Managing Projects with MS Project 2010

Session: 11

Monitoring and Controlling Project Progress

Objectives

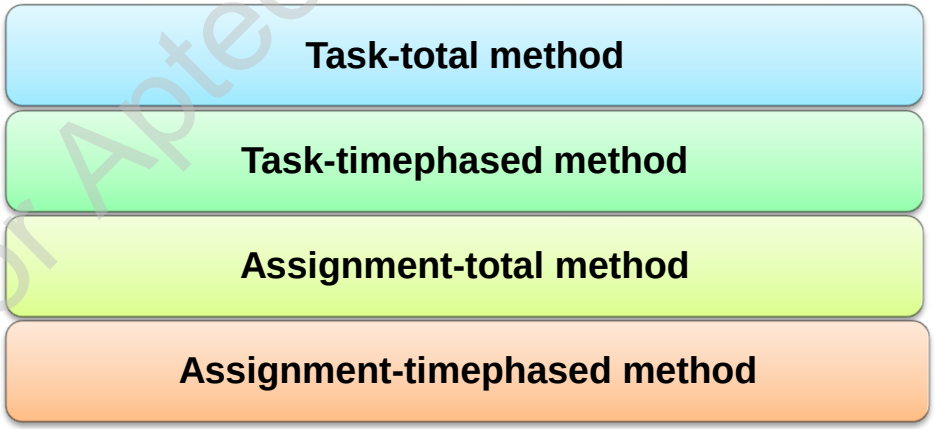
- Describe how to track projects
- Describe tracking tools
- Explain project updates
- Describe setting progress lines
- Explain types of tables
- Explain how to identify slipping tasks
- Explain project budget analysis

Introduction

- Project managers need to be aware of the project status and track its progress closely.
- They need to identify any deviations or scheduling conflicts in the project plan and fix them at the earliest.
- In resolving these issues, project managers might need to make changes to the task schedule or resource assignments.

Tracking Projects

- Managers need to gather this data and update the project status as it progresses.
- They can then compare the gathered data with the baseline plan to check whether the project is progressing as planned or it is deviating from the planned timelines and goals.
- Depending on what information managers want to gather for tracking the project status, managers can select one of the following four tracking methods or tools:

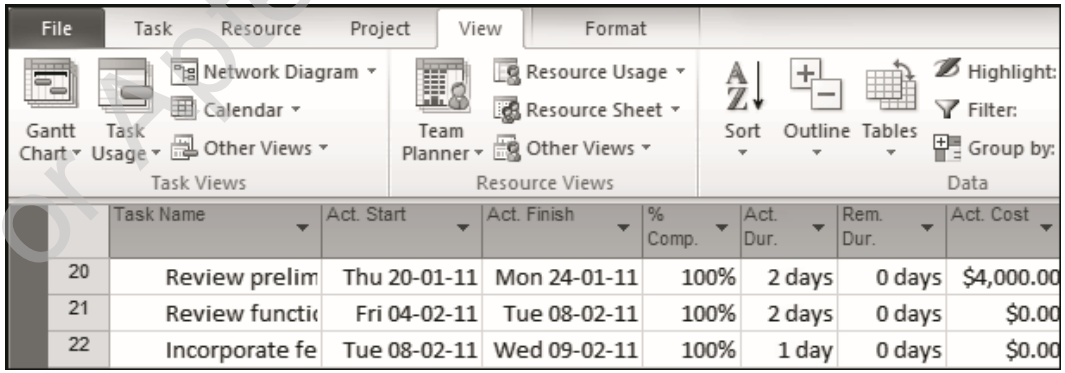


Task-total Method

- The Task-total method is used to track the total task durations, actual start and finish dates, work hours, or costs up to the current date.
- This data can be tracked in the Task Sheet view with the Tracking table displayed.
- The following are the steps to display this view and use the task-total Method:

1. Open the project.
2. On the **File** tab, in the **View** group, click **Gantt Chart** and select **Task Sheet** view.
3. On the **View** tab of the **Ribbon**, click **Tables** and then click **Tracking**.

