Instructor's Summary for
Murach's ASP.NET 4.6
Web Programming with C# 2015

This summary introduces you to the instructor's materials we've developed for this book and helps you get started using them. At the least, we recommend that you read the topics under "What's included in the instructor's materials" because they not only describe the components but also our underlying instructional philosophy. Then, on page 8, you'll find charts that summarize the components at a glance.

But first, some thoughts about the modular structure of this book that you should be aware of. That's important because it gives you instructional options that you just don't have with other books.

About the modular structure of the book

After your students complete the first two sections of *Murach's ASP.NET 4.6 Web Programming with C# 2015*, you can continue with any of the other sections of the book. In other words, sections 3, 4, and 5 are written as independent modules that require only sections 1 and 2 as prerequisites. That's what we mean by *modularity*, and that lets you choose the subjects you want to teach, as well as the sequence in which you teach them.

Beyond that, you have some options as to which chapters you assign for each section of the book. Those options are described in the topics that follow. Once you understand your options, you should have no problem selecting the chapters and teaching sequence that's best for your course.

Section 1: The essence of ASP.NET programming

Section 1 is designed to get your students off to a fast start. It shows them how to use Visual Studio and ASP.NET to develop both one-page and multi-page Web Forms applications that get data from a database and use session state to pass data from one web page to another. It shows them how to integrate HTML5 and CSS3 into their applications. It introduces them to using Bootstrap for responsive web design. And it shows them how to test and debug their applications. These are the skills that are required by almost every ASP.NET application.

Section 2: ASP.NET essentials

The six chapters of section 2 present the other features that are used in most ASP.NET applications. Chapters 6 and 7 show how to use the standard server and validation controls. Chapter 8 covers state management in more detail and shows how to use cookies and URL encoding. Chapter 9 shows how to use master pages. Chapter 10 expands on the skills for using Bootstrap with ASP.NET. And chapter 11 shows how to use routing and friendly URLs with both ASP.NET routing and the FriendlyUrls feature.

Section 3: ASP.NET database programming

The seven chapters of section 3 present the essential skills for developing web applications that work with databases. That includes using SQL data sources and five of the ASP.NET data controls: GridView, DetailsView, FormView, ListView, and DataPager. It also shows how to use object data sources to build 3-layer applications that let you separate the presentation code from the data access code. And it shows how to use model binding and the Entity Framework to bind data from a database directly to a data control. The chapters in this section are best read in sequence, but you can skip chapters 16, 17, and 18 if you're short on time.

Section 4: Finishing an ASP.NET application

The four chapters in this section present the skills you need for finishing a professional application. That includes skills like securing an application, authenticating and authorizing users using the ASP.NET Identity system, sending email, providing custom error pages, handling back-button refreshes, and deploying applications. Although you may not have the time to teach all of these chapters in a single course, you can decide which chapters are most important and assign those. Since the chapters in this section are modular, you can teach them in whatever sequence you prefer.

Section 5: Going to the next level

If your students master the skills in the first four sections, they will be able to build e-commerce websites at a professional level. Then, the three chapters in this section start them on their way to the next level. Chapter 23 shows how to use ASP.NET Ajax to update pages without round trips. Chapter 24 shows how to create and consume both WCF and Web API services. And chapter 25 introduces ASP.NET MVC, which is a completely different way to develop web applications with Visual Studio. Like section 4, the chapters in this section are modular, so you can teach them in whatever sequence you prefer.

What's included in the student download

To help your students get the most from our book, our retail website lets your students download (1) the files for the book applications, (2) the files that are required to do the chapter exercises in the book, and (3) the *solutions* to the exercises. Appendix A in the book shows them how to do that.

Please note, however, that the download that's referred to in the book as ac46_allfiles.exe has been split into two files because of its size. Now, the files for the book applications are in a download named ac46_allfiles_bookapps.exe, and the files for the exercises and solutions are in a download named ac46_allfiles_exercises.exe. Also note that you don't have to download these items separately because they will be installed on your system along with the other instructor's materials.

Book applications

All of the applications in this book are stored in a folder named *book_applications* when the ac46_allfiles_bookapps file is executed. At that point, the students can run the applications to see how they work. They can review all of the code in any application when the book doesn't present it all. And they can copy and paste code from the book applications into their own applications.

