PROJECT 2003

DISCLAIMER:
This reference guide is meant for experienced Microsoft Project users.
It provides a list of quick tips and shortcuts for familiar features.
This guide does **NOT** replace training or a comprehensive instruction manual.

OVERVIEW

Microsoft Project terms and definitions

Term	Definition
Project	A series of activities with a specific beginning and end
Gantt Chart	The default view used to enter tasks, link tasks and assign resources; composed of a table on the left and a chart with timeline on the right
Task	A specific work activity
Summary task	A task representing the highest level in an outline of tasks
Link	A dependency between two or more tasks
Lead	A period of time when two tasks overlap
Lag	A waiting period between tasks
Resource	A person, piece of equipment, building, vehicle or other entity required to perform work
Unit	A quantity of resources
Assignment	The delegation of one or more resources to a task
Work	The estimated effort that a resource will spend on a task (measured in hours)
Calendar	A named collection of working days and times
Duration	The estimated period of time from the beginning of a task to its completion (measured in hours, days, weeks, or months)
Filter	One or more criteria that limits the display of tasks or resources
Report	A printable arrangement of Project data
View	An arrangement of data; views may be tables, forms or charts
Table	A named group of fields (columns)
Timescale	A horizontal timeline displayed in some views

Project Design

A ***project*** is a work in progress. In other words, a project manager designs a project and continues to modify his / her estimates and track progress until the project is completed.

A project ***timeline*** is like a rubber band; that is, it continually readjusts to fit the number of tasks it contains. When tasks are added, the timeline increases; when tasks are removed the timeline is reduced.

It is the project manager's role to keep an eye on progress to ensure the project finishes …

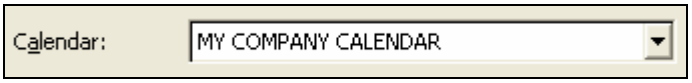
- On time
- Within budget
- With efficient resource utilization

The Basics

To accomplish this ⬇	Use this menu ⬇	(Or) button ⬇	(Or) key combo⬇	Comment
Create a new project	File > New		Ctrl N	Use a template to facilitate development
Open a project	File > Open		Ctrl O	
Save a project	File > Save		Ctrl S	Save often
Print a project	File > Print		Ctrl P	Always preview first
Undo	Edit > Undo		Ctrl Z	Only one undo available
Insert a row	Insert > New task		Ins	
Delete a row	Edit > Delete task		Del	
Spell Check	Tools > Spelling		F7	

PROJECT CALENDAR

A ***project calendar*** identifies which days and hours the staff works.
You may store several calendars in a project, but one is considered the overall Project calendar.

To accomplish this ⬇	Use this menu ⬇
Change the Standard calendar	Tools > Change Working Time Select days and mark Working Time and Non-Working Time
Create a new calendar	Tools > Change Working Time > New > Type a name for the calendar Select days and mark Working Time and Non-Working Time
Apply a calendar to a project	Project > Project Information Choose a calendar 

NAVIGATE THE GANTT CHART

To accomplish this ⬇	Use this menu ⬇	(Or) button ⬇	(Or) key combo⬇
View the first task		Select the task name	Alt Home
View the last task		Select the task name	Alt End
View the Gantt bar for a selected task		Select the task name 	
View a specific task by number	Edit > Go To Type a task ID number or date		Ctrl G

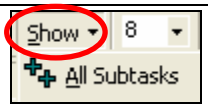
CRITICAL PATH

Tasks on the ***Critical Path*** affect the Finish Date. Therefore, it is wise to display the critical path to ensure those tasks are completed on time.

