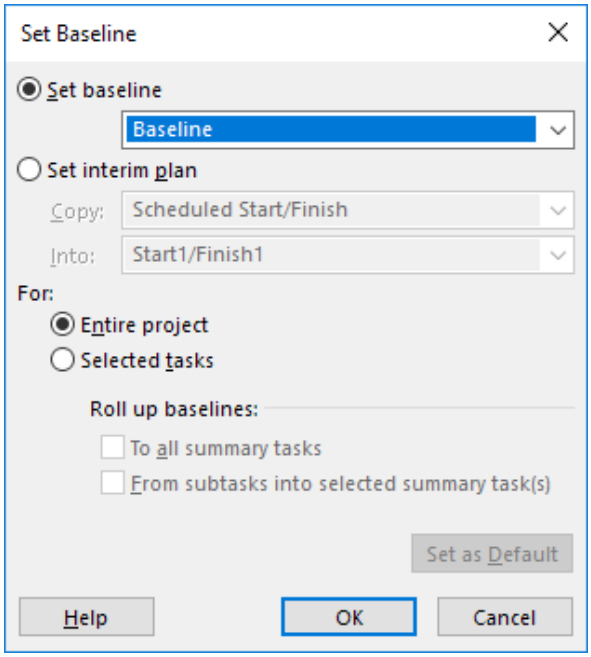
Steps to Update a Schedule in Microsoft Project Pro

Define (save) the Baseline (Target Schedule):

"Project" > "Set Baseline" > OK (i.e., accept the default selections)



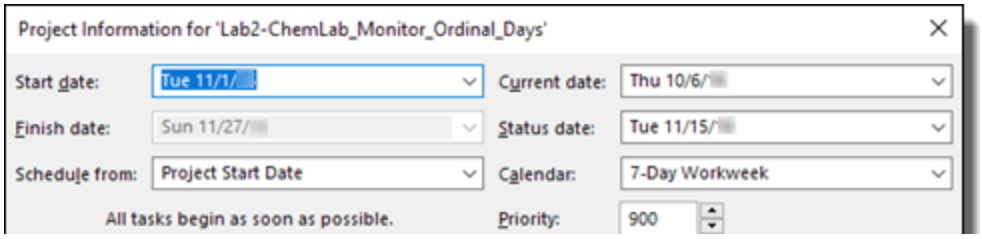
Note: In general, it is good practice in MS Project to save <u>two</u> Baselines every time a schedule is updated, approved, or there is a change in scope. This is the suggested procedure:

Type of approval	Which Baselines to set
Original approval	Baseline and Baseline 1
1st scope change	Baseline and Baseline 2
2nd scope change	Baseline and Baseline 3
…	…
9th scope change	Baseline and Baseline 10

This practice makes it clear which Baseline to pick in the Tracking Gantt.
Moreover, the measurement of Earned Value (BCWP), which relies <u>only</u> on the "Baseline" (without a number), will always be correct.

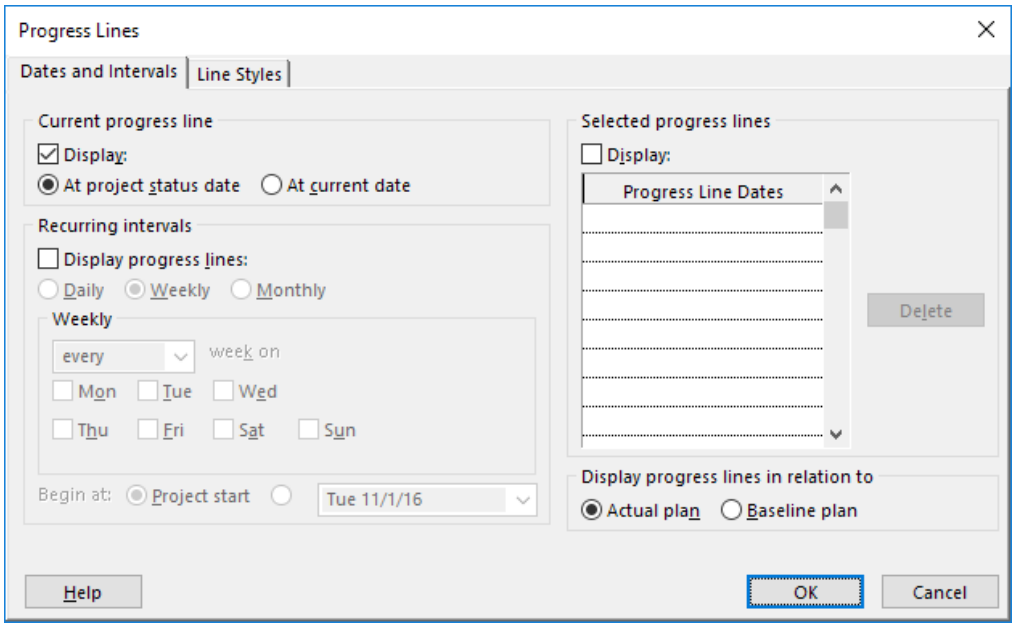
Set the "Data Date" (called "Status date" in MS Project)