If an application requires the Halloween database, the database files are included in the application so your students don't have to do any setup. Then, when they run the application, it will use SQL Server 2014 Express LocalDB, which comes with all of the editions of Visual Studio 2015.

Exercise starts

To help your students master the skills that are taught in each chapter, the book provides exercises at the end of each chapter in the first three sections of the book. For all but a few of these exercises, the students start from folders and files that contain some of the code that the exercise requires. That way, your students get the most practice in the least time. These files are stored in a top-level folder named *exercises* when the ac46_allfiles_exercises file is executed.

If you review the exercises in the book, you'll see that they guide the students through the process of building web applications. They also force the students to use all of the critical skills that are needed for web application development. In fact, if your students can successfully do all of the exercises, they will be well on their way to a professional level of competence.

Exercise solutions

To help students get over any learning obstacles when they're working on their own, the ac46_allfiles_exercises file also provides the solutions to the exercises in a top-level folder named *solutions*. That way, the students can check the solutions to see how something is done whenever they're wasting time on what is likely to be a trivial coding mistake. We think that providing the solutions is the right approach didactically because it helps students learn faster and better.

We realize, however, that this makes it difficult for an instructor to use the book exercises to test their students. That's why the instructor's materials include a second set of exercises as well as projects that can be used for testing the competency of students. The instructor's materials also include solutions for these exercises and projects.

What's included in the instructor's materials

The instructor's materials for *Murach's ASP.NET 4.6 Web Programming with C# 2015* will help any corporate trainer or college instructor run a highly effective course. Besides the materials in the student download, these resources include instructional objectives, test banks, PowerPoint slides, a second set of exercises that are similar to the book exercises, and projects that your students must develop on their own from scratch. A summary of these materials follows.

Book applications, exercises, and solutions

These are the same materials that your students can download from our website. But you don't have to download them separately because we've included them with the other instructor's materials in the installation file. This makes it easy for you to demonstrate and review the book applications and exercise solutions.

Although we recommend that your students use SQL Server 2014 Express LocalDB when they do the exercises that work with the Halloween database, you may already have another edition of SQL Server installed on a server at your company or school or on the computers in a lab. In that case, you can use the batch and sql files we provide to create the Halloween database. For more information, please see figure A-3 in appendix A of the book.

Objectives

Since we believe that instructional objectives should be the start of any educational methodology, we provide a set of objectives for each chapter in the book. We prepared these objectives based on the principles presented by Robert F. Mager in his classic book, *Preparing Instructional Objectives*. As a result, our objectives describe the skills that your trainees or students should have when they complete a chapter, and you should be able to test whether they can apply those skills.

Beyond that, we've tried to make sure that each objective describes a skill that a professional programmer should have. This gives our objectives a real-world context that you usually won't find in the objectives for other books. So, if your trainees or students can do what the objectives state when the course is over, you can be sure that they have learned the skills that they will actually need on the job.

If you review the objectives for one of the chapters, you'll see that the first objectives for each chapter are what we refer to as *applied objectives*. These ask the students to apply what they've learned as they develop ASP.NET applications. These of course are

the critical objectives of a programming course, and they are best tested by having the trainees or students do the extra exercises and projects that we provide.

After the applied objectives for each chapter, you'll find what we refer to as *knowledge objectives*. These objectives define skills like identifying, describing, and explaining the required concepts, terms, and procedures. These objectives determine whether your students are able to talk intelligently about the topics that are presented. And these objectives can be tested by the questions in our test banks.

To help you get the most from the instructional objectives, we have included them at the start of the PowerPoint slides for each chapter. As we see it, if you can convince your students that they only need to have the skills that are described by the objectives, their study becomes far more focused and efficient.

Test banks

To test comprehension, the instructor's materials include one test bank for each chapter in the book. We developed these test banks in ExamView, and we provide them in several formats: ExamView, Rich Text (RTF), the current Blackboard formats (which can be imported into Canvas and Desire2Learn), and Respondus.

Each test bank provides questions that are designed to test the skills that are described by the objectives for that chapter, and each test question is designed to test the skill described by one objective. This keeps the promise to the students that they will only be expected to have the skills that are described by the objectives.

In our test banks, we use only completion and multiple-choice questions because they have the highest validity. To us, that means that the trainees or students who get the best scores are also the ones with the best knowledge and skills. In contrast, matching and true/false questions have low validity, so we don't use them.

