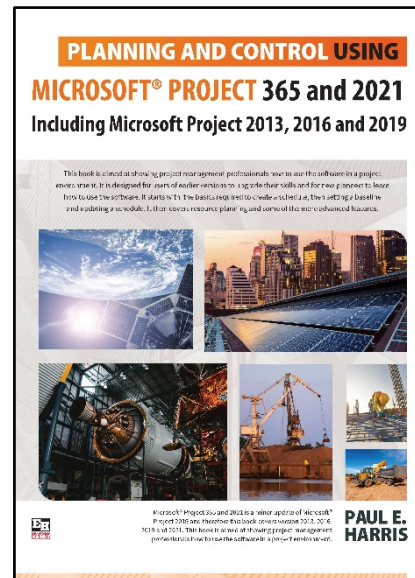


# MIICROSOFT PROJECT HOW TO ASSIGN TASK DEPENDENCIES

## 1 Introduction

There are many ways to assign task dependencies using Microsoft Project including:

- Graphically Adding a Dependency
- Using the Link and Unlink Icons
- Task Linking Using the Keyboard
- Adding and Deleting Predecessors with the Task Information Form
- Predecessor and Successor Details Forms
- Editing or Deleting Dependencies Using the Task Dependency Form
- Autolink New Inserted Tasks or Moved Tasks
- Editing Relationships Using the Predecessor or Successor Columns



## 2 Aim

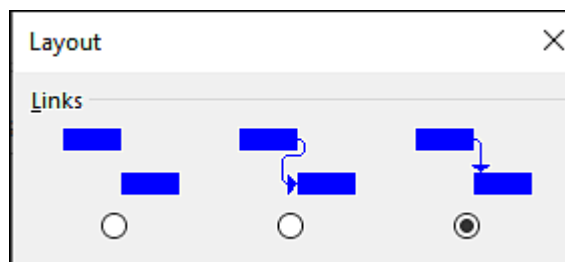
The aim of this article is to explain the methods of assigning dependencies when using Microsoft Project.

## 3 Assigning Dependencies

### 3.1 Formatting Dependencies

The dependencies may be displayed or hidden with the **Layout** form.



- Select **Gantt Chart Format, Format group, Layout** to open the **Layout** form and click on the radio button under the style you require:




- The color of the dependency line is inherited from the color of the predecessor task.
- To display a Critical Path on the relationship lines you will need to format the bars as critical.


### 3.2 Graphically Adding a Dependency


You may graphically add a **Finish-to-Start** dependency only by:

- Selecting the **Gantt Chart**, **Calendar** or **Network Diagram**, then:
- Move the mouse pointer over a task until the mouse pointer changes to a , left-click and drag to the successor task. The cursor will change to a  shape during this operation.

### 3.3 Using the Link and Unlink Icons

The  **Link Tasks** icon found the **Task**, **Schedule** group, which you should add to the **Quick Access Menu** may be used for linking tasks with a Finish-to-Start dependency:

- Highlight one or more tasks using Ctrl and left-click (to select one task at a time) or Shift and left-click (to select a contiguous group of tasks).
- Then click the  **Link Tasks** icon on the Toolbar and the tasks will be linked with Finish-to-Start dependencies in the order that they were selected.

To remove a dependency, select the tasks and click on the  **Unlink Tasks** icon.



The limit of a maximum of 10 groups of tasks that could be linked in this way has been removed from Microsoft Project 2010.

This function is not end sensitive as in Primavera products and Elecosoft (Asta) Powerproject and may only be used for assigning a Finish-to-Start relationship.

### 3.4 Task Linking Using the Keyboard

Multiple tasks may be linked with a Finish-to-Start dependency:

- Highlight one or more tasks using Ctrl-left-click (to select one task at a time) or Shift and left-click (to select a group of tasks).
- Then select **Ctrl+F2** and the tasks will be linked with Finish-to-Start dependencies in the order that they were selected.
- A group of tasks is created by dragging over two or more tasks. These are linked with FS relationships.



Elecosoft (Asta) Powerproject and earlier link tasks that have been highlighted from top to bottom and not in the order they are selected. Oracle Primavera P6 links in the order they are highlighted. Microsoft Project also links the tasks in the order they are highlighted.



### 3.5 Relationship Listing Issue

In **EARLIER** versions of Microsoft Project 2013 and 2016, but not later versions of 2016 and later, the predecessor and successor tasks are displayed in Alphabetical order, not in Task ID order.

