Ch 2 - Advanced Resource Management

A resource assignment is attaching one or many resources to one or many tasks in the project plan. The level of detail you involve yourself in for each assignment can vary. For example, you may simply be interested in who does what task or you may be interested in the hours of work assigned to the resource for each day the task is scheduled. When working with resources that are in limited supply, you may need to fine tune resource assignments to resolve resource overallocations. In this chapter we will explore a variety of options that you can choose to apply to your project plan.

# **Creating a New Resource Assignment (Review)**

1. Using your preferred method, select Gantt Chart view
2. Click the Resourcetab
3. Click Assign Resourcesin the Assignments group
4. Click the desired task(s)
5. Click the desired resource(s)
6. In the Assign Resources dialog box, click Assign

# **Evaluating Resource Availability Before Making an Assignment**

When creating new resource assignments, Project provides a proactive option to evaluate resource availability before you make an assignment. With this option, when you select the task and use the Assign Resources dialog box, Project automatically uses the Start and Finish date of the task as the date range for the availability of the resource you want to evaluate. Simply entering the desired hours will show you if that resource is available or hide the resource name from the list if the resource is unavailable.

1. Using your preferred method, select Gantt Chart view
2. Click the Resourcetab
3. Click Assign Resourcesin the Assignments group
4. Click the desired task
5. In the Assign Resources dialog box, click Available to Workand enter thenumber of hours you need a resource for during the length of the task
6. The resource list will automatically filter and hide work resources that do not have enough capacity during the timeframe of the task

Tip – Already assigned resources will never hide from the list.

Warning – Remember to clear the Available to Work option to list all resources in the Assign Resources dialog box for future task assignments.

# **Assigning a Part-Time Resource to a Task**

The current and previous version of Project support alternate approaches for a resource that is available to work part time. You can assign a resource with an alternate assignment units percentage and that will recalculate the task based on the availability (e.g. 50%). You can also assign a resource at 100% and adjust the working hours as needed to reflect a part-time resource.

Tip – It is a best practice to choose an approach and remain consistent throughout your schedule to simplify the process of auditing and to make it easier for others to follow your scheduling methodology.

1. Using your preferred method, select Gantt Chart view
2. Click the Resourcetab
3. Click Assign Resourcesin the Assignments group
4. Click the desired task
5. For the desired resource, in Units, enter the desired percentage (e.g. 50) or hours (e.g. 4h) and press the Enter key

Tip – Project converts hours entered into units automatically in the Assign Resource dialog box.

Warning – Entering hours is not recommended for Fixed Work tasks where the task hours have already been provided. An error message may appear.

Note - See the Chapter on Advanced Work with Task Types for more information about controlling calculations in Project.

# **Setting Overtime Hours on a Task Assignment**

If your schedule uses alternate rates for Overtime, Project needs to know when to apply that rate on a task. Also, if you are fast tracking a Fixed Work task, Project needs to know which resource is working overtime hours to get the task done sooner.

1. Using your preferred method, select Gantt Chart view
2. Click the Viewtab
3. Click Detailsin the Split View group and ensure Task Form is displayed in the drop-down list
4. On the Task Form, right-click to bring up alternative views and click Work
5. For the desired resource, in Work, enter the total hours the resource is working that apply to standard time, in Ovt. Work, enter the total hours the resource is working that apply to overtime

# **Shifting Resource Assignments with Delay**

If multiple resources are working on one task, you may have some resources who have a conflict with another task and are therefore unavailable until the task is in progress. Switching the resource to a part-time resource would not solve this problem since that would assume the resource is available the entire timeframe of the task. However, delaying the start of the resource on a specific task and reducing hours (if needed) will eliminate overallocation problems at the beginning of a task.

1. Using your preferred method, select Gantt Chart view
2. Click the Viewtab
3. Click Detailsin the Split View group and ensure Task Form is displayed in the drop-down list
4. On the Task Form, right-click to bring up alternative views and click Schedule
5. For the desired resource, in Work, enter the new total hours the resource is available to work on the task (optional), in Delay, enter the delay time before the resource can start.

Warning – If you do not reduce the total hours of work for the resource when adding delay time, the length of the task may extend.

Note - See the Chapter on Advanced Work with Task Types for more information about controlling calculations in Project.

Tip – You may also decide to create separate tasks to solve this problem.

# **Moving a Task Until a Resource is Available**

If a resource is overallocated or assigned to another project, you might be required to move a task to a new time period before it can be worked on. While there are several approaches to this, below are some steps to incorporate very quick changes to your schedule.

1. Using your preferred method, select Gantt Chart view
2. Click the Tasktab
3. Click the desired task
4. Click the drop-down arrow on Move in the Tasks group
5. Select the desired move task option.