"Project" tab > "Project Information" > "Status date:".
Enter the Data Date (e.g., 11/15/20xx)



Show the "Progress Line" in the Bar Chart

Right-click the "Bar Chart" (shown in the Gantt Chart) and select "Progress Lines"
Click on "Current progress line" > "Display" at project status date > OK



Show appropriate columns for "% Complete", "Durations", "Actual Dates" in the Gantt Chart table

Click on the last column of the Gantt Chart table (Add New Column) to add columns for "% Complete" the four "Durations" and the "Actual Start and Finish Dates" as shown in the figure below.

- BL Dur = *Baseline duration* = Duration of the activity as defined in the saved Baseline schedule (ordinarily, this should not be changed)
- Dur = *Duration* = The latest estimate for the total duration of the activity (can be changed).
- Act Dur = *Actual Duration* = Actual duration of the activity up to the Data Date (can be changed).
- Rem Dur = *Remaining Duration* = Remaining duration of the activity after the Data Date (can be changed).
- ***% Complete = Actual Duration / Duration***

Note: MS Project modifies the three durations so that the following formula is always true:

Remaining Duration = Duration – Actual Duration

	No	Activity	Pred	% Comp	BL Dur	Dur	Act Dur	Rem Dur	Actual Start	Actual Finish	ESD	EFD	LSD	LFD	TF	FF
1	5	Contract award		100%	0d	0d	0d	0d	11/1/	11/1/	0	0	0	0	0d	0d
2	10	Obtain vinyl floor covering	1	100%	5d	5d	5d	0d	11/1/	11/5/	0	5	0	5	0d	0d
3	15	Obtain cabinets	1	75%	10d	20d	15d	5d	11/1/	NA	0	20	0	20	0d	0d

Enter Actual and Estimated Time Data in Sequence-Step Order

"Actual time data" describe what has already happened from the start of the project to the Data Date.
"Estimated time data" are the current best estimates about how activities will actually be performed past the Data Date.
"Estimated time data" (and also "actual time data") include changes in the scope of work, in pricing, in productivity, in methods, in precedence between activities, etc.

Unlike P6, MS Project can recalculate the project schedule automatically after each data entry.
Thus, it is best to enter actual data and estimated data in sequence-step-order, from the start of the project to the Data Date (for actual data) and then to the end of the project (for estimated data).

Entering actual data in sequence-step order makes it clear which activities need to be deliberately set to start later than their predecessors allow. Such activities are of two kinds:

- Activities that have started before the Data Date, but their start date was later than the date allowed by their predecessors: Enter the actual start date using the "Actual Start column in the above table.
- Activities that will start after the Data Date, but their start date will be later than the date allowed by their predecessors:
    - There are two recommended ways to delay an activity as needed:
        - By introducing "lead time(s)" on appropriate Finish-to-Start link(s) from direct predecessors of the activity ("lead" is called "lag" in MS Project).
        - By introducing one or more new predecessor activities as needed. (For example, the new predecessors could represent procurement activities.)

      The use of MS-Project "constraints" to force an activity to start later than a certain date is not recommended because it hides and defeats precedence logic.