- Following figure shows the Tracking table:

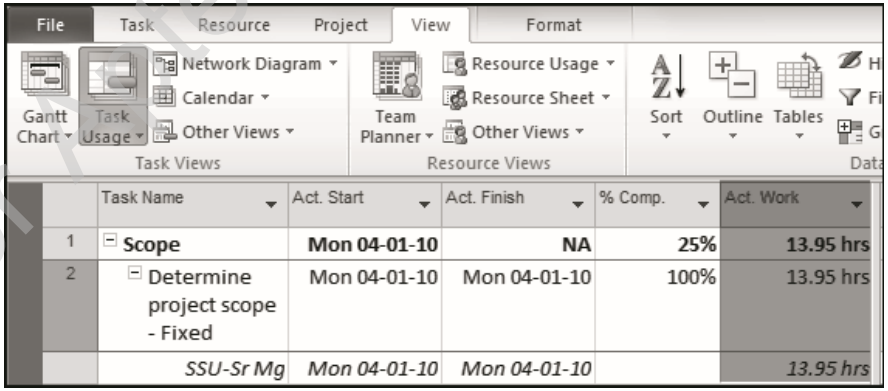


Task-timephased Method 1-2

- The task-timephased method is used to track work hours or costs in time phases, on a day-by-day basis.
- This method is useful if managers want to present in their weekly status meeting, the work hours and costs put in during that week.
- Steps to track project data using the time-phased method are as follows:

1. Click the down arrow on the **Gantt Chart** button on the **Task** tab.
2. Select **Task Usage** from the drop-down list to display the **Task Usage** view with work hours, duration, and start and finish dates for all tasks in the left panel.

- Following figure displays the **Task Usage** view with timephased data in the panel on the right:



Task-timephased Method 2-2

- Steps to track the actual timephased work hours put in for each task in contrast with the assigned work hours are as follows:

1. Click the **Task Usage Tools** tab on the **Ribbon**.
2. In the **Details** group on the **Task Usage Tools** tab, select the **Actual Work** check box.

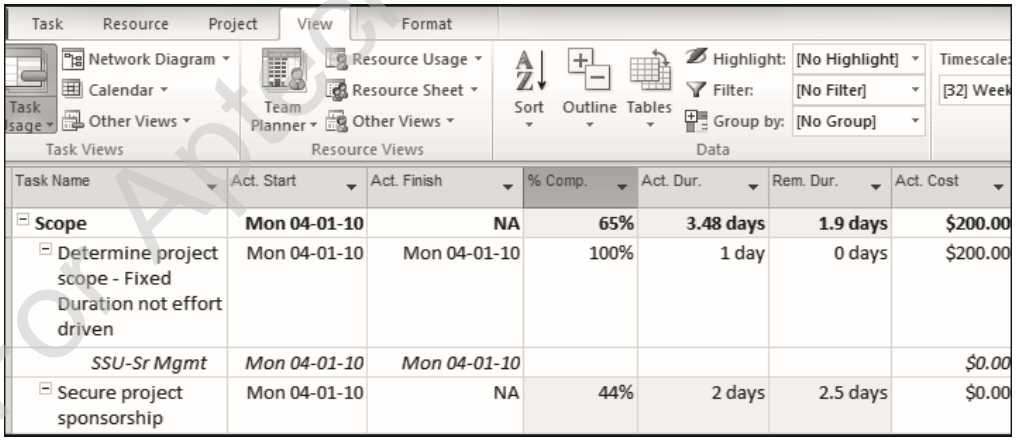
- Users can also select to display and track other timephased data, such as **Cumulative Work**, **Baseline Work**, and **Actual Cost**.

Assignment-total Method

- The assignment-total method is used to track the total work or costs per resource assignment up to the current date.
- Steps to track data using Assignment-total method are as follows:

1. Open the **Task Usage** view.
2. Next, on the **View** tab, click the **Tables** button and select the **Tracking** option from the drop-down menu.

- Following figure displays the **Task Usage** view with the Tracking table using Assignment-total method:



Task Name	Act. Start	Act. Finish	% Comp.	Act. Dur.	Rem. Dur.	Act. Cost
Scope	**Mon 04-01-10**	**NA**	**65%**	**3.48 days**	**1.9 days**	**$200.00**
Determine project scope - Fixed Duration not effort driven	Mon 04-01-10	Mon 04-01-10	100%	1 day	0 days	$200.00
SSU-Sr Mgmt	*Mon 04-01-10*	*Mon 04-01-10*				*$0.00*
Secure project sponsorship	Mon 04-01-10	NA	44%	2 days	2.5 days	$0.00

Assignment-timephased Method

- The assignment-timephased method is used to track each resource assignment's work hours and costs in time phases.
- Steps to track data using Assignment-timephased method are as follows:

1. Open the **Task Usage** view with the Tracking table displayed.
2. Next, in the **Details** group on the **Task Usage Tools** tab, select the **Actual Work** check box.

