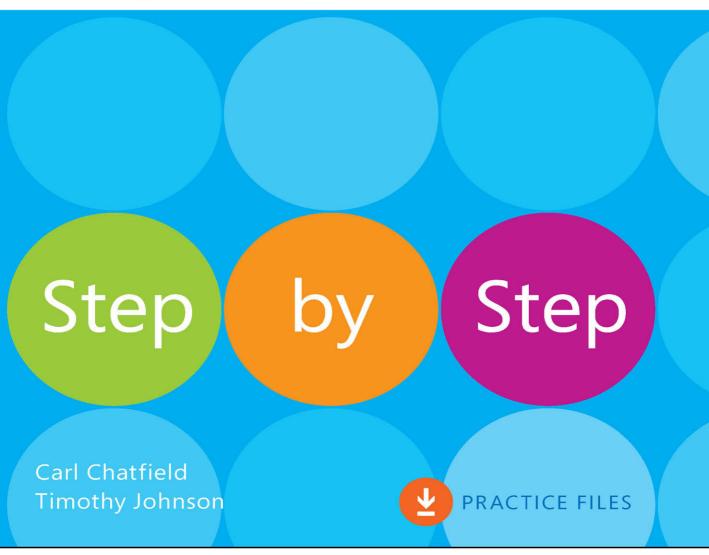


Microsoft Project 2016



FREE SAMPLE CHAPTER

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Microsoft Project 2016 Step by Step

Carl Chatfield Timothy Johnson PUBLISHED BY Microsoft Press A division of Microsoft Corporation One Microsoft Way Redmond, Washington 98052-6399

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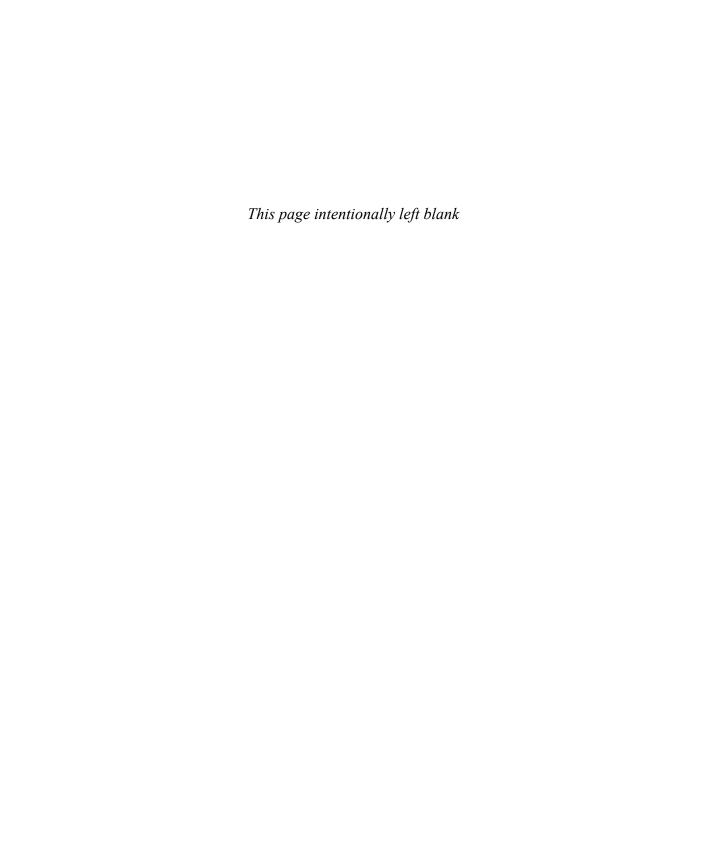
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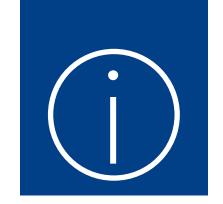
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Introduction

Welcome! This *Step by Step* book has been designed so you can read it from the beginning to learn about Microsoft Project 2016 and then build your skills as you learn to perform increasingly specialized procedures. Or, if you prefer, you can jump in wherever you need ready guidance for performing tasks. The how-to steps are delivered crisply and concisely—just the facts. You'll also find informative, full-color graphics that support the instructional content.

Who this book is for

Microsoft Project 2016 Step by Step is designed for use as a learning and reference resource by home and business users of Microsoft Office programs who want to use Project to create and manage projects more efficiently. The content of the book is designed to be useful for people who have previously used earlier versions of Project and for people who are discovering Project for the first time.

The Step by Step approach

The book's coverage is divided into chapters representing general Project skill sets. Each part is divided into chapters representing skill set areas, and each chapter is divided into topics that group related skills. Each topic includes expository information followed by generic procedures. At the end of the chapter, you'll find a series of practice tasks you can complete on your own by using the skills taught in the chapter. You can use the practice files that are available from this book's website to work through the practice tasks, or you can use your own files.

Download the practice files

Before you can complete the practice tasks in this book, you need to download the book's practice files to your computer from http://aka.ms/project2016sbs/downloads. Follow the instructions on the Downloads tab.



IMPORTANT Project 2016 is not available from the book's website. You should install that program before working through the procedures and practice tasks in this book.

You can open the files that are supplied for the practice tasks and save the finished versions of each file. If you later want to repeat practice tasks, you can download the original practice files again.

The following table lists the practice files for this book.

Chapter	Folder	Files	
Part 1: Get started with Microsoft Project			
1: Project, project management, and you	Ch01	None	
2: Take a guided tour	Ch02	TakeGuidedTour.mpp	
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3: Start a new plan	Ch03	None	
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12: Fine-tune the Project plan	Ch12	FineTunePlan.mpp
13: Organize plan details	Ch13	Organize Details.mpp
14: Track progress: Detailed techniques	Ch14	Reschedule Incomplete Work.mpp Track Time phased Work.mpp Track Work.mpp Update Baseline.mpp
15: View and report project status	Ch15	ReportStatus.mpp
Part 4: In-depth and special subjects		
16: Format and print views: In-depth techniques	Ch16	FormatInDepth.mpp
17: Format reports: In-depth techniques	Ch17	Format Reports In Depth.mpp
18: Customize Project	Ch18	Customize Project A.mpp Customize Project B.mpp
19: Share information with other programs	Ch19	Sample Task List.xlsx Share Information.mpp
20: Consolidate projects and resources	Ch20	Consolidate Plans A.mpp Consolidate Plans B.mpp Share Resources A.mpp Share Resources B.mpp

Ebook edition

If you're reading the ebook edition of this book, you can do the following:

- Search the full text
- Print
- Copy and paste

You can purchase and download the ebook edition from the Microsoft Press Store at http://aka.ms/project2016sbs/detail.

Adapt procedure steps

This book contains many images of the Project user interface elements (such as the ribbon and the program window) that you'll work with while performing tasks in Project on a Windows computer. Depending on your screen resolution or window width, the Project ribbon on your screen might look different from that shown in this book.(If you turn on Touch mode, the ribbon might display some commands in a different layout.) As a result, procedural instructions that involve the ribbon might require a little adaptation.

Simple procedural instructions use this format:

1. On the **Task** tab, in the **View** group, click the **Gantt Chart** button.

If the command is in a list, our instructions use this format:

1. On the **View** tab, in the **Data** group, click the **Filter** arrow and then, in the **Filter** list, click **Summary Tasks**.

If differences between your display settings and ours cause a button to appear differently on your screen than it does in this book, you can easily adapt the steps to locate the command. First click the specified tab, and then locate the specified group. If a group has been collapsed into a group list or under a group button, click the list or button to display the group's commands. If you can't immediately identify the button you want, point to likely candidates to display their names in ScreenTips.

