MICROSOFT PROJECT 2007 LEVEL 1

CREATIVE MENTOR TRAINING

1300 722 282 | contact@creativementor.com.au

Microsoft Project 2007

Introduction to Project

Projects and Project Management

- A project can be defined as a finite set of activities, usually with a definite start date and finish date, which combine together to meet a specific objective.

- A project has three main constraints, namely Time, Cost and Quality. A project usually has a deadline, a budget and a required objective.

- A project can be thought of as successful if it meets the deadline, stays within budget and does the job properly when completed.

- A Project Manager is the person assigned to supervise the set of activities comprising the project, thereby ensuring the successful completion of the project.

- The Project Manager organises all the resources for the project, including personnel, equipment, facilities, information systems and the project budget.

- Project Management covers the entire project, from the planning of the project, managing the project while in progress, then writing up final reports once the project is completed.

What is Microsoft Project?

- Microsoft Project is a computer program, designed to be used as a project management tool.

- Microsoft Project allows you to identify, schedule and keep track of tasks for both simple and complex projects. The Project Manager can then easily check on the progress of the project.

- Once you have set up an initial project plan within Microsoft Project by putting together a task list, Microsoft Project can be used to optimise your schedule and will also set out realistic time schedules for the completion of each project task.

- Information about your project resources, including relevant personnel and equipment, can be used by Microsoft Project to calculate how long tasks will take to complete.

- Microsoft Project can be used to keep track of the budget for a project, and all your costs for the project. Pay rates and one-off costs are used by Microsoft Project to calculate costs both for the project as a whole and for individual tasks within the project. If you see that you are going over budget, you can use Microsoft Project to adapt your plans.

- Microsoft Project offers a variety of views in which you can work with specific parts of your project schedule information. Major views accessed by Microsoft Project users include:
  - a view enabling you to enter information on a calendar
  - a view giving a general overview of the whole project schedule in a chart
  - a view showing a usage sheet in which task and resource details can be tracked

- Microsoft Project includes a filtering system, allowing the user to just see the information that they need at that time.

- Microsoft Project views can give you information about problems with your schedules or over-allocation of resources and remind you of specific due dates.

- You can write notes about the project and easily see them again.

- The project details can easily be printed off, so that you can give copies to all personnel involved in the project. Microsoft Project can present this information in a variety of ways, including changing the appearance of tasks, columns and graph bars.

- Microsoft Project can also be enhanced with graphics such as an organisational logo.

- With Microsoft Project, you can make changes to schedules as necessary.

- Microsoft Project can be used to track several projects at once, so resources can be managed over several projects. Microsoft Project can be linked to Microsoft Office applications, and many of the features are similar to those in Microsoft Office.

The Stages of a Project

The major stages within Microsoft Project for any project are as follows:

1. Define the project

2. Build a project plan within Microsoft Project
   a) Set a project start date
   b) Enter tasks
   c) Enter durations of tasks
   d) Link tasks
   e) Assign resources to individual tasks
   f) Print off your project plan
   g) Do any necessary fine-tuning to the plan

3. Use Microsoft Project to track and manage your project
   a) Set a baseline plan
   b) Enter what's actually going on
   c) Adjust the plan as necessary

4. Close the project

Opening Microsoft Project

To open Microsoft Project, click **Start - Programs - Microsoft Project**. Alternatively, if there is a shortcut to Microsoft Project on your Desktop, double-click on that.

The Screen Layout and Basic Editing

The Project Window

- When you first go into Microsoft Project, the screen looks similar to that shown below:
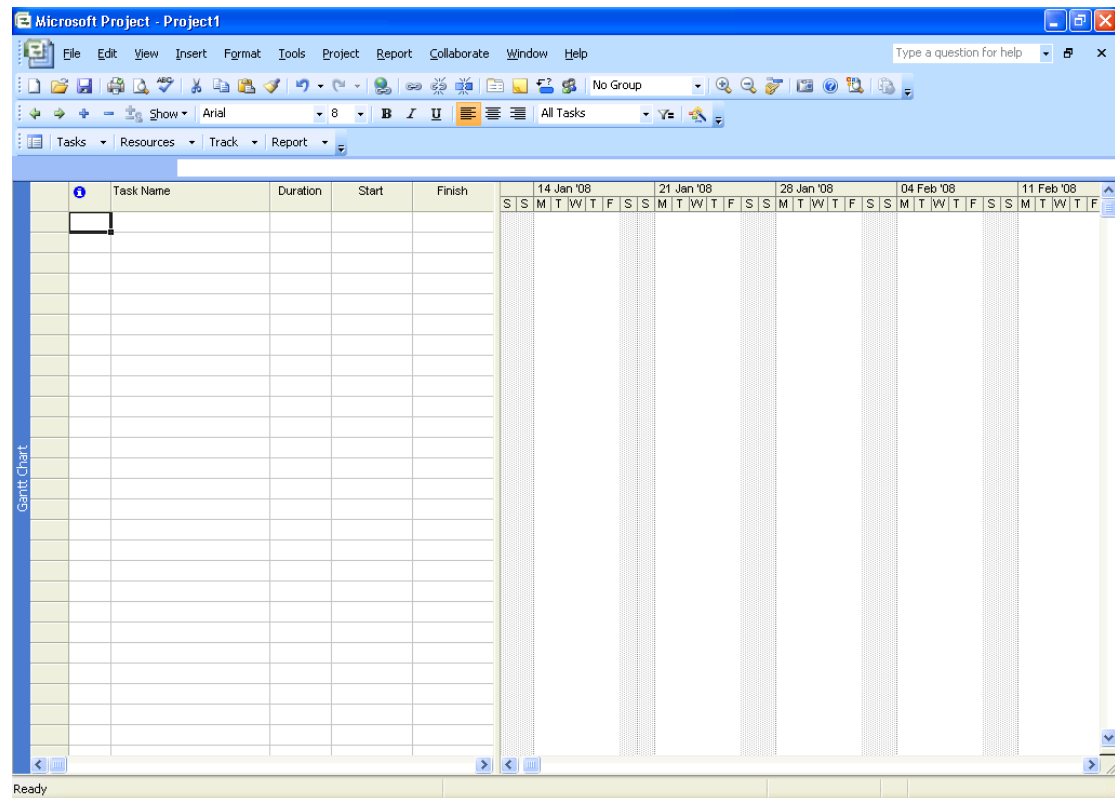
- You are put in **Gantt Chart** view. This is a composite view, which has a spreadsheet table down the left-hand side and the Gantt chart at the right-hand side.

- The Gantt Chart was named after Henry Gantt, who first designed it whilst working in the shipbuilding industry in the First World War.

- You may decide you would like help in the form of the **Project Guide** whilst setting up your project. This is a series of wizards designed to help you in putting together your project plan. To see the Project Guide to the left of the Project window, click **View - Turn On Project Guide**.
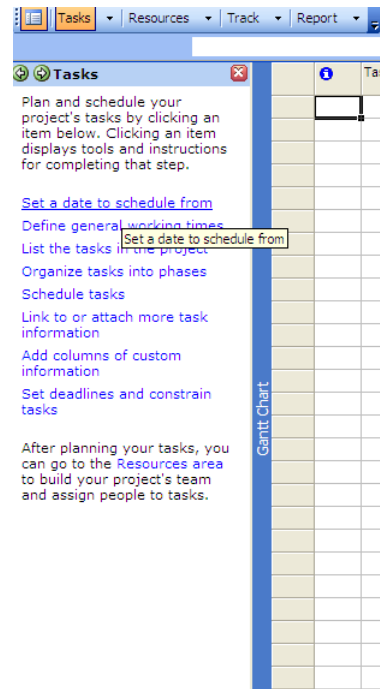
- To use it, on the **Project Guide** toolbar, click **Tasks**, **Resources**, **Track** or **Report**, then use the options in the side pane as needed, in the order listed.

- You will find that using the Project Guide may show slightly different views; for example, the resource sheet provide by the Project Guide includes an **E-mail address** field.

- To turn off the Project Guide, click the cross [×] in its top right corner, or click **View - Turn Off Project Guide**.

- You may wish to see the **View Bar**, containing icons for the most common views used within Project. Clicking on one of these icons will take you into that view. There are scroll buttons at the top and bottom of the bar, which can be used to access further view icons. To display the **View Bar**, click **View - View Bar**.
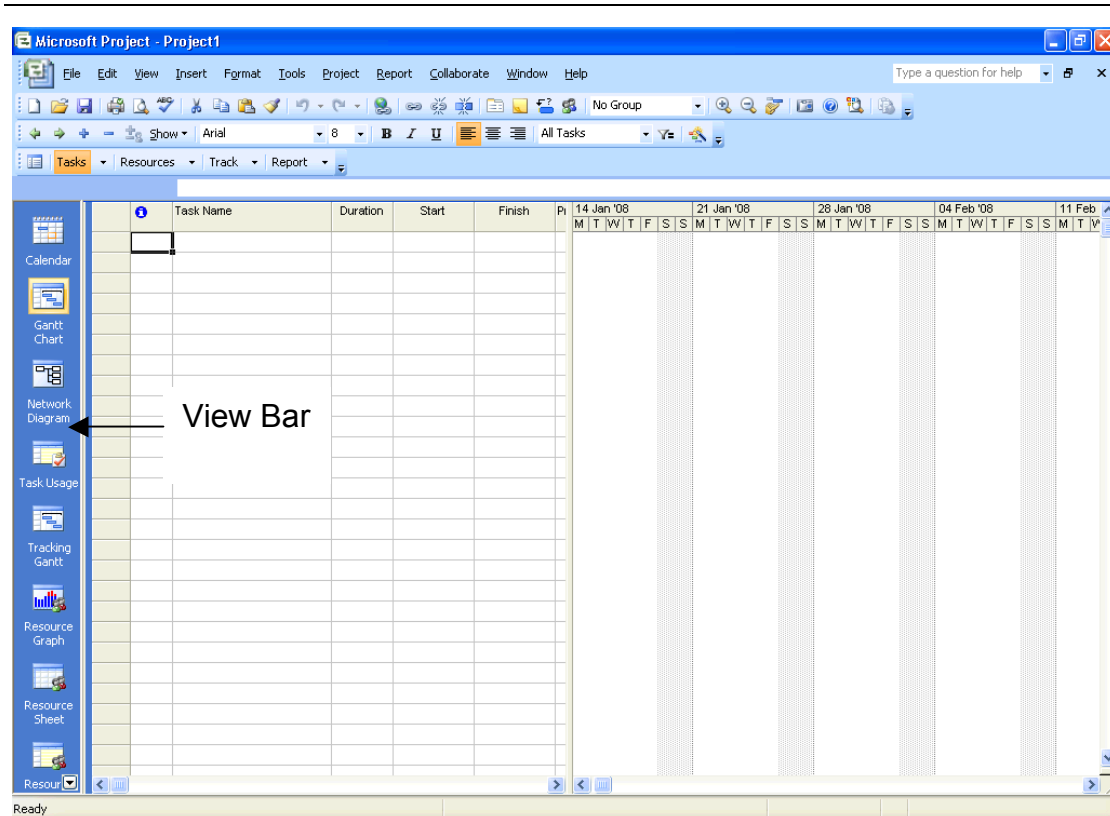
- The spreadsheet table within the **Gantt Chart** view displays a description for each task and its expected duration. By using the scroll bar at the bottom of the screen, you will also find columns for Predecessors and Resource Names.

- The Gantt Chart at the right of the window is a horizontal bar chart, which shows in graphical form the time relationships between the different tasks within a project. A time scale is shown at the top of the chart. The position of the horizontal bar next to each task indicates the task's start and finish dates. Using the horizontal scroll bar you can see any tasks not visible on the screen. A completed Gantt chart shows all tasks for a particular project, in sequence.

- The top line is the **Title Bar**, giving the name of the project; if you have not yet saved the project, the projects will be named Project1, Project2, etc.

- Next is the **Menu Bar**. To access a pull-down menu, either click on the menu name or press **Alt +** the letter that is underlined in the menu name on the **Menu Bar**. e.g. to open the Project menu, press **Alt + P**. Commands within the pull-down menu can be selected by clicking on them or typing in the underlined letter.
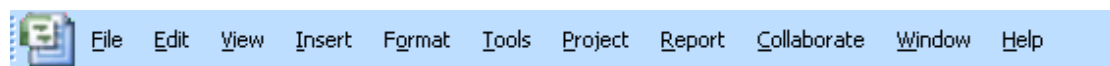
The Toolbars

The two main toolbars within Project are the **Standard** toolbar and the **Formatting** toolbar. The **Standard** toolbar has buttons as follows:

Start a new project

Open an existing project file

Save a project

Print

Print preview

Spell check

Cut

Copy

Paste

Format painter

Undo

Redo

Insert hyperlink

Link tasks

Unlink tasks

Split tasks

Task information

Task notes

Task drivers

Assign resources
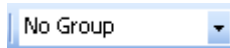
No Group   Group by selected item (from drop-down list)

Zoom in

Zoom out

Go to selected task

Copy picture

Microsoft Project Help

File Search

Publish all information

The **Formatting** toolbar has buttons as follows (not all of them may be showing when you first open Project):

Outdent

Indent

Show subtasks

Hide subtasks

Hide assignments
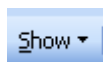
Show ▾   Show all subtasks or various outline levels

Arial   Name of font

8   Font size

B   Bold
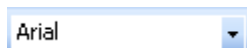
I   Italic

U   Underline

Align left

Centre

Align right
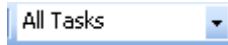
All Tasks   Filter

AutoFilter

Gantt Chart Wizard. This will display interactive dialog boxes with various options to customise a Gantt Chart.

- Other toolbars can be displayed by clicking **View - Toolbars** or right-clicking any toolbar already displayed. You can then click on the name of the toolbar you want to be displayed. Similarly to hide a toolbar already shown, click on its name from the **View - Toolbars** menu.

The Entry Bar

- Underneath the toolbars you will see the Entry Bar, which can be used for entering and editing data.

- If you start typing data into the columns below, or if you place the cursor in the Entry Bar so that you can edit the data, you will see two buttons to the left of the Entry Bar.

- If you press the ✕ button, any changes you have been making will be cancelled. Pressing **Esc** will also cancel your changes.

- If you press the ✓ button, any changes you have been making will be accepted. Pressing **Enter** will also accept your changes.

- The Entry Bar can be hidden by clicking **Tools - Options - View**, then clicking by **Entry Bar** to remove the tick.

Shortcut menus

- If you right-click at particular locations within Project, a shortcut menu will be displayed, the particular menu depending on the location of your mouse pointer and the view you are in within Project.

The Information Bar

- In some of the Project views, you will see a column, immediately after the row number column, with its name as ![information icon]. This is the information column and contains information regarding the particular task, such as whether it is a recurring task, or whether it has had a note applied.

- If you place the mouse pointer over the graphics in the information bar, further information will be displayed.

	❶	Task Name	Duration	S
1		⊟ 1 Project manual	########	Mon
2	📝	1.1 Manual preparation	5 days	Mon
3		1.2 Review by Mark	1 day	Mon
4		1.3 Necessary edits	0.5 days	Tue
5	▢	1.4 Proofreading	1 day	Tue
6		1.5 Necessary edits	0.5 days	Wed
7	↻	⊟ 1.6 Progress meetin	########	Mon
8	▦		hrs	Mon
9	▦	This task has a 'Start No Earlier Than' constraint on Mon 22/08/05.	hrs	Mon
10	▦	1.6.3 Progress me	2 hrs	Mon
11		1.7 Printing	1 day	Thu
12		1.8 Manual complete	0 days	Thu
13		⊟ 2 Project CBT	11.5 days	Fri
14		2.1 Material to develop	0.5 days	Fri
15		2.2 Preparation by dev	10 days	Fri
16		2.3 Proofreading	0.5 days	Fri
17		2.4 Necessary edits	0.5 days	Mon
18		2.5 CBT complete	0 days	Mon

Getting Help

- The **Help** menu is situated at the extreme right of the menu bar, and opens the integrated **Help** function.

- To see a description of a button shown on your screen, move the mouse over the button of interest. After a few seconds, the name of the button appears and a short description of what the button does appears at the bottom of your screen.

- To display detailed help, click mouse over ⊙ (towards the right of the **Standard** toolbar). The **Project Help** dialog box will be displayed. Click on the relevant hyperlink to get a list of topics in that section. Click on the topic hyperlink to read the topic help.

- To get help when in a dialog box, click the **Help** [Help] at the bottom left of the dialog box. Help pertaining to that dialog box will be displayed.

- In most Windows programs, including Project, pressing the **F1 key** will call up help information.

- Use Microsoft Office Online to get training, templates, etc. Click **Help - Microsoft Office Online**.