- Following figure displays the **Task Usage** view with timephased Actual Work data, for each resource assignment:

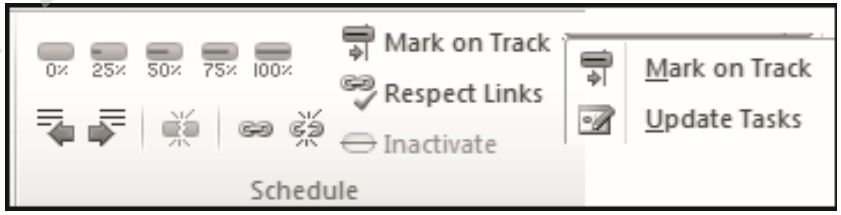
Task Name	Act. Start	Act. Finish	% Comp.	Act. Dur.	Rem. Dur.	Act. Cost	Act. Work
Scope	**Mon 04-01-10**	**NA**	**80%**	**7.57 days**	**1.93 days**	**$200.00**	**62.4 hrs**
Determine project scope - Fixed Duration not effort driven	Mon 04-01-10	Mon 04-01-10	100%	1 day	0 days	$200.00	13.95 hrs
SSU-Sr Mgmt	*Mon 04-01-10*	*Mon 04-01-10*				*$0.00*	*13.95 hrs*
Secure project sponsorship	Mon 04-01-10	Wed 06-01-10	100%	2.13 days	0 days	$0.00	1.7 hrs
SSU-Sr Mgmt	*Mon 04-01-10*	*Wed 06-01-10*				*$0.00*	*1.7 hrs*
Define preliminary resources	Tue 05-01-10	NA	75%	5.34 days	1.78 days	$0.00	42.75 hrs
Gary Zeus	*Tue 05-01-10*	*NA*				*$0.00*	*42.75 hrs*
Secure core resources	Thu 07-01-10	NA	50%	0.5 days	0.5 days	$0.00	4 hrs

Tracking Tools

- MS Project provides handy tracking tools located at the top of the **Schedule** group on the **Task** tab of the Ribbon to perform updates on selected tasks in any sheet view.
- Following table describes various tracking tools and their purpose:

Tracking Tool	Purpose
0%	Mark the selected tasks as 0% complete
25%	Mark the selected tasks as 25% complete
50%	Mark the selected tasks as 50% complete
100%	Mark the selected tasks as 100% complete
Mark on Track	Mark the selected tasks so that they are on schedule
Update Tasks	Update information for the selected tasks such as mark percent complete, set actual or remaining duration, and modify actual start and finish dates
Respect Links	Move the selected tasks so that their dates are determined by any task dependencies they have
Inactivate	Make the selected tasks inactivate so that the tasks no longer affect the schedule and the resource availability

- Following figure shows the tracking tools in the **Schedule** group:



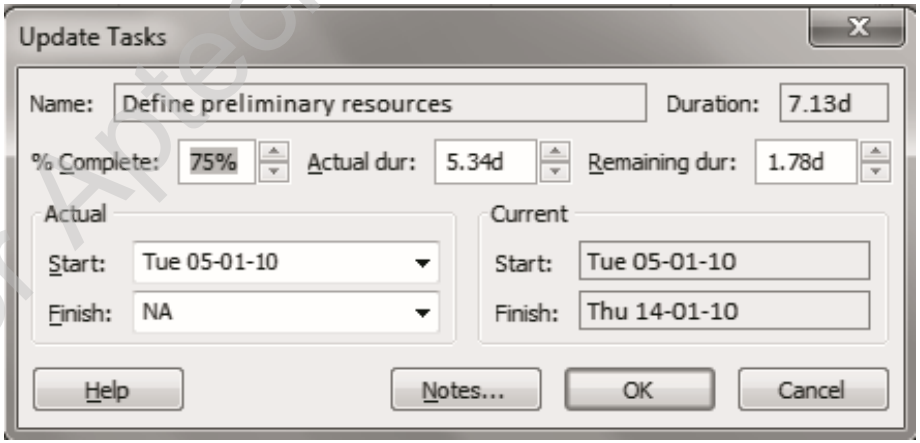
Updating the Project 1-2

- Project managers use the tracking tools in MS Project 2010 for specific updates of the selected tasks which are as follows:

Marking a task's progress using a calculation of the percentage of hours of work completed is quickly done by clicking the Percentage Complete tool (**0% to 100%)**. This tool is present in the **Schedule** group on the **Ribbon**.

Selecting a task and clicking the **Mark on Track** tool automatically updates activity to the status date as scheduled in the baseline.