Multistep procedural instructions use this format:

- 1. On the **View** tab, in the **Resource Views** group, click the **Resource Sheet** button to display the Resource Sheet view.
- 2. On the View tab, in the Data group, click the Tables button, and then click Cost.

The instructions in this book assume that you're interacting with on-screen elements on your computer by clicking (with a mouse, touchpad, or other hardware device). If you're using a different method—for example, if your computer has a touchscreen interface and you're tapping the screen (with your finger or a stylus)—substitute the applicable tapping action when you interact with a user interface element.

Instructions in this book refer to Project user interface elements that you click or tap on the screen as *buttons*, and to physical buttons that you press on a keyboard as *keys*, to conform to the standard terminology used in documentation for these products.

When the instructions tell you to enter information, you can do so by typing on a connected external keyboard, tapping an on-screen keyboard, or even speaking aloud, depending on your computer setup and your personal preferences.

Get support and give feedback

This topic provides information about getting help with this book and contacting us to provide feedback or report errors.

Errata and support

We've made every effort to ensure the accuracy of this book and its companion content. If you discover an error, please submit it to us at http://aka.ms/project2016sbs/errata.

If you need to contact the Microsoft Press Support team, please send an email message to *mspinput@microsoft.com*.

For help with Microsoft software and hardware, go to http://support.microsoft.com.

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

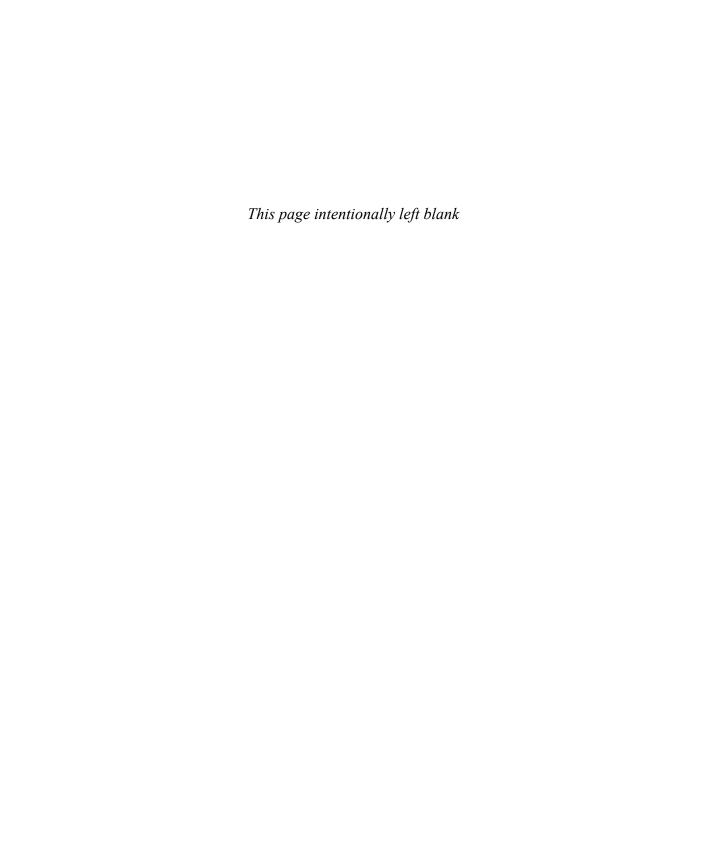
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Part 2

Simple scheduling basics

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CHAPTER 8



Start a new plan

3

A project's schedule or plan is essentially a model that you construct of some aspects of a project you are anticipating—what you expect will happen, or what you want to happen. This model focuses on key aspects of a project, such as tasks, resources, timeframes, and possibly their associated costs. Note that throughout this book, we'll refer to the types of documents that Project 2016 works with as *plans*, not documents or schedules.

This chapter guides you through procedures related to creating a new plan and setting its start date, setting nonworking days in a project calendar, and entering a plan's title and other properties.

In this chapter

- Create a new plan and set its start date
- Set nonworking days in the project calendar
- Enter the plan title and other properties

Practice files

No practice files are necessary to complete the practice tasks in this chapter.

Create a new plan and set its start date

As you might expect, Project focuses primarily on time. Sometimes you might know the expected start date of a project, the expected finish date, or both. However, when working with Project, you specify only one date, not both: the plan's start date or finish date. Why? Because after you enter the plan's start or finish date and other details, Project calculates the other date for you. Remember that Project is not merely a static repository of your schedule information or a Gantt chart drawing tool—it is an active scheduling engine.

Most plans should be scheduled from a start date, even if you know that the plan should finish by a certain deadline date. Scheduling from a start date sets all tasks to begin as soon as possible, and it gives you the greatest scheduling flexibility. In this and later chapters, you will see this flexibility in action as you work with a plan that is scheduled from a start date.

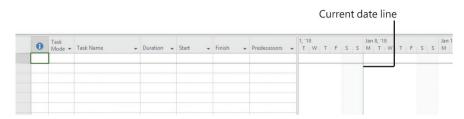
To create a new plan

- 1. In Project, if the **File** tab is displayed, click it, and then click **New**.
- 2. In the list of templates, click Blank Project or any other template you want.

Or

 If you already have a list of available templates on the Start screen, click Blank Project or any other template you want.

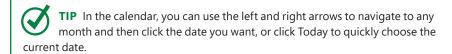
When you create a new plan, Project sets the plan's start date to the current date. Project draws a thin green vertical line in the chart portion of the Gantt Chart view at the current date.



The current date is shown in the Gantt Chart view; look for the green vertical line (your current date will likely differ)

To set (or change) the plan's start date

- 1. On the **Project** tab, in the **Properties** group, click **Project Information**.
- 2. In the **Project Information** dialog box, in the **Start Date** box, enter the start date you want or click the arrow to select one from the calendar.



3. Click **OK** to accept the start date and close the **Project Information** dialog box.

To save the new plan

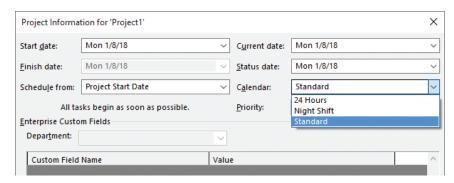
- 1. Click the **File** tab, and then click **Save As**.
- 2. On the Save As page, navigate to the location where you want to save the plan.

TIP You can adjust Project settings related to files. For example, you can set Project to automatically display the Project Information dialog box each time you create a new plan. To make this change, click the File tab, and then click Options. In the Project Options dialog box, click Advanced, and then, in the General section, select the Prompt For Project Info For New Projects check box. You can also instruct Project to automatically save the active plan at predefined intervals, such as every 10 minutes. In the Project Options dialog box, click Save, select the Auto Save Every check box, and then specify the time interval you want.

Set nonworking days in the project calendar

Calendars are the primary means by which you control when each task and resource can be scheduled for work in Project. In later chapters, you will work with other types of calendars; in this chapter, we focus on the project calendar.

The project calendar defines the general working and nonworking days and times for tasks. Project includes multiple calendars, called base calendars, any one of which can serve as the project calendar for a plan. You select the base calendar that will be used as the project calendar in the Project Information dialog box.



Set the plan's start date, project calendar, and other essential schedule settings in the Project Information dialog box

IMPORTANT If you are using Project Professional rather than Project Standard, the Project Information dialog box and some other dialog boxes contain additional options relating to Project Server. For more information about Project Server, see Appendix C, "Collaborate: Project, SharePoint, and PWA."