Planning Templates and Wizards

Various templates are available for use within Microsoft Project. Inbuilt ones include:

- Annual Report Preparation
- Commercial Construction
- Customer Feedback Monitoring
- Customer Service Ramp Up
- Develop Skills Needs – Hiring Plan – Hiring Forecast
- Electronic Government (E-Gov) Project
- Engineering
- Evaluating Offshoring Strategy for HR Functions
- External Technical Readiness Training
- Finance and Accounting System Implementation
- Financial Service Offering Launch
- Home Move
- Human Resources Information System Implementation
- Infrastructure Deployment
- Insurance Claim Processing
- Internal Readiness Training
- ISO 9001 Management Review
- Managing Incoming Request For Quotes
- Marketing Campaign Planning
- Marketing Event Planning and Execution
- MSF Application Development
- New Business
- New Product
- New Product Launch
- Office Move
- Performance Reviews
- Post-Manufacturing Customer Service Planning
- Preparation of an Opening Balance Sheet at the Date of Transition to IFRS
- Product Development Planning
- Product Evaluation Post Launch
- Project Office
- Residential Construction
- Security Infrastructure Improvement Plan
- Six Sigma DMAIC Cycle
- Software Development
- Software Localization
- SOX Compliance and Technology Options
- Strategic Merger or Acquisition Evaluation
- Tradeshow Planning, Execution and Wrap-Up
- Vendor Evaluation and Consolidation
- Vendor Request For Proposal (RFP) Solicitation

To use a template, click **File - New**. The **New Project** task pane will be displayed down the left of the Project window. Click **On computer**. The **Templates** dialog box will be displayed. Select the **Project Templates** tab.
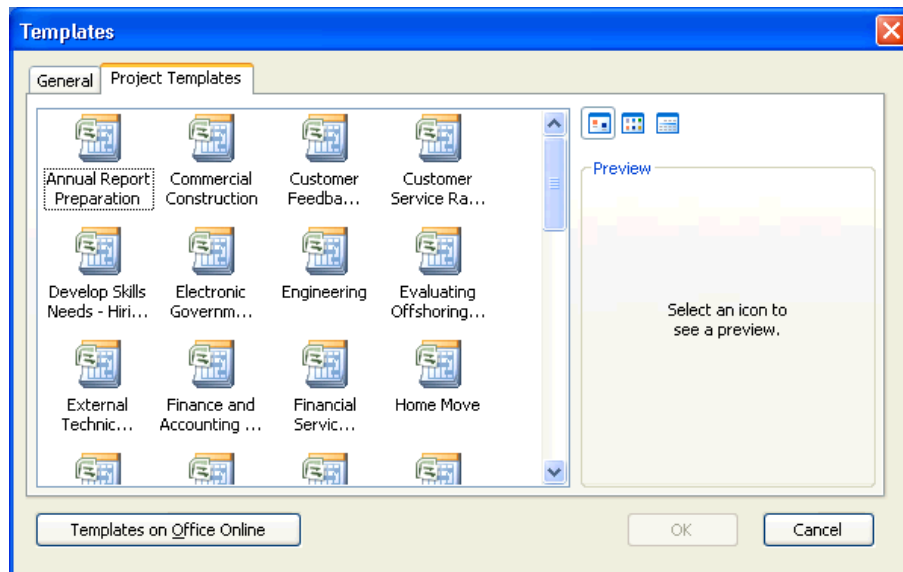
Select your required template, then click **OK**.

Planning Wizards will give you advice while you are working with Microsoft Project. They help you in completing tasks and suggest shortcuts to speed up your work. By default, the Planning Wizards are active. To make inactive, or if inactive, make available again, click **Tools - Options - General**.
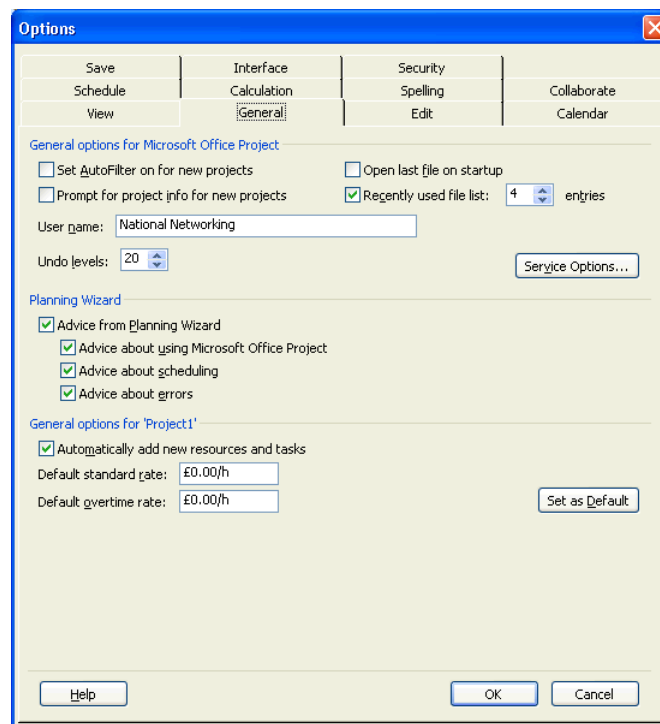
Make required selections, then click **OK**. Options include **Advice about using Microsoft Office Project** (quicker ways of achieving results), **Advice about scheduling** (tells you if you've set target dates which are impossible to achieve) and **Advice about errors** (helping you with problems).

Organiser

The Organiser can be used to copy custom views, tables, filters, calendars, forms, toolbars, maps and Microsoft Visual Basic Applications modules to other project documents.

To access the Organiser, click **Tools - Organizer**. The **Organizer** dialog box will be displayed with various tabs. The way in which these tabs can be used is described below.
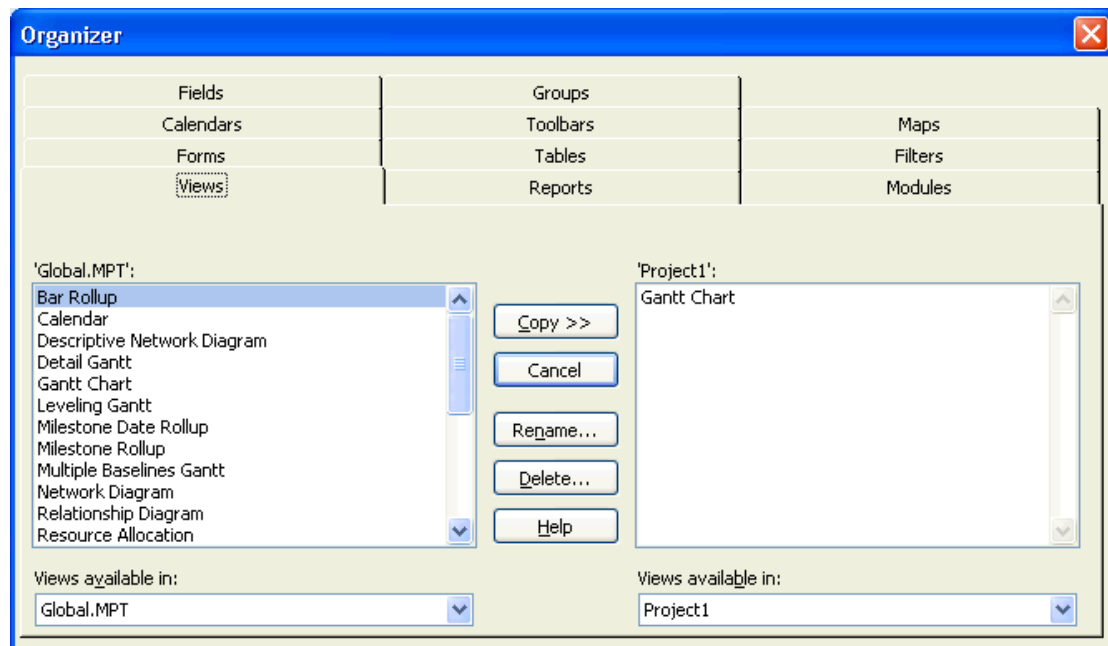
TAB	WHAT USED FOR
Views Tab	Used for copying view definitions between different open project files, or between a project file and a global file. Also used for renaming and deleting view definitions.
Reports Tab	Used for copying report definitions between different open project files, or between a project file and a global file. Also used for renaming and deleting report definitions.
Modules Tab	Used for copying modules between different open project files, or between a project file and a global file. Also used for renaming and deleting modules.
Forms Tab	Used for copying custom form definitions between different open project files, or between a project file and a global file. Also used for renaming and deleting custom form definitions.
Tables Tab	Used for copying table definitions between different open project files, or between a project file and a global file. Also used for renaming and deleting table definitions.
Filters Tab	Used for copying filter definitions between different open project files, or between a project file and a global file. Also used for renaming and deleting filter definitions.

TAB	WHAT USED FOR
Calendars Tab	Used to copy calendar definitions between different open project files, or between a project file and a global file. Also used to rename and delete calendar definitions.
Toolbars Tab	Used for copying toolbar definitions between a project file and a global file, or between different open project files. Also used for renaming and deleting toolbar definitions.
Maps	When exporting data from Project to other applications such as Excel or Access using Save As, the export can be customised using a *Map*. Maps can be copied between the project file and the global file.
Fields Tab	Used for copying field definitions between open project files, or between a project file and a global file. Also used for renaming and deleting filter definitions.
Groups Tab	Used to copy group definitions between open project files, or between a project file and a global file. Also used for renaming and deleting group definitions.

Views

Some of the available views for displaying, entering and editing project information are shown on the **View Bar** at the left of your Project window, if you have the **View Bar** displayed. (To display the **View Bar**, click **View - View Bar**). We have already described the Gantt chart view. To use a particular view, click on its icon in the **View Bar**. Alternatively click **View** from the **Menu Bar** and select a view from there. More views can be found by clicking **More Views**.

Task views, displaying task information, include three task forms as well as the following views:

- Bar Rollup
- Calendar
- Descriptive Network Diagram
- Detail Gantt
- Gantt Chart
- Leveling Gantt
- Milestone Date Rollup
- Milestone Rollup
- Multiple Baselines Gantt
- Network Diagram
- Relationship Diagram
- Task Details Form
- Task Entry
- Task Form
- Task Name Form
- Task Sheet
- Task Usage
- Tracking Gantt

Resource views display resource information. Resource views include:

- Resource Allocation
- Resource Form
- Resource Graph
- Resource Name Form
- Resource Sheet
- Resource Usage

Assignment views show the resources assigned to each task plus the total and timephased work and cost information for each assignment. Assignment views include:

- Task Usage
- Resource Usage

The Task Usage view shows resources grouped by the task they're assigned to. The Resource Usage view shows tasks grouped by the resources that are assigned to them. The total or timephased work and cost information for each assignment can be edited, depending on the level of progress tracking detail required.

Creating a Project

Calendar Wizard

The Calendar Wizard simplifies the setup for project calendars and changing working time.

To use the Calendar Wizard:

1. On the Project Guide, click **Tasks**. Click **Define the project**. From the drop-down list, enter the date that you estimate your project will start on. Click **Continue to Step 2**.

2. If you will be using **Project Server** and **Project Web Access**, select **Yes** at this stage. Otherwise, leave it at the default of **No**. Click **Continue to Step 3**.

3. Click **Save and Finish**.

4. Click **Define general working times**. Select a calendar template from the drop-down list (usually **Standard**), and click **Continue to Step 2**.

5. Select your usual workdays, then select either **I'll use the hours shown in the preview on the right** or **I want to adjust the working hours shown for one or more days of the week**. (By default, Project expects an 8 hour working day, starting at 8am). If you select the latter option, you will then be given boxes from which to select your working hours for one or all days. Make your selections for Monday, then if applicable to all days of the week, click **Apply to All Days**. If not all days of the week have the same working hours , click **Specify additional shifts**; otherwise, click **Continue to Step 3**.
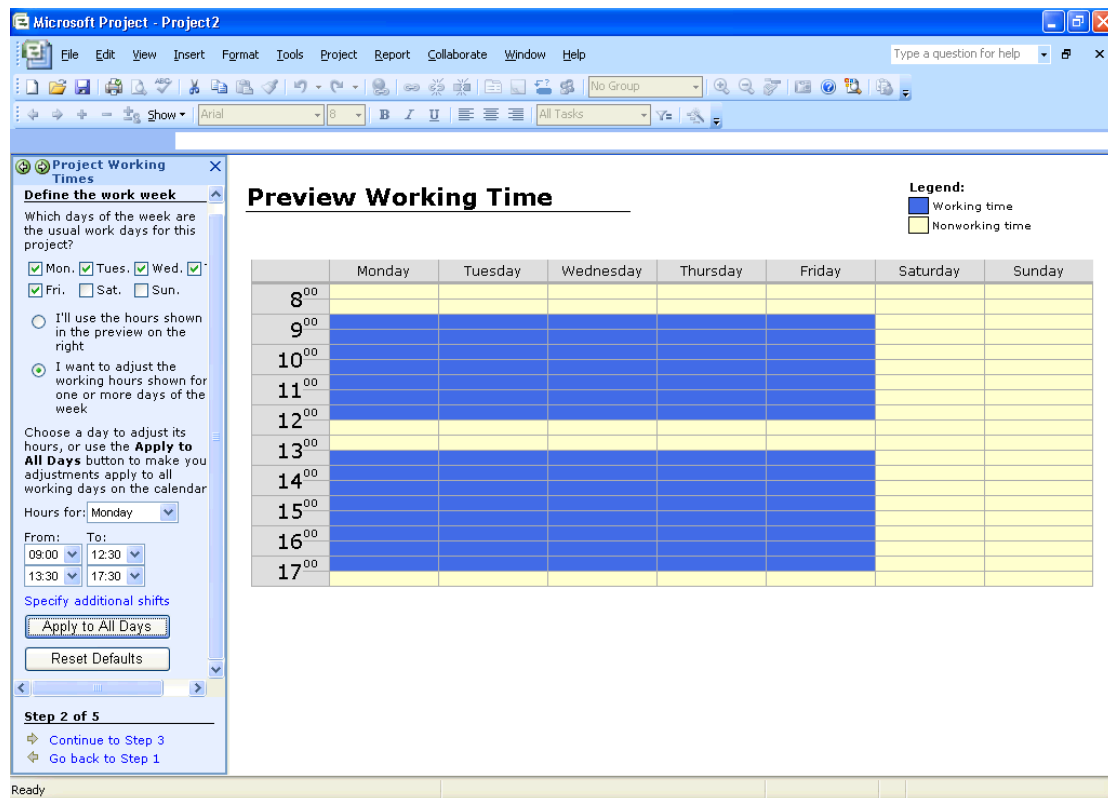
6. Click **Change Working Time** to incorporate Public Holidays into the calendar.

7.   Click on the date of the Public Holiday on the calendar. In the **Exceptions** section, type in the name of the Public Holiday – its **Start** will show as the date selected on the calendar; if the Public Holiday is for more than one day, as is the case at Easter, type in the relevant finish date in the **Finish** box. Click **Details**.
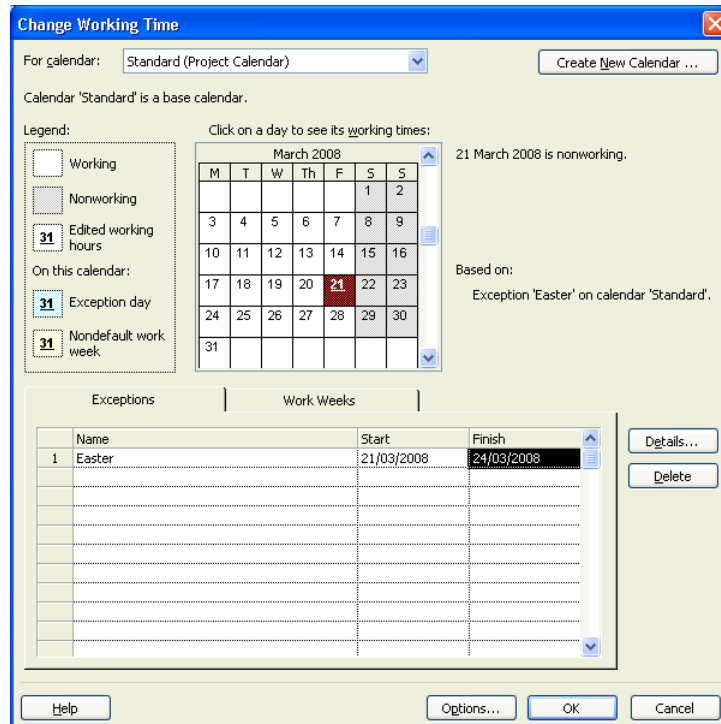
8. The **Details** dialog box is now displayed. Select **Non-working time** and click **OK**.

9. Repeat steps 7 and 8 for each Public Holiday in your project. Alternatively type in all the Public Holiday details and select all the rows before clicking the **Details** button.

10. Click **Continue to Step 4**. If you have defined a calendar with working hours that are not 8 per day and 40 per week, enter the relevant hours per days and per week here.

11. Click **Continue to Step 5**.

12. Define additional calendars if required, then click **Save and Finish**.

The Project Information dialog box

• If you have not used the **Project Guide** to set up the Start Date and Calendars
  for your project, then before you start inputting data into Project, you should
  complete the **Project Information** dialog box.

• Click **Project - Project Information**.
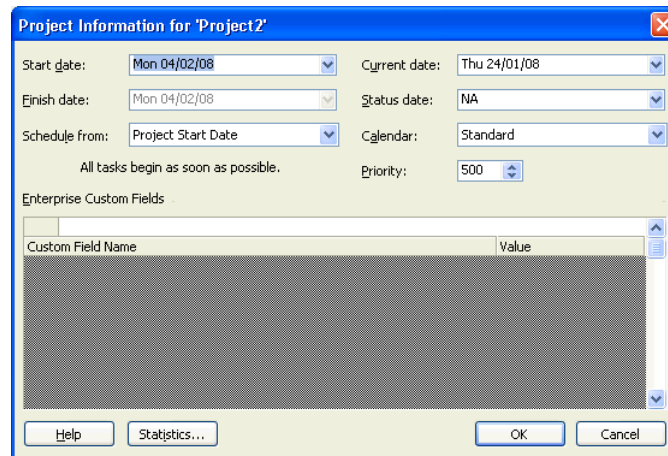
• By default, Project 2007 will assume you want to start the project on the day you
  enter project information and it will calculate the finish date from the duration of
  the project tasks. Click on the required **Start date** from the drop-down calendar.

• You can, however, opt to put in a **Finish date** instead; this means that the project
  schedule will be calculated to end on the finish date, leaving no time for slack.

• The **Current date** box normally shows today's date.

• **Status date** is used to calculated Earned Value analyses. Setting it to NA means
  it is set to the current date.

• The **Calendar** box specifies the base calendar to be used for this project.

• Once your project is under way, clicking the **Statistics** button shows how the
  project is progressing.

File Properties

The File Properties box, showing information and keyword fields for a project, can be accessed by clicking **File - Properties**.