To accomplish this ⬇	Use this menu ⬇	
Display the critical path	Format > Gantt Chart Wizard > Next > Critical path  Finish > Format It > Exit Wizard	
Tasks on the critical path display in red	Critical: 	Non critical: 

BUILD A PLAN

CREATE A PROJECT

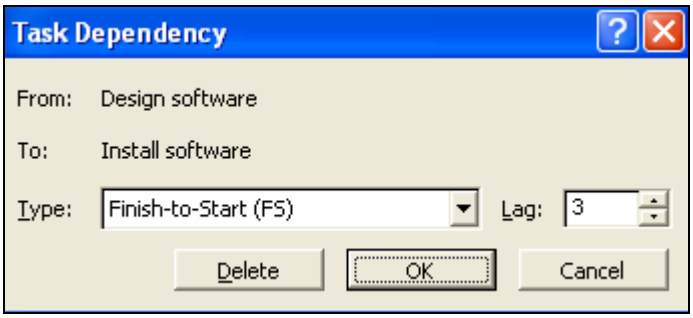
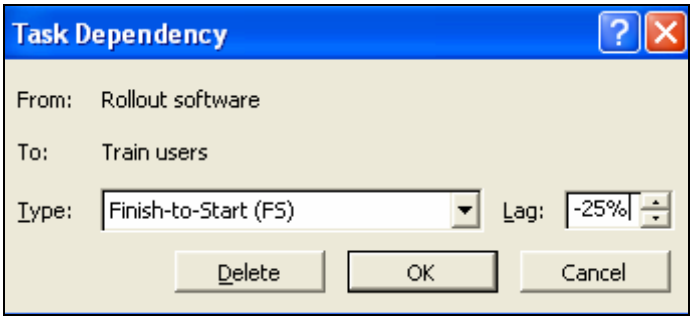
To accomplish this ↓	Use this menu ↓	(Or) button ↓	Why this step is important ↓
Enter Project properties	File > Properties > Summary Include Title, Manager and Comments and more	N/A	Summary information is used in report headers and can be used when searching for Project files
Determine the project start date	Project > Project Information > Start Date	N/A	Schedule all projects from the start so Project can estimate and forecast when will it finish **Important Note:** Do not enter a project due date in the Finish Date field!
List tasks	Type tasks in the Task Name column	N/A	Tasks are the basic unit of a project
Enter a task that occurs at regular intervals	Insert > Recurring task	N/A	Recurring tasks eliminate the need to re-create many similar tasks
Insert a task between existing tasks	Insert > New task	Ins	
Delete a task	Edit > Delete Task	Del	
Move a task	Edit > Cut Edit > Paste	Drag a task from one row to another	
Estimate duration	Click in the Duration column Type an estimated period of time from the beginning of the task to its completion **Allow Project to calculate a Start Date and Finish Date!**		
Enter task notes	Double-click a task Click the Note tab		Use notes to explain, detail, comment, and clarify task information
Create summary tasks	N/A		Summary tasks simplify the organization of a structure; they allow subtasks to be hidden to provide an overview of project phases
Hide summary detail			Display only overall phases
Display summary detail			Display specific levels of detail
Display all tasks			Display all levels of detail

DEPENDENCIES

Setting up a project involves more than just listing a series of activities. Activities must all be connected (linked).

Linking means setting the sequence in which tasks will occur. Links may be sequential (Finish to Start) or concurrent (Start to Start).

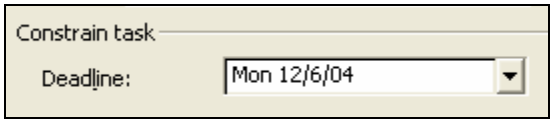
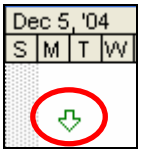
When tasks are linked, a change in one affects the others. Automatically. Without having to retype Start and Finish dates.

To accomplish this ⬇	**Use this menu ⬇**	**(Or) button ⬇**	**Why this step is important ⬇**
** **Link tasks** **	**Select two or more tasks** **Edit Link Tasks**		** **All tasks must be linked so that changes in one task affect all others**
Break a link	Select tasks Edit > Unlink tasks		
Lag: Delay between tasks	Double-click the link line on the Gantt chart Type the number of days of Lag 		If preceding tasks change, the delay remains
Lead: Overlap two tasks	Double-click the link line on the Gantt chart Type a negative Lag or percentage 		If preceding tasks change, the overlap remains

CONSTRAINTS

Constraints specify due dates, or other restrictions that must be placed on a schedule. Use constraints sparingly.

