C#
- Static vs Non-Static Constructors in C#
- Private Constructors in C#
- Destructors in C#
- Garbage Collection in .NET Framework
- Differences Between Finalize and Dispose in C#
- Access Specifiers in C#
- Encapsulation in C#
- Abstraction in C#
- Inheritance in C#
- Types of Inheritance in C#
- How to use Inheritance in Application Development
- IsA and HasA Relationship in C#
- Generalization and Specialization in C#
- Abstract Class and Abstract Methods in C#
- Abstract Class and Abstract Methods Interview Questions in C#
- How to Use Abstract Classes and Methods in C# Application
- Interface in C#
- Interface Interview Questions and Answers in C#
- Interface Realtime Examples in C#
- Multiple Inheritance in C#
- Multiple Inheritance Realtime Example in C#
- Morphism in C#
- Method Overloading in C#
- Operator Overloading in C#
- Method Overriding in C#
- Method Hiding in C#
- Partial Class and Partial Methods in C#
- Sealed Class and Sealed Methods in C#
- Extension Methods in C#
- Static Class in C#
- Variable Reference and Instance of a Class in C#

OOPs-Real-Time Examples

- Real-Time Examples of Encapsulation Principle in C#
- Real-Time Examples of Abstraction Principle in C#
- Real-Time Examples of Inheritance Principle in C#
- Real-Time Examples of Polymorphism Principle in C#
- Real-Time Examples of Interface in C#
- Real-Time Examples of Abstract Class in C#
- Exception Handling
 - Exception Handling in C#
 - Multiple Catch Blocks in C#
 - Finally Block in C#
 - How to Create Custom Exceptions in C#
 - Inner Exception in C#
 - Exception Handling Abuse in C#
- Events, Delegates and Lambda Expression in C#
 - Course Structure of Events, Delegates and Lambda Expression
 - Delegates in C#
 - Multicast Delegates in C#
 - Delegates Real-Time Example in C#
 - Generic Delegates in C#
 - Anonymous Method in C#
 - Lambda Expressions in C#
 - Events in C# with Examples
- Multi-Threading
 - Multithreading in C#
 - Thread class in C#
 - How to Pass Data to Thread Function in Type Safe Manner in C#
 - How to Remove Data from a Thread Function in C#
 - Join Method and Allive Property of Thread Class in C#
 - Thread Synchronization in C#
 - Lock in C#
 - Monitor Class in C#
 - Mutex Class in C#
 - Semaphore Class in C#
 - SemaphoreSlim Class in C#
 - Deadlock in C#
 - Performance Testing of a Multithreaded Application
 - Thread Pool in C#
 - Foreground and Background Threads in C#
 - AutoResetEvent and ManualResetEvent in C#
 - Thread Life Cycle in C#
 - Threads Priorities in C#
 - How to Terminate a Thread in C#
 - Inter Thread Communication in C#
 - How to Debug a Multi-threaded Application in C#
- Collections in C#
 - Arrays in C#
 - 2D Arrays in C#
 - Advantages and Disadvantages of Arrays in C#
 - Collections in C#
 - Generic Collections in C#
 - Generic Constraints in C#
 - Generic List Collection in C#
 - How to Sort a List of Complex Type in C#
 - Dictionary Collection Class in C#
 - Conversion Between Array List and Dictionary in C#
 - List vs Dictionary in C#
 - Generic Stack Collection Class in C#
 - Generic Queue Collection Class in C#
 - Pattern Matching in C#
 - Using Directive in C#
 - Static Local Functions in C#
 - Disposable Ref Structs in C#
 - Advantages and Disadvantages of Non-Generic Collection in C#
 - Generic Collections in C#
- OPPs-Real-Time Examples
 - Real-Time Examples of Encapsulation Principle in C#
 - Real-Time Examples of Abstraction Principle in C#
 - Real-Time Examples of Inheritance Principle in C#
 - Real-Time Examples of Polymorphism Principle in C#
 - Real-Time Examples of Interface in C#
 - Real-Time Examples of Abstract Class in C#