The **General** tab shows the filename and location of your project.

The **Summary** tab can be used to type in a project **Title**, **Subject**, **Author**, **Manager**, **Company**, a project **Category**, unique project **Keywords**, any **Comments** you want to make about the project and a **Hyperlink Base**, which is the path to be used for relative hyperlinks.

The **Statistics** tab gives details such as the date the project was created, how much time has been spent editing the project, etc.

The **Contents** tab gives the start and finish dates for the project, as well as data on duration and cost.

The **Custom** tab can be used to link to underlying fields in the Project database. It will display custom summary data.

Calendars

There are various calendar types available within Microsoft Project, which can be used to make sure that dates and durations of projects are correctly calculated.

Since Microsoft Project uses the calendar while you are setting up the project, it is useful to set this up first. The easiest way is via the **Project Guide** as described earlier; otherwise follow the steps below.

The default calendar is the **Standard (Project Calendar)**. This includes weekends, Public holidays and standard working hours, and can be set to include company holidays.

If you use part-time workers or people who work at the weekend, then you will need to set up an alternative **Base Calendar** or calendars for these people.

• There is a default calendar set up within Microsoft Project called the **Standard (Project Calendar)**; on creation of a project plan this calendar will automatically be attached to your plan. This calendar can be applied to most project resources and shows weekdays as working days, weekends as non-working days and a 40 hour working week with hours of 08:00 to 12:00 and 13:00 to 17:00.

However, the default calendar does not take Public holidays into account. If all resources will be given Public holidays off, then this needs to be reflected in the project calendar. Suppose you have a project which is supposed to take 10 days, starting the Monday before Easter, and your resources will all be given Good Friday and Easter Monday off; then instead of finishing on the Friday after Easter Monday, the project will run until the end of the following Tuesday.

To modify the base calendar to take into account Public Holidays:

1. Click **Tools - Change Working Time**. The **Change Working Time** dialog box will be displayed. Assuming that all projects undertaken by your organisation will take Public Holidays into account, select **Standard (Project Calendar)** from the **For** drop-down list. The **Change Working Time** dialog box will be displayed.
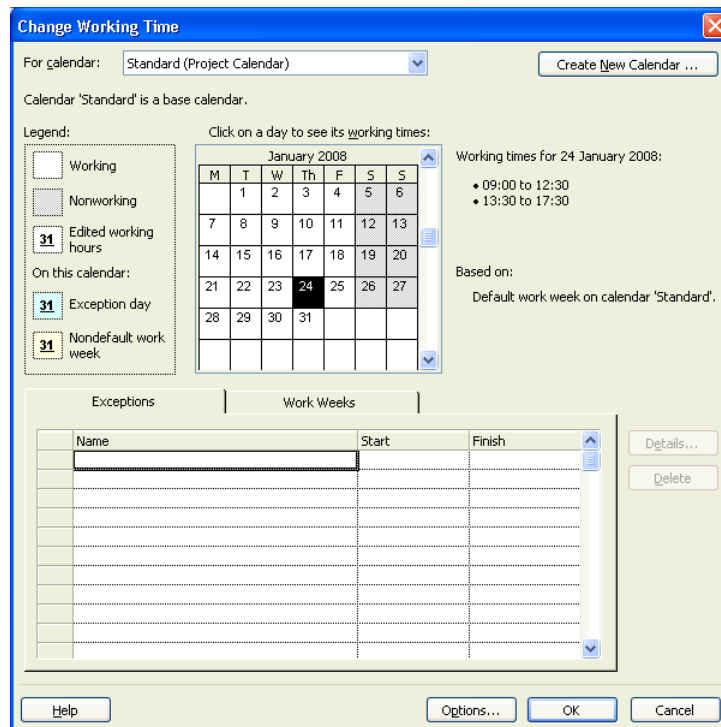
2. In the **Exceptions** section, select the first available row and type in the name of the Public Holiday. Type in its **Start** date or select it from the calendar opened by clicking on the drop-down to the right of the **Start** cell you are in. If it is a one day Public Holiday you will not need to make any changes in the **Finish** cell, otherwise type the **Finish** date or select from the calendar opened from the dropdown. Type in the rest of the Public Holidays in subsequent rows. Select all rows with dates in by holding down the **Ctrl** key while clicking. Click the **Details** button.
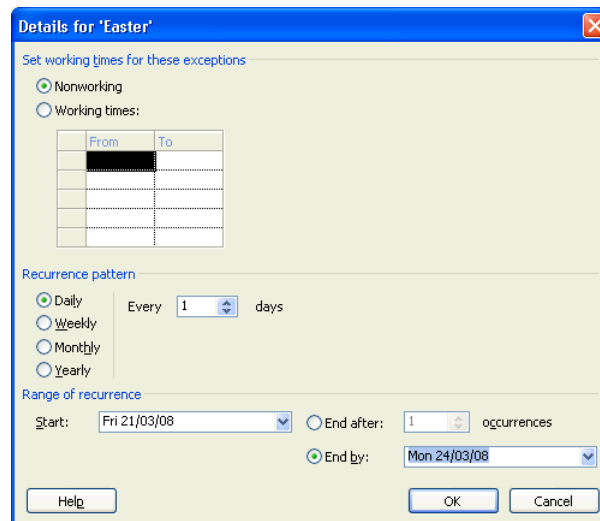

3. Click on **Nonworking time** in the **Set working time for these exceptions** section.

4. Click **OK**. The Standard calendar will now take Public Holidays into account and your project schedule will be adjusted accordingly. For example, the progress meeting scheduled for Easter Monday would now appear on the calendar as being on the Tuesday.

- It may be that everyone in your organisation works a 35 hour week instead of 40 hours (or some other number of hours). Obviously, the number of hours worked in a week will impact on the duration of the project.

To change number of hours worked for all resources:

1. Click **Tools - Change Working Time**. The **Change Working Time** dialog box will be displayed. Select **Standard (Project Calendar)** from the **For** drop-down list.

2. Select the **Work Weeks** tab.
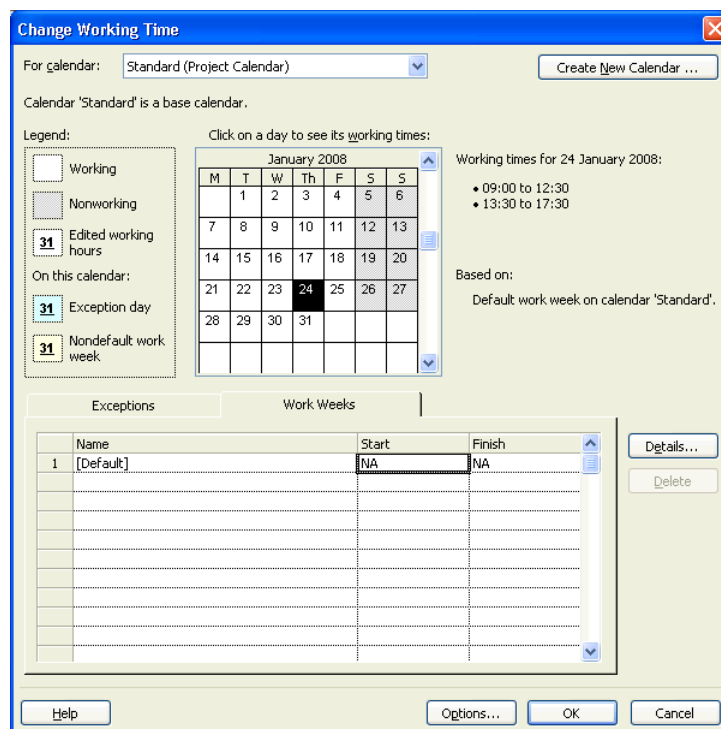
3. Select the first row as being the default schedule, then click the **Details** button.
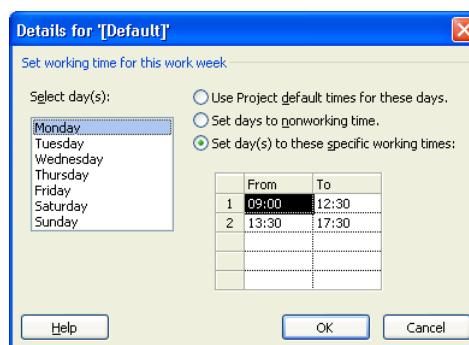
Select Monday to Friday at left hand side, then type in appropriate work times at right hand side. Click **OK**.

To save these times as default options for future use, click the **Options** button.

You will see that the default working time is set as being from 08:00 to 12:00 and from 13:00 to 17:00. To change these, click on **Options**.

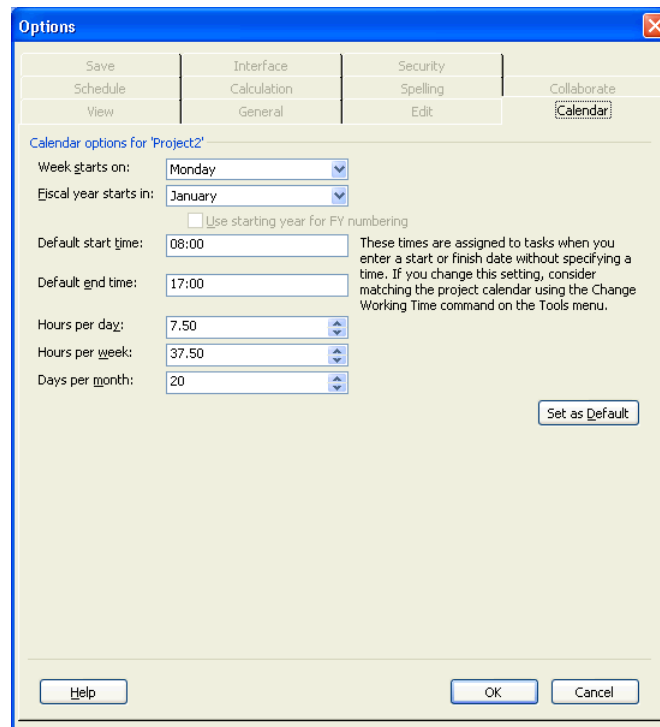Here you can change these options and can set your changes as being the default if required, by clicking **Set as Default**. Click **OK** when you are happy with these settings.

To create a new base calendar, click **Create New Calendar**. The **Create New Base Calendar** dialog box will be displayed.
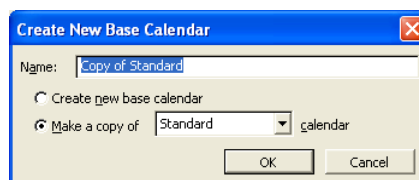
It is quite likely that in creating a new base calendar it is sensible to make a copy of the original one and then make the required changes from there, as this will reflect Public Holidays. For example, if a subsection of the workforce does a 30 hour week, take a copy of the calendar for the whole workforce, then make the required changes for your part-time staff on the new calendar.

We will look at calendars in more detail later.

Saving a Project

To save a new project:

1. Click **File - Save As** or click the **Save** 🖫 button on the **Standard** toolbar. The **Save As** dialog box will be displayed.
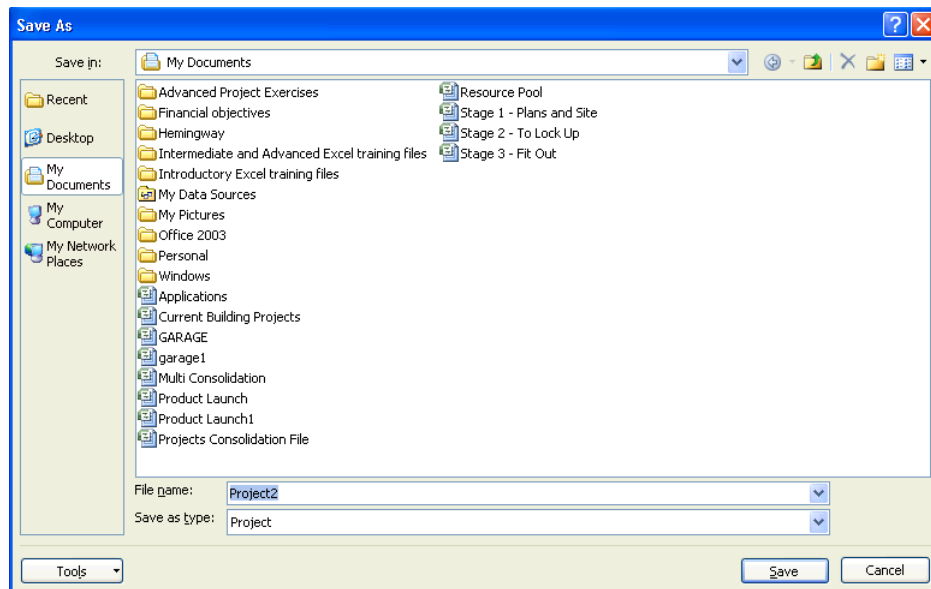

2. In the **File name** box, type in an appropriate file name.

3. In the **Save as type** box choose Project, unless you want to save your file as a database compatible with Microsoft Access, in which case you should select Project Database from the drop-down list. If your project will need to be opened by someone using an older version of Microsoft Project, select **Microsoft Project 2000 - 2003** from the **Save as type** drop-down.

4. Select the correct drive and folder in the **Save in** box, or from the **Places** bar at the left of the dialog box.

5. If you want to set passwords or save a backup copy of the file, click **Tools - General Options**. The **Save Options** dialog box will be displayed.
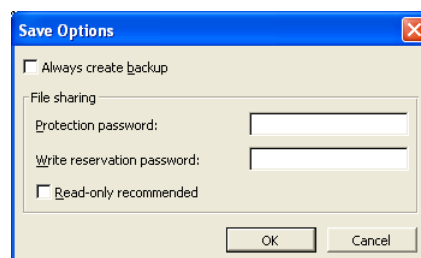
6. Type in the options required, then click **OK**.

7. Click **Save**.

- Passwords can have up to 17 characters; the write reservation password stops anyone from editing the file unless they know the password; the protection password stops anyone from opening the file unless they know the password.

- The **Always create backup** option creates a backup copy of your file with the extension .BAK.

- If you opt for **Read-only recommended**, you are prompted by Project 2007 to open the file with read-only access.

- To resave the project, click **File - Save** or click the **Save** button on the **Standard** toolbar, or press **Ctrl + S**.

Exiting Project

- To exit Project, click **File - Exit**, or click the **Close** button at the top right of

  the **Title Bar** or press **Alt + F4** or double-click on the **Application Control**
  button at the top-left of the **Title Bar**, or the similar button at the top left of the
  Menu Bar.

- You will be asked if you want to save any changes to projects made since the last
  save. Click **Yes** to save any changes or **No** to close without saving.

Tasks

Entering Tasks

- There are two main methods of entering tasks within Project, namely the **Tabular** method or by using a **dialog box**.

- Using the tabular view on the left-hand side of the Gantt chart view is the easiest way to enter basic task information.

- Dialog box entry is suited for more detailed task entry.

- You can also use the **Project Guide** for providing you with extra help in inputting tasks. Click **Tasks** on the **Project Guide** toolbar, then click **List the tasks in the project** and follow the instructions given.

To enter tasks using the Tabular method:

1. Position the cursor in the **Task Name** field in which you want to enter the task.

2. Type in the task. It will then be displayed in both the **Task Name** field and the Entry bar.
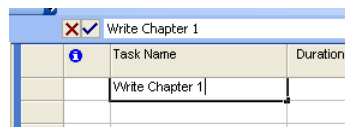
3. If what you have entered is correct, either click on the green tick, press the **Enter** key or use the arrow keys to confirm the entry and move to the **Duration** field.

4. If what you have entered is incorrect and you realise before you have confirmed it as correct, click on the red cross in the Entry bar or press the **Esc** button.

5. If what you have entered is incorrect and you realise straight after you have confirmed it before entering any other data, click on the **Undo** button.

6. If you realise at a later stage that you need to edit your task information, click on the relevant field and then click in the Entry bar. You can then edit the information in the usual way, using the arrow keys to locate the character or characters you need to change.

7. To completely overwrite a task entry, click on the relevant task in the **Task Name** field then type in the new entry.

To enter tasks using a dialog box:

1. Enter your basic task using the tabular method detailed above.

2. Double-click on the task name, or click on the task name then click the **Task Information** button on the **Standard** toolbar. The **Task Information** dialog box will be displayed.

3. Information about the task can then be entered or edited as required. Click **OK** to finish.

Task Duration

- By default, Project 2007 sets the duration of each task as being one estimated day (1d?).

- Time notation used by Project 2007 is as follows:

Time Period	Working time	Elapsed time
minutes	m	em
hours	h	eh
days	d	ed
weeks	w	ew
months	mo	emo

- If you are told you will have a delivery within 24 hours, this will usually be within 24 elapsed hours, rather than 24 working hours which is more like 3 days.

- To change task duration, click in the **Duration** field of the task you want to change, then type in the duration you want or use the up and down arrows to select the required duration.

- Alternatively, in the Gantt chart itself, position the mouse at the end of the relevant task bar, then drag to increase or decrease the length of the task bar to the required duration. As you do this, an information box will be displayed, showing the updating information.

- A **milestone** task is one that identifies a significant event in the life of the project, often the start or end of a phase. It has a duration of zero. The task is then

  represented on the Gantt chart by the ◆ 16/02 symbol.

Entering tasks from an Excel workbook

Project 2007 makes it easier to import and control data from Excel to start a Project plan by use of the **Excel Import Wizard and Task List Template**.

Using predefined or custom export/import maps, these wizards provide you with easy-to-follow instructions for placing exported or imported data in the appropriate destination fields.

The Import Wizard can also help you merge data from another file format into an existing project. When merging data, information is added to your project, and existing data is updated, but not deleted. Merging is powerful and useful. You can use it to synchronise your project data with information in another system.