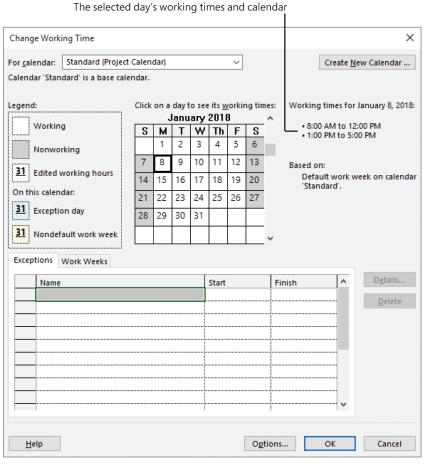
The Calendar list contains the three base calendars that are included with Project:

- 24 Hours Has no nonworking time
- Night Shift Covers a late-night "graveyard" shift schedule of Monday night through Saturday morning, 11:00 P.M. to 8:00 A.M., with a one-hour break each day
- Standard The traditional working day and week, Monday through Friday from 8:00 A.M. to 5:00 P.M., with a one-hour break each day

Only one of the base calendars serves as the project calendar; the Standard calendar is the default.

Think of the project calendar as your organization's normal working days and hours. For example, this might be Monday through Friday, 8:00 A.M. through 5:00 P.M., with a one-hour lunch break each day. Your organization or specific resources might have exceptions to this normal working time, such as holidays or vacation days. You'll address resource vacations in Chapter 5, "Set up resources."

You customize calendars in the Change Working Time dialog box (which opens when you click the Change Working Time button on the Project tab).



Customize a calendar's working time in the Change Working Time dialog box

Use this dialog box to set normal working schedules and working time exceptions for individual resources or the entire plan. Other common examples of working time adjustments include:

- Recurring holidays or other times off that follow a known pattern, such as weekly, monthly, or annually.
- Variable working times per week; for example, to address seasonal changes in working times.
- Unique working hours for a resource. You'll make such settings in Chapter 5, "Set up resources."

To select the project calendar

- 1. On the **Project** tab, in the **Properties** group, click the **Project Information** button.
- 2. In the **Project Information** dialog box, in the **Calendar** box, click the arrow, and then click the calendar you want to use as the project calendar.

To set a specific date as nonworking

- 1. On the **Project** tab, in the **Properties** group, click the **Change Working Time** button.
- 2. On the Exceptions tab in the lower portion of the Change Working Time dialog box, in the Name field, enter a description of the exception.



TIP You don't need to name calendar exceptions, but it's a good practice for you or others to identify the reason for the exception.

- 3. In the **Start** and **Finish** fields, enter or select the dates you want.
- 4. Click **OK**.

To set up a recurring nonworking time

- 1. On the **Project** tab, in the **Properties** group, click the **Change Working Time** button.
- 2. On the **Exceptions** tab of the **Change Working Time** dialog box, in the **Name** field, enter a description of the recurring exception.
- 3. Click in the **Start** field, and then click **Details**.
- 4. In the **Details** dialog box, under **Recurrence Patterns**, select the recurrence values you want, and then click **OK**.
- 5. Click **OK** to close the **Change Working Time** dialog box.

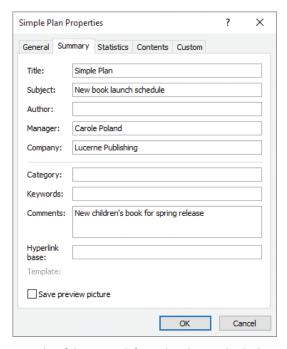
To set up a custom work week

- 1. On the **Project** tab, in the **Properties** group, click the **Change Working Time** button.
- 2. Click the **Work Weeks** tab in the lower portion of the **Change Working Time** dialog box.
- 3. Click a row below the "[Default]" value.
- 4. Enter a description and the date range for which you want the custom work week to apply.

- 5. In the **Start** and **Finish** fields, enter or select the date range for which you want the custom work week to apply.
- 6. Click Details.
- 7. In the **Details** dialog box, select the day and time values you want, and then click **OK**.
- 8. Click **OK** to close the **Change Working Time** dialog box.

Enter the plan title and other properties

Like other Microsoft Office apps, Project keeps track of several document properties. Some of these properties are statistics, such as how many times the document has been revised. Other properties include information that you might want to record about a plan, such as the project title, the project manager's name, or keywords to support a file search. Some of these properties are used in views, in reports, and in page headers and footers when printing. You can view and record these properties in the Properties dialog box.



Record useful summary information about a plan in the Properties dialog box

To enter a plan's properties

- 1. Click the File tab, and then click Info.
- 2. On the right side of the **Info** screen, click **Project Information**. In the menu that appears, click **Advanced Properties**.
- 3. Enter whatever properties you want to record (all are optional), and then click **OK**.

Project management focus: Project is part of a larger picture

Depending on your needs and the information to which you have access, the plans that you develop in Project might not deal with other important aspects of your projects. For example, many large projects are undertaken in organizations that have a formal change-management process. Before a major change to the scope of a project is allowed, it must be evaluated and approved by the people managing and implementing the project. Even though this is an important project-management activity, it is not something done directly within Project.

Skills review

In this chapter, you learned how to:

- Create a new plan and set its start date
- Set nonworking days in the project calendar
- Enter the plan title and other properties

Practice tasks

No practice files are necessary to complete the practice tasks in this chapter.



IMPORTANT If you are running Project Professional with Project Web App/Project Server, take care not to save any of the practice files you work with in this book to Project Web App (PWA). For more information, see Appendix C, "Collaborate: Project, SharePoint, and PWA."

Create a new plan and set its start date

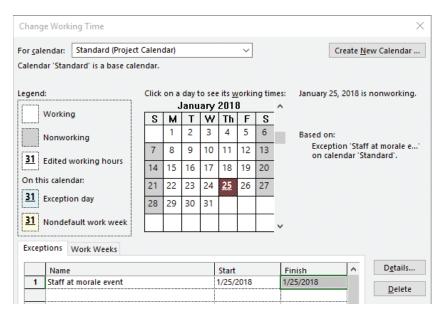
The scenario: Throughout this book, you'll play the role of a project manager at Lucerne Publishing, a book publisher that specializes in children's books. Lucerne is about to publish a major new book, and you've been asked to develop a plan for the book launch. Start Project, and perform the following tasks:

- 1. Create a new plan based on the **Blank Project** template.
- 2. Set the new plan's start date to January 8, 2018.
- 3. Save the new plan as Simple Plan in the Project2016SBS\Ch03 folder.

Set nonworking days in the project calendar

The scenario: At Lucerne Publishing, you need to account for an upcoming date on which the entire Lucerne staff will be unavailable to work on the book launch project. Continuing in the Simple Plan plan, perform the following task:

1. In the project calendar, create a nonworking day calendar exception named **Staff at morale event** for January 25, 2018.



The calendar exception you created should look like this in the Change Working Time dialog box

Enter the plan title and other properties

The scenario: You want to record top-level information about the new book launch plan. These details won't affect the overall schedule but relate to important supplemental information you want to keep in the plan. Continuing in the Simple Plan plan, perform the following task:

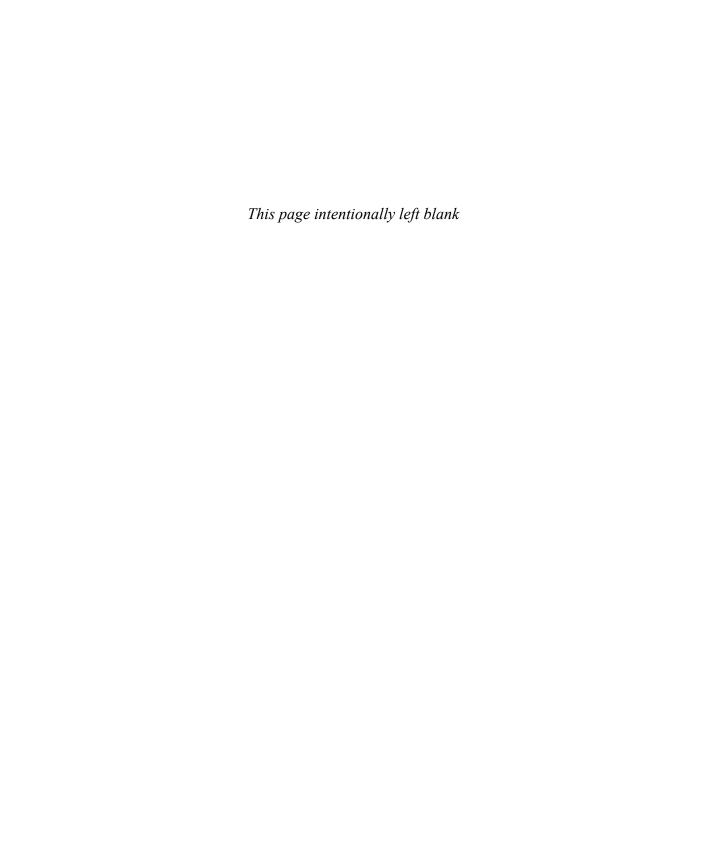
- 1. Give the Simple Plan the following properties:
 - Subject: New book launch schedule
 - Manager: Carole Poland
 - Company: Lucerne Publishing
 - Comments: New children's book for spring release

Part 3

CHARTERA

Advanced scheduling techniques

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Track progress: Detailed techniques

14

Building, verifying, and communicating a sound plan might take much or even most of your time as a project manager. However, planning is only the first phase of managing your projects. After the planning is completed, the implementation of the project starts—carrying out the plan that was previously developed. Ideally, projects are implemented exactly as planned, but this is seldom the case. In general, the more complex the plan and the longer its duration, the more opportunity there is for variance to appear. Variance is the difference between what you intended to happen (as recorded in the plan's baseline) and what actually happened (as recorded by your tracking efforts).

Properly tracking actual work and comparing it against the original plan enables you to identify variance early and adjust the remaining portion of the plan when necessary.

This chapter guides you through procedures related to updating a baseline, tracking actual and remaining work for tasks and assignments, tracking timephased actual work for tasks and assignments, and rescheduling incomplete work.

In this chapter

- Update a baseline
- Track actual and remaining work for tasks and assignments
- Track timephased actual work for tasks and assignments
- Reschedule incomplete work

Practice files

For this chapter, use the practice files from the Project2016SBS\Ch14 folder. For practice file download instructions, see the introduction.

Update a baseline

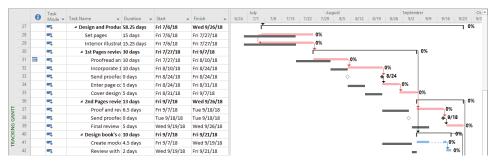
In Chapter 8, "Track progress: Basic techniques," you learned how to save a baseline for a plan. Recall that a baseline is a collection of important values in a plan, such as the planned start dates, finish dates, and costs of tasks, resources, and assignments. When you save (or set) a baseline, Project takes a "snapshot" of the existing values and saves it in the plan for future comparison. If you've previously saved a baseline, you might need to update it before recording actual work.

TIP If you're not sure whether a plan already has a saved baseline (or multiple baselines), or if you'd like to see when a baseline was saved, here's what to do: On the Project tab, in the Schedule group, click the Set Baseline button, and then click the Set Baseline command. In the Set Baseline field of the dialog box, any previously saved baselines in the plan will be indicated by the dates they were saved.

Keep in mind that the purpose of the baseline is to record what you expected the plan to look like at one point in time. As time passes, however, you might need to change your expectations. After saving an initial baseline plan, you might need to fine-tune the plan by adding or removing tasks or assignments or making other adjustments. To keep an accurate baseline for later comparison, you have several options:

- Update the baseline for the entire project This simply replaces the original baseline values with the currently scheduled values.
- **Update the baseline for selected tasks** This does not affect the baseline values for other task or resource baseline values in the plan.
- Save a second or subsequent baseline You can save up to 11 baselines in a single plan. The first one is called *Baseline*, and the rest are *Baseline 1* through *Baseline 10*.

A great view for comparing a baseline with the plan as it is currently scheduled is the Tracking Gantt view.



The Tracking Gantt view shows how tasks in the plan as it is currently scheduled compare to its baseline schedule

In the chart portion of this view, the tasks as they are currently scheduled appear as blue bars (if they are not critical tasks) or red bars (if they are critical tasks). Below them, the baseline values of each task appear as gray bars.

TIP In Gantt chart views such as the Tracking Gantt view, the colors, patterns, and shapes of the bars on the right side of the view represent specific things. To see what any item represents, just point to it and a description will appear in a ScreenTip. To see a complete legend of Gantt chart items and their formatting, on the Format tab, in the Bar Styles group, click Format, and then click Bar Styles.

Save interim plans

After you start tracking actual values or any time you adjust your plan, you might want to take another snapshot of the current start and finish dates. You can do this with an interim plan. Like a baseline, an interim plan is a set of current values from the plan that Project saves with the file. Unlike the baseline, however, an interim plan saves only the start and finish dates of tasks, not resource or assignment values. You can save up to 10 different sets of interim dates in a plan. (If you find that you need multiple snapshots of scheduled values in addition to start and finish dates, you should instead save additional baselines.)

Depending on the scope and duration of your projects, you might want to save an interim plan at any of the following junctures:

- At the conclusion of a major phase of work
- At preset time intervals, such as weekly or monthly
- Just before or after entering a large number of actual values

To compare a plan as it is currently scheduled with its previously saved baseline

- 1. On the **View** tab, in the **Task Views** group, click the **Gantt Chart** arrow, and then click **Tracking Gantt**.
- 2. If necessary, adjust the zoom level: on the **View** tab, in the **Zoom** group, in the **Timescale** box, select the timescale setting you want. Project compares the plan with the baseline.
- 3. To compare the plan with another baseline (Baseline 1 through Baseline 10), on the **Gantt Chart Tools Format** tab, in the **Bar Styles** group, click **Baseline**, and then click the baseline you want to see compared.

To update a previously saved baseline or add an additional baseline

- 1. On the **Project** tab, in the **Schedule** group, click **Set Baseline**, and then click **Set Baseline** to open the Set Baseline dialog box.
- 2. Do either of the following:
 - To update a previously saved baseline, click **Set Baseline**, and then select the specific baseline you want to update.
 - To save a new baseline, click **Set Baseline**, and then select the additional baseline you want to save.
- 3. Then do either of the following:
 - To update or add the selected baseline for the plan, under For, click Entire Project, and then click OK.
 - To update or add the selected baseline just for the selected tasks, under For, click Selected Tasks. When you do this, the options under Roll Up Baselines become available. You can control how baseline updates should affect the baseline values for summary tasks. For example, you could resave a baseline for a subtask and update its related summary task baseline values if you want.
- 4. Click OK.

To remove a baseline

1. On the **Project** tab, in the **Schedule** group, click the **Set Baseline** button, and then click **Clear Baseline**.

To save an interim plan

- 1. On the **Project** tab, in the **Schedule** group, click the **Set Baseline** button, and then click **Set Baseline**.
- 2. In the Set Baseline dialog box, select Set Interim Plan.
- 3. In the Copy field, select the date values you want to copy.
- 4. In the **Into** field, select the date values into which you want to copy the fields you selected in the **Copy** field.
- 5. Click OK.

