

Microsoft Project 2016

Chapter 2

CREATING A DETAILED PROJECT PLAN

OBJECTIVES

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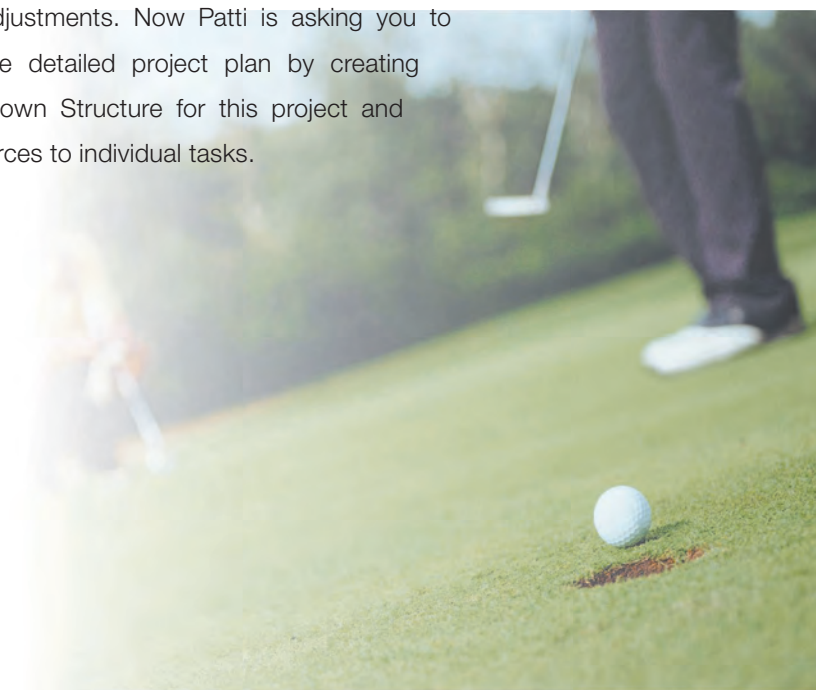
Prepare Case

Painted Paradise Golf Resort— First Annual Charity Golf Tournament

The Painted Paradise Golf Resort will be holding its first annual charity golf tournament to raise money for the purchase of textbooks to be donated to the elementary schools in Santa Fe, New Mexico. Patti Rochelle, the project manager of this event, has assigned you to start an initial list of project tasks using Microsoft Project 2016 to organize this event. She has looked over your list of tasks and made a few adjustments. Now Patti is asking you to develop a more detailed project plan by creating a Work Breakdown Structure for this project and assigning resources to individual tasks.



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Student data files needed for this workshop:

- pm01ch02CharityGolfTournament.mpp
- pm01ch02CharityGolfTournamentTasks.xlsx

You will save your files as:

- pm01ch02CharityGolfTournament_LastFirst.mpp
- pm01ch02CharityGolfTournament_LastFirst.docx
- pm01ch02CharityGolfTournament_LastFirst.xlsx
- pm01ch02CharityGolfTournamentGanttChart_LastFirst.docx
- pm01ch02CharityGolfTournamentTimeline_LastFirst.docx
- pm01ch02CharityGolfTournamentExport_LastFirst.xlsx
- pm01ch02SimpleProjectPlan_LastFirst.mpp
- pm01ch02EventTemplate_LastFirst.mpt
- pm01ch02EventTemplate_LastFirst.mpp

Detailing a Project Plan

Project managers may choose to use Microsoft Project 2016 to assist them in planning and achieving project success. Project 2016 can provide project managers with an orderly way of creating a project schedule. To determine a project's schedule, project managers must adjust a project's calendar to reflect available working time, determine a project's scheduling method of automatic or manual, identify the project's tasks, define task relationships, and set task resources. Once this has been accomplished, project managers will have an idea of when the project should start or when the project should finish. However, project managers should not rely on the software to make all the scheduling decisions for a project. After all, Project 2016 is an application used to assist project managers in meeting the project goal, but it should not be the decision-making authority on the project plan.

Identify the Critical Path

Project managers create a project plan by setting task dependencies (relationships). By setting task dependencies, Project 2016 will create the critical path. The critical path consists of tasks that must be completed on time in order for a project to stay on track and come to a successful completion.

Creating task dependencies changes the start and finish dates of tasks. Creating task dependencies also creates the project's critical path. The critical path consists of tasks (or a single task) that determine the project's finish date (or start date). It is a list of tasks that must be completed on time for the project to meet the project timeline. Tasks on the critical path are critical tasks. Critical tasks do not have slack. **Slack** is the time a task can be delayed from its scheduled start date without delaying the project.

The best way to view the critical path is in Network Diagram view. In Network Diagram view, the critical path is represented by red task boxes and red link lines. This view can help project managers analyze the critical path and critical tasks and make informed project decisions. The critical path is not visible in Calendar view. By default, it is also not displayed in Gantt Chart view, but you can add it to Gantt Chart view if desired.

Identifying the Critical Path

You want to view your project's critical path so you are aware of which tasks are critical tasks and therefore must be completed on time. You want to view the project's critical path in both the Network Diagram and Gantt Chart views.

In this exercise, you will view the critical path.



PM02.00

SIDE NOTE

Project Calendar



It is important to review a project's calendar to understand how Project is scheduling tasks.

SIDE NOTE

Noncritical Tasks

Tasks not displayed in red are noncritical tasks. Project determines the critical path by task relationships and task constraints.

To View the Critical Path

- Open **Microsoft Project 2016**. Click **Open Other Projects**. Navigate to the location of your student data files and browse for **pm01ch02CharityGolfTournament.mpp**, and then click **Open**.
- Click the **File** tab, and then click **Save As**. Click **This PC**, and then if necessary click **Browse** and navigate to the location where you are storing your files. Click in the File name box and type **pm01ch02CharityGolfTournament_LastFirst**, using your last and first name. Click **Save**.
- Click the **Project** tab. In the Properties group, click **Change Working Time**  to view the project's calendar. Note the working days, nonworking days, and calendar exceptions. Click **OK**.
- Click **Network Diagram**  view from the View Bar. Scroll through Network Diagram view to view the project's tasks. The tasks in red are critical tasks. The tasks that do not appear in red are considered noncritical tasks.

Troubleshooting

If the View Bar is not visible on the left-hand side of the Project window, as shown in Figure 1, right-click the vertical text GANTT CHART on the left-hand side of the Project window, and then click View Bar.

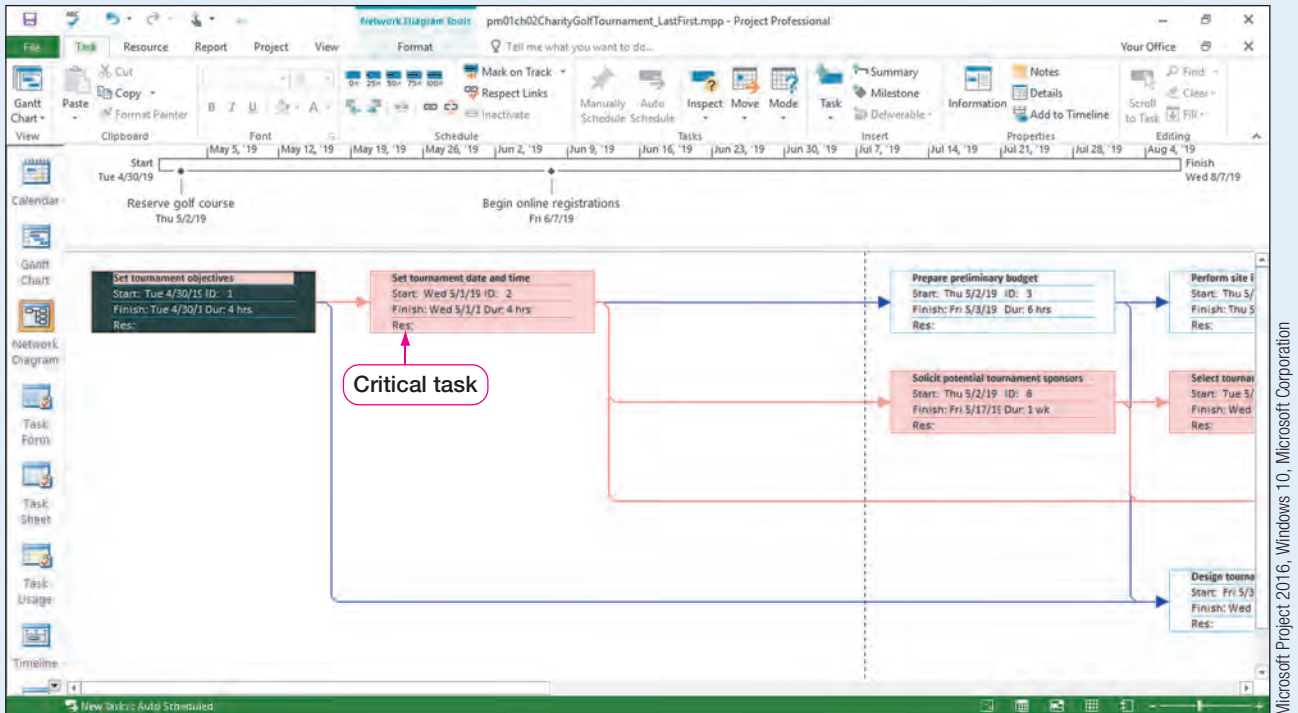


Figure 1 Critical path in Network Diagram view

Troubleshooting

If you do not see the same number of tasks on your screen, you can use the Zoom Slider in the lower right corner of the Project window to adjust the zoom in all Project views.

- e. Return to **Gantt Chart** view, and then click the **Gantt Chart Tools Format** tab.
- f. In the Bar Styles group, click the **Critical Tasks** check box to add the critical path to Gantt Chart view. Notice the critical path on the Gantt chart.

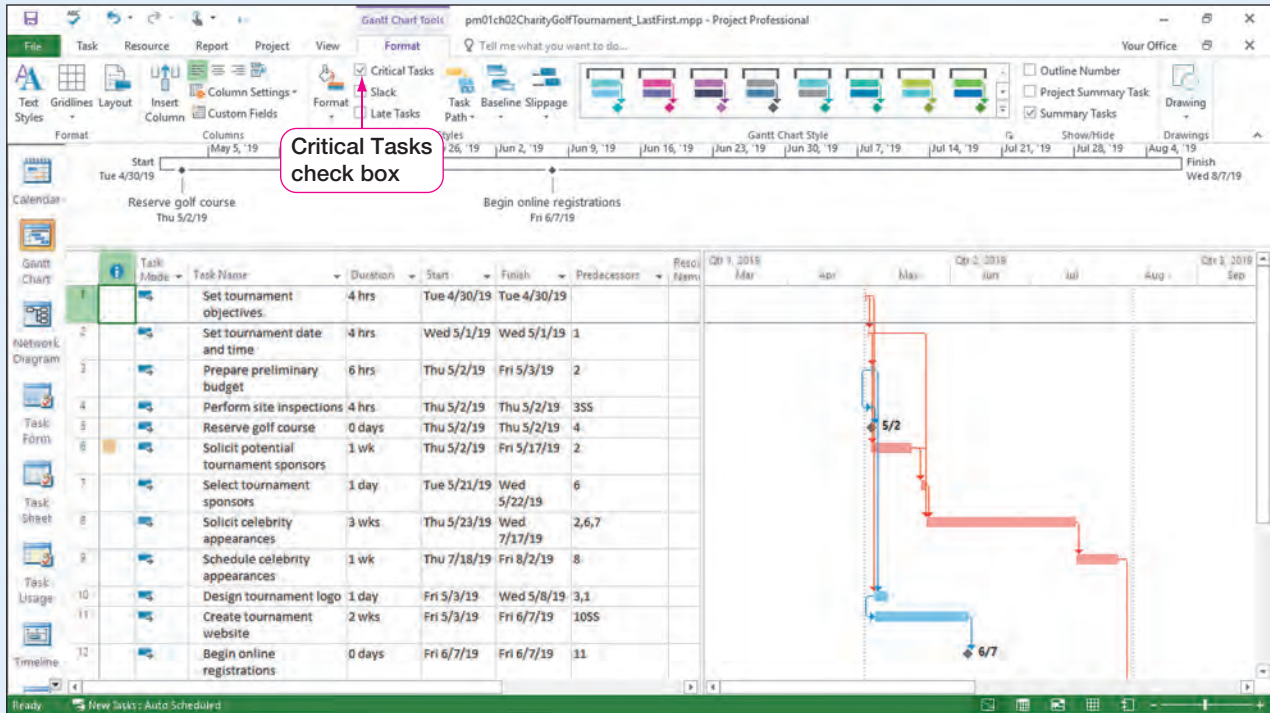



Figure 2 Gantt Chart view with critical path

- g. Click the **Critical Tasks** check box again to remove the critical path from the Gantt chart.
- h. **Save**  the project.

REAL WORLD ADVICE **Adjusting the Critical Path**

Entering tasks, defining task relationships, assigning project resources, and adjusting the project calendar all affect how Project determines the critical path. However, project managers still have control over the project's critical path and should be the final decision makers of the project plan. If Project predicts a project's finish date (or a project's start date) that is later than what you had in mind, you can shorten the critical path by doing the following:

- Changing task relationships (for example, change Finish-to-Start relationship to a Start-to-Start relationship)
- Adding additional resource assignments to tasks
- Removing task relationships
- Adjusting task durations
- Adjusting the available working time in the project calendar
- Creating a task calendar

Create a Work Breakdown Structure

An important step to project planning success is to organize the project tasks in a logical way. A method of organizing tasks in a hierarchical structure is by creating a Work Breakdown Structure. A **Work Breakdown Structure (WBS)** creates a project plan

structure in which project tasks are identified, task relationships are defined, and task resources are assigned. When creating a WBS, a project manager will define the main goals of the scope of a project and then identify the tasks that must go into completing these goals.

A WBS is often created in a top-down structure, similar to a detailed outline, where the main goals are defined and then supporting tasks to complete these goals are identified. Figure 3 shows an example of a WBS for the Charity Golf Tournament project. In this example, the project is broken down into four main goals of tournament initiation, sponsorship, promotion, and events. Under the main goals are the tasks that need to be completed to meet the project goal.

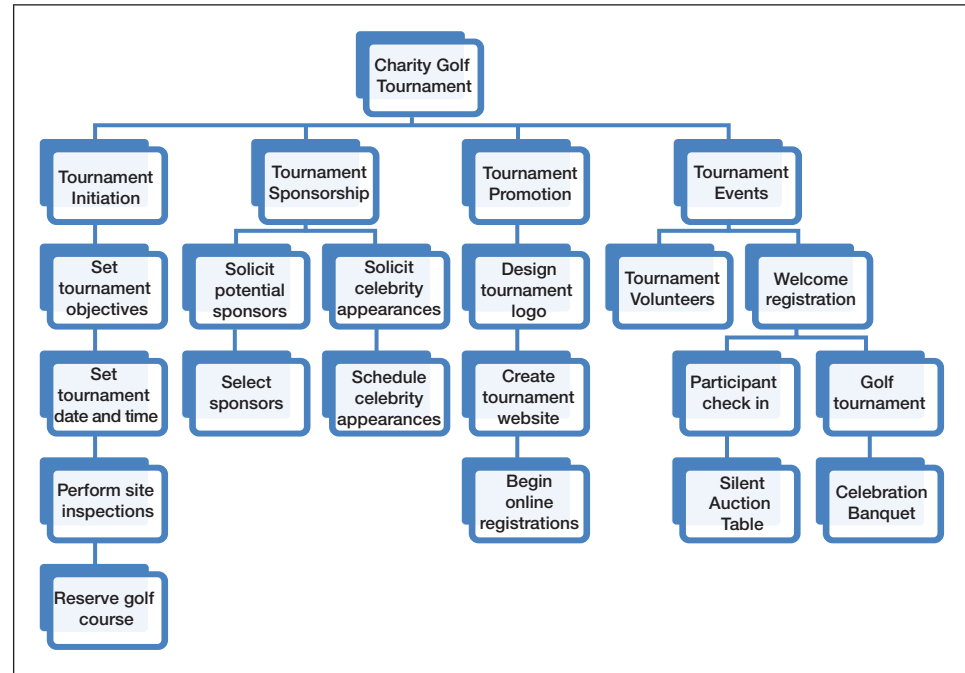
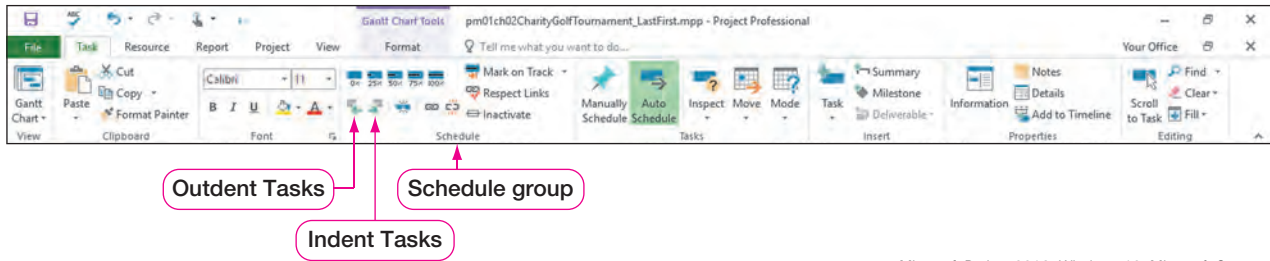


Figure 3 WBS example

Projects may also be broken into phases in which each phase is a main heading or goal in a WBS, and the steps to complete each phase are the individual tasks. If you recall, the phases of the project management planning process are initiation, planning, executing, monitoring, and closing. It is common for project managers to plan a project by these phases. Some managers, however, may choose phases that are more specific to their project plan.

In order to create a Work Breakdown Structure in Project 2016, you must identify the main project goals or phases of the project. The main goals are like main headings in an outline. These main headings or goals are called summary tasks in the Project software. **Summary tasks** are tasks listed in bold in the Entry table and are groups of tasks that logically belong together. In Figure 3 above, an example of a summary task is Tournament Promotion. Summary tasks are not tasks that are to be completed; rather, they are headings for grouped tasks. Related tasks that further define the summary tasks are called **subtasks**.

To create summary tasks, you can indent and outdent tasks or use the Summary button in the Insert group on the Task tab. **Indenting** a task moves a task to the right in the Entry table and makes it a lower level task in a WBS, such as a task that needs to be completed to achieve the main goal. **Outdenting** a task moves a task to the left in the Entry table and makes it a higher level task in a WBS, such as a main goal. As shown in Figure 4, indenting and outdenting tasks can be done in the Schedule group on the Task tab.



Microsoft Project 2016, Windows 10, Microsoft Corporation

Figure 4 Task tab Schedule group

Creating a Work Breakdown Structure


You can add new tasks to create summary tasks as well. Once a new task is added and given a main goal title, the related tasks would be indented to make the newly added task the summary task. Due to the flexibility of Project 2016, you can change the level of any task by outdenting or indenting the task or group of tasks. Project 2016 will adjust the project schedule accordingly.

In this exercise, to create a hierarchical structure to your project plan, you will create a WBS for the charity golf tournament.

PM02.01

SIDE NOTE

Insert Task



If you do not have an Insert key, use the Task  button in the Insert group on the Task tab.

SIDE NOTE

Summary Tasks

Do not adjust the duration of a summary task; it is determined by subtasks. To adjust summary task durations, adjust subtask durations or relationships.

To Create a WBS

- Click **Gantt Chart**  on the View Bar if necessary.
- Select **Set tournament objectives** (Task 1). Press **[Ins]** to insert a new blank task. Enter the task name **Tournament Initiation**. Press **[Tab]** but do not set a task duration.
- Using the row selectors, select **Tasks 2–5**, and then click the **Task** tab. In the Schedule group, click **Indent Task** . Notice the new task, Tournament Initiation (Task 1), becomes bold to identify it as a summary task. The duration of the summary task is determined by the durations of the subtasks (Tasks 2–5).

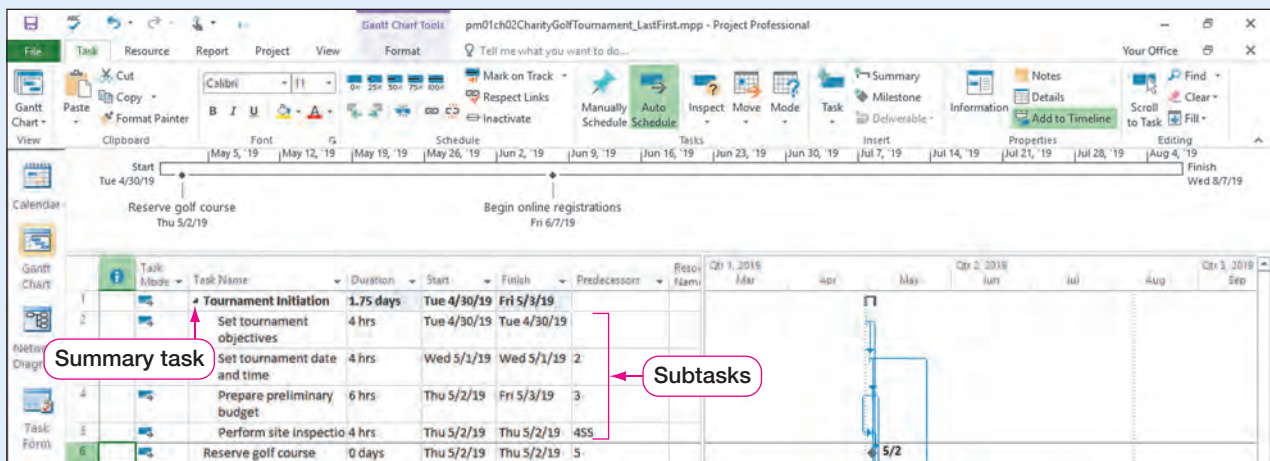


Figure 5 Summary task and subtasks

- d. Select **Reserve golf course** (Task 6). Press **[Alt] + [⇧ Shift] + [⇨]** to indent Task 6. Task 6 is now a subtask of Tournament Initiation.

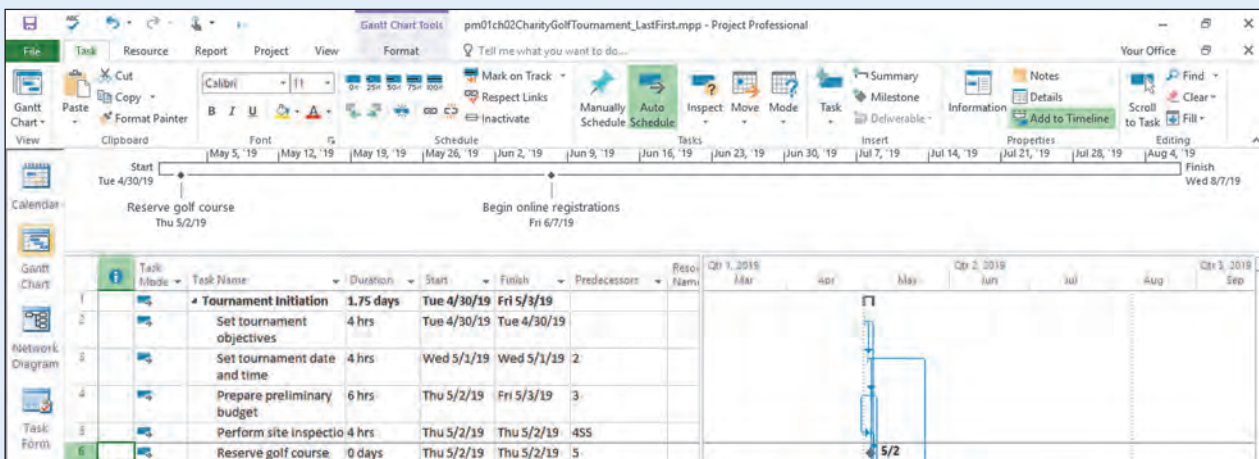


Figure 6 Task 6 as a subtask.

- e. Select **Solicit potential tournament sponsors** (Task 7).
- f. On the Task tab, in the Insert group, click **Task** to insert a new blank task.
- g. Type the task name **Tournament Promotion**, and then press **[Tab]** but do not add a duration. Notice Tournament Promotion (Task 7) becomes a subtask of Tournament Initiation (Task 1).
- h. On the Task tab, in the Schedule group, click **Outdent Task** to promote Tournament Promotion (Task 7).
- i. Select **Tasks 8–11**, and then in the Schedule group, click **Indent Task** to make Tasks 8–11 subtasks of Tournament Promotion (Task 7).
- j. If necessary, select the task names for Tasks 1–11, click the **Gantt Chart Tools Format** tab, and then in the Columns group, click **Wrap Text** twice.

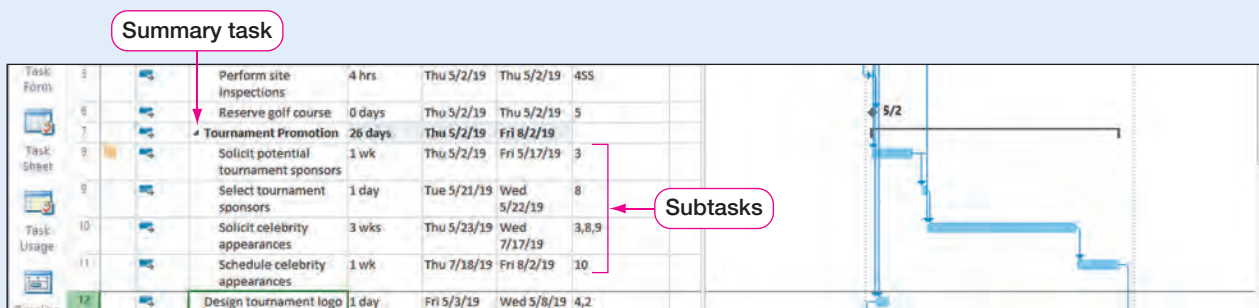


Figure 7 Tournament Promotion summary task and subtasks

- k. Select Task 12 through Task 14. Click the **Task** tab, if necessary, and then in the Insert group, click **Summary** to insert a summary task. Type the summary task name **Tournament Website**, and then press **[Tab]**.

