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Step

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Microsoft
SharePoint 2013

Olga M. Londer and Penelope Coventry

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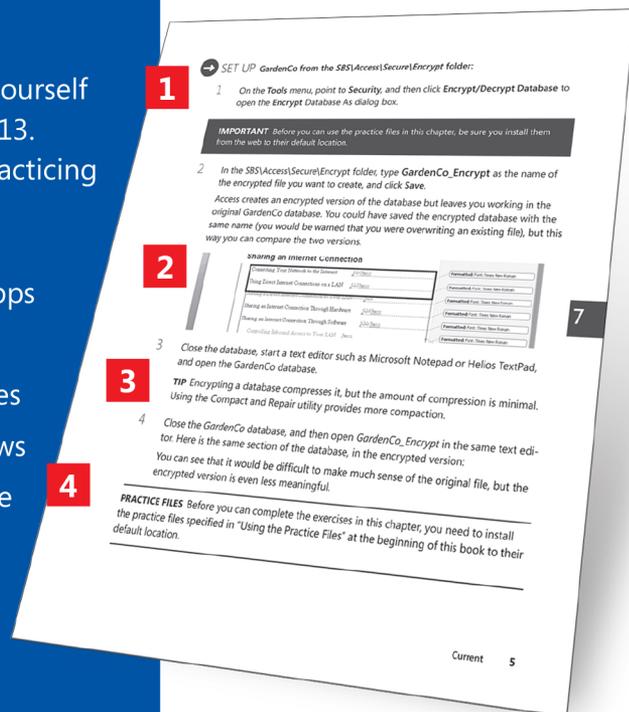
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Microsoft

Microsoft
Sharepoint 2013

Step by Step

Olga M. Londer
Penelope Coventry

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*To Gregory, Dina, and Michael, with love and gratitude—
for everything.*

—OLGA LONDER

*I dedicate this book to my godchildren, Jack and Erin, Erin's husband
Mark, and their parents Helen and Chris. Thank you for including
Peter and I in your family.*

—PENELOPE COVENTRY

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Introduction

A part of Microsoft Office 2013, Microsoft SharePoint 2013 is a server-side product that provides a powerful toolset for organizing websites and content, sharing knowledge, connecting with others, providing robust collaboration environments, managing documents, and finding information and people. *Microsoft SharePoint 2013 Step by Step* offers a comprehensive look at the capabilities and features of SharePoint 2013 that people will use most frequently.

Who this book is for

Microsoft SharePoint 2013 Step by Step and other books in the *Step by Step* series are designed for beginning to intermediate-level computer users. The examples shown in this book teach skills that can be used in organizations of any size. Whether you are new to SharePoint, or you are already comfortable working in SharePoint and want to learn about the new features in SharePoint 2013, this book provides an invaluable hands-on experience so that you can create, modify, and share sites, documents, and other content and capabilities, and collaborate with others with ease.

How this book is organized

This book is divided into 15 chapters. The first four chapters address foundation skills such as navigating a SharePoint site, working with documents and information in lists and libraries, and creating and editing webpages. Chapters 5 and 6 show you how to create and manage SharePoint sites, and how to make lists and libraries work for you. Chapters 7 and 8 focus on SharePoint 2013 social capabilities such as newsfeeds, community sites, blogs, and wikis. Chapter 9 drills into search functionality and discovering information and people. Chapters 10 and 11 show how to use the business process features, such as tasks and workflows. Chapters 12–14 cover using SharePoint with Microsoft Office Excel and Microsoft Office Access, the power of business intelligence, and using SharePoint with Microsoft Office Outlook and Microsoft Lync. Finally, Chapter 15 drills into the content management capabilities of SharePoint 2013.

The first part of Chapter 1 contains introductory information that will primarily be of interest to readers who are new to SharePoint or are upgrading from Microsoft SharePoint 2010 or an earlier version. If you have worked with a more recent version of SharePoint, you might want to skip past that material.

This book is designed to lead you step by step through all the tasks that you'll most likely want to perform with SharePoint 2013. If you start at the beginning and work your way through all the exercises, you will gain enough proficiency to be able to work efficiently with most capabilities in SharePoint 2013. However, each topic is self-contained, so you can jump in anywhere to acquire exactly the skills that you need.

Download the practice files

Before you can complete the exercises in this book, you need to download the book's practice files to your computer. We recommend you copy the practice files to a separate folder, for example, Documents\Microsoft Press\SP2013SBS, or any folder where you can access the practice files easily.

These practice files can be downloaded from the following page:

http://aka.ms/SP2013SbS/files

> **IMPORTANT** The SharePoint 2013 software is not available from this website. You must have access to a SharePoint 2013 installation on the server before performing exercises in this book. Alternatively, you can use Microsoft SharePoint Online for most exercises in this book.

The following table lists the practice files for this book.

Chapter	File
Chapter 1: Introducing SharePoint 2013	No practice files
Chapter 2: Navigating a SharePoint site	Chapter2 Team Site.wsp
	Chapter2 Travel Subsite.wsp
	Chapter2 Facilities Subsite.wsp
	WideWorldTravelGuidelines.docx

Chapter	File
Chapter 3: Working with documents and information in lists and libraries	OakChest.docx
	OakDesk.docx
	OakEndTable.docx
	OakNightStand.docx
	WideWorldInvoice.dcox
	WideWorldPurchaseOrder.docx
Chapter 4: Working with webpages	Wildlife.wmv
	pjcov.jpg
Chapter 5: Creating and managing sites	No practice files
Chapter 6: Making lists and libraries work for you	Global Proposal.docx
Chapter 7: Getting social	Sales.jpg
Chapter 8: Working with wikis and blogs	No practice files
Chapter 9: Searching for information and people	Chapter9 Starter.wsp
	Oak Chest.docx
	Oak Desk.docx
	OakEndTable.docx
	OakNightStand.docx
	Oak chairs are best with Oak tables.docx
	Our Oak furniture range consists of both Oak chairs and Oak tables.docx
Chapter 10: Managing work tasks	No practice files
Chapter 11:Working with workflows	No practice files
Chapter 12: Using SharePoint with Excel and Access	ExpImpoWideWorldImporters.accdb
	Furniture_Price.xlsx
	MoveWideWorldImporters.accdb
	Sales_Figures.xlsx
Chapter 13: Working with business intelligence	SalesData.xlsx
Chapter 14: Using SharePoint with Outlook and Lync	Chapter14 Starter.wsp
Chapter 15: Managing content	Holiday budget planner.docx
	ProductProposalFinancials.xslx
	ProductProposalPresentation.pptx
	ProductSheet.docx

The exercises in this book cover features across the three SharePoint 2013 solutions. Each solution provides a different set of features and functionalities, depending on the client access licenses (CALs) activated in your organization, as follows:

- SharePoint Server 2013 Enterprise CAL
- SharePoint Server 2013 Standard CAL
- SharePoint Foundation 2013

SEE ALSO For SharePoint 2013 feature availability in each of the solutions, refer to Appendix B, "SharePoint 2013 features."

All the exercises in the book will work in SharePoint Server 2013 Enterprise. Any exercises that cover features available in SharePoint Server 2013 Standard can be completed if you are using this solution. However, you will not be able to complete an exercise that covers a feature that is not available in SharePoint Server 2013 Standard. For example, the business intelligence features are only available in the SharePoint Server 2013 Enterprise, and therefore the exercises in Chapter 13, "Working with business intelligence," require SharePoint Server 2013 Enterprise.

Any exercises that cover features available in SharePoint Foundation 2013 will work if you are using this solution. However, you will not be able to complete an exercise that covers a feature that is not available in SharePoint Foundation 2013. For example, promoting search results is an available functionality in SharePoint Server 2013 Standard and Enterprise, but it is not included in SharePoint Foundation 2013; therefore, the exercise on influencing the search results ranking in Chapter 9, "Searching for information and people," requires SharePoint Server 2013.

SEE ALSO For a list of the SharePoint 2013 solutions—Foundation, Standard, or Enterprise— that you can use to complete each exercise, refer to Appendix C, "SharePoint 2013 solutions required to complete the exercises in this book."

Using the practice files

You need to download the practice files to a location on your hard disk before you can use them in the exercises.

IMPORTANT The location for practice files that we use in this book is Documents\Microsoft Press\SP2013SBS. If you install the practice files to another location, you may need to substitute that path within the exercises.

The practice files for this book are stored on your hard disk in chapter-specific subfolders. Each exercise in a chapter includes a paragraph that lists the files needed for that exercise and explains any preparations needed before you start working through the exercise.

Whenever possible, we start each chapter with a standard SharePoint 2013 team site, which occasionally must be a top-level team site. If you follow all the exercises in all the chapters, you may choose to start with a new team site for every chapter.

However, for a few chapters, there are additional settings that are needed for a practice site. This is where the starter .wsp files will come in handy.

If you have sufficient rights, you can create a new practice site (see the following "Using the WSP templates" section) from the chapter's starter .wsp file, which is provided in the practice folder for this chapter. The starter .wsp files contain the lists, libraries, files, and pages that you will require during the exercises. There are three chapters that require the creation of a site based on the .wsp file: Chapter 2, Chapter 9, and Chapter 14. Exercises in Chapter 2 use two subsites in addition to the standard team site, and the practice folder for the chapter contains two .wsp files for the subsites, which are clearly marked.

Using the WSP templates

To create a practice site for a chapter based on a starter .wsp file, perform the following steps.

> **IMPORTANT** Verify that you have sufficient rights to upload to the site template gallery of a site collection. If in doubt, see Appendix A, "SharePoint 2013 user permissions and permission levels."

1 In the browser, open the top level SharePoint site of the site collection where you would like to create the practice site. If prompted, type your user name and password, and click **OK**.

2 On the top right of the screen, click the **Settings** button, and then select **Site settings.** The **Site Settings** page of the top level site is displayed.

3 In the **Web Designer Galleries** section, click **Solutions.** The **Solution Gallery** is displayed.

4 Click the **Upload Solution** button on the left of the Solutions ribbon. The **Add Document** dialog is displayed.

5   In the **Add Document** dialog, click **Browse**.

6   In the **Choose File to Upload** dialog, go to the practice files folder **ChapterNN** (where NN is the chapter number) and click the .wsp file that you want to use to create the new site, and then click **Open**.

7   In the **Add Document** dialog, click **OK** to upload the file.

8   In the **Solution Gallery - Activate Solution** dialog, click the **Activate** button. The **Solution Gallery** is displayed. Validate that the template has been uploaded and activated.

You can now create a new practice child site based upon the uploaded WSP template.

1   Browse to the SharePoint site that you want to be the parent of the new practice site.

2   Click the **Settings** button, and then click **Site contents**.

3   In the **Site Contents** page, scroll to the bottom of the page and click **new subsite**.

4   In the **New SharePoint Site** page, in the **Title** text box, type a logical name for the new site. You could simply provide the chapter number if you like, for example, **Chapter09**.

5   Optionally, in the **Description** text box, type a description, such as **SharePoint SBS Chapter 9 Practice Site**.

6   In the **URL name** text box, enter the same name that you typed in the **Title** text box.

7   In the **Template Selection** section, click the **Custom** tab and select the **ChapterNN Starter** template, which is now available.

8   Under **Navigation**, select the **No** option for displaying the link to this site on the top link bar of the parent site.

9   You can leave all the other options at their default values and click the **Create** button.

    The new practice site has been created and its home page is displayed.

❌ CLEAN UP **Close the browser.**

Removing the WSP site templates

To remove the chapter starter WSP template from the Solution Gallery, perform the following steps.

> **IMPORTANT** Verify that you have sufficient rights to delete WSPs from the Solution Gallery of a site collection. If in doubt, see Appendix A.

1   In the browser, open the top level SharePoint site where you previously uploaded the .wsp files. If prompted, type your user name and password, and then click **OK**.

2   On the **Settings** menu, click **Site settings.** The **Site Settings** page is displayed.

3   In the **Web Designer Galleries** section, click **Solutions.** The **Solution Gallery** is displayed.

4   In the **Solution Gallery - Solutions** page, hover the mouse over the template that you want to remove, and then click the arrow that appears on the right to display the context menu. On the context menu, click **Deactivate**.

   The **Solutions Gallery - Deactivate Solution** dialog appears.

5   In the **Solutions Gallery - Deactivate Solution** dialog, on the **View** tab, click **Deactivate**.

6   In the **Solution Gallery - Solutions** page, once again, hover over the template that you wish to remove, and then click the arrow that appears on the right to display the context menu. On the context menu, click **Delete**. In the confirmation message box, click **OK** to complete the removal of the site template.

7   The **Solutions Gallery - Solutions** page is redisplayed. Verify that the practice site template has been removed.

8   Repeat steps 4–6 to remove each practice site template that you no longer require.

❌ CLEAN UP **Close the browser.**

Deleting a practice site

If you created a practice site that you no longer require, you can delete it. Perform the following steps to delete a practice site.

> **IMPORTANT** Verify that you have sufficient rights to delete a site. If in doubt, see Appendix A.

1 In the browser, open the SharePoint site that you want to delete. If prompted, type your user name and password, and then click **OK**.

2 On the **Settings** menu, click **Site settings**. The **Site Settings** page is displayed.

3 In the **Site Actions** section, click **Delete this site**. The **Delete This Site** confirmation page is displayed.

4 Click the **Delete** button to delete the site.

5 The site has been deleted.

❌ CLEAN UP **Close the browser.**

Your companion ebook

With the ebook edition of this book, you can do the following:

- Search the full text
- Print
- Copy and paste

To download your ebook, please see the instruction page at the back of the book.

Getting support and giving feedback

The following sections provide information about getting help with SharePoint 2013 or the contents of this book, and contacting us to provide feedback or report errors.

Errata

We've made every effort to ensure the accuracy of this book and its companion content. Any errors that have been reported since this book was published are listed on our Microsoft Press site:

http://aka.ms/SP2013SbS/errata

If you find an error that is not already listed, you can report it to us through the same page.

If you need additional support, email Microsoft Press Book Support at

mspinput@microsoft.com

Please note that product support for Microsoft software is not offered through the preceding addresses.

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The survey is short, and we read every one of your comments and ideas. Thanks in advance for your input!

Stay in touch

Let's keep the conversation going! We're on Twitter at: *http://twitter.com/MicrosoftPress*.

Chapter at a glance

Log On
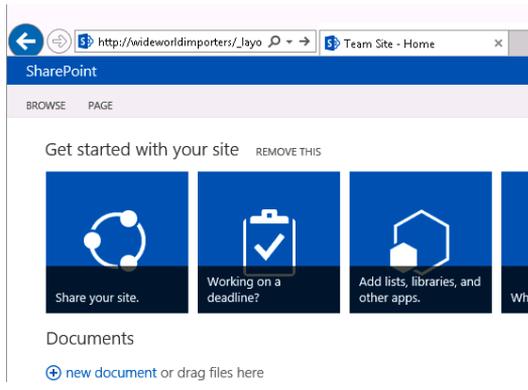
Log on to your SharePoint site, page 4
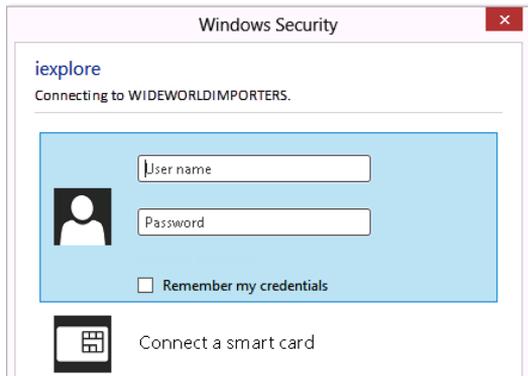
Explore

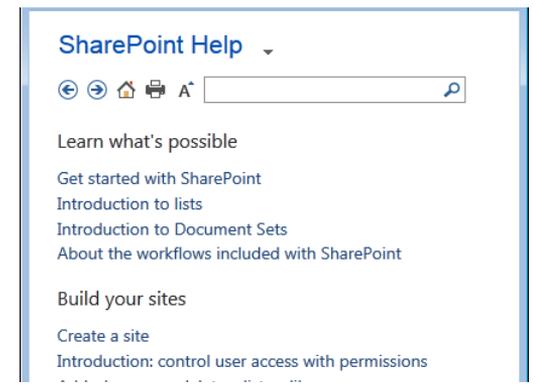Explore the Team Site home page, page 5
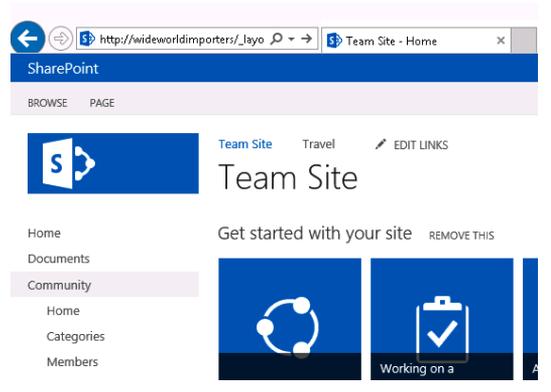
Focus

Focus on page content, page 6

Use

Use SharePoint Help, page 7

Introducing SharePoint 2013

IN THIS CHAPTER, YOU WILL LEARN

- What SharePoint 2013 is.

- How SharePoint 2013 enables team collaboration and sharing.

- What user permissions are found in SharePoint 2013.

- What SharePoint Online is.

- What differences exist between SharePoint 2013 on-premises solutions and SharePoint Online subscription plans.

- How Office integrates with SharePoint 2013.

- How SharePoint 2013 integrates with Microsoft Dynamics AX to provide a web storefront.

In the modern business environment, with its distributed workforce that assists customers at any time and in any location, team members need to be in closer contact than ever before. Effective collaboration is becoming increasingly important; however, it is often difficult to achieve. Microsoft SharePoint 2013 addresses this problem by incorporating a variety of collaboration and communication technologies into a single web-based environment that is closely integrated with desktop applications such as Microsoft Office.

In this chapter, you will learn what SharePoint 2013 is and how it works with Office applications, providing enhanced productivity environments for users and teams. You will also learn the differences between on-premises SharePoint 2013 solutions and Microsoft SharePoint Online subscription plans, and how to decide which product is right for you, as well as whether an on-premises deployment, a cloud model, or a hybrid environment is better suited to the needs of your organization. You will also understand how SharePoint 2013 integrates with Microsoft Dynamics AX to provide a web storefront and a multichannel retail functionality.