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Track actual and remaining work for tasks and assignments

In Chapter 8, "Track progress: Basic techniques," you learned how to work with actual start, finish, and duration values for individual tasks. For tasks that have resources assigned to them, you can enter actual and remaining work values for the task as a whole or for specific assignments to that task. To help you understand how Project handles the actual values you enter, consider the following:

- If a task has a single resource assigned to it, the actual work values you enter for the task or assignment apply equally to both the task and the resource assignment. For example, if you record that the assignment has five hours of actual work, those values apply to the task and to the assigned resource.
- If a task has multiple resources assigned to it, the actual work values you enter for the task are distributed among or rolled down to the assignments according to their assignment units. This level of detail is appropriate if you aren't concerned about the details at the individual assignment level.
- If a task has multiple resources assigned to it, the actual work values you enter for one assignment are rolled up to the task. However, the new actual work values do not affect the other assignments' work values on the task. This level of detail is appropriate if details at the individual assignment level are important to you.
- If the actual work value you enter is greater than the planned work, Project sets Remaining Work to zero. If actual work is less than planned work, Project recalculates Remaining Work accordingly. You can also directly edit the Remaining Work value if you want.

A great view for recording actual and remaining work is the Task Usage view with the Work table displayed.

	Task Name ▼	Work 🕶	Baseline 🔻	Variance →	Actual 🔻	Remaining 🔻	% W. Comp. ▼	Details	Т	W
0		2,317.5 hrs	2,317.5 hrs	0 hrs	127 hrs	2,190.5 hrs	5%	Work	8h	81
1	▶ Editorial staff mee	45.5 hrs	45.5 hrs	0 hrs	7 hrs	38.5 hrs	15%	Work		
15	▲ Acquisition	444 hrs	444 hrs	0 hrs	120 hrs	324 hrs	27%	Work	8h	81
16	Manuscript rece	0 hrs	0 hrs	0 hrs	0 hrs	0 hrs	100%	Work		
17		120 hrs	120 hrs	0 hrs	120 hrs	0 hrs	100%	Work	8h	81
	Carole Polai	120 hrs	120 hrs	0 hrs	120 hrs	0 hrs	100%	Work	8h	81
18	■ Original art revi	164 hrs	164 hrs	0 hrs	0 hrs	164 hrs	0%	Work		
	Hany Morcc	82 hrs	82 hrs	0 hrs	0 hrs	82 hrs	0%	Work		
	Jane Dow	82 hrs	82 hrs	0 hrs	0 hrs	82 hrs	0%	Work		
19	△ Author review (160 hrs	160 hrs	0 hrs	0 hrs	160 hrs	0%	Work		
	Copyeditors	80 hrs	80 hrs	0 hrs	0 hrs	80 hrs	0%	Work		

The Task Usage view has two parts: a table on the left and timephased data (that is, data organized under a timescale) on the right

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As you might recall from Chapter 9, "Fine-tune task scheduling," the two sides of the usage view are split by a vertical divider bar. This view lists resources under the tasks to which they're assigned. This information appears in the table on the left side. On the right side are rows organized under a timescale. The rows show you the scheduled work values for each task and assigned resource. The Task Usage view color-codes the rows on the right side: task rows have a shaded background, and assignment rows have a white background.

TIP In this topic, we focus on the Task Usage view to show the results of entering actual work per task or assignment. Other means of recording actual work include the Task Form or the Task Details Form with the Work detail displayed in a split view with a Gantt chart, Task Usage, or other task-centric view. For a refresher on the Task Form, see Chapter 6, "Assign resources to tasks."

Let's walk through some examples of entering actual work. We'll start in the Task Usage view with the Work table displayed.

	Task Name	Work 🕶	Baseline 🔻	Variance ▼	Actual →	Remaining +	% W. Comp. ▼	Details	W	т	F
0	△ Children's Book Schedule	2,317.5 hrs	2,317.5 hrs	0 hrs	127 hrs	2,190.5 hrs	5%	Work	8h	20h	24
1	▶ Editorial staff meeting	45.5 hrs	45.5 hrs	0 hrs	7 hrs	38.5 hrs	15%	Work			
15	△ Acquisition	444 hrs	444 hrs	0 hrs	120 hrs	324 hrs	27%	Work	8h	20h	24
16	Manuscript received	0 hrs	0 hrs	0 hrs	0 hrs	0 hrs	100%	Work			
17		120 hrs	120 hrs	0 hrs	120 hrs	0 hrs	100%	Work	8h	8h	8
	Carole Poland	120 hrs	120 hrs	0 hrs	120 hrs	0 hrs	100%	Work	8h	8h	8
18	■ Original art review	164 hrs	164 hrs	0 hrs	0 hrs	164 hrs	0%	Work		12h	16
	Hany Morcos	82 hrs	82 hrs	0 hrs	0 hrs	82 hrs	0%	Work		6h	8
	Jane Dow	82 hrs	82 hrs	0 hrs	0 hrs	82 hrs	0%	Work		6h	8
19	 Author review of content edit 	160 hrs	160 hrs	0 hrs	0 hrs	160 hrs	0%	Work			

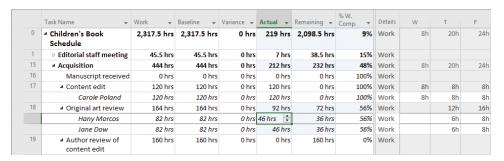
In this example, task 18 initially has 164 hours of scheduled work, which is evenly split between the two assigned resources

The Work table includes the Actual Work and Remaining Work columns. The values in the Work column are the task-level and assignment-level totals for scheduled work. Note that each task's work value is the sum of its assignment work values.

In a usage view, you see work values at two different levels of detail: the total value for a task or assignment on the left and the more detailed timephased level on the right. These two sets of values are directly related. Consider, for example, a task named *Original art review*, which is task 18 in the plan. The 164 hours of total work for task 18 is the sum of Hany Morcos's 82 hours of work on the task plus Jane Dow's 82 hours.

In the timephased grid, the scheduled work values per time period are displayed—daily, in this example. If you add up the daily work values for a specific task or assignment, the total equals the value in the Work column for that task or assignment.

Let's look more closely at the results of entering an actual work value. In this example, when we enter 92 hours of actual work on task 18, Project distributes the actual work among the assigned resources and adjusts their remaining work.



This is what the view looks like after 92 hours of actual work are recorded on task 18

Several important things occurred when we entered the actual work on task 18:

- Project applied change highlighting to the updated values in the table.
- The amount of actual work we entered was subtracted from the Remaining Work column (labeled *Remaining* in the Work table).
- The actual work was distributed to the two assignments on the task, resulting in 46 hours of actual work being recorded for Hany Morcos and 46 hours for Jane Dow. Likewise, the remaining work values were recalculated for each assignment.
- The updated actual and remaining work values were rolled up to the Acquisition summary task and to the Project summary task.

Now that you've seen the effect of recording actual work at the task level, let's look at entering actual work at the assignment level. Again, we'll focus on task 18. When we assigned 92 hours of work to the task, Hany Morcos was assigned 46 hours of that

work. Now, after we record actual work of 62 hours for Hany, we see that her actual and remaining work values are updated, and those updates also roll up to the task and its summary task. (Project highlights the changed values.) However, the actual and remaining work values for Jane Dow, the other resource assigned to the task, are not affected.