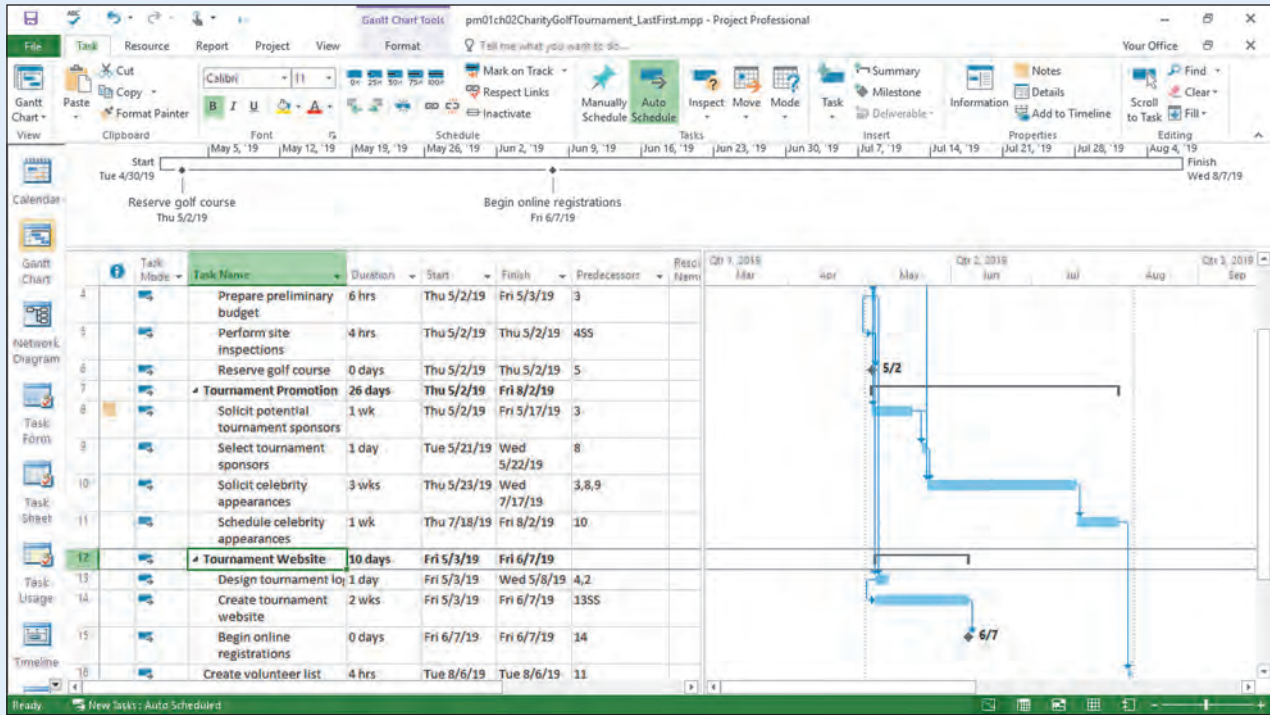


Figure 8 Project Work Breakdown Structure

- I. **Save**  the project.



CONSIDER THIS

Why Create a Work Breakdown Structure?

Have you ever written a report or a research paper? Did you create an outline to keep track of large amounts of information or to show a logical ordering of information before you actually started writing your paper? An outline for a written report is similar to a Work Breakdown Structure for a project plan.

Filtering a WBS in Gantt Chart and Network Diagram Views


Once a Work Breakdown Structure is created, you may want to temporarily hide project tasks. For example, if you organized your project by phases, you may only want the phase you are currently working in showing. In this case, you could collapse all other phases of the WBS to only view the tasks in the current phase. You can also perform a filter of the WBS to only show certain tasks.

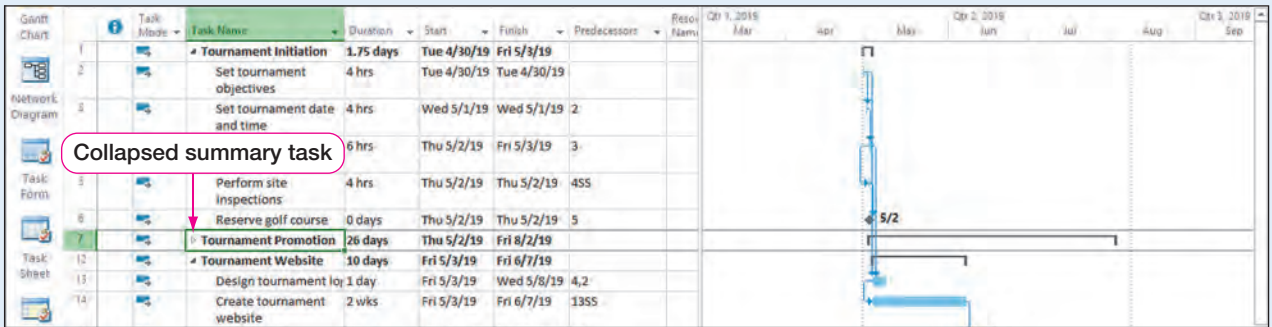
In this exercise, you will hide tasks in the WBS.



PM02.02

To Hide Tasks in a WBS

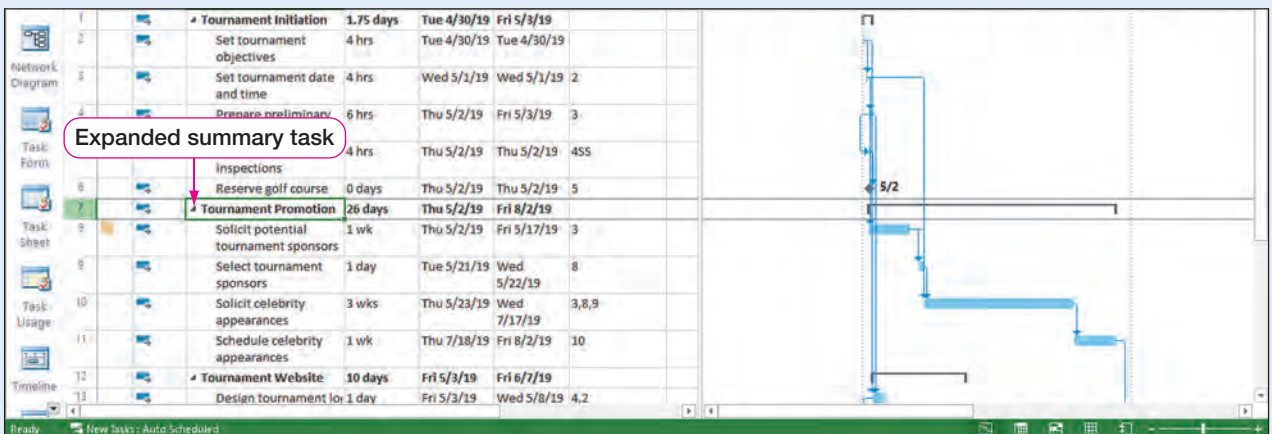
- a. Click **Tournament Promotion** (Task 7). Click the **Collapse arrow**  in the left-hand side of the Task Name cell. The subtasks of Tournament Promotion (Task 7) are now hidden.



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Figure 9 Work Breakdown Structure with summary task collapsed

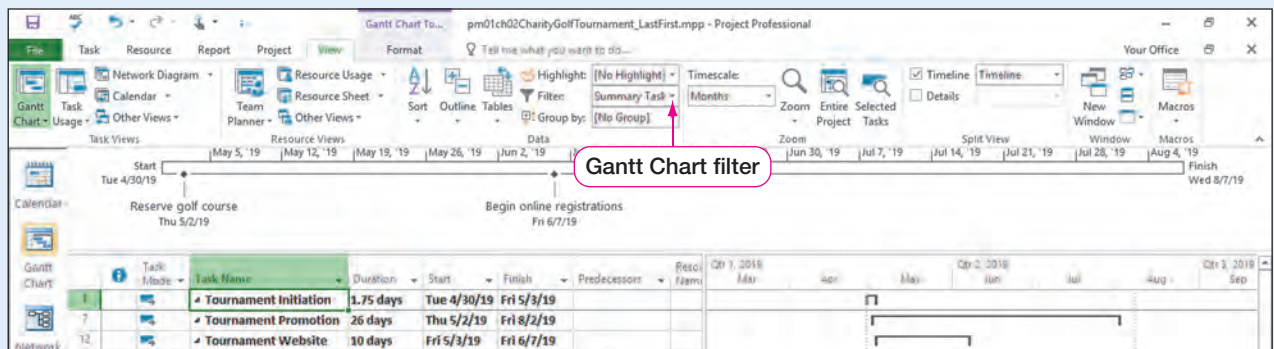
- b. Click the **Expand arrow** on the left-hand side of the Task Name cell for Tournament Promotion (Task 7). The Tournament Promotion subtasks reappear.



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Figure 10 Work Breakdown Structure with summary task expanded

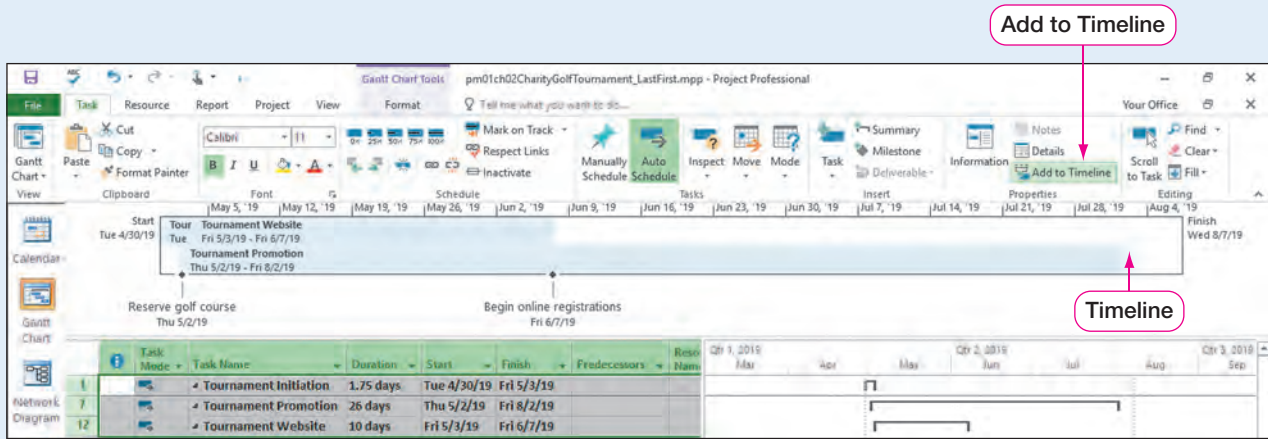
- c. To filter Gantt Chart view, select the **View** tab. In the Data group, click the **Filter** arrow, and then click **Summary Tasks**. Gantt Chart view is now filtered to show only summary tasks.



Microsoft Project 2016, Windows 10, Microsoft Corporation


Figure 11 Filtered Gantt Chart

- d. Click the **Task** tab. Select the summary tasks by highlighting the row selectors.
- e. In the Properties group, click **Add to Timeline** to add the summary tasks to the Timeline.



Microsoft Project 2016, Windows 10, Microsoft Corporation

Figure 12 Summary tasks added to Timeline

- f. Click the **View** tab. In the Data group, click the **Filter** arrow, and then click **[No Filter]**. All summary tasks and subtasks are now visible.
- g. **Save**  the project.

Displaying WBS Code in the Entry Table

When you create a WBS by including summary tasks, Project can assign a WBS code for each task. If you want to refer to tasks by a WBS code, which will give you more definition than using the task row, you can define the code and then add the code to the Entry table.

In this exercise, you will define and display a Work Breakdown Structure code.

PM02.03

SIDE NOTE Alternate Method

You can also point to the right edge of a column title and then click and drag to the left or right to adjust the column width.

To Define and Display a WBS Code

- a. Click the **Task** tab, and then right-click the **Task Mode** column. Click **Hide Column**.
- b. Right-click the **Task Name** column, and then click **Insert Column**.
- c. Type **w**, and then click **WBS**.
- d. Double-click the **WBS** right column border to resize the column width as necessary.
- e. Click the **Project** tab. In the Properties group, click **WBS**, and then click **Define Code** to display the WBS Code Definition dialog box.

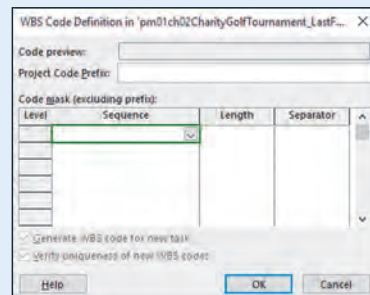


Figure 13 WBS Code Definition dialog box

- f. To define the WBS code, in the first row of the table of the dialog box, click the **Sequence** list arrow, and then select **Uppercase Letters (ordered)**. Click in the second row, and then click **Numbers (ordered)**. Click in the third row, and then click **Lowercase Letters (ordered)**.

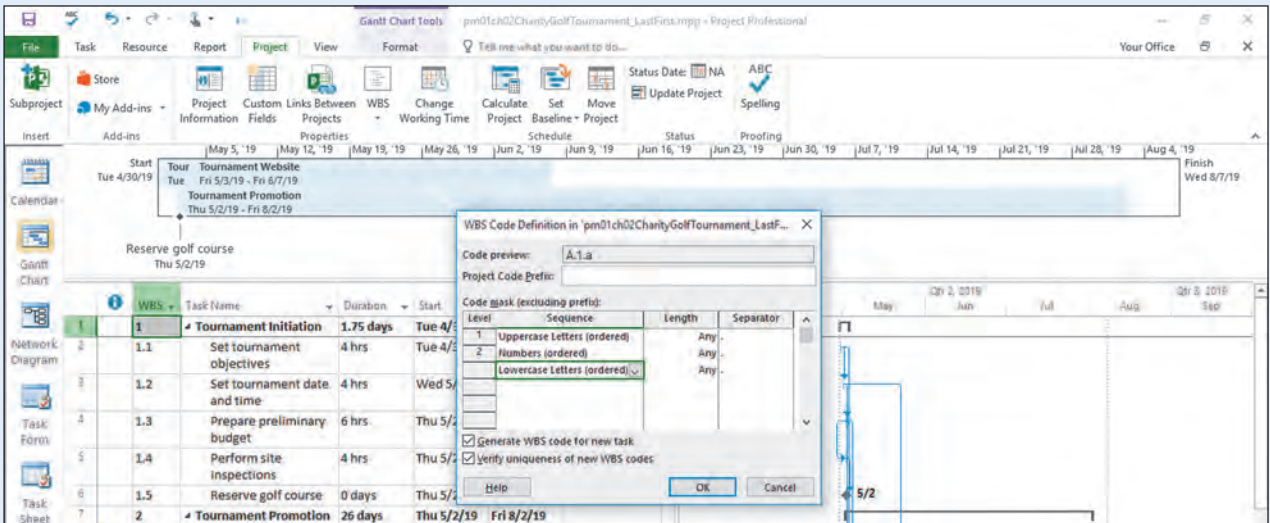


Figure 14 WBS Code Definition dialog box with code defined

- g. Click **OK**.

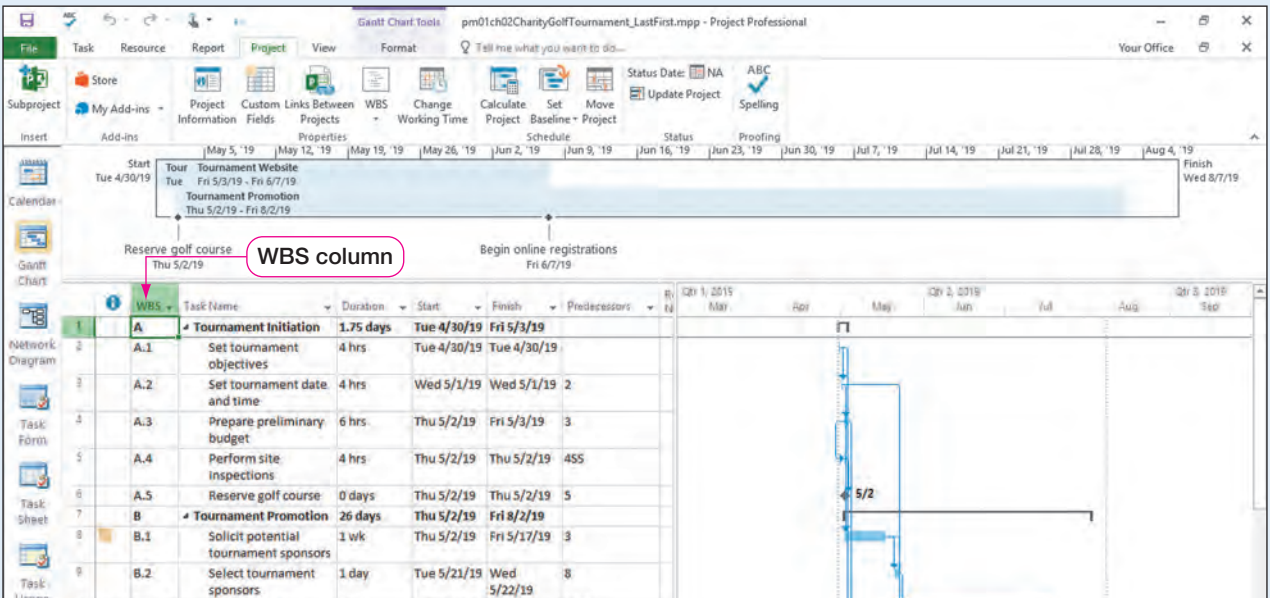
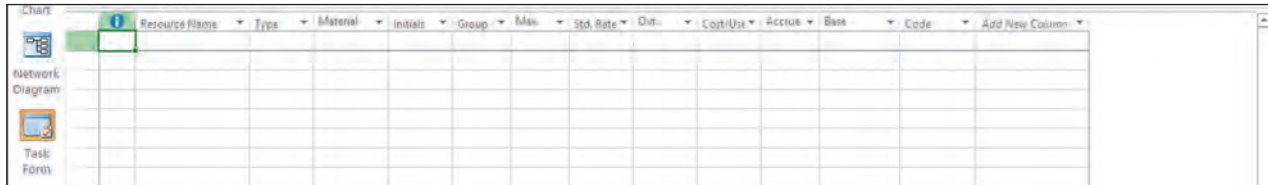


Figure 15 Gantt Chart view with WBS column added

- h. **Save** the project.

Create and Assign Project Resources

One of the main advantages of using project planning software such as Project 2016 is the ability to assign and track resources. Resources are the people, materials, or costs needed to complete project tasks. When you add resources in Project 2016, you are making them available to assign them to project tasks. Resources can be added in many views in Project 2016. However, the most common way of adding resources is by using Resource Sheet view, as shown in Figure 16.



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Figure 16 Resource Sheet view

In **Resource Sheet view**, you can enter resource information in columns and rows to include information such as resource name, resource type, and resource cost, and you can assign a calendar to a resource.

In the Resource Name column, you identify the name of the resource. For example, a resource could be Your Name. In the Type column, you identify whether a resource is a work, material, or cost resource. A **work resource** is the person and equipment that needs to be used to complete a project task. For example, a chef hired to prepare the meal for the golf charity tournament is a resource; the equipment rented to prepare the meal is also a work resource. A **material resource** is a consumable resource such as supplies that gets used up as a project progresses. For example, golf tees would be a material resource. A **cost resource** includes costs that are not based on work, such as equipment needed to complete a task or airfare or lodging for travel. For example, you may have to rent a tent for the staging area off the first tee of the golf course. The tent rental would be assigned as a cost resource.

The Initials column allows you to assign initials to a resource for identification instead of a longer resource name. For example, you could assign the initials of YN for Your Name and then display the initials in the Gantt chart to save space versus using the entire resource name. In the Group column, you can assign a group name to like resources. For example, you could assign the group name “Caddy” and then add this group name to all resources that are tournament caddies. You can then use the group name to sort or filter resources by the group name.

The Max column determines the maximum percentage of capacity a resource is available to work. By default, the Max unit is 100%, which means the resource is available to work 100% of the time when assigned to a task. If you are only available to work half of the time on a project because you are assigned to other tasks at the resort, you would assign yourself a Max unit of 50%.

The Std. Rate, Ovt. Rate, and Cost/Use columns are associated with costs assigned to a resource. A cost is an expense associated with completing a task. Variable costs are costs that change based on amount used. For example, labor (work resource) is a variable cost because the amount earned may vary from person to person. Fixed costs can be related to resources but do not vary with use. For example, a fixed cost would be a one-time fee for renting an outdoor tent.


The Accrue column determines how costs will be applied to a task. Start means the cost would be paid at the start of the project. End means the cost would be paid at the end of the project. Prorated is the default, and if assigned, costs would be accrued as the resource was working on the project task(s).

The Base column determines which calendar your resource will be assigned. From this calendar assignment, Project will determine working time and nonworking time of a resource. The Standard calendar is the default base calendar.

QUICK REFERENCE

Creating a Resource Calendar

To create a resource calendar, select the resource and then:

1. Click the Resource tab.
2. Click Information  in the Properties group.
3. On the General tab of the Resource Information dialog box, click Change Working Time.
4. Click the Work Weeks tab, and then click Details.
5. In the Details dialog box, select the Working times or Nonworking times button. Edit the From and To times as necessary. Click OK in the three dialog boxes to accept the change to the resource calendar.

The availability of the selected resource will now reflect the resource calendar.

Creating Project Resources

To keep track of who will help you complete the charity golf tournament project tasks, you have decided to add project team members into the Resource Sheet. You will add the project team members in Resource Sheet view and then assign resources to your project tasks. Since all project team members' tasks are part of their general job duties, you will not assign a resource cost to the tasks.

In this exercise, you will create project resources.



To Create Project Resources

- a. Click the **Task** tab. In the View group, click the **Gantt Chart** arrow.

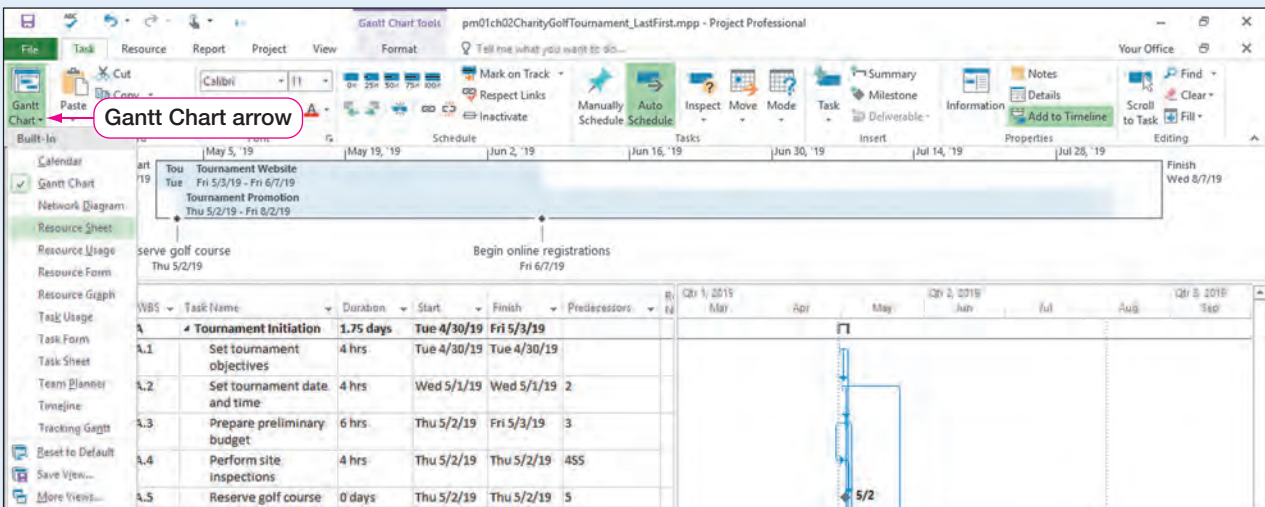


Figure 17 Resource Sheet selection

- b. Click **Resource Sheet** to open the Resource Sheet. In the first row of the Resource Sheet table, in the Resource Name column, enter your **first and last name**. Press **Tab** to assign the Type **Work** to the resource. Press **Tab** two more times,

SIDE NOTE

Grouping Resources

Grouping resources can assist project managers in understanding resource allocations.

and then add **your initials** in the Initials column. Press **Tab**, and then enter the title **Events** in the Group column.

- c. Add the resources into the indicated columns as follows:

Resource Name	Type	Initials	Group
Patti Rochelle	Work	PR	Events
Lesa Martin	Work	LM	Events
Thomas Vance	Work	TV	Events
Rosalinda Hill	Work	RH	Events
Barry Cheney	Work	BC	Golf
John Schilling	Work	JS	Golf
Jorge Cruz	Work	JC	Golf
Robin Sanchez	Work	RS	Chef

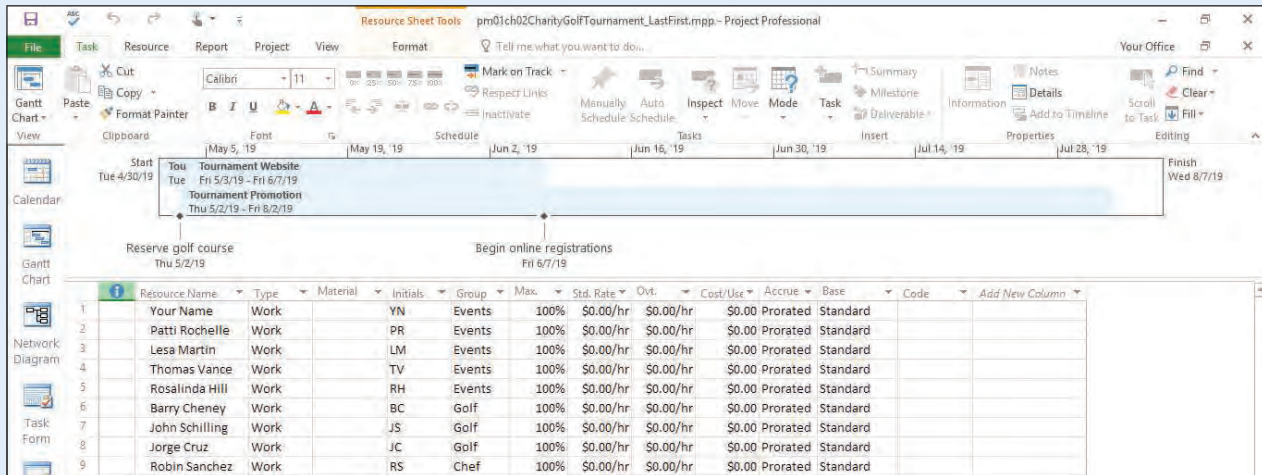


Figure 18 Resource Sheet view with resources added

- d. Click the **View** tab. In the Data group, click the **Group by** arrow, and then select **Resource Group**.

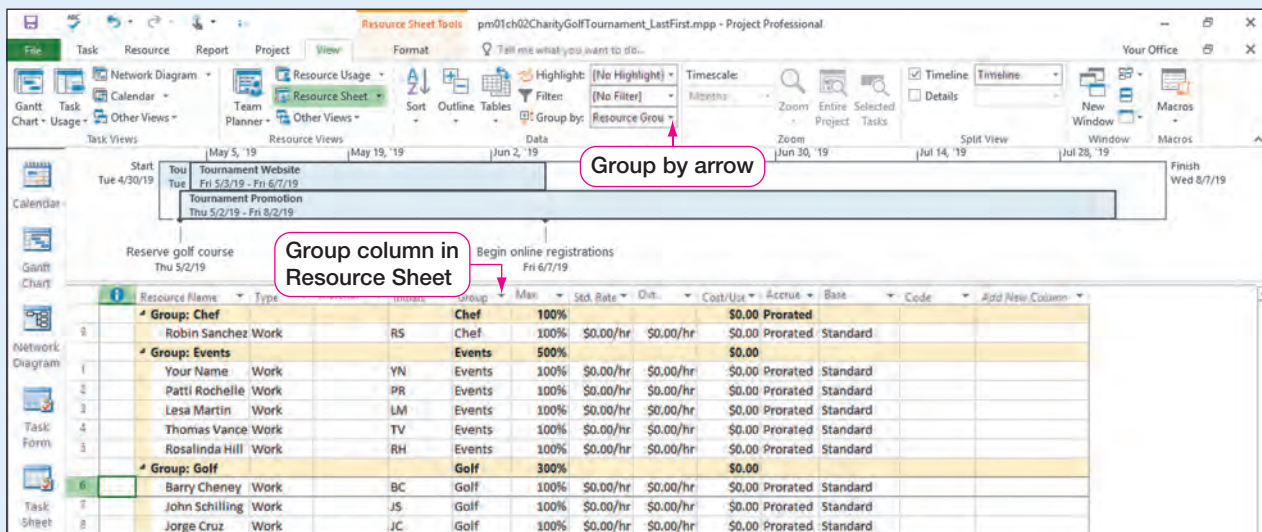


Figure 19 Resource Sheet with grouped resources

- e. **Save** the project.