Exception Handling

- Exception Handling in C#
- Dynamic Type in C#
- Var Keyword in C#
- Dynamic vs Reflection in C#
- Tuples in C#
- Local Functions in C#
- Thrown Returns and Ref Locals in C#
- Async Main in C#
- Task-Based Asynchronous Programming in C#
- Chaining Tasks by Using Continuation Tasks
- How to Attach Child Tasks to a Parent Task in C#
- ValueTask in C#
- How to Cancel a Non-Cancellable Task in C#
- Asynchronous Streams in C#
- BlockingCollection in C#

File Handling

- File Handling in C#
- FileStream Class in C#
- StreamReader and StreamWriter in C#
- File Class in C#
- TextWriter and TextReader in C#
- BinaryWriter and BinaryReader in C#
- StringWriter and StringReader in C#
- FileInfo Class in C#
- DirectoryInfo Class in C#
- Export and Import Excel Data in C#

Aynchronous Programming

- Introduction to Concurrency
- Async and Await in C#
- Task in C#
- How to Execute Multiple Tasks in C#
- How to Limit Number of Concurrent Tasks in C#
- How to Cancel a Task in C# using CancellationToken
- How to Create Synchronous Programming in C#
- Retry Pattern in C#
- Only One Pattern in C#
- How to Control the Result of a Task in C#
- Task-Based Asynchronous Programming in C#
- Chaining Tasks by Using Continuation Tasks
- How to Attach Child Tasks to a Parent Task in C#
- ValueTask in C#
- How to Cancel a Non-Cancellable Task in C#
- Asynchronous Streams in C#
- BlockingCollection in C#

AutoMapper

- AutoMapper in C#
- AutoMapper Complex Mapping in C#
- AutoMapper Reverse Mapping in C#
- AutoMapper Conditional Mapping in C#
- AutoMapper Ignore Method in C#
- Fixed and Dynamic Values in Destination Property in AutoMapper

Optional Parameter, Indexers and Enums

- How to make Optional Parameters in C#
- Indexers Real-Time Example in C#
- Enums in C#

.NET Framework Architecture

- DOT NET Framework
- Common Language Runtime in .NET Framework
- NET Program Execution Process
- Intermediate Language (IL/DASM & ILASM) Code in C#
- Common Type System in .NET Framework
- Common Language Specification in .NET Framework
- Managed Code in .NET Framework
- Assembly DLL EXE in .NET Framework
- App Domain in .NET Framework
- Strong and Weak Assemblies in .NET Framework
- How to Install an Assembly into GAC in .NET Framework
- DLL Hell Problem and Solution in .NET Framework

Var, Dynamic and Reflection

- Reflection in C#
- Dynamic Type in C#
- Var Keyword in C#
- Dynamic vs Reflection in C#
- Tuples in C#
- Local Functions in C#
- Thrown Returns and Ref Locals in C#

C# 7 New Features

- C# 7 New Features
- Enhancement in Out Variables in C#
- Pattern Matching in C#
- Digit Separators in C#
- Tuples in C#
- Splitting Tuples in C#
- Local Functions in C#
- Thrown Returns and Ref Locals in C#
- Async Main in C#
- Task-Based Asynchronous Programming in C#
- Chaining Tasks by Using Continuation Tasks
- How to Attach Child Tasks to a Parent Task in C#
- ValueTask in C#
- How to Cancel a Non-Cancellable Task in C#
- Asynchronous Streams in C#
- BlockingCollection in C#