Besides matching our questions to the objectives, we use this guideline to check the validity of each question: *A professional ASP.NET developer should be able to get the right answer.* This guideline eliminates questions that test the knowledge of trivial details that no one should be expected to remember. This guideline also forces us to focus on questions that test the concepts and skills that are required on the job.

Extra exercises and solutions

Because we provide the solutions for the book exercises in the student download for this book, the instructor's materials include a second set of exercises that we refer to as *extra exercises*. That way, you can assign exercises that your students don't have the solutions for. The extra exercises also include chapter exercises for sections 4 and 5 of the book; there aren't any exercises for these chapters in the book itself.

The extra exercises are provided in a Word document so you can modify them if you want to, as well as a PDF document that you can distribute to your students without any modifications. The starting folders and files for each exercise are also included in the instructor's materials so you can distribute them to your students. And the folders and files for the solutions are provided so you can demonstrate and review them in class.

Since both the book exercises and the extra exercises force the students to use the critical skills for web development, you can assign exercises from either set. The main differences are (1) the students will have the solutions for the book exercises, and (2) the extra exercises provide less guidance than the book exercises (which you may prefer). The advantages of using the book exercises are (1) they are included in the book, and (2) the folders and files for the exercises are part of the student download. As a result, you don't have to distribute anything.

To make the extra exercises as useful as possible, we've tried to keep each one short enough so it can be done in a single computer lab. That way, you can use selected exercises as tests that are done in computer lab. Also, since the steps of the extra exercises are in a top-down sequence, the students do the most important tasks first. That means it's easy to tell how well your students are doing by checking how far they've gotten in a single computer lab.

If you assign the extra exercises, keep in mind that some of the starts for these exercises are the solutions to previous exercises. For example, the start for extra exercise 4-1 is our solution to extra exercise 3-1. Because of that, you probably won't want to give your students all the extra exercise starts at once. Instead, you can give them the starts as you assign the exercises.

Projects and project solutions

The instructor's materials also provide a series of projects that are part of the development of a Technical Support application. In general, each project asks the students to develop one web page that requires the skills that are presented in the related chapter or chapters.

These projects are like the exercises and extra exercises, except the projects provide less guidance, focus solely on building web pages, and are all part of a single application. This gives your students a more comprehensive view of how the web pages of an application work together.

The projects are provided in both Word and PDF documents, and they are numbered by section. In addition, the description for each project indicates what chapters your students must complete before they can do that project. For example, the description for project 2-A indicates that your students will have the skills they need to complete that project after they've read section 1 and chapters 6 and 7. (All of the projects require the chapters in section 1.)

Please note that project 4-C asks your students to use the Identity system to add authentication to the application. If you plan on assigning this project to your students, you should have them start the SportsPro application from the Web Forms template that this project requires instead of from the Empty template with the folders and core references for Web Forms. Because the Web Forms template adds numerous folders and files, though, the Projects document that you'll distribute to your students identifies the files that can be deleted to simplify the application. This is the approach that's taken in the project solutions.

Like the extra exercises, the projects are short enough that each one can be done in an hour or two. That way, you can use selected projects as tests that are done in computer lab. You can also combine two or more of the short projects as part of a larger project that the students can do on their own.

All of the solutions to the projects are also included in the instructor's materials. That way, you can present them in class or compare them with your students' solutions.

Projects database

The projects require a TechSupport database, and we provide a SQL Server Express LocalDB version of that database that the students can use on their own PCs. We also provide batch and script files that the students can use to create the database if they're using SQL Server Express instead of LocalDB.

You can supply your students with the required files by distributing the TechSupport.exe file that's included in the instructor's materials. This is an executable

Zip file that contains the TechSupport.mdf and TechSupport_log.ldf files for use with LocalDB. It also contains batch and script files named create_TechSupport.bat and create_TechSupport.sql that can be used to create the database for use with SQL Server Express. This is explained in "How to prepare for using the TechSupport database" in the project descriptions.

PowerPoint slides

The PowerPoint slides present all of the critical information that's presented in the figures of the book. That includes all of the screen shots, diagrams, tables, and code that you may want to review in class. As a result, these slides make it easy for you to review any of the skills that your students have difficulty with.

Beyond the book information, the slides for each chapter start with the instructional objectives, so you can review them in class. The slides for each chapter also end with the screen shots for the extra exercises. That makes it easy for you to answer questions and provide additional information about these exercises.

