



Real World LINQ
“Data Access, Entity Framework and Beyond”
with Scott Allen

April 23 – April 26, 2012
Belgium (TBD)



Overview

LINQ not only changes how we build data access components with .NET, but also introduces new flexibility and expressiveness into the C# language. In this course we'll see how LINQ works at a language level, and also how to use LINQ with XML and the Entity Framework. We'll look at the tradeoffs to evaluate when building a data access layer with LINQ, talk about LINQ in the context of specific design patterns, and use LINQ features in a domain to implement better business logic.



Format

This course is a combination of lectures and hands-on labs. Required software includes Visual Studio, SQL Server 2008, and Microsoft Word.

Target Audience

Any .NET developer or architect would benefit greatly from this deep dive training on LINQ. Basic familiarity with C# 4.0 and system programming is recommended.

Date & Location

April 23 – April 26, 2012 (4 days)

Belgium (TBD)



Teacher



Scott Allen is the founder and Principal Consultant with [OdeToCode](#) LLC. He is also a member of the Pluralsight technical staff. Scott has over 16 years of commercial software development experience across a wide range of technologies. He has successfully delivered software products for embedded, Windows, and web platforms. Scott has developed web services for Fortune 50 companies and firmware for startups. He is a published author in leading print and online technical journals, a podcaster, and a blogger. Scott Allen has been a speaker at national and international conferences.



Price

The cost for this intensive 4 day training class is **1999,- euro** (taxes not included). This price includes your participation to the training, coffee/tea, lunch and the printed materials.

Early bird price of 1800,- euro until January 1, 2012.

Payment in advance is required to book your seat for the training. Limited places available: first come, first served. Registration is only complete and will be confirmed after payment. Transfer the total amount of your fees by bank transfer to the account of Sparkles: 733-0567754-43 (use your full name in the message) or use the IBAN code for international payment: IBAN BE 66 7330 5677 5443 (BIC code: KREDBEBB).

Cancellation is possible up to 3 weeks before the seminar - if received in writing. In this case, 25% of the total amount is charged for administration. Otherwise, the full registration fee is due, regardless of the reason of cancellation. Replacement is possible at no extra charge.



Outline Real World LINQ

Day 1

- **Hello LINQ**
An introduction to Language Integrated Query. In this module, we'll come to understand the motivations for LINQ and see some of the capabilities with a high level overview of various LINQ technologies
- **LINQ and C#**
This module uncovers the secrets of LINQ's implementation. By the end of the module you'll understand how lambda expressions work, the purpose of IQueryable<T>, and how to implement extension methods. We'll also look at anonymous types, initializers, and the magic of the query comprehension syntax.

Day 2

- **Queries and Operators**
This module demonstrates the full suite of LINQ standard operators, and demonstrates how to build a custom LINQ operator. We'll see how to join, group, aggregate, and partition data, as well as see some tips and tricks for writing efficient queries, and readable queries.
- **The Entity Framework Part I**
This first module covering the Entity Framework will examine the different styles of working with EF, with a focus on code-first development. We'll see how to query data using EF and understand the basic features provided by the framework.

Day 3

- **The Entity Framework Part II**
This second module digs deeper into the Entity Framework to understand the implications of the identity map and unit of work design patterns when working with the framework. We'll also see how to work with lazy-loading, change tracking, concurrency checks, and transactions.
- **TDD and the Entity Framework**
This third module focuses on abstractions you'll commonly encounter with working with an ORM in a testable application. We'll see how to apply design patterns like repository and unit of work, how to build test doubles for EF data access classes.
- **LINQ to XML**
LINQ to XML is a programmer friendly API for working with XML. We'll see how the new API not only facilitates querying uses the LINQ operators, but also provides a better API for the construction and manipulation of XML. We'll see functional construction techniques, how to work with XML schemas, XML namespaces, and how to integrate with XPATH.



Day 4

- **Data Access and Architecture with LINQ**

If you are building applications with LINQ there are a number of tradeoffs you need to evaluate from an architectural perspective. In this module we'll talk about deferred execution and the important performance distinction between Enumerable and Queryable data sources. We'll also look at the decisions you need to make when deciding on the flexibility, extensibility, performance, and maintainability of your application when using LINQ-able data sources like EF.

- **Internal DSLs and Fluent APIs with LINQ**

The C# language and the .NET platform introduced many new features to support language integrated query. In this session, we'll look at using these LINQ related features to build rich, intention revealing logic. We'll dive into the magic of expression trees and use them to implement type-safe reflection, apply lambda expressions for a functional programming style, and use extension methods to build an internal DSL in C#.



Registration Real World LINQ

Send registration form to pieter.gheysens@sparkles.be or fax to +32 56 324372

Course Details

Date: April 23-26, 2012 (4 days)

Location: Belgium (TBD)

Teacher: Scott Allen (*OdeToCode*)

Price: 2000,- euro (taxes not included) – early bird until January 1, 2012: 1800,- euro

Registration Details

Name:

Function:

Company:

Address:

ZipCode + City + Country:

Phone:

Fax:

Email:

Invoice for the attn. of:

Invoice address:

VAT number:

Date, Name and signature:

Invoice will be sent after registration. Payment details: KBC 733-0567754-43 or IBAN BE 66 7330 5677 5443 (BIC code: KREDBEBB). Cancellation is possible up to 3 weeks before the seminar - if received in writing. In this case, 25% of the total amount is charged. Otherwise, the full registration fee is due, regardless of the reason of cancellation. Replacement is possible at no extra charge.