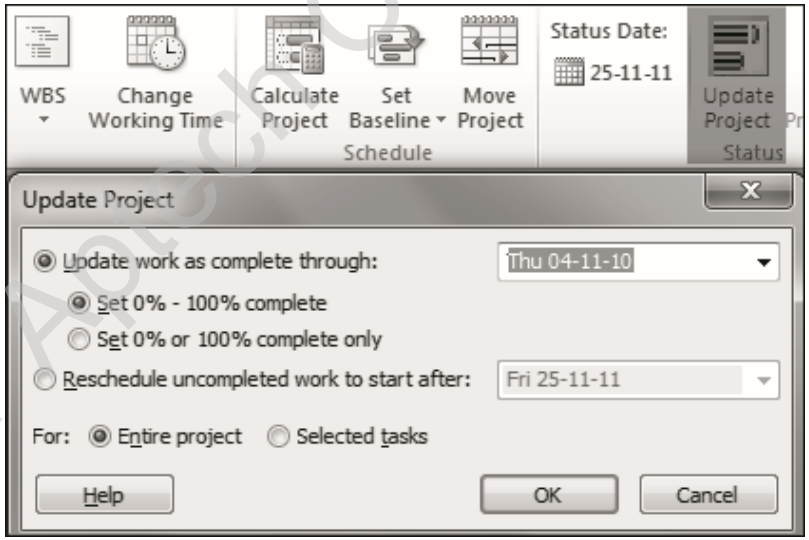
Update Tasks tool that appears on clicking the down arrow beside **Mark on Track** displays the **Update Tasks** dialog box. This dialog box contains tracking fields from the Task Information dialog box as well as some other fields for updating the project as shown in the following figure:



Updating the Project 2-2

- Steps to update all the tasks in a project are as follows:

1. On the **Project** tab, click **Update Project** on the **Ribbon** to display Update Project dialog box as shown in the given figure.
2. Choose any of the options: Set 0% – 100% complete or Set 0% or 100% complete only.
3. Choose either **Entire project** or **Selected tasks** for the changes to apply.
4. Click **OK** to save the settings and make project updates.



Moving a Task 1-2

- The Move Task tool in MS Project 2010 helps project managers to reschedule an entire task or part of a task.
- Move Task tool is located in the Tasks group of the Task tab on the Ribbon.
- Steps to move a task are as follows:

Open the project to display in **Gantt Chart** view.

Select the task and set a status date to the task that is partially complete and to move its uncompleted part to a future date.

Click the **Move Task** button in the **Tasks** group on the **Task** tab of the **Ribbon.**

To move a task forward or backward by certain amount, click **1 Day, 1 Week,** or **4 Weeks** on **Move Task Forward** or **Move Task Back,** respectively.

To move the task to a custom time frame, click **Custom** and specify the number of working days to move the task and click **OK** to move the task.

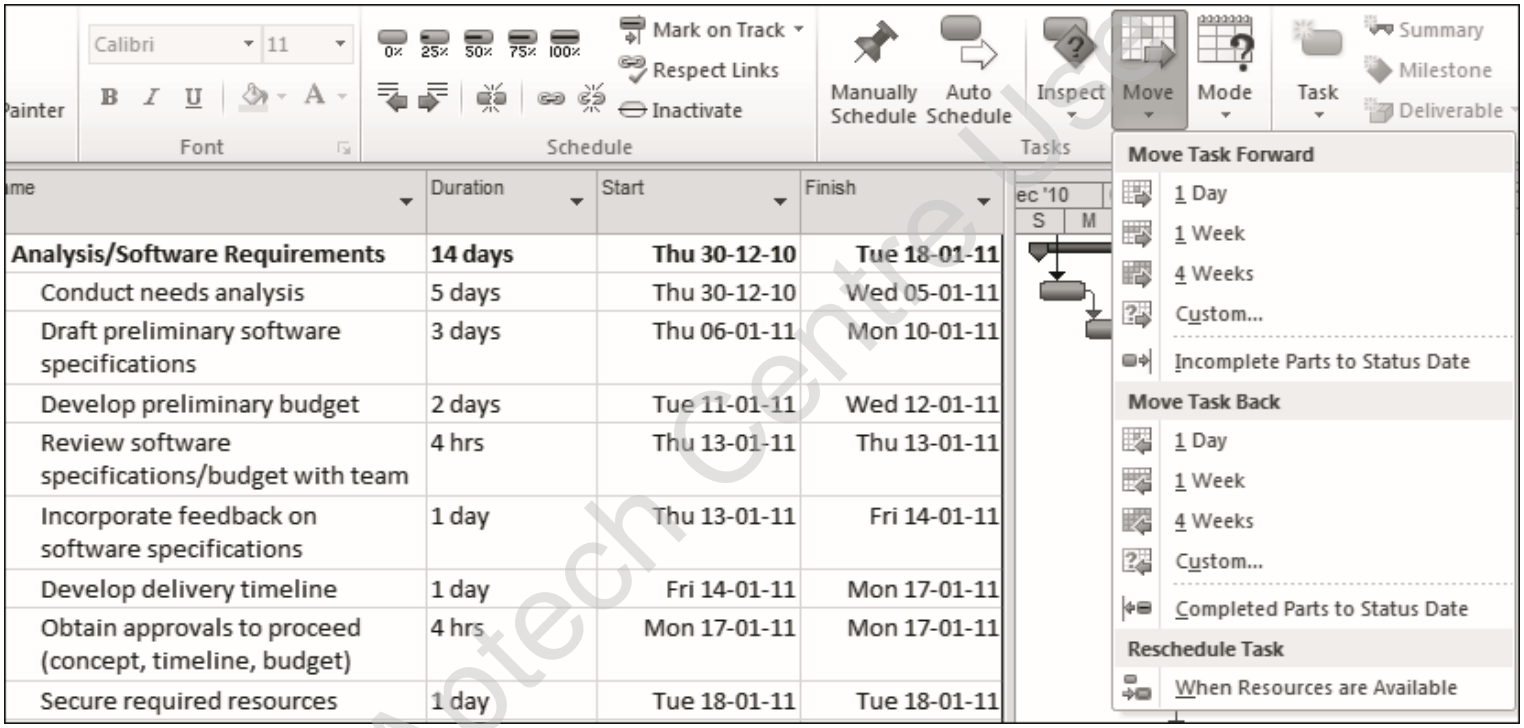
To reschedule parts of a task, click **Incomplete Parts to Status Date** and move the uncompleted section to restart later, starting on the status date.