PRACTICE FILES You don't need any practice files to complete the exercises in this chapter.

What is SharePoint 2013?

SharePoint 2013 is a technology that enables organizations and business units of all sizes to improve team productivity and to increase the efficiency of business processes. SharePoint 2013 gives you a powerful toolset for organizing content, managing documents, sharing knowledge, providing robust collaboration environments, and finding information and people. The social functionality in SharePoint 2013 allows you and your colleagues to build communities, share thoughts and ideas, and to discover resources and knowledge in your organization.

SEE ALSO For system requirements for installing SharePoint 2013, refer to *technet.microsoft. com/en-us/library/cc262485(v=office.15).aspx*.

SharePoint 2013 helps teams stay connected and productive by providing an infrastructure and capabilities that allow easy access to people, documents, and information that they need. With SharePoint 2013, teams can create websites to share information and foster collaboration with other users. You can access content stored within a SharePoint site from a web browser and through client applications such as Office, running on multiple devices, such as a PC, a tablet, and a mobile phone.

Team collaboration and sharing

SharePoint sites provide places to capture and share ideas, information, communications, and documents. The sites facilitate team participation in communities, document collaboration, tracking tasks and issues, blogging and microblogging, building knowledge bases using wikis, and more. The document collaboration features allow for easy check-in and checkout of documents, document version control, and recovery of previous versions, as well as document-level security.

TIP A *blog*, or web log, is an online diary in which the diarists, called bloggers, post articles, whereupon readers can comment on them. A *wiki* (pronounced *wee-kee*) is a web environment in which a web browser user can quickly and easily add and edit the text and links that appear on the webpage. The term *wiki* originates from the Hawaiian word *wikiwiki*, which means "quick." A wiki site can be used, for example, to build a knowledge base, a community resource, or an online encyclopedia, such as Wikipedia.

A SharePoint site can have many subsites, the hierarchy of which, on web servers, resembles the hierarchy of folders on file systems—it is a tree-like structure. Similar to storing your files in folders on file systems, you can store your files within SharePoint sites. However, SharePoint sites take file storage to a new level, providing communities for team collaboration and making it easy for users to work together on documents, tasks, contacts, events, calendars, wikis, and other items. This team collaboration environment can increase individual and team productivity greatly. For example, you can store your files and documents in SkyDrive Pro, your own professional library, where only you can see them, and at the same time, you can share them with your coworkers, as well as access them on multiple devices, including a PC, a tablet, and a smartphone.

The collaborative tools provided by SharePoint 2013 are intuitive and easy to use, so you can share files and information, and communicate with your coworkers more effectively. You can create and use SharePoint sites for any purpose. For example, you can build a site to serve as the primary website for a team, create a site to facilitate the organization of a meeting, create a wiki site to capture team knowledge, or create a community site to build a community for a particular project or subject area. A typical SharePoint site might include a variety of useful tools and information, such as document libraries, contacts, calendars, task lists, and other information-sharing and visualization tools.

SharePoint site users can find and communicate with key contacts and experts using email, instant messaging, or microblogging. Site content can be searched easily, and users can follow a site or a document and receive newsfeed notifications to tell them when existing documents and information have been changed or when new ones have been added. Custom business processes can be attached to the documents. You can customize site content and layout to present targeted information to specific users on precise topics.

In this exercise, you will locate your SharePoint site and familiarize yourself with its home page.

→ SET UP **Open the browser.**

1   In the browser **address bar**, type the Uniform Resource Locator (URL), or location, of your SharePoint site: **http://<*yourservername/path*>**.

The *yourservername* portion of the URL is the name of the SharePoint server that you will be using for the exercises in this book. The path portion might be empty, or it might include one or more levels in the site hierarchy on your SharePoint server. If you are in doubt about the location of the SharePoint site, check with your SharePoint administrator.
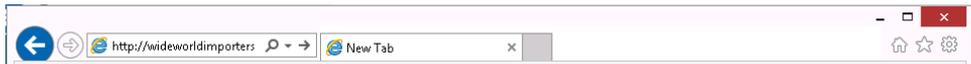
> **IMPORTANT** For exercises in this book, we use a site located at the server *wideworldimporters*. Its URL is *http://wideworldimporters*. However, in your environment, you will be using a different site installed at a different location. You will need to use your site location, *http://<yourservername/path>*, in place of *http://wideworldimporters* throughout the book.

2   If prompted, type your user name and password.

3   Click **OK**.

The home page of your site appears. Although it might look somewhat different from the typical SharePoint team site that Wide World Importers starts with, it is still likely to include links to a variety of information, as well as the information-sharing tools provided by SharePoint 2013.
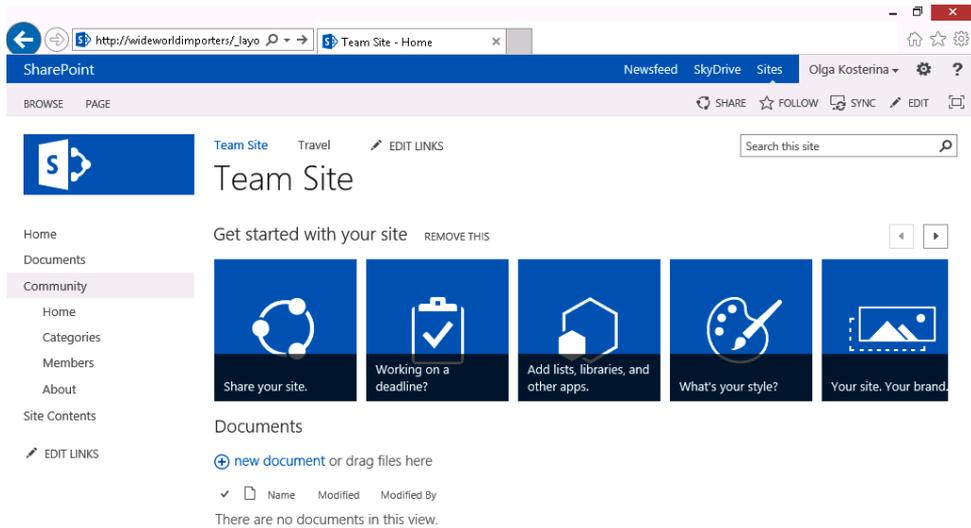
On the left side of the page, you might see links to one or more of the following: **Home**, **Documents**, **Community**, and **Site Contents**. This collection of links to frequently used site resources is called a *Quick Launch*. With **Quick Launch**, as the name suggests, you can go straight to the information and tools that you require.

Below **Quick Launch**, on the left side of the page, you may see an **EDIT LINKS** option that allows you to add and delete links in the **Quick Launch** from within the browser.
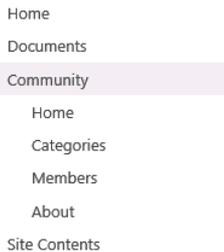
IMPORTANT Your screen might not include links to all parts of the site, such as the **EDIT LINKS** for **Quick Launch**, because of the way that security permissions on your server have been set up. SharePoint site users see only the parts and the functionality of the site that they can actually access: if you don't have access to a specific part or a particular functionality of the site, the link to it is not displayed. To obtain additional access, contact your SharePoint administrator.

In addition to **Quick Launch**, there is another navigation area located at the top of the page. This area contains a top link bar that appears at the top of each page, above the page title. It consists of several tabs with links, such as the link to the home page of the current team site. It may also include other tabs with links to the subsites of this website; for example, the second tab on the left says **Travel**. In our scenario, because the Wide World Importers staff travel extensively worldwide, this is a link to a subsite that provides Wide World Importers employees with the necessary information and guidelines for arranging business travel.

Team Site   Travel

To the left of the top link bar, you may see an **EDIT LINKS** option that allows you to add and delete links in the top link bar from within the browser, provided you have the appropriate security permissions set up.

The navigation aids, while important, take a lot of space on the screen. You will now hide them.

4   Locate the button with a rectangle image at the top right of the screen. Hover your mouse over the button to see its name, **Focus on Content**, displayed in the button tip.

5   Click the **Focus on Content** button to hide the left and top panels and display only the content area of the page.
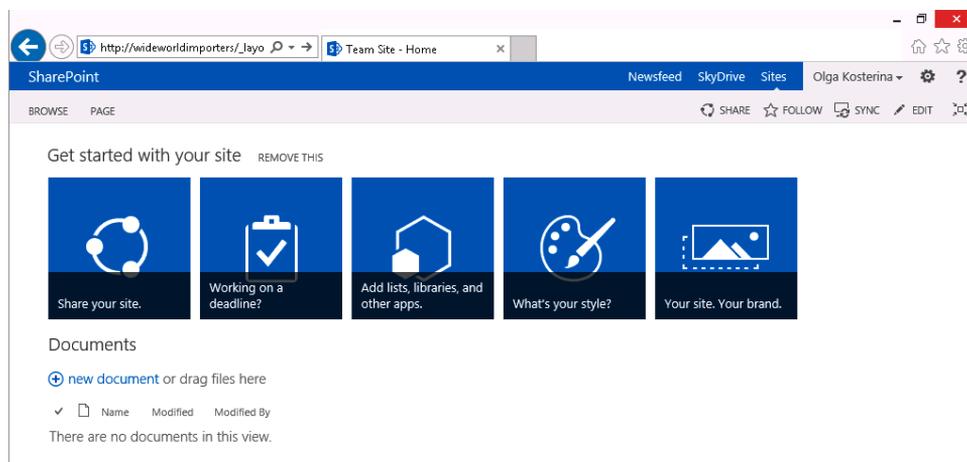
Notice that the image on the **Focus on Content** button has changed to a small rectangle with four arrows pointing outward from its corners.

6   Click the button again to bring back the fullpage view.

7   In the top-right part of the page, click the **Help** button with the question mark. SharePoint 2013 Help opens in a separate window.

SharePoint Help ▾

◄ ► ⌂ 🖶 A˙ [🔍]

Learn what's possible

Get started with SharePoint
Introduction to lists
Introduction to Document Sets
About the workflows included with SharePoint

Build your sites

Create a site
Introduction: control user access with permissions
Add, change, or delete a list or library on a page
Create, change, or delete a column in a list or library
Add or delete files in a library
Add, edit, or delete list items
Create, modify, or delete a view

Let it work for you

Document collaboration and co-authoring
Create, modify, or delete a view of a list or library
Set a file template for a document or form library
Share ideas and content using your My Site

❌ CLEAN UP **Close the browser.**

SEE ALSO For more information on SharePoint site navigation, refer to Chapter 2, "Navigating a SharePoint site."

SharePoint user permissions

In SharePoint 2013, access to sites is controlled through a role-based system that uses permission levels. *Permission levels* specify what permissions users have on a SharePoint site. These permissions determine the specific actions that users can perform on the site; in essence, each permission level is a collection of permissions. SharePoint has a number of default permission levels, including the following examples:

- **Read** This permission level gives you read-only access to the website.

- **Contribute** In addition to all the permissions included in the Read permission level, the Contribute permission level allows you to create, edit, and delete items in existing lists and document libraries.

- **Design** In addition to all the permissions included in the Contribute permission level, the Design permission level allows you to create lists and document libraries, approve items, and edit pages in the website.

- **Full Control** This permission level gives you full control.

- **Limited** The Limited permission level allows access to a shared resource within a site, such as a specific list, document library, folder, list item, or document, without giving access to the entire site.

> **IMPORTANT** You will need Read or Contribute permission levels for most of the exercises in this book. We will instruct you to verify whether you have a sufficient permission level before introducing exercises, particularly those in which a higher level of access, such as Design or Full Control, is needed. If you are not sure what permissions are set on your SharePoint site, check with your SharePoint administrator.

SEE ALSO For more information about permission levels, refer to Chapter 5, "Creating and managing sites." A full list of permissions and their associated permission levels is provided in Appendix A, "SharePoint 2013 user permissions and permission levels."

SharePoint 2013 solutions

There are three SharePoint 2013 solutions that can be deployed on servers in your organizational infrastructure. They provide different sets of features and functionality depending on the client access licenses (CALs), as follows:

- SharePoint Server 2013 Enterprise CAL

- SharePoint Server 2013 Standard CAL

- SharePoint Foundation 2013

All SharePoint 2013 solutions facilitate collaboration both within an organization and with partners and customers. However, each of these products provides a different set of capabilities.

SharePoint Foundation 2013 is a collection of services for Windows Server 2012 that is available as a free download. You can use SharePoint Foundation 2013 to share information and collaborate with other users. It provides a common framework for document management, a common repository for storing documents of all types, and a platform for collaboration applications. You can create sites in multiple languages without requiring separate installations of SharePoint Foundation 2013 by using language packs.

Both Microsoft SharePoint Server 2013 solutions—Standard and Enterprise—are built on top of SharePoint Foundation 2013. SharePoint Server 2013 extends SharePoint Foundation by providing social capabilities, flexible organization, and management tools for SharePoint sites, and by making it possible for teams to publish information to the entire organization. Because SharePoint Server 2013 requires SharePoint Foundation, all features of SharePoint Foundation are available in SharePoint Server 2013. However, SharePoint Server 2013 provides significant additional enterprise-level features and functionality, including social capabilities, business intelligence, content management, a powerful search, workflow, and many others.

The two SharePoint Server 2013 solutions have a different feature set. To decide whether you require a SharePoint Server 2013—Enterprise or Standard—or SharePoint Foundation 2013, you need to assess how your requirements are met by the particular features and functionality of these solutions.

A comparison between the feature sets of the different SharePoint Server 2013 solutions is provided in Table 1-1.

Table 1-1 *SharePoint 2013 solutions comparison*

Feature	SharePoint 2013 solution		
	Foundation	Standard CAL	Enterprise CAL
App Catalog & Marketplace	Yes	Yes	Yes
Team Sites	Yes	Yes	Yes
Work Management	No	Yes	Yes
Social	No	Yes	Yes
External Sharing	Yes	Yes	Yes

Feature	SharePoint 2013 solution		
	Foundation	Standard CAL	Enterprise CAL
Basic Search	Yes	Yes	Yes
Standard Search	No	Yes	Yes
Enterprise Search	No	No	Yes
Content Management	No	Yes	Yes
Records Management	No	Yes	Yes
E-discovery, ACM, Compliance	No	No	Yes
Excel Services, PowerPivot, PowerView	No	No	Yes
Scorecards & Dashboards	No	No	Yes
Access Services	No	No	Yes
Visio Services	No	No	Yes
Form-Based Applications	No	No	Yes
SharePoint 2013 Workflow	No	Yes	Yes
Business Connectivity Services	Yes	Yes	Yes

SEE ALSO For a detailed comparison of features in SharePoint 2013 solutions, refer to Appendix B, "SharePoint 2013 features."

It's all in the cloud: SharePoint Online

SharePoint Online is a web-based service that is hosted outside your organization in the cloud, instead of residing on a server in your organization, or on-premises. Being in the cloud means that the IT infrastructure resides off your organization's property, or off-premises, and that the infrastructure is maintained by a third party. Many services on the Internet are cloud services; for example, online photo sharing or web-based email. These services are located online, or in the cloud, and you can access them anywhere—from a PC,

tablet, mobile phone, or other device with an Internet connection. SharePoint Online is also a cloud service that you can use to access information and to interact with your team from nearly anywhere, on many types of devices.

Cloud services are subscription-based. Instead of installing SharePoint software in your organization, you can buy a subscription plan to use this software as a service. SharePoint Online is a part of Microsoft Office 365 that also includes Microsoft Exchange Online for the web-hosted mail service, and Microsoft Lync Online for web-based conferencing. There are a number of subscription plans available that provide different sets of features and capabilities, from basic to enterprise level, for a monthly fee. The SharePoint Online service is available as a part of multiple Office 365 subscription plans, or as a standalone subscription plan.

The features of SharePoint Online are engineered to run in the same way as the features of SharePoint 2013 deployed on-premises. However, there are a few exceptions. In particular, the gap exists between the implementation of business intelligence (BI) analytics capabilities, such as scorecards and dashboards, which are not available in SharePoint Online. There are also some differences in the Web Content Management functionality, with on-premises deployments providing a richer feature set.

A comparison between the features in the SharePoint Online standalone subscription plans is provided in Table 1-2.

Table 1-2 *SharePoint Online plans comparison*

Feature	SharePoint Online plan	
	P1	P2
App Catalog & Marketplace	Yes	Yes
Team Sites	Yes	Yes
Work Management	Yes	Yes
Social	Yes	Yes
External Sharing	Yes	Yes
Basic Search	Yes	Yes
Standard Search	Yes	Yes
Enterprise Search	No	Yes

Feature	SharePoint Online plan	
	P1	P2
Content Management	Yes	Yes
Records Management	Yes	Yes
E-discovery, ACM, Compliance	No	Yes
Excel Services, PowerPivot, PowerView	No	Yes
Scorecards & Dashboards	No	No
Access Services	No	Yes
Visio Services	No	Yes
Form-Based Applications	No	Yes
SharePoint 2013 Workflow	Yes	Yes
Business Connectivity Services	No	Yes

SEE ALSO For a detailed comparison of features in SharePoint Online subscription plans, including standalone subscription plans and Office 365 subscription plans, refer to *technet. microsoft.com/en-us/library/jj819267.aspx*.

In your organization, you may use an on-premises SharePoint deployment, or a cloud SharePoint Online solution, or a hybrid environment. The hybrid solution combines an on-premises SharePoint deployment with a SharePoint Online cloud solution and delivers a consistent user experience across a combined environment. For example, the unified search capability allows you to search across both parts of a hybrid solution (on-premises and on-line) using the single search query.

Hybrid environments are helpful when it is not possible for an organization to fully migrate the SharePoint deployment to the cloud due to business, technical, or other reasons. For example, there might be a compliance or a data sovereignty policy in your organization that requires that data is to be hosted in a particular location. Using the hybrid model, your organization can start to achieve the benefits associated with the use of a cloud solution while at the same time continue using an on-premises deployment that provides the data governance and customization flexibility. With the hybrid solution, your organization can achieve a higher degree of flexibility than forcing a choice between either an on-premises or a cloud model. For users, the hybrid model is largely transparent.

Office integration with SharePoint

Microsoft Office 2013 and SharePoint 2013 are designed to create an integrated productivity environment across the server and the client software on multiple devices. They work together to provide you with a set of seamlessly integrated capabilities. In other words, many Office features and functionality as well as commands and menus are integrated closely with SharePoint features and functionality. You can use SharePoint 2013 functionality not only from a browser, but also from within your Office applications.