You can also add a new resource using the Task Information dialog box. In the Task Information dialog box, select the Resources tab, select the first blank row in the Resource Name column, add a resource name and accompanying information, and then click OK.

REAL WORLD ADVICE

Resource Calendars

If you have ever been assigned to a team project, it is likely your teammate's availability differed from your availability. With this in mind, Project 2016 gives you the ability to create individual resource calendars that can be specifically designed for an individual resource. You can create a resource calendar in the Resource Information dialog box in the Properties group on the Resource tab. Once a resource calendar is created, it would be applied to a specific resource using the Resource Information dialog box. To open the Resource Information dialog box, click Information in the Properties group on the Resource tab.

Assigning Project Resources

Once resources are created, they must be assigned to tasks. Assigning a resource to a task means the resource is responsible for completing or overseeing the task. Project 2016 will assign the resource work, and therefore, the resource would be unavailable to complete other tasks at the same time. There are various ways of assigning project resources to tasks:

- The Assign Resources dialog box
- A cell in the Resource Names column arrow of the Entry table in Gantt Chart view
- The Resources tab in the Task Information dialog box
- The Task Work Form in Details view

The Assign Resources dialog box, used to assign resources to tasks, will remain open even when you click outside of the dialog box to select tasks in the Entry table. You can also create new resources in the Assign Resources dialog box. If you double-click a resource in the dialog box, it will open the Resource Information dialog box.



Now that you have created your project resources, you want to assign those resources to the project tasks. You will assign resources from the Assign Resources dialog box, the Resource Names column in the Entry table, and the Task Information dialog box.

In this exercise, you will assign project resources.



PM02.05

To Assign Project Resources

- a. Click **Gantt Chart**  on the View Bar, and then drag the **split bar** (vertical bar between Entry table and Gantt Chart) to the right edge of the Resource Names column.
- b. Click the **Resource** tab, and then in the Assignments group, click **Assign Resources**  to open the Assign Resources dialog box.

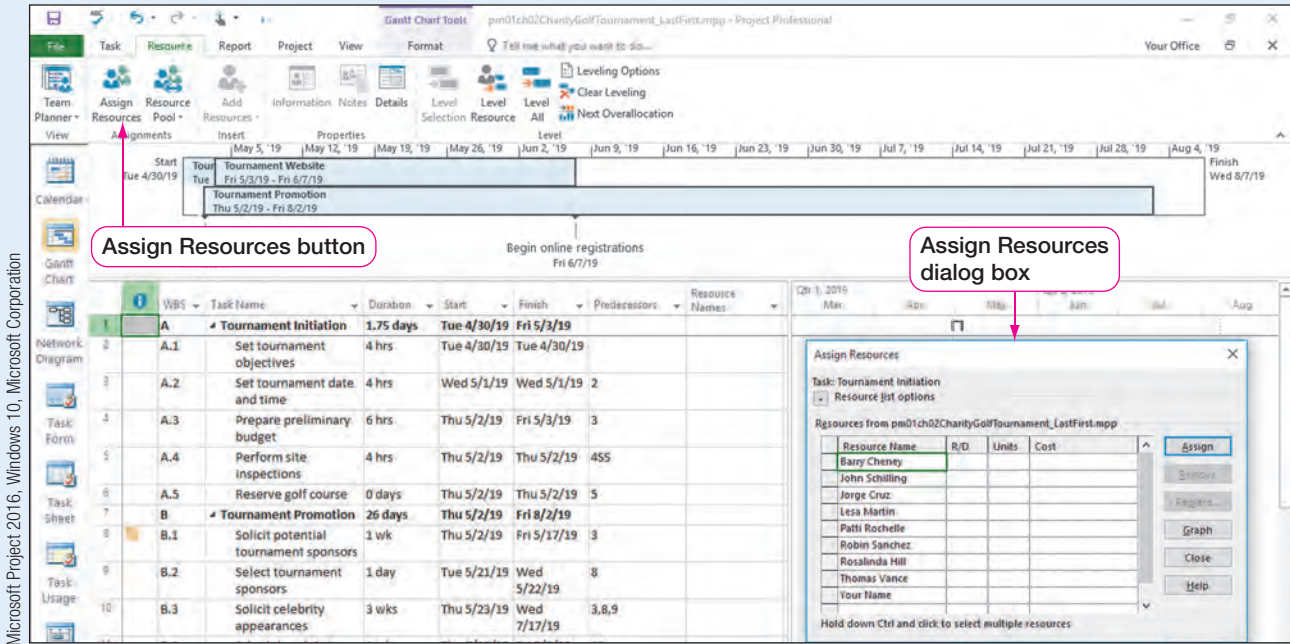


Figure 20 Assign Resources dialog box

SIDE NOTE
Resource Names in Gantt Chart

When you assign resources to tasks, notice the resource name will appear next to the Gantt bar in the Gantt chart.

- c. With the Assign Resources dialog box still open, select **Set tournament objectives** (Task 2) in the Entry table. Click **Patti Rochelle** in the Assign Resources dialog box, and then click **Assign**.
- d. Select **Set tournament date and time** (Task 3). Click **Patti Rochelle** in the Assign Resources dialog box, if necessary, and then click **Assign**.
- e. Select **Prepare preliminary budget** (Task 4). Again, click **Patti Rochelle** in the Assign Resources dialog box, if necessary, and then click **Assign**.

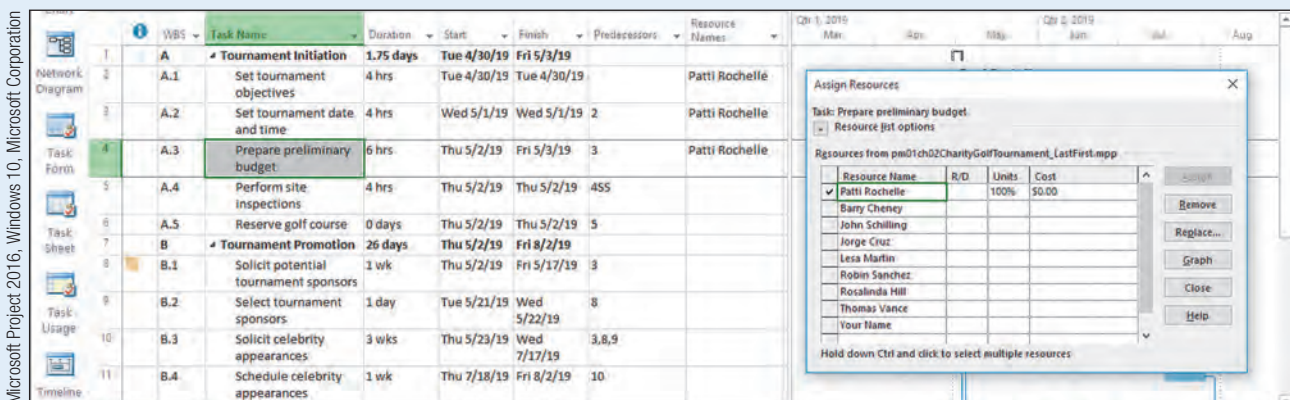


Figure 21 Resources assigned to tasks

SIDE NOTE

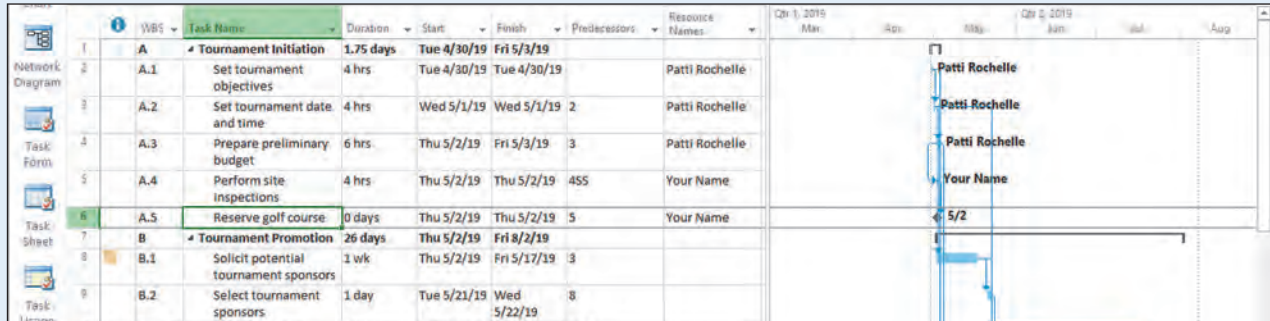
Alternate Method

If you are assigning the same resource to consecutive tasks, you can select the consecutive tasks and then use the Assign Resources dialog box to assign the resource to all the selected tasks at one time.

f. Use the same procedure you used in step e to make the following assignments.

Task 5	Perform site inspections	Your Name
Task 6	Reserve golf course	Your Name

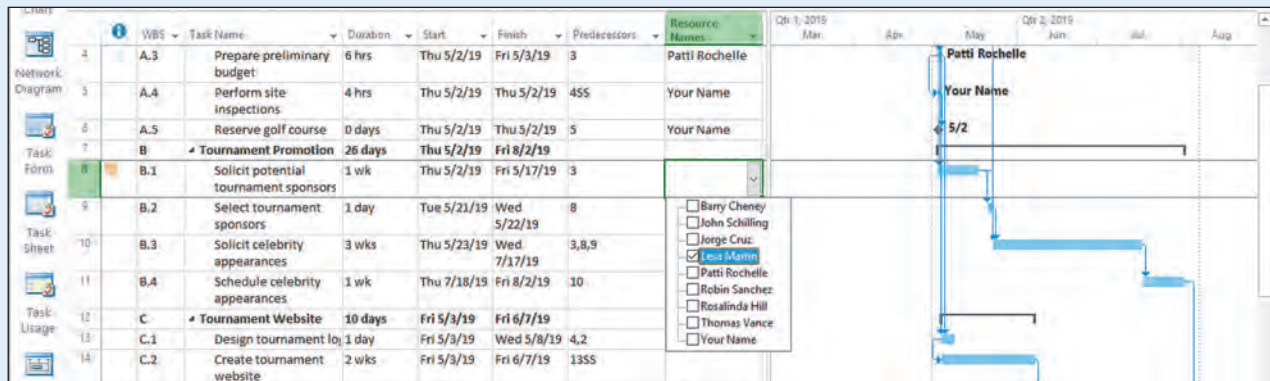
g. Click **Close** in the Assign Resources dialog box.



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Figure 22 Gantt chart with resource assignments

h. Click **Solicit potential tournament sponsors** (Task 8) in the Resource Names cell. On the right-hand side of the cell, click the **arrow**, and then select the check box for **Lesla Martin**.



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Figure 23 Assigning resources using the Resources Names column

- i. Press **Enter** to assign Lesa Martin to the task.
- j. Click **Select tournament sponsors** (Task 9) in the Resource Names cell. Click the **arrow**, and then select the check box for **Patti Rochelle**. Press **Enter** to assign Patti Rochelle to the task.
- k. **Save**  the project.

Change Task Durations by Adding Resources

Task durations may change when resources are added. Therefore, you must understand how work is calculated in Project 2016. How Project 2016 calculates the duration of a task depends on whether the task is effort driven or fixed duration. **Effort driven scheduling** is a method of scheduling in Project 2016 in which the duration of a task is shortened as resources are added or lengthened as resources are removed from a task; however, the amount of effort (work) necessary to complete a task remains unchanged. In other words, the more effort assigned to a task (units), the shorter the duration will be (even though the total work does not change). When you remove a resource from an effort driven task, Project 2016 will lengthen the duration of the task. With effort driven scheduling, Project 2016 calculates work using the following formula: $W=D*U$ [Work (W)=Duration (D)*Units (U)].

Imagine a task that takes 8 hours to complete. If you add a resource to the task, Project 2016 will assign that resource 8 hours of work. But what if you assign two resources to complete the same task? The amount of work hours stays the same (8 hours); however, the calendar time needed to complete the task (duration) will shorten the duration by 4 hours because the two resources (units) will be working together to get the task done faster. This scenario is based on the assumption that the task is effort driven.

- $W=D*U$ or $D=W/U$
- $8=4*2$ or $4=8/2$

There is an exception to this rule, however. If you assign multiple resources to a task at the same time, Project 2016 will not change the duration even if a task is set to effort driven.

Effort driven scheduling is typically not a default setting in Project 2016. To turn on effort driven scheduling when starting a project, on the File tab, click Options, and then click Schedule. Individual tasks can also be set to effort driven scheduling by using the Task Information dialog box for each task. For example, in an effort driven project schedule, you may want to change one task to non-effort driven because the duration of a task may actually stay the same even if additional resources are added.

If a project is not set to effort driven scheduling, Project 2016 will calculate work differently when resources are added. Imagine a task that takes 8 hours to complete. If you add a resource to the task, Project 2016 will assign the resources 8 hours of work. But what if you assign two resources to complete the same task? The amount of work hours increases to 16 hours (8 hours for resource 1 and 8 hours for resource 2). In projects that are not set for tasks to default to effort driven, if you add an additional resource to a task, Project 2016 will offer you the following options:

- Reduce duration but keep the same amount of work
- Increase the amount of work but keep the same duration
- Reduce the resources' work hours per day (units) but keep the same duration and work (For example, assign each resource 50% of the task work not to be completed consecutively.)

To understand these choices, refer to Table 1, which is based on a task with an 8-hour duration using $W=D*U$ ($U1$ =first resource, $U2$ =second resource).

8-Hour Task Duration	W	D	U1	U2
Reduce duration but keep the same amount of work (effort driven)	8h	4h	4h	4h
Increase the amount of work but keep the same duration (work consecutively)	16h	8h	8h	8h
Reduce the hours resources work per day (units) but keep the same duration and work (work separately)	8h	8h	4h	4h

Table 1 Calculating task work for effort driven tasks

When a resource is assigned to more work than available working hours, the resource will be **overallocated**. Project managers know that overallocating resources may lead to project failure because the work will likely not get done in the time it was scheduled. Therefore, Project provides a leveling tool. **Leveling** is a process of correcting overallocated resources to ensure no resource is assigned more hours than available work hours.

REAL WORLD ADVICE

Leveling of Resources

If a project's team members are assigned more work than they have time for, not only may they have poor performance or burnout, but it is also likely they won't be able to finish all the work assigned. If work doesn't get done on time, the project may not meet the schedule deadline and may also go over budget. Project managers may choose to manually level resources by changing resource assignments, removing resource assignments, shortening task durations, adjusting the work of a resource on a task, or adding additional resource assignments to tasks. Project managers may also decide to allow Project to level the resources using Project's leveling tools on the Resource tab.

Another way of leveling a project is by adding additional resources to a project to be sure the project is still completed on time. Adding additional resources to the project is called **crashing**. A project manager may also decide to crash a project to complete tasks faster than predicted to shorten the project's duration. Crashing a project may help to level a project or complete a project faster but may also cause the project to go over budget.



CONSIDER THIS

What Would You Do?

Have you ever fallen behind on studying for a test? If so, what did you do, pull an all-nighter? What if your project has fallen behind schedule? Or what if you want to finish the project earlier than predicted to get a jump on the competition? Project managers may decide to add additional resources to the project, knowing this will likely increase the project's budget.

Setting Your Project to Effort Driven

For the golf charity tournament, you believe your tasks will take less time to complete (duration) if you add additional resources to your tasks. Therefore, you want to set your project to schedule all tasks as effort driven unless otherwise specified.

In this exercise, you will set new project tasks to effort driven.



PM02.06

SIDE NOTE

Effort Driven Tasks

Making new tasks effort driven does not change existing tasks to effort driven.

To Set New Project Tasks to Effort Driven

- Click the **File** tab, and then click **Options**.
- In the Project Options dialog box, click **Schedule** in the left pane.
- Scroll down until you see the **Scheduling options for this project** section. If necessary, click to select the **New tasks are effort driven** check box to set all new tasks as effort driven tasks.

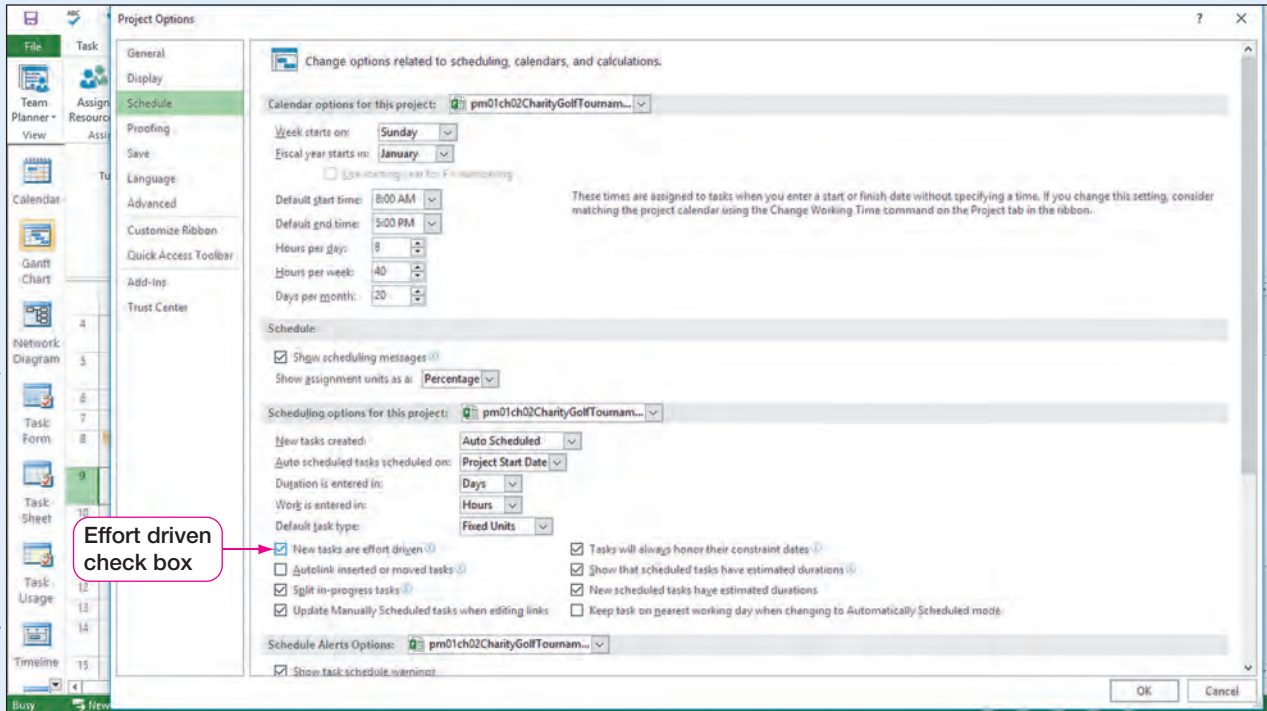



Figure 24 Project Options scheduling dialog box

- d. Click **OK**.
- e. **Save**  the project.


Changing Task Durations with Resource Assignments

Now that new project tasks will be scheduled as effort driven, you will continue resource assignments for the remaining project tasks.

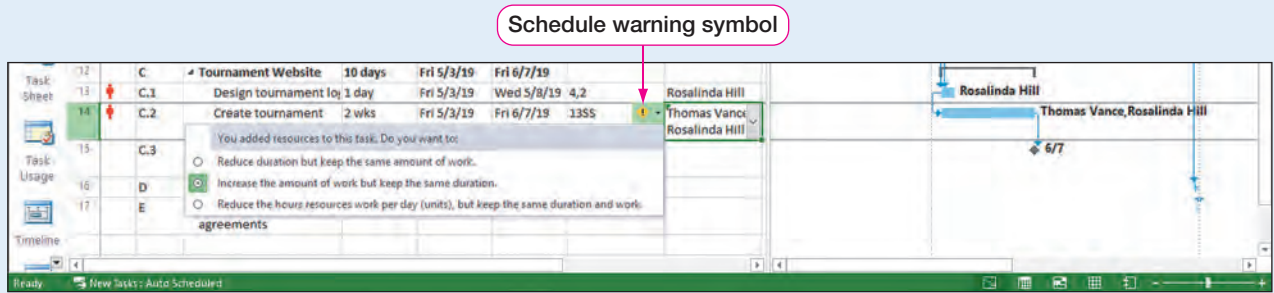
In this exercise, you will change task durations by adding resources.

PM02.07

To Change Task Durations by Adding Resources

- a. Click **Gantt Chart**  if necessary, and then click **Design tournament logo** (Task 13). Assign **Rosalinda Hill** to Task 13.
- b. Double-click **Create tournament website** (Task 14) to open the Task Information dialog box. Click the **Resources** tab. Notice the duration on this task is two weeks (80 hours).
- c. Click the first cell under the Resource Name heading, and then click the **Resource Name** arrow. Click **Thomas Vance** to add him as a resource to this task, and then click **OK**. Thomas is now assigned 80 hours of work on Create tournament website (Task 14).
- d. In the Resource Names column of **Create tournament website** (Task 14), click the **Resource Names** arrow to also select Rosalinda Hill. Click **Rosalinda Hill**, and then press **Enter**.

- e. Project will give an informational warning symbol in the upper left corner of the Resource Names cell. Click on the **warning symbol** to reveal the three selections for assigning the additional resource.



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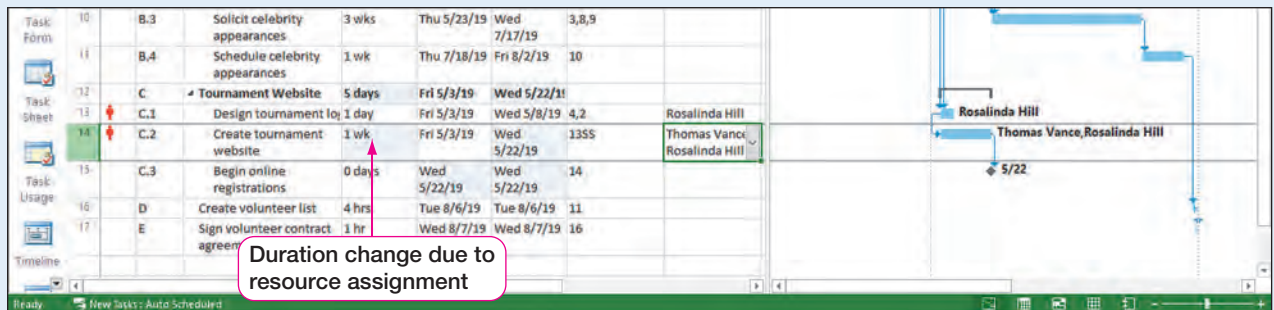
Figure 25 Resource assignment warning

SIDE NOTE

Overallocation

Note the overallocation symbol (red) in the Indicators column. You will adjust the overallocation of the resource in a later exercise.

- f. Select **Reduce duration but keep the same amount of work**. Note the change of the duration of Task 14 to one week versus the original two-week duration. The total work is still 80 hours, but the time (duration) needed to complete the work is cut in half because two resources are assigned.




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Figure 26 Duration changed with resource assignment

SIDE NOTE

Resource Assignments

It is good practice to assign a resource to a milestone task. The assignment ensures someone is responsible for overseeing the task.

- g. Click **Begin online registrations** (Task 15), and then assign **Patti Rochelle** to the task.
- h. Double-click **Solicit celebrity appearances** (Task 10), and then click the **Advanced** tab. Click to select the **Effort driven** check box to set the task to effort driven. Click **OK**.
- i. With **Task 10** still selected, click the **Resource** tab, and then in the Assignments group, click **Assign Resources** .
- j. Using the Assign Resources dialog box, click **Your Name**, and then click **Assign**. Click **Patti Rochelle**, and then click **Assign**. Note the change in the duration of Task 10 from three weeks to one and a half weeks due to the task being effort driven.

Troubleshooting

If the duration of Task 10 did not change to 1.5 weeks, make sure the task is set to effort driven by double-clicking the task, clicking the Advanced tab, and placing a check mark in front of Effort driven.

- k. Click **Close** in the Assign Resources dialog box.
- l. Click the **Warning** arrow in the upper left corner of the Task Name cell of Task 10, and then click **Reduce duration but keep the same amount of work**.

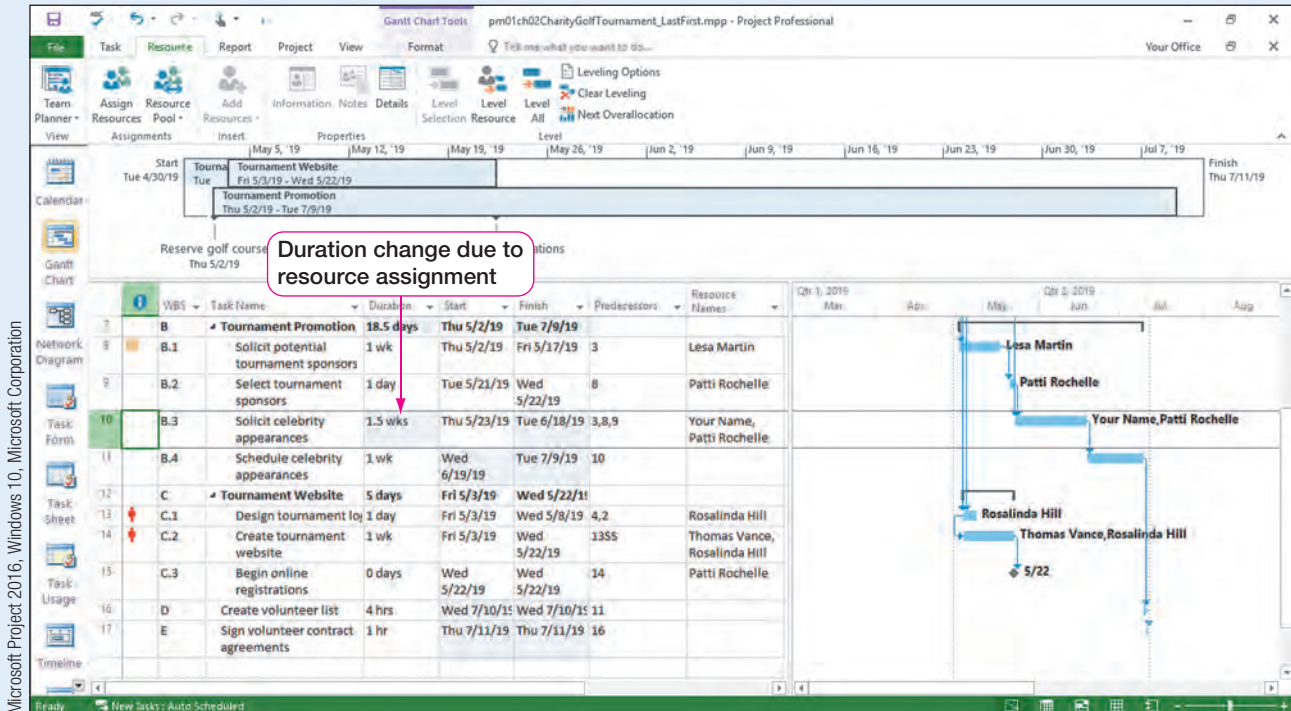


Figure 27 Task duration change

SIDE NOTE

Effort Driven Task

Keep in mind that if resources are assigned to a task at the same time the duration will not change, even on an effort driven task.

