

# Sela.



DNWSH

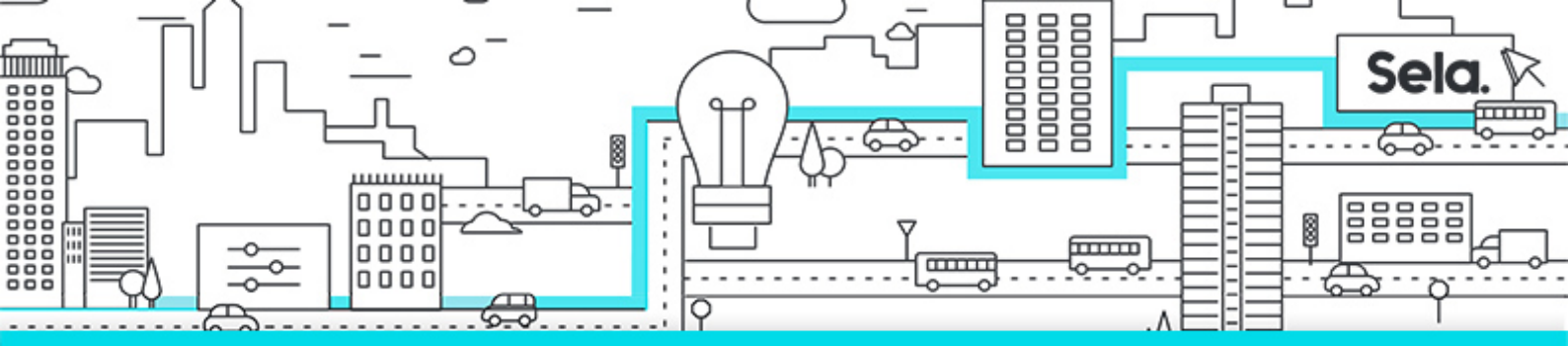
## .NET Performance and Debugging Workshop



college@sela.co.il

03-6176666





# .NET Performance and Debugging Workshop

DNWSH - Version: 2.3

## 6 days course

### Description:

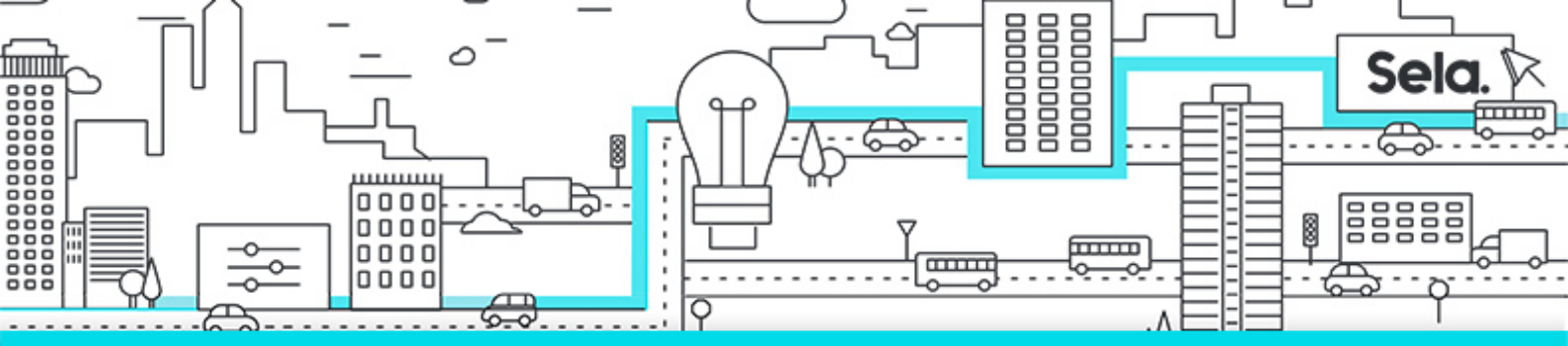
The .NET Performance and Debugging Workshop is a practical workshop for experienced .NET developers willing to develop high-performance .NET applications and debug them in the development and production environments. In this eight-day workshop, you will obtain practical knowledge about the performance characteristics of the .NET framework and common language constructs; learn about the relevant internal details of the .NET type system, garbage collector and synchronization mechanisms; and practice debugging scenarios that arise in the development or production environment of .NET applications. This workshop is limited to 8-12 participants to ensure that instructor attention is properly distributed during the practical labs, and to provide an opportunity for specific questions to be brought up after classroom hours.