The Office Backstage feature provides the ability to surface SharePoint 2013 capabilities in the context of Office applications, including access to document libraries, social capabilities, and SharePoint sites. For example, you can create a new SharePoint site and save your files to it without leaving your Office client application. The collaborative content of a SharePoint site—including documents, lists, events, calendars, task assignments, blogs, and membership rosters—can be read and edited within Office applications. You can also share your documents and specify their SharePoint permissions without leaving the Office 2013 application.

In addition, rich BI capabilities provided in SharePoint 2013 integrate with Microsoft Office Excel 2013 to explore and visualize data.

SEE ALSO For more information on BI capabilities provided by SharePoint 2013, refer to Chapter 13, "Working with business intelligence."

SharePoint 2013 provides close integration with Microsoft Office Web Apps, a collective name for the online companions to Microsoft Office applications such as Word, Excel, PowerPoint, and OneNote. With Office Web Apps, the user can view and edit documents using a browser. Office Web Apps services include the Word Service, PowerPoint Service, and Excel Calculation Services, which run within the context of the services provided by SharePoint.

TIP Office Web Apps are available for documents stored on your SkyDrive Pro and are accessible on multiple devices from virtually anywhere.

Office Web Apps give you a browser-based viewing and editing experience by providing a representation of an Office document in the browser. For example, when you click a document stored in a SharePoint document library, the document opens directly in the browser. The document appearance in the browser is similar to how it appears in the Office client application. While an Office Web App provides lighter editing functionality than the associated Office client application, it provides the user an opportunity to open a document for

editing in the associated client application (if an application is installed on the client device) by using a button within the Office Web App page. On a SharePoint site where Office Web Apps have been installed and configured, you can view and edit Office documents in the browser from anywhere you have a connection to your SharePoint site, including mobile devices.

SEE ALSO For more information on Office Web Apps, refer to *office.microsoft.com/en-gb/ web-apps.*

There are different levels of integration between various versions of Office and SharePoint Foundation. The Office 2013 family of products provides a most powerful, tight, native, rich, built-in integration with SharePoint 2013, followed by Microsoft Office 2010, which is also well integrated with SharePoint 2013. Microsoft Office 2007 provides a contextual interoperability between SharePoint and Office client applications. Earlier versions of Office, such as Microsoft Office 2000 and Microsoft Office XP, provide some integration, but it is considerably simpler and more basic.

Office 2000 provides a file save integration with SharePoint Foundation. For example, you can open and save files stored on SharePoint sites from your Office 2000 applications and receive alerts in Microsoft Outlook 2000. Office XP provides additional data integration, including interactive access to data stored on SharePoint sites. For example, you can export list data from SharePoint sites to Excel 2002 and view properties and metadata for files that are stored on SharePoint sites. However, Office 2000 and Office XP are not integrated with many other features of SharePoint Foundation.

Microsoft Office 2003 adds several more integration features. With Office 2003, you can use SharePoint Foundation to create documents and workspaces, organize team meetings and activities, and access and analyze data from SharePoint sites. You can also use data integration between Office 2003 and SharePoint Foundation, moving data to and from SharePoint sites and creating databases linked to data stored on SharePoint sites.

Starting with Microsoft Office System 2007, integration with SharePoint Foundation is enhanced further. You can interact directly with information stored in SharePoint sites from within Office client applications, without manually downloading the content. For example, starting from Word 2007, you can create and post to a blog on your SharePoint blog site, as well as check documents in and out of a SharePoint library from within Word.

Office 2010 introduces the Backstage feature that provides tighter integration with SharePoint functionality. Office 2010 also includes a SharePoint Workspace 2010 client application, a successor to the Office Groove client, which provides an ability to work offline with SharePoint content and to synchronize the changes when you are reconnected

to your network. You can view, add, edit, and delete SharePoint library documents or list items while you are offline. While you are connected to the network, updates to data on your computer and on the network are automatic, providing bidirectional synchronization between your computer and the live SharePoint sites, libraries, and lists. In SharePoint 2013, this functionality is available through synchronizing a SharePoint library to your computer. The synced files in the library on your computer can be viewed by using Windows Explorer, and the updates to the files sync to SharePoint whenever you're online. Both your SkyDrive and a library on a team site can be synced to your computer to allow you to work offline.

While all Office 2013 client applications are well integrated with SharePoint, Outlook provides the closest, most feature-rich integration. Starting from Outlook 2007, you can create and manage sites for sharing documents and organizing meetings, and have a read and write access from Outlook to SharePoint items such as calendars, tasks, contacts, and documents, as well as offline capabilities.

SEE ALSO For more information about integration between SharePoint 2013 and Outlook, refer to Chapter 14, "Using SharePoint with Outlook and Lync."

SharePoint web storefront based on Microsoft Dynamics AX

SharePoint Server 2013 integrates with Microsoft Dynamics AX 2012 for Retail to provide a flexible, configurable, search-based web storefront that is available to users on multiple devices, such as PCs, tablets, and smartphones.

In today's retail environment, there is an explosion in ways to engage the customer, ranging from brick-and-mortar stores to a retailer's website and call center, and to marketplaces and social networks. This multichannel environment represents a tremendous opportunity for modern retailers, but there is also a significant challenge in that the customers expect each point of engagement with a retailer to be connected, transparent, and consistent. Microsoft Dynamics AX 2012 for Retail addresses this challenge by providing a flexible, unified technology offering that reduces complexity for retailers and brings together points of sale, ecommerce, multichannel management, store operations, merchandising, supply chain, and more in an end-to-end solution that delivers full visibility across an entire business operation in a retail enterprise.

In this end-to-end solution, an ecommerce channel is implemented using SharePoint Server 2013. A commerce runtime (CRT) component of Microsoft Dynamics AX 2012 for Retail is required to be installed in the SharePoint environment. The CRT provides shop-front services, as well as an ability to synchronize the data between the central Microsoft Dynamics AX installation in a retail organization and the SharePoint web storefront. Retail master data, including products, prices, promotions, catalogues, categories, loyalty pro-grams, and website-specific configuration details are set up in Microsoft Dynamics AX and propagated to a SharePoint repository. Sales orders and transaction data are uploaded from SharePoint into AX for fulfillment. The brick-and-mortar stores and points of sale op-erate in a similar way using the CRT to sync with the central Microsoft Dynamics AX installa-tion. This powerful, consistent data replication approach helps ensure critical updates across the organization—including configurable and flexible inventory and financial updates, sales order payments, giftcard usage, and issuance/use of loyalty points—while equipping a retailer with the ability to provide a consistent, streamlined, transparent, and connected experience for shoppers across multiple retail channels. For example, a shopper could order a product from the retailer's website, and then return it in a brick-and-mortar store.

SEE ALSO For more information on Microsoft Dynamics AX for Retail, refer to *www.microsoft.com/en-us/dynamics/erp-retail.aspx*.

Versions of SharePoint

SharePoint Server 2013 and SharePoint Foundation 2013 are the latest versions in the line of SharePoint products and technologies. Previous versions of SharePoint Server 2013 include:

- SharePoint Server 2010

- Search Server 2010

- FAST Search Server for SharePoint

- SharePoint Server 2007

- SharePoint Server 2003

- SharePoint Portal Server 2001

Previous versions of SharePoint Foundation 2013 include:

- SharePoint Foundation 2010
- Windows SharePoint Services 3.0
- Windows SharePoint Services 2.0
- SharePoint Team Services

In comparison with its predecessors, SharePoint 2013 products provide many new, enhanced, and updated features, including many new social features and a new apps model. SharePoint 2013 is built around five major pillars: Share, Organize, Discover, Build, and Manage. The new and enhanced features and functionality in SharePoint pillars include the following:

- Share
  - Social features, such as **Newsfeed** and **Sites**, allow you to view and post updates, use microblogging, and follow documents, sites, and people.
  - A community site allows you to build a rich discussion environment with post ratings, achievements rewards, categorization of content, and built-in search.
  - OneNote integration with team sites provides a OneNote shared notebook as part of the team site. This feature requires Office Web Apps to be installed.
  - Video and rich media enhancements include embedding of video sources external to SharePoint, such as YouTube, and previewing videos directly from a search results page.
- Organize
  - Document libraries enhancements include a new callout feature for managing documents in a library, an ability to drag and drop files from your desktop or other location into a SharePoint library, and an ability to synchronize document libraries with folders in your Windows file system using SkyDrive Pro.
  - Lists enhancements include the ability for inline editing of list items and list columns.
  - The Sites page provides the ability to create new team sites and to follow those SharePoint sites that are important to you.
  - The Tasks list timeline provides visual representation of the tasks.
  - Project sites and site mailboxes allow people in your organization to effectively collaborate on lightweight projects. A project site can also include a site mailbox.

- Discover

  - Search enhancements include navigation enhancements, the ability to search multiple repositories in the same search query, and enhancements to finding people and expertise.

  - Business intelligence enhancements include a new Business Intelligence Center site, enhancements in Excel Services and PerformancePoint Services, and support for viewing business intelligence content on mobile devices such as the Apple iPad and Windows 8 tablets.

- Build

  - Web content authoring enhancements include retaining all text formatting when copying content from Word, and drag-and-drop navigation editing.

  - Cross-site publishing allows you to use one or more authoring site collections to author and store content, and one or more publishing site collections to control the design of the site and to show the content.

  - Site customization enhancements include a new Design Manager, a new theming experience, and an ability to configure your site for mobile devices.

  - Workflows enhancement include new workflow architecture and major improvements to the experience of designing workflows and modeling more complex business logic and processes.

  - External data access enhancements include abilities to analyze external data in Excel and to add external data to published Microsoft Office Visio diagrams.

  - Apps for SharePoint are small-scale, standalone applications that solve a specific end-user need or perform a specific task. SharePoint 2013 provides a new application model that supports the development, installation, management, and use of apps.

- Manage

  - Security, site management, and site upgrade enhancements include an improved site collection upgrade experience, a tightened security for iFrames, and the rights to insert iFrames into pages.

  - eDiscovery and case management capabilities include the eDiscovery Center site template that creates a portal through which you can access cases involving eDiscovery (electronic discovery) requests; for example, a legal case or an audit.

There are a number of features that have been deprecated or removed from SharePoint 2013 in comparison with SharePoint 2010 products, such as Document Workplaces, for example. Deprecated features are included in SharePoint 2013 for compatibility with previous product versions, however, these features will be removed in the next major release of SharePoint.

SEE ALSO A full list of deprecated features in SharePoint 2013 can be found at *technet. microsoft.com/en-us/library/ff607742(v=office.15).aspx.*

Key points

- SharePoint 2013 provides a powerful set of tools for information sharing and team collaboration.

- SharePoint websites provide places to capture and share ideas, information, knowledge, documents, and communications.

- You can access content stored within a SharePoint site from both a web browser and through client applications such as Office.

- Access to a SharePoint site is controlled through a role-based system predicated on permission levels. The five default permission levels are Read, Contribute, Design, Full Control, and Limited.

- SharePoint 2013 technology can be deployed as an on-premises SharePoint installation, or as a cloud SharePoint Online solution, or as a hybrid environment that combines on-premises and cloud models. The user experience is consistent across all types of deployment.

- There are varying levels of integration between different versions of Office and SharePoint 2013, with Office 2013 having the closest integration.

Chapter at a glance

Import

Import data from an Excel spreadsheet to a list in SharePoint, page 402

Site Contents ▸ Your Apps

excel	✕

1 app matches your search   Newest   Name

Import Spreadsheet
App Details

Export

Export data to a SharePoint list, page 408

Sales_Figures.xlsx - Excel

E LAYOUT   FORMULAS   DATA   REVIEW   VIEW   INQUIRE   Te

h PivotTable
ates
ge
ools

Insert Slicer   Export   Refresh   Table Style Options   Quick Styles

_fx_   Product

Export Table to SharePoint List...
Export Table to Visio PivotDiagram...

Build

Build an Access app, page 413
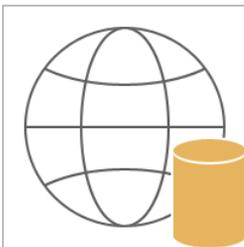
Custom web app

Create your app, then use it and share i web.

App Name
EquipmentTracking

Web Location
http://wideworldimporters
Get help finding your web location

Create

Import and Link

Import data from a SharePoint list, page 432
Link to a SharePoint list, page 435

Site Address
http://intranet.adventure-works.com/sites/it/workflow

http://wideworldimporters

Specify how and where you want to store the data in the current database.

◉ **Import the source data into a new table in the current database.**
If the specified object does not exist, Access will create it. If the speci number to the name of the imported object. Changes made to sourc reflected in the current database.

○ **Link to the data source by creating a linked table.**
Access will create a table that will maintain a link to the source data.

Using SharePoint with Excel and Access

12

IN THIS CHAPTER, YOU WILL LEARN HOW TO

- Import data from an Excel spreadsheet to a list in SharePoint.

- Export a SharePoint list to an Excel spreadsheet.

- Export an Excel table to a SharePoint site.

- Build an Access app.

- Create a table in an Access app.

- Work with Access apps in the browser.

- Export data from an Access desktop database to a list.

- Import data from a list, and link to a list.

- Move data from a desktop database to a list, and work offline.

Microsoft SharePoint 2013 provides the collaborative backbone to the Microsoft Office 2013 system. This chapter focuses on the integration of SharePoint 2013 with Microsoft Office Excel 2013 and Microsoft Office Access 2013.

Similar to previous versions, with Excel 2013 you can export and import data to and from SharePoint lists and provide one-way synchronization from SharePoint lists to Excel spreadsheets so that you can take the data offline, and then synchronize with the SharePoint lists when you reconnect.

The combination of SharePoint 2013 and Access 2013 makes it easy for you to build a *desktop database* against SharePoint. Ever since Microsoft Windows SharePoint Services 3.0, you could move away from storing your Access desktop database files on file shares. You can store an Access database in a SharePoint library, which lets you and your team collaborate easily with the Access database solution. You can also move data held in Access tables to SharePoint lists, exposing the lists in the Access database as linked tables that allow updates in SharePoint lists to be reflected in the Access table, and vice versa. If you do not possess

the skills or privileges to be a Microsoft SQL Server database administrator, you can still obtain the manageability and stability benefits of storing data on the server while retaining the use of Access. Also, the data in the linked tables is stored locally on your computer so that you can work offline with data, and then synchronize the changes when you reconnect.

However, there are some performance issues with this approach. It does not allow you to model some of the more complex scenarios built using Access; therefore, new with the Enterprise edition of Microsoft SharePoint Server 2010 is the ability to create a SharePoint site based on an Access database, known as an *Access web database*. This ability is extended in SharePoint Server 2013, with a new, completely rewritten *Access Services* service application, where Access 2013 databases are published to SharePoint Server 2013 as an *Access web app*, also known as *Access apps*. Access apps are excellent when you wish to rapidly create end-to-end web-based business solutions, including those that involve custom forms.

This chapter details the integration of SharePoint with Excel 2013 and Access 2013 apps, as well as desktop databases. Although you can complete many of the desktop database–related tasks documented in this chapter using previous versions, the steps and screen shots in this chapter were created using Excel 2013 and Access 2013. If you use Microsoft Office Excel 2010 or Microsoft Office Access 2010, your steps and screen shots will be slightly different. See *Microsoft SharePoint Foundation 2010 Step by Step* by Olga Londer and Penelope Coventry (Microsoft Press, 2010) for steps on using Access 2010 with SharePoint.

PRACTICE FILES Before you can complete the exercises in this chapter, you need to copy the book's practice files to your computer. The practice files you'll use in this chapter are in the **Chapter12** practice file folder. A complete list of practice files is provided in "Using the practice files" at the beginning of this book.

IMPORTANT Remember to use your SharePoint site location in place of *http:// wideworldmporters* in the following exercises.

Importing data from an Excel spreadsheet to a list in SharePoint

In many situations, you might already have data within a spreadsheet, but later you find that you need to share the data with other members of your team. SharePoint can import data from an Excel spreadsheet into a SharePoint list. Those users who have appropriate

permissions may read the SharePoint list, whereas others may even revise the list or enter additional data. You can choose to import all the data held on a worksheet, in a *range* of cells, in a *named range*, or in an *Excel table*.

In the following exercise, you will use your browser to create a SharePoint custom list that contains data imported from an Excel spreadsheet.

➡️ SET UP **This exercise uses the Furniture_Price.xlsx file in the Chapter12 practice folder. Open the SharePoint site where you would like to import data from the Excel spreadsheet. Remember to use your SharePoint site location in place of *http://wideworldimporters* in the exercises.**

> **IMPORTANT** Verify that you have sufficient rights to add an app. If in doubt, see Appendix A, "SharePoint 2013 user permissions and permission levels."

1 On the **Settings** menu, click **Add an app**. Then in the **Find an app** box, type **excel** and press **Enter**.

Site Contents ▸ Your Apps

excel   ✕

1 app matches your search   Newest   Name

Import Spreadsheet
App Details

2 Click **Import Spreadsheet**, and then on the **New** page, in the **Name** box, type **FurniturePrice**.

TIP Any Uniform Resource Locator (URL) in SharePoint is limited to 260 characters. The name that you type here is used to create both the URL and the title of the list. Later in this exercise, you will change the title to a user-friendly name.

3 In the **Description** box, type **This list contains the furniture items in stock together with their unit prices**.

4 Click **Browse**.

12

5   In the **Choose File to Upload** dialog box, go to the Chapter12 practice folder and double-click **Furniture_Price.xlsx**.

6   On the **New** page, click **Import**.

Excel 2013 opens **Furniture_Price.xlsx** and displays the **Import to Windows SharePoint Services list** dialog box.

7   From the **Range Type** list, check that **Table Range** is selected, and then in the **Selected Range** list, select **Stock!FurniturePriceTable**.
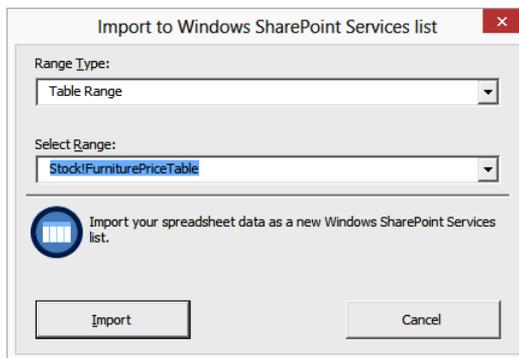
8   Click **Import** to create the **FurniturePrice** list and to display it in the browser.

