



CS 587 Software Project Management Instructor: Dr. Atef Bader

MS Project Tutorial

MS Project in Labs:

- ◆ [Available in Siegal Hall Lab in Main Campus](#)
- ◆ [Available in Room 210 Rice Campus](#)

Prepared by
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How to get MS Project ?



- ◆ Download MS project from following link
<http://www.microsoft.com/office/project/>



Embarking new Project



- ◆ Go to file, select new. This will open a screen for blank project click ok.
- ◆ You can now enter your project information viz. start date, finish date and also how would you like to schedule the project from either start or finish date.
- ◆ You can also chose selection if you will be using night shifts.

Project Information for 'Project6'

Start date: Thu 3/6/03

Finish date: Thu 3/6/03

Schedule from: Project Start Date

All tasks begin as soon as possible.

Current date: Thu 3/6/03

Status date: Thu 3/6/03

Calendar: Standard

Priority: 500

Buttons: Help, Statistics..., OK, Cancel



Gantt Chart



- ◆ Select Gantt Chart view from the view menu.
- ◆ You'll have a spreadsheet where you can now enter information of all the activities
i.e. task name, duration, start date, end date, predecessors and various other fields.
- ◆ You can enter required information in two ways, in spreadsheet or when you double click on cell you get pop up window in which you can enter all the information of that particular activity.
- ◆ For predecessor activity you need to write activity number.
- ◆ The SW itself will calculate start and end date.
- ◆ Now the Gantt Chart is complete.





Microsoft Project - Project1

File Edit View Insert Format Tools Project Window Help

No Group

Show Arial 8 B I U All Tasks

Adjust Dates Analyze Timescaled Data in Excel... PERT Analysis

Task Name	Duration	Start	Finish	Predecessors	Resource Name
1 Project Deliverables	12 days	Mon 4/1/02	Tue 4/16/02		
2 Procure Hardware	2 days	Wed 4/17/02	Thu 4/18/02	1	
3 Test Hardware	8 days	Fri 4/19/02	Tue 4/30/02	2	
4 Procure Software Tools	10 days	Wed 4/17/02	Tue 4/30/02	1	

Task Information

General Predecessors Resources Advanced Notes

Name: [] Duration: [] [] Estimated

Percent complete: [] Priority: []

Dates

Start: [] Finish: []

Hide task bar

Roll up Gantt bar to summary

Help OK Cancel

EXT CAPS NUM SCRL OVR

Start Microsoft Project - Pr... 6:26 PM



Adding tasks and milestones to a Project File



1. On the View menu, click Gantt Chart.
2. In the Task Name field, type a task name, and then press TAB. (Microsoft Project enters an estimated duration of one day for the task followed by a question mark)
3. In the Duration field, type the amount of time each task will take in months, weeks, days, hours, or minutes, not counting nonworking time. (By default the time period will be days, but that can be changed to hours, months, etc.)
4. Press ENTER.
5. It should look like the figure below:

i	Task Name	Duration	Jan 19, '03								
			S	M	T	W	T	F	S		
	Activity 1	2 days									

6. To add a milestone the only difference is that the duration of the activity must be zero (below is an example):

i	Task Name	Duration	Jan 19, '03							
			S	M	T	W	T	F	S	
	Activity 1	0 days								

Note: By double clicking on a Task or milestone, you can modify its information with a form that prompts



Grouping Tasks in Logical Order (WBS Outline)



Outlining helps organize your tasks into more manageable chunks. You can indent related tasks under a more general task, creating a hierarchy. The general tasks are called summary tasks; the indented tasks below the summary task are subtasks. A summary task's start and finish dates are determined by the start and finish dates of its earliest and latest subtasks.

1. Click once on the first activity of the group of activities you want to group. For the example Activities 4 and 5

Task Name	Duration	Jan 19, '03						
		S	M	T	W	T	F	S
Activity 1	1 day							
Activity 2	1 day							
Activity 3	1 day							
Activity 4	1 day							
Activity 5	1 day							

2. Then click on the option "New Task" in the "Insert" Menu to insert a new task that will represent the name of the group ("Group 1" for this example)

4	Group 1	1 day?						
5	Activity 4	1 day						
6	Activity 5	1 day						

3. Then select the tasks below (4 and 5) and then click in the option "Outline-Indent" in the "Project" Menu

4	<input type="checkbox"/> Group 1	1 day						
5	Activity 4	1 day						
6	Activity 5	1 day						



Creating Relationships Between Tasks



A network of tasks in a project must be connecting activities from the start to the end, to establish these relationship we need to use the field "Predecessors" of each task, where we can designate which activity will be preceding the one we are updating, in the example below we will indicate MS project that "Activity 5" can start once "Activity 4" is completed (**Finish to Start** relationship).

		Task Name	Duration	Predecessors	3, '03				
					T	W	T	F	S
1		Activity 1	1 day						
2		Activity 2	1 day						
3		Activity 3	1 day						
4		Group 1	2 days						
5		Activity 4	1 day						
6		Activity 5	1 day	5					

Notice that by establishing the relationship now the Group 1 takes 2 days to be completed, because before, the activities were set to be performed in parallel, and now they are in series (**Finish to Start** relationship)

Note: MS project will calculate dates based on the durations of the tasks, their relationships and the start date set for the project, however it is possible to change the starting date of a task (if necessary) By double clicking on a Task or milestone, and using the fields related to the dates (Start or Finish)



Assigning Resources to Tasks



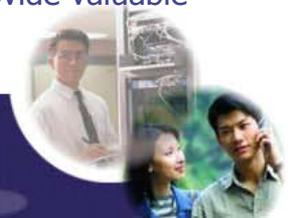
You can use the Resource Sheet in Microsoft Project to create a list of the people, equipment, and material resources that make up your team and carry out the project tasks. Your resource list will consist of work resources or material resources. Work resources are people or equipment; material resources are consumable materials or supplies, such as concrete, wood, or nails.

1. On the View menu, click Resource Sheet.
2. On the View menu, point to Table, and then click Entry.
3. In the Resource Name field, type a resource name.
4. You can go through the fields in the sheet, but for the simplicity of the example just focus on the name and initials of the Resource
5. Below is an example of some Human resources added to the Resource Sheet (We could add also other type of resources such as Equipments, Consumables, etc.)

		Resource Name	Type	Material Label	Initials	Group	Max. Units	\$
1		Project Manager	Work		P		100%	
2		Team Leader	Work		T		100%	
3		Developer	Work		D		100%	
4		Tester	Work		T		100%	

6. Once the resources are created, you can go back to the View menu, and click Gantt Chart to see again the tasks, and then when you double click a task you can add a resource to this task by using the tab "Resources"

Note: The main goal of the resource assignment is to allocate properly the resources and to provide valuable information regarding the effort of the team.



Find Critical Path



- ◆ Critical Path Analysis (CPA) helps you to lay out all tasks that must be completed as part of a project.
- ◆ CPA helps you to identify the minimum length of time needed to complete a project
- ◆ For finding CP list all the activities and enter early start, late start, early finish and late finish info of all the activities.
- ◆ You can do this under insert/columns and selecting each terms.
- ◆ Following screen shot demonstrates how to insert.
- ◆ Project automatically calculates ES, EF, LS and LF based on the starting/ending dates you have provided.