Enter constraints instead of typing in the Start Date and Finish Date fields.

To accomplish this ⬇	Use this menu ⬇	Why this step is important ⬇
Set a Project due date	1. Double-click a task 2. Click the Advanced tab 3. Choose the Constraint Type: ***Finish No Later Than*** 4. Select a Constraint Date 	Project will provide an alert if the due date is in jeopardy (Project will not schedule the task to occur on this date) **DO NOT ENTER A DATE IN THE FINISH DATE FIELD!**
Display a deadline marker	1. Double-click a task 2. Click the Advanced tab 3. Select a deadline date 	Project displays an arrow on the Gantt chart as a target date A deadline is merely a visual marker. It does change your schedule 
To set a specific date for a task **Do not change the Start Date or Finish Date**	1. Double-click a task 2. Click the Advanced tab 3. Choose the Constraint Type: ***Must Start On*** or ***Must Finish On*** 4. Select a date 	Project moves the task to the date you specify **Set this constraint only when a date is absolute**
View the project finish date	Click the last task	Alt End
	Project > Project Information > Statistics	

Manage Deadlines

Techniques to Finish Earlier

1. Reduce scope (eliminate unnecessary tasks)
2. Assign overtime
3. Overlap tasks (add lead)
4. Make tasks concurrent (Start-to-Start or Finish-to-Finish)
5. Start the project sooner
6. Add resources
7. Change to a more efficient resource

<table>
<tr><th colspan="3">RESOURCES</th></tr>
<tr><td colspan="3">Resources are the people, buildings, vehicles, equipment, and other entities that are required to complete tasks.</td></tr>
<tr><td>To accomplish this ⬇</td><td colspan="2">Use this menu ⬇</td></tr>
<tr><td rowspan="3">List resources</td><td colspan="2">View > Resource Sheet
Type resource information on the Resource Sheet</td></tr>
<tr><td colspan="2">Base Calendar: Be sure to assign the appropriate calendar to each resource under his / her Base Calendar</td></tr>
<tr><td colspan="2">Maximum Units: The quantity of each resource
Example 1: A resource named John is available 100% of his time
Example 2: If you have three engineers available, type 300% under maximum units
Caution: If you have a part-time person, change his / her calendar (working time) instead of entering units less than 100%</td></tr>
<tr><td>Change a resource calendar</td><td>1. View > Resource Sheet
2. Double-click a resource
3. Click the Working Time tab
4. Change the calendar to reflect the resource’s working hours and days</td><td>This is where to indicate a resource is available only part-time

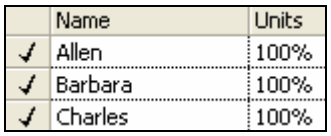
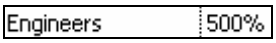
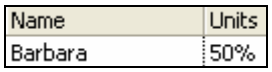
Keep the maximum units at 100% but reduce the number of hours he / she works per day</td></tr>
</table>

RESOURCE ASSIGNMENTS

Once tasks and resources are listed, assign one or more resources to each task (except summary tasks.)

When you assign a resource, Project computes the hours of work that resource will perform based on the duration of the task.