To use the Import Wizard to import tasks from Excel:

1. In the **Tasks** section of the **Project Guide**, click **List the tasks in the project**, then click **Import wizard**; alternatively, click **File - Open** as the Import Wizard will appear automatically when you select a file to open that has a file format of: Microsoft Access Database, Microsoft Excel Workbook, Text, CSV, or XML Format.
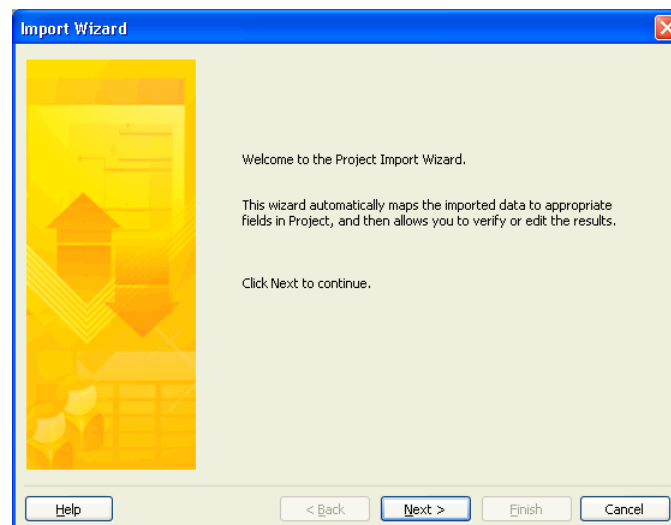
2. Click **Next**. Select whether you want to create a **New map** or whether you want to **Use existing map** (one you have previously created or one of the ready-made maps created by Project).

3. Click **Next**. If you have selected **Use existing map**, you will be given a list of maps from which to make your selection. Once you have chosen the required map, or if you select **New map**, you will be asked whether you want to import the file **As a new file**, **Append the data to the active project** or **Merge the data into the active project**. Make your choice then click **Next**.
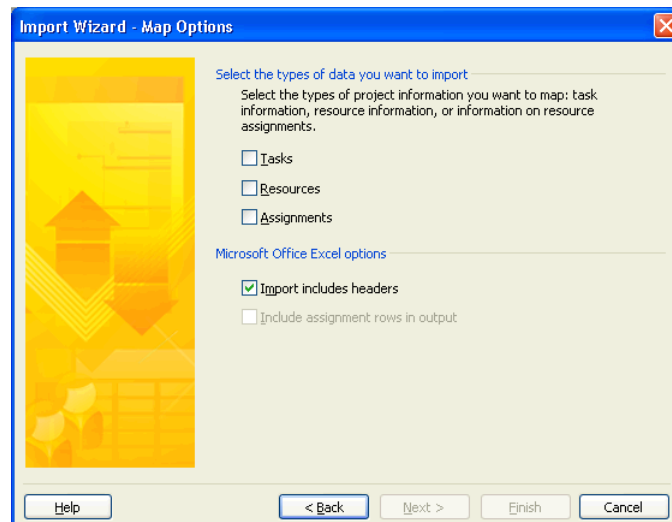
4. Select the type(s) of data you wish to import - **Tasks**, **Resources** and/or
    Assignments. Select whether your Excel spreadsheet includes headers, then
    click **Next**.
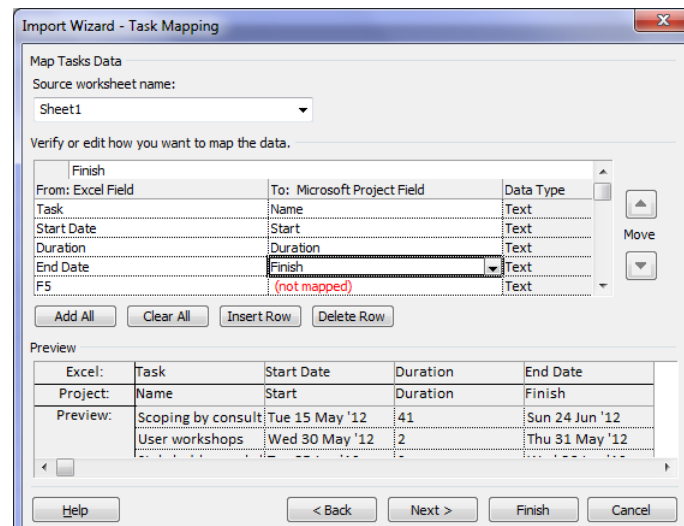
5. Select the relevant worksheet from the **Source worksheet name** drop-down list.
    A preview of your information can be seen at the bottom of the dialog box. To
    select all fields, click **Add All**. To delete a field, click **Delete Row**. To add in an
    extra field, click **Insert Row**. Click **Next**.

6. To save the map for future use, click **Save Map**. If you will not need to use the
    map again, click **Finish**. The data will be input into your project.

Outlook task lists

You can use Project 2007 to import some or all of the tasks in an Outlook task list to create a project plan.

To do this:

1. Click **Tools - Import Outlook Tasks**. You may get a warning message; select that you want to allow access to Outlook, then click **Yes** to continue. The **Import Outlook Tasks** dialog box will be displayed.
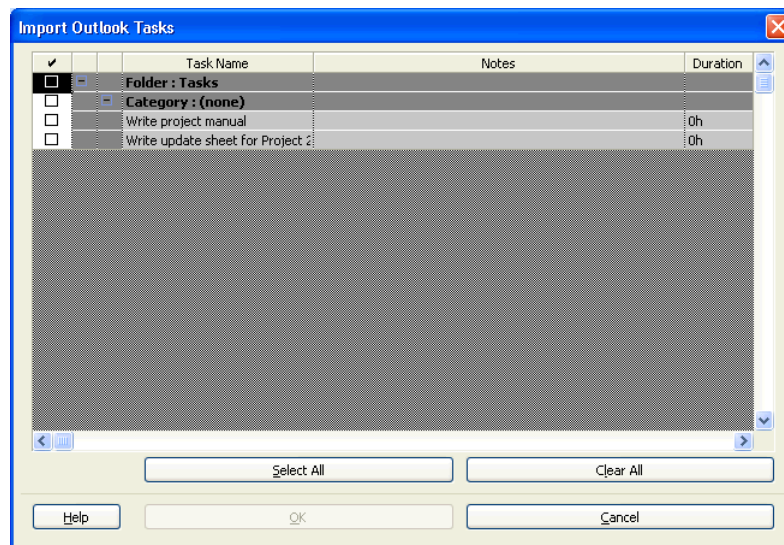
2. Select the tasks you want to import.

    a. To select an individual task, click the task's check box.
    b. To select all tasks in a specific folder, click the folder's check box.
    c. To select all tasks, click **Select All**.
    d. To deselect all tasks, click **Clear All**.

3. Click **OK**. The selected tasks will be imported into the current project, appending them to any existing tasks within the project.

4. Schedule the tasks as required within Microsoft Project.

Creating recurring tasks

- A recurring task is one that occurs on a regular basis - daily, weekly, monthly or annually.

- It is a good policy not to create recurring tasks until you have entered all other tasks into the project and set up the linkages between them. Microsoft Project can then work out for you how many recurring tasks you will require if they are to recur on a regular basis throughout the duration of the project.

To create a recurring task:

1. Click **Insert - Recurring Task**. The **Recurring Task Information** dialog box will be displayed.
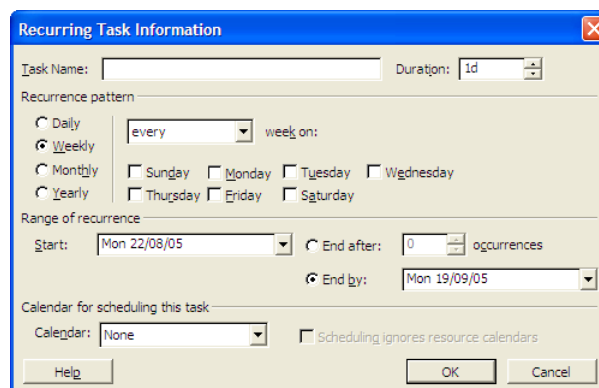
2. Type in the name of the task in the **Task Name** box.

3. Type in the duration for each occurrence of the task.

4. In the **Recurrence pattern** section, click on one of **Daily**, **Weekly**, **Monthly** or **Yearly**.

5. In the **Frequency** section, click on the relevant day for the meeting and from the drop-down list specify how frequently you want the meeting to occur e.g., if you indicated weekly, you can now specify whether you actually mean every week or fortnightly, etc.

6. By default, Project 2007 assumes that the overall duration of a recurring task is from the start of the project until the end of the project – (that is why it is sensible to add recurring tasks after you have worked out the relationships between all the other tasks in the project). If this is not the case, enter the relevant date for the first occurrence of the task in the **From** box, and/or a relevant date for the last occurrence of the task in the **To** box. Another option is to specify how many times you want the task to recur in the **For occurrences** box.

7. Click **OK** or press **Enter**.

- The symbol for a recurring task will appear in the field next to the relevant task name, and there will be a + sign next to the recurring task name.

- If you need to alter the information for a particular recurrence of the task, for example you need to change the day of the meeting one week because of a Public Holiday, click the + sign next to the recurring task name in the Gantt view. You will now see each occurrence of the task on a separate row. Double-click on the particular occurrence you need to change and enter in the relevant information in the dialog box.

Inserting new tasks into the schedule

- To insert a new task into the schedule, click on the ID number of the task which will follow the new task, then click **Insert - New Task** or press the **Insert** button on the keyboard. Alternatively, right-click on the ID number of the task which will follow the new task, then from the shortcut menu, click **New Task**.

- To insert a block of new tasks into the schedule, first select, by dragging, a block the size of the required block, the first task of which is the first task that will follow the new tasks. Click **Insert - New Task** or press the **Insert** button on the keyboard, or right-click and click **New Task** from the shortcut menu.

Moving tasks within the schedule

To move a task within the schedule using the toolbar:

1. In the ID field, select the task you want to move. To select one task, click its task ID number. To select a group of adjacent tasks, hold down **Shift**, and then click the first and last ID numbers of the group. To select several nonadjacent tasks, hold down **Ctrl**, and then click the ID numbers.

2. To move the task, click the **Cut** button on the **Standard** toolbar.

3. In the ID field, select the rows where you want to paste the selection.

4. Click the **Paste** button on the **Standard** toolbar.

- If there is already information in the destination row, the new rows will be inserted above the destination row.

- To move a task using the mouse, select the entire row, position the pointer over the row heading, and then drag the task to its new location.

Deleting a task from the schedule

- To delete one or more tasks, select the relevant task or tasks, then either click the right mouse button, then from the shortcut menu, click **Delete Task**, or click **Edit - Delete Task** or press the **Delete** key on the keyboard.

- If you delete a summary task, all of its sub tasks will also be deleted.

Creating an Outline for the Schedule

- A project outline is a hierarchical structure showing how tasks fit together into particular groupings for different phases of a project.

- Project 2007 shows subtasks indented under summary tasks. Summary tasks are shown in bold.

- Up to ten levels of outlining can be applied.

	ⓘ	Task Name	Duration	Start	Finish
1		⊟ **Project manual**	**9 days**	**Mon 04/02/08**	**Thu 14/02/08**
2		Manual prepartion	5 days	Mon 04/02/08	Fri 08/02/08
3		Review	1 day	Mon 11/02/08	Mon 11/02/08
4		Necessary edits	0.5 days	Tue 12/02/08	Tue 12/02/08
5		Proofreading	1 day	Tue 12/02/08	Wed 13/02/08
6		Necessary edits	0.5 days	Wed 13/02/08	Wed 13/02/08
7		Printing	1 day	Thu 14/02/08	Thu 14/02/08
8		Manual complete	0 days	Thu 14/02/08	Thu 14/02/08
9		⊟ **Project CBT**	**11.5 days**	**Fri 15/02/08**	**Mon 03/03/08**
10		Material to developer	0.5 days	Fri 15/02/08	Fri 15/02/08
11		Preparation by develop	10 days	Fri 15/02/08	Fri 29/02/08
12		Proofreading	0.5 days	Fri 29/02/08	Fri 29/02/08
13		Necessary edits	0.5 days	Mon 03/03/08	Mon 03/03/08
14		CBT complete	0 days	Mon 03/03/08	Mon 03/03/08
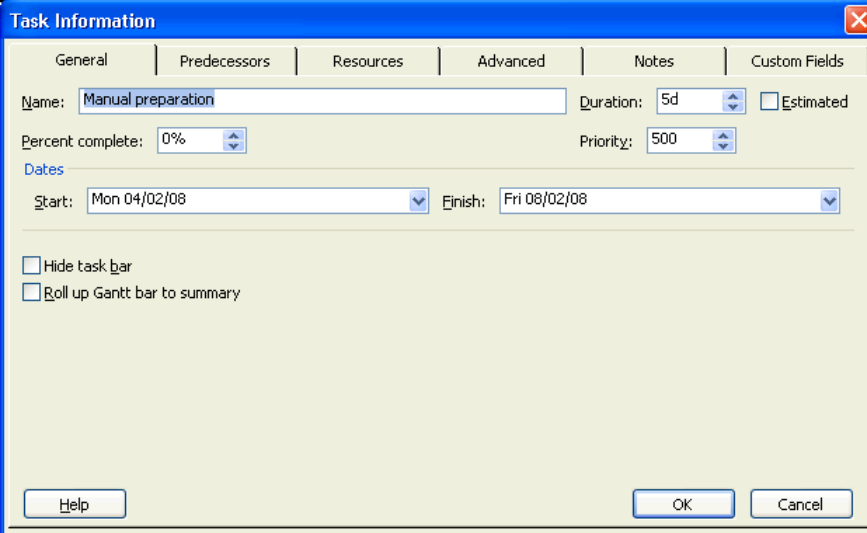
To add outlining to the schedule:

1. Insert as a new task the summary task that will outline the particular phase of your project, leaving the duration of the task at its default of one day.

2. Select the tasks that should be within the summary task and click the **Indent** button on the **Formatting** toolbar.

3. To outdent a task, click the **Outdent** button on the **Formatting** toolbar.

- Project 2007 calculates the duration of the summary tasks automatically, once the outline has been applied.

- If you add a new task after outlining it will automatically be indented at the level of the preceding task.

- Next to each summary task, you will see either a + or a - symbol. If the + sign is showing, it means that the subtasks are hidden and clicking on the + symbol will reveal the subtasks. If the - sign is showing it means that all tasks in the particular phase are displayed; to hide the subtasks, click the - sign.

- To show all hidden tasks and their ID numbers, click the **Show** button on the **Formatting** toolbar, then click **All Subtasks**.

- To use the **Work Breakdown Structure** to identify phases and subtasks, click **Tools - Options - View - Show Outline Number**. Your tasks and subtasks will then be numbered.

	ⓘ	Task Name	Duration	Start
1		⊟ 1 Project manual	9 days	Mon 04/02/08
2		1.1 Manual prepartion	5 days	Mon 04/02/08
3		1.2 Review	1 day	Mon 11/02/08
4		1.3 Necessary edits	0.5 days	Tue 12/02/08
5		1.4 Proofreading	1 day	Tue 12/02/08
6		1.5 Necessary edits	0.5 days	Wed 13/02/08
7		1.6 Printing	1 day	Thu 14/02/08
8		1.7 Manual complete	0 days	Thu 14/02/08
9		⊟ 2 Project CBT	11.5 days	Fri 15/02/08
10		2.1 Material to develop	0.5 days	Fri 15/02/08
11		2.2 Preparation by dev	10 days	Fri 15/02/08
12		2.3 Proofreading	0.5 days	Fri 29/02/08
13		2.4 Necessary edits	0.5 days	Mon 03/03/08
14		2.5 CBT complete	0 days	Mon 03/03/08

Using the Task Information dialog box

• The **Task Information** dialog box is used to enter more information about particular tasks.

• It can be accessed by double-clicking on the **Task name** that you want more detailed information about, or by clicking the [button icon] button on the **Standard** toolbar.

• The **Task Information** dialog box has six tabs, **General**, **Predecessors**, **Resources**, **Advanced**, **Notes** and **Custom Fields**.

Task information that can be defined on the **General** tab includes:

Name	The name of the task
Duration	The duration of the task measured in minutes, hours, days, weeks or months
Percent complete	How much of the task in progress has been completed
Priority	From **Highest** (1000) down to **Lowest** (0). Use to ensure that those tasks which need to be completed first have highest priority
Dates	Project 2007 will have worked out start and finish dates for a particular task from the order and duration of tasks. You may change the start or finish date of a particular task, but this will place a constraint on it.
Hide task bar	Checking this option hides the Task bar (far left of window) when you are working in Gantt Chart View
Roll up Gantt bar to summary	If you roll up the Summary task, tasks will be displayed as markers

Additional task information that can be defined on the **Predecessors** tab includes:

Predecessors   Information about tasks that are linked to the current task and which have to be done before this task. Information about the type of link and lead or lag time can be seen or edited here. A drop-down menu can be activated by clicking on a task name or type.

Additional task information that can be defined on the **Resources** tab includes:

Resources   Information about resources (usually personnel or equipment) can be displayed or edited. A drop-down menu can be activated by clicking on a resource name, allowing quick selection of the relevant resource.

Additional task information that can be defined on the **Advanced** tab includes:

Constrain task   Imposes constraints as to when a task has to be, or can be, done.

Mark task as milestone   Checking this box sets a task as a milestone. This can also be done by setting the duration to zero.

WBS code   This is the Work Breakdown Structure Code, showing where in the project hierarchy a particular task is.

Task type   Defines whether your task schedule is **Fixed Units**, **Fixed Work** or **Fixed Duration**.

Effort driven   Indicates whether the total task work is to be kept at its current value in terms of duration of task etc.

Additional task information that can be defined on the **Notes** tab includes:

Notes   Any notes that you want to make about the task can be entered here. If you have notes, the symbol will appear in the information column. Moving the mouse pointer over the note symbol caused the contents of the note to be displayed.

