

# 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**.

## 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

## Data Annotations: Not Just for MVC

Data annotations are not just for use in ASP.NET web applications. Any type of .NET application can utilize data annotations for validating data. It only takes about 10 lines of code to programmatically validate data annotations attached to entity classes. There are many built-in data annotations supplied by Microsoft that can validate your data quickly. It is easy to create your own data annotation attributes to apply to your entity classes. If you have some very specific validation needs, you may implement the `IValidatableObject` interface for your entity classes. If you are developing multi-lingual applications, you can even move your error messages into resources and specify the name of those resources on each of your attributes.

## Learning Objectives

The .NET Data Annotations

How to Validate Data Programmatically

Create Custom Validations

## Get Started Unit Testing in VS 2022

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