WORK = DURATION * UNITS

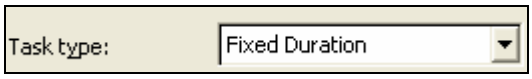
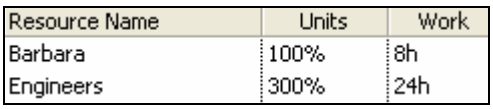
To accomplish this ⬇	Use this menu ⬇	(Or) button ⬇	(Or) key combo⬇
Assign one resource to a task	1. View > Gantt 2. Double-click the task to which you want to assign a resource 3. Click the Resources tab 4. Choose a resource from the drop-down list  	View > Gantt Select a task Click the Assign Resources button  Choose a resource Click Assign	View > Gantt Select a task Alt F10 Choose a resource Click Assign
Assign a list of resources to a task	1. View > Gantt 2. Double-click the task to which you want to assign a resource 3. Click the Resources tab 4. Choose each resource from the drop-down list  	**Note:** If you use the Resource Assignment window instead of the Task Information dialog box, Project will reduce the task duration each time you assign an additional resource or remove a resource	
Assign multiple resources from a group	1. View > Gantt 2. Double-click the task to which you want to assign a resource 3. Click the Resources tab 4. In the Units field, type the number of resources you want to assign  	View > Gantt Select a task  Type a unit greater than 100% in the Units field Press Enter	View > Gantt Select a task Alt F10 Type a unit greater than 100% in the Units field Press Enter
Assign a resource to work part-time on a task	1. View > Gantt 2. Double-click a task 3. Click the Resources tab 4. In the Units field, type a percentage less than 100%  	View > Gantt Select a task  Type a unit less than 100% in the Units field Press Enter	View > Gantt Select a task Alt F10 Type a unit less than 100% in the Units field Press Enter

Important resource assignment information continues on the following page…

RESOURCE ASSIGNMENTS (continued)

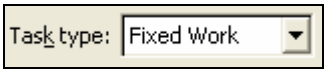
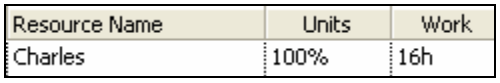
When you change the number of resources assigned to a task, Project recalculates duration.

DURATION = WORK / UNITS

To accomplish this ⬇	Follow these steps ⬇	Comment
Change the number of resources assigned to a task	Increase or decrease the number of resource Units	**Note:** Project may recalculate the duration of a task when you add or remove resources See topics ***fixed duration*** and ***effort driven*** to prevent this change
Change a resource assignment	1. Select a task 2. Select a resource 3. Click Replace 4. Choose a different resource	Project retains the duration and work of the original assignment
Indicate that adding or removing resources will not affect task duration	1. Double-click a task 2. Click the Advanced tab 3. Uncheck Effort-Driven 	**Example**: If you have one ax and ten trees, adding more resources will not speed up the task because only one person at a time can use the ax
Prevent Project from changing task duration	1. Double-click a task 2. Click the Advanced tab 3. Change Task Type to Fixed Duration  You may still change the estimated task duration If you change Work, project recalculates Units If you change the units assigned to a task, Project recalculates work	**Example**: If a conference is scheduled to last two days and 100 people are scheduled to attend, the conference will not finish in one day if 200 people attend.
Assign different amounts of work to each resource	1. View > More Views > Task Form 2. Click Next or Previous to select the task you want to change 3. Assign resources to the task 4. Click OK 5. Change Work to the number of hours you want each resource to spend on the task 6. Click OK again 	 Previous and Next allows you to navigate to other tasks and indicates your changes have been saved  When the OK and Cancel buttons are visible, you have not yet saved your changes

ESTIMATE WORK

Work is the amount of effort a resource will spend on a task.
Work can be measured in hours spent on a task or the percent of available time a resource will spend.
You may leave the duration of a task at 1 day and estimate work instead of duration.

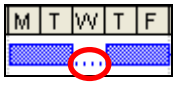
To accomplish this ⬇	Follow these steps ⬇	Comment
Display Work	View > Gantt Window > Split	The lower pane contains the Task Form
	Optional: If the Work field does not appear, click the lower pane then Format > Details > Resources & Predecessors	
Change the Task Type to Fixed Work	Select a task in the upper pane > In the lower pane, set the Task Type to Fixed Work 	Fixed Work protects the estimated number of hours from changing
Estimate work (amount of time each resource will spend on a task)	Type the amount of work for each resource 	You may change this estimate at any time
Complete the estimate	Click OK	Project calculates duration, units or both

Manage Resources

Overallocation is the assignment of more work to a resource than he / she has available.