Click **Completed Parts to Status Date** to move the completed portion earlier, before the status date.

To reschedule the task based on the availability of the assigned resources, click **When Resources are Available** and specify the number of working days to move the task.

Moving a Task 2-2

- The options of moving the task appear as shown in the following figure:

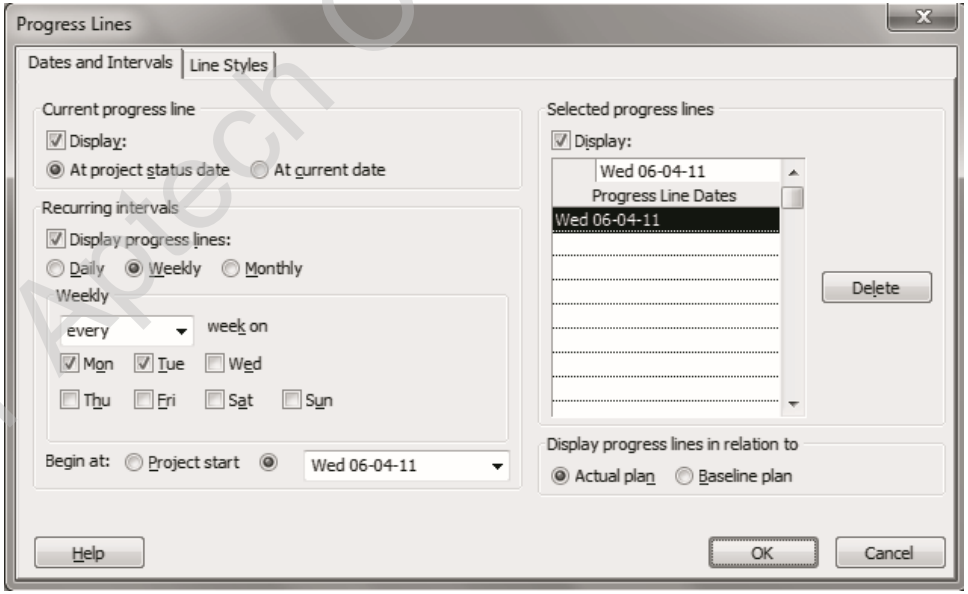


Name	Duration	Start	Finish
Analysis/Software Requirements	**14 days**	**Thu 30-12-10**	**Tue 18-01-11**
Conduct needs analysis	5 days	Thu 30-12-10	Wed 05-01-11
Draft preliminary software specifications	3 days	Thu 06-01-11	Mon 10-01-11
Develop preliminary budget	2 days	Tue 11-01-11	Wed 12-01-11
Review software specifications/budget with team	4 hrs	Thu 13-01-11	Thu 13-01-11
Incorporate feedback on software specifications	1 day	Thu 13-01-11	Fri 14-01-11
Develop delivery timeline	1 day	Fri 14-01-11	Mon 17-01-11
Obtain approvals to proceed (concept, timeline, budget)	4 hrs	Mon 17-01-11	Mon 17-01-11
Secure required resources	1 day	Tue 18-01-11	Tue 18-01-11