Microsoft Project - Project1

File Edit View Insert Format Tools Project Window Help

No Group

Show Arial 8 B I U All Tasks

Adjust Dates Analyze Timescaled Data in Excel... PERT Analysis

Task Name	Duration	Start	Finish	Predecessors	Resource Name	Qtr 1, 2002	Qtr 2, 2002	Qtr 3, 2002	Qtr 4, 2002	Qtr 1, 2003
1 Project Deliverables	12 days	Mon 4/1/02	Tue 4/16/02			Jan Feb Mar	Apr May Jun	Jul Aug Sep	Oct Nov Dec	Jan Feb
2 Procure Hardware	2 days	Wed 4/17/02	Thu 4/18/02	1						
3 Test Hardware	8 days	Fri 4/19/02	Tue 4/30/02	2						
4 Procure Software Tools	10 days	Wed 4/17/02	Tue 4/30/02	1						
5 Write Programs	45 days	Wed 5/1/02	Tue 7/2/02	4						
6 Test and Debug	22 days									
7 Install	8 days									
8 Training	7 days									
9 Acceptance	8 days									

Column Definition

Field name: ID

Title: Early Start

Align title: Estimated

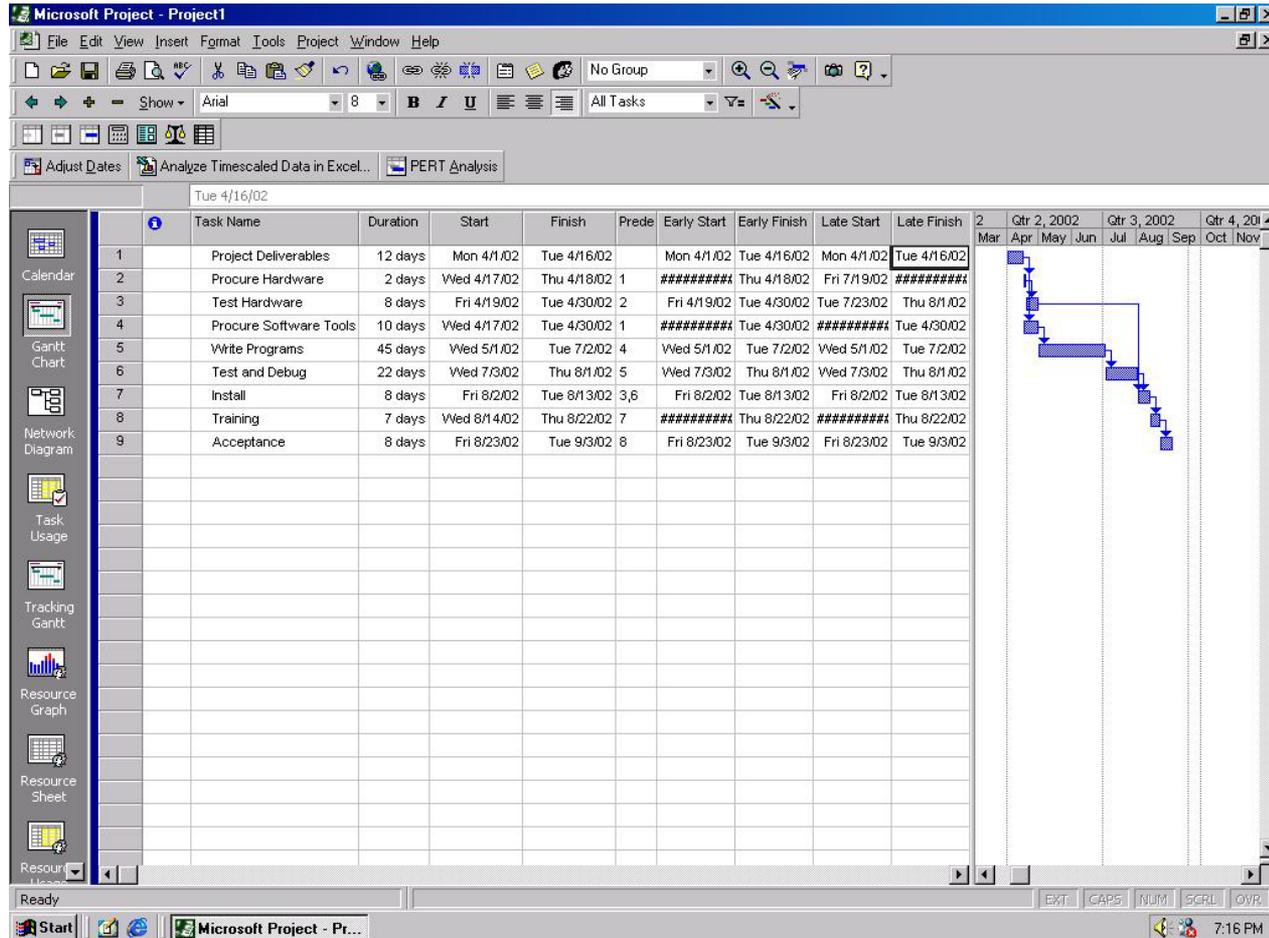
Align data: Finish

Width: 10

OK Cancel Best Fit

Start Microsoft Project - Pr... 6:41 PM





Showing Critical Path



- ◆ You can show the critical path in multiple ways. You can show critical path using Gantt chart, Detailed Gantt, Network Diagram, and showing only critical tasks.
- ◆ In Gantt Chart click on Gantt Chart wizard and choose critical path and follow the steps.
- ◆ In Detailed Gantt click on View → More Views → Detailed Gantt → Apply. It shows the critical path with slack time.
- ◆ In Network Diagram click on View → More Views → Network Diagram → Apply.
- ◆ For showing only the critical tasks, click on Gantt Chart → filter → Critical.
- ◆ The following slides has screenshots of how to show critical path using various methods.





Microsoft Project - Project1

Using Gantt Chart Wizard

File Edit View Insert Format Tools Project Window Help

No Group

Show Arial 8 B I U All Tasks

Adjust Dates Analyze Timescaled Data in Excel... PERT Analysis

Task Name	Duration	Start	Finish	Prede	Early Start	Early Finish	Late Start	Late Finish
1 Project Deliverables	12 days	Mon 4/1/02	Tue 4/16/02		Mon 4/1/02	Tue 4/16/02	Mon 4/1/02	Tue 4/16/02
2 Procure Hardware	2 days	Wed 4/17/02	Thu 4/18/02	1	#####	Thu 4/18/02	Fri 7/19/02	#####
3 Test Hardware								
4 Procure Software Tools								
5 Write Programs								
6 Test and Debug								
7 Install								
8 Training								
9 Acceptance								

GanttChartWizard - Step 2

What kind of information do you want to display in your Gantt Chart?