	Task Name ▼	Work 🕶	Baseline 🕶	Variance 🕶	Actual →	Remaining +	% W. Comp. ▼	Details	W	Т	F
0	Children's Book Schedule	2,317.5 hrs	2,317.5 hrs	0 hrs	235 hrs	2,082.5 hrs	10%	Work	8h	20h	24h
-1	▶ Editorial staff meeting	45.5 hrs	45.5 hrs	0 hrs	7 hrs	38.5 hrs	15%	Work			
15	Acquisition	444 hrs	444 hrs	0 hrs	228 hrs	216 hrs	51%	Work	8h	20h	24h
16	Manuscript received	0 hrs	0 hrs	0 hrs	0 hrs	0 hrs	100%	Work			
17	▲ Content edit	120 hrs	120 hrs	0 hrs	120 hrs	0 hrs	100%	Work	8h	8h	8h
	Carole Poland	120 hrs	120 hrs	0 hrs	120 hrs	0 hrs	100%	Work	8h	8h	8h
18	■ Original art review	164 hrs	164 hrs	0 hrs	108 hrs	56 hrs	66%	Work		12h	16h
	Hany Morcos	82 hrs	82 hrs	0 hrs	62 hrs	20 hrs	76%	Work		6h	81
	Jane Dow	82 hrs	82 hrs	0 hrs	46 hrs 🗦	36 hrs	56%	Work		6h	8h
19	 Author review of content edit 	160 hrs	160 hrs	0 hrs	0 hrs	160 hrs	0%	Work			

After 62 hours of actual work are recorded on Hany Morcos's assignment to task 18, Hany's work values are updated, but Jane Dow's assignment is not affected

TIP A handy way to quickly record actual work and other progress details per assignment is via the Tracking tab of the Assignment Information dialog box. In either the Task Usage or Resource Usage view, double-click an assignment. In the dialog box, you can set actual work, remaining work, actual start, and other values. This dialog box is available regardless of what table is displayed in the usage view.

Tracking a task's actual work-complete value is more detailed than entering a simple percentage-complete value on a task. However, neither method is as detailed as entering timephased actual work for tasks or assignments (as you will see in the next topic). There's nothing wrong with tracking actual work at the task or assignment level (or simply entering a percentage-complete value, for that matter), if that level of detail meets your needs. In fact, whether you see the timephased details or not, Project always distributes any percentage-complete or task-level or assignment-level actual work value you enter into corresponding timephased values.

Enter actual costs manually

When you enter actual work values, Project calculates actual cost values for the affected task, its summary task, the resources assigned to the task, and the entire plan. By default, Project calculates actual costs and does not allow you to enter them directly. In most cases, this is what we recommend and what is done with the practice files used in this book. However, if you want to enter actual cost values yourself in your own plans, follow these steps.

IMPORTANT The following procedure is provided for your general information; however, do not follow this procedure now if you are completing the practice tasks in this book. Doing so will produce results that will not match those shown in this book.

- Click the File tab to display the Backstage view, and then click Options to open the Project Options dialog box.
- 2. Click the **Schedule** tab.
- 3. Under the Calculation options for this project label, clear the Actual costs are always calculated by Project check box.
- 4. Click OK.

After automatic cost calculation is turned off, you can enter or import task-level or assignment-level actual costs in the Actual field. This field is available in several locations, such as the Cost table. You can also enter actual cost values daily or at another interval in any timescale view, such as the Task Usage or Resource Usage view. To do so, with a usage view displayed, click Actual Cost on the Format tab, in the Details group.

To record actual and remaining work per task

- On the View tab, in the Task Views group, click Task Usage to display the Task Usage view.
- 2. On the **View** tab, in the **Data** group, click **Tables**, and then click **Work** to display the Work table.

- 3. In the **Actual** column for the task for which you want to record actual work, enter an actual work value.
- 4. If you want, enter a new Remaining Work value for the task.

To record actual and remaining work per assignment

- 1. Display the Task Usage view and the **Work** table.
- 2. In the **Actual** column for the assigned resource for which you want to record actual work, enter an actual work value.
- 3. If you want, enter a new Remaining Work value for the assignment.

Track timephased actual work for tasks and assignments

In Chapter 8, "Track progress: Basic techniques," you were introduced to simpler ways of tracking actuals in a plan. These include recording the percentage of a task that has been completed, in addition to its actual start and finish dates. These methods of tracking progress are fine for many projects, but Project 2016 also supports more detailed ways of tracking.

This topic introduces techniques to track work per time period, such as actual work completed per week or per day. Information distributed over time is commonly referred to as being *timephased*, so tracking work by time period is sometimes referred to as *tracking timephased actuals*. This is the most detailed level of tracking progress available in Project.

As with the simpler tracking methods, tracking timephased actuals helps you address the most basic questions of managing a project:

- Are tasks starting and finishing as planned? If not, what will be the impact on the project's finish date?
- Are resources spending more or less time than planned to complete tasks?
- Is it taking more or less money than planned to complete tasks?

Entering timephased actuals requires more work on the project manager's part and might require more work from resources, if they have to inform the project manager of their daily or weekly actuals. However, using timephased actuals gives you far more detail about the plan's task and resource status than the other methods used for tracking progress. Entering timephased values might be the best approach to take if you have a group of tasks or an entire plan that includes the following:

- High-risk tasks
- Tasks of relatively short duration, for which a variance of even one day could put the overall project at risk
- Tasks for which you'd like to develop or validate throughput metrics, or rates at which a specified quantity of a deliverable can be completed over a specified time period, such as Copyedit 3000 words per day
- Tasks in which sponsors or other stakeholders have an especially strong interest
- Tasks that require hourly billing for labor

When you need to track actual work at the most detailed level possible, use the Work table and the timephased grid in the Task Usage or Resource Usage view.

In the Task Usage view, you can enter timephased actual work at the task or assignment level. In the Resource Usage view, you enter actuals at the assignment level. In both views, entering actual work in the left side of the view will cause Project to update work values distributed over time in the right side of the view. In this topic, we'll look at the reverse: entering actual work in the timephased side of the view and seeing the results per task or assignment on the left side of the view.

The previous topic's example featured the Task Usage view; in this topic, we'll begin with the Resource Usage view.

			%								May 13, '18					
		Resource Name	Comp ▼	Work ▼	Overtime +	Baseline 🕶	Variance →	Actual 🔻	Remainir +	Details	S	M	T	W	T	F
	3	■ Copyeditors	29%	316 hrs	0 hrs	300 hrs	16 hrs	92 hrs	224 hrs	Work		4h	8h	8h	8h	8h
										Act. W		4h	8h	8h	8h	8h
		Author review of content	100%	92 hrs	0 hrs	80 hrs	12 hrs	92 hrs	0 hrs	Work		4h	8h	8h	8h	8h
										Act. W		4h	8h	8h	8h	8h
		Copyedit	0%	184 hrs	0 hrs	180 hrs	4 hrs	0 hrs	184 hrs	Work						
										Act. W						
		Author review of copyedi	0%	20 hrs	0 hrs	20 hrs	0 hrs	0 hrs	20 hrs	Work						
										Act. W						
		Proofread and index	0%	20 hrs	0 hrs	20 hrs	0 hrs	0 hrs	20 hrs	Work						
										Act. W						
	4	▶ Dan Jump	3%	114.5 hrs	0 hrs	114.5 hrs	0 hrs	3.5 hrs	111 hrs	Work		0.5h				
										Act. W		0.5h				
ш	5	■ Hany Morcos	16%	563 hrs	0 hrs	563 hrs	0 hrs	89 hrs	474 hrs	Work		1h				
USAGE										Act. W		1h				
		Handoff to Production	0%	0 hrs	0 hrs	0 hrs	0 hrs	rs 0 hrs	0 hrs	Work						
20										Act. W						
RESOURCE		Incorporate 1st Pages	0%	80 hrs	0 hrs	80 hrs	0 hrs	0 hrs	80 hrs	Work						
Ä		review								Act. W						

The Resource Usage view shows assignments per resource

TIP You can change the details (that is, the fields) shown in the timephased grid in a usage view. You can add or remove fields and change the formatting of the fields that are shown. For example, you can add the Actual Work field. To see the available fields and formatting options, on the Format tab, in the Details group, click Add Details.

In both views, you can enter actual work values for individual assignments daily, weekly, or at whatever time period you want (by adjusting the timescale). For example, if a task has three resources assigned to it and you know that two resources worked on the task for eight hours one day and the third resource worked for six hours, you can enter these as three separate values on a timephased grid.