The **Custom Fields** tab shows any custom task fields that you have created.

Types of task relationships

- Tasks within a project are often related to each other, thus defining the order of events within the project.

- Tasks can often be linked together to create relationships.

- A task that must start or finish before another can begin is called a **predecessor** task. A task depending on the start or finish of a preceding task is called a **successor** task.

- The four different relationship types within Project 2007 are **Finish to Start (FS)**, **Finish to Finish (FF)**, **Start to Start (SS)** and **Start to Finish (SF)**.

- A **Finish to Start** relationship is the most common relationship within a project, and is when the start date of one task is dependent on the finish date of its predecessor. If the finish date of the first task slips, then the start date of its successor also slips. This type of relationship is the default within Project 2007.

- A **Finish to Finish** relationship is when a task cannot finish until its predecessor finishes.

- A **Start to Start** relationship is when a task can start as soon as its predecessor starts.


- A **Start to Finish** relationship is when a task can finish when its predecessor starts. This relationship is not often used.

Specifying leads and lags

- It is not always desirable to wait until one task finishes before starting on the next one or to start a new task as soon as the previous one finishes. You may to bring forward or put back the start time or a successor task. This is known as setting a **lag** or a **lead** time.

- **Lead time** implies that one task starts before its predecessor finishes e.g. someone can start proof-reading a manual once they have received the first few chapters - they don't need to wait for the whole manual to be written first.

- **Lag time** implies that time should be left after the predecessor finishes before the successor starts, e.g. if you have plastered walls, you need to allow time for the plaster to dry before you can start painting the walls.
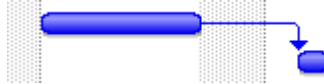

- Within Project 2007, lag and lead times can be expressed as units of time or as a percentage of the duration of the predecessor task.

- Using the percentage method means that Project will automatically adjust the lag or lead if the duration of the predecessor task changes.

Creating Task Relationships

*To create task relationships using the **Project Guide:***

1. In the Gantt table, select two or more tasks that should be linked. By default, Project 2007 will link starting from the top of the task list. To have Project 2007 link the tasks in the order in which you have selected them, select the first task, then hold down the **Ctrl** key whilst selecting the other tasks in the order in which you want them linking.

2. In the **Project Guide** toolbar, click **Tasks**.

3. Click **Schedule tasks**.
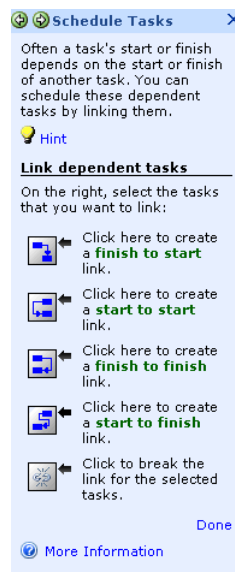
4. Click on the link required.

*To create a **finish to start** relationship without using the Project Guide:*

1. In the Gantt table, select two or more tasks that should be linked. By default, Project 2007 will link starting from the top of the task list. To have Project 2007 link the tasks in the order in which you have selected them, select the first task, then hold down the **Ctrl** key whilst selecting the other tasks in the order in which you want them linking.

2. Click the **Link Tasks** button on the **Standard** toolbar or click **Edit - Link Tasks** or press **Ctrl + F2**.

3. Each task will be linked to the next in a **finish to start** relationship.

*To create a **finish to start** relationship using the mouse:*

1. In the Gantt chart view, position the mouse on the task bar of the first task you want to link; the pointer changes shape to a four-way arrow.

2. Click and hold down the left mouse button, then drag vertically up or down to the successor task; the pointer changes shape to a chain link.

3. Release the mouse button when you are over the successor task bar. The tasks will now be linked in a **finish to start** relationship.

*To create a relationship other than a **finish to start** relationship:*

1. Set up your relationship as though it was a finish to start relationship.

2. In the Gantt chart, position your mouse pointer directly over the link line of the tasks whose relationship type you want to change; double-click with the mouse. The **Task Dependency** dialog box will be displayed.
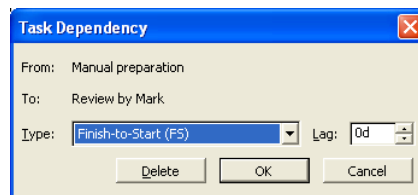
3. Use the drop-down arrow at the right of the **Type** box to select the required relationship. Click **OK**.

Adding Lag or Lead Time to a relationship

1. In the Gantt chart, position your mouse pointer directly over the link line of the tasks whose relationship type you want to add a lag or lead time to; double-click with the mouse. The **Task Dependency** dialog box will be displayed.
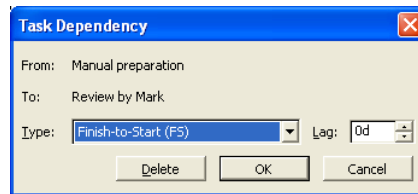
2. In the **Lag** box, either use the arrow to enter a lag or lead time, or type in the required lag or lead time; lead is indicated as a negative lag. Click **OK**.

- A lag time of three days is written as 3d.
- A lead time of three weeks is written as -3w.
- A lag time equivalent to 25% of the predecessor's duration is written as 25%.
- A lead time equivalent to 50% of the predecessor's duration is written as -50%

Alternatively:

1. In the **Task Name** field, select the task you want to set lead or lag time for, and then double-click to display the **Task Information** dialog box.

2. Click the **Predecessors** tab.
3. In the **Lag** field, type the lead time or lag time you want as a duration or as a percentage of the predecessor task duration.

Removing task relationships

1. In the Gantt table, select the tasks that you no longer want linking.

2. Click the **Unlink** button on the **Standard** toolbar, or click **Edit - Unlink Tasks**.

To remove task relationships using the mouse:

1. In the Gantt chart, position your mouse pointer directly over the link line of the tasks that you no longer want linking; double-click with the mouse. The **Task Dependency** dialog box will be displayed.

2. To remove the link, click **Delete**; click **OK**.

Editing task relationships

*To edit task relationships using the **Task Information** dialog box:*

1. Double-click on the successor task name in the Gantt table, or click on the successor task name then click the **Task Information** ![icon] button on the **Standard** toolbar. The **Task Information** dialog box will be displayed.

2. Click the **Predecessors** tab. Edit the information as required. Click **OK**.

To edit task relationships using the Gantt chart sheet:
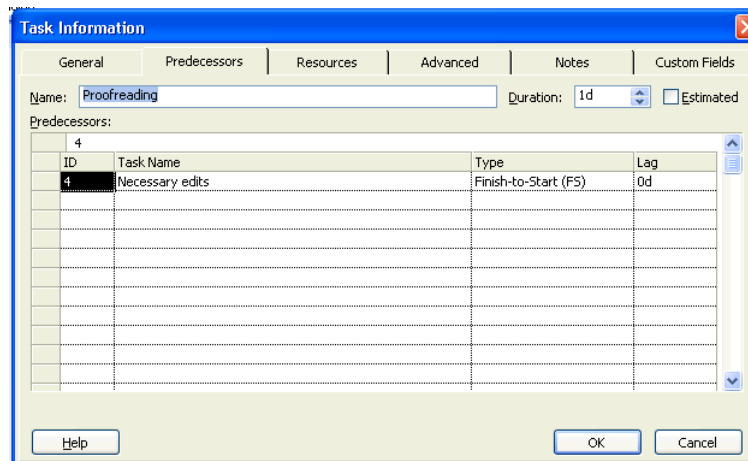
1. Position the mouse pointer over the vertical line separating the Gantt table from the Gantt chart; the pointer changes to a double vertical bar with two horizontal arrows. Drag towards the right until the Predecessors column can be seen. Release the mouse button.

2. Text in the **Predecessors** column can now be edited as required to change the relationship type or to change lag or lead times.

Task Constraints

- By default, when tasks are entered into Microsoft Project, they are assigned to start either **As Soon As Possible (ASAP)** or **As Late As Possible (ALAP)**.

- Which of the two options they are assigned to, depends on whether you choose **Project Start Date** or **Project Finish Date** in the **Schedule from** box of the **Project Information** dialog box, when you first started setting up the project.
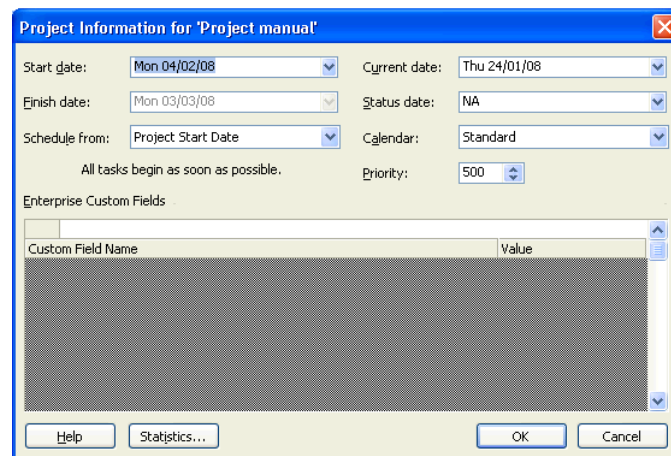
- Choosing **Project Start Date** means that tasks are automatically assigned to start **As Soon As Possible**; choosing **Project Finish Date** means that tasks are automatically assigned to start **As Late As Possible**.

- Other constraints can be applied within Microsoft Project, instead of the two defaults.

- **Finish No Earlier Than (FNET)** constraint means that the task must finish on or after the date you set. This constraint is automatically assigned by Microsoft Project if you enter a finish date for the task.

- **Start No Earlier Than (SNET)** constraint means that the task must start on or after the date you set. This constraint is automatically assigned by Microsoft Project if you enter a start date for the task.

- **Finish No Later Than (FNLT)** constraint means that the task must finish on or before the date you set.

- **Start No Later Than (SNLT)** constraint means that the task must start on or before the date you set.

- **Must Finish On (MFO)** constraint means that the task has to finish on a specific date.

- **Must Start On (MSO)** constraint means that the task has to start on a specific date.

To add constraints to a task:

1. Double-click on the task name in the Gantt table, or click on the task name then click the **Task Information** button on the **Standard** toolbar. The **Task Information** dialog box will be displayed.

2. Click **Advanced**.
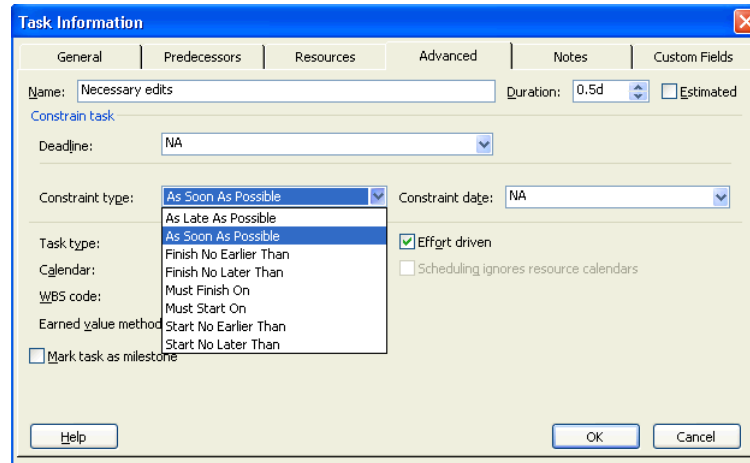
3. Click on the drop-down arrow at the right of the **Constraint type** box under **Constrain task**. Select the required constraint.

4. If the constraint you have selected is not either **As Soon As Possible** or **As Late As Possible**, you must type in a relevant date in the **Constraint Date** box.

5. Click **OK**.

• To set a **Start No Earlier Than** constraint, you can position your mouse pointer on the centre of the relevant task bar, and drag the task to the new start date.

Constraints can also be set using the **Project Guide**. On the **Project Guide** toolbar, click **Tasks**. Click **Set deadlines and constrain tasks**. Follow the instructions there.

Task Drivers

Task drivers can be used to trace the source of issues by showing which factors affect the start date of a task. Predecessors, constraints, project start date and calendar exceptions are all examples of possible task drivers. As changes are made, it becomes easy to identify task schedules, and to follow a chain of factors back to work out what is causing a particular delay.

To use Task Drivers:

1. Select the task whose drivers you wish to view.

2. Click the **Task Drivers** toolbar button. The **Task Drivers** pane will be displayed.

The information displayed will depend what is applicable but can include:

- Actual Start and Assignments – if actual data was entered for a task, the actual start date will be displayed, along with the data that initiated the task. If, for example, you had planned a task to start on 8th February and you assign Janet to the task, an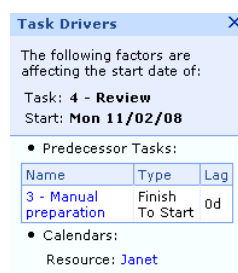d she reports back that she started on that date and records her actual hours for the week. It will then be impossible to put back the start date of the task, and the **Task Drivers** pane shows you why this is not possible.

- Leveling Delay – If you have applied a leveling delay, tasks may be delayed to prevent overallocation of resources. The **Task Drivers** pane will show you the amount of time the task is delayed because of resource leveling. This may help you in deciding to assign another resource to the task to avoid delaying the task.

- Constraint Type and Date – the type of constraint that is applied to the task and its associated constraint date. If you try and make a change to the starting date of a task, you will see from the **Task Drivers** pane whether this will conflict with a particular constraint.

- Summary Task – if there are constraints on a summary task that affects the dates of subtasks, the summary task will be listed in the **Task Drivers** pane when the subtask is selected. The subtasks are affected by the constraints of the summary task, rather than the start date of the project.

- Predecessor Tasks – if your tasks are linked, the predecessor task are shown in the **Task Drivers** pane along with their constraint types and

any lag or lead times. If you click on the name of a predecessor task in the **Task Drivers** pane, you will see its drivers

- Subtasks – if you have selected a subtask, the **Task Drivers** pane will show the subtasks and summary tasks that are driving the schedule.

- Calendars – if the working time that is outlined on the calendar for the selected task affects the scheduling of the task, the calendar name will be displayed on the **Task Drivers** pane. Click on the calendar name will give information about the working and non-working time for that calendar. This can be helpful in discovering why tasks have been delayed due to non-working days, etc.

Critical Path

Defining a critical path

- The critical path is the series of tasks that must be completed on schedule for a project to finish on schedule.

- A delay to any one of the tasks in the critical path will cause a knock on effect right through to the end of the project.

- Project 2007 automatically calculates the critical path through your project once you have defined all your tasks' durations and relationships.

- Each of the tasks, which linked together form the critical path, is called a critical task.

- To view the critical path, click **More Views** on the **View bar**. The **Views** list will be displayed. Select either **Detail Gantt** or **Tracking Gantt**, and click **Apply**. The critical tasks will be shown in red.
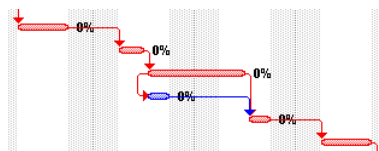
- To see the critical tasks, while in **Gantt Chart** view, click on the drop-down arrow in the **Filter** box, and select **Critical Tasks**. Only your critical tasks will then be displayed in the Gantt Chart.
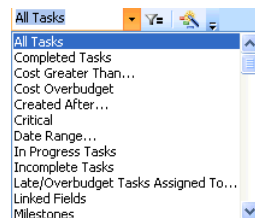
- If a project deadline has to be met, the schedule can be shortened. Ways of achieving this include:

  1. Reduce the duration of individual tasks by assigning additional resources, increasing the working hours of resources or assigning overtime work

  2. Cut the scope of the project, i.e. cut out some critical, but non-crucial, tasks

  3. Reschedule tasks to start earlier than originally planned

- The critical tasks with the longest duration have the greatest effect on the critical path.

- Non-critical tasks will eventually become critical if they are lengthened or delayed for long enough!

Slack

- **Slack** is defined as the amount of time a task can slip before it affects another task's dates or the project finish date. It is also sometimes known as float time.

- **Free slack** is the amount of time a task can slip before it delays another task.

- **Total slack** is the amount of time a task can slip before it delays the project finish date.

- When the total slack is negative, the task duration is too long for its successor to begin on the date required by a constraint.

- Slack is shown on the **Detail Gantt** by a thick dark line that is attached to the bottom right corner of the task bar.

Customising the Gantt Chart

The Gantt Chart can be customised using the Gantt Chart Wizard.

To customise your Gantt Chart:

1. Click on the **Gantt Chart Wizard** [icon] toolbar button. The first **Gantt Chart Wizard** dialog box will be displayed.