Tip – Move Task Forward or Reschedule Task are most popular for this scenario.

Warning – These techniques create constraints in your schedule. Apply this only if the resource limitation is truly driving your schedule.

Tip – If you prefer, you can drag a task in Team Planner view as well.

Warning – Team Planner view moves the work for that resource only not the entire task.

# **Replacing a Resource on a Task in Progress**

Resources often leave a project or have changes in their availability where they can no longer work on a project. A popular scenario is giving remaining work to a new resource. Refer to the following steps to complete this process.

1. Using your preferred method, select Gantt Chart view
2. Click the Resourcetab
3. Click Assign Resourcesin the Assignments group
4. Click the desired task
5. Click the name of the resource that is currently assigned in the Assign Resources dialog box and click Replace
6. Click the name of the resource who will be finished the task and click OK

Note – If you view the details of the task in Task Usage view, you will notice that it still shows the previous resource for work that is already completed, but the remaining work for the previous resource is now at zero and all remaining work has been shifted to the new resource.

Warning – Avoid deleting a resource from an assignment where a task is in progress. You will lose historical information.

# **Excluding Tasks From Leveling**

Leveling is a Project feature where tasks are delayed due to a resource conflict. Most projects have tasks that cannot be delayed due to restrictions from the project sponsor, customer, or other reasons. In these instances, you should exclude those tasks from leveling.

1. Using your preferred method, select Gantt Chart view
2. Click the Formattab
3. Click the column heading to the right of where you will be adding a new field
4. Click Insert Column in the Columns group
5. Click Level Assignments
6. For the desired tasks, change the drop-down option to No to exclude them from leveling

# **Excluding Resources From Leveling**

Even though your project may have resource overallocation issues, you may not want any task work delayed for a particular resource. This could be because you know another resource is being added to your project to assist or because the resource is available more than full time on your project.

1. Using your preferred method, select Resource Sheet view
2. Click the Formattab
3. Click the column heading to the right of where you will be adding a new field
4. Click Insert Column in the Columns group
5. Click Can Level
6. For the desired resources, change the drop-down option to No to exclude them from leveling

# **Using Task Priorities in Leveling**

For organizations that use leveling, they typically like to fine tune how the leveling feature is applied to specific tasks. Setting task priorities is another way to control leveling which provides a scale of importance for a task over a previous method discussed which involved turning on and off leveling for a task.

1. Using your preferred method, select Gantt Chart view
2. Double-click a task
3. Click the General tab
4. In Priority, choose or enter the desired priority number
5. Click OK
6. Repeat as needed for as many tasks as desired.

Tip – 1000 is highest priority is Project. Choose this option for tasks that should not be moved.

Tip – Consider using Priority to set tasks that should be selected first for leveling (1 priority) and tasks that should not be selected for leveling (1000 priority). This should reduce the number of tasks you need to manually set a priority number on since all the remaining tasks will be average priority (500 priority).

Warning – Priorities will only be considered first in leveling if you change the Leveling Options setting for Leveling Order to Priority, Standard.

# **Applying a Work Contour**

Project by default applies a flat contour to all resource assignments. This means that work is evenly distributed throughout the life of the task. If a resource is overallocated or to further control resource assignments, you may choose to alter how the hours are spread across the life of a task. A feature called work contouring provides several different options that can be applied to tasks to help alter the work burden on your resources.

1. Using your preferred method, select Resource Usage view
2. Double-click the desired task name
3. In Work Contour, click the drop-down arrow and choose the desired option
4. Click OK

Note – The name of the contour is supposed to visually remind you of a shape.

Tip – Notice you can pause on the indicator symbol to read a note about the contour that has been applied to the task.

# **Advanced Resource Assignment Analysis**

Project provides a number of fields that can help you make informed decisions about resources. Typically project managers and advanced schedulers use either the Resource Usage view or Task Usage view to perform further analysis because of the ability to add summary fields to the table portion of the view (left-side) and detailed time phased fields to the grid portion of the view (right-side).

1. Using your preferred method, select Task Usage view
2. Click the column heading to the right of where you will be adding a new field
3. Click the Format tab
4. Click Insert Column in the Columns group
5. Click the desired field that you want to display a summary for
6. Repeat as needed until all fields are included
7. Right-click on the grid portion of the view (right side)
8. Click an item in the frequently used fields menu to add or hide it from the view
9. Click Detail Styles for more options
10. Click the desired field(s) and click Show or Hide as desired
11. Click OK
12. Repeat as needed until all fields are included

Tip – Some fields can only be shown in certain views. Also some fields can only be displayed on the left-side or right-side of the screen.