> **TIP** If you import a range of cells from an Excel spreadsheet and want the Excel column names to become the SharePoint list column names, you should first edit the spreadsheet and convert the range of cells to an Excel table.

FurniturePrice ⓘ

⊕ new item or edit this list

All Items · · · | Find an item 🔍 |

✓	Furniture Name		Furniture Range	Material	In Stock	Unit Price	Total
	Tall unit ✷	· · ·	Bianca	steel	5	$25.00	$125.00
	Base unit with drawers ✷	· · ·	Bianca	steel	99	$20.00	$1,980.00
	Wall unit ✷	· · ·	Bianca	steel	10	$115.00	$1,150.00
	Corner unit ✷	· · ·	Bianca	steel	5	$75.00	$375.00
	Slimline base unit ✷	· · ·	Bianca	steel	ppp	$64.00	#VALUE!
	3-seater sofa ✷	· · ·	Milan	Material	25	$95.00	$2,375.00
	Armchair ✷	· · ·	Milan	Material	10	$83.00	$830.00
	Dining chair ✷	· · ·	Boston	Leather	45	$53.00	$2,385.00

9   To change the title of the list, click the **List** tab, and then in the **Settings** group, click **List Settings**.

10   Under **General Settings**, click **List name, description and navigation**.

11   On the **General Settings** page, in the **Name** box, type a user-friendly name, such as **Furniture Price**.

12   In the **Navigation** section, click the **Yes** option to display this list on the **Quick Launch**.

13   Click **Save** at the bottom of the webpage, and then on the breadcrumb, click the **Furniture Price** to display the **All Items** view of the list.

❌ CLEAN UP **Leave the browser open if you are continuing to the next exercise.**

Exporting a SharePoint list to an Excel spreadsheet

You can export the contents of SharePoint lists, the results of a survey, or document libraries to an Excel spreadsheet. In Excel, changes that you make to data in your Excel worksheet do not synchronize with the list on the SharePoint website; that is, only a one-way synchronization occurs from the SharePoint site to Excel. The exported list or library is connected to a web query, which when run, updates the spreadsheet with changes made to the original list

on your SharePoint site. The Excel spreadsheet maintains this connection to the SharePoint list, and therefore becomes a *linked object*.

The export process exports only the columns and rows contained in the list's current view. If none of the views contain the data that you want to export, then you must create a new view to meet your needs. Alternatively, you can choose one of the existing views, export the list to a spreadsheet, and then delete the unwanted data.

TIP The columns in Excel retain the data types from the exported SharePoint list; they do not retain the formulas of a calculated column.

When you export a SharePoint library to an Excel spreadsheet, Excel represents the documents in the list with hyperlinks that point to the documents on the SharePoint site. Similarly, attachments on list items are replaced with a hyperlink. In the Excel spreadsheet, click this link to open the file.

TIP You should make a habit of renaming your tables in Excel so that you recognize the data that they contain. This process helps make the formulas that summarize table data much easier to understand. To rename an Excel table, first ensure that the **Design** contextual tab is active, and then, in the **Properties** group, edit the value in the **Table Name** field.

In this exercise, you will export a list from a SharePoint site to an Excel 2013 spreadsheet. You will add data to the spreadsheet, and then synchronize the data in the spreadsheet with the contents of the list on the SharePoint site.

➔ SET UP **In the browser, open the SharePoint site, if it is not already open, where you have a list whose contents you want to export to an Excel spreadsheet. This exercise uses the list that you created in the previous exercise.**

> **IMPORTANT** Verify that you have sufficient rights to edit items in the list. If in doubt, see Appendix A.

1 On the **Quick Launch**, click **Furniture Price**. Click the **List** tab, and then click **Export to Excel** in the **Connect & Export** group.

2 If you get a browser message asking whether you want to open or save owssvr.iqy, click **Open**.

Excel 2013 opens a new workbook that contains one worksheet, named **owssvr**. A
Microsoft Excel Security Notice dialog box appears, warning you that data connec-
tions have been blocked.
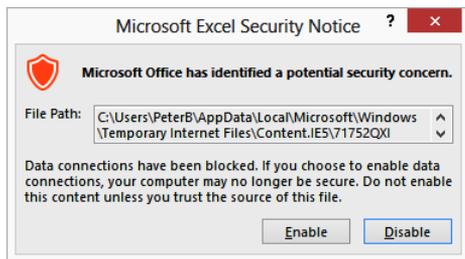
3   Click **Enable** to display the results of the Excel query. Each column in Excel contains
an AutoFilter arrow in the header row, and the Design contextual tab is active.
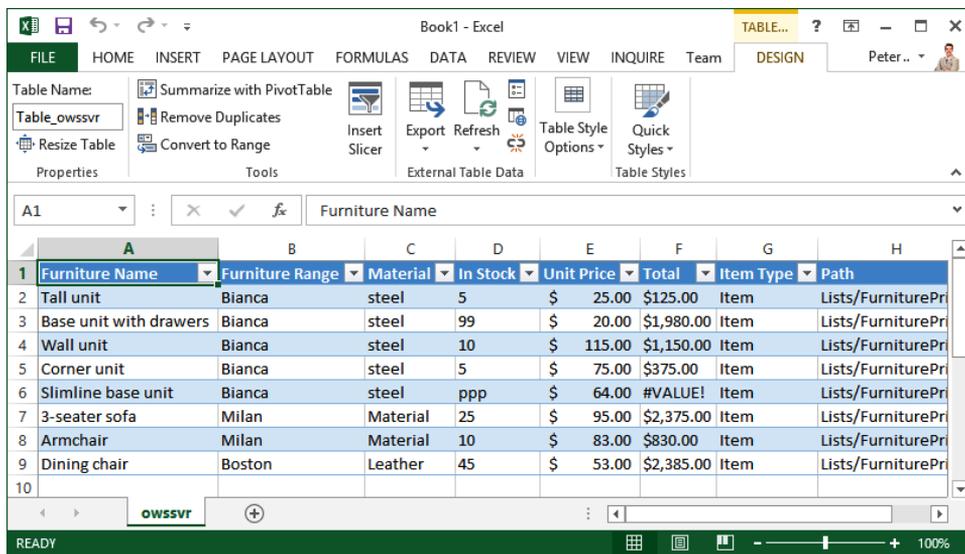
4   Click cell **A10**, type **Antique**, and then press **Tab**. Type **Bi**, and then press **Tab** so that
IntelliSense completes the word *Bianca* for you.

5   Type **wood**, and then press **Tab**. Type **5**, and then press **Tab**. Type **10**, and then press
Enter. Excel places a dollar sign ($) before the number 10.

6   On the **Data** tab, in the **Connections** group, click **Refresh All**.

The spreadsheet is updated with a copy of the data from the Furniture Price list on
the SharePoint website. Your changes to data in the Excel spreadsheet are lost.

7   Click cell **A2**, and then, in the **Connections** group on the **Data** tab, click **Properties** to display the **External Data Properties** dialog box. You can use this dialog box to alter the behavior of the refreshed activity.
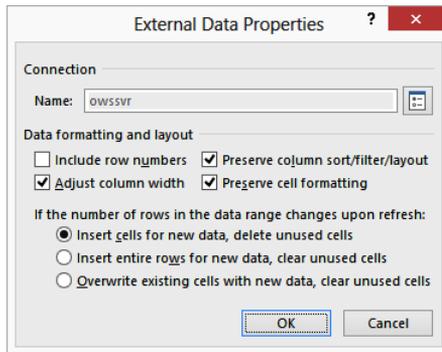
8   Click **Cancel**.

❌ CLEAN UP **Close the browser and exit Excel 2013. You do not need to save the spreadsheet.**

Exporting an Excel table to a SharePoint site

Creating a SharePoint list from within Excel is known as *exporting* an Excel table. Once the table data is placed on the SharePoint site, users can see the Excel data without opening Excel. As in the first exercise of this chapter, you can maintain a link between the SharePoint list and the Excel data, but any changes in the Excel spreadsheet are not reflected in the SharePoint list. You can only synchronize changes in the SharePoint list to the Excel spreadsheet.

The export to SharePoint process uses a two-step wizard. When you export an Excel table to SharePoint, Excel checks the data in each column to ensure that the data belongs to a data type supported by SharePoint. If it doesn't, Excel usually applies the Text data type to each column. Excel also checks whether each column contains only one type of data. If a column contains a mixture of data types, such as numbers and text, then Excel chooses Text as the data type. Once Excel completes its check, the second step of the wizard appears, which identifies the data types that will be used to create the columns in SharePoint, and identifies cells that contain different data values than the rest of the cells in a column. Any formulas are also removed.

Once the export process is complete, the spreadsheet contains two extra columns, **Item Type** and **Path**. On the **Design** contextual tab, you can use commands in the **External Table** data group to alter the properties of a range of cells, open the connected SharePoint list in a browser, or unlink a list.

> **IMPORTANT** When you export an Excel table to SharePoint, the new SharePoint list does not appear on the **Quick Launch**.

In the following exercise, you will export a spreadsheet to a SharePoint list.

SET UP **You will use the Sales_Figures.xlsx file, located in the Chapter12 practice folder. Start Excel 2013 before beginning this exercise, and then open the Sales_Figures. xlsx document.**

> **IMPORTANT** Verify that you have sufficient rights to edit items in the list. If in doubt, see Appendix A.

1   In Excel 2013, in the **Protected View** notification area, click **Enable Editing**, if displayed, and then click any cell within the data. If you are using an Excel spreadsheet other than the practice file, and the data that you want to export is already found within an Excel 2010 table, skip to step 4.

2   On the **Home** tab, in the **Styles** group, click **Format as Table**, and then select a table style.
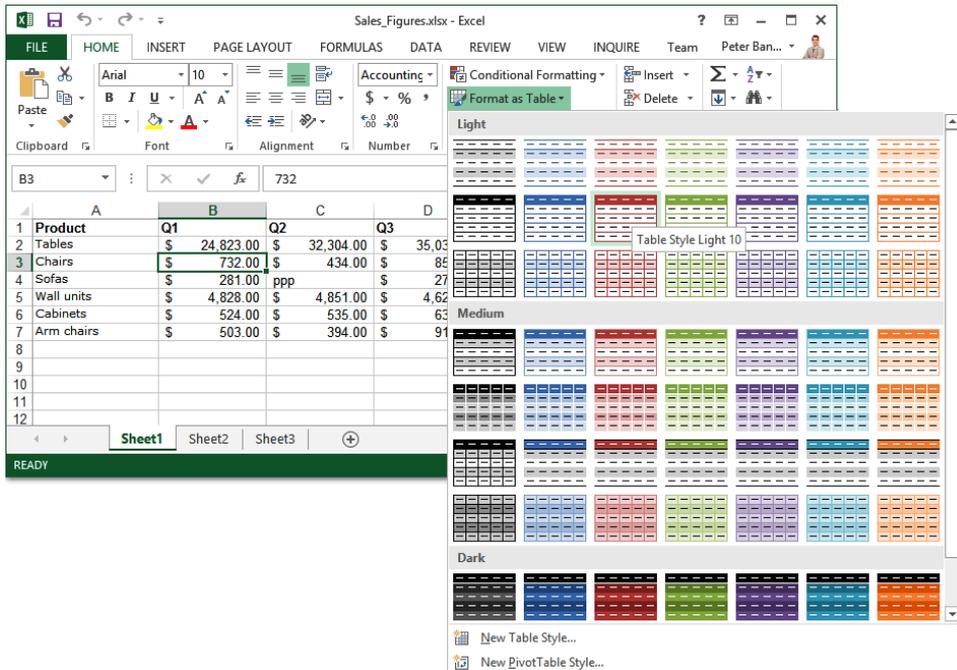
TIP By selecting one cell in the data, Excel automatically selects a range of cells that contain data; however, you can select a different range of cells to use when creating a table. In addition, if your data does not contain headers, Excel creates them for you and labels them as Column1, Column2, and so on.

3   When the **Format As Table** dialog box appears, click **OK**.
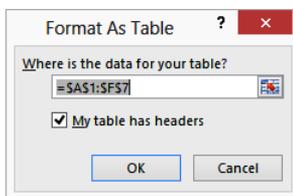
The data is converted into a table and the **Design** tab on the **Table Tools** tab set appears.

4   On the **Design** tab, in the **External Table Data** group, click **Export**, and then, from the drop-down list, click **Export Table to SharePoint List**.

TROUBLESHOOTING If the table is not active on the worksheet, the **Design** tab disappears. To export a table, it must be active on the worksheet. To make a table active, click any cell in the table.
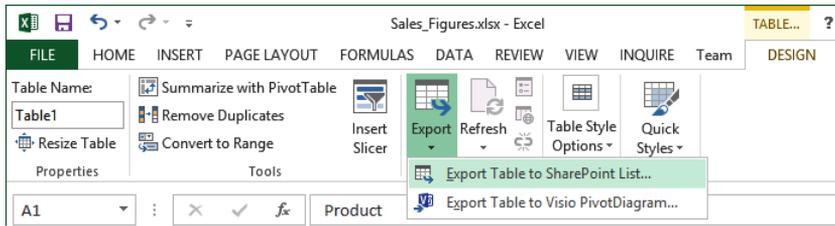
The first step of the two-step **Export Table to SharePoint List** wizard appears.

5   In the **Address** box, type the name of the site where you want to export the data, such as **http://wideworldimporters**.

6   Select the **Create a read-only connection to the new SharePoint list** check box.

> **IMPORTANT** If the **Create a read-only connection to the new SharePoint list** check box is selected, the spreadsheet is linked to the SharePoint list and you can synchronize updates from the SharePoint list to the spreadsheet. However, once the SharePoint list is created, you cannot link the spreadsheet to the SharePoint list. Therefore, if you wish to synchronize updates between the list and the spreadsheet, be sure to select this check box now.

7   In the **Name** box, type **SalesFigures**, and in the **Description** box, type **This list contains furniture sales for this year**.
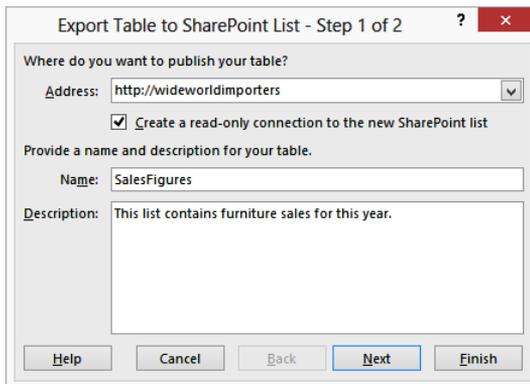
8   Click **Next** to display the second step of the wizard.
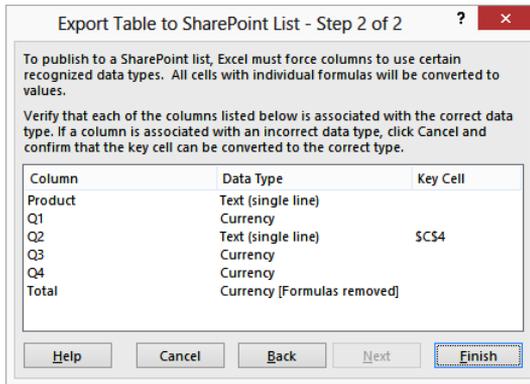
In the Key Cell column, notice that cell C4 in the Q2 column contains a different data type from the rest of the cells in that column. Also, the formulas are removed from the Total column. If you have the region and language format (also known as the date, time, or number format) of your operating system set to English (United States), then columns Q1, Q3, Q4, and Total have a data type of Currency; otherwise, they will have a data type of Number.

TIP At this point, you can click **Cancel**, correct the erroneous data, and then restart the export process. Also, because Excel removes formulas during the export process, you may consider deleting the **Total** column and creating a calculated column once you have completed the export process and the data is on your SharePoint site.

9 Click **Finish**. A **Microsoft SharePoint Foundation** dialog box appears with the URL of your new SharePoint list.
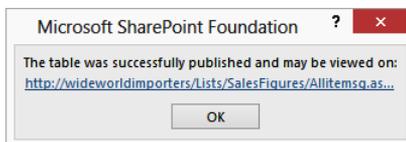
10 Click the URL of your new SharePoint list. A new browser window opens, displaying the new SharePoint list.

SalesFigures ⓘ

Stop editing this list

All Items ··· | Find an item 🔍

✓	📄	Product		Q1	Q2	Q3	Q4	Total	+
	📄	Tables ✳	···	$24,823.00	$32,304.00	$35,032.00	$32,482.00	$124,641.00	
	📄	Chairs ✳	···	$732.00	$434.00	$854.00	$859.00	$2,879.00	
	📄	Sofas ✳	···	$281.00	ppp	$271.00	$201.00	$753.00	
	📄	Wall units ✳	···	$4,828.00	$4,851.00	$4,621.00	$3,821.00	$18,121.00	
	📄	Cabinets ✳	···	$524.00	$535.00	$634.00	$534.00	$2,227.00	
	📄	Arm chairs ✳	···	$503.00	$394.00	$912.00	$729.00	$2,538.00	

✖ CLEAN UP **Close all browser windows, and close the SharePoint Foundation dialog box by clicking OK. Exit Excel and save the changes to the spreadsheet.**

Building an Access app

SharePoint Server 2013 provides the following two methods of building end-to-end web-based business solutions. Both require the purchase of SharePoint Server Enterprise Client Access Licenses (CALs).

- **Access web database** These cannot be created using Access 2013. You can still view and edit a previously created web database by using Access 2010 and SharePoint Server 2010, and you can republish it to SharePoint Server 2013 using Access 2010. Web databases are exposed as a SharePoint site. Data held in Access tables is moved to SharePoint lists, and forms and reports are created as webpages. You cannot automatically convert a web database to an Access web app; however, you can manually convert a web database to an Access web app by importing the data from the web database into a new Access app, and then re-create the user interface and business logic.

  SEE ALSO An Office visual instruction on creating web databases with Access 2010 and Access Services can be found at *msdn.microsoft.com/en-us/library/ ff402351(office.14).aspx.*

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- **Access apps** These apps are SharePoint apps, which can be deployed to the Share-Point Store. You use the browser to view and edit data, and you use Access 2013 to design the Access app. Data and Access objects for each Access app is saved in its own Microsoft SQL Server 2012 database; it is not saved in SharePoint lists. This SQL-integrated approach improves the performance, manageability, and scalability of the business solution. Also, this makes it possible for SQL Server developers to extend the solution by directly connecting to the tables in the database, including building reports with Desktop Access Reports, Excel, and Power View.