Standard

Critical path

Baseline

Other: []

Custom Gantt Chart

Cancel < Back Next > Finish

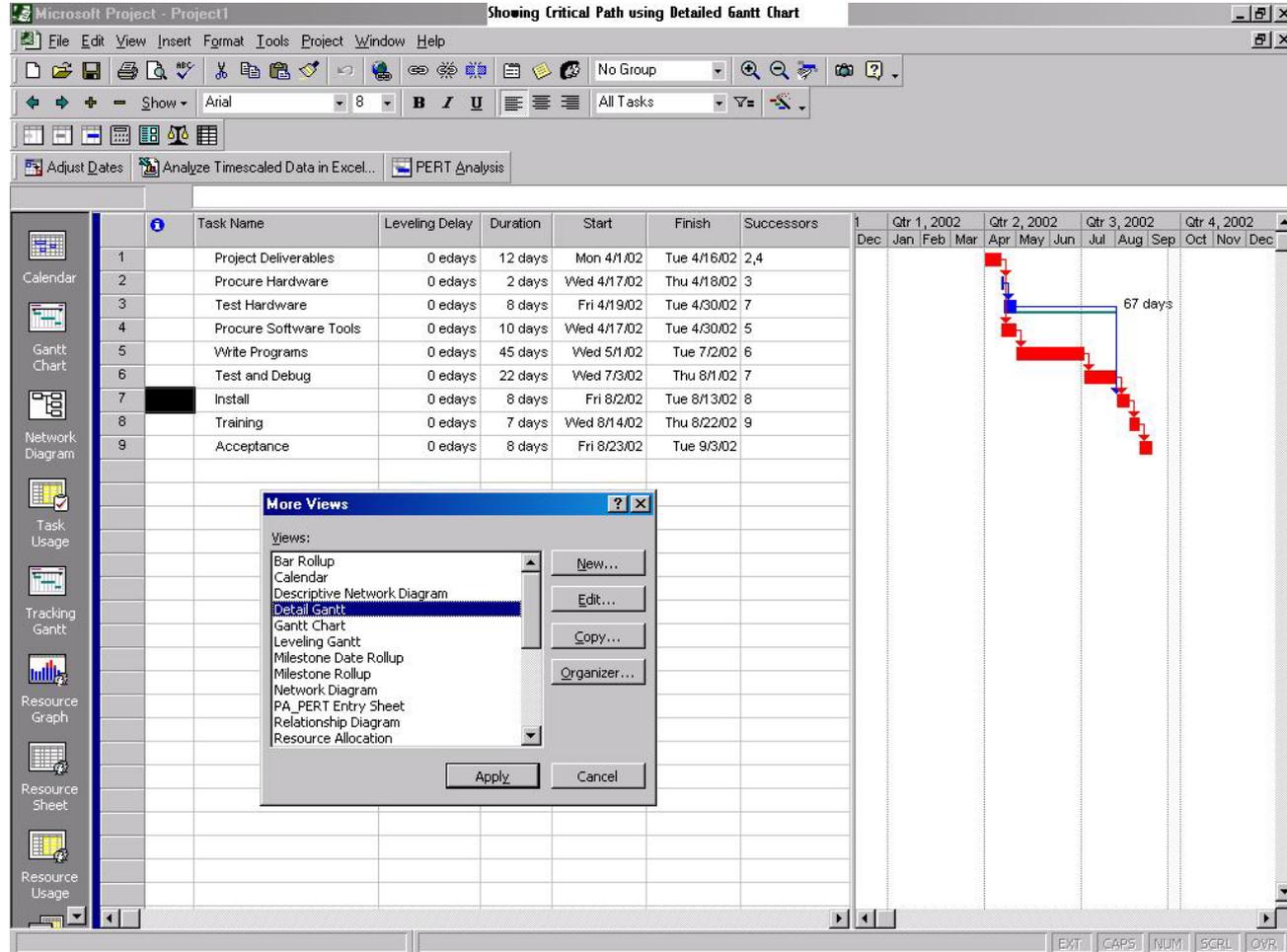
2 Qtr 2, 2002 Qtr 3, 2002 Qtr 4, 2002

Mar Apr May Jun Jul Aug Sep Oct Nov

1:02 0:02 2:02 1:02 3:02 2:02 3:02

EXT CAPS NUM SCRL OVR 8:11 PM







Microsoft Project - Project1 Showing critical path using Network Diagram

File Edit View Insert Format Tools Project Window Help

No Group All Tasks

Adjust Dates Analyze Timescaled Data in Excel... PERT Analysis

Calendar
Gantt Chart
Network Diagram
Task Usage
Tracking Gantt
Resource Graph
Resource Sheet
Resource Usage

More Views

Views:

- Bar Rollup
- Calendar
- Descriptive Network Diagram
- Detail Gantt
- Gantt Chart
- Leveling Gantt
- Milestone Date Rollup
- Milestone Rollup
- Network Diagram
- PA PERT Entry Sheet
- Relationship Diagram
- Resource Allocation

New... Edit... Copy... Organizer... Apply Cancel

EXT CAPS NUM SCRL OVR





Microsoft Project - Project1 Showing only critical tasks

File Edit View Insert Format Tools Project Window Help

No Group

Show Arial 8 B I U

Adjust Dates Analyze Timescaled Data in Excel... PERT Analysis

Task ID	Task Name	Duration	Start	Finish	ES	EF	LS	LF	TF	FF	ES	Late Finish	2	Qtr 2, 2002	Qtr 3, 2002	Qtr 4, 2002							
1	Project Deliverables	12 days	Mon 4/1/02	Tue 4/16/02										Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	
4	Procure Software Tools	10 days	Wed 4/17/02	Tue 4/30/02	4/17/02	4/30/02					4/17/02	4/30/02											
5	Write Programs	45 days	Wed 5/1/02	Tue 7/2/02	5/1/02	7/2/02					5/1/02	7/2/02											
6	Test and Debug	22 days	Wed 7/3/02	Thu 8/1/02	7/3/02	8/1/02					7/3/02	8/1/02											
7	Install	8 days	Fri 8/2/02	Tue 8/13/02	8/2/02	8/13/02					8/2/02	8/13/02											
8	Training	7 days	Wed 8/14/02	Thu 8/22/02	8/14/02	8/22/02					8/14/02	8/22/02											
9	Acceptance	8 days	Fri 8/23/02	Tue 9/3/02	8/23/02	9/3/02					8/23/02	9/3/02											

Ready

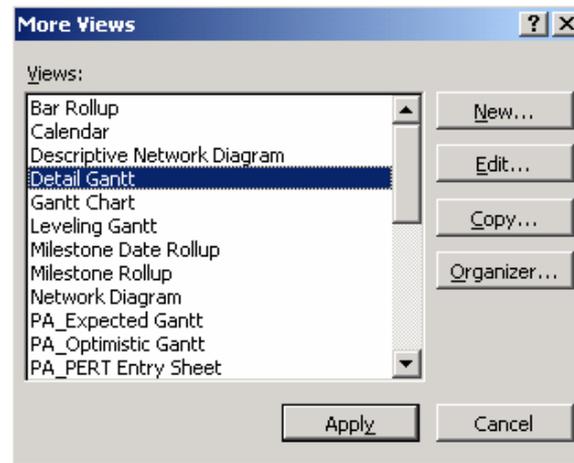
EXT CAPS NUM SCRL OVR



Slack Time For Scheduling



- ◆ For viewing the schedule showing the slack go to Views → More views → Detailed Gantt view → Apply.
- ◆ In this click on View → Table → Schedule
- ◆ Slack appears as thin bars to the right of a task, with slack values adjoining the regular Gantt bars
- ◆ You can also view the free slack and total slack of a task in the sheet.
- ◆ You can move the activity within the available slack time, to balance the resources, in the cases where over allocation is present.





Microsoft Project - Project1

File Edit View Insert Format Tools Project Window Help

Calendar
Gantt Chart
Network Diagram
Task Usage
Tracking Gantt
Adjust Data

Resource Graph
Resource Sheet
Resource Usage

More Views...
Table: Schedule
Reports...
Toolbars
Zoom...