To accomplish this ⬇	Use this menu ⬇	Comment
View who is overallocated	View > Resource Sheet	Red indicates a resource is overallocated
	View > Resource Graph	A red name indicates the resource is overallocated Press Alt F5 to view the date of overallocation Press PgDn or PgUp to view additional resources
	1. View > Resource Sheet 2. Project > Filtered for > Overallocated Resources	
	View > Reports > Assignments > Overallocated Resources	

LEVELING

Level resources	***Leveling*** delays one or more tasks until a resource is available Leveling may interrupt (split) a task Split tasks are separated by dots on the Gantt		 Split
	Tools > Resource Leveling > Level Now		
Display results of leveling	View > More Views > Leveling Gantt	A thin olive bar represents delay caused by leveling	
Remove the results of leveling	Tools > Resource Leveling > Clear Leveling	The resource problem returns and must be solved	

Techniques to Resolve Resource Overallocation

1. Select a resource with no conflicting assignments
2. Split a task into two sections
3. Change concurrent tasks to occur sequentially
4. Delay a task until the required resource is available (add lag)
5. Level the resource

COST

Project calculates Cost when you assign a resource to a task.

Total Cost = Standard Rate x Work + Fixed Cost + Overtime Cost

To accomplish this ⬇	Use this menu ⬇
View task costs	View > Table > Cost
Assign a fixed cost	View > Table > Cost Type non-resource cost in the Fixed Cost column Fixed cost is automatically added to Total Cost
View total project cost	Project > Project Information > Statistics

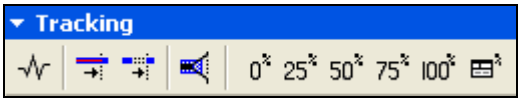
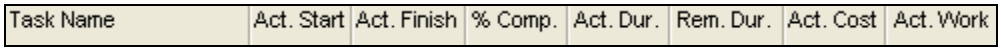
Techniques to Reduce Cost

1. Reduce scope (eliminate unnecessary tasks)
2. Replace resources with less expensive resources
3. Reschedule work when less expensive resources are available
4. Reduce task duration
5. Eliminate overtime

TRACK PROGRESS

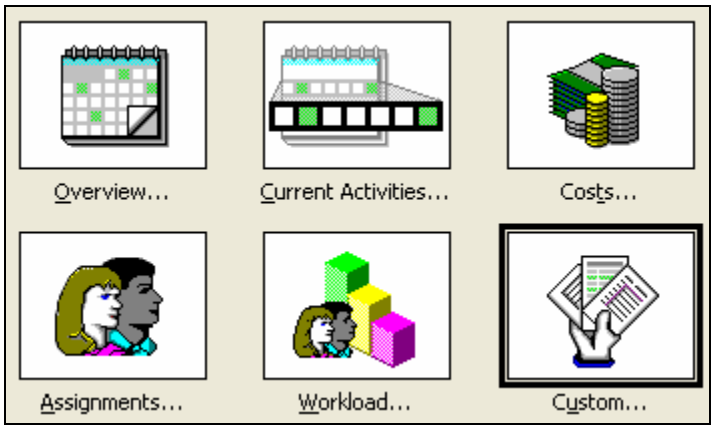
UPDATE ACTUALS

Actuals are the facts. Once the project begins, enter Actuals weekly.
Actual data updates the project immediately.

To accomplish this ⬇	Follow these steps ⬇	Comment ⬇	
Display Tracking Gantt	View > Tracking Gantt		
Save baseline	Tools > Tracking > Save baseline > Entire project > OK	Grey bars indicate the baseline Red and blue indicate the estimated duration 	
Display Tracking toolbar	View > Toolbars Tracking 	The first button displays the Statistics window	
Display the Tracking table	View > Tables > Tracking 	Field headings for Actual data appear	
Update the project	Type data in the Actual fields Be sure to record the Remaining Duration	Project calculates the project according to your entry. Example: If you enter 100%, Project updates the Actual Start and Finish	
	The Tracking Gantt displays progress	On time	
		Partially complete	
		Early	
		Late	

GENERATE REPORTS

A ***report*** prints status information for an entire project, progress on tasks, or current cost information. You can change the content displayed in most of these reports by changing tables, filters, or both.