- m. Save  the project.

Using the Work Task Form in Split View

Understanding how Project 2016 is calculating task durations and task work can be confusing. Project managers often find it useful to use the Task Details Form in split screen view. The Task Details Form in Split View allows you to see exactly how Project is distributing the work on a task as shown in Figure 28.

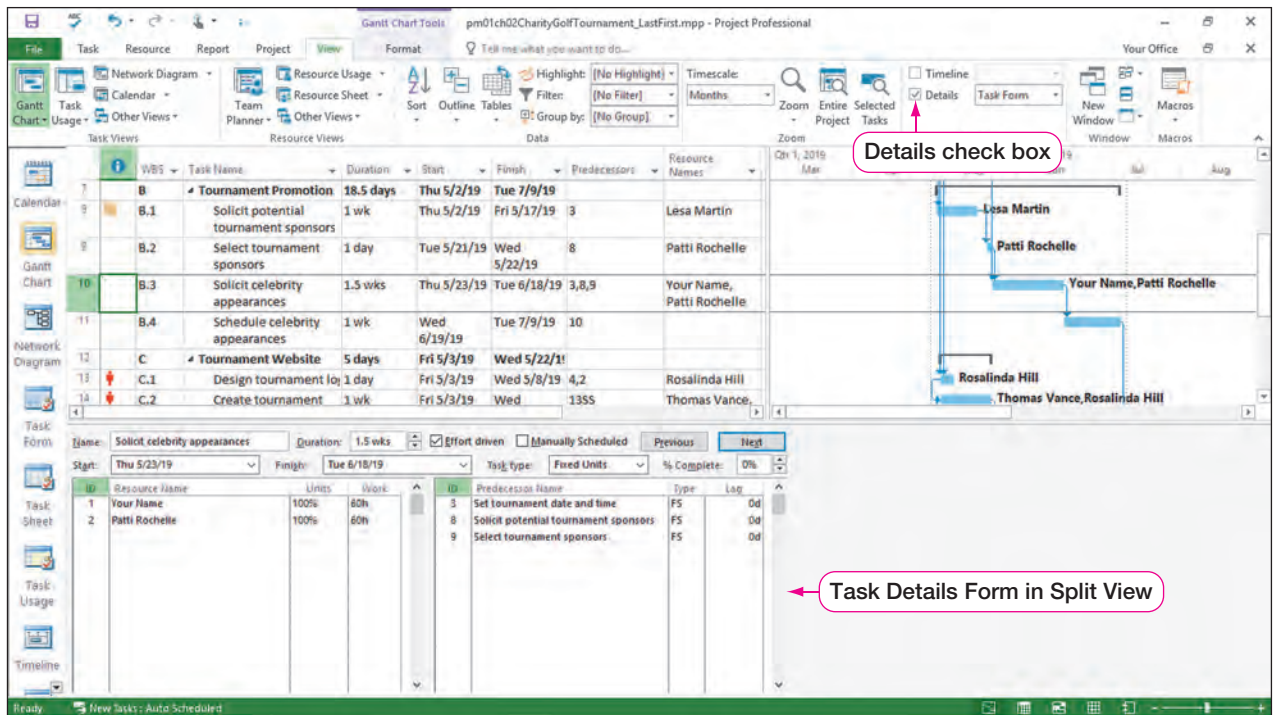


Figure 28 Task Details Form in Split View

In this exercise, you will change a duration of a task by using the Work form in Split view.

PM02.08

SIDE NOTE Split View

When selecting Details, Project may default to Resources & Predecessors form split view. Right-clicking the form allows you to change to Work form view.

To Change a Duration Using the Work Form in Split View

- Click **Solicit celebrity appearances** (Task 10) if necessary, and then click the **View** tab. In the Split View group, select the **Details** check box.
- Right-click the **Task Details Form** in the lower pane of Gantt Chart view, and then click **Work**. You see that you are assigned 60 hours of work and Patti Rochelle is also assigned 60 hours of work. You also note the task has a check mark in the Effort driven check box.

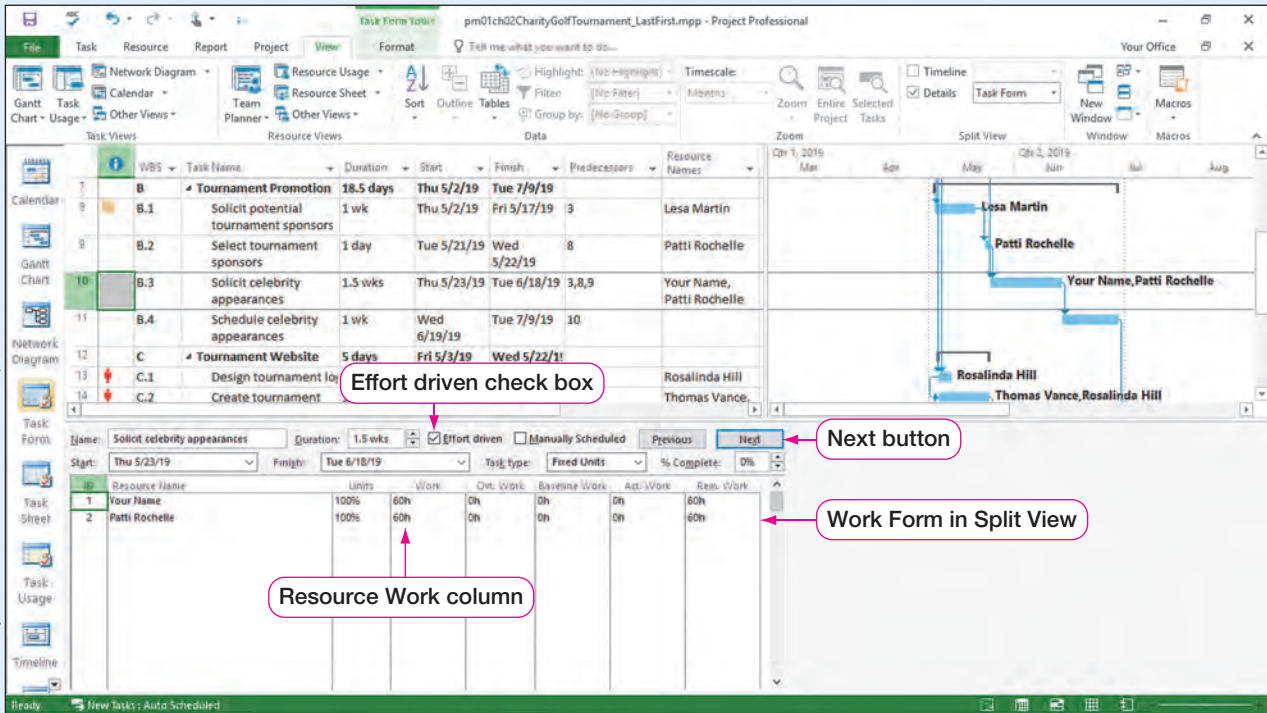


Figure 29 Work Form in Split View

SIDE NOTE
Timeline in Split View
 Project 2016 will not display the Timeline in Split View.

- c. In the Work form, click the **Next** button. **Schedule celebrity appearances** (Task 11) is now selected. Note the task has a 1-week duration (or 40 hours).
- d. In the **Resource Name** column of the Work form, click in the first blank row in the Resource Name column. Click the **arrow**, and then click **Your Name**. Click in the blank row below Your Name, and then click **Barry Cheney**.
- e. Click **OK** to assign both resources to this task. Notice in the Work form that both resources are assigned 40 hours of work. Although the task duration remains 1 week, the total of work hours has doubled to 80 hours because the task is not effort driven.

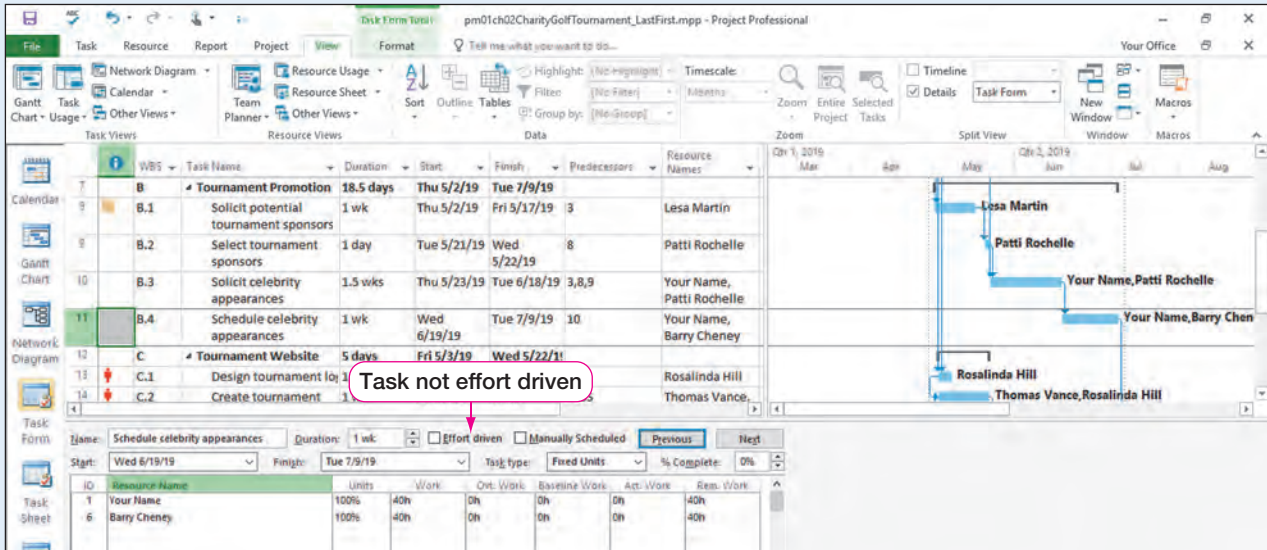


Figure 30 Work form with task not effort driven

- f. With Task 11 still selected, click in the **Work** cell of **Your Name** row in the Work form. Type **10h**, and then press **Enter** to change your work hours to 10 hours.

- g. Next, click in the **Work** cell for **Barry Cheney**. Type **30h** to change Barry's work hours to 30 hours. Click **OK**.

ID	Resource Name	Units	Work	Orig. Work	Baseline Work	Act. Work	Rem. Work
1	Your Name	100%	10h	0h	0h	0h	10h
6	Barry Cheney	100%	30h	0h	0h	0h	30h

Adjusted work hours


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Figure 31 Resource work hours manually adjusted

SIDE NOTE

Removing Split View

To remove the Split View group, you can also double-click the split bar between the Entry table and the Work form.

- Note the change in the duration from 1 week to .75 weeks. By manually changing the work hours, you are creating an assignment similar to an effort driven task. Click **Next** five times to select Task 16.
- Assign **Rosalinda Hill** to **Create volunteer list** (Task 16), and then click **OK**.
- Click **Next** to move to **Sign volunteer contract agreements** (Task 17). Assign **Rosalinda Hill** to Task 17, and then click **OK**.
- On the View tab, in the Split View group, click the **Details** check box to close the split view.
- Save**  the project.

View Resource Assignments in the Team Planner View

After assigning resources, project managers may want to view how project team members are being assigned at a point in the project. This can be done by using Project's team planner. **Team Planner** is a Project view that shows a project's resources and tasks assigned to each resource. Each resource name appears on a separate row. In Team Planner view, you can drag task assignments from one resource to another resource to make adjustments to the resource assignment(s). Tasks associated with the individual resources appear on the same row as the resource name. Unassigned tasks appear at the bottom of the Team Planner view window. Resources identified in red are overallocated resources.

Viewing Resource Assignments in Team Planner View

You now want to view the resource assignments in your project plan. You will view all tasks assigned to you and view tasks assigned to other resources.

In this exercise, you will view resource assignments in the Team Planner view.



PM02.09

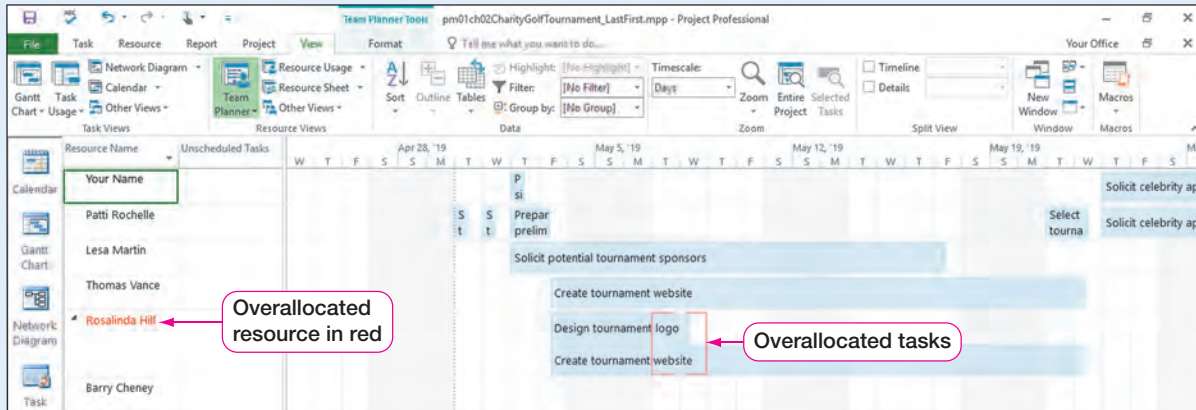
SIDE NOTE

Resource Assignments in Team Planner View

You can adjust resource assignments by clicking on a task in Team Planner view and dragging the task to a new resource.



To View Resource Assignments in Team Planner View

- On the View tab, in the Resource Views group, click **Team Planner**  to open Team Planner view.
- Right-click **Your Name**, and then click **Scroll to Task** .



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Figure 32 Team Planner view

- c. View the tasks assigned to you in Team Planner view. Use the horizontal scroll bar to view all tasks to which you are assigned. View the tasks assigned to others in Team Planner view.
- d. Click **Gantt Chart**  on the View Bar.
- e. **Save**  the project.

REAL WORLD ADVICE

Project Schedule and Resource Assignments

As you have learned, a project's schedule is calculated by Project based on things such as a project's calendar, task durations, task relationships, and resource assignments. However, project managers have the ultimate decision-making authority on the project's overall schedule. If Project is not creating a project schedule that makes sense to the project's needs, a project manager should review how the schedule is being created and make adjustments to the project calendar, task durations, task relationships, or resource assignments accordingly.

Enhance a Project Schedule with Elapsed Duration and Recurring Tasks

If you assign a task a duration of 48 hours, Project will schedule that task for 6 days of work (48 hours divided by an 8-hour work day). However, assume a task in your project needs 48 hours total without regard to the Project calendar. If this is the case, Project 2016 allows you to assign elapsed duration times. **Elapsed durations** ignore any project or resources working and nonworking times and schedules the task(s) to 24 hours a day.

Adding Elapsed Durations

You want to allow the online registration to be open for 6 weeks. Therefore, you will add the task and assign the task a 6-week duration to give participants time to register for the event. However, the project calendar allows for only 16 hours of work each week and does not account for the fact that participants can register any time of the day. Therefore, a 6-week duration will assign the task to last over 3 months, but you only want the registration open for 6 weeks. You decide to change the duration to elapsed time to accurately reflect how long you want online registration to remain open.

In this exercise, you will set a task duration to elapsed time.

PM02.10

To Set a Task Duration to Elapsed Time

- a. Click **Create volunteer list** (Task 16), and then press **[Ins]** to insert a new task row. Add the task name **Accept online registrations**. Press **[Tab]**, and then type **10w** to

enter a task duration of 10 weeks. Press **[Tab]** three times, and then type **15** to assign a predecessor of Task 15. Press **[Tab]**. Note this task takes nearly 6 months to complete.

Task ID	Task Name	Duration	Start	Finish	Predecessors	Resource
12	Tournament Website	55 days	Fri 5/3/19	Fri 11/15/19		Barry Cheney
13	Design tournament logo	1 day	Fri 5/3/19	Wed 5/8/19	4,2	Rosalinda Hill
14	Create tournament website	1 wk	Fri 5/3/19	Wed 5/22/19	13SS	Thomas Vance, Rosalinda Hill
15	Begin online registrations	0 days	Wed 5/22/19	Wed 5/22/19	14	Patti Rochelle
16	Accept online registrations	10 wks	Wed 5/22/19	Fri 11/15/19	15	
17	Create volunteer list	4 hrs	Tue 7/2/19	Wed 7/3/19	11	Rosalinda Hill
18	Sign volunteer contract agreements	1 hr	Wed 7/3/19	Wed 7/3/19	17	Rosalinda Hill

Task duration

Figure 33 Task duration

Microsoft Project 2016, Windows 10, Microsoft Corporation

- b. Click in the **Duration** column of Task 16, and then type **10ew** to change the duration of the task to 10 elapsed weeks. Press **[Enter]**. Note the change to task Finish date of this task. Making the duration an elapsed time more accurately reflects the assignment of that task.

Task ID	Task Name	Duration	Start	Finish	Predecessors	Resource
12	Tournament Website	24 days	Fri 5/3/19	Wed 7/31/19		Barry Cheney
13	Design tournament logo	1 day	Fri 5/3/19	Wed 5/8/19	4,2	Rosalinda Hill
14	Create tournament website	1 wk	Fri 5/3/19	Wed 5/22/19	13SS	Thomas Vance, Rosalinda Hill
15	Begin online registrations	0 days	Wed 5/22/19	Wed 5/22/19	14	Patti Rochelle
16	Accept online registrations	10 ewks	Wed 5/22/19	Wed 7/31/19	15	
17	Create volunteer list	4 hrs	Tue 7/2/19	Wed 7/3/19	11	Rosalinda Hill
18	Sign volunteer contract agreements	1 hr	Wed 7/3/19	Wed 7/3/19	17	Rosalinda Hill

Elapsed duration added

Figure 34 Elapsed duration assigned to a task

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SIDE NOTE
Overallocation

The overallocated indicator will appear on all tasks assigned to an overallocated resource.

- c. Add **Your Name** as the resource to Task 16. The icon in the Indicators column shows overallocation. By assigning yourself to this task, you have overallocated yourself.

Task ID	Task Name	Duration	Start	Finish	Predecessors	Resource
4	Prepare preliminary budget	6 hrs	Thu 5/2/19	Fri 5/3/19	3	Patti Rochelle
5	Perform site inspections	4 hrs	Thu 5/2/19	Thu 5/2/19	4SS	Your Name
6	Reserve golf course	0 days	Thu 5/2/19	Thu 5/2/19	5	Your Name
7	Tournament Promotion	17.25 days	Thu 5/2/19	Tue 7/2/19		
8	Solicit potential tournament sponsors	1 wk	Thu 5/2/19	Fri 5/17/19	3	Lesla Martin
9	Select tournament sponsors	1 day	Tue 5/21/19	Wed 5/22/19	8	Patti Rochelle
10	Solicit celebrity appearances	1.5 wks	Thu 5/23/19	Tue 6/18/19	3,8,9	Your Name, Patti Rochelle
11	Schedule celebrity appearances	0.75 wks	Wed 6/19/19	Tue 7/2/19	10	Your Name, Barry Cheney
12	Tournament Website	24 days	Fri 5/3/19	Wed 7/31/19		
13	Design tournament logo	1 day	Fri 5/3/19	Wed 5/8/19	4,2	Rosalinda Hill
14	Create tournament website	1 wk	Fri 5/3/19	Wed 5/22/19	13SS	Thomas Vance, Rosalinda Hill
15	Begin online registrations	0 days	Wed 5/22/19	Wed 5/22/19	14	Patti Rochelle
16	Accept online registrations	10 ewks	Wed 5/22/19	Wed 7/31/19	15	Your Name
17	Create volunteer list	4 hrs	Tue 7/2/19	Wed 7/3/19	11	Rosalinda Hill
18	Sign volunteer contract agreements	1 hr	Wed 7/3/19	Wed 7/3/19	17	Rosalinda Hill

Overallocation indicator

Figure 35 Entry table with overallocated resources

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- d. With Task 16 still selected, open the Work form in **Split View** by clicking the **View** tab, and then in the Split View group, click **Details**. Note you are assigned to 1,680 hours of work on Task 16.

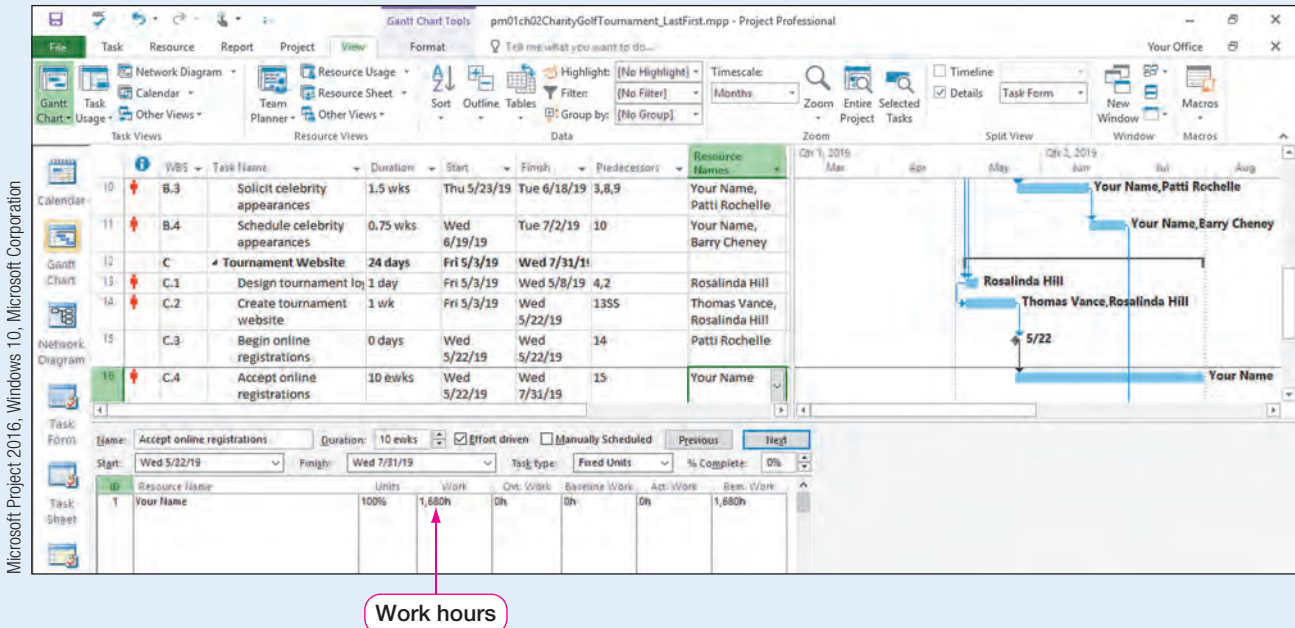


Figure 36 Work Form in Split View

SIDE NOTE
Elapsed Duration

A task assigned an elapsed duration is displayed as a dotted line in the Gantt chart.

- e. In the Split form, click in the Work column, and then type **0** since you do not need to spend time actually completing the task. Click **OK**. Note the overallocation on Task 16 is removed.

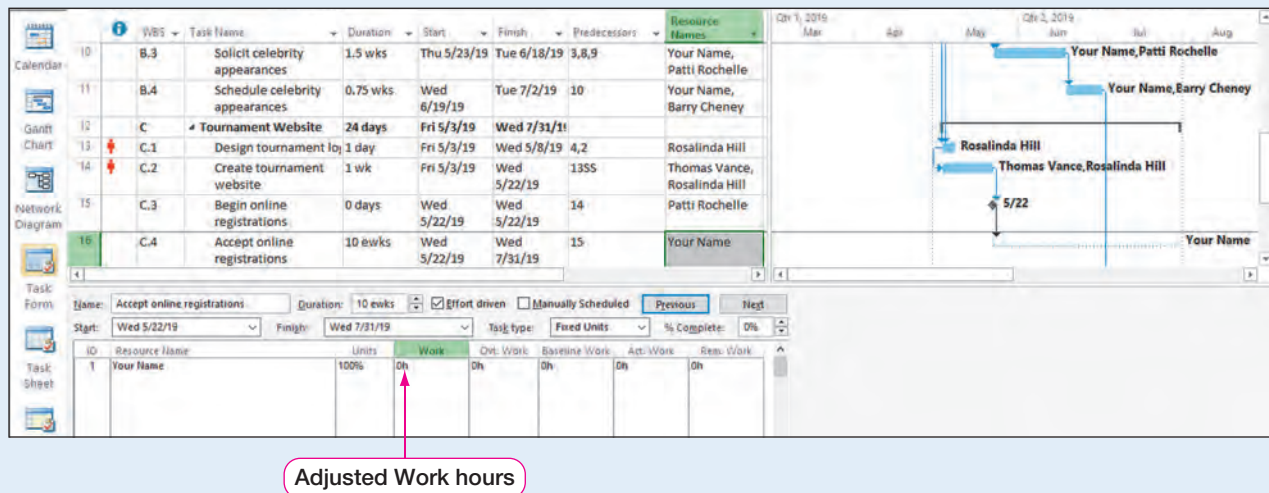



Figure 37 Overallocation removed

- f. On the View tab, in the Split View group, click **Details** again to remove the split form.
- g. **Save**  the project.

Adding a Recurring Task

There are also circumstances where you may do the same task over and over, such as a weekly status meeting. Tasks that have a regular occurrence can be entered into the Project software as recurring tasks. A **recurring task** is a task that repeats at regular intervals. For example, you may want to monitor online registrations every Wednesday to be sure the tournament is receiving enough registrations. Instead of setting up separate tasks each week, you could create a recurring task.


In this exercise, you will create a recurring task.

PM02.11

SIDE NOTE Recurring Task

Recurring tasks are inserted as a summary task with the recurring tasks as individual task bars.

To Create a Recurring Task

- Click in the Task Name column of row 19, the first blank row of the Entry table.
- Click the **Task** tab, and then in the Insert group, click the **Task**  button arrow. Click **Recurring Task** to open the Recurring Task Information dialog box.

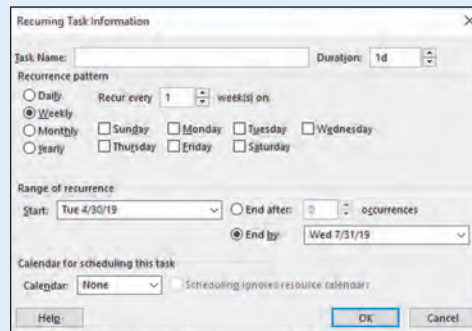


Figure 38 Recurring Task Information dialog box

- Type the Task Name **Monitor online registrations**. Enter a duration of **1h**.
- If necessary, click **Weekly** under the Recurrence pattern. Set the task to recur every **1 week** on **Wednesday**. Set the Range of recurrence to start on **May 29, 2019** and end on **July 24, 2019**. Apply the **Standard Calendar** to the task.