Start	Finish	Late Start	Late Finish	Free Slack	Total Slack
Mon 4/1/02	Tue 4/16/02	Mon 4/1/02	Tue 4/16/02	0 days	0 days
Wed 4/17/02	Thu 4/18/02	Fri 7/19/02	Mon 7/22/02	0 days	67 days
Tue 4/30/02	Tue 7/23/02	Thu 8/1/02	Thu 8/1/02	67 days	67 days
Tue 4/30/02	Wed 4/17/02	Tue 4/30/02	Tue 4/30/02	0 days	0 days
Tue 7/2/02	Wed 5/1/02	Tue 7/2/02	Tue 7/2/02	0 days	0 days
Thu 8/1/02	Wed 7/3/02	Thu 8/1/02	Thu 8/1/02	0 days	0 days
Tue 8/13/02	Fri 8/2/02	Tue 8/13/02	Tue 8/13/02	0 days	0 days
Thu 8/22/02	Wed 8/14/02	Thu 8/22/02	Thu 8/22/02	0 days	0 days
Tue 9/3/02	Fri 8/23/02	Tue 9/3/02	Tue 9/3/02	0 days	0 days

Variables

	Qtr 1, 2002	Qtr 2, 2002	Qtr 3, 2002	Qtr 4, 2002									
	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1													

Ready

EXIT CAPS NUM SCRL OVR



Closing Project



- ◆ When you are saving a file it asks you whether you want to save with baseline/without baseline. You can choose either options.
- ◆ If you choose to save with baseline, a copy of your schedule and other things will be saved and any changes when you are making when the project progress can be viewed clearly using the baseline.
- ◆ If you choose to save without baseline, you will not be able to view the changes.





Microsoft Project - Project1

File Edit View Insert Format Tools Project Window Help

No Group

Show Arial 8 B I U All Tasks

Adjust Dates Analyze Timescaled Data in Excel... PERT Analysis

Task Name	Pes Dur	Pes Start	Pes Finish	Apr '02	May '02	Jun '02	Jul '02	Aug '02	Sep '02	Oct '02
1 Project Deliverables	14 days	Mon 4/1/02	Thu 4/18/02							
2 Procure Hardware	4 days	Fri 4/19/02	Wed 4/24/02							
3 Test Hardware	11 days	Thu 4/25/02	Thu 5/9/02							
4 Procure Software Tools	13 days									
5 Write Programs	48 days									
6 Test and Debug	27 days									
7 Install	15 days									
8 Training	11 days									
9 Acceptance	11 days									

Planning Wizard

Would you like to save a baseline for 'Project1'? A baseline is a snapshot of your schedule as it is now. It is useful because you can compare it with later versions of your schedule to see what changes have been made.

You can:

- Save 'Project1' without a baseline.
- Save 'Project1' with a baseline.

Don't tell me about this again.

OK Cancel Help

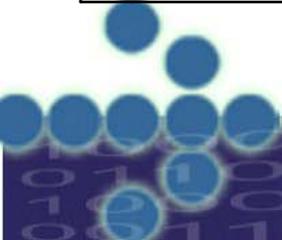


Step by Step Example



Now lets try a small example, step by step to practice each of the options we have seen so far about how to create a project using MS Project. We are going to use a small set of tasks (Table Below) related to the initial phases of a System Testing Plan (Definition and Design)

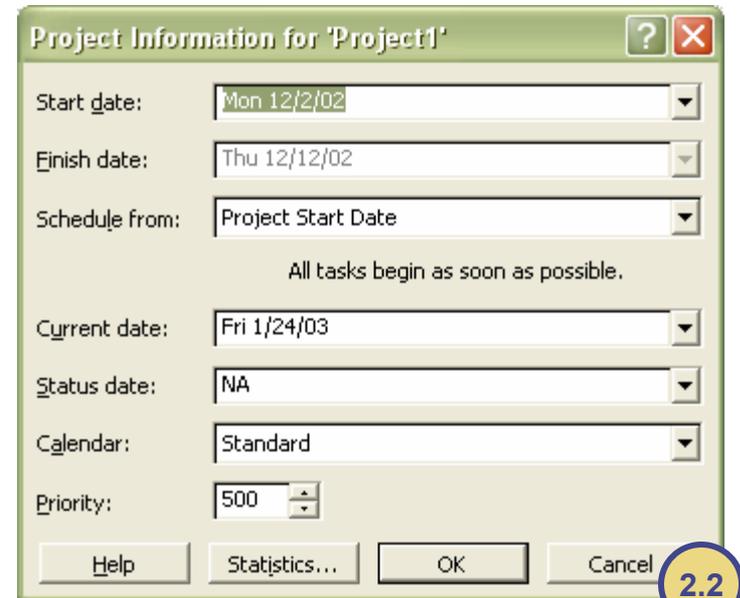
Activity	Predecessor	Responsibility	Effort	System Testing Phase
1.RSD Analysis *	Requirements Specification Document completed. (Not part of System Testing Plan)	<ul style="list-style-type: none">•Test Manager•Project Manager•Test Leader	3 days	Definition Phase
2. Develop Test Plan	Activity 1	<ul style="list-style-type: none">•Test Manager•Test Leader•Tester E	5 days	Design Phase
3. Develop Test Design Specification	Activity 2	<ul style="list-style-type: none">•Tester A and B	8 days	Design Phase
4. Develop Test Case Specification	Activity 3	<ul style="list-style-type: none">•Tester A and B	5 days	Design Phase
5. Develop Test Procedure Specification	Activity 4	<ul style="list-style-type: none">•Tester A and B	3 days	Design Phase
6. Develop Test Item Transmittal Report	Activity 5	<ul style="list-style-type: none">•Tester A and B	1 days	Design Phase
7. Prepare Tools and Test Scripts	Activity 6	<ul style="list-style-type: none">•Tester A and B	3 days	Design Phase
8. Review Test Plan and Attachments	Activity 7	<ul style="list-style-type: none">•Test Manager•Test Leader•Tester E	2 days	Design Phase
9. Check that System is Ready to be Tested	Activity 7	<ul style="list-style-type: none">•Tester E, A and B	1 days	Design Phase
10. Add Design Documents to CMS (Milestone)	Activity 8	<ul style="list-style-type: none">•Test Leader•Tester E, A and B	1 days	Design Phase



Step by Step Example (Step 1 – Setup File)



1. Create a new file "Project1"
2. Assign the start date of the project to be Dec-02-2002



Step by Step Example (Step 2 – Add Tasks)



1. Write the name of each task in the spreadsheet using the column "Task Name"
2. Write the duration in days of each task in the spreadsheet using the column "Duration"
3. Group the tasks by the Phase according to the table of tasks shown before, and add a group that encloses the phases named "System Testing Plan MCY-ADTT-ST-2002-01" this will represent the plan as a whole
4. Write the predecessors of each task in the spreadsheet using the column "Predecessors" (If you can't see the column, try to expand the vertical bar that divides the spreadsheet to the Gantt Chart)
5. To convert a Task in a Milestone, just double click the Task and go to the tab "Advanced" then check the box that says "Mark Task as a Milestone"

	Task Name	Duration	Dec 1, '02			
			S	M	T	W
1	RSD Analysis	1 day?	■			
2	Develop Test Plan	1 day?	■			
3	Develop Test Design Spec.	1 day?	■			
4	Develop Test Case Spec.	1 day?	■			
5	Develop Test Procedure Spec.	1 day?	■			
6	Develop Test Item Transmittal Report	1 day?	■			
7	Prepare Tools and test Scripts	1 day?	■			
8	Review Test Plan and Attachments	1 day?	■			
9	Check - System is Ready to be Tested	1 day?	■			
10	Add Desgin Documents to CMS	1 day?	■			



