.NET Performance & Debugging

Course Summary Table

Duration:	24 hours instructor-led course
Target Audience:	Very experienced .NET developers, who want to enhance their skills in the areas of performance and debugging
Pre Requisites:	At least 1 year of experience with .NET 2.0+ and C#
Objectives:	Understand performance implications in the .NET world Use advanced debugging techniques to troubleshoot issues in .NET

Abstract

The .NET platform provides a managed environment for building applications, with broad support for client and server development. Mission critical applications must be written correctly to get the needed performance requirements. The course explores the finer points of performance issues relevant to experienced .NET developers.

The course also delves into various debugging techniques, from tracing to advance debugging techniques with Visual Studio 2012/2013, and production debugging with WinDbg and related tools.
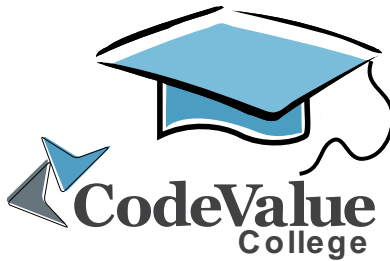
Syllabus

▼ **Module 1: Performance**
- CLR memory management: Garbage collection, finalizes, generations
- Deterministic finalization
- The large object heap
- Value type implementation
- Boxing and Generics
- Performance monitoring
- Performance counters
- Creating custom performance counters
- Processes, Threads & AppDomains
- Thread priorities & scheduling
- Thread Synchronization
- Synchronization Guidelines
- The Task Parallel Library (TPL)
- The Parallel Class
- Measuring Performance
- Using the Visual Studio profiler
- The CLR profiler
- Using the CLR profiler
- Labs: value type implementation; using tasks; thread synchronization;

▼ **Module 2: Tracing and Debugging**
- The Debug and Trace classes
- Configuring debugging and tracing
- The DebugView tool
- TraceSource and TraceListeneer
- Modifying debugger display
- Debugger visualizes
- Advanced debugging techniques with Visual Studio
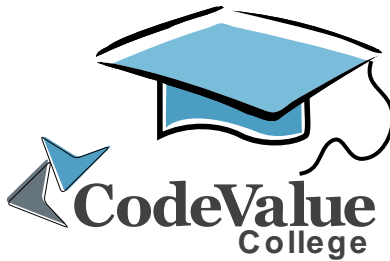
Module 3: Advanced Debugging
- Tools of the trade
  - Process Explorer
  - Process Monitor
  - WinDbg
  - DebugView
  - ProdDump
- WinDbg basics
  - Loading symbols, attaching to processes, viewing threads and processes
  - Setting breakpoints, viewing modules
  - Loading the SOS extension
  - Exceptions
  - Advanced breakpoints
- Using SOS
  - Viewing the managed heap, objects, threads, call stack and more
- Analyzing crash dumps using Visual Studio and WinDbg
- Debugging scenarios
  - Hangs, memory and resource leaks, deadlocks, crashes

Course Compatibility Questionnaire

Please answer the following questions as accurately as possible:

Name: _____ Email: _____

Company: _____ Phone: _____

Language / Technology / Platform	Years of Experience						Level of Familiarity				
C#	0-1	1-2	2-3	3-4	4-5	5+	1	2	3	4	5
WinDbg	0-1	1-2	2-3	3-4	4-5	5+	1	2	3	4	5
.NET 4+	0-1	1-2	2-3	3-4	4-5	5+	1	2	3	4	5
Other _____	0-1	1-2	2-3	3-4	4-5	5+	1	2	3	4	5
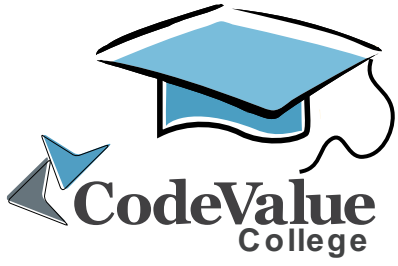
What are your expectations from the course?

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Thanks!
http://college.codevalue.net/