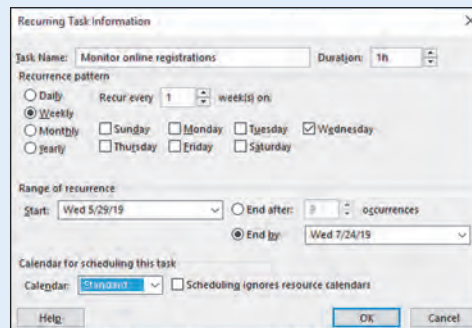


Figure 39 Recurring Task Information dialog box with task information

- Click **OK**. A Recurring Task indicator appears in the Indicators column.

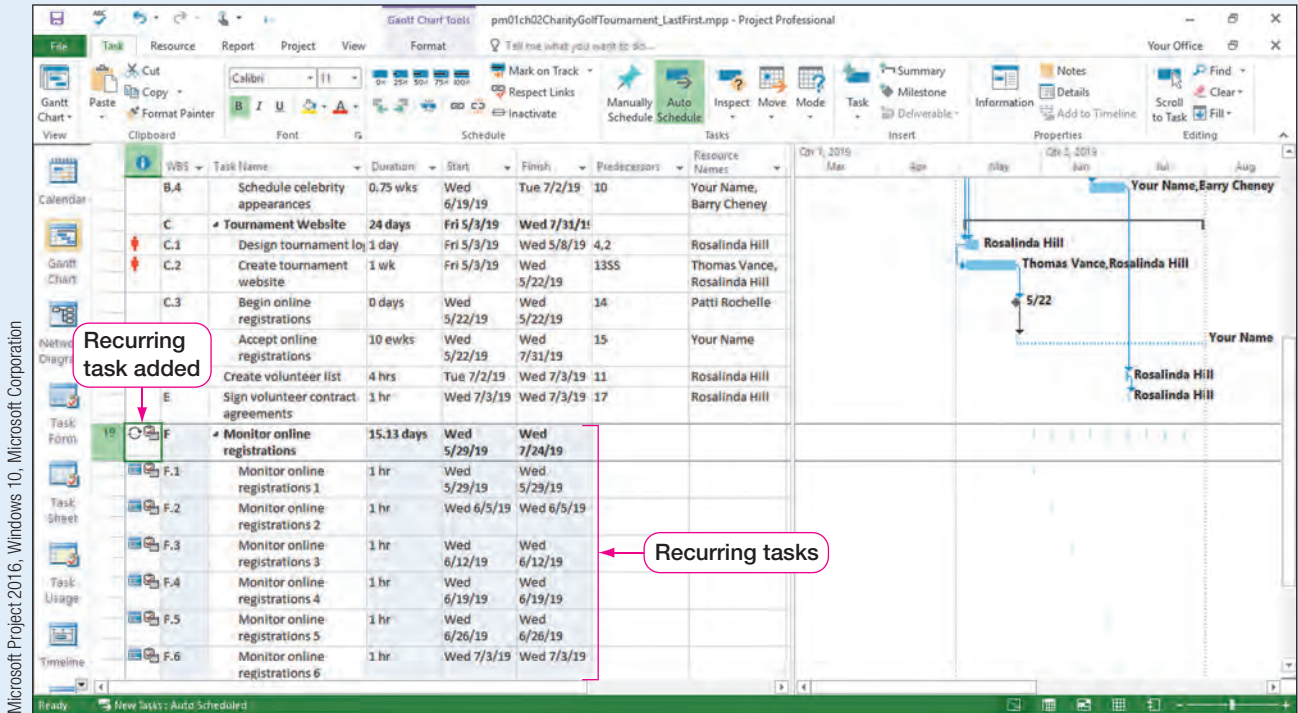


Figure 40 Entry table with recurring task information

- f. Click the **Collapse** button in the upper left-hand corner of the name box of the recurring task in row 19 to collapse the individual tasks.

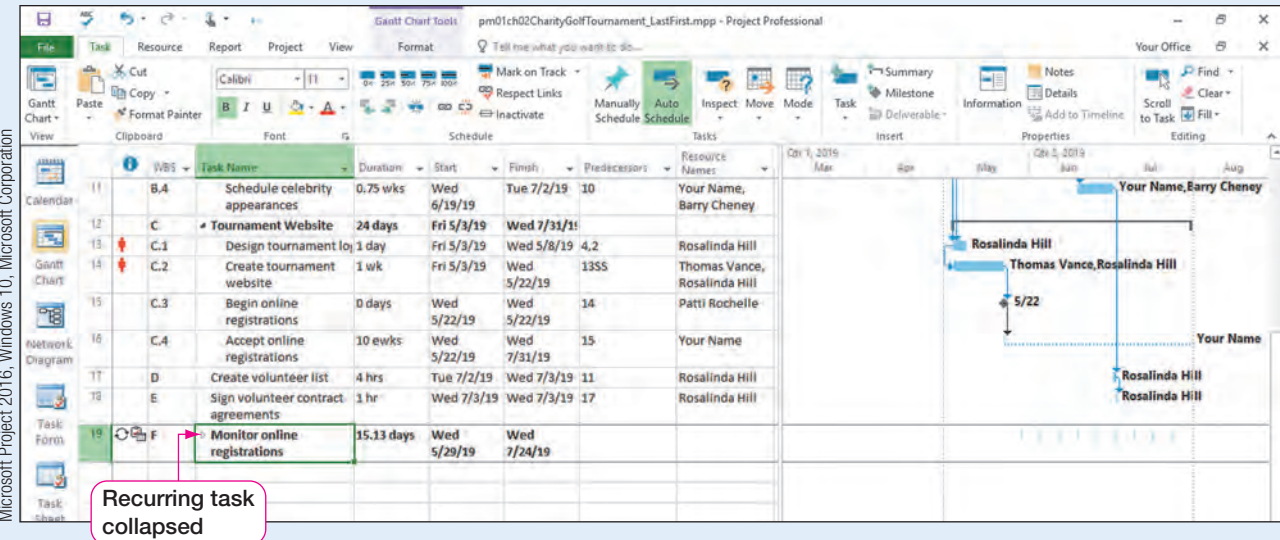


Figure 41 Recurring task collapsed

- g. Click the **View** tab, and then in the Zoom group, click **Entire Project** to view the entire project plan in the Gantt chart.
- h. **Save** the project.

Share Project Information

Communication is an integral part of a project manager's duties when managing projects. If a project manager is using Project 2016, project reports can be created. Project 2016 information can also be copied and pasted into other applications such as an Excel spreadsheet or

a Word table. Information can also be exported to other applications or imported from other applications. Projects can be linked to other projects as well. Regardless of which method a project manager decides to use to share information, frequent project communication is good practice to be sure the entire project and project team stay on task.

The reporting features of Project 2016 have a new graphical appearance and many formatting capabilities. The reports now feature charts and images that better represent your project at a glance. You can add or remove elements in reports to fit your reporting needs. Project 2016 gives project managers dozens of pre-loaded reports that can be used immediately. Not only are these reports available, but they can also be customized to meet the project reporting needs. If a project manager does not find a report that works for a project, custom reports can also be created. Project allows for individual control of reports, from black and white to colors as well as chart effects.

Most of the reports available in Project are based on project status. To display the status of a project, a baseline must be set and the project is tracked. A baseline is a record of each task at a point in time from which you will track project progress. **Tracking** is recording the actual progress of the project's tasks (for example, identifying a task as completed or partially done). Baselines are set on the Project tab, and task tracking is done in the Schedule group on the Task tab.

REAL WORLD ADVICE

Setting a Project Baseline






If your supervisor asks you how the project is going, you want to be sure to have an answer. Project managers who want the ability to run project reports to update the project status and determine where the project is compared to where the project should be will set a project baseline. As a snapshot of the original plan of the project, a baseline allows you to compare what should be happening with your project versus what is actually happening with your project.

Project 2016 includes five Dashboard reports. Dashboard reports display project progress relevant to an objective or process. Table 2 defines the five pre-determined Dashboard reports.

Report Name	Description
Burndown	This reports how much work you have completed and how much work you have left to complete.
Cost Overview	This report displays the current cost status of your project and its top level (Summary) to help you determine if your project is staying on budget.
Project Overview	This report displays how much of the project is complete as well as any upcoming milestones and tasks that are past due (late tasks).
Upcoming Tasks	This report displays the work that has been done during the current week, the status of any remaining tasks that were due, and which tasks may be starting in the next week.
Work Overview	This report displays how much work you have completed and how much you have left (such as burndown) as well as remaining availability of work resources.


Table 2 Dashboard reports

Creating Project Reports

In addition to Dashboard reports , there are also Resources , Costs , In Progress , and Custom  reports. Although you have not set a project baseline and therefore have not started tracking your project, you still can explore the available reports for your project.

In this exercise, you will view reports in Project 2016.

To View Reports in Project

- a. Click the **Report** tab. In the View Reports group, click the **Resources**  arrow, and then select **Resource Overview**. Notice the graphical nature of the report and the features available to customize reports on the Report Tools Design tab.

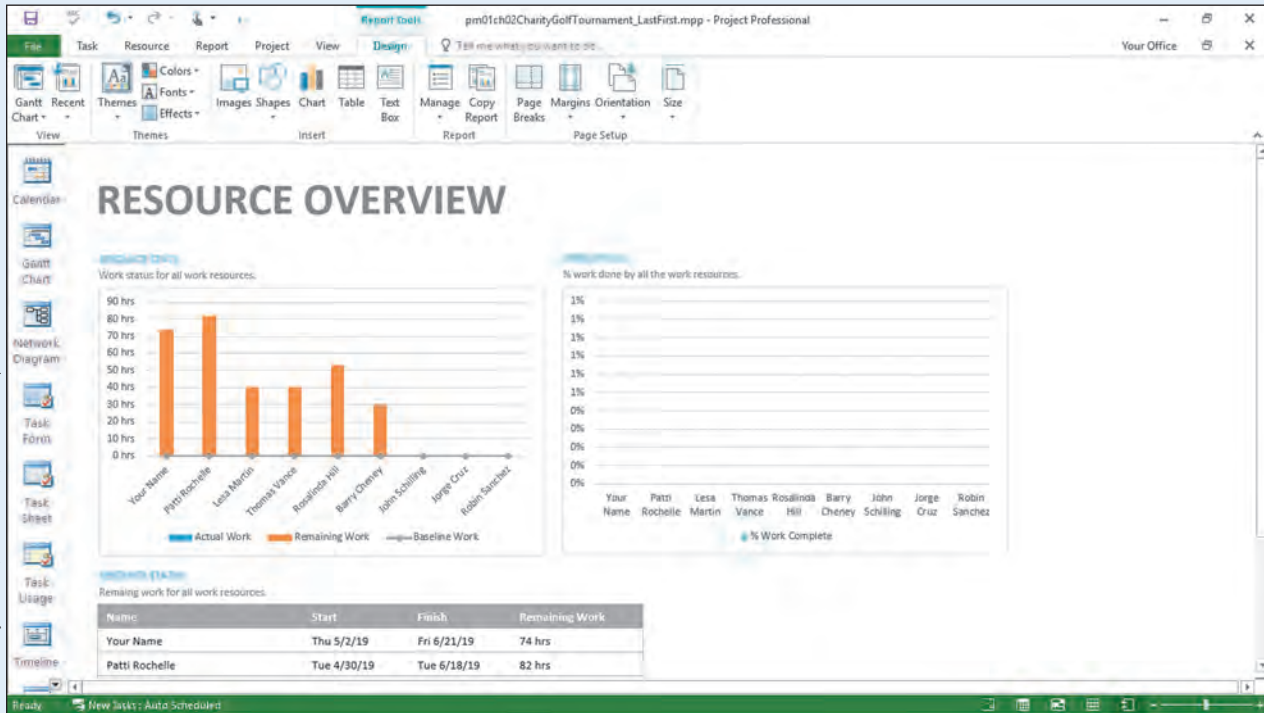


Figure 42 Resource Overview report

- b. Click the **Report** tab. In the View Reports group, click the **Resources** arrow, and then select **Overallocated Resources** to view the overallocation for Rosalinda Hill.

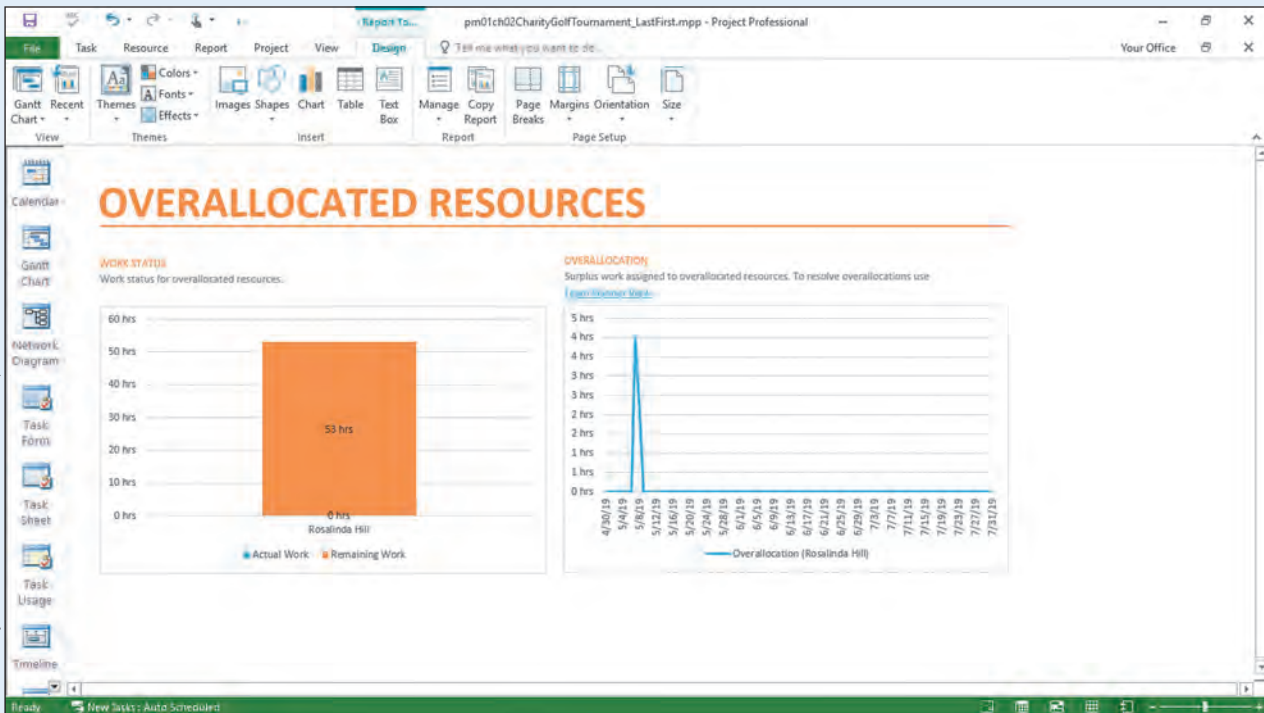




Figure 43 Overallocated Resources report

- c. In the Overallocated Resources report, click the **Team Planner View** link to view the overallocation. You will see the overallocation occurs between the Design tournament logo task and the Create tournament website task.
- d. Click **Gantt Chart**  on the View Bar, and then select **Create tournament website** (Task 14) if necessary. Since there is a Start-to-Start relationship between Tasks 13 and 14, Rosalinda is being scheduled to work on two tasks at the same time. This is causing the overallocation.
- e. Click in the Predecessors column of Task 14. Type **13**, and then press **Enter** to remove the overallocation of Rosalinda.

Troubleshooting

If the overallocation is still present, make sure you delete the Start-to-Start relationship and the only predecessor for Task 14 is Task 13.

- f. Click the **Report** tab. In the View Reports group, click the **Resources** arrow, and then select **Overallocated Resources**. You note there are no longer overallocated resources.
- g. Click **Gantt Chart** on the View Bar.
- h. **Save**  the project.

Copy and Paste Project Information to Other Applications

A project manager is not limited to sharing project information through Project's reports. Project 2016 information can be shared by copying and pasting project information into another application such as Excel or Word. Since Excel is similar to Project's Entry table, pasting information into Excel will create a worksheet with columns and rows of data. When you paste information into Word, however, project information will be pasted into a table format.

Copying and Pasting Project Information to Excel and Word

You want to share your project information with other project team members who do not have knowledge of Project 2016. To make it easier for them to view the project's information, you will copy the information and then paste into Excel and Word.

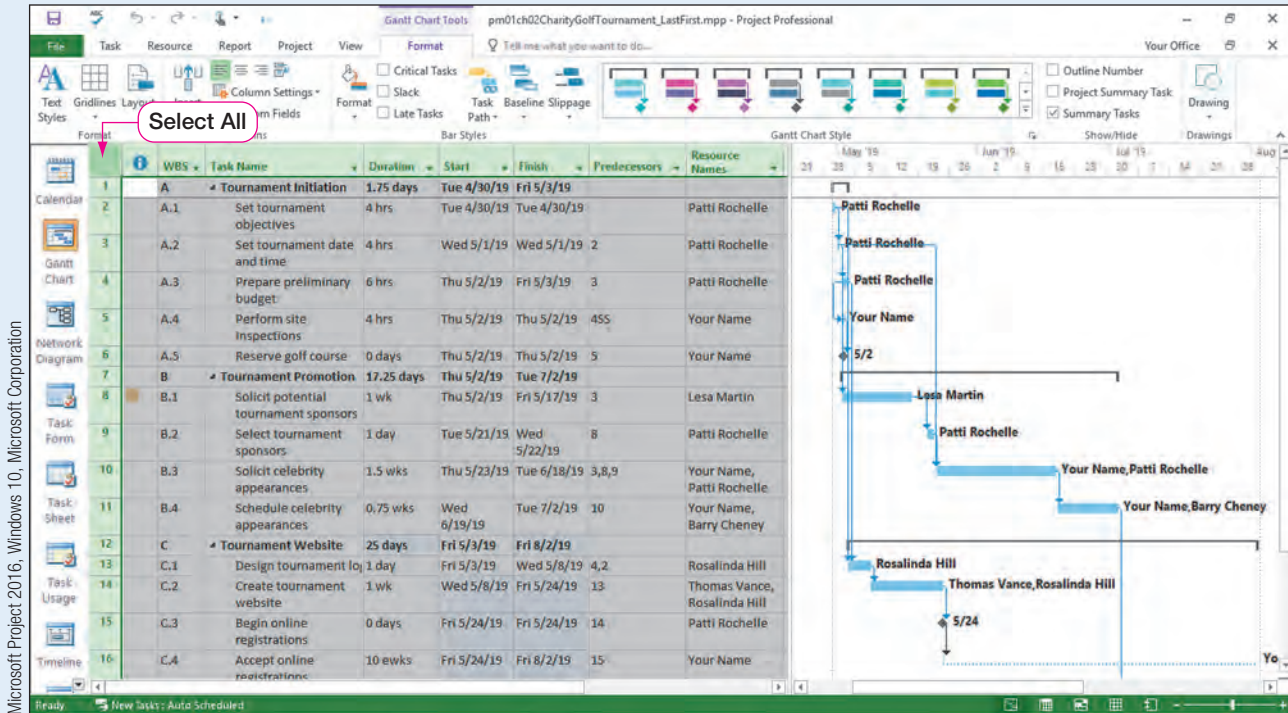
In this exercise, you will copy data into an Excel workbook and into a Word document.



PM02.13

To Copy Data into an Excel Workbook and a Word Document

- a. Click the **Select All** button in the upper left-hand corner of the Entry table.



Microsoft Project 2016, Windows 10, Microsoft Corporation

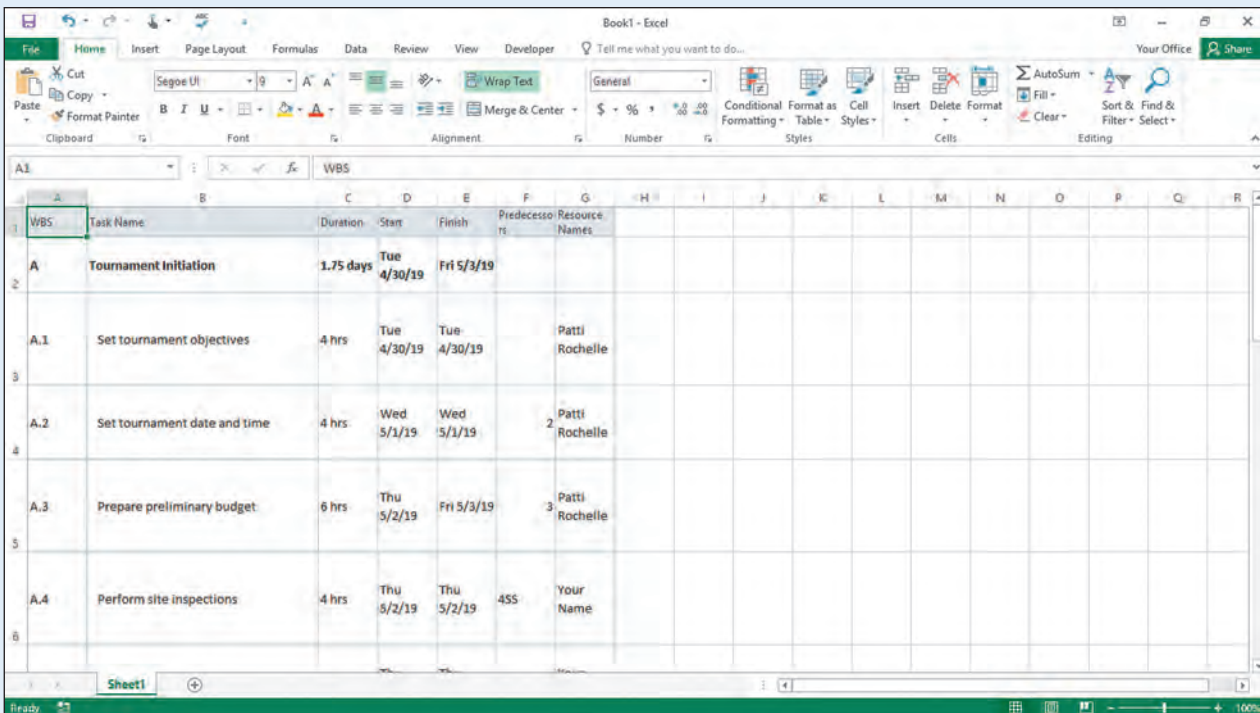
Figure 44 Entry table Select All button

SIDE NOTE

Microsoft PowerPoint


You could also paste a picture of your project into a PowerPoint presentation.

- b. Click the **Task** tab, and then in the Clipboard group, click **Copy**.
- c. While keeping your Project 2016 file open, locate and open **Excel 2016**. Select **Blank workbook** to create a blank Excel workbook.
- d. If necessary, click in cell A1, and then press **Ctrl + V** to paste the project's Entry table data into Excel.
- e. To adjust the width of Column B, right-click the column header for Column B. Click **Column Width**, and then type **35**. Click **OK**.



Microsoft Project 2016, Windows 10, Microsoft Corporation

Figure 45 Project data pasted into an Excel workbook

- f. Click the **File** tab, and then click **Save**. Click **This PC**, and then click **Browse**. Navigate to the location where you are storing your files.
- g. In the Save As dialog box, click in the File name box, and then type **pm01ch02CharityGolfTournament_LastFirst**, using your last and first name. Click **Save** to save the project task data in Excel format.
- h. Click **Close** **X** to close Excel 2016.
- i. Locate and open **Microsoft Word 2016**. Select **Blank document** to create a blank Word document.
- j. On the Home tab, in the Clipboard group, click **Paste**  to paste your project's data into the document. Notice the project data is formatted as a Word table.
- k. Click the **File** tab, and then click **Save**. Click **This PC**, and then click **Browse**. Navigate to the location where you store your files. In the Save As dialog box, click in the File name box, and then type **pm01ch02CharityGolfTournament_LastFirst**, using your last and first name. Click **Save** to save the project task data in Word format.

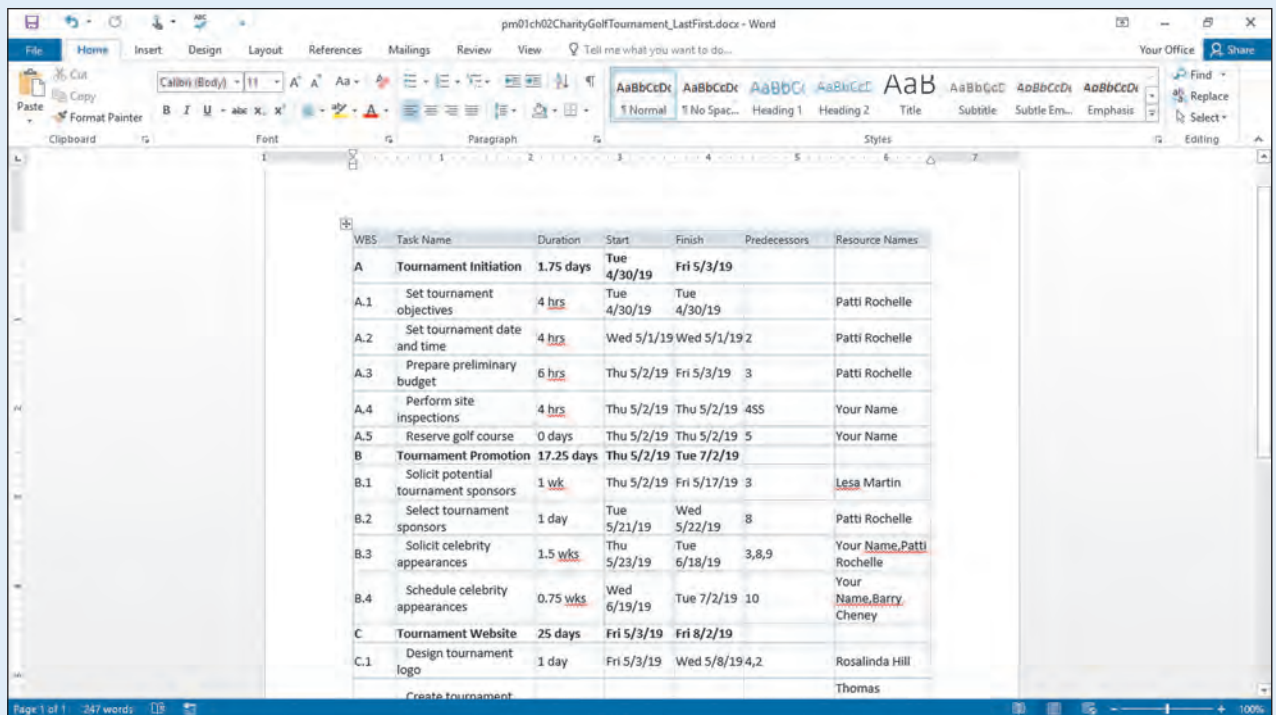


Figure 46 Project data pasted into a Word document as a table




- i. Click **Close** **X** to close Word, and return to your **pm01ch02CharityGolfTournament_LastFirst.mpp** project file.

Copying Project Information as a Picture

Copying and pasting data from the Entry table works well since the Entry table is similar to Excel's column and row format. However, copying and pasting project data does not work well in all views. In this case, you may want to copy and paste a picture of the view into another application such as Microsoft Word or PowerPoint.