	Task Name	Duration	Dec 1, '02							Dec 8, '02			
			S	M	T	W	T	F	S	S	M	T	W
1	RSD Analysis	3 days	■	■	■								
2	Develop Test Plan	5 days	■	■	■	■	■						
3	Develop Test Design Spec.	8 days	■	■	■	■	■	■	■				
4	Develop Test Case Spec.	5 days	■	■	■	■	■						
5	Develop Test Procedure Spec.	3 days	■	■	■								
6	Develop Test Item Transmittal Report	1 day	■										
7	Prepare Tools and test Scripts	3 days	■	■	■								
8	Review Test Plan and Attachments	2 days	■	■									
9	Check - System is Ready to be Tested	1 day	■										
10	Add Desgin Documents to CMS	1 day	■										



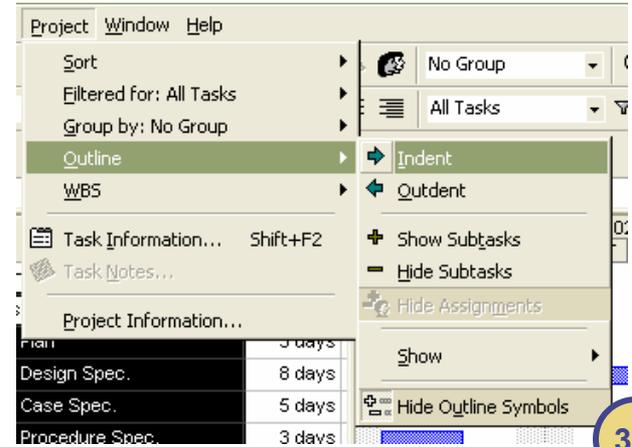
Step by Step Example (Step 2 – Add Tasks Continued)



	Task Name	Duration	Dec 1, '02							Dec 8, '02										
			S	M	T	W	T	F	S	S	M	T	W	T	F	S				
1	System Testing Plan MCY-ADTT-ST-200	1 day?																		
2	RSD Analysis	3 days																		
3	Develop Test Plan	5 days																		
4	Develop Test Design Spec.	8 days																		
5	Develop Test Case Spec.	5 days																		
6	Develop Test Procedure Spec.	3 days																		
7	Develop Test Item Transmittal Report	1 day																		
8	Prepare Tools and test Scripts	3 days																		
9	Review Test Plan and Attachments	2 days																		
10	Check - System is Ready to be Tested	1 day																		
11	Add Design Documents to CMS	1 day																		

3.1

Insert a new task at the beginning that will group everything



3.3

Click on the option "Outline - Indent"

	Task Name	Duration	Dec 1, '02							Dec 8, '02										
			S	M	T	W	T	F	S	S	M	T	W	T	F	S				
1	System Testing Plan MCY-ADTT-ST-200	1 day?																		
2	RSD Analysis	3 days																		
3	Develop Test Plan	5 days																		
4	Develop Test Design Spec.	8 days																		
5	Develop Test Case Spec.	5 days																		
6	Develop Test Procedure Spec.	3 days																		
7	Develop Test Item Transmittal Report	1 day																		
8	Prepare Tools and test Scripts	3 days																		
9	Review Test Plan and Attachments	2 days																		
10	Check - System is Ready to be Tested	1 day																		
11	Add Design Documents to CMS	1 day																		

3.2

Highlight the tasks that are going to be added as subtasks

	Task Name	Duration	Dec 1, '02							Dec 8, '02										
			S	M	T	W	T	F	S	S	M	T	W	T	F	S				
1	System Testing Plan MCY-ADTT-ST-2002-01	8 days																		
2	RSD Analysis	3 days																		
3	Develop Test Plan	5 days																		
4	Develop Test Design Spec.	8 days																		
5	Develop Test Case Spec.	5 days																		
6	Develop Test Procedure Spec.	3 days																		
7	Develop Test Item Transmittal Report	1 day																		
8	Prepare Tools and test Scripts	3 days																		
9	Review Test Plan and Attachments	2 days																		
10	Check - System is Ready to be Tested	1 day																		
11	Add Design Documents to CMS	1 day																		

3.4

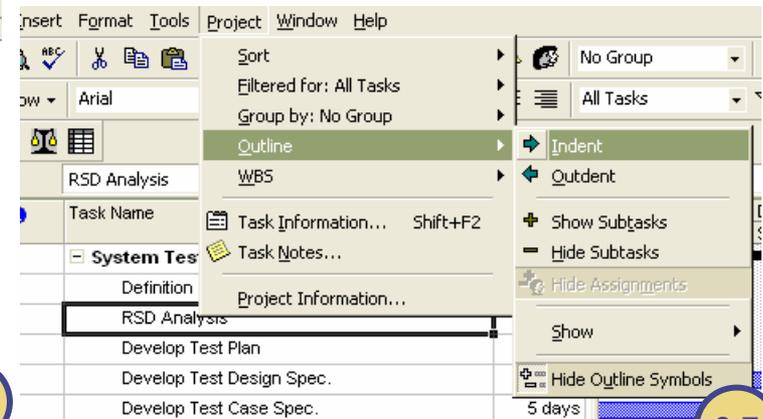
The final result should look like this, now repeat this steps to create the Subgroups that will represent the phases (Definition and Design)



Step by Step Example (Step 2 – Add Tasks Continued)



	Task Name	Duration	c 1, '02							Dec 8, '02						
			M	T	W	T	F	S	S	M	T	W	T	F	S	
1	System Testing Plan MCY-ADTT-ST-2002-01	8 days ?	[Gantt bar]													
2	Definition Phase	1 day?	[Gantt bar]													
3	RSD Analysis	3 days	[Gantt bar]													
4	Develop Test Plan	5 days	[Gantt bar]													
5	Develop Test Design Spec.	8 days	[Gantt bar]													
6	Develop Test Case Spec.	5 days	[Gantt bar]													
7	Develop Test Procedure Spec.	3 days	[Gantt bar]													
8	Develop Test Item Transmittal Report	1 day	[Gantt bar]													
9	Prepare Tools and test Scripts	3 days	[Gantt bar]													
10	Review Test Plan and Attachments	2 days	[Gantt bar]													
11	Check - System is Ready to be Tested	1 day	[Gantt bar]													
12	Add Desgin Documents to CMS	1 day	[Gantt bar]													



3.5

3.7

Insert a new task at the beginning of the definition tasks

Click on the option "Outline - Indent"

	Task Name	Duration	c 1, '02							Dec 8, '02						
			M	T	W	T	F	S	S	M	T	W	T	F	S	
1	System Testing Plan MCY-ADTT-ST-2002-01	8 days?	[Gantt bar]													
2	Definition Phase	1 day?	[Gantt bar]													
3	RSD Analysis	3 days	[Gantt bar]													
4	Develop Test Plan	5 days	[Gantt bar]													
5	Develop Test Design Spec.	8 days	[Gantt bar]													
6	Develop Test Case Spec.	5 days	[Gantt bar]													
7	Develop Test Procedure Spec.	3 days	[Gantt bar]													
8	Develop Test Item Transmittal Report	1 day	[Gantt bar]													
9	Prepare Tools and test Scripts	3 days	[Gantt bar]													
10	Review Test Plan and Attachments	2 days	[Gantt bar]													
11	Check - System is Ready to be Tested	1 day	[Gantt bar]													
12	Add Desgin Documents to CMS	1 day	[Gantt bar]													