  SEE ALSO An example of how to visualize your Access app data in Excel can be found at *blogs.office.com/b/microsoft-access/archive/2013/01/22/visualize-access-data-in-excel.aspx.*
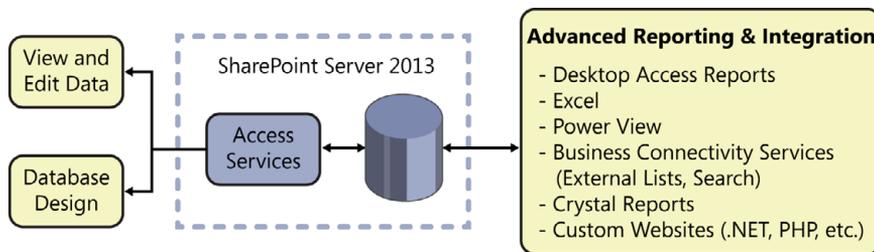
However, as the data is not stored in SharePoint, some functionality is lost when compared to creating a SharePoint integrated forms solution by using Microsoft InfoPath 2013 Designer. For example, you cannot create or initiate a SharePoint workflow on data in Access apps, nor can you have unique permissions at the table or row level. Also, the data stored inside the Access app is not indexed by the SharePoint search engine. The rest of this section describes the creation of Access apps.

Access 2013 includes a set of templates that can be used to jump-start the creation of Access apps. Any template with a global icon and that does not contain the word *desktop* can be used to create an Access app. These templates include **Custom web app**, **Asset tracking**, **Contacts**, **Issue tracking**, **Project management**, and **Task management**.

The **Asset tracking**, **Contacts**, **Issue tracking**, **Project management**, and **Task manage-ment** templates are not available when you first install Access. They are available when you are connected to the Internet. When you choose one of these templates, you are provided a preview of the home webpage, a description, and the download size of the template.
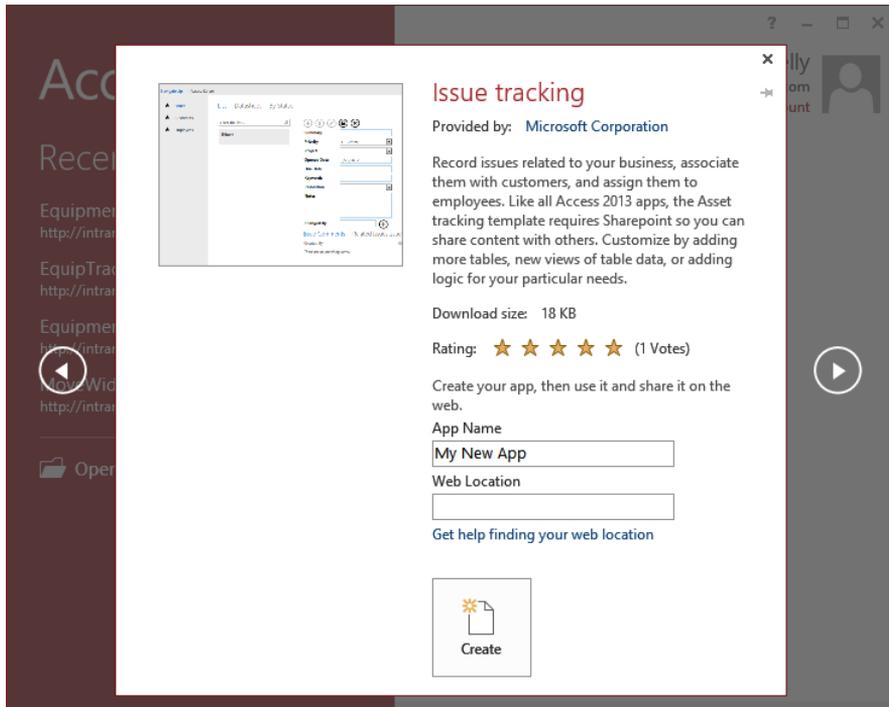
Your Access app can contain tables, views (known as forms), queries, and data macros. When you create an Access app based on the Custom Web App template, it contains no tables, views, queries, or data macros; and when the Access app appears in the browser, the webpage displays a link to open the app within Access so that you can start adding tables.
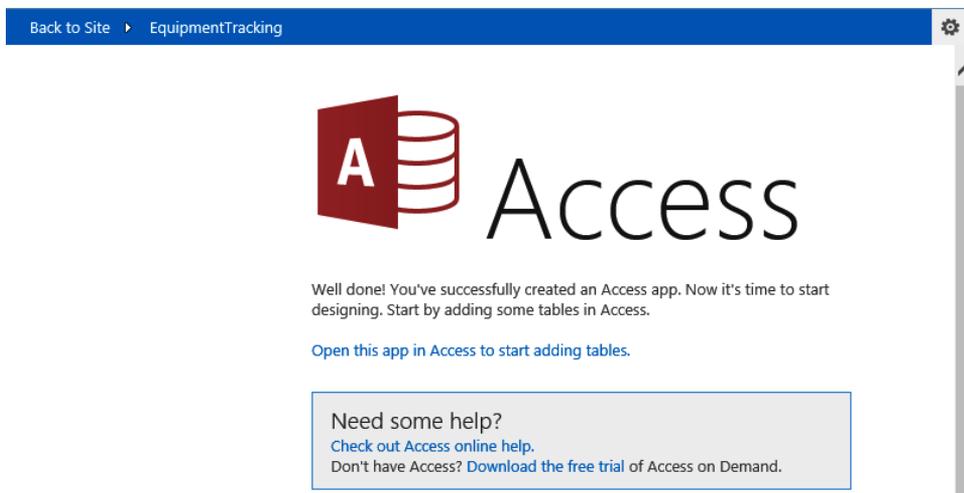
NOTE You can create an Access app by using the **Your Apps** page, which appears when you click **Add an app** from the **Settings** gear icon in the browser. This creates an Access app using the Custom Web App template.

The Access app templates available for download over the Internet are summarized in Table 12-1.

Table 12-1 *Access app templates*

Template name	Description	Tables	Views
Asset Tracking	Track equipment used by your business and assigned to employees.	Assets, Categories, Employees	List, Datasheet, By Category, By Group
Contacts	Manage individual and corporate relationships.	Contacts	List, Datasheet, By Group
Issue Tracking	Record issues related to your business, associate them with customers, and assign them to employees	Issues, Customers, Employees, Issue Comments, Related Issues	List, Datasheet, By Status, By Group
Project Management	Manage projects by breaking work items into tasks, associating them with customer, and assigning them to employees.	Projects, Employees, Customers, Tasks	List, Datasheet, By Status, By Group

The name of the SQL Server 2012 database that is created when you add an Access app to your site can be found when you open the Access app in Access and click the **File** tab to display the backstage **Info** page. The database name will be of the format db_*guid*, where *guid* is an automatically generated number. The name of the site where the Access app was added appears in the title of the Access window.
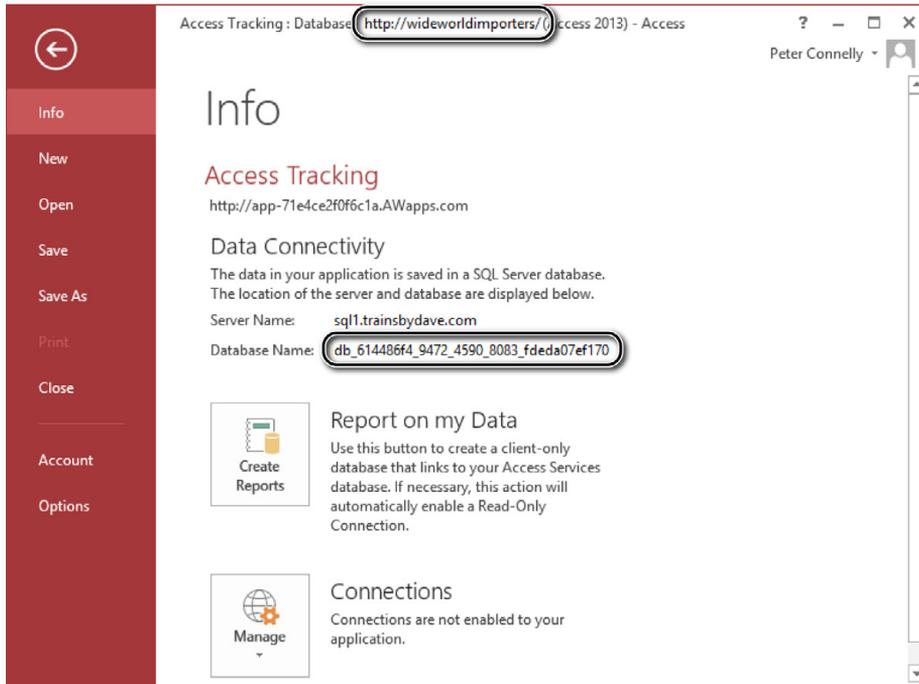
The tables, views, queries, and macros are all stored in the database. Whenever you enter data or modify the design of the Access app, you are interacting with the database; however, the user interface gives no indication of this.

Although the server name and database name is of little interest to you, it is important to advanced users who wish to directly connect to the database. You can control external connections to your Access app database by using the **Manage** split button at the bottom of the backstage **Info** page. The default configuration of the Access app database is not to allow any external connections. Another group of interested users is your IT department, who may wish to schedule operational procedures, such as backup and maintenance on the database.

TIP You can make your own backups of the Access app database by creating an *App Package file*, and restoring the Access app by using the app package on any SharePoint 2013 site. More information on how to complete such a task is documented at *blogs.office. com/b/microsoft-access/archive/2012/09/27/moving-and-backing-up-your-access-2013-web-apps.aspx.*

Whichever template you use, when an Access app is created, it inherits the permissions and branding from the site where the app was added. You cannot change the permissions or

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branding within the Access app. Users who design the Access app using Access must be mapped to the Full Control permission level at the site where the app was added. Users who use the browser to run the Access app must be mapped to either the Read or Contribute permission level, depending whether you wish them to just view the data or want them to create, update, and delete the data.

In this exercise, you will create an app from a template.

SET UP **Start Access 2013. Remember to use your SharePoint site location in place of** *http://wideworldimporters* **in the following exercise.**

> **IMPORTANT** Verify that you have sufficient rights to add an app. If in doubt, see Appendix A.

1   In the middle pane, click **Custom web app**.
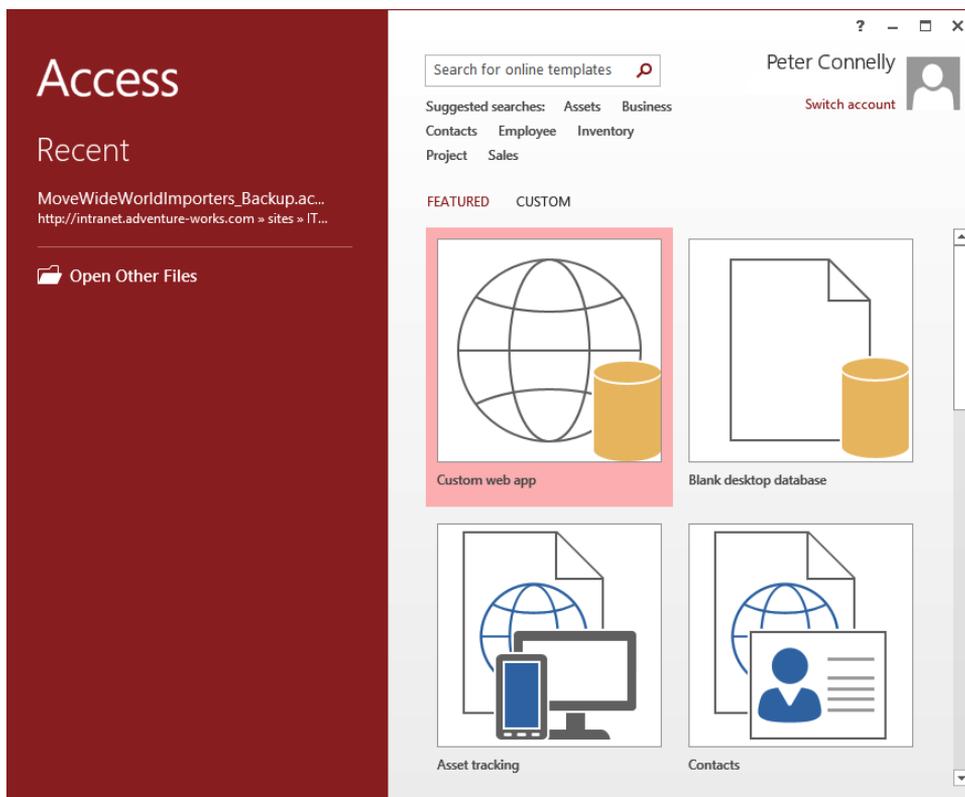
2   In the **Custom web app** dialog, in the **App Name** text box, type **EquipmentTracking**, and then in the **Web Location** text box, type the URL of the SharePoint site where you want to add the Access app, such as **http://wideworldimporters**.
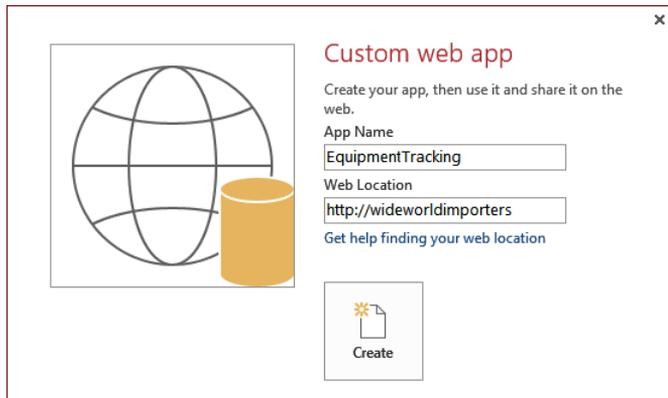
3   Click **Create** to create the app and to display the app in Access.
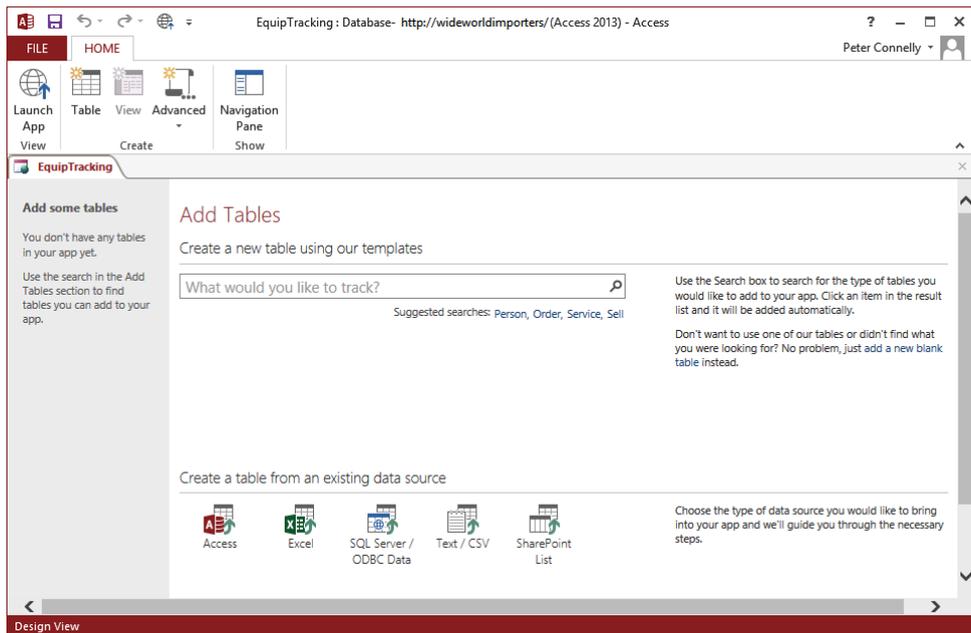
❌ CLEAN UP **Leave Access open if you are continuing to the next exercise.**

Creating a table in an Access app

With an Access app, you use the browser to add, edit, view, and delete data, and you use Access 2013 to design the Access app. This means that Access 2013 is used to create and customize tables, views, queries, and macros.

Each Access table is created as a SQL Server table, which has the same name that it was given in Access, as are the fields (columns) you create in the Access. Access data types are mapped to SQL Server database data types. For example, text fields map to nvarchar; number fields use decimal, int, or float; and image fields are stored as varbinary (MAX). However, in many instances, you will not need to create tables and add fields to those tables, because Access provides a number of table templates (nouns), which you can use as a basis for your new tables.

When you select a table template, other related tables may be added to the Access app; for example, when you add the **Assets** table, the **Categories** table is added, which allows you to group and organize your assets. The Orders template provides an **Orders** table, as well as tables to track related **Customers**, **Employees**, **Products**, **Suppliers**, and **Categories**.

You can also create linked tables; for example, you can connect to and display real-time data from SharePoint lists, including external lists.

SEE ALSO Creating linked tables to SharePoint lists is discussed later in this chapter.

For each table, two views are automatically generated: **List** and **Datasheet**. Each can be likened to the views on SharePoint internal lists and libraries. These are the pages in the browser that users see when they go to the Access app, and use to interact with the data. There are two other types of views, Summary and Blank views, which you can use to develop custom views. The Summary view allows you to group data rows based on a value in a column or, alternatively, calculate a sum or an average of a column.

The **Datasheet** view in the browser is similar to the **Quick Edit** view you use on lists and libraries. If your users find that they extensively use the same filters, sorts, or column hiding, you may consider creating queries for the Access app. Queries can combine related tables, perform calculations and summaries, and automatically apply changes. Queries in the Access app are created as SQL Server views or as a table-valued function (TVF), if the query has parameters.

To automate common tasks, you can create macros. A *macro* is a miniature program that you create and store in an Access app. Access apps do not support the Visual Basic (VB) programming language. There are two types of macros:

- User interface macros, which perform actions, such as navigating to another view, or showing or hiding controls. They can be attached to command buttons or combo boxes.

- Data macros, which are created by selecting **Data Macros** from the **Advanced** split button in the **Create** group on the **Home** tab. These macros are used to implement business rules at the data level, and therefore can be used to create, edit, and delete records.