2. Click **Next**. The second **Gantt Chart Wizard** dialog box will be displayed.
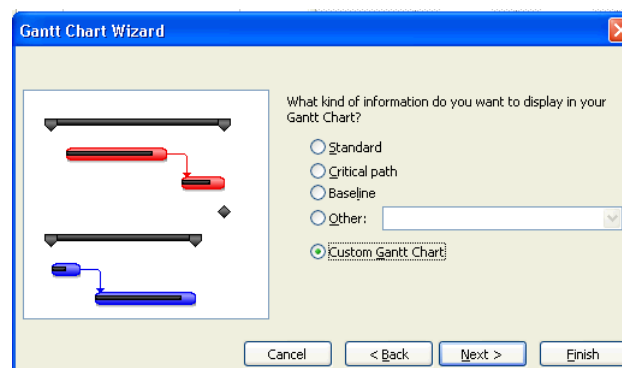
3. Select one of the options, then click **Next**. Having opted for **Custom Gantt Chart** I am now asked whether I want to display bars representing critical and noncritical tasks differently. Click on an option, then click **Next**.
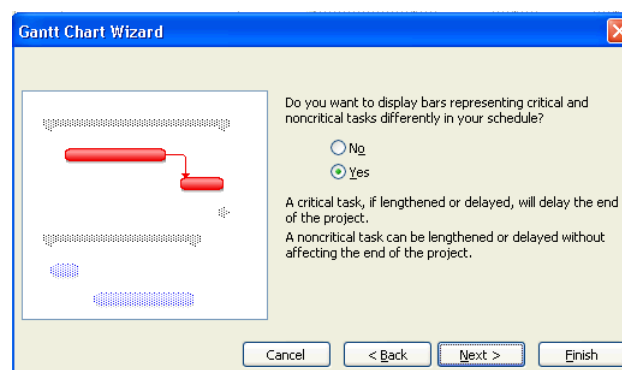
4. Options as to colours, patterns and end shapes for the Gantt bars representing critical tasks are then offered. Make the required selections, then click **Next**.
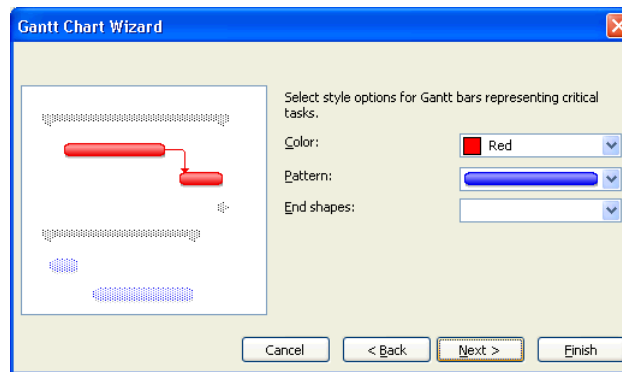
5. Options for Gantt bars representing normal tasks are then given. Make required selections, then click **Next**.
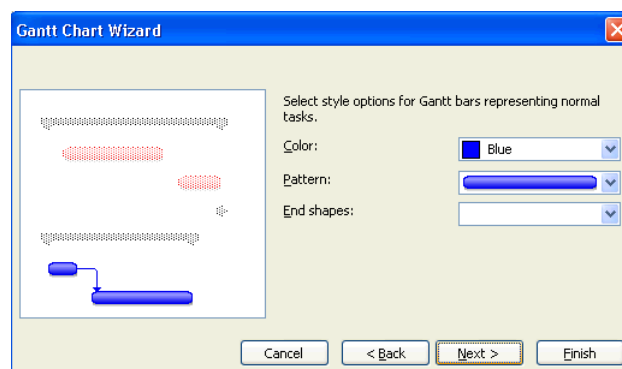
6. Options for Gantt chart bars representing summary tasks are then offered. Make required selection, then click **Next**.
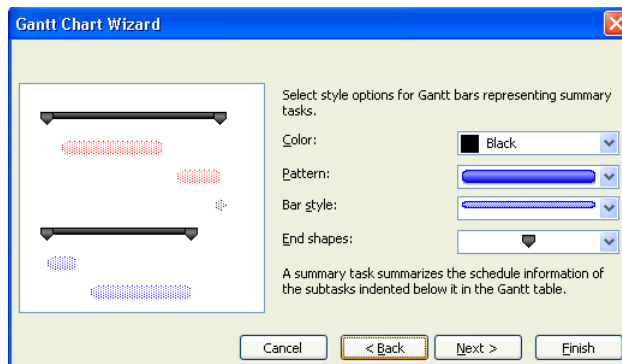
7. Options for the symbol offering milestones are then offered. Make required selections, then click **Next**.
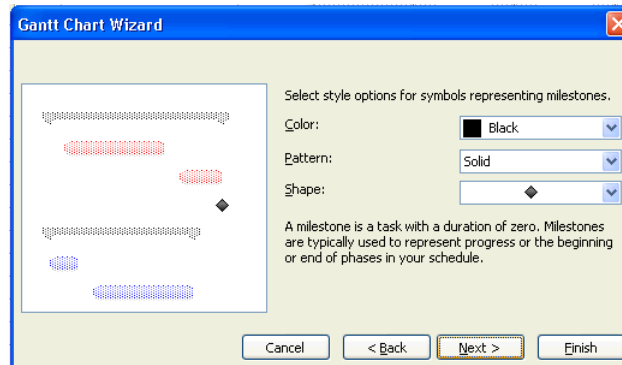
8. You are then asked whether you want to display any additional Gantt bars. Make your selection from list of options, then click **Next**.
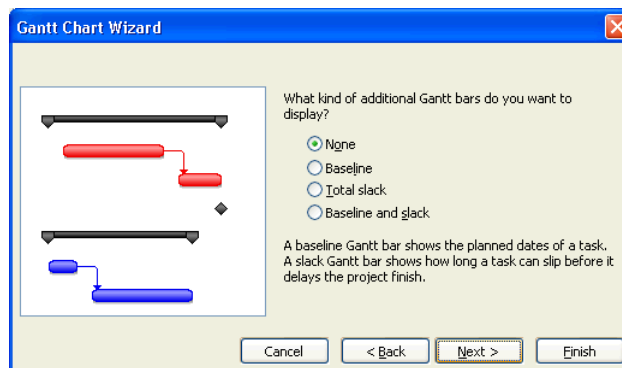
9. You are then asked what task information you want displaying with your Gantt bars. Select one of the options, then click **Next**.
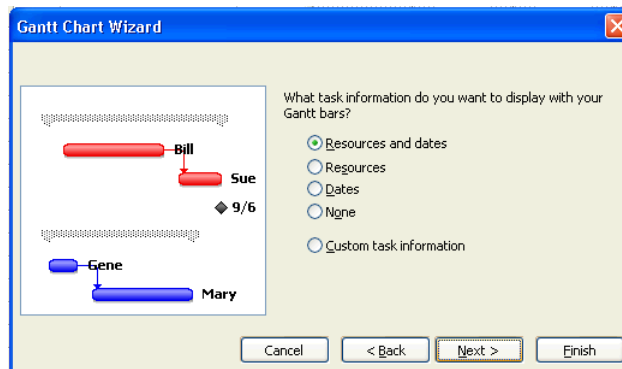
10. You are then asked whether or not you want to show lines between dependent tasks. Make your choice, then click **Next**.
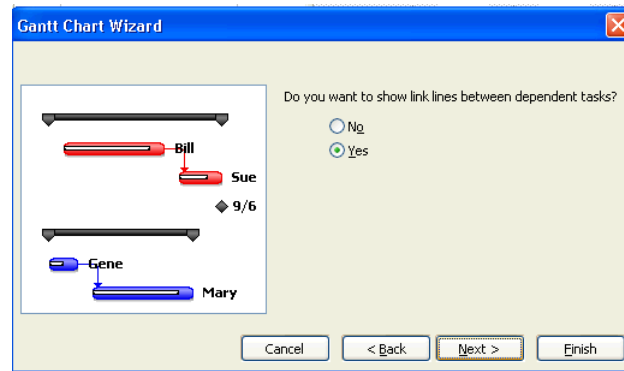
11. If you now click **Format It**, the required formatting will be displayed. Click **Exit It** to exit the wizard.
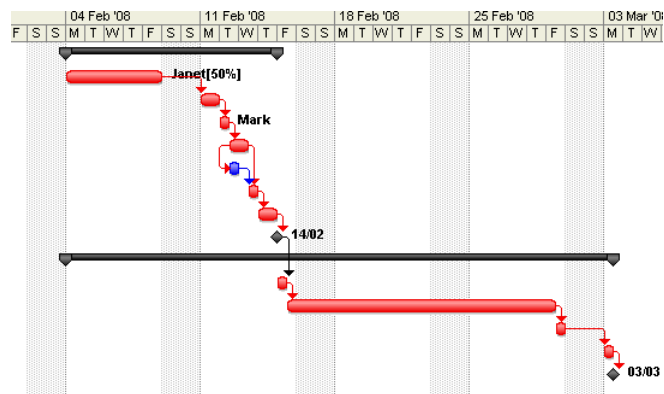
Bar styles can also be formatted by clicking **Format - Bar Styles**. The **Bar Styles** dialog box will then be displayed.
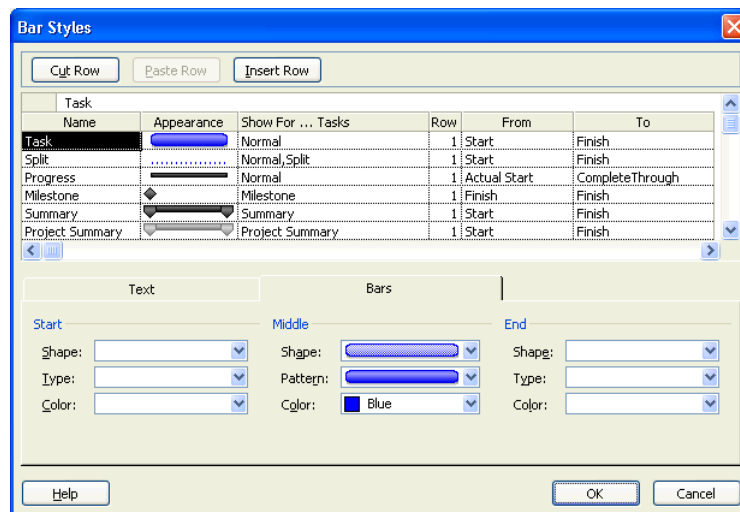
Selections can then be made using the drop-down arrows next to the appropriate box. Click **OK** when you have made your required choices.

Views, Tables and Filters

Using Built in Views

So far, we have mainly concentrated on using Gantt Chart view, but many other views are available within Microsoft Project. The View bar is to the left of the window – if it is not visible, click **View - View bar**.

The three basic types of view used to display project data are **Chart** or graph views, **Sheet** views and **Form** views.

Sheet views show data in rows and columns in a tabular format, similar to a spreadsheet. Show below is the Task Sheet view.

Data is often entered for tasks or resources using a form view. Shown below is a Task Form.

To use a particular view, click on its name in the **View bar** or click **View** - **More Views**, select your required view, then click **Apply**.

It is often useful to be able to see two views at once - this is known as a dual pane or combination view. It can be useful to have a Task Entry dual pane window, where the Gantt chart is towards the top of your window and the Task Form is in the lower part of you window. This can be obtained by clicking **More Views** in the **View bar** followed by **Task Entry**, then **Apply** in the **More Views** box.
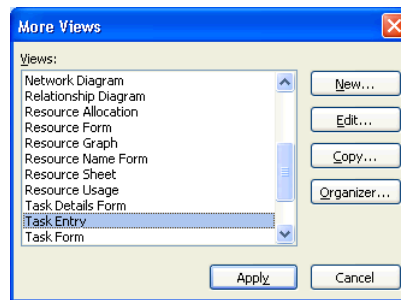
Alternatively, click **Views - More Views**. Again, the **More Views** dialog box will be displayed.
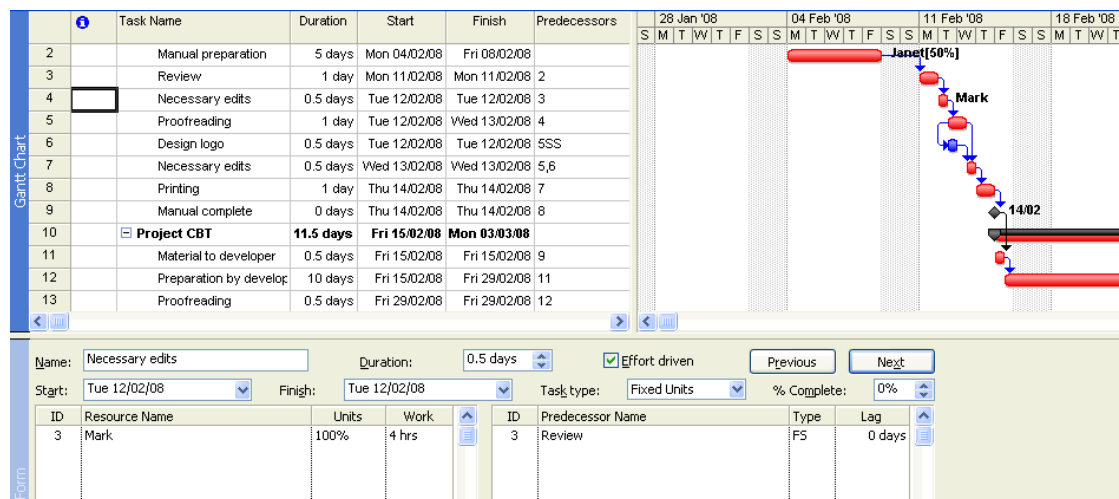
Here the top pane is the Gantt Chart, while the lower pane is the Task Entry Form. To make a particular pane active, click with the mouse in the required pane.

To create your own dual pane view, click **Window - Split**. Click in the top pane, and select your required view in the usual way, then click in the bottom pane, and select another required view.

The lower pane of a dual pane view will correspond to the upper pane, so if a particular task is selected in the upper pane, it will also be selected in the lower pane.

You can move the split higher or lower by using the mouse to drag the horizontal bar separating the views. To remove the split, click **Window - Remove Split**, or drag the horizontal bar to the bottom of the window, or double-click on the horizontal bar.

Network Diagram View

You can create tasks quickly in a visual format in the Network Diagram. You can type the name and duration for each task as you create it, or you can add this information to all the tasks later.

To enter a task on the Network Diagram:

1. Click **View - Network Diagram** or click on the **Network Diagram** icon on the **View Bar**.
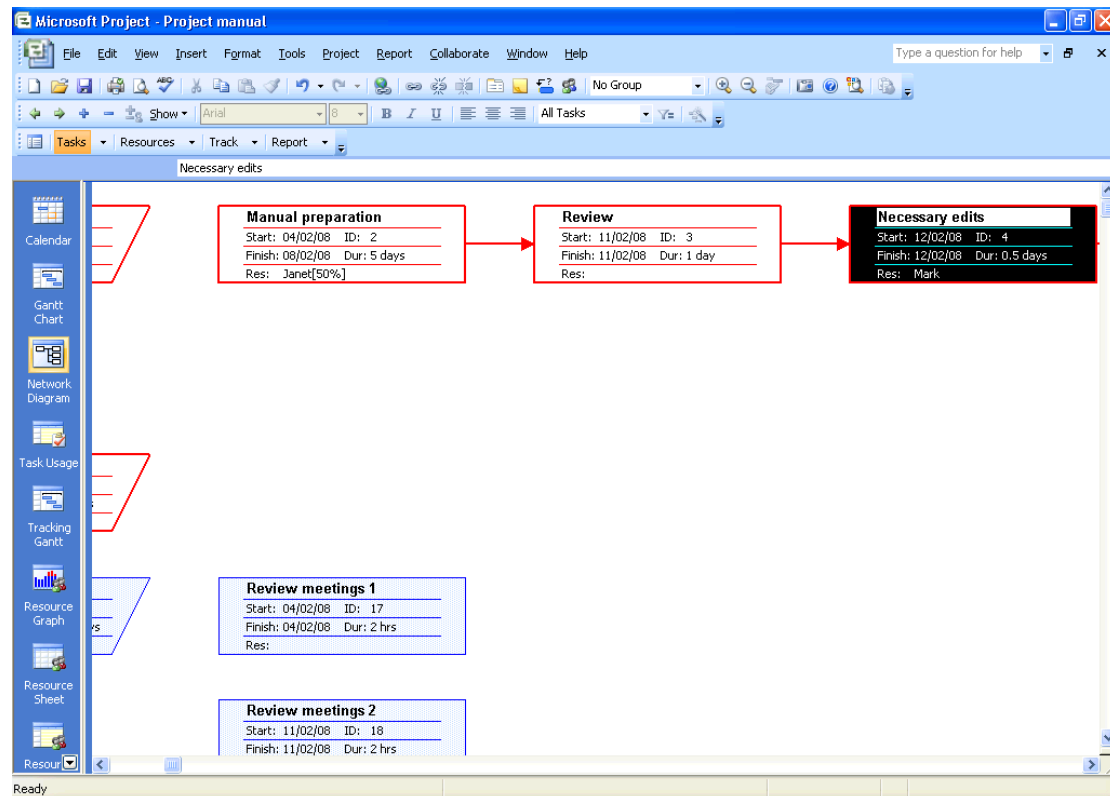
2. Select the task box before the place in the diagram where you want to insert a new task.

3. Click **Insert** - **New Task**.

4. In the **New Task** box, click the top field (the **Task Name** field), and type the task name.

5. Click each field that you want to enter information in, and then type the information that is appropriate to each field.

Note When you add or delete a task, Microsoft Office Project automatically renumbers the task ID numbers.

To link tasks on the Network Diagram:

1. Click **View - Network Diagram**.

2. Position the pointer in the centre of the predecessor task box.

3. Drag to the successor task box. If you want to use a task dependency other than the finish-to-start default, double-click the task link, and then click the task dependency required in the **Type** box.

To unlink tasks on the Network Diagram:

1. Click **View - Network Diagram**.

2. Double-click the link line connecting the two tasks. Click **Delete**.

Applying Filters To Views

Filters can be applied to views to hide unwanted information. The screenshot below shows some of the available filters; others are further down the drop-down list. To apply a filter, click on your required choice from the drop-down list.
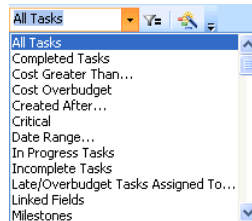
A quick way to find a subset of data is to apply an AutoFilter, by clicking the

AutoFilter toolbar button. Arrows are then displayed to the right of your column headings.
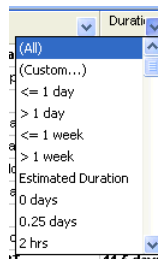
AutoFilters can be applied to any Microsoft Project view, except the Calendar, Resource Graph, Network Diagram, or Form views. To apply an AutoFilter, click the arrow in the column that contains the information to be shown, and then click a value by which the table should be filtered. The arrow and column title for that column will turn blue.

Additional conditions based on values in other columns can also be applied in the same way.