In this exercise, you will copy and paste a picture of the Gantt chart and the Timeline view in Project 2016 to Word 2016.

To Copy and Paste a Picture of the Gantt Chart and Timeline Views into Word

- If necessary, click the **Gantt Chart**  button on the View Bar. On the Task tab, in the Clipboard group, click the **Copy**  arrow, and then select **Copy Picture**. The Copy Picture dialog box opens.
- Verify **For screen** is selected, and then click **OK**.
- Locate and open **Microsoft Word 2016**. Select **Blank document** to create a blank Word document.
- On the Home tab, in the Clipboard group, click **Paste**  to paste your project's data into the document.

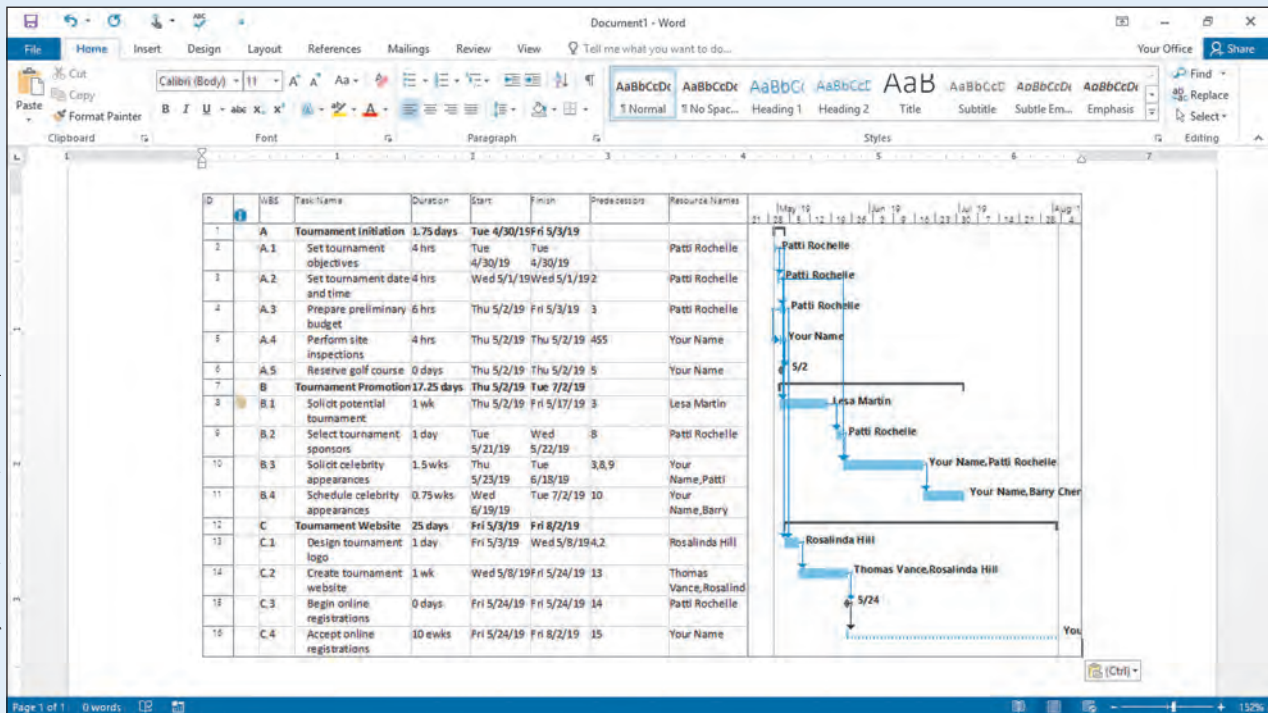



Figure 47 Picture of Gantt chart pasted into a Word document

- Click the **File** tab, and then click **Save As**. Click **This PC**, and then click **Browse**. Navigate to the location where you store your files. Click in the File name box, and then type **pm01ch02CharityGolfTournamentGanttChart_LastFirst** using your last and first name. Click **Save** to save the Gantt chart picture in Word.
- Click **Close**  to close the Word document.
- On the Task tab, in the View group, click the **Gantt Chart** button arrow, and then click **Timeline**. This will display the Timeline view.
- Click the **Timeline Tools Format** tab. In the Copy group, click **Copy Timeline**.

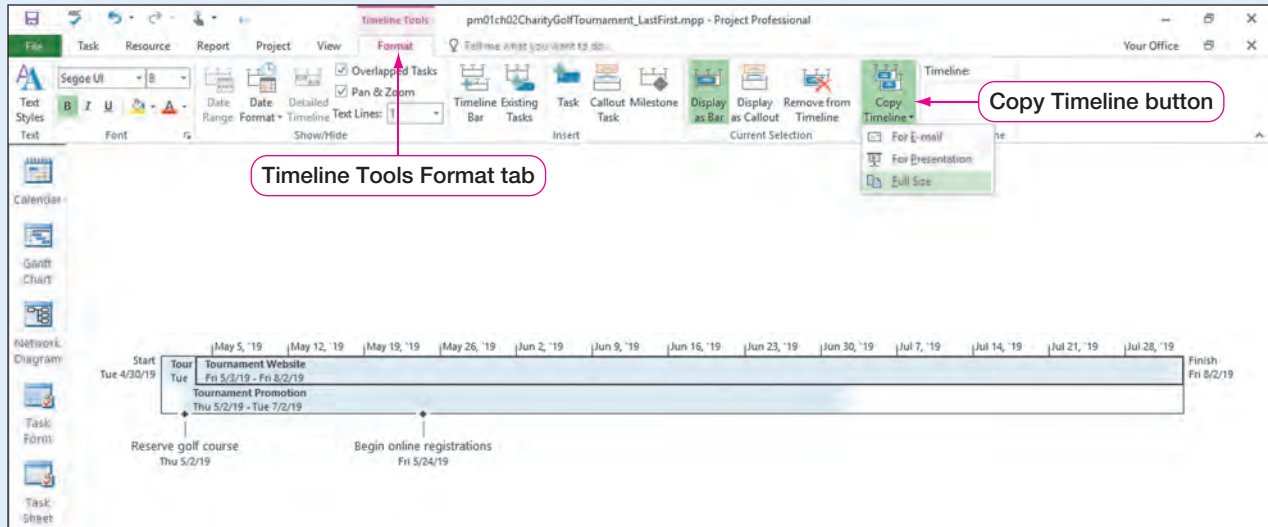


Figure 48 Timeline Tools Format tab

- i. Select **Full Size**.
- j. Once again, open **Microsoft Word 2016**, and then select **Blank document** to create a blank Word document.
- k. In Microsoft Word, click the **Layout** tab. In the Page Setup group, click the **Orientation** button, and then select **Landscape**.
- l. In the Page Setup group, click the **Size** button, and then select **Legal**.
- m. Press **Ctrl + V** to paste a copy of the Timeline into Word.

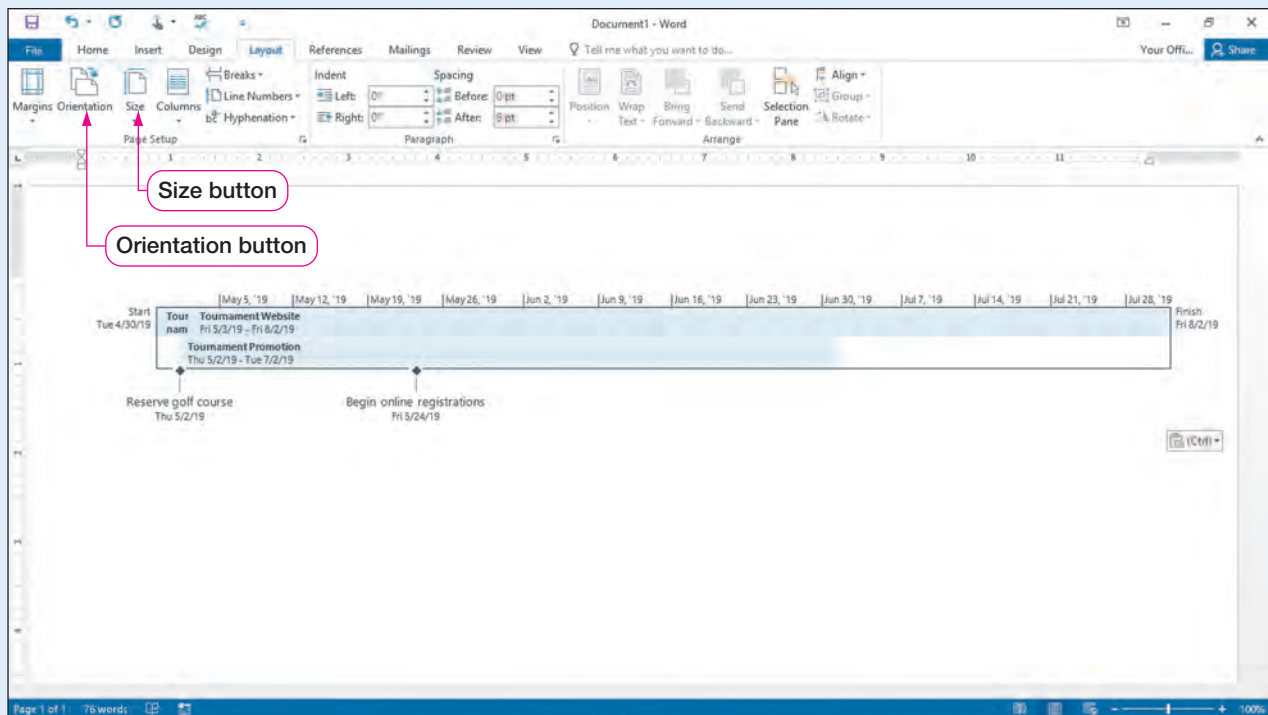



Figure 49 Picture of Timeline pasted into a Word document

- n. Click the **File** tab, and then click **Save As**. Click **This PC**, and then click **Browse**. Navigate to the location where you store your files. Click in the File name box, and then type **pm01ch02CharityGolfTournamentTimeline_LastFirst** using your last and first name.
- o. Click **Save** to save the Timeline data in Word, and then click **Close**  to close Word.
- p. Return to the Gantt Chart view.

Share Project Information with Microsoft Excel

There may be situations in which you need to share project information with other members of your project team or organization who do not have access to Project 2016. In this case, you can export your project data into Excel. When you begin the exporting process, the Export Wizard will take you through a series of steps to export all fields for project categories into a new format.

REAL WORLD ADVICE

Analyzing Project Data with Excel

Microsoft Excel 2016 is spreadsheet software that can be used for storing and analyzing data. Since projects often contain large amounts of data, project managers often find it useful to export project data into Excel and then use Excel's data analysis tools, such as PivotTables and advanced database management, to analyze a project's data. Data analyzed in Excel can be shared with project team members and/or project stakeholders and can be used to make strategic project decisions.

Exporting Project Information to Excel

You want to share your project information with your project team, but you have been informed some do not have access to Project 2016 software. Therefore, you decide to export your project data into Excel so that your project team can also see the project's tasks.

In this exercise, you will export your project information into Excel.




PM02.15

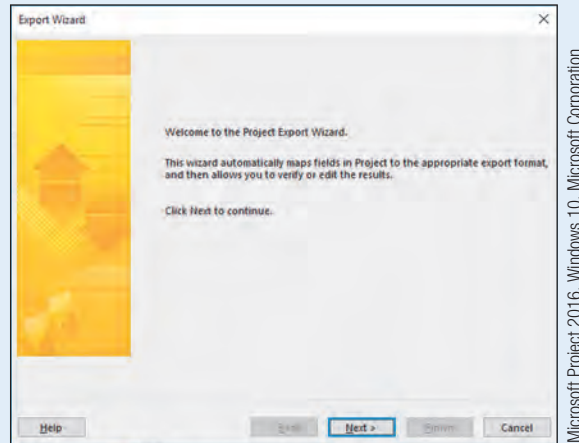
SIDE NOTE

Save as PDF

You can also save your Project file as a PDF by clicking the File tab, clicking Save As, and then in the Save as type: box, selecting PDF Files (.pdf).

To Export Project Information into Excel

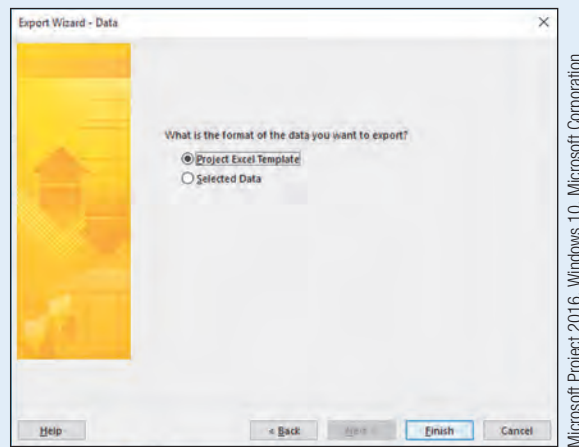
- a. Click **Gantt Chart**  on the View Bar to return to Gantt Chart view.
- b. Click the **File** tab, and then click **Save As**.
- c. Click **This PC**, and then click **Browse**. Navigate to the location where you store your files. In the File name section, enter the project name **pm01ch02CharityGolfTournamentExport_LastFirst**. Click the **Save as type** arrow, and then click **Excel Workbook (*.xlsx)**.
- d. Click **Save**. The Export Wizard dialog box opens.



Microsoft Project 2016, Windows 10, Microsoft Corporation

Figure 50 Export Wizard dialog box

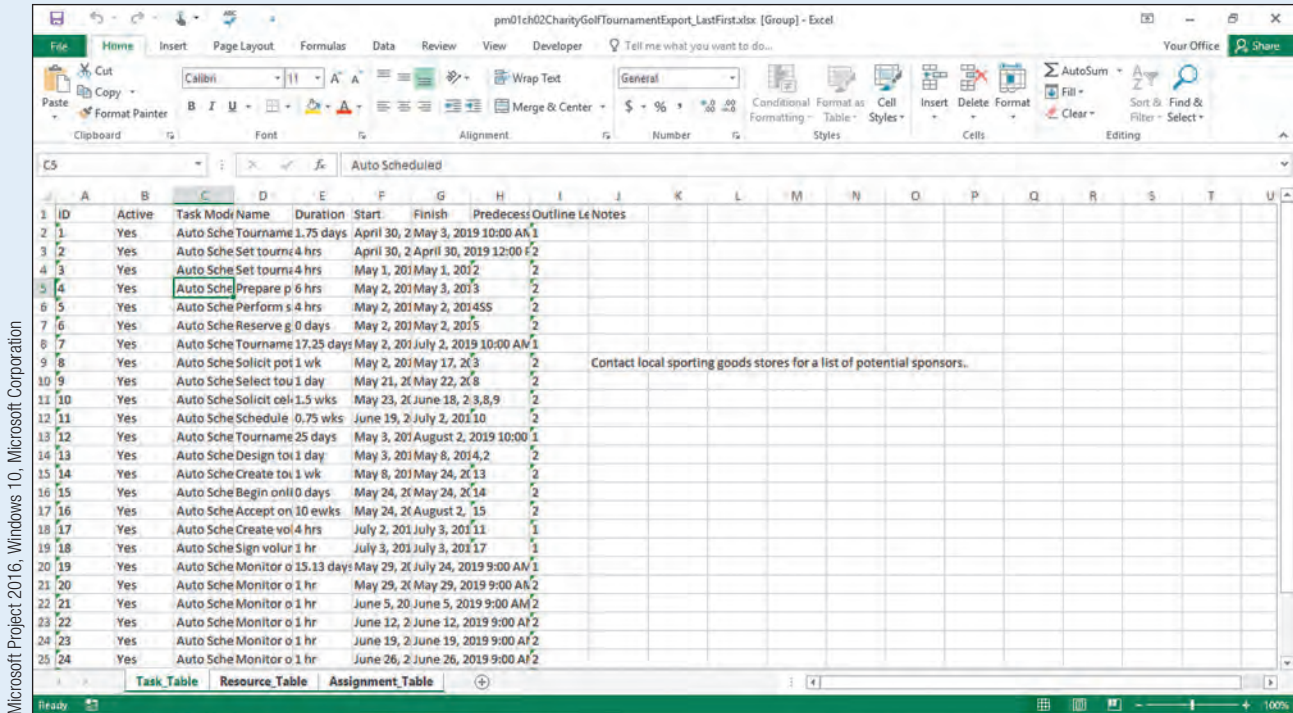
- e. Click the **Next** button. Click the **Project Excel Template** button.



Microsoft Project 2016, Windows 10, Microsoft Corporation


Figure 51 Export Wizard – Data dialog box

- f. Click **Finish**. Your project data is exported to Excel.
- g. Use File Explorer to navigate to the location where you store your data files. Double-click **pm01ch02CharityGolfTournamentExport_LastFirst.xlsx** to open the charity golf tournament file in Excel.



Microsoft Project 2016, Windows 10, Microsoft Corporation

Figure 52 Excel workbook with exported Project 2016 data

- h. Explore the sheet tabs, adjust column widths as desired, and then **Close**  Excel. Return to your **pm01ch02CharityGolfTournament_LastFirst.mpp** project file.

QUICK REFERENCE

Exporting Project Data to Excel 2016

1. Select the File tab, and then click Save As.
2. Click This PC and then click Browse to navigate to where you store your files.
3. Click in the File name box, and then enter a name for the exported data.
4. Click the Save as type arrow, and then click Excel Workbook.
5. Click Save to open the Export Wizard dialog box.
6. Click the Next button.
7. Click the Project Excel Template button.
8. Click Finish.

Importing Project Information from Excel

Although information can be copied into Project from another application such as Excel, importing information into Project is more flexible by allowing for data to be imported that does not exactly match. By importing data from Excel, you can use the Import/Export Wizard to assist in bringing in field data into a new project or a current project.

REAL WORLD ADVICE

Sharing Data with Project Partners

It is not uncommon for projects to be a collaboration of efforts between more than one organization or project team. For example, a project may rely on collaboration with an external vendor. Whenever working with someone outside your organization, it may be difficult to obtain their project schedule in a format that works with your project, especially if they are not using Project 2016.

If an external vendor is using Project 2016 for its schedule needs, the vendor may not want to give you its entire project schedule because it may contain costing and salary information that is private to its organization. If this is the case, you can request an Excel file with tasks and start and finish dates that you can then import directly into your project plan. If the vendor is also using Project 2016, it may actually be exporting the data from Project 2016 to Excel to get you an Excel file, which you can then import back into Project 2016.

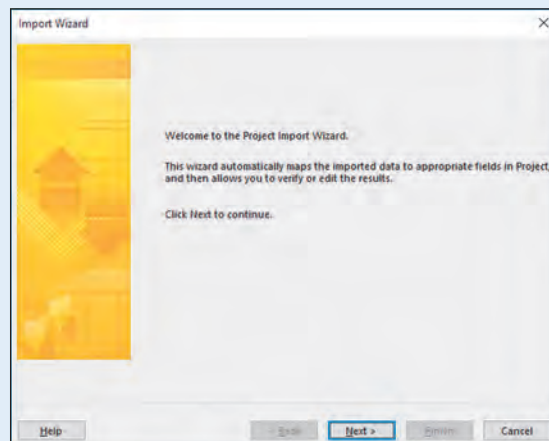
In this exercise, you will import project information from Excel.



PM02.16

To Import Project Information from Excel

- a. With your Project file open, click the **File** tab, and then click **Open**.
- b. Click **Browse**, and then navigate to the location of your student data files. Click the file type list arrow next to the File name box, and then click **Excel Workbook**. Click **pm01ch02CharityGolfTournamentTasks.xlsx**, and then click **Open** to open the Import Wizard dialog box.



Microsoft Project 2016, Windows 10, Microsoft Corporation

Figure 53 Import Wizard dialog box

- c. Click **Next** to open the Import Wizard – Map dialog box, and then if necessary, click **New map**.

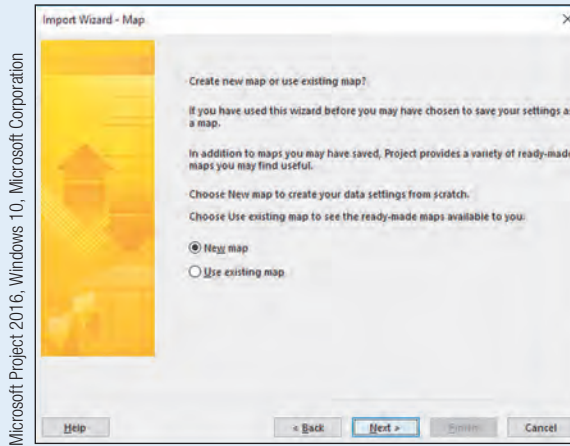


Figure 54 Import Wizard – Map dialog box

- d. Click **Next** to open the Import Wizard – Import Mode dialog box. Click **Append the data to the active project**.

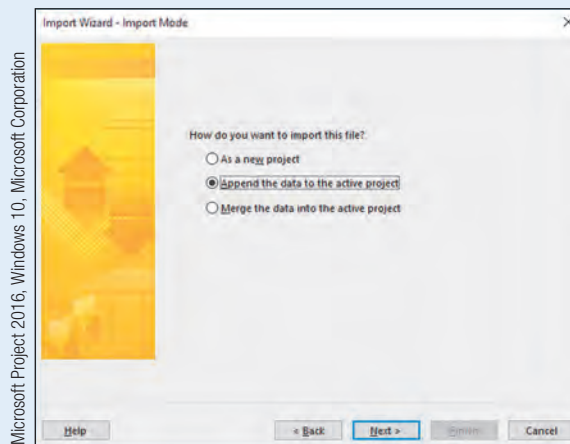


Figure 55 Import Wizard – Import Mode dialog box

- e. Click **Next** to open the Import Wizard – Map Options dialog box. Click to select **Tasks**, and then if necessary, click to select **Import includes headers**.

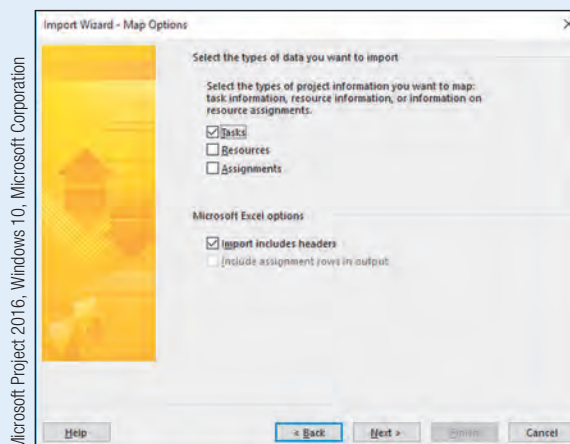


Figure 56 Import Wizard – Map Options dialog box

- f. Click **Next** to open the Import Wizard – Task Mapping dialog box.
- g. In the Import Wizard – Task Mapping dialog box, click the **Source worksheet name** arrow, and then click **TaskData**.

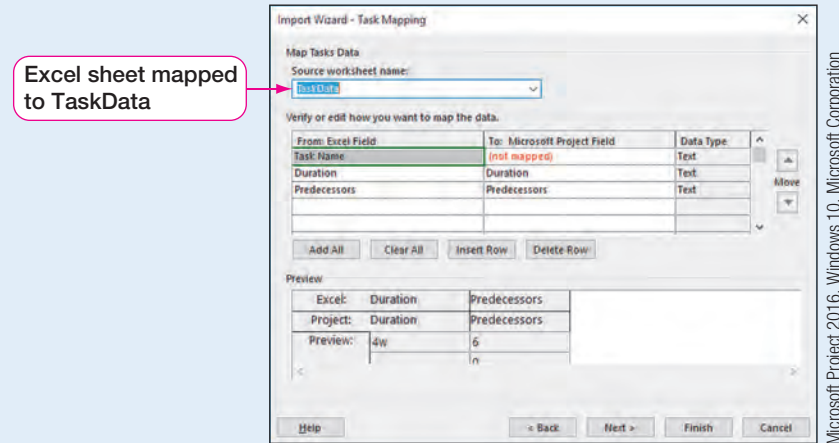


Figure 57 Import Wizard – Task Mapping dialog box

SIDE NOTE
Finding Column Names

When searching for column names, you can type the first letter of a column name to filter for only columns starting with that letter.

- h. In the **To: Microsoft Project Field**, view the Task Name row that has the text (not mapped). Click the **(not mapped)** field list arrow, and then scroll until you see Name. Click **Name**. The Duration and Predecessors were automatically mapped.

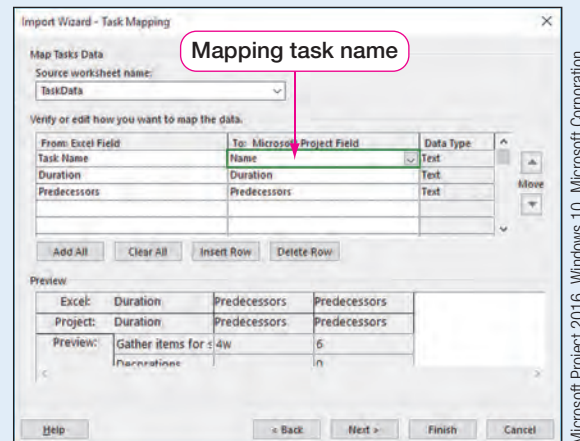


Figure 58 Import Wizard – Task Mapping dialog box with tasks mapped

- i. Click **Finish**. Tasks from Excel have been imported into your project starting at row 29.

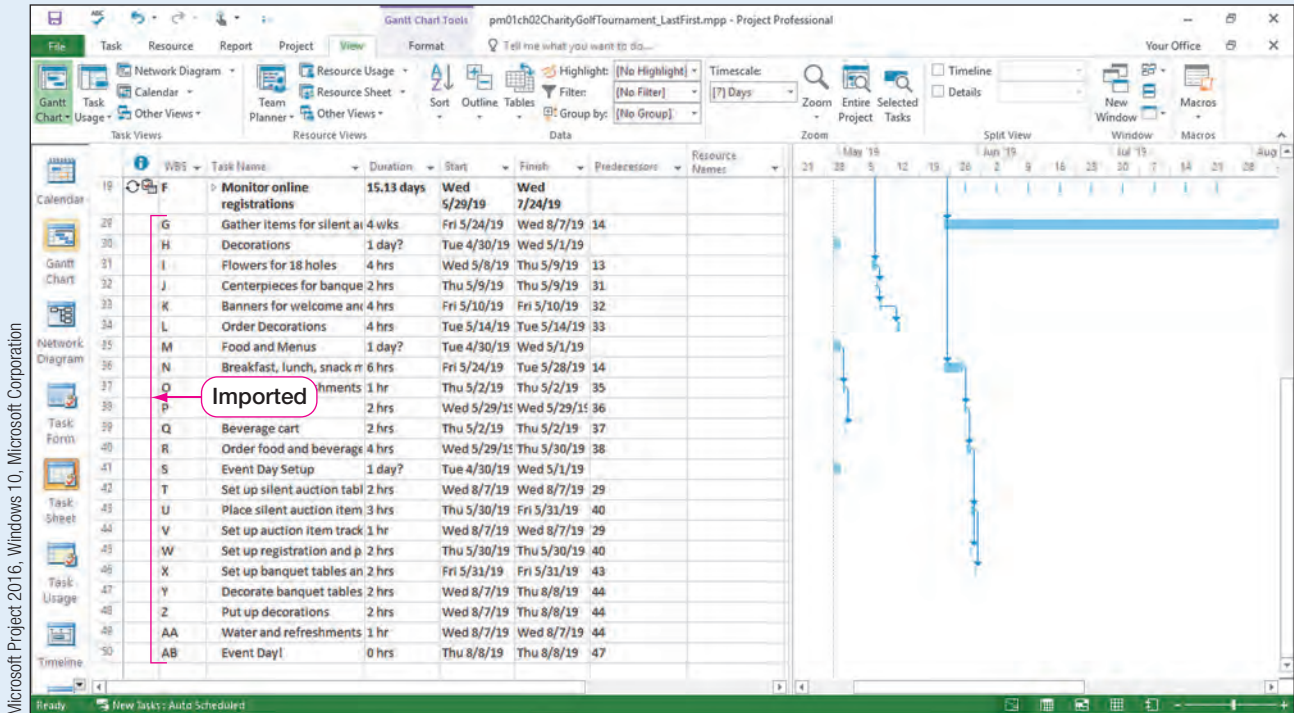


Figure 59 Entry table with tasks imported

j. **Save**  the project.