To create views, macros, and queries, use the **Advanced** split button in the **Create** group on the **Home** tab within Access.
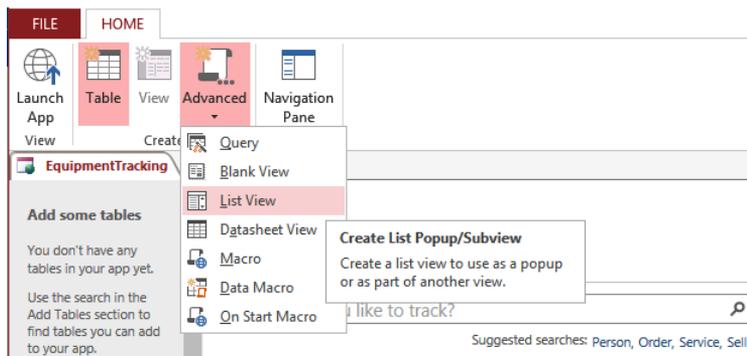
In this exercise, you will create a table in an Access app.

→ SET UP **Start Access 2013 and open the Equipment Tracking Access app that you created in the previous exercise, if it is not already open. You can use your own Access app if you wish.**

> **IMPORTANT** Verify that that the user ID you are using is mapped to the Full Control permission level in the site where the Access app was added.

1   On the **Add Tables** screen, under **Create a new table using our templates**, type **equipment**, and then click the search icon to the right of the text box to search through the list of table templates.

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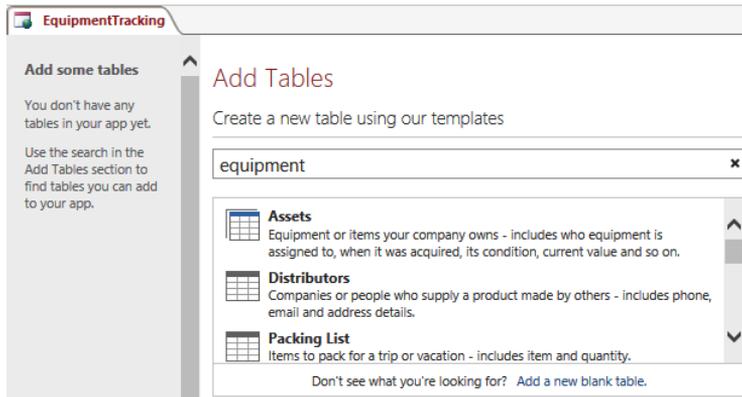
2   Click **Assets** to create the Assets, Categories, and Employees tables.

3   In the left navigation pane, click **Assets** to display the design view of the home page of the Access app.
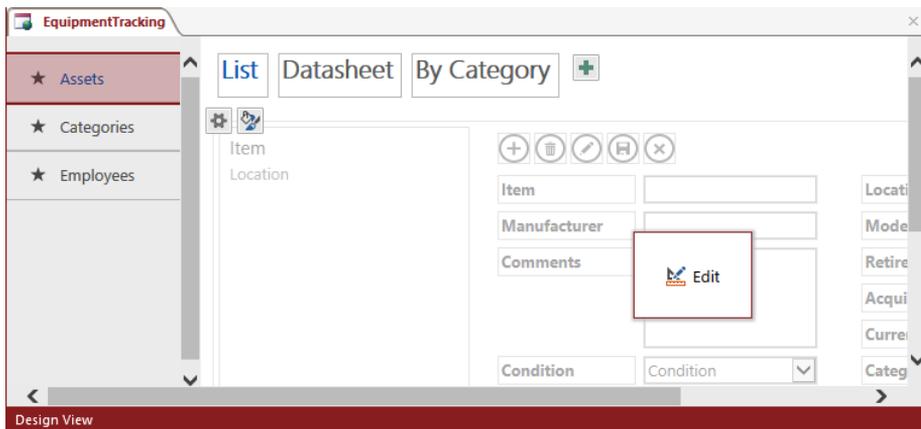
❌ CLEAN UP **Leave Access open if you are continuing to the next exercise.**

Working with an Access app in the browser

Once you have designed the Access app in Access, it can be used in the browser to create, read, update, and delete the data associated with your app. Users mapped to the Contribute permission level on the site where the app was added can complete these tasks; these users will not need to have Access installed on their computers to work with the data.

In the browser, the Access app page is divided into a number of sections. Depending on the view and the relationship between the tables, not all of these sections will be shown in all views:

- **Table list** Each table is presented by a link in the table list. Using Access, you can rearrange the order that the tables appear, and hide those tables that you do not want to be displayed in the browser.

- **View selector** Lets you select a specific view of items stored in a table.

- **Search and filter text box** Lets you search and filter the items displayed in the view.

- **Action Bar** Lets you add, delete, edit, save, and cancel changes. The **Action Bar** is the same in each view. You can customize the **Action Bar** in Access by replacing the five default commands with custom commands. You can even hide it, if you prefer.

- **Item pane** Lets you browse the items displayed in the view. For each item, up to three properties can be displayed. In the list view of the **Employees** table, the primary field is the **First Name** and **Last Name**, and the secondary field is the **Company**. No property is assigned to the thumbnail field.

- **Item Detailed pane** Lets you view, create, modify, and delete the properties of an item.

- **Related items** Displays items from other tables that are related to the item displayed in the Item Detailed pane.

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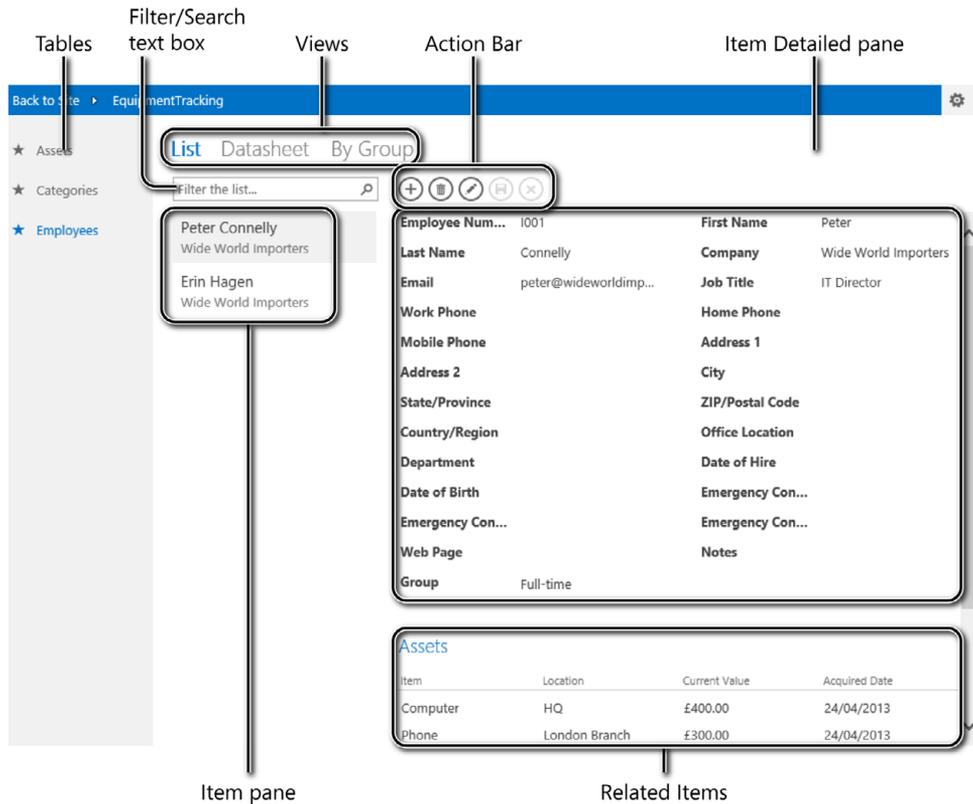
When the **Back to Site** link in the top left of the page is clicked, the home page of the site where you added the Access app is displayed. Click the cog icon in the top right of the page to customize the app in Access.

To display the Access app within Access, on the **Home** tab, click **Launch App**, or you can use the browser by going to the **Site Content** page and clicking the app. In the browser, if the background color of the Access app is not solid red, but the text below the name of the app—**We're adding your app**—is red, then SharePoint is still creating the Access app.

You can use the following keyboard shortcut keys when working with the Access app in the browser:

Action	Keyboard shortcut
Browse between the table list, view selector, filter/search text box, Action Bar, and controls in the data pane.	Tab, Shift+Tab, or Arrow keys
Create a new item.	Ctrl+N

Action	Keyboard shortcut
Delete an item.	Delete
Edit an item.	Ctrl+E
Save an item.	Ctrl+S
Cancel an action.	Escape
Edit a filter.	/
Close a dialog.	Escape

In this exercise, you will add data to an Access app using the **List** and **Datasheet** views.

➡ SET UP **Start Access 2013 and open the Equipment Tracking Access app that you created in the previous exercise, if it is not already open. You can use your own Access app if you wish.**

> **IMPORTANT** Verify that you have sufficient rights to edit data in the app. If in doubt, see Appendix A.

1 On the **Home** tab, in the **View** group, click **Launch App** to open the app in the browser.

2 In the table list, click **Employees**, and create a new employee item using the values in the following list:

Label	Value
Employee Number	I0001
First Name	Peter
Last Name	Connelly
Company	Wide World Importers
Email	peter@wideworldimporters.com
Job Title	IT Director

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3   Click the **Save** control on the **Action Bar**.

4   In the table list, click **Categories**, and then click **Datasheet** in the view selector.

5   Under **Title**, type **Desktop**, and then press **Enter** to go to the next row.

6   Repeat the previous step to create two other categories: **Tablet** and **Smartphone**.
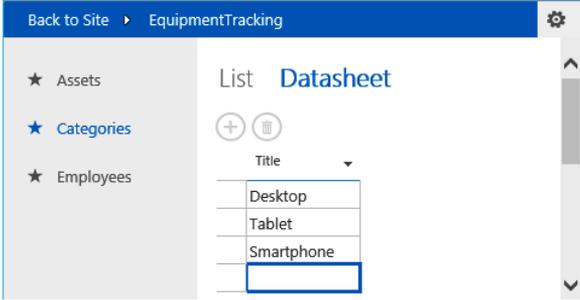
7   In the table list, click **Assets** and create two new asset items using the values in the following table. To save each item, click the **Save** control on the **Action Bar**, and click the **Add** control on the **Action Bar** to display the form to add the second item.

Label	Asset 1	Asset 2
Item	Computer	Phone
Location	HQ	London Branch
Manufacturer	Contoso	Adventure Works
Model	C0369	A0123
Acquired Date (use the data picker)	Today's date	Today's date
Current Value	400	300
Condition	Good	New
Category	Desktop	Smartphone
Owned By	Peter Connelly	Peter Connelly

TIP As you type the values for the **Category** and **Owned By** fields, the controls display a list of items from the **Categories** and **Employees** tables to help ensure data integrity.

8   With **Assets** still selected in the table list, in the view selector, click **By Category** to summarize the assets by category.

9   Under **Item**, click **Computer** to display a dialog to view all the properties associated with the computer asset.
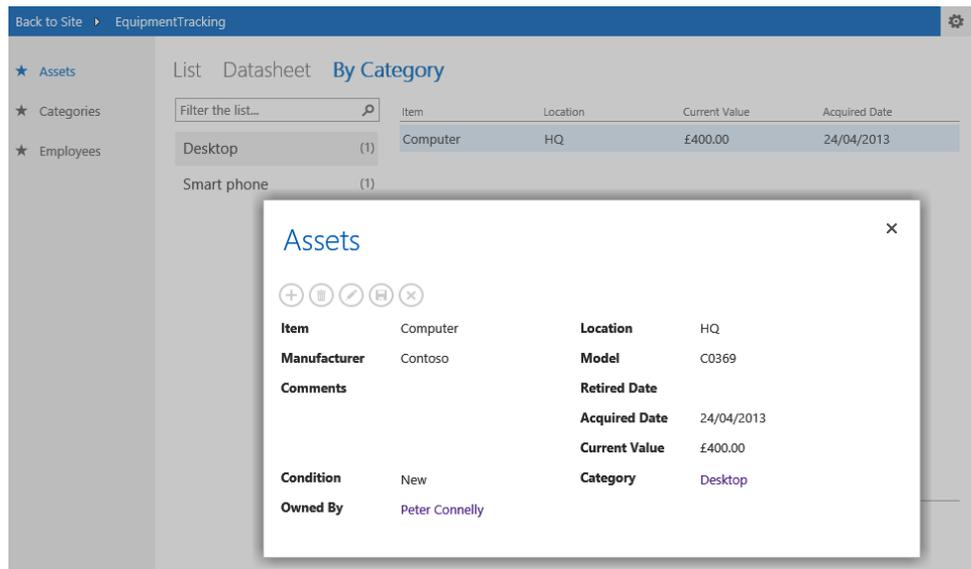
❌ CLEAN UP **Close Access and all browser windows.**

Exporting data from an Access desktop database to a list

Traditionally, Access uses database objects to manipulate and display data, tables, reports, and queries, where the Access database is stored on a file system or in a SharePoint library and requires the use of Access on the computer. When you create such a database with Access 2013, the same file format that was used with Microsoft Office Access 2007 or Access 2010 is created—an .accdb file; these files are known as a *desktop database*.

SEE ALSO More information on changes in Access 2013 can be found at *technet.microsoft. com/en-us/library/cc178954.aspx.*

Access consists of a number of tabs, many of which provide a quick way to work with SharePoint websites and lists, as summarized in the following table.

In the following table, note that "External Data" in column 1 goes with both row 2 and row 3, that is, "External Data" applies to both "Import & Link" in column 2 and "Export" in column 2.

Tab	Group	Description
External Data	**Import & Link**	Use the **More** drop-down list to import from or link to data on a SharePoint list.
	Export	Use the **More** drop-down list to export the selected object as a SharePoint list.
Database Tools	**Move Data**	Use to move your tables to a SharePoint list and create links to those tables in your database.

Access allows you to export a table or other database objects to a number of formats, such as an external file, an Excel workbook, a text file, a PDF or XPS file, email, an Extensible Markup Language (XML) document, an Open Database Connectivity (ODBC) data source, or a Hypertext Markup Language (HTML) document. You can also export a table to a SharePoint site, where a new list is created.

TIP Access 2013 does not support linking, importing, or exporting using the Installable Indexed Sequential Access Method (ISAM) for Lotus 1-2-3, Paradox, Microsoft Jet 3.x, or Microsoft Jet 2.x. This means that you can no longer open a Microsoft Office Access 97 database in Access 2013. You'll need to upgrade the file using either Access 2010 or Access 2007, and save it in the .accdb file format, which can then be used in Access 2013. More information on discontinued features and modified functionality in Access 2013 can be found at *office.microsoft.com/en-us/access-help/discontinued-features-and-modified-functionality-in-access-2013-HA102749226.aspx*.

To export the data to a SharePoint list, you use a wizard that builds an export query, which Access uses to query the Access table for data, and it then copies the data to the SharePoint list. You can save the export query, which you can do without using the wizard. Your saved exports can be found under the **External Data** tab in the **Export** group. Similarly, you can save your export as a Microsoft Office Outlook task, which you can then configure to remind you to run the export query.

When a SharePoint list is created from an Access table, the list does not automatically appear on the **Quick Launch**. To create a link to the list on the **Quick Launch**, you need to go to the **General Settings** page by clicking **List name, description and navigation** on the list's **Settings** page.

In the following exercise, you will export a table from within an Access 2013 desktop database into a SharePoint site by creating a new SharePoint list, and then save the export query.

➡ SET UP **This exercise uses the ExpImpWideWorldImporters.accdb Access database file, located in the Chapter12 practice folder; you could use any Access database that contains data in a table. Start Access 2013 and open the ExpImpWideWorldImporters.accdb database. Remember to use your SharePoint site location in place of *http://wideworldimporters* in the following exercise.**

> **IMPORTANT** Verify that you have sufficient rights to create a list. If in doubt, see Appendix A.

1   Under **Tables**, click **FurniturePrices**, if it is not already selected, and then, on the Access ribbon, click the **External Data** tab. In the **Export** group, click **More**, and then click **SharePoint List**.

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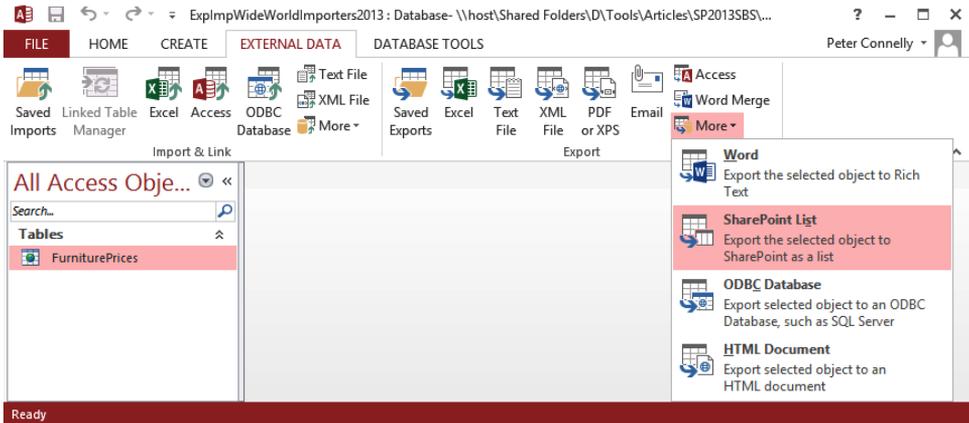
2   In the **Export - SharePoint Site** dialog box, in the **Specify a SharePoint site** area, se-
    lect the site where you want to export the table, or type the URL in the text box; for
    example **http://wideworldimporters**.