C# 8 New Features

- C# 8 New Features
- Readonly Structs in C#
- Default Interface Methods in C#
- Disposable Ref Structs in C#
- Advantages and Disadvantages of Non-Generic Collection in C#
- Generic Collections in C#
- Generic Constraints in C#
- Generic List Collection in C#
- How to Sort a List of Complex Type in C#
- Dictionary Collection Class in C#
- Conversion Between Array List and Dictionary in C#
- List vs Dictionary in C#
- Generic Stack Collection Class in C#
- Generic Queue Collection Class in C#
- Pattern Matching in C#
- Using Directive in C#
- Static Local Functions in C#
- Disposable Ref Structs in C#
- Advantages and Disadvantages of Non-Generic Collection in C#
- Generic Collections in C#

OPPs-Real-Time Examples

- Real-Time Examples of Encapsulation Principle in C#
- Real-Time Examples of Abstraction Principle in C#
- Real-Time Examples of Inheritance Principle in C#
- Real-Time Examples of Polymorphism Principle in C#
- Real-Time Examples of Interface in C#
- Real-Time Examples of Abstract Class in C#

Exception Handling

- Exception Handling in C#
- Dynamic Type in C#
- Var Keyword in C#
- Dynamic vs Reflection in C#
- Tuples in C#
- Local Functions in C#
- Thrown Returns and Ref Locals in C#

Events, Delegates and Lambda Expression in C#

- Course Structure of Events, Delegates and Lambda Expression
- Delegates in C#
- Multicast Delegates in C#
- Delegates Real-Time Example in C#
- Generic Delegates in C#
- Anonymous Method in C#
- Lambda Expressions in C#
- Events in C# with Examples

Multi-Threading

- Multithreading in C#
- Thread class in C#
- How to Pass Data to Thread Function in Type Safe Manner in C#
- How to Remove Data from a Thread Function in C#
- Join Method and Allive Property of Thread Class in C#
- Thread Synchronization in C#
- Lock in C#
- Monitor Class in C#
- Mutex Class in C#
- Semaphore Class in C#
- SemaphoreSlim Class in C#
- Deadlock in C#
- Performance Testing of a Multithreaded Application
- Thread Pool in C#
- Foreground and Background Threads in C#
- AutoResetEvent and ManualResetEvent in C#
- Thread Life Cycle in C#
- Threads Priorities in C#
- How to Terminate a Thread in C#
- Inter Thread Communication in C#
- How to Debug a Multi-threaded Application in C#

Collections in C#

- Arrays in C#
- 2D Arrays in C#
- Advantages and Disadvantages of Arrays in C#
- Collections in C#
- Generic Collections in C#
- Generic Constraints in C#
- Generic List Collection in C#
- How to Sort a List of Complex Type in C#
- Dictionary Collection Class in C#
- Conversion Between Array List and Dictionary in C#
- List vs Dictionary in C#
- Generic Stack Collection Class in C#
- Generic Queue Collection Class in C#
- Pattern Matching in C#
- Using Directive in C#
- Static Local Functions in C#
- Disposable Ref Structs in C#
- Advantages and Disadvantages of Non-Generic Collection in C#
- Generic Collections in C#

OPPs-Real-Time Examples

- Real-Time Examples of Encapsulation Principle in C#
- Real-Time Examples of Abstraction Principle in C#
- Real-Time Examples of Inheritance Principle in C#
- Real-Time Examples of Polymorphism Principle in C#
- Real-Time Examples of Interface in C#
- Real-Time Examples of Abstract Class in C#

Exception Handling

- Exception Handling in C#
- Dynamic Type in C#
- Var Keyword in C#
- Dynamic vs Reflection in C#
- Tuples in C#
- Local Functions in C#
- Thrown Returns and Ref Locals in C#

Events, Delegates and Lambda Expression in C#

- Course Structure of Events, Delegates and Lambda Expression
- Delegates in C#
- Multicast Delegates in C#
- Delegates Real-Time Example in C#
- Generic Delegates in C#
- Anonymous Method in C#
- Lambda Expressions in C#
- Events in C# with Examples