Progress Links 1-4

- The Add Progress Line tool in MS Project 2010 is a drawing tool that indicates a progress line for the tasks that are ahead of the project schedule and also the tasks behind schedule.
- By default, MS Project does not display any progress lines.
- Steps to create and display progress lines are as follows:

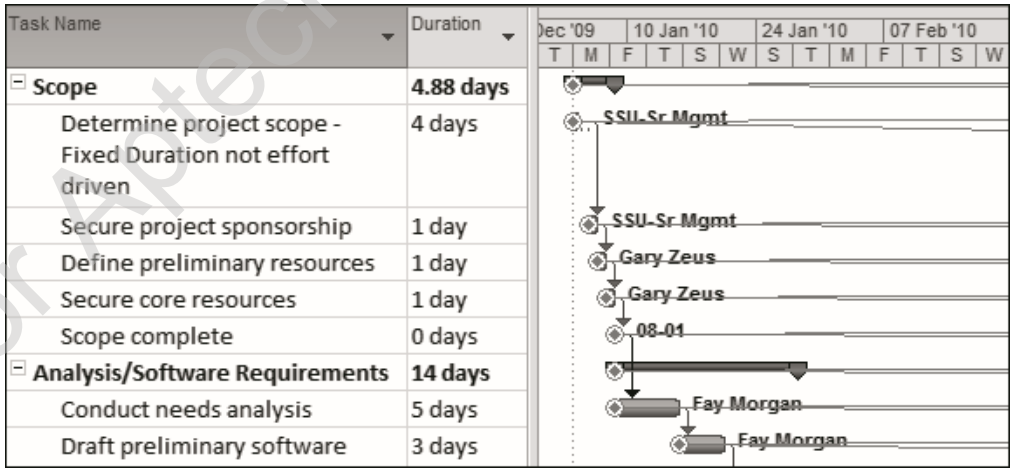
1. Open the project in the **Gantt Chart** view and right-click the chart in **Gantt Chart** view and select **Progress Lines** to display the Progress Lines dialog box to set up progress lines at particular dates as shown in the given figure.
2. Select the **Display** check box under **Current Progress Line** and select **At project status date** or **At current date** to always show a progress line for the current or status date.



Progress Links 2-4

- To display progress lines at specific intervals, perform the following:

1. Select the **Display Progress Lines** check box under **Recurring Intervals**, and select **Daily**, **Weekly**, or **Monthly**.
2. Specify the interval settings to display the progress line on the selected days of the week.
3. Select whether to display progress lines at the **Project start** or on any selected date from the calendar.
4. On the right pane of the dialog box, select the **Display** check box under **Selected Progress Lines**.
5. Select a date from the **Progress Line Dates** drop-down calendar to display a progress line on a specific date as shown in the following figure:



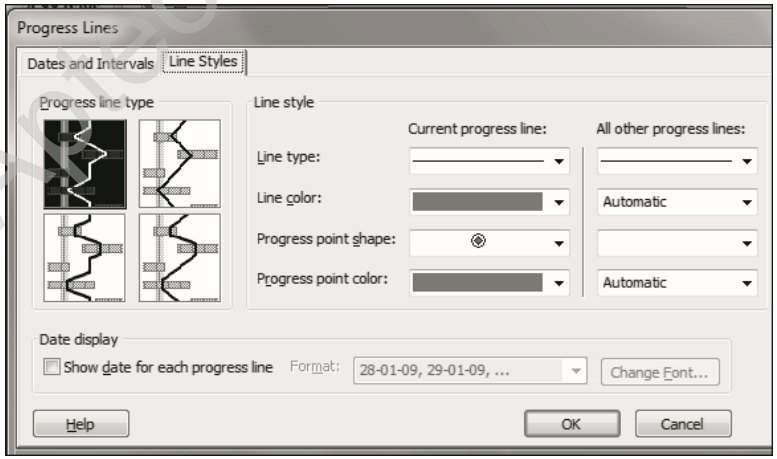
Progress Links 3-4

6. • Make this setting for multiple dates by clicking subsequent lines in the list by selecting additional dates.
7. • Select **Actual plan** or **Baseline plan** radio buttons to display progress lines with respect to actual or baseline information.
8. • Click **OK** to save settings.

- To apply formatting changes to progress lines, follow these steps:

Right-click the chart portion of the **Gantt Chart** view and select **Progress Lines**. This displays the **Progress Lines** dialog box.

Click the **Line Styles** tab, to display the formatting options as shown in the following figure:



Progress Links 4-4

Click a line style sample under the **Progress line type**.

Click a style from the samples drop-down in the **Line type** fields by making two settings; one for the current progress line and the other for all other progress lines.