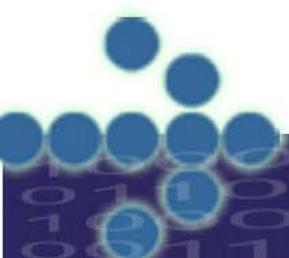
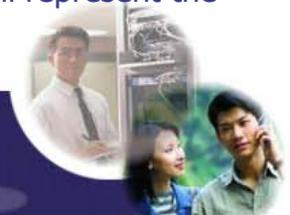
	Task Name	Duration	c 1, '02							Dec 8, '02						
			M	T	W	T	F	S	S	M	T	W	T	F	S	
1	System Testing Plan MCY-ADTT-ST-2002-01	8 days	[Gantt bar]													
2	Definition Phase	3 days	[Gantt bar]													
3	RSD Analysis	3 days	[Gantt bar]													
4	Develop Test Plan	5 days	[Gantt bar]													
5	Develop Test Design Spec.	8 days	[Gantt bar]													
6	Develop Test Case Spec.	5 days	[Gantt bar]													
7	Develop Test Procedure Spec.	3 days	[Gantt bar]													
8	Develop Test Item Transmittal Report	1 day	[Gantt bar]													
9	Prepare Tools and test Scripts	3 days	[Gantt bar]													
10	Review Test Plan and Attachments	2 days	[Gantt bar]													
11	Check - System is Ready to be Tested	1 day	[Gantt bar]													
12	Add Desgin Documents to CMS	1 day	[Gantt bar]													

3.6

3.8

Highlight the tasks that are going to be added as subtasks

The final result should look like this, now repeat this steps to create the Subgroup that will represent the phase "Design"



Step by Step Example (Step 2 – Add Tasks Continued)

	Task Name	Duration	c 1, '02					Dec 8, '02								
			M	T	W	T	F	S	S	M	T	W	T	F		
1	[-] System Testing Plan MCY-ADTT-ST-2002-01	8 days?	[Gantt bar]													
2	[-] Definition Phase	3 days?	[Gantt bar]													
3	RSD Analysis	3 days	[Gantt bar]													
4	Design Phase	1 day?	[Gantt bar]													
5	Develop Test Plan	5 days	[Gantt bar]													
6	Develop Test Design Spec.	8 days	[Gantt bar]													
7	Develop Test Case Spec.	5 days	[Gantt bar]													

3.9

Insert a new task at the beginning of the Design tasks (Notice that the new task that will work as a group for the "Design Phase" is inside the group "Definition Phase", therefore we need to **Outdent** one position to put it at the same level as the Definition Phase)

Format Tools Project Window Help

- Sort
- Filtered for: All Tasks
- Group by: No Group
- Outline
- WBS
- Task Information... Shift+F2
- Task Notes...
- Project Information...

Design Phase 1 day?

Develop Test Plan 5 days

Develop Test Design Spec. 8 days

Develop Test Case Spec. 5 days

Develop Test Procedure Spec. 3 days

Develop Test Item Transmittal Report 1 day

Prepare Tools and test Scripts 3 days

Review Test Plan and Attachments 2 days

3.11

Format Tools Project Window Help

- Sort
- Filtered for: All Tasks
- Group by: No Group
- Outline
- WBS
- Task Information... Shift+F2
- Task Notes...
- Project Information...

Design Phase 1 day?

3.10

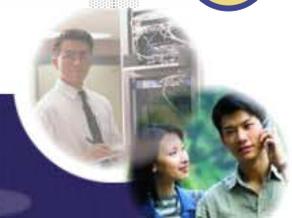
Click on the option "Outline-Outdent" to move the activity to the left

Highlight the tasks that are going to be added as subtasks in the design phase and then Click on the option "Outline - Indent"

	Task Name	Duration	c 1, '02					Dec 8, '02								
			M	T	W	T	F	S	S	M	T	W	T	F		
1	[-] System Testing Plan MCY-ADTT-ST-2002-01	8 days	[Gantt bar]													
2	[-] Definition Phase	3 days	[Gantt bar]													
3	RSD Analysis	3 days	[Gantt bar]													
4	[-] Design Phase	8 days	[Gantt bar]													
5	Develop Test Plan	5 days	[Gantt bar]													
6	Develop Test Design Spec.	8 days	[Gantt bar]													
7	Develop Test Case Spec.	5 days	[Gantt bar]													
8	Develop Test Procedure Spec.	3 days	[Gantt bar]													
9	Develop Test Item Transmittal Report	1 day	[Gantt bar]													
10	Prepare Tools and test Scripts	3 days	[Gantt bar]													
11	Review Test Plan and Attachments	2 days	[Gantt bar]													
12	Check - System is Ready to be Tested	1 day	[Gantt bar]													
13	Add Desgin Documents to CMS	1 day	[Gantt bar]													

3.12

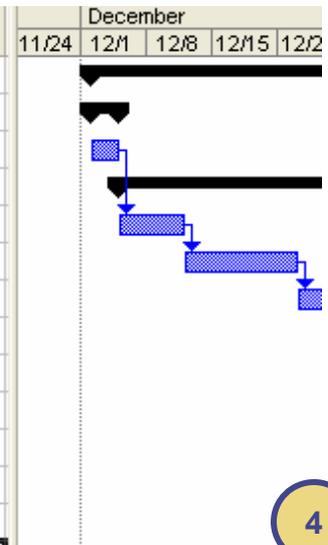
The final result should look like this



Step by Step Example (Step 2 – Add Tasks Continued)



	Task Name	Duration	Start	Finish	Predecessors	December				
						11/24	12/1	12/8	12/15	12/22
1	System Testing Plan MCY-ADTT-ST-2002-01	31 days	Mon 12/2/02	Mon 1/13/03						
2	Definition Phase	3 days	Mon 12/2/02	Wed 12/4/02						
3	RSD Analysis	3 days	Mon 12/2/02	Wed 12/4/02						
4	Design Phase	28 days	Thu 12/5/02	Mon 1/13/03						
5	Develop Test Plan	5 days	Thu 12/5/02	Wed 12/11/02	3					
6	Develop Test Design Spec.	8 days	Thu 12/12/02	Mon 12/23/02	5					
7	Develop Test Case Spec.	5 days	Tue 12/24/02	Mon 12/30/02	6					
8	Develop Test Procedure Spec.	3 days	Tue 12/31/02	Thu 1/2/03	7					
9	Develop Test Item Transmittal Report	1 day	Fri 1/3/03	Fri 1/3/03	8					
10	Prepare Tools and test Scripts	3 days	Mon 1/6/03	Wed 1/8/03	9					
11	Review Test Plan and Attachments	2 days	Thu 1/9/03	Fri 1/10/03	10					
12	Check - System is Ready to be Tested	1 day	Thu 1/9/03	Thu 1/9/03	10					
13	Add Design Documents to CMS	1 day	Mon 1/13/03	Mon 1/13/03	11,12					



Step by Step Example (Step 2 – Add Tasks Continued)



Task Information [?] [X]

General | Predecessors | Resources | Advanced | Notes

Name: Duration: Estimated

Constrain task:

Deadline:

Constraint type: Constraint date:

Task type: Effort driven

Calendar: Scheduling ignores resource calendars

WBS code:

