

The logo for iHACKERU, featuring a stylized 'i' followed by 'HACKERU' in a bold, sans-serif font.

Advanced .NET

BT117

40

Academic Hours

Advanced .NET

Outline

Advanced topics in C# and .NET: From languages enhancements, through framework internals, Resources management and SOA



Target Audience

- Experienced .NET Developers (at least 2 years)





Content

Module 01

Reflection and Code Generation

- | Reflection basics and the Type class
- | Creating instances dynamically
- | Getting and setting data using reflection
- | Creating and using Custom Attributes
- | Code generation basics

Module 02

Generics

- | Collections Overview (Boxing/Unboxing)
- | The need for generics
- | Writing and using generic types
- | Generic methods & interfaces
- | Generic collections
- | Generic interfaces
- | Applying constraints
- | Other aspects of generic programming
- | Nullable types

Module 03

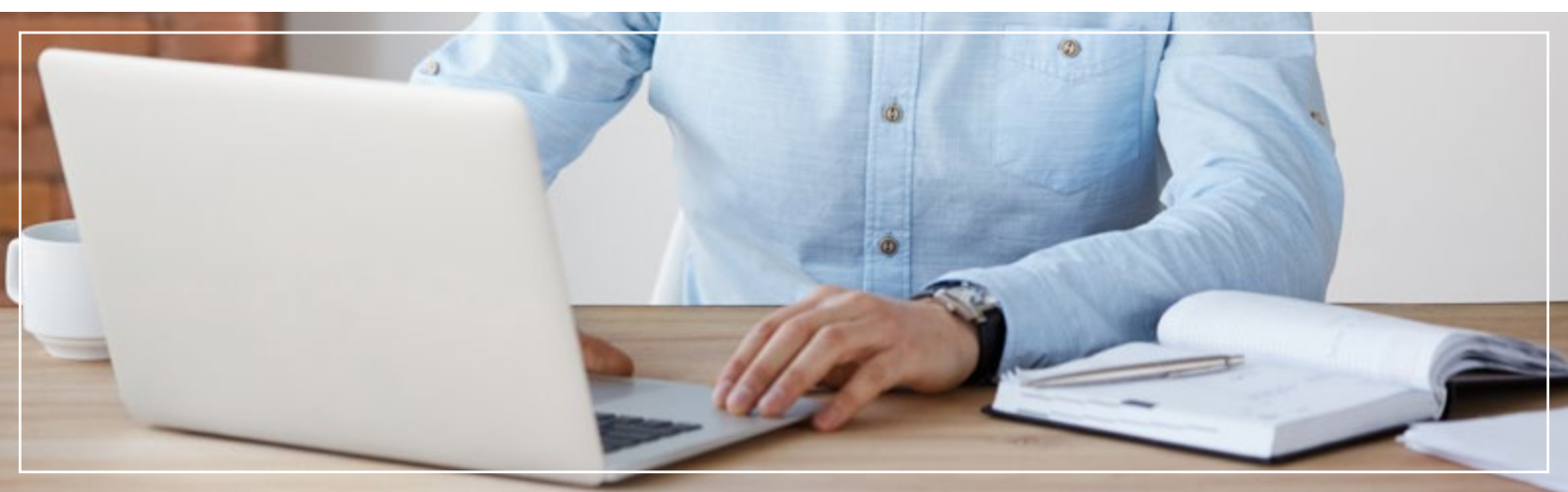
Advanced Delegates and Events

- | Working with delegates
- | Creating your own delegate types
- | Generic delegates
- | Dynamic delegates
- | Anonymous delegates
- | Lambda expressions
- | Events

Module 04

C# 5.0 & LINQ

- | Partial types and partial methods
- | Iterators
- | Expression Trees
- | C# 5.0 basic features
- | Extension methods
- | LINQ to Objects
- | LINQ Operators
- | LinqT to SQL vs Entity Framework
- | LINQ to XML



Module 05 Managing Resources

- | Garbage collection and its impacts
- | Generations
- | Finalizers
- | The Dispose pattern
- | The using statement

Module 06 Processes, AppDomains and Threads

- | Processes
- | Virtual Memory
- | Application Domains vs. processes
- | Threads and AppDomains
- | AppDomains and objects

Module 07 Multithreading

- | Managed vs. Unmanaged threads
- | Thread scheduling
- | Creating and managing threads
- | The Thread class
- | Thread synchronization
- | Synchronization kernel objects
- | The Thread Pool
- | Multithreading best practices
- | Winforms BackgroundWorker Control (Optional)

Module 08 Tasks

- | Introduction to Tasks
- | Creating tasks
- | Cancelling tasks
- | Tasks & Exceptions
- | Task schedulers
- | The Parallel class
- | Parallel LINQ

Module 09 Modern SOA techniques

- | Introduction to SOA
- | WCF Basics (The ABC)
- | Service call lifecycle (Serialization to Deserialization)
- | Dynamics service calling (without service reference)
- | SOAP vs. REST
- | RESTful Service with Web API

Module 10 .NET Core – Introduction (if time permits)

- | Introduction to the .NET Core platform
- | Basics of modern web application architecture using .NET Core



Advanced .NET- From languages enhancements, through framework internals, Resources management and SOA"

The HackerU **Advantage**

We have unparalleled experience in building advanced training programs for companies and organizations around the world – Talk to one of our experts and find out why.

01

**Handcrafted
Training Programs**

02

**State-Of-The-Art
Learning Materials**

03

**Israel's Premier
Training Center**

04

**Fueled by
Industry Leading
Experts**

05

**Over 20 Years
of Proven IT-
Education Success**



info@hackerupro.com



www.hackerupro.com