Virginia Tech
Information Technology
Project Management Standard

Creating and Viewing Task Dependencies between Multiple Projects using Microsoft Project

Preliminary

1. You must have Microsoft Project 2003 or higher installed to complete these procedures.
2. If necessary, request departmental network attached storage (NAS) space for your project following the instructions on this web page, http://www.computing.vt.edu/infrastructure_services/nas/.
3. Access the departmental network attached storage (NAS) space for your project following the instructions on this web page, http://www.computing.vt.edu/infrastructure_services/nas/.

How to create task dependencies between projects

First way, if using a Master project

1. Open the …Master.mpp project plan file.
2. On the View menu, click Gantt Chart.
3. If not already expanded, in the Task Name column, click the little plus sign next to each project name you want to create a dependency between, to see all of that projects tasks. For example, to create a dependency between ProjectAlpha and ProjectBravo, click the little plus sign next to each of these projects to show its tasks.
4. In the Task Name field, select two or more tasks you want to link in the order you want to link them. For example, if a task in your project is dependent on the completion of a task in another project (finish-to-start), select the task in the other project first, hold down the CTRL key, then select the dependent task in your project.
   4.1. To select nonadjacent tasks, hold down CTRL, and then click the tasks you want to link.
   4.2. To select adjacent tasks, hold down SHIFT, and then click the first and last tasks you want to link.
5. Click the Link Tasks icon on the standard toolbar or choose Edit -> Link Tasks.
6. Microsoft Project creates a finish-to-start task link by default. You can change this task link to start-to-start, finish-to-finish, or start-to-finish by:
   6.1. Selecting the task that is linked to an external predecessor. (external predecessor: A relationship in which the start date of a task in your project depends on the finish date or completion of a task in another project.)
   6.2. Click Task Information on the standard toolbar or choose Project -> Task Information, and then click the Predecessors tab.
   6.3. Select a different dependency type in the Type column.
7. When finished close the master project and be sure to save the changes to all "Yes to all" or each of the changed projects.

Second way, open each project file

1. Open both projects, the project containing the task you want to link to and the project containing the task you want to link from.
2. On the Window menu of your project, click Arrange All.
3. In the Task Name field, click the task for which you want to create a dependency to an external predecessor. For example, if a task in your project is dependent on the completion of a task in another project, the task in the other project is an external predecessor.
4. Click Task Information on the standard toolbar or choose Project -> Task Information, and then click the Predecessors tab.
5. In the ID column, type the filename (the .mpp file) and ID number of the external predecessor, separated by a backslash. For example, ProjectBravo\1 for Task ID 1 in a file named ProjectBravo.mpp.
6. To change the task dependency (task dependencies: A relationship between two linked tasks; linked by a dependency between their finish and start dates. There are four kinds of task dependencies: Finish-to-start [FS], Start-to-start [SS], Finish-to-finish [FF], and Start-to-finish [SF].), to a type other than the default finish-to-start, select a different dependency type in the Type column.

Notes

a. By default, you are notified if data in an externally linked project has changed. The external predecessors and successors and impacts to your schedule are displayed when you open a project with external links, and you can choose to accept any or all changes.
b. If you want to unlink tasks, select the tasks you want to unlink in the Task Name field, and then click Unlink Tasks on the standard toolbar or choose Edit -> Unlink Tasks. The tasks are rescheduled based on links to other tasks or constraints.
c. The externally linked task appears dimmed in the task list. Double-clicking a task with an external successor (successor: A task that cannot start or finish until another task starts or finishes.) or an external predecessor (predecessor: A task that must start or finish before another task can start or finish.) opens the project containing the external task if the project is available.

Note

a. Do not use the Microsoft Project, Linked Fields (using Paste Link) technique to create task dependencies. Otherwise, telling which task is linked to which becomes difficult.

Viewing task dependencies between projects

If using a Master project

1. Open the …Master.mpp project plan file.
2. On the View menu, click Gantt Chart.

3. If not already expanded, in the Task Name column click the little plus sign next to each project name to see all of that projects tasks.
4. If not already open, display the Formatting toolbar by choosing View -> Toolbars -> Formatting.
5. From the Filter drop down menu near the right side of the Formatting toolbar choose Dependencies. (Dependencies is a custom filter that must be added to the project plan.)
6. Only external Predecessors and Successors (plus their associated summary tasks) are displayed using this filter.
7. If the graphical Gantt bar chart (with the horizontal bar graphs) is not visible on the right side of the project window then:
    7.1. Move the slider for the Gnatt bar chart window to the left or right to correspond with the start or finish date of the desired task until the bar graphs are visible.
    7.2. If the slider is not visible, move your cursor to the left edge of the vertical scroll bar until the pointer becomes a double arrowed, double vertical line. Click and drag to the left to display the Gantt bar graphs.
8. Hover the mouse pointer over any of the link lines between dependent tasks to view detailed information about that link. Notice that in the information displayed is the ID (or Task) number of both the From: and To:, linked tasks. This tells you which task is linked to which.
    8.1. If you double click a link line the Task Dependency popup displays similar, but not as detailed information.
9. When finished choose All Tasks from the Filter drop down menu on the Formatting toolbar.