Change the **Line color, Progress point shape**, and **Progress point color** by opting different choices in these boxes.

To display a date adjacent to each progress line, select **Show date for each progress line** and select a date from the **Format** date.

Click **Change Font** to change the display font for the displayed date.

Click **OK** to save the settings.

Cost Table

- The Cost table displays data to compare and review baseline estimates of fixed costs and the actual costs by placing them in side by side columns.
- Following figure displays the current total cost based on tracked information is $16,900 and the baseline estimate was $5,000, giving a variance of $11,900 over the budget:

Task Name	Fixed Cost	Total Cost	Baseline	Variance	Actual	Remaining
SSU_Group Project	**$0.00**	**$16,900.00**	**$5,000.00**	**$11,900.00**	**$1,600.00**	**$15,300.00**
Scope	**$0.00**	**$1,600.00**	**$0.00**	**$1,600.00**	**$1,600.00**	**$0.00**
Determine project scope - Fixed Duration	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00

- Steps to display a Cost table are as follows:

1. Open the project in **Gantt Chart** view.
2. Click the **View** tab and select **Cost** under **Tables** tab of the **Ribbon** to display **Cost Table** on the **Gantt Chart**.

Variance Table

- The Variance table displays data to compare and view scheduling whether on track or having any schedule variances.
- It shows the variance between baseline start and finish dates, task durations, and also the actual timing occurred on tasks during the project life cycle as shown in the following figure:

Task Name	Start	Finish	Baseline Start	Baseline Finish	Start Var.	Finish Var.
Determine project scope -	Wed 06-01-10	Thu 07-01-10	Mon 04-01-10	Wed 06-01-10	6 days	2.88 days
Secure project	Thu 07-01-10	Fri 08-01-10	Wed 06-01-10	Fri 08-01-10	1.88 days	-0.13 days
Define preliminary	Wed 06-01-10	Fri 08-01-10	Tue 05-01-10	Thu 07-01-10	1.88 days	0.88 days
Secure core	Thu 07-01-10	Mon 11-01-10	Tue 05-01-10	Thu 07-01-10	2.88 days	1.88 days

- Steps to display a Variance table are as follows:

1. Open the project in **Gantt Chart** view.
2. Click the **View** tab and select **Variance** under **Tables** tab of the **Ribbon** to display **Variance Table** on the **Gantt Chart**.

Analyzing Project Budget

- While entering resource hours and fixed costs in a project, MS Project calculates task timing and resource workload in the project plan.
- These calculations determine task updates, critical path, and earned value.
- Inserting certain columns of data in any view in MS Project 2010, generate views on some calculated analyses on the project budget.
- Project managers should become familiar with the most common calculations as follows:

The Earned Value (EV), formerly known as Budgeted Cost of Work Performed (BCWP) is a calculation of the value of the work completed expressed in dollars.

The Actual Cost of Work Performed (ACWP) is a calculation of actual costs that include tracked resource hours or units expended and any fixed costs on the task.

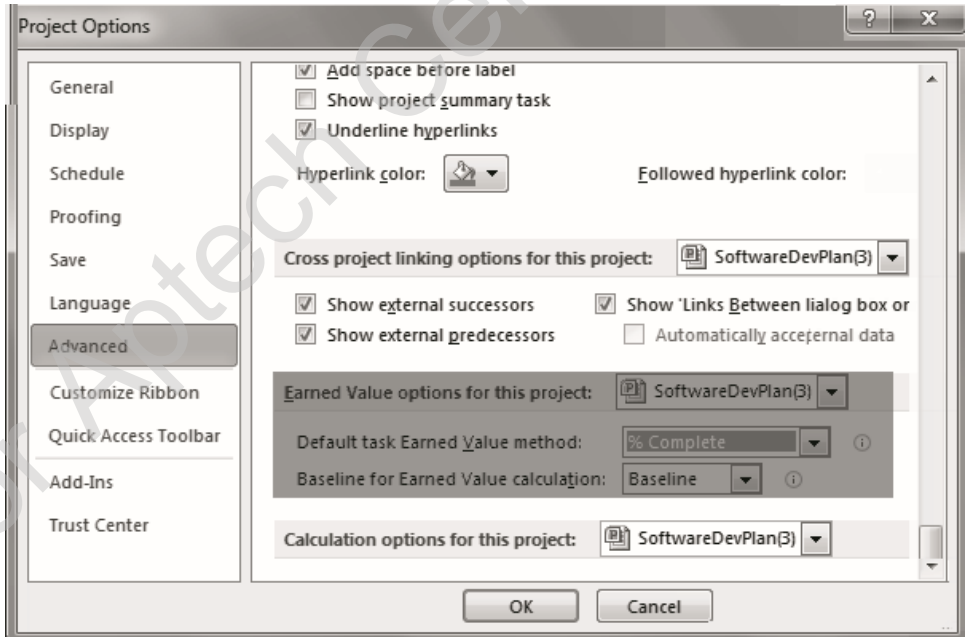
The Estimate At Completion (EAC) is a calculation of totaling all costs on a task. EAC calculates for a task in progress, the actual costs recorded to date including the remaining baseline estimated costs.