If you want to modify any of the PowerPoint slides, you should know that we prepared them by abridging and editing the Word text for each figure and copying it into PowerPoint slides. As a result, you can't use PowerPoint to modify the text in the normal way. Instead, you need to double-click on the text for a slide to open it in Word, make modifications to the text in Word, and click outside the text to return to PowerPoint. You can also use PowerPoint in the normal way to add slides, delete slides, or add your own presentation notes to our slides.

How to get started

You can get the instructor's materials for our book as a download from our website or on an Instructor's CD. Either way, you'll want to install them on your computer as described below. Once the installation is done, you can do a thorough review of all of the materials that are provided.

In particular, you'll want to run some of the book applications and solutions to the various sets of exercises to see the level of competence that our book develops. You'll also want to click through some of the PowerPoint slides to see how they can help you review and reinforce the information that's presented in the book.

To help you find what you're looking for, the entire file structure for the instructor's materials is shown starting on the next page.

How to install the directories and files

1. Find the .exe file that you downloaded from our website *or* the file named Install.exe that's in the root of the Instructor's CD.

2. Double-click on the .exe file and respond to the dialog boxes that follow. This will install the directories and files onto your C drive in a directory structure that starts with

    `C:\Murach\aspnet46_cs\`

The student directories and files that get installed

C:\Murach\aspnet46_cs\ Student download\…	Contents
book_applications	One directory for each book application.
database	The files for the LocalDB version of the Halloween database, along with batch and sql files for creating the database.
exercises	One directory for the start of each exercise.
solutions	One directory for the solution to each exercise.

The instructor directories and files that get installed

C:\Murach\aspnet46_cs\ Instructors\…	Contents
Instructor's summary.pdf	This document in PDF format.
Objectives.docx Objectives.pdf	A document in both Word and PDF formats that contains the instructional objectives for all chapters. These objectives are also presented at the start of the PowerPoint slides for each chapter.
Extra exercises\Extra exercises.docx Extra exercises\Extra exercises.pdf	A document in both Word and PDF formats that presents the extra exercises for this book.
Extra exercises\exercises_extra	One directory for the start of each extra exercise.
Extra exercises\solutions_extra	One directory for the solution to each extra exercise.
Projects\Projects.docx Projects\Projects.pdf	A document in both Word and PDF formats that contains the descriptions for all of the projects, including information about how to use the database.
Projects\project_solutions	One directory for the solution to each project.
Projects\database	The files for the LocalDB version of the TechSupport database, along with batch and sql files for creating the database.
Projects\TechSupport.exe	An executable Zip file that contains the files for the TechSupport database, as well as files for creating the database.
Slides	One PowerPoint file for each chapter that starts with the instructional objectives and ends with the screen shots for the extra exercises.
Test banks	ExamView, RTF, Blackboard, and Respondus subdirectories that contain one test bank for each chapter in the book. (The test files for BB 9 and later can be imported into Canvas and D2L.)

How to run the applications and solutions

If you want to run any of the book applications, exercise solutions, or project solutions on your own PC, you can use the techniques presented in figure 2-18 of chapter 2 in the book to do that. To run an application in the default browser, for example, you can just press F5. For a multi-page web application that doesn't have a Default.aspx page, you should also use the first technique in figure 4-3 of chapter 4 to set the starting page of the web application.

This should work for all of the applications and solutions, except for these for sections 4 and 5:

- The chapter 20 book application requires that you log in before you can view most of the pages. To do that, you can use "anne@murach.com" as the email address and "P@ssw0rd" as the password.

- Before you can run the solutions for extra exercise 20-2 and project 4-C, you'll need to create the authentication database. To do that, you can run the Update-Database command in the Package Manager Console. To see what users and roles are created when you do that, you can refer to the Seed method of the Configuration class in the Migrations folder.

- The chapter 24 book applications create and consume WCF and Web API services. To test the services and to run the applications that consume them, you need to use the techniques presented in that chapter. If you have trouble running the application that consumes the WCF service, though, you may need to delete the reference to that service from the client application and then use the techniques in figure 24-7 to add a new service reference.

Any comments?

If you have any comments about our book or its instructional materials, we would be delighted to hear from you. If you discover any errors in our applications or solutions, we would appreciate hearing about them. And if you want to let us know that you're going to adopt our book for your course, that would make our day.

Just e-mail us at the addresses below. But whether or not we hear from you, we want to thank you for your interest in our ASP.NET book.

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