Therefore, when you have large projects with a number of tasks with the same name it becomes difficult to know what activity you are looking for in the list of tasks when assigning relationships, see the picture on the left below:

| ID | Task Name         |
|----|-------------------|
| 1  | Level 1           |
| 2  | Concrete          |
| 3  | Stud Walls        |
| 4  | Rough-in Services |
| 5  | Fit and Finish    |
| 6  | Level 2           |
| 7  | Concrete          |
| 8  | Stud Walls        |
| 9  | Rough-in Services |
| 10 | Fit and Finish    |
| 11 | Level 3           |
| 12 | Concrete          |
| 13 | Concrete          |
| 14 | Fit and Finish    |
| 15 | Fit and Finish    |

Predecessors displayed alphabetically

| ID | Task Name                   |
|----|-----------------------------|
| 1  | Level 1                     |
| 2  | Level 1 - Concrete          |
| 3  | Level 1 - Stud Walls        |
| 4  | Level 1 - Rough-in Services |
| 5  | Level 1 - Fit and Finish    |
| 6  | Level 2                     |
| 7  | Level 2 - Concrete          |
| 8  | Level 2 - Stud Walls        |
| 9  | Level 2 - Rough-in Services |
| 10 | Level 2 - Fit and Finish    |
| 11 | Level 3                     |
| 12 | Level 3 - Concrete          |
| 13 | Level 1 - Concrete          |
| 14 | Level 1 - Fit and Finish    |
| 15 | Level 1 - Stud Walls        |
|    | Level 2                     |
|    | Level 2 - Concrete          |
|    | Level 2 - Fit and Finish    |
|    | Level 2 - Rough-in Services |
|    | Level 2 - Stud Walls        |
|    | Level 3                     |
|    | Level 3 - Concrete          |
|    | Level 3 - Fit and Finish    |
|    | Level 3 - Rough-in Services |
|    | Level 3 - Stud Walls        |

Predecessors displayed by level

Consequently, it is recommended that you consider making each description unique, see the picture above on the right.

The technique to do this with Excel was discussed in the para Copying Tasks from Other Programs technique.



This issue was resolved in Microsoft Project 2016 with automatic updates in late 2017.



### 3.6 Adding and Deleting Predecessors with the Task Information Form

The **Task Information** form may be used for adding and deleting predecessors only.

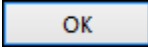
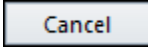
- Double-click on a task to open the **Task Information** form,
- Select the **Predecessors** tab,
- To select the predecessor, you may either:
  - Type in the Predecessor Task ID in the first line under ID, or
  - Use the drop-down box under task name:

| ID | Task Name                     | Type                 | Lag |
|----|-------------------------------|----------------------|-----|
| 9  | Document Delivery Methodology | Finish-to-Start (FS) | 0d  |
| 10 | Obtain Quotes from Suppliers  | Finish-to-Start (FS) | 0d  |

- Now enter the Relationship Type from the **Type** drop-down list and the lag, if required, from the **Lag** drop-down list.

| ID | Task Name                     | Type                 | Lag |
|----|-------------------------------|----------------------|-----|
| 9  | Document Delivery Methodology | Finish-to-Start (FS) | 0d  |
| 10 | Obtain Quotes from Suppliers  | Finish-to-Start (FS) | 0d  |

- To enter another relationship click on the next line.
  - You are not able to scroll up or down to another task while the **Task Information** form is open.
- To complete your operation, either:


- Press the **Enter Key** or click on the  button to commit the changes, or
- Click on the **Esc Key** or click on the  button to abort any changes.



### 3.7 Predecessor and Successor Details Forms

The Predecessor and Successor Details form may be displayed by:

- Opening the bottom pane by right-clicking in the Gantt Chart and selecting **Show Split**,
- Then making the bottom pane active by clicking anywhere in the bottom pane. The bar on the left-hand side of the bottom pane will turn blue when it is active,
- Displaying the **Task Details Form**, **Task Entry** or **Task Form** (shown below which is displayed by default),
- Then right-clicking in the bottom pane and select **Predecessors and Successors** to display the **Predecessors and Successors Detail form**:

|   |  | Task Name                  | Dur | Start      | Finish     | Total Slack | Predecessors | ec '24 |   |   |   |   |   |   | 16 Dec '24 |   |   |   |   |   |   | 23 Dec |   |   |   |   |  |  |  |  |  |
|---|---|----------------------------|-----|------------|------------|-------------|--------------|--------|---|---|---|---|---|---|------------|---|---|---|---|---|---|--------|---|---|---|---|--|--|--|--|--|
|   |   |                            |     |            |            |             |              | W      | T | F | S | S | M | T | W          | T | F | S | S | M | T | W      | T | F | S | S |  |  |  |  |  |
| 1 |   | Bid for Facility Extension | 31d | 9 Dec '24  | 23 Jan '25 | 0d          |              |        |   |   |   |   |   |   |            |   |   |   |   |   |   |        |   |   |   |   |  |  |  |  |  |
| 2 |   | Technical Specification    | 13d | 9 Dec '24  | 27 Dec '24 | 0d          |              |        |   |   |   |   |   |   |            |   |   |   |   |   |   |        |   |   |   |   |  |  |  |  |  |
| 3 |   | Approval to Bid            | 0d  | 9 Dec '24  | 9 Dec '24  | 0d          |              |        |   |   |   |   |   |   |            |   |   |   |   |   |   |        |   |   |   |   |  |  |  |  |  |
| 4 |   | Determine Installation     | 4d  | 9 Dec '24  | 12 Dec '24 | 0d          | 3            |        |   |   |   |   |   |   |            |   |   |   |   |   |   |        |   |   |   |   |  |  |  |  |  |
| 5 |   | Create Technical Spec      | 5d  | 13 Dec '24 | 19 Dec '24 | 0d          | 4            |        |   |   |   |   |   |   |            |   |   |   |   |   |   |        |   |   |   |   |  |  |  |  |  |
| 6 |   | Identify Supplier Com      | 2d  | 20 Dec '24 | 23 Dec '24 | 0d          | 5            |        |   |   |   |   |   |   |            |   |   |   |   |   |   |        |   |   |   |   |  |  |  |  |  |
| 7 |   | Validate Technical Spe     | 2d  | 24 Dec '24 | 27 Dec '24 | 2d          | 6            |        |   |   |   |   |   |   |            |   |   |   |   |   |   |        |   |   |   |   |  |  |  |  |  |

**Name:** Identify Supplier Components **Duration:** 2d  Effort driven  Manually Scheduled Previous Next

**Start:** 20 Dec '24 **Finish:** 23 Dec '24 **Task type:** Fixed Units **% Complete:** 0%

| ID | Predecessor Name               | Type | Lag | ID | Successor Name                   | Type | Lag |
|----|--------------------------------|------|-----|----|----------------------------------|------|-----|
| 5  | Create Technical Specification | FS   | 0d  | 7  | Validate Technical Specification | FS   | 0d  |
|    |                                |      |     | 10 | Obtain Quotes from Suppliers     | FS   | 0d  |

Predecessors and successors may be added using the same method as in the **Task Information** form.



Double-clicking on a Predecessor or Successor in any of these forms will display the Predecessor or Successor **Task Information** form, allowing the dates, constraints, etc. of related tasks to be examined.

### 3.8 Editing or Deleting Dependencies Using the Task Dependency Form

To use the **Task Dependency** form, a logic link between tasks must already exist. To open the **Task Dependency** form, double-click on a task link (relationship line) in the Bar Chart or Network Diagram.

Task Dependency
✕

**From:** Identify Supplier Components

**To:** Validate Technical Specification

**Type:** Finish-to-Start (FS) **Lag:** 0d

Delete
OK
Cancel

A link may only be edited or deleted from this form.





### 3.9 Autolink New Inserted Tasks or Moved Tasks

This function automatically creates predecessors to tasks above it and successors below it when a task is moved or inserted. This option may be activated by selecting the **File, Options, Schedule** tab, **Scheduling options for this project:** section and checking the **Autolink inserted or moved tasks** box.

When **Autolink inserted or moved tasks** is activated you must ensure that: you have selected the whole task by clicking on the Task ID and therefore highlighting all the columns before you drag the task to a new location. Otherwise, you will only move the cell contents.



When the task is moved, **Autolink inserted or moved tasks** will change the existing predecessor and successor logic without warning. This function potentially makes substantial changes to your project logic and may affect the overall project duration. It is suggested that the option is **NEVER** switched on as dragging a task to a new location may completely change the logic of a schedule.

### 3.10 Editing Relationships Using the Predecessor or Successor Columns

The **Predecessor** or **Successor** column may be displayed and edited following the example below.

| Task Name   | Successors   | Predecessors | 01 Sep '14 |   |   |   |   |   |   |
|-------------|--------------|--------------|------------|---|---|---|---|---|---|
|             |              |              | S          | M | T | W | T | F | S |
| Task 1      | 2SS+3 days,3 |              |            |   |   |   |   |   |   |
| Successor 1 | 3            | 1SS+3 days   |            |   |   |   |   |   |   |
| Successor 2 |              | 1,2          |            |   |   |   |   |   |   |

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6 October 2022