Troubleshooting

If the appended tasks do not start with a WBS code of G, click the Project tab. In the Properties group, click WBS, and then click Renumber.

QUICK REFERENCE

Importing Excel 2016 Data into Project

1. With a Project file open, click the File tab, and then click Open.
2. Click Browse, and then navigate to the location where you store your files. Click the file type list arrow in the Open dialog box, and then click Excel Workbook.
3. Click the Excel workbook from which you want to import data, and then click Open.
4. Click Next.
5. In the Import Wizard – Map dialog box, click the New map option button, and then click Next.
6. In the Import Wizard – Import Mode dialog box, click Append the data to the active project, and then click Next.
7. In the Import Wizard – Map Options dialog box, click Tasks, and if necessary, click Import includes headers, and then click Next.
8. In the Import Wizard – Task Mapping dialog box, click the arrow on the Source worksheet name, and then click Sheet1—or other sheet name that contains the data you wish to import.
9. Verify or edit how you want to map the data portion. All tasks should be mapped.
10. Click Finish.





Adjusting Imported Project Tasks

Imported tasks may not have the proper formatting, task relationships, or resource assignments. Therefore, you will modify the imported tasks to meet your project's needs.

In this exercise, you will adjust the imported tasks from Excel.

PM02.17

To Adjust the Imported Tasks from Excel

- Select the **task names** in rows **29–50**. Click the **Gantt Chart Tools Format** tab, and then in the Columns group, click **Wrap Text**  twice.
- Click the **Task** tab. Select **Tasks 31–34**, and then in the Schedule group, click **Indent Task**  to make the tasks subtasks of Decorations (Task 30).
- Select **Tasks 36–40**, and then in the Schedule group, click **Indent Task**  to make the tasks subtasks of Food and Menus (Task 35).
- Select **Tasks 42–49**, and then in the Schedule group, click **Indent Task**  to make the tasks subtasks of Event Day Setup (Task 41).
- Click **Food and Menus** (Task 35). Note the WBS code is inaccurate.
- Click the **Project** tab, and then click **WBS**. Click **Renumber**, be sure **Entire project** is selected, and then click **OK**.
- Click **Yes**.

SIDE NOTE

Effort Driven Tasks

Remember, new tasks have been set to effort-driven scheduling.

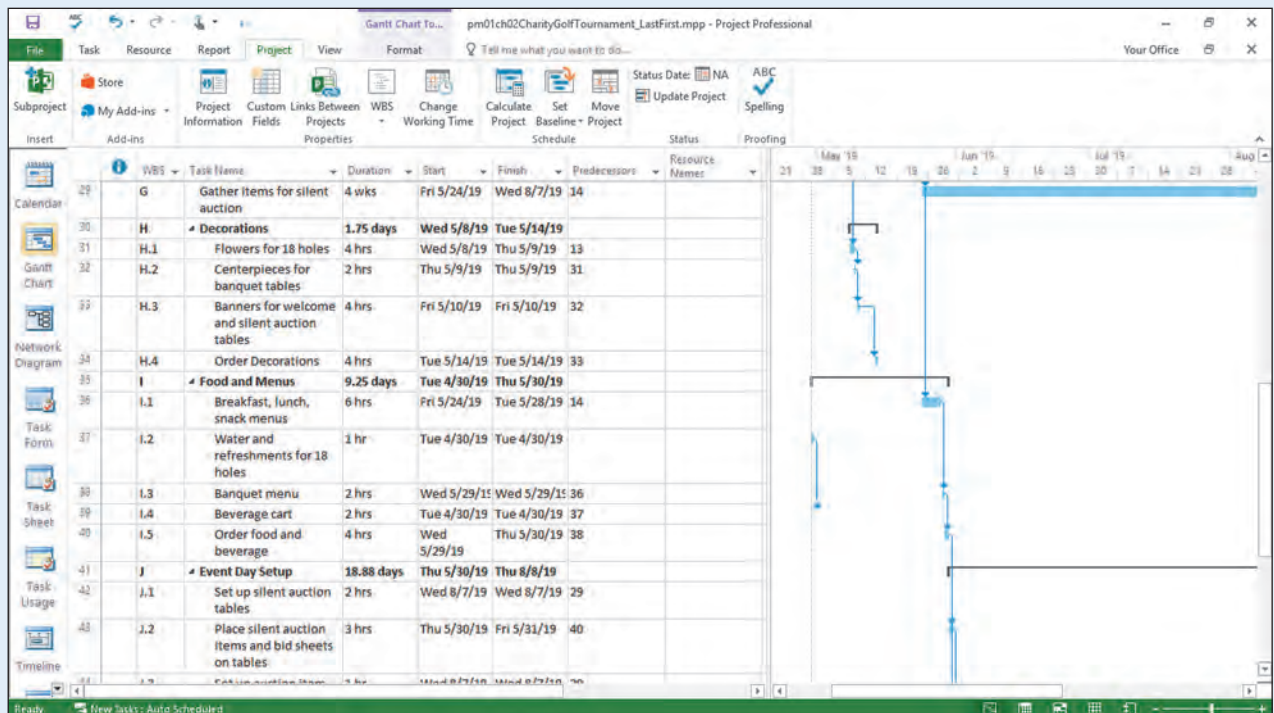


Figure 60 Imported tasks in a Work Breakdown Structure

h. Assign resources to the imported tasks as shown below.

Row	WBS Code	Task Name	Resource
Decorations			
31	H.1	Flowers for 18 holes	Your Name
32	H.2	Centerpieces for banquet tables	Your Name
33	H.3	Banners for welcome and silent auction tables	Your Name
34	H.4	Order decorations	Your Name
Food and Menus			
36	I.1	Breakfast, lunch, and snack menus	Robin Sanchez
37	I.2	Water and refreshments for 18 holes	Thomas Vance
38	I.3	Banquet menu	Robin Sanchez
39	I.4	Beverage cart	Thomas Vance
40	I.5	Order food and beverage	Robin Sanchez
Event Day Setup			
42	J.1	Set up silent auction tables	John Schilling
43	J.2	Place silent auction items and bid sheets on tables	Lesa Martin
44	J.3	Set up auction item tracking at payment table	Patti Rochelle
45	J.4	Set up registration and payment welcome table	John Schilling
46	J.5	Set up banquet tables and chairs	John Schilling
47	J.6	Decorate banquet tables	Patti Rochelle
48	J.7	Put up decorations	Rosalinda Hill
49	J.8	Water and refreshments placed at 18 holes for the golfers	Jorge Cruz

Table 3 Resource Assignments

i. Double-click **Order decorations** (Task 34). Click the **Advanced** tab. Set a Constraint date of **8/2/19**.

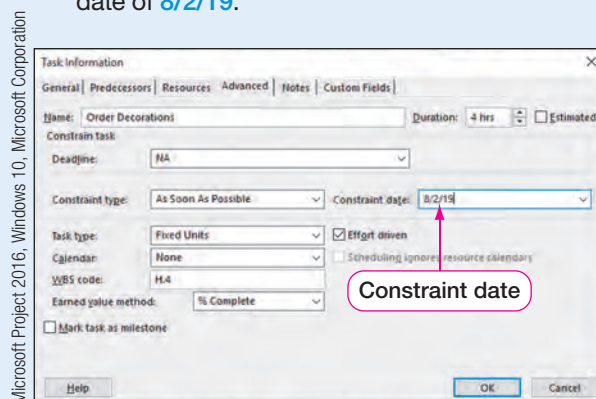


Figure 61 Task Information dialog box

j. Click **OK**. Double-click **Order food and beverage** (Task 40). Click the **Advanced** tab. Set a Constraint date of **8/2/19**, and then click **OK**. Note the calendar indicators in the Indicators column.

- k. Click in the Resource Names column for **Gather items for silent auction** (Task 29). Assign **Lesa Martin** and **Your Name**. Notice the duration of the task does not change when you assign two resources at the same time even though the task is an effort driven task.
- l. Select the **View** tab, and then click the **Details** check box to add Split form view. Since you are only monitoring the silent auction donations, set the Work hours to **0** for Your Name resource. Click **OK**. This removes your overallocation.

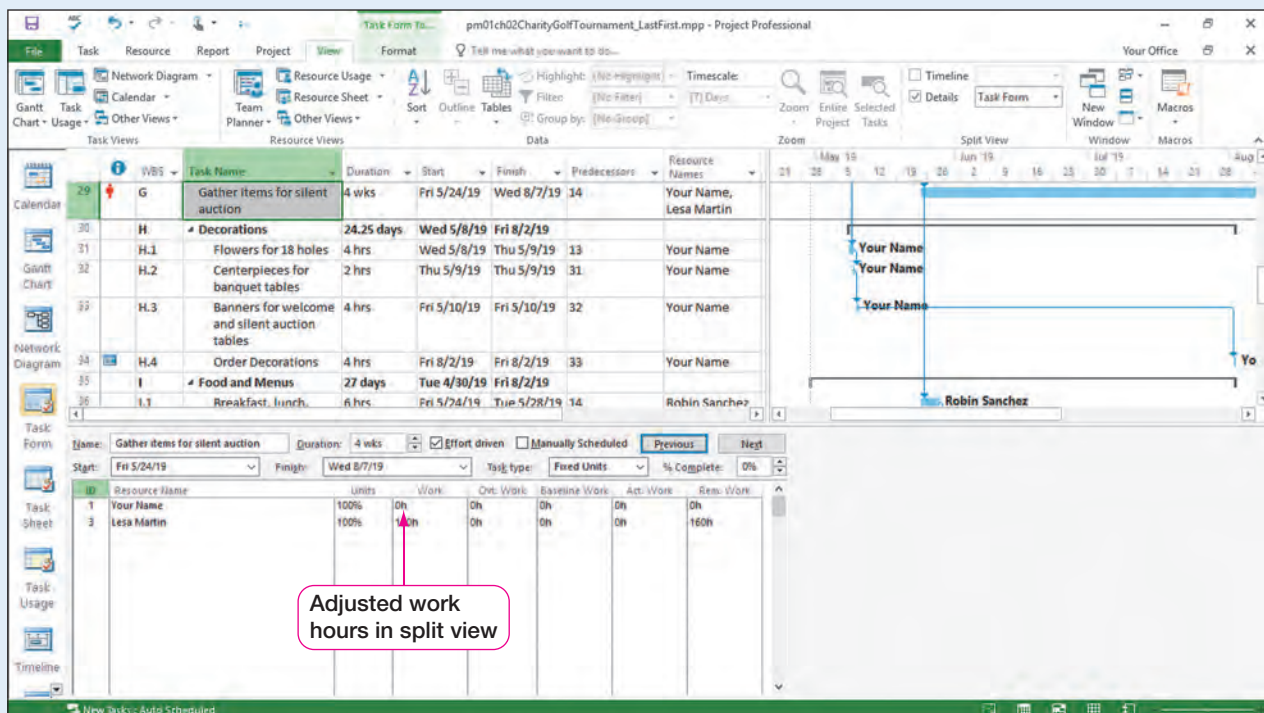



Figure 62 Work form in Split View

- m. Lesa Martin is still overallocated because the work for Tasks 29 and 43 is scheduled on the same day. Scroll down, and then select **Place silent auction items and bid sheets on tables** (Task 43). Click in the Predecessors column, and then type **42**. This will remove Lesa's overallocation.
- n. Select the **View** tab, and then in the Split View group click **Details** to remove the split view.
- o. **Save**  the project.

QUICK REFERENCE

1. With your project plan open, click the Task tab.
2. In the Insert group, click the Task button arrow.
3. Click Import Outlook Tasks.
4. In the Import Outlook Tasks dialog box, click the expand button for the Folder: Tasks to display tasks in Outlook.
5. Click the check box for each task you want to import (or click Select all to select all tasks).
6. Click OK.

Adding a Project Summary Task

Once project tasks have been added, a WBS has been created, and project resources are assigned, project managers may want to view overall project information. It is often helpful for project managers to see the overall start and finish date of a project as well as the entire project duration. This information can be displayed at the top of the Entry table by adding a project summary task bar. A **Project Summary Task** summarizes the timeline of your project and displays the total duration of your project. The same information can be found in the Project Information dialog box.

In this exercise, you will add a project summary task.

PM02.18

SIDE NOTE

Project Summary Task

The total duration of the project summary task is total hours worked represented in days, not total calendar days.

To Add a Project Summary Task

- In Gantt Chart view, click the **Gantt Chart Tools Format** tab. In the Show/Hide group, click to select **Project Summary Task**. View the Project Summary Task bar (Task 0) in the Entry table and the Gantt chart.

Troubleshooting

If you do not see the Project Summary Task, you may need to scroll up until you see row 0.

- Click in the Task Name cell of **Task 0** to select it, and then press **F2** on your keyboard to switch into Edit mode. Delete the summary task name and enter the new name of **Charity Golf Tournament**, and then press **Enter**.

The screenshot shows the Microsoft Project 2016 interface in Gantt Chart view. The ribbon is set to 'Gantt Chart Tools Format'. In the 'Show/Hide' group, the 'Project Summary Task' checkbox is checked. The task list shows 'Task 0' with the name 'Charity Golf Tournament' and a duration of 1.75 days. The Gantt chart shows a blue bar for 'Charity Golf Tournament' at the top, starting on Tuesday, 4/30/19 and ending on Friday, 5/3/19. Below it, various sub-tasks are shown with their respective durations and resources. A callout box points to the 'Project Summary Task' checkbox in the ribbon, and another callout box points to the 'Charity Golf Tournament' task name in the task list.

Figure 63 Project summary task

- Click the **Project** tab. In the Properties group, click **Project Information** to open the Project Information dialog box.
- Click the **Statistics** button. View the project statistics and note they are the same as those displayed on the project summary task.

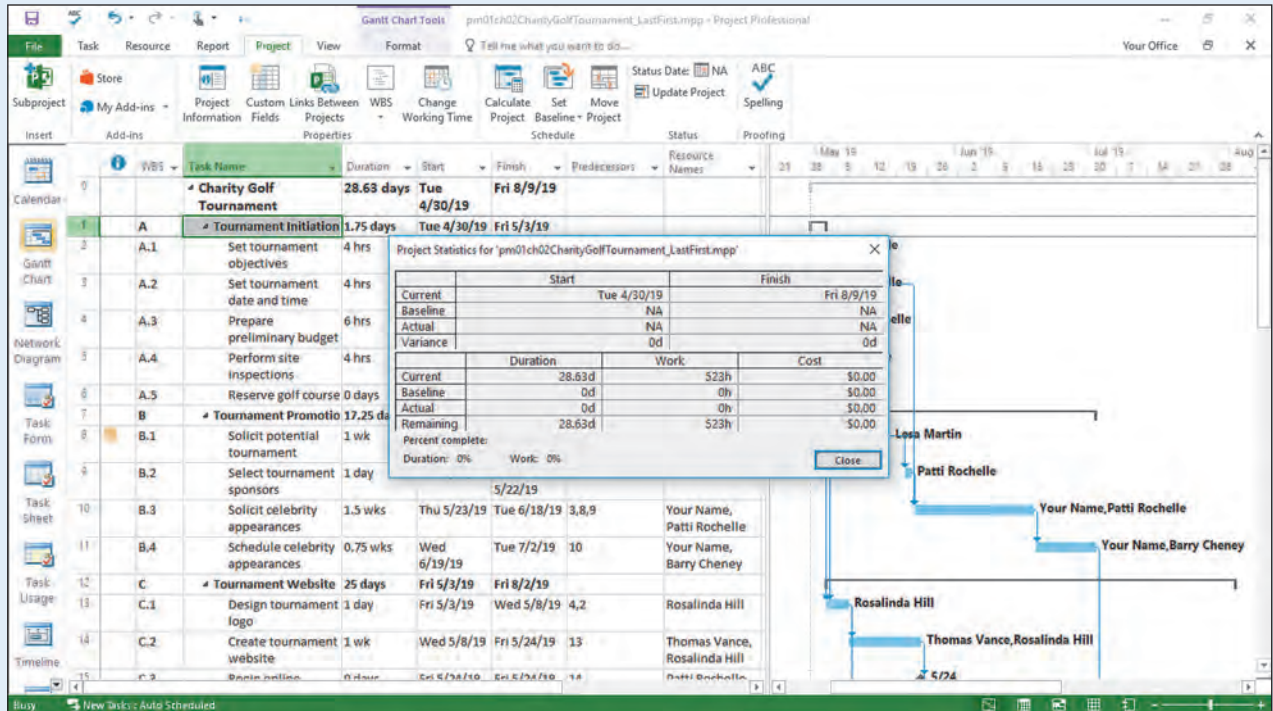



Figure 64 Project Statistics

- e. Click **Close** on the Project Statistics dialog box. Click **Save** , and then close your Project 2016 file but leave Project open.

Linking Excel Data to Project

Instead of copying, pasting, importing, or exporting data, there may be situations in which you want to link data to Project 2016 so you do not create a copy of the data. Another advantage of linking data is that if the data is updated in the source document (such as Excel), it is automatically updated in the destination file (such as Project) or vice versa. If data is updated in the source document but the destination document is closed, the destination document will be updated the next time it is opened.

A disadvantage of linking files is that the source file and the destination file must accompany each other if they are emailed, moved, or shared. Otherwise, you will “break a link” and get an error in the destination file. Another disadvantage is that you cannot create a map as you can when you import data into Project.

QUICK REFERENCE

Linking Excel Data to Project

1. Select and copy the data in Excel you want to link to Project.
2. In Project, click a cell in the Entry table where you wish to insert the data.
3. Select the Task tab.
4. In the Clipboard group on the Task tab, click the Paste button list arrow, and then click Paste Special.
5. Click Paste Link, and then select Microsoft Excel Worksheet.
6. Click OK.

Data linked to another source is indicated by a link graphic in the lower right-hand corner of a cell.

Use and Create Project Templates

A **Project template** is a Project file that contains sample project information such as tasks, durations, resources, and other project data. Templates can help you get started with your project if you are new to the Project 2016 software or the project management process. Templates can also help create consistency in your organization if projects are based on a standard template.

Creating a Project Plan from an Existing Project Template

When you opened a blank project in Chapter 1, you were opening the Blank Project template. This template has standards (defaults) in place such as project Start date, project manually scheduled, etc.

In this exercise, you will begin a project from a Project 2016 template.



PM02.19

To Begin a Project from a Project Template

- a. Click **File** if necessary, and then click **New**.

Troubleshooting

If the Project 2016 software is closed, you will need to reopen Project 2016.

- b. In the right pane of the New window, click in the **Search** box, and then enter **simple project plan**. Press **Enter**. The Simple project plan template appears.

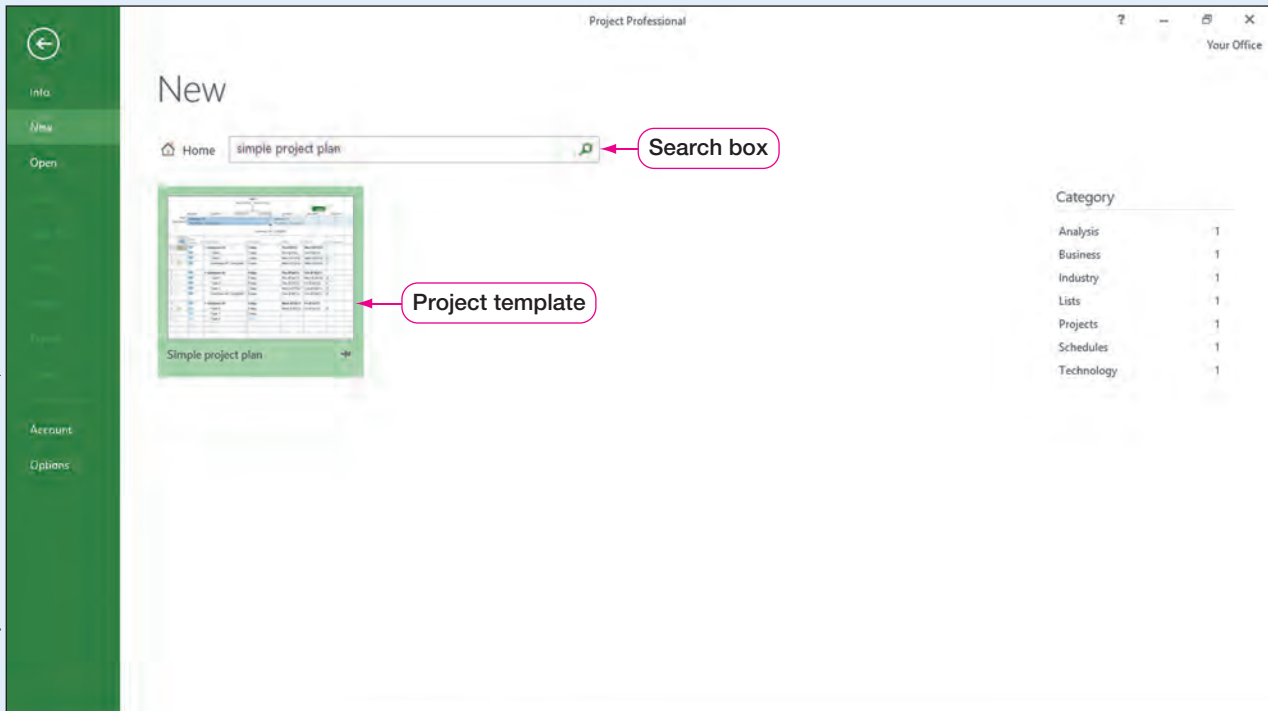



Figure 65 New project window with Simple project plan template

- c. Click **Simple project plan**  to open the Simple project plan template window. Note how you can preview the template before downloading it.

Troubleshooting

If you double-clicked the Simple project plan icon, you will go directly to a new project and not to the template preview window.

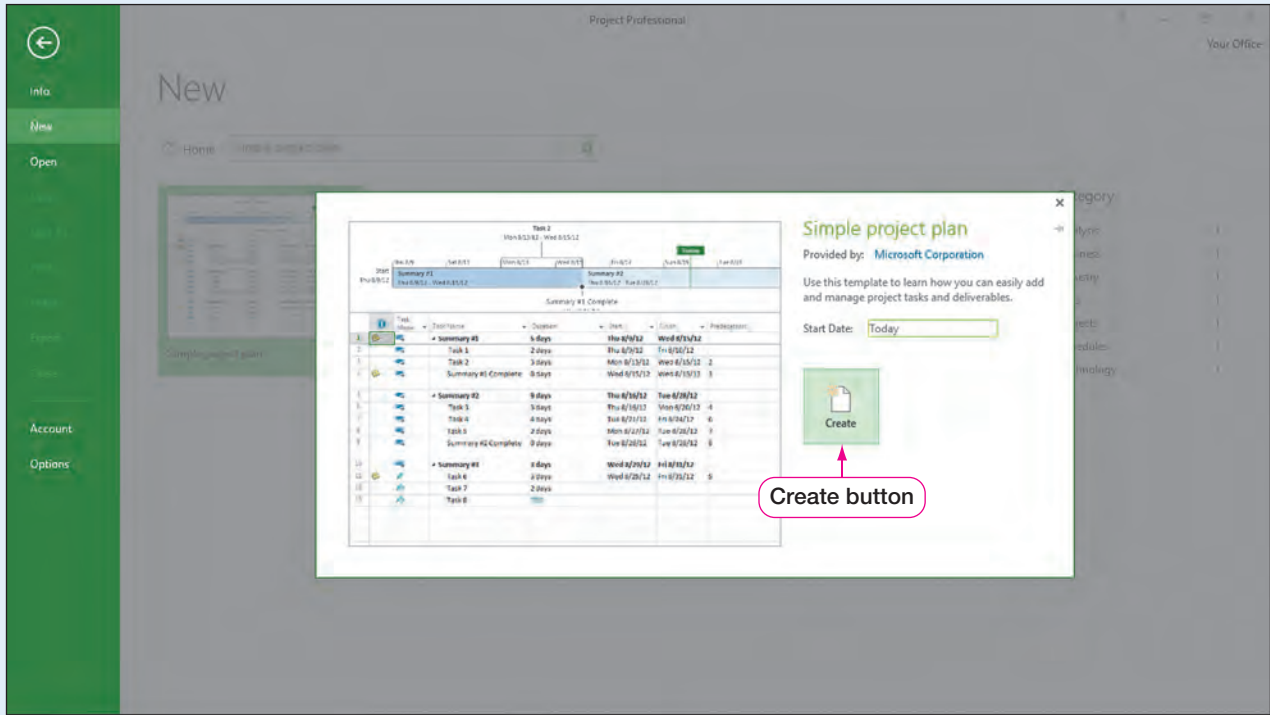


Figure 66 Simple project plan template preview window

- d. In the Simple project plan window, click **Create**.