To accomplish this ⬇	**Types of Reports ⬇**
Print a report	View > Reports 

To accomplish this ⬇	**Choose this category ⬇**	**Select one of these reports ⬇**
Produce an overview of project tasks and dates	Overview	• Project Summary • Top-Level Tasks • Critical Tasks • Milestones • Working Days
Analyze progress of tasks that have started or should have started	Current Activities	• Unstarted Tasks • Tasks Starting Soon • Tasks in Progress • Completed Tasks • Should Have Started Tasks • Slipping Tasks
Analyze total budget, cost to date, and tasks that are overbudget	Cost	• Cash Flow • Budget • Overbudget Tasks • Overbudget Resources • Earned Value
Analyze resource assignments Notify resources of their assignments	Assignments	• Who Does What • Who Does What When • To-Do List • Overallocated Resources
Analyze resources by task Analyze tasks by resource	Workload	• Task Usage • Resource Usage
Custom Reports		You may design your own reports

VIEWS	
Information you enter into Project is stored in an underlying database. ***Views*** select and display project data in different formats.	
Use this view ⬇	**For this purpose ⬇**
Calendar	Display tasks in a calendar layout
Detail Gantt	Display slip and slack
Gantt Chart	Enter and edit project data
Leveling Gantt	View the result of leveling
Network Diagram	View a flow chart of tasks
Resource Usage	List resources, the tasks to which they are assigned, and the amount of work assigned to them daily
Task Entry (combination)	Display Gantt Chart on top; Task Form below
Task Sheet	Similar to the Gantt Chart but without the graph
Task Usage	List tasks, the resources assigned to them, and the amount of work assigned to each resource
Tracking Gantt	Display the baseline and actual progress

TABLES	
A ***table*** is a named collection of fields (columns). Use tables to display only the information you need at any given moment. You may design your own tables.	
Use this table ⬇	**For this purpose ⬇**
Task Tables	
Entry	Create and view general task information
Cost	View cost data and enter fixed costs
Tracking	View and enter actual data
Variance	View the difference between estimates and current dates and cost
Work	Enter remaining work; view current and baseline work; view variance
Resource Tables	
Entry	List and edit resource information
Cost	View estimated and actual cost; view cost variance
Summary	Displays Peak (highest % assignment), total cost, total work
Usage	Displays total work
Work	Displays estimated work, total work, remaining work, overtime and variance

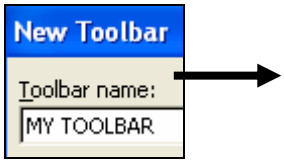
FILTERS	
A ***filter*** is one or more criteria that limit the tasks or resources that are visible.	
Use this filter ⬇	**For this purpose ⬇**
Task Filters	
All Tasks	All tasks within the current project
Completed Tasks	All tasks that have been marked 100% complete
Cost Greater Than …	Tasks that are greater than a cost you specify
Cost Overbudget	Tasks that exceed the baseline cost
Critical	Tasks that will cause the project to be late if they are not finished on time
Date Range …	Tasks within a time period you specify
In Progress Tasks	Tasks that have started but are not yet finished
Late/Overbudget Tasks Assigned To …	Tasks, assigned to a specific resource, that have exceeded their estimated time and cost
Milestones	Tasks that have a duration of zero
Should Start By …	Tasks that should start by a date you specify
Slipped / Late Progress	Tasks that are taking longer than the baseline
Summary Tasks	Tasks that have sub-tasks
Tasks with Fixed Dates	Tasks with constraints
Using Resource …	Tasks using a resource you specify
Work Overbudget	Tasks whose work exceeds the original estimate
Resource Filters	
All Resources	All resources in the current project
Date Range …	Resources assigned during a time period you specify
Group	Resources within a group you specify
In Progress Assignments	Resources with assignments that have started but are incomplete
Overallocated Resources	Resources that have been assigned more work than their schedules allow
Resources with Overtime	Resources that have been assigned overtime
Should Start By …	Resources with tasks that should start by a date you specify
Slipping Assignments	Resources whose tasks have been delayed from the baseline
Work Complete	Resources with completed tasks
Work Incomplete	Resources with tasks that have not been finished
Work Overbudget	Resources whose work is costing more than predicted