To filter the column by two values in the same column or to apply comparison operators other than Equals, click the arrow in the column, and then click Custom.

To remove the AutoFilter, click the **AutoFilter** toolbar button again.

Varying the Information in Sheet or Form view

To select which column headings you want to be displayed while you are in Sheet
view, a table can be applied to the sheet. To do this, click **View - Table** and select
required table. The example below is the result of clicking **View - Table - Schedule**.

Other options include **Cost**, **Entry**, **Hyperlink**, **Summary**, **Tracking**, **Usage**,
Variance and **Work**. This list of options is also available if you right-click in the top-
left box on the sheet. More options become available if you click **More Tables**.

Select one, then click **Apply**.

Similarly, if you are working in a form view, you can apply **details** to view specific
information. To do this, click **Format - Details**, then select your required level of
detail. The list can also be displayed by right-clicking within your form.

Assigning Resources

What are Resources?

- Resources within Project 2007 are the personnel doing the tasks and the equipment needed to complete the tasks, such as bulldozers, meeting rooms, etc.

- Resources can be grouped in teams, if appropriate.

- Resources are often associated with costs, e.g. an hourly rate of pay or hourly hire charge for machinery. This is then used to ensure the project remains within budget.

- If you decide not to enter resource information for a project, then the project schedule will be calculated on the task duration and relationship information entered. However, if you want to be able to control ongoing costs and the loading of individual resources it is a good idea to enter resource information.

How Resources are used within Project 2007

- **Work = Duration * Units**

- **Duration** is the overall time it takes to complete a task.

- The **Unit** is the amount of time a resource is available for a specific task. If someone only works three days per week, then they are available for a total of 0.6 units or 60% of the time. If you have a team of three builders all working full-time on the project, then they could be represented as a single resource of 300% or 3 units. When setting up resources within Project 2007, you define the **Max Units** available from each resource.

- Often tasks can run concurrently and use some of the same resources. When allocating resources to tasks, we set the amount of their time available for that particular task in units and have to ensure that the total amount of units used against concurrently running tasks does not exceed the maximum units available.

- If someone is working 100% of their time on the project but are working on two concurrently running tasks, then the amount of time spent on each task has to be split down, so that the total is not more than 100%. E.g. someone could be working on one task 75% of their time, while devoting the other 25% of their time to the other task.

- Project 2007 assumes a 5 day working week, with 8 hours worked per day.

- If a task has duration 5 days, but someone is only giving 50% of their time to that particular task, then the amount of **work** they put in is 2.5 days or 20 hours, i.e. 5 * 50%.

- Work, duration and time can be defined in various ways when allocating resources to tasks within Project 2007. The options are **Fixed Duration**, **Fixed Work** or **Fixed Units**.

- If you choose **Fixed Duration** or **Fixed Units** you can decide whether or not the task will be **effort driven**. If a task is effort driven it means that adding resources will either share out the existing work between all the available resources or it will reduce the duration of the task. If a task is not effort driven then adding extra resources increases the work in the task.

- Suppose someone has been assigned to proof reading a manual, a task of duration 1 day and work of 8 hours. He is to spend 100% of his time on it. We then decide we need him to help on some other task, so he can now only spend 50% of his time proof-reading. Then if the task is assigned as being of Fixed Duration, whether effort driven is on or off, using the formula, Work = Duration * Units, we see that the work will be halved.

- Suppose someone has been assigned to proof- reading a manual, a task of duration 1 day and work of 8 hours. He is to spend 100% of his time on it. We then decide we need him to help on some other task, so he can now only spend 50% of his time proof-reading. Then if the task is assigned as being of Fixed Work or Fixed Units, whether effort driven is on or off, then Duration = Work/Units and the Duration will be doubled.

- Suppose someone has been assigned to proof-reading a manual, a task of duration 1 day and work of 8 hours. He is to spend 100% of his time on it. We then decide that we can use someone else to help him in the task, who can give 50% of their time to it. Choosing the option **Fixed Duration, Effort Driven on**, means that the work is shared between the resources, with the original proof-reader doing 67% of the work (5.3 hours) and the extra person drafted in doing 33% of the work (2.7 hours). However choosing the option **Fixed Duration, Effort Driven off**, means that the duration remains the same but the work is increased to 12 hours, with the original proof-reader still doing 8 hours at 100% allocation but the extra person also putting in 4 hours. The same effect is achieved by choosing the option **Fixed Units, Effort Driven off**.

- Suppose someone has been assigned to proof-reading a manual, a task of duration 1 day and work of 8 hours. He is to spend 100% of his time on it. We then decide that we can use someone else to help him in the task, who can give 50% of their time to it. Choosing the option **Fixed Work** reduces the duration of the task. The first proof-reader does 67% of the work, but the duration of the task is now 0.67 days. The additional person does 33% of the work, but also has to get it done within the 0.67 days duration. The same effect is achieved by choosing the option **Fixed Units, Effort Driven on**.

This is summarised in the table below.

		Duration	Work	Units
Fixed Units Effort Driven On	2 person task Add in extra person	5d 3.3d	80h 80h	Each at 100% Each at 100%
Fixed Units Effort Driven Off	2 person task Add in extra person	5d 5d	80h 120h	Each at 100% Each at 100%
Fixed Duration Effort Driven On	2 person task Add in extra person	5d 5d	80h 80h	Each at 100% Each at 67%
Fixed Duration Effort Driven Off	2 person task Add in extra person	5d 5d	80h 120h	Each at 100% Each at 100%
Fixed Work (Effort Driven On automatic)	2 person task Add in extra person	5d 3.3d	80h 80h	Each at 100% Each at 100%

Creating a resource list

- A resource list shows the available resources for the project and the time for which they are available.

To create a resource list:
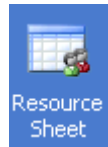
1. Click on the **Resource Sheet** icon on the **View Bar** or click **View - Resource Sheet**.

		Resource Name	Type	Material	Initials	Group	Max.	Std. Rate	Ovt. Rate	Cost/Use	Accrue At	Base Calendar
1		Janet	Work		J		50%	$0.00/hr	$0.00/hr	$0.00	Prorated	Standard
2		Mark	Work		M		100%	$0.00/hr	$0.00/hr	$0.00	Prorated	Standard
3		Will	Work		W		100%	$0.00/hr	$0.00/hr	$0.00	Prorated	Standard
4		John	Work		J		100%	$0.00/hr	$0.00/hr	$0.00	Prorated	Standard

2. Complete the sheet. The mandatory fields are **Resource Name** and **Max Units**.

Fields are as follows:

Resource Name   Name of the resource or a suitable description

Initials   By default, Project uses the first initial of the resource name. Add in others if you would find it helpful.

Group   Can be used for group names if you will want to filter to just see the tasks allocated to one particular group.

Max Units   The maximum number of units for the resource on a scale 0-100 or 0% to 100%.

Std Rate   The standard charge rate which you will need if you are tracking costs.

Ovt Rate   The overtime charge rate, again needed if you are tracking costs.

Cost/Use   This could be like a call-out charge, again needed if you are tracking costs.

Accrue At   Whether you want to know the costs at start, at end or as you go along.

Base Calendar   The particular calendar in use for your resource

Code   Used for internal references, such as account codes.

Resources can also be added using the **Project Guide** – click **Resources** on the **Project Guide** toolbar, then click **Specify people and equipment for the project**.

The sheet shown is slightly different, and includes a field called **Email Address**. You are asked whether you want to **Add resources from the company Address Book**, **Add resources from the company directory** or **Enter resources manually**. Make your choice, then follow the instructions given.

You can use your **Outlook Address Book** to quickly add resources and their e-mail addresses into your project file. You can also add all the resources on a distribution list at once.

To do this:

1. Either use the **Project Guide** as explained above, or click **View - Resource Sheet**.

2. Click the row where you want to start adding new resources.

3. Click **Insert - New Resource From - Address Book**. The **Select Resource** dialog box will be displayed.

4. In the **Type Name or Select from List** box, enter the name or distribution list for the resource you want to add. Alternatively, in the **Name** list, scroll to and click the name of the resource or distribution list that you want adding to your resource list. Click **Add**. If you have selected a distribution list, you will be asked whether you want the distribution list expanding into individual e-mail names; click **Yes** or **No**.

5. Repeat step 4 for each resource or distribution list you want adding.

Each name or distribution list that you add can be assigned to any Microsoft Project task. Microsoft Project 2007 will automatically import and store information, including resource name, e-mail address and group directly from Outlook and this information will be displayed in the Resource Sheet and other resource views.

Assigning resources to tasks

To assign a resource to a task:

1. If not already in Gantt Chart view, click the **Gantt Chart** icon on the **View Bar** or click **View - Gantt Chart**.

2. In the Gantt table, select the task or tasks to which you want to assign resources.

3. Click the **Resource Assignment** button on the **Standard** toolbar or click **Tools - Assign Resources** or press **Alt + F10**.
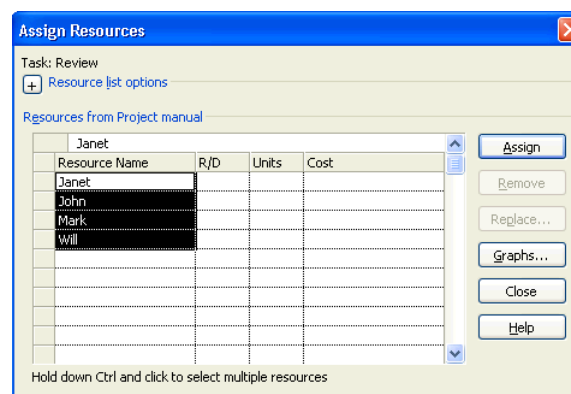

4. Type in the number of units for the resource you intend to use. If you leave the **Units** field blank, Project 2007 will assign the **Max Units** figure from your resource sheet, unless the **Max Units** figure is greater than 100% in which case the figure of 100% is assigned.

5. If you are using more than one resource for the task, repeat 4. as necessary. Now hold down the **Ctrl** key, select all resources to be used for the task and click **Assign**.

6. You can keep the dialog box open, and assign resources to other tasks in your plan. When you have finished, click **Close**.

• The mouse can be used to assign resources at their default max units allocation. Move the mouse to the grey box at the left of the resource in the **Assign Resources** dialog box and click once. The pointer changes shape to a person's head. Click and hold the left mouse button and drag the resource to the task name in the Gantt table.

• You can select one than one resource at once in the **Assign Resources** dialog box, then assign them all at once by clicking **Assign** or dragging one of them with the mouse to the task name. If you assign them one after the other rather that all at once, it will have implications for the duration of the project, if you are using the Microsoft Project defaults of **Fixed Units**, **Effort Driven on**.

- If you are working with the **Assign Resources** dialog box and the **Gantt view** simultaneously, it is important to make sure that you are clicking in the dialog box before typing in units or you may overwrite your task names.

Resource Allocation Graphs

In the **Assign Resources** dialog box, there is now a **Graphs** button. If you click it, you will be able to see the work allocated to each resource in graphical form, thus making it easier to assign resources who are not overallocated and identify the best resource for the task.
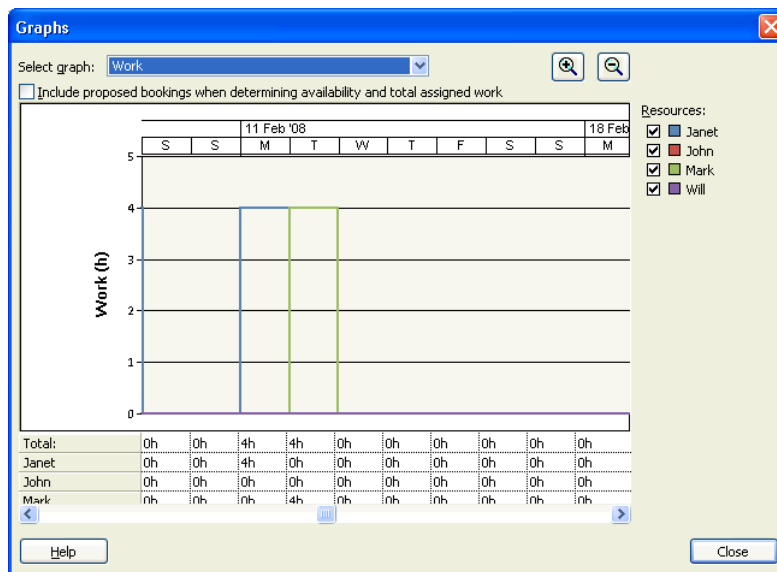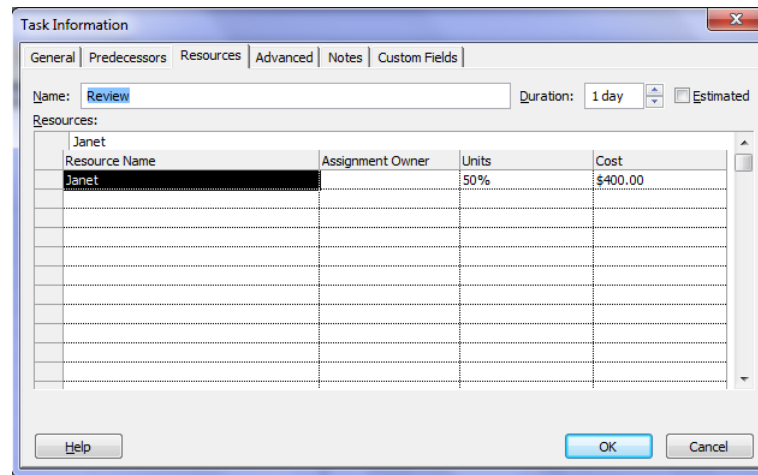

Project Guide

You can also use the **Project Guide** to assign resources to tasks. To do this, click **Resources** on the **Project Guide** toolbar, click **Assign people and equipment to tasks**, and follow the instructions given.

Using the Task Information dialog box

If you have to assign more than one person to a task, it is sometimes difficult to remember to hold down the **Ctrl** key to assign both at once. If you find this a problem, you may prefer to assign resources using the **Task Information** dialog box. Double-click the task to which you want to assign resources. Click on the **Resources** tab of the **Task Information** dialog box.

Select the required resource from the **Resource Name** drop-down and enter the required **Units**. The cost will be displayed using the **Standard Rate** for that resource. Add the next resources to be assigned on the next row down. When you have finished, click **OK**.

Removing resources from tasks

To remove a resource from a task:

1. If not already in Gantt Chart view, click the **Gantt Chart** icon on the **View Bar** or click **View - Gantt Chart**.

2. In the Gantt table, select the task from which you want to remove a resource.

3. Click the **Resource Assignment** button on the **Standard** toolbar or click **Tools - Assign Resources**.

4. In the **Resource Assignment** dialog box, click on the resource you want to remove from the task.

5. Click **Remove**.

6. Click **Close**.

Calculating task duration

Instead if entering duration and letting Microsoft Project calculate amounts of work when you assign tasks, you can do this the other way round. You can enter the tasks into the Gantt Chart, assign resources and then enter work amounts from the estimates provided by your resources. Microsoft Project can then calculate the task durations.

To calculate duration of tasks:

1. Click **Tools - Options - Schedule**. Change **Default task type** to **Fixed Work**.

2. Click **View - Table - Work**.

3. Enter task details and the number of hours needed to complete each task.

4. Enter resources into resource sheet as outlined above.

5. Assign the resources to the tasks. Project will now automatically assign the number of units required for the duration of one day. Change this to the number of units you actually require, and the necessary duration will be calculated for you.

Reassigning resources

To reassign a resource:

1. If not already in Gantt Chart view, click the **Gantt Chart** icon on the **View Bar** or click **View - Gantt Chart**.

2. In the Gantt table, select the task or tasks to which you want to reassign resources.

3. Click the **Resource Assignment** button on the **Standard** toolbar or click **Tools - Assign Resources**.

4. Click on the resource you want to change.

5. Click **Replace**.

6. Select a new resource and click **Assign**.

7. Click **Close**.

Adding new resources

To add a new resource:

1. If not already in Gantt Chart view, click the **Gantt Chart** icon on the
    View Bar or click **View - Gantt Chart**.

2. In the Gantt table, select the task or tasks to which you want to assign resources.

3. Click the **Resource Assignment** button on the **Standard** toolbar or click
    Tools - Assign Resources.

4. Type in the new name in the **Resource Assignment** dialog box, type in the
    relevant number of units, then click **Assign**.

5. Click **Close**.

•   If you double-click on a name or a blank row in the **Resource Assignment** dialog
    box, the **Resource Information** dialog box will be displayed, giving you the
    opportunity to add the remaining details for your new resource.

Adding Costs to Tasks and Resources

Overview

Costs can be monitored within Microsoft Project, enabling you to see whether you are going to over- or under-spend the project's budget. Wages can be assigned to staff and costs to resources. You can control whether costs are accrued at the beginning or end, or whether they are pro-rated.

There are four main types of cost:

1. **Standard Rate**: This is the hourly (or other periodic) rate for the amount of work a resource does on a task. The cost is calculated as **Work * Standard Rate**.

2. **Overtime Rate**: The overtime rate is allocated to work done as overtime. Overtime is never automatically allocated by Project, even when a resource is overallocated. You have to input overtime work manually.

3. **Per Use Cost**: This cost is allocated **every time** a resource is assigned to a different task. A resource working on five tasks will accrue five Per Use charges. It is useful when the cost of a resource is constant. A typical use would be the cost of hiring a room, where the cost of the room is the same each time it is hired.

    Project 2007 allows a default rate for each of the above three costs, and four alternative rates that can be applied to take effect after a certain project date. This allows for inflation, pay rises or other time related cost change.

4. **Fixed Cost**: The fixed cost is not applied to a resource, but to the appropriate task. It might typically be used for materials costs, such as the cost of paint. The full cost is entered, Project 2007 does not calculate materials costs.

