

C# Seminars

The following is a list of C# seminars that can be presented at your user group or other live event by **Paul D. Sheriff**.

Using JSON Instead of SQL Server

JSON data is very common in today's programming world. You will most likely need to read files, write files and query JSON data within your applications. One great use of JSON data files is to cache validation table data on the client instead of constantly gathering data that does not change often from the server. This technique comes in very handy in desktop and web applications. You can use JSON files to completely replace a database in some applications. In this seminar you will learn how to perform read, add, edit and delete operations on JSON files. You will also see a technique of how to keep your JSON files up to date with any server changes. You will walk away confident that you can put these techniques into use in your applications immediately!

Learning Objectives

Read from JSON files and create entity collections

Add/Edit/Delete records in JSON files

Read JSON from server when server data changes

Create a Simple ORM using ADO.NET

Are you looking for the fastest method of retrieving data? ADO.NET is the underlying technology for all ORMs such as the Entity Framework, Dapper, NHibernate, etc. However, each of these ORMs add additional overhead which typically translates to slower performance. Most of us don't need, or even use, all the features of these ORMs. This seminar presents a simple ORM where

you write a little more code than EF, but less code than others. However, the speed you get is well worth the effort.

Learning Objectives

Wrap up ADO.NET to make coding simpler

Create a generic method to load records into entity collections

A design pattern for standard CRUD operations

Write Efficient Code Using LINQ

Do you still find yourself writing a lot of loops, and you can't help but think there must be a better way? Well, you are probably right. LINQ can help you aggregate data, extract data from existing collections, compare data between collections, process XML, select data from a database, and much more. This seminar shows you common, and uncommon, examples where you might have used loops in the past, and how to translate those into LINQ queries. LINQ is very powerful and generally is much faster than using loops, so start using it today.

Learning Objectives

The basics of LINQ

Using LINQ to compare, aggregate, extract and more

Understand deferred execution

Simplify Calls to Stored Procedures Using the Entity Framework

Most programmers know that if you have anything other than a two table join, you should not use LINQ with the Entity Framework (EF). If you do, the resulting SQL that is submitted by EF to SQL Server tends to be inefficient. This can cause big performance problems in your application. It is better to put complicated JOIN statements into stored procedures and call the stored procedures. However, calling stored procedures using EF can be tedious. This

seminar shows you how to create a set of wrapper classes to simplify these stored procedure calls.

Learning Objectives

The problems with EF and multi-table joins

Calling stored procedures using EF

Simplify calling stored procedures

Getting Started with Unit Testing in Visual Studio or VS Code

Everyone knows that they should be writing unit tests for their applications, but how many of us really do it? In Visual Studio unit testing is an integrated part of the development environment. There is no longer any reason to avoid not doing test driven development and automated unit testing. In this seminar you will be introduced to the basics of unit testing, how to run tests, and how to reduce the number of tests by taking advantage of data-driven tests. You will then see an example of how to architect your applications to make testing quicker and easier. At the end of this seminar you will walk away with the knowledge you need to start automating the testing of your applications.

Learning Objectives

How to start unit testing

Create your first unit tests

Create data-driven unit tests

Cryptography Made Easy

Securing data is essential to all applications these days. The cryptography classes in .NET can be a little daunting to learn. However, once you learn the basics, they are quite simple. In this seminar, you learn to hash data, and to encrypt and decrypt data using .NET 5.

Learning Objectives

Hashing values using SHA classes

Symmetric encryption and decryption using Aes

Create wrapper classes to simplify cryptography