Mark task as milestone

Help OK Cancel

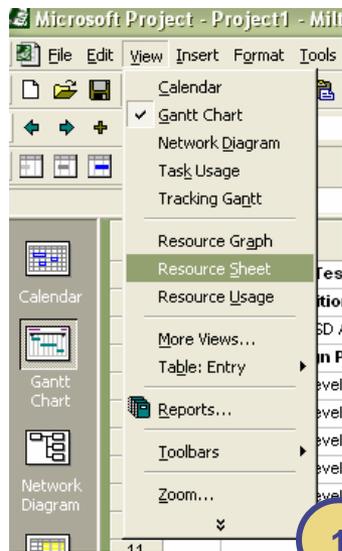
5



Step by Step Example (Step 3 – Add Resources)

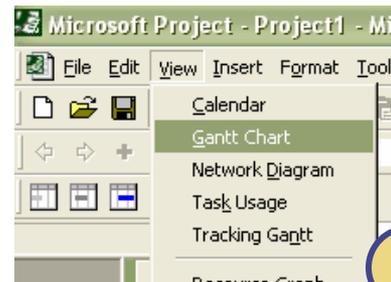


1. Got to the view "Resource Sheet"
2. Add the necessary resources to the "Resources Sheet", we are going to use only the Name, Initials and Standard Rate in \$/hr. The resources are going to be taken from the table showed at the beginning of the example, more specifically from the column "Responsibilities"
3. Now, with the Resources already register in the project file, go back to the View "Gantt Chart"



2

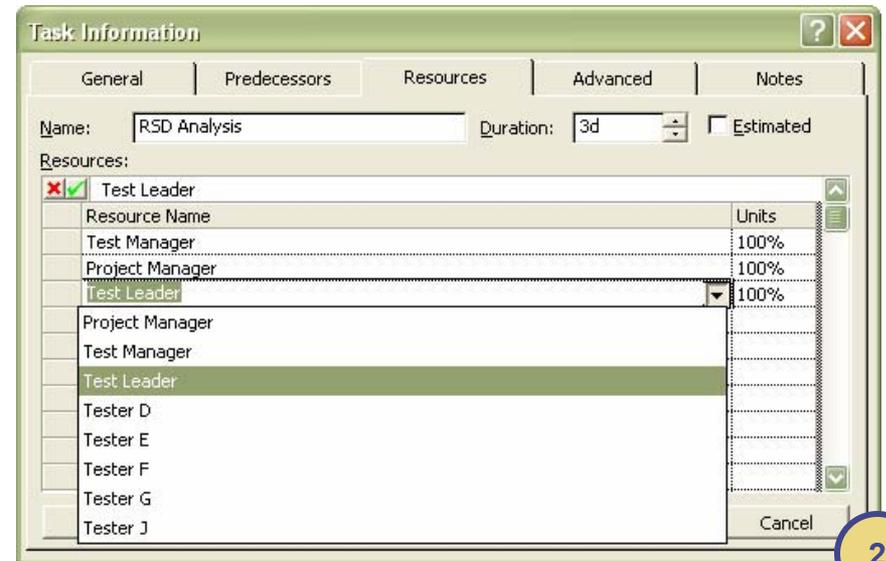
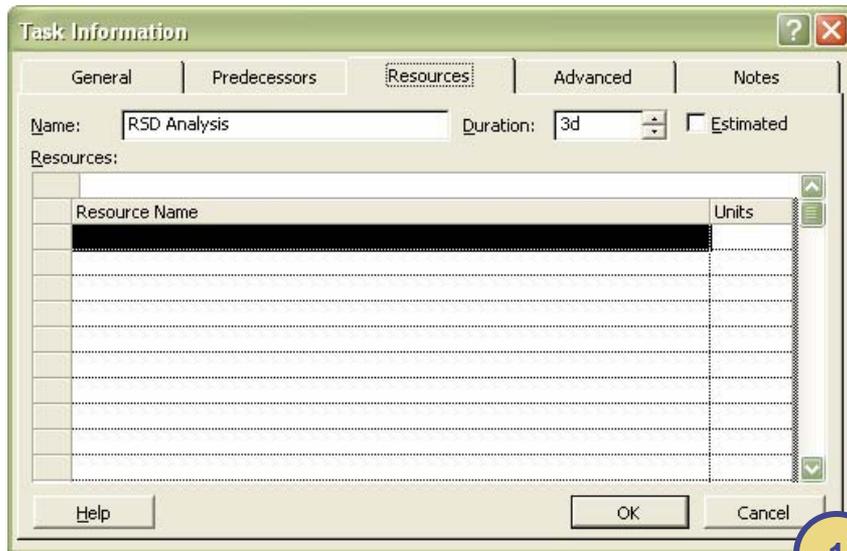
	Resource Name	Type	Material Label	Initials	Group	Max. Units	Std. Rate	Ovt
1	Project Manager	Work		PM		100%	\$40.00/hr	\$
2	Test Manager	Work		TM		100%	\$35.00/hr	\$
3	Test Leader	Work		TL		100%	\$30.00/hr	\$
4	Tester D	Work		T_D		100%	\$23.00/hr	\$
5	Tester E	Work		T_E		100%	\$22.00/hr	\$
6	Tester F	Work		T_F		100%	\$22.00/hr	\$
7	Tester G	Work		T_G		100%	\$18.00/hr	\$
8	Tester J	Work		T_J		100%	\$24.00/hr	\$



Step by Step Example (Step 4 – Assign Resources)



1. Double click the task you want to link to resources available in the "Resource Sheet"
2. Then got to the Tab "Resources" and look up the resources you want to relate to the activity (For the example lets keep the amount of effort of each Resources as 100%, Leveling Resources wont be covered in this tutorial), finally Click the "Ok" button to finish the assignment.
3. Repeat steps 1 and 2 for the rest of the tasks



Step by Step Example (Step 5 – Adjust the Gantt Chart)



1. Adjust the length of the Gantt Chart such that it can be seen in one screen (If Possible), to do this perform a Right Click on top of the Gantt Chart first, a pop-up menu will appear, select the option "Networking Time..."
2. In the form that will open go to the tab "Time Scale" and Change the **Major Scale Units** to "Months" and the **Minor Scale Units** to "Weeks", then press the "Ok" button to see the results in the Gantt Chart. (Adjust as necessary the scales once you are familiar with them)



Timescale

Timescale | Nonworking Time

Major scale

Units: Months | Label: January | Use Fiscal Year

Count: 1 | Align: Left | Tick lines

Minor scale

Units: Weeks | Label: 1/30, 2/6, ... | Use Fiscal Year

Count: 1 | Align: Center | Tick lines

General

Size: 100 % | Scale separator

Preview

December				January				February				March			
11/17	11/24	12/1	12/8	12/15	12/22	12/29	1/5	1/12	1/19	1/26	2/2	2/9	2/16	2/23	3/2

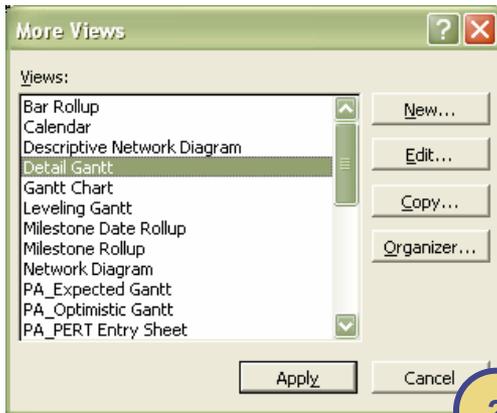
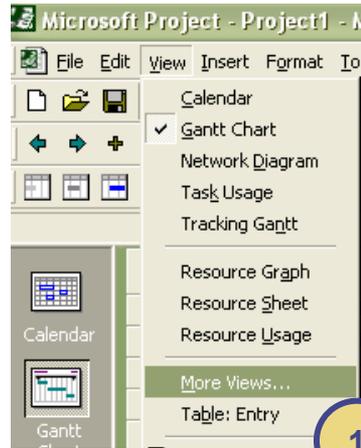
OK | Cancel