### Intended Audience:

This workshop is intended for experienced .NET developers with working knowledge of C#.

### Prerequisites:

- Working knowledge of C# 3.0
- Working knowledge of the .NET Framework, including threading, synchronization mechanisms, application domains
- Familiarity with the C++ programming language (preferred but not a must)



- Familiarity with operating systems concepts: paging, virtual memory, processes and threads
- Familiarity with computer organization concepts: CPU cache, registers, main memory

### **Objectives:**

- Develop high-performance .NET applications
- Expose custom performance and monitoring data from .NET applications
- Analyze the performance of existing applications and tune them appropriately
- Diagnose memory leaks, deadlocks, crashes and other scenarios
- Use a variety of external tools to monitor your application's behavior in production environments

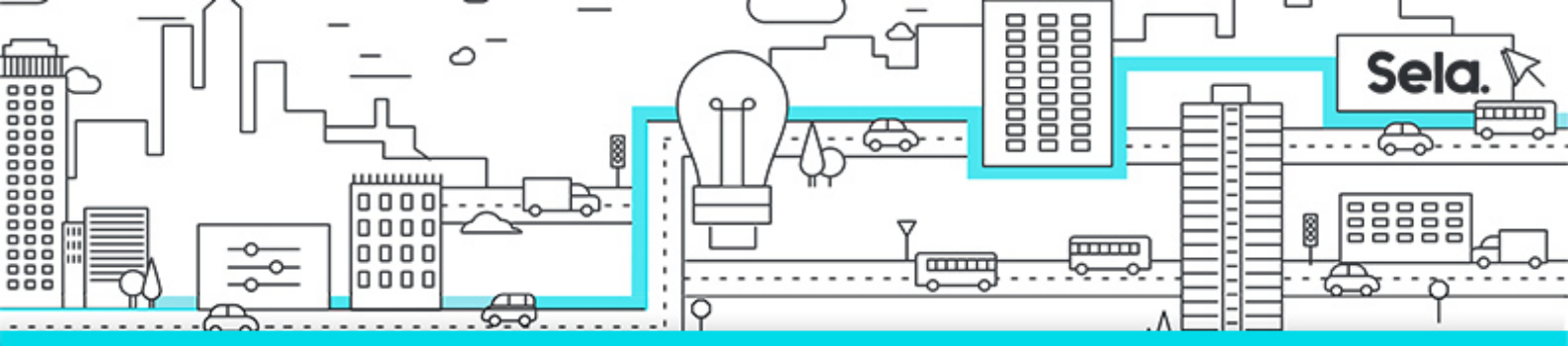
### **Topics:**

#### **• .NET Performance**

- Module 1 - Introduction
- Module 2 - Performance Measurement
- Module 3 - Type Internals
- Module 4 - Garbage Collection
- Module 5 - Generics
- Module 6 - Unsafe Code
- Module 7 - Collections
- Module 8 - JIT Optimizations

#### **• .NET Debugging**

- Module 01 - Exceptions and Dumps
- Module 02 - Introduction to WinDbg
- Module 03 - Debugging Tools
- Module 04 - Debugging in Visual Studio
- Module 05 - SOS
- Module 06 - .NET Debugging Tools



- Appendix 01 - Assembly Language Fundamentals
- Appendix 02 - Interop Debugging