CREATE A VIEW AND TABLE TOOLBAR

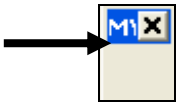
This procedure facilitates changing from one view to another or one table to another. It also displays the name of the current view and table for quick reference.

Follow these steps ⬇

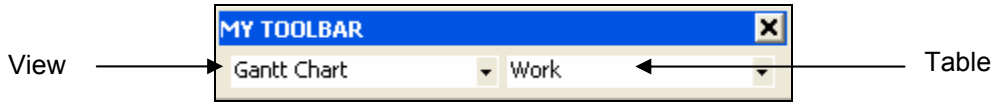
1. Tools > Customize > Toolbars > New
2. Click the Toolbar tab
3. Name the toolbar



A small toolbar appears beside the dialog box



4. Click the Commands tab
5. Click the View category
6. Scroll to the bottom of the Commands list
7. Drag the View button into the new toolbar
8. Drag the Table button into the new toolbar
9. Close the dialog box

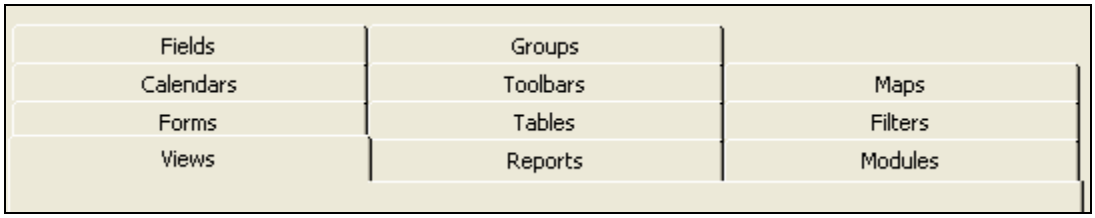


ORGANIZER

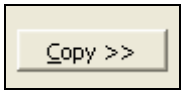
The ***Organizer*** is a tool for sharing customized calendars, view, filters, reports and more.

To accomplish this ⬇	**Use this menu ⬇**

1. Tools > Organizer



2. Select the category containing customized items
3. Select the item you want to copy
4. Click Copy to copy the item into another Project file. If you copy it to **GLOBAL.MPT**, the item will be available in all future projects.



5. Close the Organizer. **GLOBAL.MPT** is saved when you exit MS Project.

OFFICE LINKS		
To accomplish this ⬇	**Follow these steps ⬇**	
Attach a Word document or Excel spreadsheet to a task	1. Double-click a task 2. Click the Notes tab 3. Click the Insert Object button 4. Specify the file you want to attach	 Insert Object
	If you enable Link, changes to the Word or Excel file are reflected in the Project note	
Link costs from Excel to a task	1. Display the Cost table 2. View > Tables > Cost 3. Select the Fixed Cost field 4. Open an Excel file and select the number you want to copy to Project 5. Choose Edit > Copy 6. Return to Project 7. Choose Edit > Paste Special > Paste Link 8. Changes to the Excel file will automatically update the Project data	
Save as a Web page	1. File > Save As Web Page 2. Specify a name and location for the Web page 3. Select a map 4. A ***map*** specifies the fields to be saved on the Web page	
Save the Gantt chart as a picture	1. Modify the Gantt chart so all the bars are visible 2. Edit > Copy Picture 3. Choose To Gif image file 4. Specify a name and location for the image file 5. Choose Selected Rows 6. Specify a timescale 7. Click OK	
	The image file can be posted to a Web site or e-mailed as an attachment to a project team member or stakeholder.	