How to use the downloadable files for *Murach's C# 2015*

Thank you for downloading and unzipping the applications and exercises for *Murach's C# 2015*. If you have installed Visual Studio 2015 on your system, you are ready to begin working with many of these applications.

If you're going to use SQL Server 2014 Express to work with the database applications presented in sections 4 and 5, though, you must install it on your system, and you must create the MMABooks database. This document describes how to do that.

A summary of the files	2
How to install SQL Server 2014 Express	2
How to make sure SQL Server Express is running	3
How to use Windows Explorer to create the MMABooks database	3
How to restore the MMABooks database	4
Another way to work with the MMABooks database	4
What about SQL Server 2016?	4

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A summary of the files

When you executed the self-extracting zip file for *Murach's C# 2015*, all of the files for this book were installed on your computer. These files include:

- All of the applications presented in this book including source code and data.
- The starting points and solutions for all of the exercises included in this book.
- The files for the MMABooks database that's used by this book, along with files for creating this database if you're using an edition of SQL Server 2014 other than SQL Server 2014 Express LocalDB.

By default, these files are installed into these subdirectories of the C:\Murach\C# 2015 directory:

Subdirectory	Description
Book applications	The applications that are described in this book. You can view this source code by opening the project or solution in the appropriate directory. Then, you can run these applications to see how they work. If you want, you can use the debugger to step through code to see how it works.
Database	The files for the MMABooks database that's used by the applications presented in sections 4 and 5. These applications use SQL Server 2014 Express LocalDB. If you want to use SQL Server 2014 Express instead, you can use the bat and sql files in this directory to create the database and attach it to SQL Server.
Exercise starts	The unfinished applications that are the starting points for the exercises that are presented at the end of each chapter. Also contains a Database directory with another copy of the files for the MMABooks database, and a Files directory that contains the files used by the exercises.
Exercise solutions	The applications that are the solutions to the exercises.

In addition, the files for the exercise starts have been copied from the Exercise starts subdirectory to the C:\C# 2015 directory. That way, you can find all of the starting points for the exercises in directories like C:\C# 2015\Chapter 01 and C:\C# 2015\Chapter 04. These directories correspond with the directories described in the book.

How to install SQL Server 2014 Express

When you install Visual Studio 2015, SQL Server 2014 Express LocalDB is installed on your system. This is the edition of SQL Server that we used for the book applications and exercises. If you prefer to use SQL Server 2014 Express, however, you will need to install it on your system. To do that, you can download its setup file from Microsoft's website. Then, you can run this file to install SQL Server Express.

How to make sure SQL Server Express is running

After you install SQL Server Express, it should start automatically each time you start your PC. To be sure it's running, you can use the SQL Server Configuration Manager. To start this service, use the Start→All Programs→Microsoft SQL Server 2014→Configuration Tools→SQL Server 2014 Configuration Manager command. Then, select SQL Server Services in the left pane to display the available services in the right pane. If the SQL Server (SQLEXPRESS) service is paused or stopped, select that service and then click the Start Service button in the toolbar.

How to use Windows Explorer to create the MMABooks database

If you're going to use SQL Server Express, you will need to create the MMABooks database. The easiest way to do that is to run the batch file we provide from Windows Explorer by following these steps:

1. Use Windows Explorer to navigate to the C:\Murach\C# 2015\Database directory.
2. Double-click the create_database.bat file to run it. This should execute the create_database.sql file, which creates the MMABooks database on the local machine.

Note that the batch file won't work if the database server on your system has a name other than the computer name appended with \SqlExpress. But you can easily change it so it will work. To do that, just open the file in a text editor such as NotePad. When you do, you'll see a single command with this server specification:

```
sqlcmd -S localhost\SQLExpress -E /I create_database.sql
```

Then, you can just change this specification to the name of your server.

Because the connection strings in the book applications for chapters 18-20, 23, and 24 refer to a LocalDB database that's included in the project, you'll need to change the connection strings before you can run these applications. The connection string for using SQL Server Express should look like this:

```
"Data Source=localhost\SqlExpress;Initial Catalog=MMABooks;" +
    "Integrated Security=True";
```

To make that change to the applications in chapters 18, 19, and 23, open the Dataset Designer, select each table adapter, expand the Connection group in the Properties window, and then change the ConnectionString property. To make that change to the application in chapter 20, display the MMABooksDB.cs file and replace the string literal for the connectionString variable. When you do that, be sure to use an escape sequence with the backslash character as described in chapter 4 of the book. Finally, to make that change to the application in chapter

24, display the app.config file and change the connection string named MMABooksEntities.

How to restore the MMABooks database

If you're using SQL Server Express LocalDB and you need to restore the original MMABooks database, you can do that by copying the MMABooks.mdf and MMABooks_log.ldf files from the C:\Murach\C# 2015\Exercise Starts\Database directory and pasting them to the target directory. If you're using SQL Server Express, you can restore the original database by running the create_database.bat file again. This works because the script file this file runs starts by checking if the database already exists, and it deletes the database if it does exist. Then, it recreates the database using the original data.

Another way to work with the MMABooks database

For the purposes of this book, once you connect to the MMABooks database using SQL Server Express LocalDB, you don't need to work with the database any further. If you want to do that, though, you can use the Server Explorer within Visual Studio. To open this window, use the View→Server Explorer command. Then, expand the Data Connections node, locate the database, and expand its node. From there, you can expand the Tables node to display a list of the tables in the database, and you can expand the node for a table to display a list of its columns. You can also right-click on a table and select the Open Table Definition command to display the table in design view as shown in figure 17-5 of the book. And you can right-click on a table and select the Show Table Data command to display the data in the table.

If you're using SQL Server Express with the MMABooks database, you can use SQL Server Management Studio Express to work with it. This tool provides a graphical interface that lets you connect to an instance of SQL Server Express and work with the databases that are running on that server. You can download Management Studio Express from the web.

What about SQL Server 2016?

Although SQL Server 2014 Express LocalDB came with the original release of Visual Studio 2015, Update 2 and later of Visual Studio come with SQL Server 2016 Express LocalDB. Fortunately, you can use this server with the database we provide. If you're using Windows 8 or later, you can also install and use SQL Server 2016 Express using techniques similar to those described above.