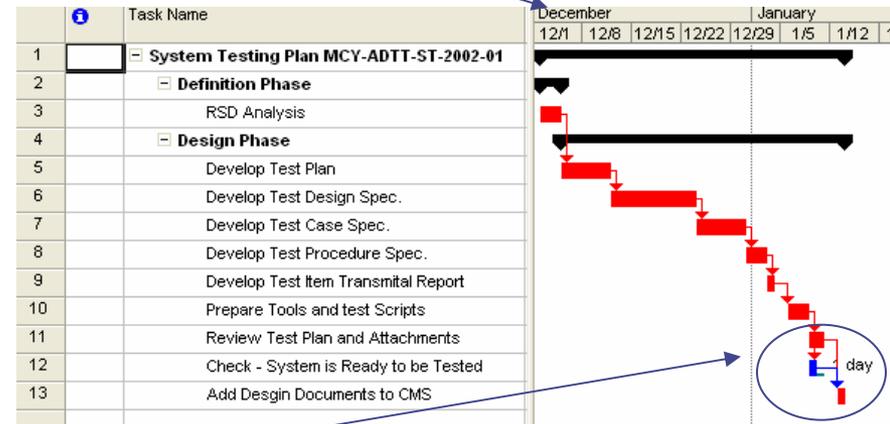
Step by Step Example (Step 6 – View the Critical Path)



1. For the example, we are going to use the Detailed Gantt Chart to view the Critical Path, because this option also shows the **Slack Time** of the activities that don't belong to the critical path, therefore first we have to select the option "More Views"
2. Then we have to select the Detail Gantt to obtain the view desired (Adjust the Gantt Chart as explained before if is necessary)



The View should look like this (If the Gantt Chart, doesn't appear check that you are in the right date on the Gantt Chart)



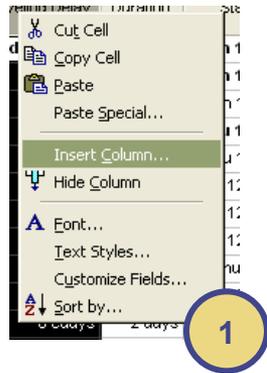
Slack Time (Activities in Blue are not part of the Critical Path)



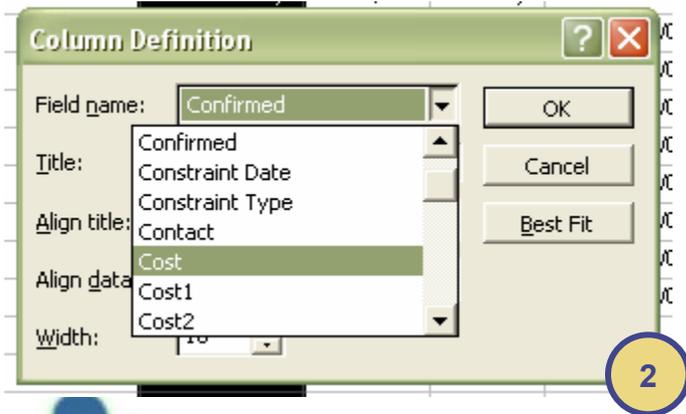
Step by Step Example (Step 7 – Show More Columns)



1. We can show more information, related to the tasks, in the spreadsheet, one column that might be of general interest is the cost, to do this first perform a Right Click on top of the spreadsheet (Specifically In the titles of the Columns), a pop-up menu should appear showing several options, chose the one that says "Insert Column"
2. Then lookup the column named "Cost" and then press the "Ok" button



Now you should see the "Cost" Column, this cost is calculated based on the resources allocated for each Task, notice also that the groups automatically add up the cost of the subtasks making the view even more interesting.



	Task Name	Cost	December				January		
			12/1	12/8	12/15	12/22	12/29	1/5	1/12
1	[-] System Testing Plan MCY-ADTT-ST-2002-01	\$14,593.60	[Gantt chart bar]						
2	[-] Definition Phase	\$2,520.00	[Gantt chart bar]						
3	RSD Analysis	\$2,520.00	[Gantt chart bar]						
4	[-] Design Phase	\$12,073.60	[Gantt chart bar]						
5	Develop Test Plan	\$2,080.00	[Gantt chart bar]						
6	Develop Test Design Spec.	\$3,072.00	[Gantt chart bar]						
7	Develop Test Case Spec.	\$1,920.00	[Gantt chart bar]						
8	Develop Test Procedure Spec.	\$1,152.00	[Gantt chart bar]						
9	Develop Test Item Transmittal Report	\$384.00	[Gantt chart bar]						
10	Prepare Tools and test Scripts	\$1,560.00	[Gantt chart bar]						
11	Review Test Plan and Attachments	\$1,107.20	[Gantt chart bar]						
12	Check - System is Ready to be Tested	\$366.40	[Gantt chart bar]						
13	Add Design Documents to CMS	\$432.00	[Gantt chart bar]						



Step by Step Example (Step 8 – A Better View)



As explained before, you can add and hide columns from the Spread sheet, this lets you show exactly what the people needs to see, below is a view with selected fields: Name, Cost, Duration, Resource initials and Start Date. The reader is welcome to experiment with this features and to explore more views that are offered by MS Project, such as resources usage, cost reports, etc.

The screenshot shows the Microsoft Project interface for a project named 'System_Test_Plan.mpp'. The task list on the left includes:

Task ID	Task Name	Cost	Duration	Resource Initials	Start
1	System Testing Plan MCY-ADTT-ST-2002-01	\$14,593.60	30 days		Mon 12/2/02
2	Definition Phase	\$2,520.00	3 days		Mon 12/2/02
3	RSD Analysis	\$2,520.00	3 days	PM, TM, TL	Mon 12/2/02
4	Design Phase	\$12,073.60	27 days		Thu 12/5/02
5	Develop Test Plan	\$2,080.00	4 days	TM, TL	Thu 12/5/02
6	Develop Test Design Spec.	\$3,072.00	8 days	TL, T, J	Wed 12/11/02
7	Develop Test Case Spec.	\$1,920.00	5 days	TL, T, J	Mon 12/23/02
8	Develop Test Procedure Spec.	\$1,152.00	3 days	TL, T, J	Mon 12/30/02
9	Develop Test Item Transmittal Report	\$384.00	1 day	TL, T, J	Thu 1/2/03
10	Prepare Tools and test Scripts	\$1,560.00	3 days	T, G, T, J, T, D	Fri 1/3/03
11	Review Test Plan and Attachments	\$1,107.20	2 days	TM, TL, T, J	Wed 1/8/03
12	Check - System is Ready to be Tested	\$366.40	1 day	T, G, T, J, T, D	Wed 1/8/03
13	Add Design Documents to CMS	\$432.00	1 day	TL, T, J	Fri 1/10/03

The Gantt chart on the right shows the project schedule from December 2nd to January 10th, with resources assigned to various tasks.



Step by Step Example (Step 9 –Save the File)



1. For this example we are saving the file at the end, but it is recommended that you save the file frequently while you are working to avoid losing data as a result of problems such as a Power Failure for instance.
2. You can chose between saving the file with or without Baseline (the difference was explained before in this Tutorial)