Note
a. A possible limitation of this view is the loss of context from tasks surrounding these dependent tasks (because they're hidden by the filter).

From the project file
1. Open your project .mpp project plan file.
2. On the view menu, click Gantt Chart.
3. If any of Project, External Task, Predecessors, and Successors columns are not displayed insert them by right-clicking the column header to the left of which you want to insert one of these columns, and then choose Insert Column…, or from the menu bar choose Insert -> Column….
    3.1. In the Column Definition popup, select the Field Name drop down menu and choose Project, External Task, Predecessors, or Successors. (Hint: Once the Field Name drop down is selected or highlighted type the first few characters of the desired column name to quickly find that column in the list.)
    3.2. Repeat the step above until the Project, External Task, Predecessors, and Successors columns are displayed.

Method 1, using the custom Dependencies filter
4. If not already open, display the Formatting toolbar by choosing View -> Toolbars -> Formatting.

5. From the Filter drop down menu near the right side of the Formatting toolbar choose Dependencies. (Dependencies is a custom filter that must be added to the project plan.)
6. Only external Predecessors and Successors (plus their associated summary tasks) are displayed using this filter.
7. If the graphical Gantt bar chart (with the horizontal bar graphs) is not visible on the right side of the project window then:
    7.1. Move the slider for the Gnatt bar chart window to the left or right to correspond with the start or finish date of the desired task until the bar graphs are visible.
    7.2. If the slider is not visible, move your cursor to the left edge of the vertical scroll bar until the pointer becomes a double arrowed, double vertical line. Click and drag to the left to display the Gantt bar graphs.
8. Hover the mouse pointer over any of the link lines between dependent tasks to view detailed information about that link. Notice that in the information displayed is the ID (or Task) number of both the From: and To:, linked tasks. This tells you which task is linked to which.
    8.1. If you double click a link line the Task Dependency popup displays similar, but not as detailed information.
9. When finished choose All Tasks from the Filter drop down menu on the Formatting toolbar.

Note
a. A possible limitation of this view is the loss of context from tasks surrounding these dependent tasks (because they're hidden by the filter).

Method 2, using Predecessors and Successors
4. Click the Predecessors or Successors column of the task in your plan that begins with a backslash (\).
5. Look at the edit bar (towards the top just below the toolbars). The information displayed is the path to the location of the dependent project that this task is linked to.
6. The last two pieces of information in this path are:
    6.1. Second to last: name of the dependent project file.
    6.2. Last: the task number of the specific, linked, dependent task in the dependent project. If the type of dependency is anything other than the default finish-to-start, the abbreviated type of dependency (Start-to-start [SS], Finish-to-finish [FF], and Start-to-finish [SF]) appends the task number.
7. Immediately above (if a Predecessor) or below (if a Successor) the dependent task in your plan is the grayed out dependent task in the other plan. You should see a Yes in the External Task column of this grayed out task indicating it is an external, dependent task.
    7.1. In the Predecessors or Successors column of the grayed out task is a number that corresponds to the task in your plan that this dependent task is linked to. If appropriate, the type of dependency appends the task number.

Note

a. An advantage of this view is to use the number in the Predecessors or Successors column to tell which specific task (ID number or Task number) in your project is linked to which specific task in the dependent project.

b. Externally linked tasks appear dimmed in the task list. Double-clicking a task with an external successor or an external predecessor opens the project that contains the external task, if the project is available.

Method 3, using Links Between Projects tool

4. Choose Tools -> Links Between Projects…

5. In the Links Between Projects popup click the External Predecessors or External Successors tab to see all, of that type of linked tasks, in your project.

Note

a. A possible limitation of this view is the loss of context from tasks surrounding these dependent tasks (only the dependent tasks are displayed).

b. Another possible limitation of this view is, not knowing the specific task ID number in the dependent project that your task is linked to. (Note: You can see the name of the dependent project in the Path: information at the bottom of the Links Between Projects popup window.)

c. An advantage of this view is the ability to get a quick look at dependent tasks without using filters or displaying additional columns.