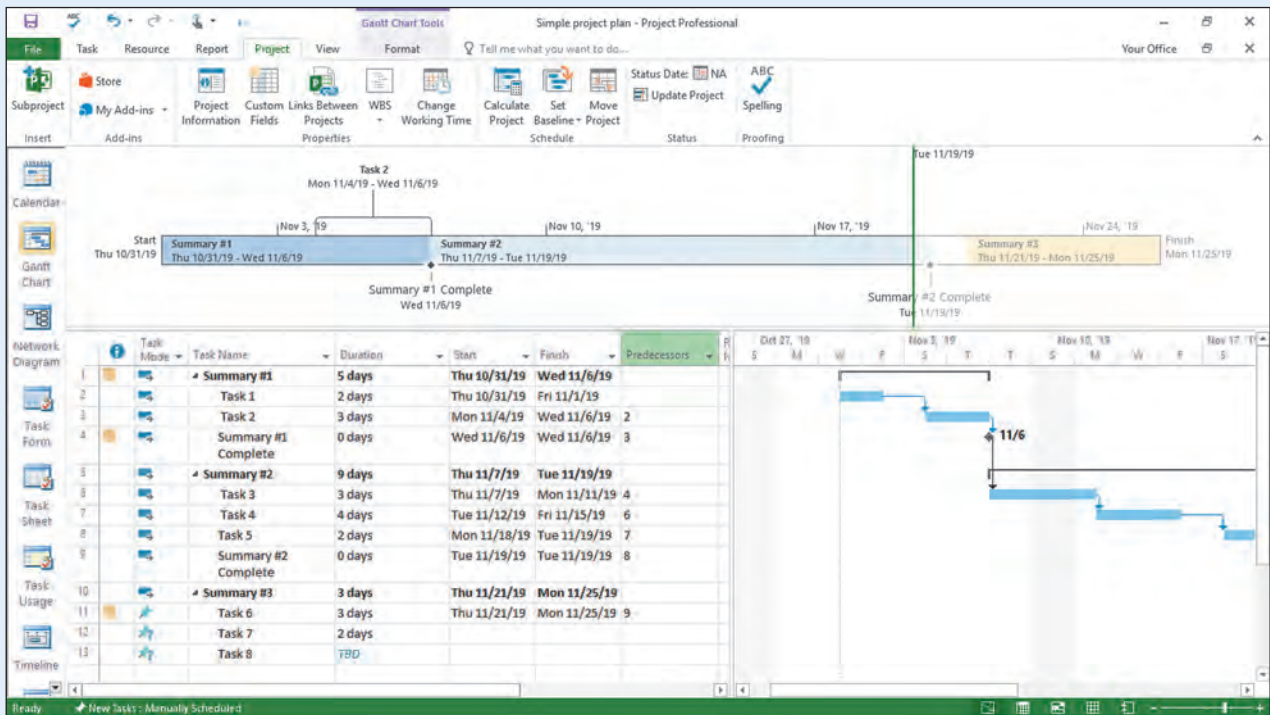


Figure 67 Simple project plan in Gantt Chart view

- e. Explore the newly created project plan. Note the Summary task and subtask structure. Also view the notes in the Indicators column. Note some tasks are set to schedule manually while others are set to auto scheduled.
- f. Click the **File** tab, and then click **Save As**. Click **This PC**, and then click **Browse**. Navigate to the location where you are saving your files.
- g. In the Save As dialog box, click in the File name box, and then type **pm01ch02 SimpleProjectPlan_LastFirst** using your last and first name. Click **Save**, and then **close** the project file.

Creating a Custom Project Template

Although there are many Project templates to choose from, they may not fit your project needs. Therefore, you can create a project plan and then save your plan as a template to use on future projects.



CONSIDER THIS

Would You Like to Save Time Planning a Project?


Do you have a routine for doing something such as getting ready for school? Or do you take the same route to work each day because it is the quickest way with the least amount of traffic? It is likely you follow the routine or take the same route to save yourself time. Think of a Project template as a fast route to beginning a project.

Since Painted Paradise Resort does a lot of event planning, you have decided to create a project template for planning events.

In this exercise, you will create a project template.



To Create a Project Template

- a. Click **File** if necessary, and then click **New**.
- b. Click **Blank Project** to open a new blank project.
- c. Click the **Project** tab, and then in the Properties group, click **Project Information**  to verify the project is set to Schedule from **Project Start Date**. Click **OK**.
- d. On the Status bar, click **New Tasks: Manually Scheduled**, and then click **Auto Scheduled - Tasks dates are calculated by Microsoft Project**.
- e. If necessary, set the new project window to display the View Bar and the Timeline.
- f. Enter in the following summary tasks and subtasks, but do not supply durations.

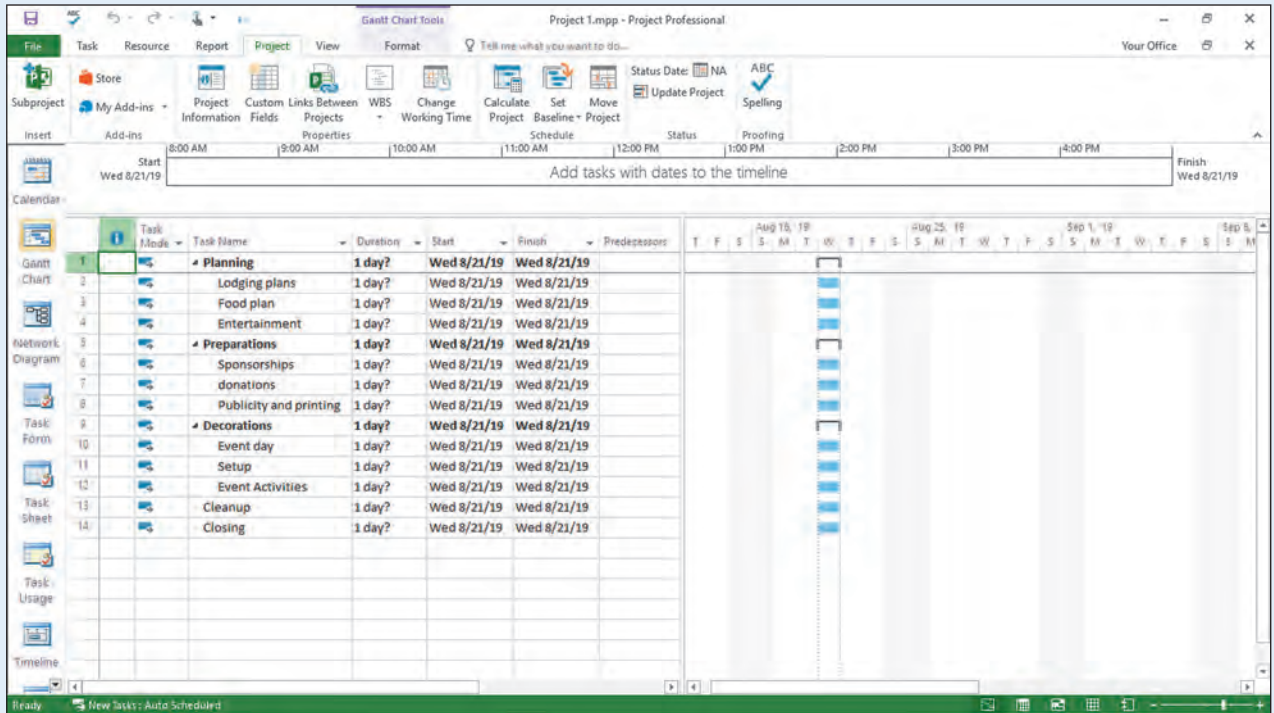


Figure 68 Template tasks

- g. Click the **File** tab, and then click **Save As**. Click **This PC**, and then click **Browse** and navigate to where you store your files. In the File name box, enter **pm01ch02EventTemplate_LastFirst**.
- h. Click the **Save as type** arrow, and then click **Project Template**.

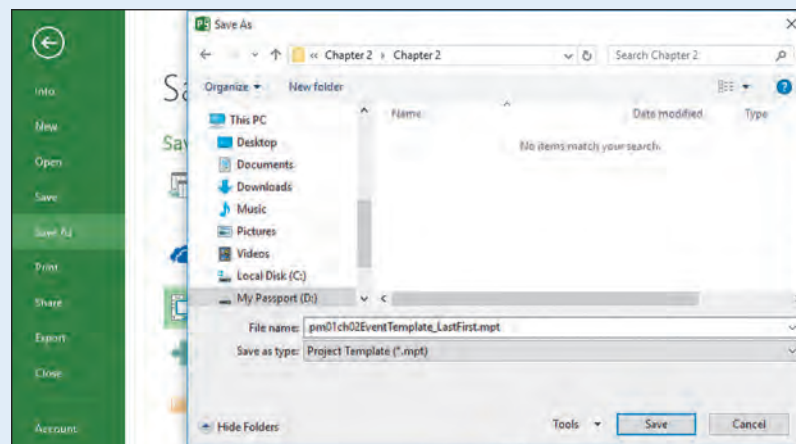


Figure 69 Save As dialog box

- i. Click **Save** to open the Save As Template dialog box. Since you have only added the summary task information, you do not need to check any of the boxes on the Save As Template dialog box.
- j. Click **Save**. The template is now saved and the template .mpt file extension should appear in the title bar.
- k. Click the **File** tab, and then click **Close** to close the template.

QUICK REFERENCE

Create a Project Template

1. Start Project, and then select Blank Project.
2. Determine and select the scheduling standard of Start or Finish date.
3. Select project scheduling of manual or automatic.
4. Enter in the main headings (summary tasks) and other structure in the WBS that may be common among projects.
5. Click the File tab, and then click Save As.
6. Browse to the location where you store your files.
7. Type a name for the template in the File name box.
8. Click the Save as type arrow, and then click the Project Template option.
9. Click Save, and then click Save again.

Using a Custom Project Template

Once a custom template is created, you can use it to begin a future project plan. The template can also be shared with other members of your organization for project plan consistency. Templates can be stored in locations specified by the creator or a Templates folder that is usually located in the Users\username\AppData\Roaming\Microsoft\Templates folder on your computer's hard drive or company network drive. The AppData folder is hidden by default. If you want to save to this location, you will need to display Hidden items in File Explorer.

In this exercise, you will use a custom Project 2016 template.



PM02.21

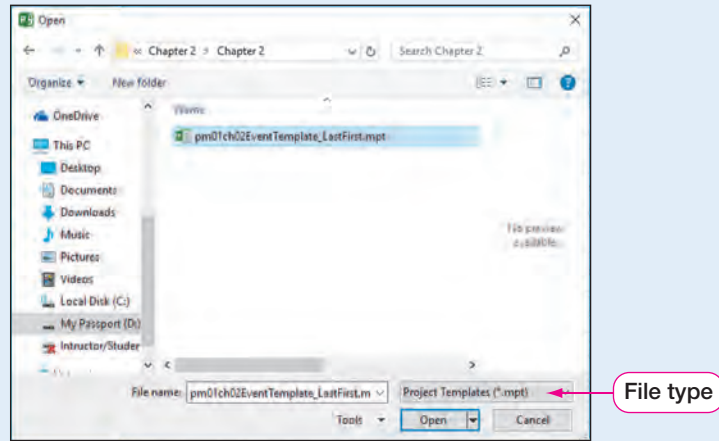
To Use a Custom Project Template

- a. Click the **File** tab, and then click **Open**.

Troubleshooting

If Project 2016 is not open, open Project 2016, and then in the left pane, click the Open Other Projects link.

- b. Click **This PC**, and then browse to the location where you store your files. Click the **file type** arrow, and then click **Project Templates**.




Microsoft Project 2016, Windows 10, Microsoft Corporation

Figure 70 Open dialog box for Project Template search

- c. Click **pm01ch02EventTemplate_LastFirst.mpt** from the available templates list, and then click **Open**.
- d. Click **File**, and then click **Save As**. Click **This PC**, and then navigate to the location where you store your files. Verify the Save as type is **Project**, and then click **Save**. A new project file named **pm01ch02EventTemplate_LastFirst.mpp** is created.

Troubleshooting

If the Save as type is Project Template, click the Save as type arrow, and then select Project.

- e. Close the template, and then click **Close**  to close Project.
- f. Submit your files as directed by your instructor.

Concept Check

1. What is the best Project view for identifying the critical path?
2. What is a Work Breakdown Structure?
3. Define a work resource, material resource, and cost resource.
4. What is the purpose of the Team Planner view?
5. Explain how resource assignments can change task durations.
6. How is elapsed time different than duration?
7. What is the purpose of the Overallocated Resources report?
8. When copying Project 2016 data to paste in other applications, what is the difference between selecting Copy from the Clipboard group of the Task tab and Copy Picture from the Clipboard group of the Task tab?
9. Identify at least two ways of sharing information between Project 2016 and Excel 2016.
10. Why would a project manager use a Project 2016 template to begin a project?

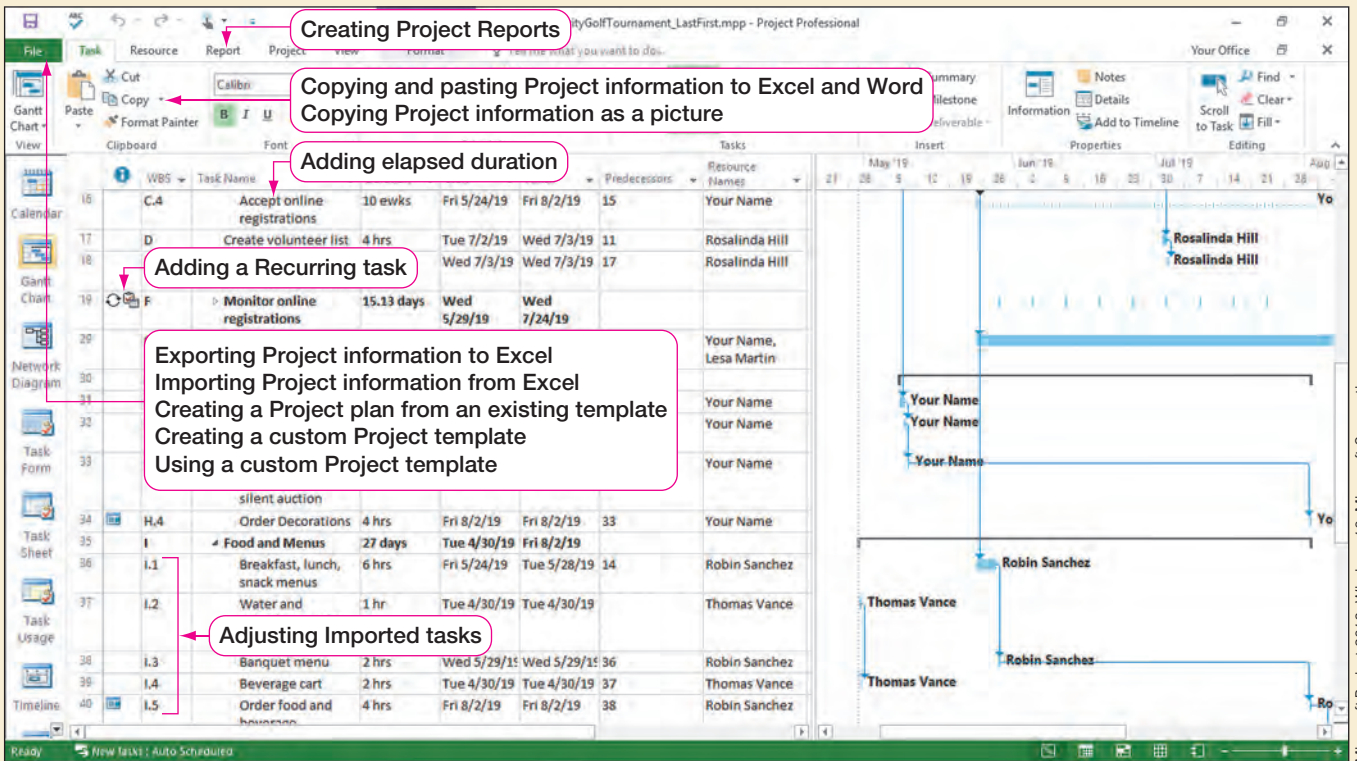
Key Terms

Cost resource 70	Outdenting 63	Subtask 63
Crashing 77	Overallocated 77	Summary task 63
Effort driven scheduling 76	Project Summary Task 106	Team Planner 83
Elapsed duration 84	Project template 108	Tracking 89
Indenting 63	Recurring task 87	Work Breakdown Structure (WBS) 62
Leveling 77	Resource Sheet view 70	Work resource 70
Material resource 70	Slack 60	

Visual Summary

The screenshot displays the Microsoft Project 2016 interface with several views and callouts. The main window shows a task list for a project named 'Charity Golf Tournament'. The task list includes tasks such as 'Perform site inspections', 'Reserve golf course', 'Tournament Promotions', 'Solicit potential tournament appearances', 'Schedule celebrity appearances', 'Tournament Website', 'Design tournament logo', 'Create tournament website', and 'Begin online registration'. The task list is filtered to show tasks assigned to 'Patti Rochelle'. The network diagram view on the right shows the task dependencies and resource assignments. The team planner view at the bottom right shows the resource assignments for 'Patti Rochelle' and 'Your Name'. The callouts provide a visual summary of key project management concepts and features.

Figure 71




Microsoft Project 2016, Windows 10, Microsoft Corporation


Figure 72


Practice


Student data file needed:

 pm01ch02BloodDrive.mpp

You will save your files as:

 pm01ch02BloodDrive_LastFirst.mpp

 pm01ch02BloodDrive_LastFirst.xlsx

 pm01ch02BloodDrive_LastFirst.docx

Organizing a Blood Drive at Your Community College



Information
Technology

You continue working with the student senate of your community college by planning a blood drive to promote a cause that saves millions of lives each year. You created your initial task list using Microsoft Project. Now you will create a Work Breakdown Structure, assign your project team members' duties, and work with adjusting the project schedule to fit your project needs. The blood drive will occur on October 10, 2019. You and your project team are available to work on this project Wednesday through Friday, 8:00 AM to 12:00 PM.

- Navigate to the location of your student data files and open **pm01ch02BloodDrive.mpp**. Save the Project file as **pm01ch02BloodDrive_LastFirst.mpp** using your last and first name.
- You want to be sure you have enough volunteers for the number of appointments set, so you decide to check each week on the appointment list by adding a recurring task. Select **Check site arrangements** (Task 10). Click the **Task** tab if necessary, and then in the Insert group, click the **Task** list arrow.
- Click **Recurring Task**. Type the task name **Check appointment list**. Type a duration of **1h**. Set a recurrence pattern of **Weekly** on **Wednesday**. Enter a Start date of **10/2/19** and an End by date of **10/9/19**. Click **OK**.
- Click **Select blood drive campus location** (Task 1), and then press **[Ins]** on your keyboard to insert a new task. Type the task name **Event planning**, and then press **[Enter]**.

- e. Select **Tasks 2–5**, and then on the Task tab, in the Schedule group, click **Indent Task**. Tasks 2–5 become subtasks of Event planning (Task 1).
- f. Click **Plan promotional strategies** (Task 6). On the Task tab, in the Insert group, click the **Task** button to insert a new task. Type the task name **Event preparation**, and then press **Enter**.
- g. Click **Event preparation** (Task 6), and then on the Task tab, in the Schedule group, click **Outdent Task**.
- h. Select **Tasks 7–18**, and then on the Task tab, in the Schedule group, click **Indent Task**. Tasks 7–18 become subtasks of Event preparation (Task 6).
- i. Click **Post directional arrows and posters around campus** (Task 19). On the Task tab, in the Insert group, click **Task** to insert a new task. Type the task name **Event day**, and then press **Enter**.
- j. Select **Event Day** (Task 19), and selected, on the Task tab, in the Schedule group, click **Outdent Task**.
- k. Select **Tasks 20–21**. On the Task tab, in the Schedule group, click **Indent Task**.
- l. Click the row selector for **Task 1**. Press and hold the **Ctrl** key, and then click the row selectors for **Task 6** and **Task 19**. On the Task tab, in the Properties group, click **Add to Timeline** to add the summary tasks to the timeline.
- m. On the Task tab, in the View group, click the **Gantt Chart** list arrow, and then click **Resource Sheet** to switch to Resource Sheet view. Add the following resources.

Resource Name	Type	Initials
Your Name	Work	YN
Emma Jones	Work	EJ
Joseph Ramirez	Work	JR

- n. Click **Gantt Chart** on the View Bar to return to Gantt Chart view. Click the **Resource** tab, and then in the Assignments group, click **Assign Resources**. Using the Assign Resources dialog box, assign the resources to the tasks as follows.

Task Name	Resource Names
Event planning	
Select blood drive campus location	Your Name
Set blood drive goal	Your Name
Form a recruitment team	Your Name
Divide team roles and duties	Joseph Ramirez, Your Name
Event preparation	
Plan promotional strategies	Joseph Ramirez
Create promotional materials	Joseph Ramirez
Contact local businesses	Joseph Ramirez
Publicize the blood drive	Joseph Ramirez, Your Name
Schedule appointments	Emma Jones
Check appointment list	Your Name
Check site arrangements	Joseph Ramirez
Get visitor parking passes	Your Name
Email visitor parking passes	Your Name
Email appointment reminder messages	Your Name
Event day	
Post directional arrows and posters around campus	Your Name

- o. Next, you need to remove your overallocation. Click **Email appointment reminder messages** (Task 18).
- p. Click the **View** tab. In the Split View group, click **Details**. Right-click the split form, and then select **Work**. In the Work column, change your work hours to **0h**. On the View tab, in the Split View group, click **Details** again to remove the split view.
- q. Click the **Gantt Chart Tools Format** tab, and then click **Project Summary Task** to add a project summary task (Task 0). Change the name of the project summary task (Task 0) to **Blood Drive**.
- r. Right-click the **Task Name** column, and then click **Insert Column**. Scroll through the list, and then click **WBS**. Adjust the WBS column width as necessary.
- s. Click the **Project** tab, and then click **WBS-Define Code**. Define the code with Level 1) **Numbers**; Level 2) **Uppercase Letters**; Level 3) **Lowercase Letters**.
- t. Right-click the **Task Mode** column, and then click **Hide Column**.
- u. Select the **Task Name** column. Click the **Gantt Chart Tools Format** tab, and then in the Columns group, click **Wrap Text** twice.
- v. Click the **Select All** button in the upper left of the Entry table. On the Task tab, in the Clipboard group, click **Copy**. Open a blank Excel workbook, and then on the Home tab, in the Clipboard group, click **Paste**.
- w. If necessary, select the columns in the Excel workbook containing pasted data. On the Home tab, in the Cells group, click **Format**, and then click **AutoFit Column Width**. Increase the width of Column B as desired.
- x. Save the workbook in the location where you store your files as **pm01ch02 BloodDrive_LastFirst**. Close Excel.
- y. In Gantt Chart view, click the **Task** tab. In the Clipboard group, click the **Copy** arrow, and then select **Copy Picture**. Ensure For screen and Selected rows are selected. Click **OK**. Open a blank Word Document, and then press **(Ctrl) + (V)** to paste a picture of the Gantt Chart view into Word. Save the document in the location where you store your files as **pm01ch02BloodDrive_LastFirst**. Close Word.
- z. Save your project, exit Project 2016, and then submit your files as directed by your instructor.

Problem Solve 1



MyITLab®

Grader Project





Sales & Marketing

Student data files needed:

-  pm01ch02JobSearchPortfolio.mpp
-  pm01ch02JobSearchPortfolio.xlsx

You will save your files as:

-  pm01ch02JobSearchPortfolio_LastFirst.mpp
-  pm01ch02JobSearchPortfolio_LastFirst.xlsx

Planning Your Job Search Portfolio

You have started planning your professional portfolio to use during the interview process since you will be graduating in May 2019 from your program of study at your local college. You have an initial list of tasks already added into a Project file. Now you will add summary tasks, import tasks from Excel, and assign resources to your project to complete your project plan.

- a. Navigate to the location of your student data files and open **pm01ch02JobSearch Portfolio.mpp**. Save the Project file as **pm01ch02JobSearchPortfolio_LastFirst.mpp**.
- b. Select **Purchase portfolio supplies** (Task 1), and then insert a new task. Name the new task **Portfolio planning**. Indent Tasks 2–11 to make them subtasks of Task 1.
- c. Select **(Task 12)**. Insert a new task, and then name the task **Interview planning. Outdent** Task 12.
- d. Indent Tasks 13–16 to make them subtasks of Interview planning (Task 12).

- e. Select **Write resume** (Task 5), and then insert a new task. Name the task **Resume. Outdent** Task 5.
- f. Move **Send resumes to potential employers** (Task 14) to the Task 9 position. Note how the task becomes a subtask of Task 5.

Troubleshooting

If Send resumes to potential employers (Task 9) did not become a subtask of Task 5, then select the task and indent it.

- g. Your project resources are saved in an Excel workbook. Import the resources from the **pm01ch02JobSearchPortfolio.xlsx** data file. (Hint: Select File, Open, and look for the Excel data file. Select New map; Append the data to the active project; select Resources as the type of data to import; for the Map Resources Data, select Sheet1; for the Resource Name field, select Name.)
- h. Switch to **Resource Sheet** view to view the added resources. Change the “Your Name” resource to your **first and last name**.
- i. Return to **Gantt Chart** view, and then in a method of your choice, assign the resources as shown.


Task Name	Resource Names
Portfolio Planning	
Purchase portfolio supplies	Your Name
Get an unofficial transcript	Your Name
Identify references	Your Name
Resume	
Write resume	Your Name
Edit resume	James Yang, Your Name
Create a resume in PDF format	Your Name
Send resumes to potential employers	Your Name
Conduct online job search	Your Name
Write a cover letter	Your Name
Gather work examples for portfolio	Your Name
Compile portfolio	Your Name
Interview Planning	
Obtain interview attire	Your Name
Obtain brief case for interviewing	Your Name
Conduct a mock interview	Career Resource Center

- j. The resource assignments have resulted in overallocation. To remove the overallocation, view the **Team Planner**. If necessary, right-click **Your Name**, and then select **Scroll to Task**. From the Team Planner view, you can see the overallocation is occurring on April 4.
- k. Return to **Gantt Chart** view. Double-click **Obtain interview attire** (Task 15), and then set a Start No Earlier Than Constraint date of **2/13/19**.
- l. Click **Obtain brief case for interviewing** (Task 16). If necessary, click the **Task** tab. In the Properties group, click **Details**.
- m. Right-click the Split View, and then click **Work**. Change your work hours of Obtain brief case for interviewing to **0 hours**. The overallocation has now been corrected.
- n. Insert a WBS column to the left of the Task Name column. Adjust the WBS column width as necessary.


- o. Define the WBS code with Level 1) **Numbers (ordered)**; Level 2) **Uppercase Letters (ordered)**; Level 3) **Lowercase Letters (ordered)**.
- p. View the critical path in the **Network Diagram** view, and then return to **Gantt Chart** view.
- q. Export the project data to an Excel workbook, using the Project Excel Template, with the file name [pm01ch02JobSearchPortfolio_LastFirst](#).
- r. If necessary, return to your pm01ch02JobSearchPortfolio_LastFirst.mpp project file. Filter the project to display Summary Tasks. Select the summary tasks, and then add them to the Timeline.
- s. Save your project with the Entry table filtered, exit Project 2016, and then submit the project files as directed by your instructor.


Perform 1: Perform in Your Career


Student data file needed:

 pm01ch02BusinessPlan.mpp

You will save your files as:

 pm01ch02BusinessPlan_LastFirst.mpp

 pm01ch02BusinessPlan_LastFirst.docx or

 pm01ch02BusinessPlan_LastFirst.xlsx

Preparing a Business Plan

You have a start to your new virtual assistant business plan in Project 2016. You have decided to add more detail to your plan by creating a Work Breakdown Structure and adding project resources. You also want to share your data with family members who do not have Project 2016 software, so you will export the project into Word or Excel.

- a. Navigate to the location of your student data files and open **pm01ch02 BusinessPlan.mpp**. Save the Project file as [pm01ch02BusinessPlan_LastFirst.mpp](#).
- b. Create a minimum of **two work resources**. Assign resources to each of your subtasks.
- c. If necessary, correct any **overalllocation** of your resources by changing resource assignments, modifying task relationships, setting task constraints, or modifying work hours.
- d. Create a Work Breakdown Structure with a minimum of **three logical summary tasks**.
- e. Add a **WBS** column, and then define a WBS code.
- f. If necessary, hide the **Task Mode** column.
- g. Add the project's summary tasks to the **Timeline**.
- h. **Share** your data in a Word document or Excel workbook. As directed by your instructor, explain why you chose Word or Excel and what steps you took to share the project's data.
- i. **Save** your project, and then submit your files as directed by your instructor.