Modify Actual Start/Finish Dates when different from those scheduled automatically

Change the "Actual Start Date" (ASD) and "Actual Finish Date" (AFD) for those activities whose actual start or finish dates are different from those scheduled automatically by MS Project. Note that:

- Changing the ASD changes the AFD as follows: AFD = ASD + Duration
- Changing the AFD changes the Duration as follows: Duration = AFD - ASD

Modify the appropriate durations for activities whose durations have changed (from the Baseline)

In the above table, for example, Act15 "Obtain cabinets" has Baseline Duration = 10 days. As of Data Date = 15 days, however, this duration must be changed to a total of 20 days. The Actual Duration (up to the Data Date) is 15 days. Hence the Remaining Duration = 20 - 15 = 5 days.

Enter 100% complete for completed activities whose durations have not changed (from the Baseline)

Ctrl-click on each activity (up to 10 activities) that (a) have finished by the Data Date, and (b) have Actual Durations that are the same as their durations in the Baseline schedule.

On the Task tab, click on the 100% button.

This step can also be done as part of the next step below.

Set % complete for activities that have started and whose durations are unchanged or updated

Setting the correct "Data Date" (called "Status date" in MS Project) is very important for this step because it will be used by MS Project to calculate the "Percent-Complete" for the selected activities.

It is also necessary that the two steps listed below (and described above) have been completed:

(a) Update the "Actual Start Date" (ASD) and "Actual Finish Date" (AFD) for those activities whose actual start or finish dates are different from those scheduled automatically by MS Project.
(b) Modify the appropriate durations for activities whose durations have changed (from the durations in the Baseline schedule)

The above steps ensure that the current ESD and EFD dates (that are currently calculated automatically by MS Project) and which ESD and EFD dates are less than the Data Date, are the correct dates that MS Project should use to automatically set the ASD and AFD using the steps below (for those activities that have started and or finished and whose ASD and AFD have not been entered manually).

Ctrl-click on each activity (up to 10 activities) that (a) have started before the Data Date, and (b) their Durations are the same as in the Baseline schedule (or, if changed, their Durations have been updated appropriately). (If you want to update all activities, you do not need to select them.)

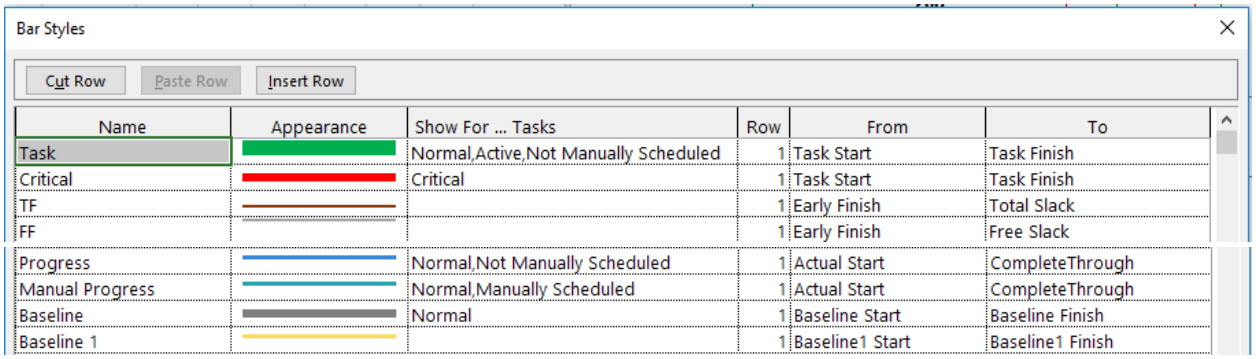
Go to the "Project" tab and click on "Update Project".

The "Update Project" dialog appears. Click "Update work as complete through", and then type or select the Data Date (or some other date through which you want progress updated).

Click "Set 0% - 100% complete".

Click on "Selected Tasks" to update only the specific activities that you have selected. To update all activities in the schedule, click on "Entire Project".

Bar Chart possibilities for showing the Baseline Schedule and Actual Progress



Name	Appearance	Show For ... Tasks	Row	From	To
Task		Normal,Active,Not Manually Scheduled	1	Task Start	Task Finish
Critical		Critical	1	Task Start	Task Finish
TF			1	Early Finish	Total Slack
FF			1	Early Finish	Free Slack
Progress		Normal,Not Manually Scheduled	1	Actual Start	CompleteThrough
Manual Progress		Normal,Manually Scheduled	1	Actual Start	CompleteThrough
Baseline		Normal	1	Baseline Start	Baseline Finish
Baseline 1			1	Baseline1 Start	Baseline1 Finish