The Cost Variance (CV) is a calculation representing the difference between planned costs and actual costs recorded as on date plus any remaining estimated costs.

Earned Value Options

- MS Project provides two settings to calculate the earned value to a project as follows:
  - % Complete
  - Physical % Complete
- Steps to set Earned Value options are as follows:

1. Open the project and on the **File** tab, select **Options** and click **Advanced** to open **Project Options** dialog box as shown in the following figure :



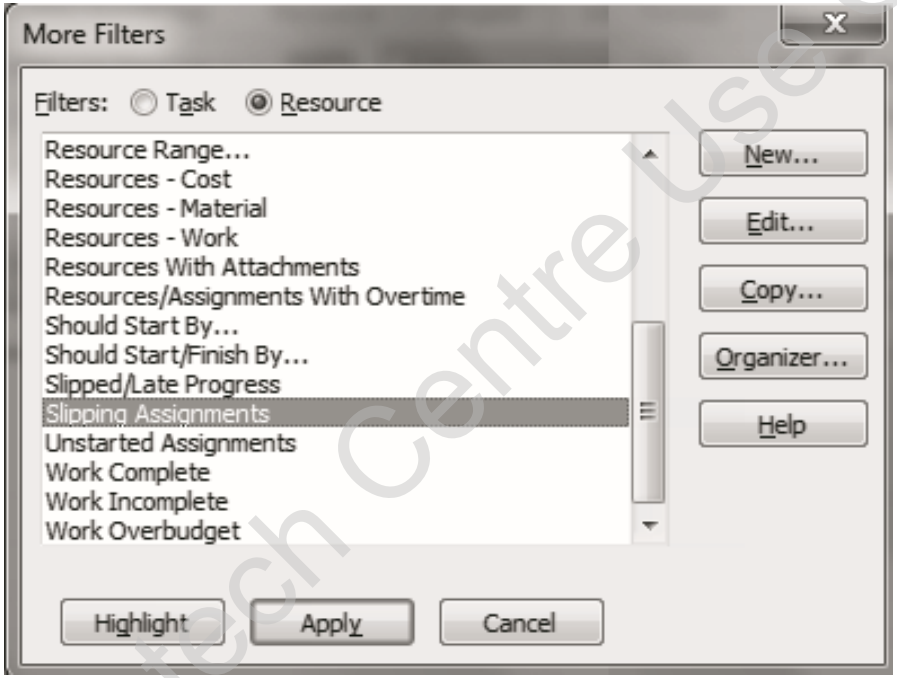
Checking for Slipping Assignments 1-2

- Project managers can also view whether the start and finish dates for task assignments are slipping, using the Slipping Assignments filter.
- Managers can apply this filter to view resource assignments to tasks that are not yet complete and whose finish date is delayed as per the baseline.
- Perform the following steps to view delayed resource assignments:

1. On the **View** tab, click the **Resource Usage** button to display the list of resources and the tasks that they have been assigned, along with the work hours for each resource.
2. In the **Data** group on the **View** tab, click the **Filter** drop-down list and select **More Filters** to display the **More Filters** dialog box.
3. In the **Filters** option, select the **Resources** radio button to display resource-related filters.
4. Scroll down the list box and select **Slipping Assignments**.
5. To display only slipping assignments, click the **Apply** button and close the dialog box.

Checking for Slipping Assignments 2-2

- Following figure displays the **More Filters** dialog box:



Summary

- Project managers constantly track project details to monitor and control the actual values to the planned estimated values.
- The amount of data collected and the type of information required determines the method of project tracking.
- MS Project provides four types of tracking methods namely, Task-total method, Task-timephased method, Assignment-total method, and Assignment-timephased method.
- MS Project provides handy tracking tools to perform updates on selected tasks.
- Progress Lines in MS Project 2010 indicates the progress of tasks that are ahead or behind the project schedule.
- Cost table provides information about the expenditure and Variance table provides information about variations in timing between baseline estimate and actual activity.
- Project budget analysis determines task updates, critical path, and earned value.
- MS Project provides two settings to calculate the earned value to a project namely, percent complete and physical percent complete.