3   In the **Specify a name for the new list** box, type **exportFurniturePrices**.

4   Leave the **Open the list when finished** check box selected.
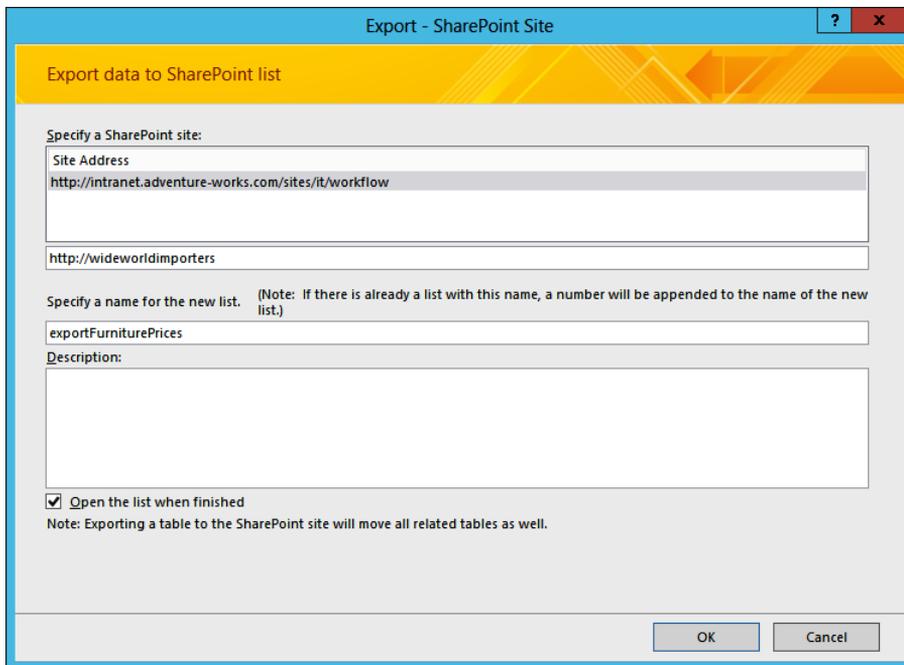
5   Click **OK** to export the data and display the newly created list, **exportFurniturePrices**.

exportFurniturePrices

⊕ new item or edit this list

All Items   •••   Find an item   🔍

✓	StockID	StockNo	Furniture Name	Furniture Range	Furniture Type	Country of Origin	Material	In Stock	Unit Price	Total
	1	W0001	Tall unit	Bianca	Bathroom	German	steel	5	$25.00	$125.00
	2	W0002	Base unit with drawers	Bianca	Bathroom	German	steel	99	$20.00	$1,980.00
	3	W0003	Wall unit	Bianca	Bathroom	German	steel	10	$115.00	$1,150.00
	4	W0004	Corner unit	Bianca	Bathroom	German	steel	5	$75.00	$375.00
	5	W0005	Slimline base unit	Bianca	Bathroom	German	steel	2	$64.00	$128.00

TROUBLESHOOTING If you mistype the website name in the **Site** text box, Access 2013 displays a warning dialog box, stating that it can't find the website. If this occurs, verify the website address and try again.

6   Return to the **Save Export Steps** page of the **Export - SharePoint Site** dialog box in Access.

7   Select the **Save export steps** check box to display the **Save As** and **Description** text boxes, as well as the **Create an Outlook Task** areas.

12
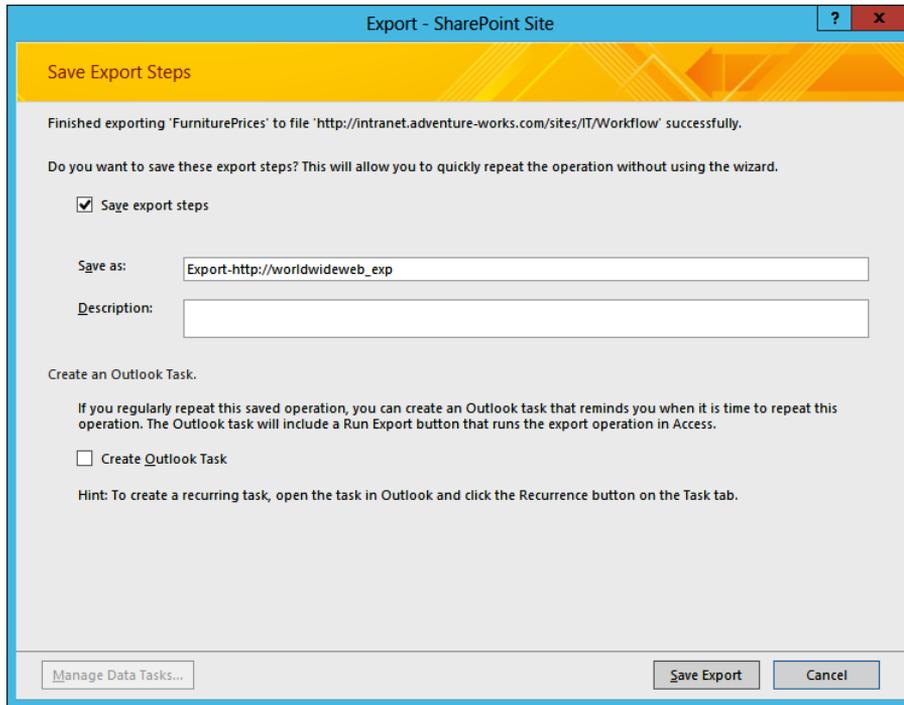
8　Click **Save Export** to close the **Export - SharePoint Site** dialog box.

❌ CLEAN UP **Exit the ExpImpWideWorldImporters.accdb database and close the browser. Choose No if prompted to save the changes.**

Importing a list

By using Access, you can create a new table in either an Access app or an Access desktop database by importing data from an external data source, such as an Excel workbook, an ODBC data source, or a SharePoint website. The new table becomes an integral part of your database, and the data is not affected by subsequent changes made to the data source after it is imported.

When you import data from a SharePoint list, the imported data is based on a view, and only those columns and rows shown in the view are imported. The **Get External Data** wizard lets you select the required view from the **Items To Import** drop-down list.

Once the table is created and the data imported from the list into the table, you can edit the data in the table. Such changes will not be reflected back in the list on the SharePoint website.

> **IMPORTANT** Changes to the SharePoint list are not copied to the Access table, nor are changes to the Access table reflected in the SharePoint list. A linked object is not created as part of this process.

In this exercise, you will import data from a SharePoint list.

➡ SET UP **In this exercise, you will use the ExpImpWideWorldImporters.accdb file, located in the Chapter12 practice file folder. Start Access 2013 and open the ExpImpWideWorldImporters.accdb database that you used in the previous exercise. You can use your own list, if you want. Remember to use your SharePoint site location in place of *http:// wideworldimporters* in the following exercise.**

> **IMPORTANT** Verify that you have sufficient rights to read list items. If in doubt, see Appendix A.

1   On the Access ribbon, click the **External Data** tab. In the **Import & Link** group, click **More**, and then click **SharePoint List** to display the **Get External Data - SharePoint Site** dialog box.

2   In the **Specify a SharePoint site** area, select the site that contains the list with the data that you want to import into the database.

   TROUBLESHOOTING If the URL for the SharePoint site does not appear, type the URL in the text box.

3   Select the **Import the source data into a new table in the current database** option.

12
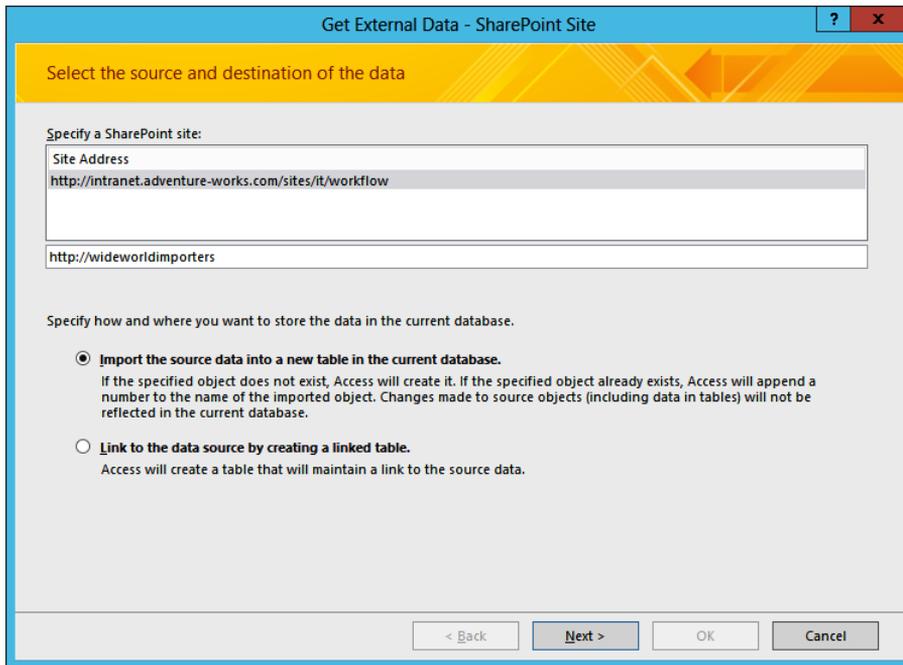
4   Click **Next** to display the **Import data from list** page of the **Get External Data -
    SharePoint Site** dialog box.

5   Select the check box to the left of the list from which you want to import the data,
    such as **exportFurniturePrices**.
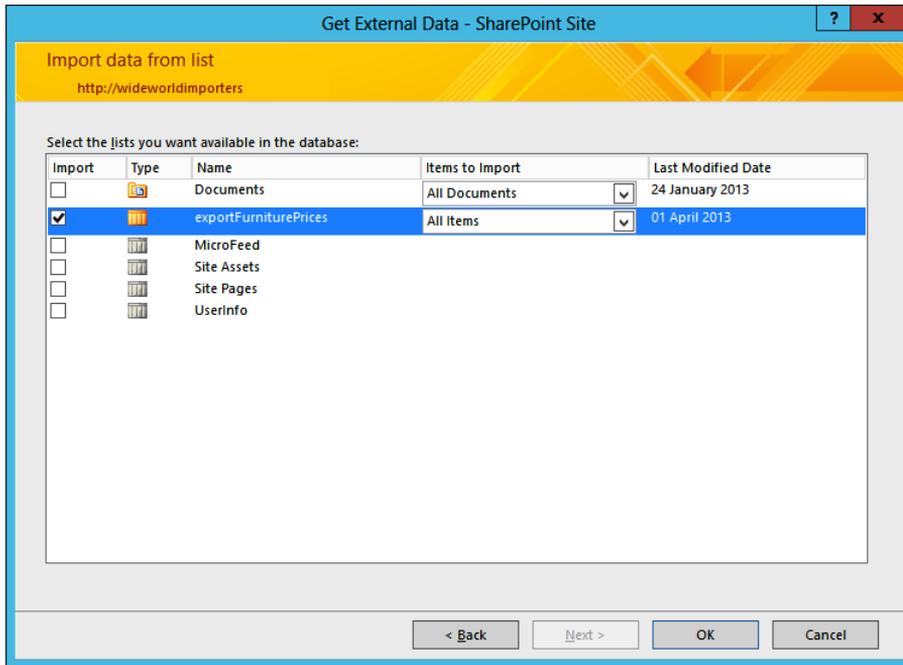
6   Click **OK**, and then click **Close**.

7   Under **Tables**, in the **Access** navigation pane, double-click **exportFurniturePrices** to open the **exportFurniturePrices** table in Datasheet view.

TROUBLESHOOTING If a table is not created from your SharePoint list, then a table called **Web Compatibility Issues** is created, which lists incompatibilities. Correct the issues and repeat this exercise.

✖ CLEAN UP **Leave Access open if you are continuing to the next exercise. Close any open browser windows.**

Linking to a list

Data was copied in the previous section so that the same data could be stored in both a list on a SharePoint site and either an Access app or an Access desktop database. If you do not want to maintain two copies of that data, but you do need to refer to the data within the Access app or an Access desktop database, then Access provides methods of accessing

external data that are physically located outside an Access database, known as *linked tables*, which were known as *attached tables* prior to Access 95.

TIP When using linked tables to reference a SharePoint list in an Access app, Access 2013 currently only supports read-only connections to SharePoint lists. Also, the list must be in the site where the Access app was added.

The easiest way to reference a SharePoint list externally is to use linked tables. You should use linking rather than importing if the data is maintained by either a user or a separate application on the SharePoint website. Also, to set up a connection to a list, the user who creates the linked table must have Change permissions rights to the list.

With a desktop database, the data from the linked tables is cached in local tables when the user is online with SharePoint, thereby improving large list performance. When server connectivity is lost, the database automatically goes into offline mode. When connectivity is restored, Access automatically synchronizes data changes for you. Text in the far right of the status bar at the bottom of the Access window indicates the connectivity status of Access with SharePoint.

With an Access app, the data is not displayed in Access; it is displayed in the browser and data is directly accessed from the tables in the app's database.

TIP External content types can be used to reveal external data in Office 2013 and Microsoft Office 2010 applications, including Access 2013 and Outlook 2013. Information on how to create External content types and how to use them in Access 2013 can be found in Chapter 22, "Working with external content," in *Microsoft SharePoint 2013 Inside Out*, by Darvish Shadravan, Penelope Coventry, Thomas Resing, and Christina Wheeler (Microsoft Press, 2013).

In this exercise, you will link a table to a SharePoint list, enter data in Access, and check that the data appears in the list.

→ SET UP **Start Access 2013 and open the ExpImpWideWorldImporters.accdb database that you used in the previous exercise, if it is not already open. You can use your own Access database if you wish. Remember to use your SharePoint site location in place of *http://wideworldimporters* in the following exercise.**

IMPORTANT Verify that you have sufficient rights to edit items in the list. If in doubt, see Appendix A.

1 On the Access ribbon, click the **External Data** tab. In the **Import & Link** group, click **More**, and then click **SharePoint List**. If an Access dialog box opens, stating that all objects must be closed prior to continuing this operation, click **Yes** to close the objects.

2 On the **Get External Data - SharePoint Site** dialog box, in the **Specify a SharePoint site** area, select the site that contains the list to which you wish to link.

   TROUBLESHOOTING If the URL for the SharePoint site does not appear, type the URL in the text box.

3 Check that the **Link to the data source by creating a linked table** option is selected, and then click **Next**.

4 On the **Choose the SharePoint lists you want to link to** page, select the check box to the left of the list to which you wish to link, such as **exportFurniturePrices**.

5 Click **OK**.

6 Under **Tables**, right-click the linked **exportFurniturePrices1** table, and then select **More options**.
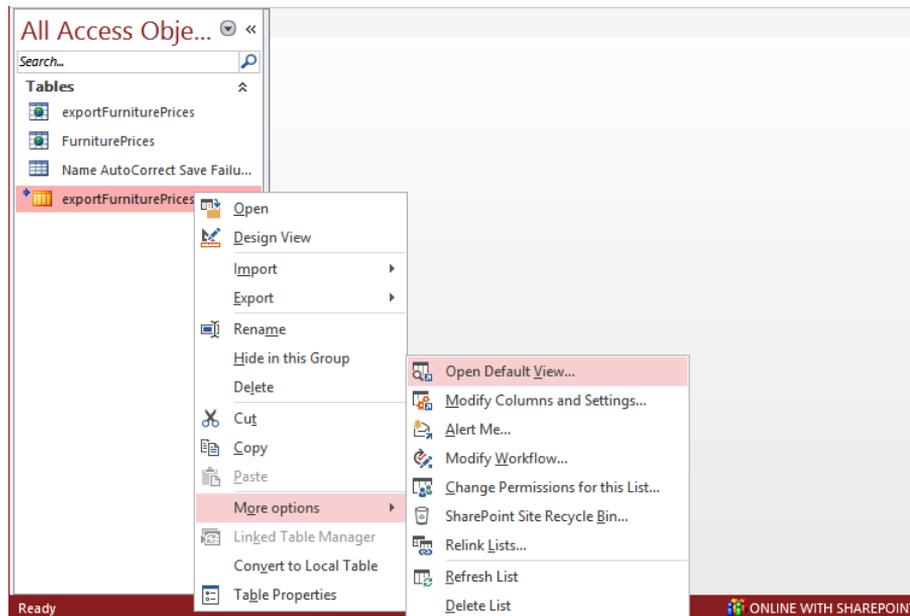
7 Click **Open Default View** to display the **exportFurniturePrices** list in the browser.

8   Switch back to Access. Under **Tables**, double-click **exportFurniturePrices1** to open the linked table in Datasheet view, and then click the cell in the first row under the **Furniture Name** column, and type **Base Unit**.

9   Click the cell in the second row under the **Furniture Name** column.

> **IMPORTANT** By moving to another row, Access automatically synchronizes changes to the SharePoint list.

10   Switch back to the browser, click **Refresh**, and then verify that the first row has been modified.

11   On the ribbon, click the **Items** tab, and then click **New Item** in the **New** group.

12   In the **StockNo** text box, type **W0033**, and then click **Save** to add the W0033 list item to the list.

> **TIP** To see the new item in the browser, you will need to scroll to the bottom of the list and click the right arrow to display the next page.

13   Switch back to Access. On the **Home** tab, in the **Records** group, click **Refresh All**.

✖ CLEAN UP **Exit the ExpImpWideWorldImporters.accdb database and close any open browser windows.**

Moving data from a desktop database to a list

Many Access applications grow from the need to manage and aggregate data. These data-centric applications often prove useful to more than one person in an organization, and thus the need to share them increases. However, Access is not truly meant for concurrent use. As Access desktop database applications grow and become more complex, it is necessary to consider upsizing them to a data repository that can support more users while increasing availability, reliability, and manageability. Beginning with Access 2000, various tools and wizards have helped with this process. Starting with Access 2007, you can upsize your Access desktop database to SharePoint, which is known as *moving* your Access database.

When you move data from an Access desktop database to a SharePoint site, this process creates a SharePoint list for each Access table. Data from Access tables is moved into these

SharePoint lists, and each data row becomes a list item in a SharePoint list. Tables in the desktop database are replaced with linked tables that point to the newly created SharePoint list or lists. The Access database now becomes a user interface to the data by retaining views, reports, and relationships between tables.

TIP Unlike in Access 2007, saving the Access database in a SharePoint library cannot be completed as part of the move process. When an Access database is saved to a SharePoint list, and users open the database in Access to make design changes, the last person who uploads the changed database back to the SharePoint library overwrites changes by other users. Therefore, use the checkout and check-in functionalities of SharePoint libraries when making database design changes.

Because the data is now in SharePoint, you can use SharePoint functionality. For example, you can restore deleted list items from the **Recycle Bin** and apply workflow rules to data items. If you choose to save the desktop database in the library, users who want to use the desktop database can go to the library in a browser, where the desktop database can be opened in Access.

Prior to Access 2007, multiple users kept their own copies of an Access database and amended it separately, often not viewing others' amendments until they were included in official documents, and the need to amalgamate the changes was recognized. To allow users to keep their own copy of a database, a business process would need to be introduced to maintain the data integrity of the database and distribute updates to the appropriate users. By using the process outlined here, users can add and modify data by using either SharePoint or the linked tables within the Access database. New views, data relationships, and reports maintained in the desktop database file can be managed as any other document when saved in SharePoint, including check-in and checkout facilities. Security on the data and the desktop database can be maintained using SharePoint security. To take advantage of these features, you must move your data from your desktop database to SharePoint.