A key to working effectively in a usage view is setting the timescale correctly. You can change the zoom level of the timescale to control the time period in which you enter actual values in the timephased grid. For example, you can change the timescale to show weeks rather than days; when you enter an actual value at the weekly level, that value is distributed over the week.

TIP Project includes several handy shortcuts for navigating in the timephased grid side of the usage views. In the Task Usage view, use the Scroll To Task button on the Task Tab, in the Editing group, to display the earliest scheduled work on the selected task or assignment. You can also use the Scroll To Task command in the shortcut menu for tasks. In the Resource Usage view, use Scroll To Task to see the selected resource's or assignment's scheduled work. In both views, you can quickly get to a specific date in the grid (or a task or resource ID) by using the Go To command via the keyboard shortcut Ctrl+G. If you forget this keyboard shortcut, just enter go to in the Tell Me box and Project will show you the command.

Here's an example of entering timephased actuals in a usage view. As you saw in the previous topic, the scheduled work per task, resource, or assignment is equal on the two sides of a usage view. The difference is that the scheduled work is shown as a single total value on the left side but distributed over time on the right side.

We'll begin in the timephased grid of the Task Usage view with the Work table displayed. We'll record actual work for task 19, *Author review of content edit*.

												May 13, '1	8	
		Task Name	Work ▼	Baseline 🔻	Variance 🕶	Actual 🕶	Remaining 🕶	Details	T	F	S	S	M	T
	15		444 hrs	444 hrs	0 hrs	302 hrs	142 hrs	Work	16h	10h			16h	16h
								Act. W	16h	10h				
	16	Manuscript rece	0 hrs	0 hrs	0 hrs	0 hrs	0 hrs	Work						
								Act. W						
	17	Content edit	120 hrs	120 hrs	0 hrs	120 hrs	0 hrs	Work						
								Act. W						
	18	▷ Original art	164 hrs	164 hrs	0 hrs	164 hrs	0 hrs	Work	8h					
		review						Act. W	8h					
	19	▲ Author review (160 hrs	hrs 160 hrs	o hrs	s 18 hrs	142 hrs	Work	8h	10h			16h	16h
								Act. W	8h	10h				
		Copyeditors	80 hrs	80 hrs	0 hrs	9 hrs	71 hrs	Work	4h	5h			8h	8h
								Act. W	4h	5h				
		Tad Orman	80 hrs	80 hrs	0 hrs	9 hrs	71 hrs	Work	4h	5h			8h	8h
떒								Act. W	4h	5h				
TASK USAGE	20	■ Handoff to Edite	0 hrs	0 hrs	0 hrs	0 hrs	0 hrs	Work						
Σ								Act. W						
TAS		Carole Polai	0 hrs	0 hrs	0 hrs	0 hrs	0 hrs	Work						
								Act. W						

Here we've entered 8 hours of actual work for Thursday (which is what was scheduled) and 10 hours of actual work for Friday (when 16 hours was originally scheduled) on task 19

As you saw in the previous topic, the actual work recorded on the task is distributed to its assignments. In the timephased grid, you can see per time period how the actual work gets distributed.

TIP When entering actual work, you do not need to include the "h" abbreviation (to denote hours). You can simply enter the number and Project will record it as hours. Hours is the default work value for data entry. If you want, you can change this. Click the File tab to display the Backstage view, and then click Options. On the Schedule page of the Project Options dialog box, in the Work Is Entered In box, select the default time increment you want.

Next we'll enter actual work on the assignment in the timephased grid.

											May 13, '18					
	Task Name	Work →	Baseline 🕶	Variance 🕶	Actual 🕶	Remaining 🕶	Details	T	F	S	S	M	T			
15	△ Acquisition	444 hrs	444 hrs	0 hrs	316 hrs	128 hrs	Work	16h	10h			14h	16			
				1	Act. W	16h	10h			14h						
16	Manuscript rece	0 hrs	0 hrs	0 hrs	0 hrs	0 hrs	Work									
							Act. W									
17	Content edit	120 hrs	120 hrs	0 hrs	120 hrs	0 hrs	Work									
							Act. W									
18	▷ Original art	164 hrs	164 hrs	0 hrs	164 hrs	164 hrs	164 hrs	s 164 hrs	0 hrs	Work	8h					
	review						Act. W	8h								
19	■ Author review of the second of the se	160 hrs	s 160 hrs	0 hrs	s 32 hrs	128 hrs	Work	8h	10h			14h	16			
							Act. W	8h	10h			14h				
	Copyeditors	80 hrs	80 hrs	0 hrs	15 hrs	65 hrs	Work	4h	5h			6h	81			
							Act. W	4h	5h			6h				
	Tad Orman	80 hrs	80 hrs	0 hrs	17 hrs	63 hrs	Work	4h	5h			8h	8			
							Act. W	4h	5h			8h				
20	■ Handoff to Edite	0 hrs	0 hrs	0 hrs	0 hrs	0 hrs	Work									
							Act. W									
	Carole Polar	0 hrs	0 hrs	0 hrs	0 hrs	0 hrs	Work									
							Act. W									

Here we've entered 6 hours of actual work for the Copyeditors and 8 hours for Tad Orman for Monday on the same task

In this example, the actual work values entered for the assignments differed from the scheduled work. Project accounted for the difference by adjusting the scheduled work at the end of the assignments.



Project adjusted the scheduled work to account for the actual work values that were recorded that varied from scheduled work

When you record actual work in the table on the left side of the view, Project records the actual work to match scheduled work in the timephased grid on the right side of the usage view. The main advantage of entering actual work in the timephased grid instead of in the table on the left side of the view is that you can precisely control the dates for which the actual work gets recorded.

Project management focus: Collect actuals from resources

The Resource Usage view is similar to a timecard. In fact, to enter assignment-level actual work values, you might need some form of paper timecard or its electronic equivalent. Several methods are used to collect such data from resources, assuming that you need to track actual and remaining work at this level of detail. Some collection methods include the following:

- Collect actual values yourself This method is feasible if you communicate with only a small group of resources on a frequent basis, such as a weekly status meeting. It's also a good opportunity to talk directly to the resources about any blocking issues or surprises they might have encountered (either positive or negative) while performing the work.
- Collect actuals through a formal status reporting system This
 technique might work through the already-existing hierarchy of your
 organization and serve additional purposes besides project status
 reporting.

Regardless of the data collection methods you use, be aware that resources might have some concern about how their actual work values reflect their overall performance. You might need to communicate to resources that schedule actuals help in managing the project, but performance evaluation is a business management focus, not a project management focus.

If your organization uses a timecard reporting system, you might be able to utilize this timecard data in Project as timephased actuals. You might not need to track at this level, but if resources complete timesheets for other purposes (billing other departments within the organization, for example), you can use their data and save yourself some work.

Speaking of timecards, depending on how your organization operates, you might want to explore Project Professional and its interoperability with Microsoft SharePoint and Project Web App (PWA). For more information, see Appendix C," Collaborate: Project, SharePoint, and PWA."

TIP Task and assignment values are directly related; an update to one directly affects the other. However, you can break this relationship if you want. Doing so enables you to record progress for resource assignments, for example, and manually enter actual values for the tasks to which those resources are assigned. You normally should not break this relationship unless you have special reporting needs within your organization—for example, when you must follow a status reporting methodology based on something other than the actual values recorded for assignments in plans. To break this relationship, do the following: Click the File tab to display the Backstage view, and click Options. In the Project Options dialog box, on the Schedule tab, under the Calculation Options For This Project label, clear the Updating Task Status Updates Resource Status check box. This setting applies to the entire plan you have open at the time; you cannot apply it only to some tasks within a plan.

