

Updated 03/06/2024

Sign up

LINQ training

2 days (14 hours)

Presentation

Query and manipulate data consistently and fluidly with our LINQ training. This programming language will provide you with built-in syntax for queries that make operations on in-memory data collections simpler and more intuitive.

We'll cover concepts such as integrating LINQ with relational databases, using Visual Studio to develop and debug LINQ applications, and more.

[LINQ queries](#).

During this course, you'll learn basic functionality, as well as how to use LINQ to perform common operations such as selecting, grouping and counting. These basics will help you understand how LINQ simplifies and improves the development of .NET applications.

Following this course, you will acquire solid skills in [data manipulation](#) with LINQ in a .NET environment. You'll be able to develop robust applications, optimize and apply best practices to avoid common pitfalls.

Objectives

- Understanding the basics and new features of C# and VB.NET for LINQ
- Exploring LINQ syntax and common operations
- Integrate and manipulate relational databases with LINQ
- Using LINQ to query and transform XML data

Target audience

- Engineers

- Developers

Prerequisites

- Basic knowledge of C# or VB.NET
- Familiarity with ASP.NET and Winforms concepts

LINQ TRAINING PROGRAM

INTRODUCTION TO LINQ

- Introducing LINQ
- Installation and configuration of the development environment
- Overview of LINQ possibilities for .NET development
- Comparing LINQ with other data manipulation techniques
- Importance of LINQ in modern .NET projects

TECHNICAL PREREQUISITES AND REMINDERS

- A reminder of the C# and VB.NET languages required to use LINQ
- Introduction to the basic concepts of ASP.NET and WinForms
- Review of new features introduced in C# 3, VB9, C# 4 and VB10
- Discussion of the importance of ADO.NET in the LINQ context

LINQ SYNTAX AND DATA MANIPULATION

- Exploring LINQ syntax in relation to SQL
- Using LINQ to manipulate collections in memory
- Details of common operations: selection, partition, grouping, counting and scheduling
- Practical examples of LINQ queries on data collections

LINQ AND RELATIONAL DATA

- Understanding LINQ integration with relational databases
- Using Visual Studio to develop and debug LINQ queries
- Creation and management of an intermediate layer for relational data manipulation
- Managing concurrency issues and data relationships with LINQ
- Practical use of LINQ with DataSets

LINQ IMPLEMENTATION WITH A DATABASE

- Development of a simple application to access a database

- Practical exercises on creating complex LINQ queries and optimizing them
- Techniques for debugging and optimizing LINQ query performance
- Best practices and pitfalls to avoid when using LINQ with databases

LINQ WITH XML AND OTHER APPLICATIONS

- Introduction to using LINQ to manipulate XML data
- Create LINQ queries to interrogate and transform XML documents
- Creation of new data providers
- Applying LINQ to a DAO

Companies concerned

This course is aimed at both individuals and companies, large or small, wishing to train their teams in a new advanced computer technology, or to acquire specific business knowledge or modern methods.

Positioning on entry to training

Positioning at the start of training complies with Qualiopi quality criteria. As soon as registration is finalized, the learner receives a self-assessment questionnaire which enables us to assess his or her estimated level of proficiency in different types of technology, as well as his or her expectations and personal objectives for the training to come, within the limits imposed by the selected format. This questionnaire also enables us to anticipate any connection or security difficulties within the company (intra-company or virtual classroom) which could be problematic for the follow-up and smooth running of the training session.

Teaching methods

Practical course: 60% Practical, 40% Theory. Training material distributed in digital format to all participants.

Organization

The course alternates theoretical input from the trainer, supported by examples, with brainstorming sessions and group work.

Validation

At the end of the session, a multiple-choice questionnaire verifies the correct acquisition of skills.

Sanction

A certificate will be issued to each trainee who completes the course.