Multi-Threading

- Multithreading in C#
- Thread class in C#
- How to Pass Data to Thread Function in Type Safe Manner in C#
- How to Remove Data from a Thread Function in C#
- Join Method and Allive Property of Thread Class in C#
- Thread Synchronization in C#
- Lock in C#
- Monitor Class in C#
- Mutex Class in C#
- Semaphore Class in C#
- SemaphoreSlim Class in C#
- Deadlock in C#
- Performance Testing of a Multithreaded Application
- Thread Pool in C#
- Foreground and Background Threads in C#
- AutoResetEvent and ManualResetEvent in C#
- Thread Life Cycle in C#
- Threads Priorities in C#
- How to Terminate a Thread in C#
- Inter Thread Communication in C#
- How to Debug a Multi-threaded Application in C#

C# 7 X New Features

- C# 7 New Features
- Enhancement in Out Variables in C#
- Pattern Matching in C#
- Digit Separators in C#
- Tuples in C#
- Splitting Tuples in C#
- Local Functions in C#
- Thrown Returns and Ref Locals in C#
- Async Main in C#
- Task-Based Asynchronous Programming in C#
- Chaining Tasks by Using Continuation Tasks
- How to Attach Child Tasks to a Parent Task in C#
- ValueTask in C#
- How to Cancel a Non-Cancellable Task in C#
- Asynchronous Streams in C#
- BlockingCollection in C#

C# 8 New Features

- C# 8 New Features
- Readonly Structs in C#
- Default Interface Methods in C#
- Disposable Ref Structs in C#
- Advantages and Disadvantages of Non-Generic Collection in C#
- Generic Collections in C#
- Generic Constraints in C#
- Generic List Collection in C#
- How to Sort a List of Complex Type in C#
- Dictionary Collection Class in C#
- Conversion Between Array List and Dictionary in C#
- List vs Dictionary in C#
- Generic Stack Collection Class in C#
- Generic Queue Collection Class in C#
- Pattern Matching in C#
- Using Directive in C#
- Static Local Functions in C#
- Disposable Ref Structs in C#
- Advantages and Disadvantages of Non-Generic Collection in C#
- Generic Collections in C#

OPPs-Real-Time Examples

- Real-Time Examples of Encapsulation Principle in C#
- Real-Time Examples of Abstraction Principle in C#
- Real-Time Examples of Inheritance Principle in C#
- Real-Time Examples of Polymorphism Principle in C#
- Real-Time Examples of Interface in C#
- Real-Time Examples of Abstract Class in C#

Exception Handling

- Exception Handling in C#
- Dynamic Type in C#
- Var Keyword in C#
- Dynamic vs Reflection in C#
- Tuples in C#
- Local Functions in C#
- Thrown Returns and Ref Locals in C#

Events, Delegates and Lambda Expression in C#

- Course Structure of Events, Delegates and Lambda Expression
- Delegates in C#
- Multicast Delegates in C#
- Delegates Real-Time Example in C#
- Generic Delegates in C#
- Anonymous Method in C#
- Lambda Expressions in C#
- Events in C# with Examples

Multi-Threading

- Multithreading in C#
- Thread class in C#
- How to Pass Data to Thread Function in Type Safe Manner in C#
- How to Remove Data from a Thread Function in C#
- Join Method and Allive Property of Thread Class in C#
- Thread Synchronization in C#
- Lock in C#
- Monitor Class in C#
- Mutex Class in C#
- Semaphore Class in C#
- SemaphoreSlim Class in C#
- Deadlock in C#
- Performance Testing of a Multithreaded Application
- Thread Pool in C#
- Foreground and Background Threads in C#
- AutoResetEvent and ManualResetEvent in C#
- Thread Life Cycle in C#
- Threads Priorities in C#
- How to Terminate a Thread in C#
- Inter Thread Communication in C#
- How to Debug a Multi-threaded Application in C#

C# 7 X New Features

- C# 7 New Features
- Enhancement in Out Variables in C#
- Pattern Matching in C#
- Digit Separators in C#
- T