SEE ALSO More information on developing Access hybrid applications can be found at *blogs.msdn.com/b/access/archive/2010/07/20/the-access-show-developing-access-2010-hybrid-apps-with-dick-moffat.aspx*. Although this example uses Access 2010 and SharePoint 2010, it is still relevant to Access 2013 and SharePoint 2013.

In the following exercise, you will move data from within an Access desktop database to a SharePoint site, and then save the desktop database in a library.

➜ SET UP **This exercise uses the MoveWideWorldImporters.accdb file, located in the Chapter12 practice file folder. Start Access 2013 and open the**

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MoveWideWorldImporters.accdb database. Remember to use your SharePoint site location in place of *http://wideworldimporters* in the following exercise.

> **IMPORTANT** Verify that you have sufficient rights to create lists. If in doubt, see Appendix A.

1   On the Access ribbon, click the **Database Tools** tab. In the **Move Data** group, click **SharePoint** to display the **Export Tables to SharePoint Wizard**.

2   In the **What SharePoint site do you want to use?** text box, type the name of your SharePoint site, such as **http://wideworldimporters**.

3   Click **Next** to start the move operation.

4   When the message stating that "Your tables have been successfully shared" appears, select the **Show Details** check box to check which lists were created and the name of the database backup.
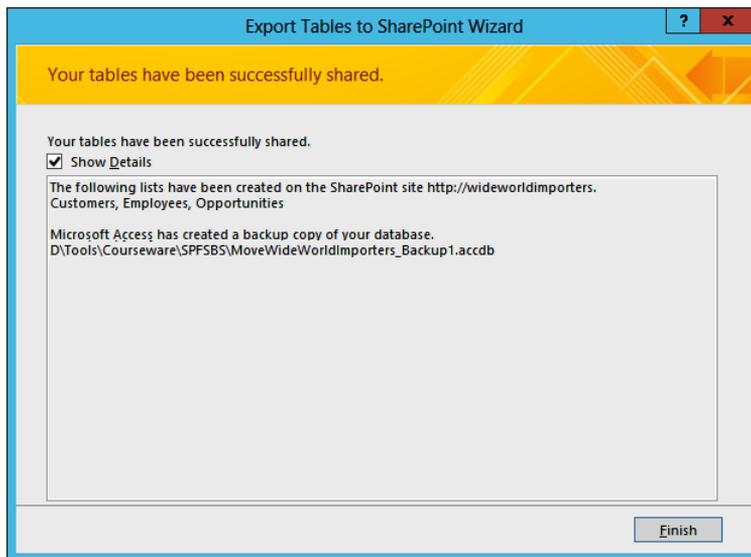
5   Click **Finish**, and then click **File** to display the backstage view of Access.

6 In the left navigation pane, click **Save As**. Under **File Types**, verify that **Save Database as** is selected, and then in the right pane, in the **Advanced** section, select **SharePoint.**
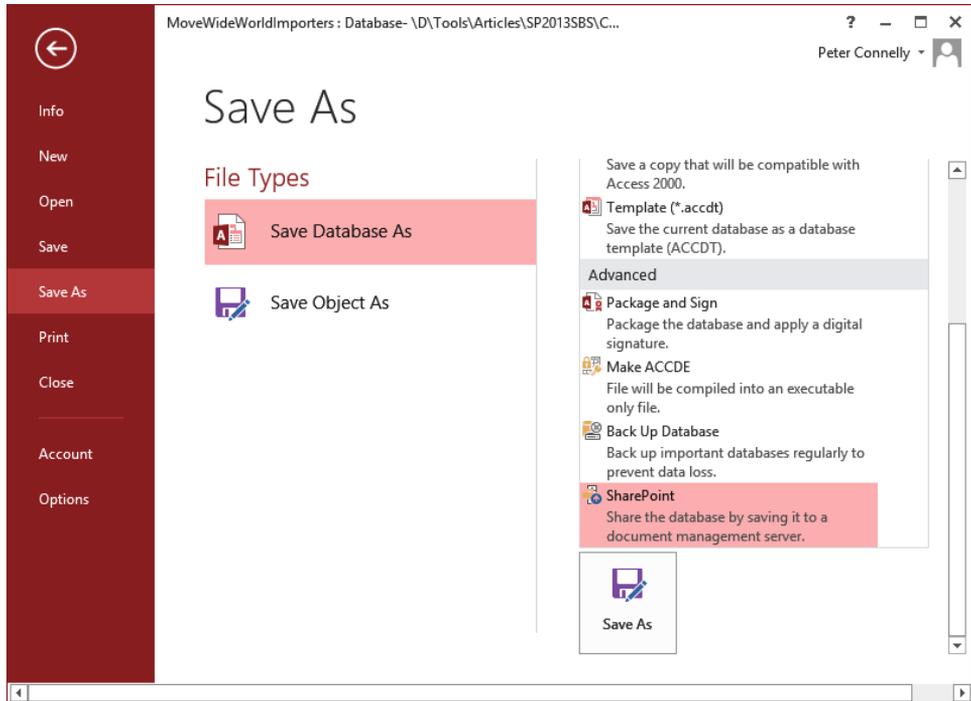
7 Click **Save As**.

8 In the **Save to SharePoint** dialog box, in the **File name** box, type the URL of the SharePoint site that contains the library where you wish to save your desktop database, such as **http://wideworldimporters**, and then press **Enter** to display the libraries of the SharePoint site.

12
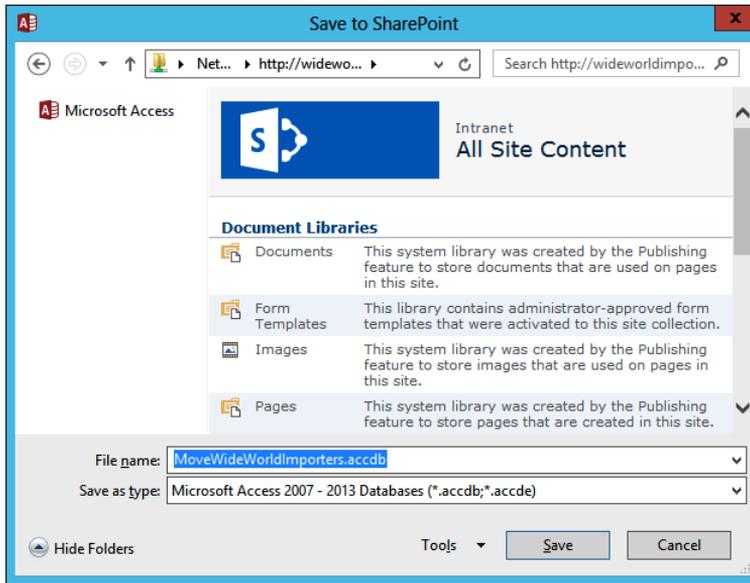
9   Double-click **Documents**, and then click **Save** to complete the save process.
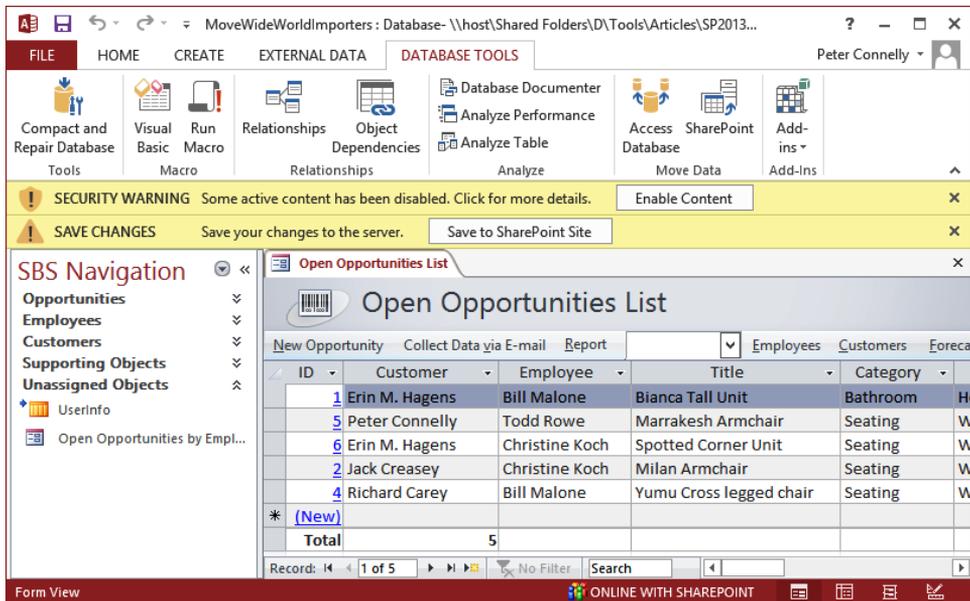
 CLEAN UP **Leave Access open if you are continuing to the next exercise.**

Working offline

In the previous section, you moved data from an Access desktop database to a SharePoint site, and you created linked tables pointing to a SharePoint list where the list items can be viewed and updated using Access. In these tables, the data is stored outside Access. However, you might still like to access the data in a disconnected environment. When using Access 2007, Access 2010, or Access 2013, you are able to cache SharePoint list data locally in an offline mode. The data that is held locally is not independent of the data in the SharePoint list. You may synchronize changes back to the SharePoint site any time that you want.

To switch from working online to offline, on the **External Data** tab, click **Work Offline**—the first command in the **Web Linked Lists** group. The command changes to **Work Online** and the previously inactive **Synchronize** and **Discard Changes** commands are enabled. All data is cached within the desktop database, and links to the SharePoint lists are cut temporarily. However, Access behaves much as it did online. The only indication that it is offline is the Access status bar at the bottom of the Access window, which reads **OFFLINE WITH SHAREPOINT**.

In Access, when you are online with a SharePoint website and you modify data within a row in a table, moving out of the row causes Access to synchronize changes. However, when you are working offline, a dimmed pencil icon in the first column of the row that you have amended indicates that you have made changes to the row and synchronization has not occurred.

> **IMPORTANT** If you provide a copy of an offline Access database, the data in the database will be visible to users who may not have permissions to view the data on the SharePoint site. This could be a security risk.

In this exercise, you will explore synchronizing data with a table linked to a SharePoint list when working offline. This exercise uses the linked tables that were created during the move operation in the previous exercise. You can use your own tables that are linked to a SharePoint list, if you want.

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➔ SET UP **Start Access 2013 and open the MoveWideWorldImporters.accdb database that you saved in the Shared Documents library in the previous exercise.**

> **IMPORTANT** Verify that you have sufficient rights to edit items in the lists linked to the Access tables. If in doubt, see Appendix A.

1. Under the **Supporting Objects** group, click the double down arrow, and then right-click **Opportunities**. Select **More Options**, and then click **Open Default View** to open the **Opportunities** list in browser, so that you can verify changes to the list later in the exercise.

2. Switch back to Access. On the Access ribbon, click the **External Data** tab, and in the **Web Linked Lists** group, click **Work Offline**.

3. Under the **Supporting Objects** group, double-click **Opportunities** to display the contents of the table in Datasheet view.

4. Click the cell in the first row under the **Title** column, and then type **Bianca Corner Unit**. Click a cell in the second row.

   TROUBLESHOOTING If an Access dialog box opens, stating that a value must be greater than 1/1/1900, click **OK** to close the dialog box. Press the **Esc** key to discard your changes. On the **External Data** tab, in the **Web Linked Lists** group, click **Work Online**, and then repeat steps 1, 2, and 4.

5. Switch back to the browser. Click **Refresh**, and then verify that the first row has not been modified.

6. In the browser, click the cell in the first row under **Title**, type **Woodland Bench**, and then click a cell in the second row.

7   Switch back to Access. On the **External Data** tab, in the **Web Linked Lists** group, click **Synchronize** to force Access to temporarily connect to the SharePoint list to synchronize changes.
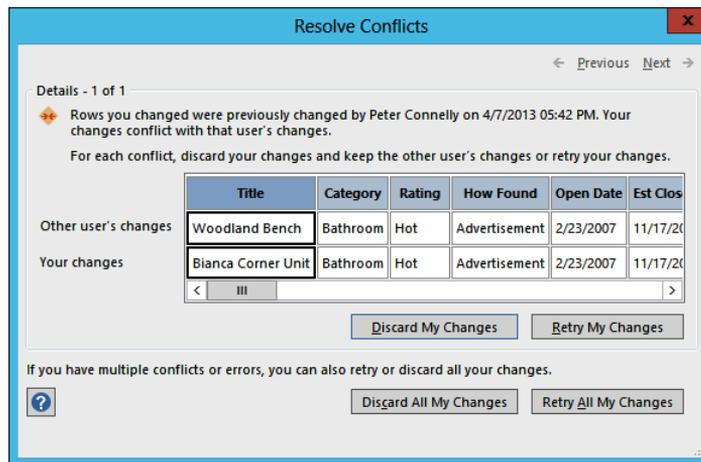
8   In the **Resolve Conflicts** dialog box, click **Discard My Changes**.

9   Under **Supporting Objects**, double-click **Opportunities** to open the table in Datasheet view, and verify that the **Title** column of the first row contains the text **Woodland Bench**.

10 In the Datasheet view of the **Opportunities** table, click the cell in the first row under the **Title** column and type **Bianca Corner Unit**. Click a cell in the second row.

11 On the **External Data** tab, in the **Web Linked Lists** group, click **Work Online**.

12 Switch back to the browser. Click **Refresh**, and then verify that the first row contains the text **Bianca Corner Unit**.

13 On the ribbon, on the **List** tab, in the **Manage Views** group, click **Create Column**.

14 In the **Column name** box, type **Advertisement** and select the **Yes/No** option. Click **OK**.

15 Switch back to Access. Under **Supporting Objects**, right-click **Opportunities**, click **More options**, and then click **Refresh List**.

16 Open the **Opportunities** table, if necessary, and check that the **Advertisement** column is visible.

❌ CLEAN UP **Exit the MoveWideWorldImporters.accdb database and close the browser.**

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Key points

- You can create a custom list from the browser by importing data from an Excel spreadsheet.

- You can create an Excel spreadsheet from the browser and export data into it from a SharePoint list.

- From within Excel, you can export data from an Excel table into a newly created SharePoint list.

- You can synchronize changes between a SharePoint list and an Excel spreadsheet. This is a one-way synchronization process.

- Integration with SharePoint makes Access 2013 a great collaboration tool, while also permitting data to be stored on enterprise servers for better manageability.

- In Access 2013, databases can be published to SharePoint Server 2013 as an Access web app, also known as an Access app, where data is stored in its own SQL Server 2012 database. The browser is used to view and edit data, and Access 2013 is used to design the Access app.

- In Access 2010, databases can be published as an Access web database. These can only be created using Access 2010 and Access Services 2010.

- Both Access apps and Access web database can only be used when SharePoint Server Enterprise Client Access Licenses (CALs) have been purchased. You can integrate Access desktop databases with any edition of SharePoint 2013.

- When using an Access desktop database, you can export data from a table to SharePoint lists. Data in the Access table is not affected by subsequent changes made to the SharePoint list because there is no synchronization process between Access and a SharePoint site.

- Using either an Access app or a desktop database, you can use linked tables. This lets you take advantage of SharePoint features such as workflow, security, and searching.

- At the time that this book was written, data from a linked table in an Access app is read-only; however, in a desktop database, two-way synchronization is provided and you can maintain a cache to use when working offline.

- You can move an Access desktop database to a SharePoint site. Data is moved into SharePoint lists, and if you want, you can save the desktop database in a library.

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Penelope Coventry is a multiyear recipient of the Microsoft Most Valuable Professional (MVP) Award (in Microsoft SharePoint Server), and has obtained the following certifications: Microsoft Certified Solutions Expert (MCSE) in SharePoint 2013, Microsoft Certified IT Professional (MCITP) in SharePoint Administration 2010, and Microsoft Certified Professional Developer (MCPD) in SharePoint Developer 2010. Based in the United Kingdom, she is an author, an independent consultant, and a trainer with more than 30 years of industry experience. Penny has authored and coauthored more than 10 SharePoint-related books, including *Exploring Microsoft SharePoint 2013: New Features and Functions* (Microsoft Press, 2013), *Microsoft SharePoint 2013 Inside Out* (Microsoft Press, 2013), *Microsoft SharePoint Designer 2010 Step by Step* (Microsoft Press, 2010), and *Microsoft SharePoint 2010 Administrator's Companion* (Microsoft Press, 2010). Penny has spoken at a number of conferences, including TechEd North America; SharePoint conferences in the United States, Canada, Australia, New Zealand, Sweden, and the United Kingdom; and SharePoint Saturdays. She is a keen supporter of the UK SharePoint user group community. Penny has worked with SharePoint since 2001, and when she's not writing, she works on large SharePoint deployments.
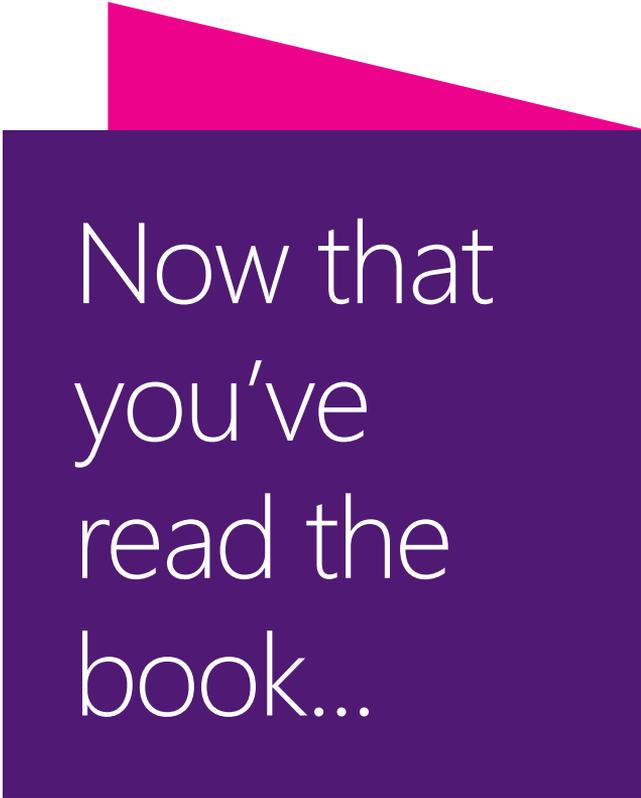
Acknowledgments

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Was there room for improvement?

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