To record timephased actual work in the Task Usage view

- On the View tab, in the Task Views group, click Task Usage to display the Task Usage view.
- 2. On the Task Usage Tools Format tab, in the Details group, click Actual Work. The Actual Work detail row appears in the timephased portion of the view.
- 3. If needed, adjust the timescale to match the time interval at which you want to enter actual work (for example, daily or weekly): On the **View** tab, in the **Zoom** group, click the **Timescale** arrow, and then click the timescale time unit you want.
- 4. In the timephased grid, at the intersection of the task or assignment and the date you want, enter an actual work value.

To record timephased actual work in the Resource Usage view

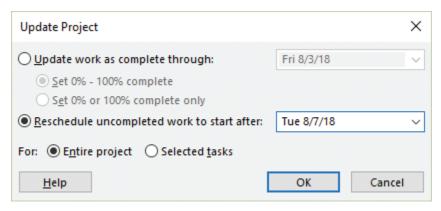
- 1. Display the Resource Usage view and Actual Work detail, and adjust the timescale as needed.
- 2. In the timephased grid, at the intersection of an assignment and the date you want, enter an actual work value.

14

Reschedule incomplete work

During the course of a project, work might occasionally be interrupted for a specific task or for the entire project. If this happens, you can have Project reschedule the remaining work to restart after the date you specify.

When you reschedule incomplete work, you specify the date after which work can resume—the rescheduled date. You reschedule incomplete work in the Update Project dialog box.



Use the Update Project dialog box to reschedule incomplete work

Here is how Project handles tasks in relation to the rescheduled date:

- If the task does not have any actual work recorded for it prior to the rescheduled date and does not have a constraint applied, the entire task is rescheduled to begin after that date.
- If the task has some actual work recorded prior to the rescheduled date but none after it, the task is split so that all remaining work starts after the rescheduled date. The actual work is not affected.
- If the task has some actual work recorded for it prior to, and after, the rescheduled date, the task is not affected.

To reschedule incomplete work

- 1. To reschedule work just for specific tasks, select those tasks first.
- 2. On the **Project** tab, in the **Status** group, click **Update Project** to open the Update Project dialog box.
- 3. Select **Reschedule uncompleted work to start after**, and in the date box, enter or select the date you want.
- 4. Do one of the following:
 - Click **Selected Tasks** to reschedule work just for the selected tasks.
 - Click **Entire Project** to reschedule work for the entire project.
- 5. Click **OK**

Skills review

In this chapter, you learned how to:

- Update a baseline
- Track actual and remaining work for tasks and assignments
- Track timephased actual work for tasks and assignments
- Reschedule incomplete work



Practice tasks

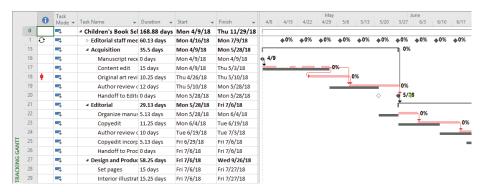
The practice files for these tasks are located in the Project2016SBS\Ch14 folder.

IMPORTANT If you are running Project Professional with Project Web App/Project Server, take care not to save any of the practice files you work with in this book to Project Web App (PWA). For more information, see Appendix C, "Collaborate: Project, SharePoint, and PWA."

Update a baseline

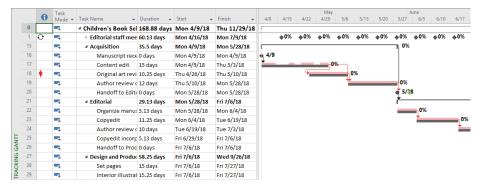
The scenario: At Lucerne Publishing, the planning for the new children's book project has undergone some additional fine-tuning, including adjustments to task durations and the addition of a task. Because of these changes, you need to capture a new baseline before work begins. Open the UpdateBaseline plan in Project, and perform the following tasks:

1. Examine the current baseline in the Tracking Gantt view with the timescale set to weekly.



In the Tracking Gantt view, note that the recently added task 18 lacks a baseline

2. Update the baseline for the entire plan.

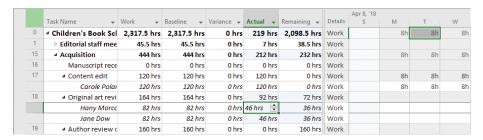


After the plan's baseline is updated, the baseline dates align with the as-scheduled task dates and task 18 now has a baseline

Track actual and remaining work for tasks and assignments

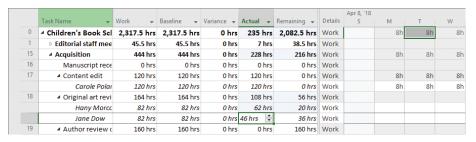
The scenario: Several tasks in the plan have more than one resource assigned. You'd like to get a better look at how your recording of actual work on such tasks affects assigned work. Open the TrackWork plan in Project, and perform the following tasks:

- 1. Display the Work table in the Task Usage view.
- 2. Record 92 hours of actual work on task 18, Original art review.



After entering actual work on task 18, note how the actual work is split between the two assigned resources

3. On the same task, change Hany Morcos's 46 hours of actual work to 62 hours.

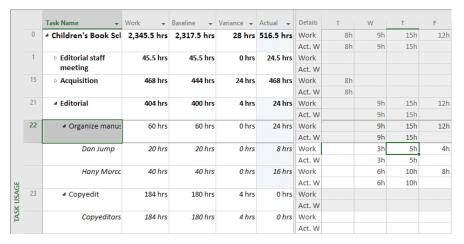


After entering actual work on an assignment to task 18, note that the other assignment to the same task is not affected

Track timephased actual work for tasks and assignments

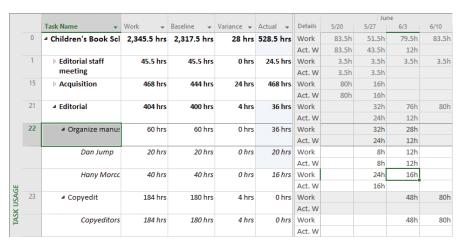
The scenario: The Acquisition phase of work has been completed, and the Editorial phase has begun. Because of the larger number of resources involved and the variability of the editorial work, these tasks are the riskiest ones so far in the project. To manage the actuals of these tasks in the most detailed way possible, you will record timephased actuals. Open the TrackTimephasedWork plan in Project, and perform the following tasks:

- 1. Scroll the timephased grid in the Task Usage view until the scheduled work for task 22, *Organize manuscript for copyedit*, is visible.
- 2. Show the **Actual Work** detail in the timephased grid of the view.
- Record 9 hours of actual work on task 22 for Wednesday, May 30, and 15 hours for Thursday, May 31.



After entering task-level timephased actual work, note the updates to the two assignments on the task

- 4. Adjust the timescale to weekly.
- 5. Record 12 hours of actual work for Dan Jump's assignment to task 22, *Organize manuscript*, for the week of June 3.

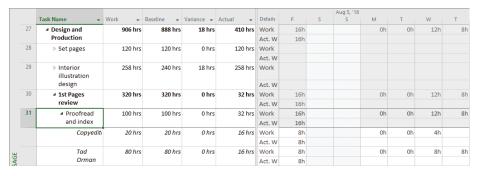


After actual work is recorded on one assignment to task 22, the blue change highlighting shows you the task-level and summary task-level changes to actual work

Reschedule incomplete work

The scenario: Editorial work has been completed. The team has started work on the next phase. However, you need to troubleshoot a delay in work caused by an unforeseen problem. Open the RescheduleIncompleteWork plan in Project, and perform the following tasks:

- 1. Scroll the Task Usage view to display the latest actual work recorded for task 31, *Proofread and index*.
- 2. Reschedule incomplete work for the entire project to start after August 7, 2018.



Note the absence of scheduled work for task 31 (as indicated by 0h) on Monday and Tuesday due to the rescheduled incomplete work; in a Gantt chart view, this would appear as a split task

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