Resource Rates
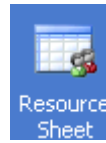
To input resource rates, click **Resource Sheet** on the **View Bar**.

	ⓘ	Resource Name ▾	Type ▾	Material ▾	Initials ▾	Group ▾	Max. ▾	Std. Rate ▾	Ovt. Rate ▾	Cost/Use ▾	Accrue At ▾	Base Calendar ▾
1		Janet	Work		J		50%	$50.00/hr	$50.00/hr	$0.00	Prorated	Standard
2		Mark	Work		M		100%	$70.00/hr	$0.00/hr	$0.00	Prorated	Standard
3		Will	Work		W		100%	$35.00/hr	$0.00/hr	$0.00	Prorated	Standard
4		John	Work		J		100%	$40.00/hr	$0.00/hr	$0.00	Prorated	Standard

Type in the standard rate for each resource in turn in the **Std. Rate** column. If they have an overtime rate, type this in the **Ovt. Rate** column. If it is a cost per use, enter this in the **Cost/Use** column.

Alternative rates can be set up by double-clicking on a resource name. The **Resource Information** dialog box will then be displayed. Click on the **Costs** tab.

The default cost rate table is **A**. You can enter values or enter a percentage increase or decrease (for pay rises) from the previous rate. Click **OK**. If costs are going to change after a specific date, click on tab **B** and input an **Effective Date** and the new rates. Microsoft Project will automatically use the updated costs from the entered date onwards.

Controlling Accrued Costs

When using Microsoft Project, you can specify when costs will be accrued to actual costs as progress is recorded. For example, staff wages will be paid at the end of each week or month as the project progresses, whilst materials may well have to be paid for upfront, and contractors may have to be paid at either the start or finish of their part of the project.

To control cost accrual:
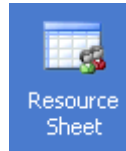
1. Click **Resource Sheet** on the **View Bar**.

2. Select the resource whose costs you want to accrue, then click on the drop-down list in the **Accrue At** field.

	ⓘ	Resource Name ▾	Type ▾	Material ▾	Initials ▾	Group ▾	Max. ▾	Std. Rate ▾	Ovt. Rate ▾	Cost/Use ▾	Accrue At ▾	Base Calendar ▾
1		Janet	Work		J		50%	$50.00/hr	$50.00/hr	$0.00	orated ▾	Standard
2		Mark	Work		M		100%	$70.00/hr	$0.00/hr	$0.00	Start	Standard
3		Will	Work		W		100%	$35.00/hr	$0.00/hr	$0.00	Prorated	Standard
4		John	Work		J		100%	$40.00/hr	$0.00/hr	$0.00	End Prorated	Standard

3. Select **Start**, **Prorated** or **End**.

Adding Fixed Costs

Microsoft Project provides the capability to add fixed cost information to any task. This figure can then be added to the cost of resources allocated to the task, to give a total cost for that activity. A fixed cost is one that remains constant even if the duration of the task changes.

To add a fixed cost:
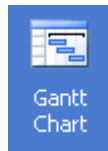
1. Click **Gantt Chart** ☐ in the **View Bar**.

2. Click **View - Table - Cost**.

Task Name	Fixed Cost	Fixed Cost Accrual
⊟ **Garage Build**	**$0.00**	**Prorated**
⊟ **1 Planning**	**$0.00**	**Prorated**
1.1 Design Garage	$0.00	Prorated
1.2 Purchase Materi	$1,000.00	Prorated
1.3 Materials Availal	$0.00	Prorated
⊟ **2 Building**	**$0.00**	**Prorated**
2.1 Dig Foundations	$0.00	Prorated
2.2 Build Walls	$0.00	Prorated
2.3 Build Roof	$0.00	Prorated
2.4 Fit Door	$0.00	Prorated
3 Complete	$0.00	Prorated
⊟ **4 Meeting with Builders**	**$0.00**	**Prorated**

3. Enter all relevant fixed costs in the **Fixed Cost** column against the relevant tasks.

4. Use the drop-down list in the **Fixed Cost Accrual** column to select one of **Start**, **Prorated** or **End**.

•   Task costs can all be seen by looking at the above view.

Cost Resources

A cost resource allows you to assign and track cost items such as hotels and train fares for a task within the task's duration. Any number of cost resources can be applied to a task.

To create a cost resource:

1. Click **View - Resource Sheet**.

2. In the **Resource Name** field, type a name for the cost resource, such as **Train fares** and then double-click in the **Resource Name** field to open the **Resource Information** dialog box.

3. On the **General** tab, from the **Type** drop-down list, select **Cost**.

- Once the cost resource has been created, it can be assigned to a task in the usual way, and the costs for the resource assignment can then be entered using the **Task Usage** view.

To enter costs for the resource assignment:

1. Click **View - Task Usage**.

2. Double-click in the task that has been assigned the cost resource to open the **Assignment Information** dialog box.

3. On the **General** tab, enter a cost value in the **Cost** box.

4. Click **OK**.

- If a cost resource is applied to a task, the amount of the cost resource can vary and is dependent on how the cost resource is used.

- Cost resources cannot have calendars applied to them, so have no effect on task scheduling.

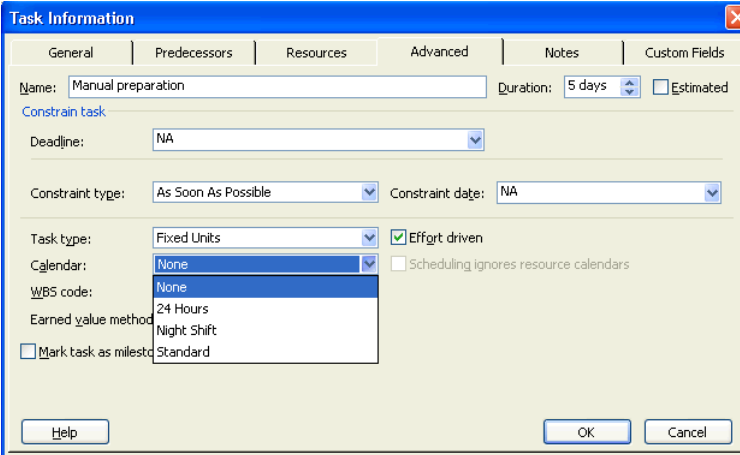PROJECT 2007   Calendars   Task Calendars

Calendars

Changing the Working Time – see page 26

Task Calendars

By default, calendars are not assigned to tasks. Tasks are scheduled according to the working and nonworking times in the project calendar. Sometimes a particular task may need a calendar assigned to it, e.g. for routine maintenance, it may be necessary to have a particular machine out of action every Tuesday. Any task, apart from those with elapsed durations can have a calendar assigned to it.

To assign a calendar to a task:

1. In the **Task Name** field, click on the task to which you want a calendar assigning.
2. Click the **Task Information** 🖼 toolbar button. Click the **Advanced** tab.


3. Select the required calendar from the **Calendar** drop-down list. If you want your task scheduling for this task to override your resource scheduling, check the **Scheduling ignores resource calendars** box. Click **OK**.
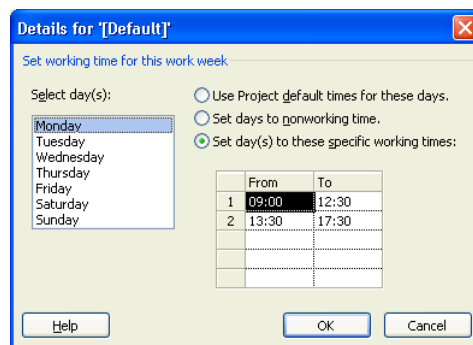
Resource Calendars

- When you create a resource, Microsoft Project sets the Standard calendar as the default **base calendar** for the resource. You can also create a base calendar for a group of resources that have the same working hours and days off.

To create a new base calendar:

1. Click **Tools - Change Working Time - Create New Calendar**. The **Create New Base Calendar** dialog box will be displayed.
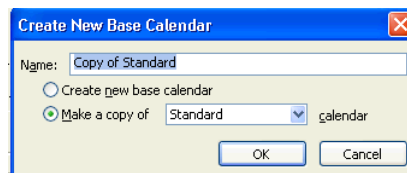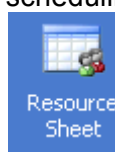

2. In the **Name** box, type a name for your new base calendar.

3. To begin with a default calendar, click **Create new base calendar**. To create a new calendar based on an existing calendar, click **Make a copy of**, and then click the calendar name in the **Calendar** box.

4. Click **OK**.

5. In the **Change Working Time** dialog box, select the **Working Weeks** tab, then click **Details**.

6. Select relevant days at left hand side, then use the appropriate selections at the right hand side. Click **OK**.

7. Click **OK**.

- When you create a base calendar for more than one resource, you need to assign that calendar to each resource so that Microsoft Project will use that information when scheduling the work of those resources. To do this, click the

  Resource Sheet icon on the **View Bar**. In the **Base Calendar** field of

each resource to which you want a calendar assigning, click on the same base calendar from the drop-down list.

To modify a calendar for an individual resource:

1. Click the **Resource Sheet** on the **View Bar**.

2. Select the resource, whose calendar you want to modify in the **Resource Name** field.

3. Click **Tools - Change Working Time** and proceed as before for making changes to calendars. Make sure that the resource name is the one whose calendar you want to change is showing in the **For Calendar** box.

4. Holidays can be entered under the **Exceptions** tab, and any alterations to the usual working week can be added under the **Working Weeks** tab. When you have made any necessary changes to the resource calendar, click **OK**.

Resource Leveling

Analysing and managing overallocations

- If a resource has been overallocated, it means that it has been assigned to do more hours of work over a certain time period than it has available on its resource calendar.

- If a resource has been underallocated, it means that it has been assigned to do fewer hours of work than it has available.

Microsoft Project looks at overallocations on a daily basis, by default; however, it is also possible to look for overallocations over a different time period, for example, on a weekly basis.

There are three main ways to manage overallocations:

1. Adjust task properties
2. Change assignments
3. Modify a resource's working time

These can be used either by themselves or in combination.

To look for overallocated resources:

1. Click **More Views** in the **View Bar**.

2. From the **Views** list, click **Resource Allocation**, then click **Apply**.

In the above picture, you see that Will has been overallocated when he is supposed to be proofreading and designing a logo at the same time.

The **Resource Management** toolbar is of use when dealing with resource allocation. Toolbar buttons are as follows:

Resource Allocation View

Task Entry View

Go to next Overallocation

Assign Resources

Resource Substitution Wizard

New Resource From ▾   Assign Resource from Active Directory or Address Book

Share Resources

Update Resource Pool

Refresh Resource Pool

Address Book

Resource Details

Windows User Account from Address Book

Using Resource

Leveling Help

The ways that tasks can be adjusted to resolve allocations are:

• Delay the task manually
• Delay tasks automatically
• Cut the scope of a task
• Split a task

We can also assign someone else to do the work on the task.

The **delay** is the amount if time that can be added between overlapping tasks, that
are to be undertaken by the same resource, so that scheduling constraints for an
overallocated task are eased. Delaying a task will also delay its successors. Delay
time is given in elapsed time, so nonworking time is included in the delay time. Since
it is best to delay within available slack, review the tasks or assignments in terms of
their slack time and then add delay as time is available; otherwise, you could push
back the finish date of a critical task which could affect the end date of the entire
project.

To manually delay a task with overallocated resources:

1. Click **View - Toolbars - Resource Management**.

2. Click the **Resource Allocation View** 🖳 button.

3. Click on the **Resource Name** field of an overallocated resource in the top pane.

4. In the bottom pane, click on the **Task Name** field of a task assigned to the
   resource during the time that the resource is overallocated.

5. Click **View - Table - More Tables**. The **More Tables** list will be displayed.

6. Click **Delay**, then click **Apply**.

7. Click **Insert - Column**. The **Column Definition** dialog box will be displayed.

8. From the drop-down list in the **Field Name** box, select **Total Slack**, then click
   OK.

9. In the **Leveling Delay** field in the bottom pane, select the duration by which the
   task can be delayed. This value should be not greater than the slack time for the
   task.

	🛈	Resource Name	Work
		Review meeting	*0 hrs*
		Review meeting	*0 hrs*
		Review meeting	*0 hrs*
1		⊟ Janet	26 hrs
		Manual prepara	*20 hrs*
		Review	*4 hrs*
		Necessary edit.	*2 hrs*
2		⊟ Mark	4 hrs
		Necessary edit.	*4 hrs*
3		⊟ Will	10 hrs
		Proofreading	*8 hrs*

Details	11 Feb '08					
	S	S	M	T	W	T
Work						
Work						
Work						
Work			4h		2h	
Work						
Work			4h			
Work					2h	
Work				4h		
Work				4h		
Work				6h	4h	
Work				4h	4h	

	🛈	Total Slack	Task Name	Leveling Delay
5		0 days	Proofreading	0 edays
6		0.75 days	Design logo	0 edays

	11 Feb '08					
	S	S	M	T	W	T
						Will
					Will	

The Project Leveler

If you click **Tools - Level Resources**, the **Resource Leveling** dialog box will be displayed.
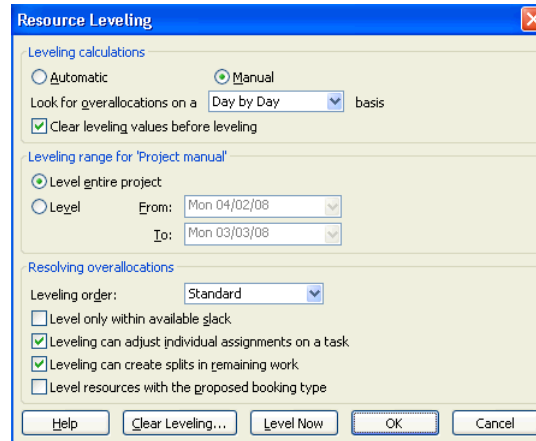
Options include:

Automatic/Manual Leveling Calculations In the example above we performed a manual leveling calculation. This is the normal way of leveling. We can also ask for the calculation to be performed automatically, meaning that it is done continuously in the background; however, this can be confusing with your tasks being continually delayed.

Overallocations can be looked for on a minute-by-minute, hour-by-hour, day-by-day, week-by-week or month-by-month basis, with day-by-day being the default. If you use the day-by-day setting, overallocations of less than one day's duration will not be resolved.

In the **leveling range** section, you are given choices between leveling for the entire project or leveling between specific dates.

The **leveling order** gives choices between **Standard**, **ID Only** or **Priority/Standard**. The default is **Standard** which takes into account task relationships, slack, task ID number and task priority. If you want to make the task priority the major factor in working out which tasks to delay, select **Priority/Standard**.

Checking the **Level only within available slack** box, means that no task can be delayed if it is going to put back the end date of the project.

Checking the **Leveling can adjust individual assignments on a task** box, means that if there is more than one resource working on a particular task, an overallocated individual resource will be delayed rather than the whole task.

Checking the **Leveling can create splits in remaining work** box, means that tasks can be split by the Leveler.

- Once you have made all required selections, click **Level Now**. If you had a resource selected at this stage, the **Level Now** dialog box will be displayed giving

you the option to level the entire pool or selected resources. If you had not previously selected a resource, the entire project will now be leveled.
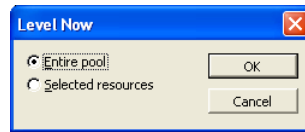
- Automatic leveling may not give the best result to your overallocation problem, as it can only follow a limited set of fixed rules. Therefore you should always review the changes afterwards, in Gantt view, and remove the changes if you don't like them.

- To immediately undo the effects of leveling, click **Edit - Undo Level**.

- To remove the effects of the last leveling operation, click **Tools - Level Resources - Clear Leveling**. The **Clear Leveling** dialog box will be displayed. Select either **Entire Project** or **Selected Tasks**, then click **OK**.

To set priorities for the delay order of tasks with overallocated resources:

1. Click **More Views** from the **View Bar**. The **Views** list will be displayed.

2. Click **Leveling Gantt**, then click **Apply**.

3. Select a task with overallocated resources, by clicking on it in the **Task Name** field.

4. Click the **Task Information** ⬚ toolbar button.
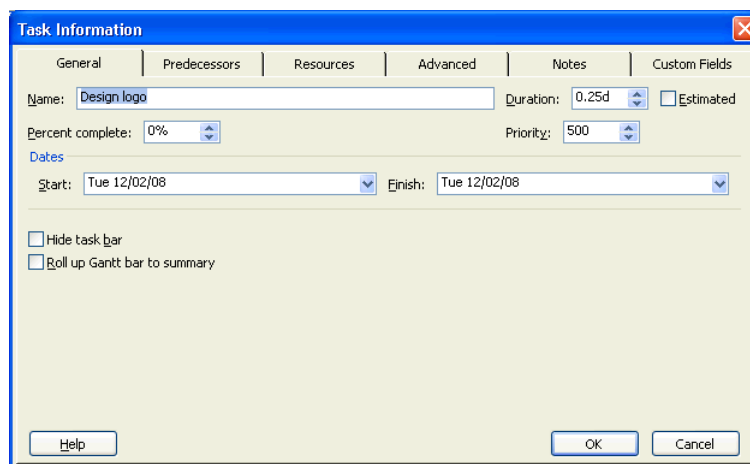
5. The **Priority** level can be set between 0 and 1000, based on the order in which you want tasks to be leveled. Tasks with the lowest priority will be delayed first. If you set a task priority to 1000, it will not be leveled. Make you selection, then click **OK**.

6. Repeat steps 3-5 for other tasks with overallocated resources.

7. Click **Tools - Level Resources**. The **Resource Leveling** dialog box will be displayed.

8. Select **Priority, Standard** from the **Leveling order** drop-down list. Click **Level Now**.

- If you are unable to reschedule any tasks of an overallocated resource, it is possible to decrease the scope of one of the tasks during the overallocated period. This means that the amount of work required from that resource will be decreased and the task duration will be decreased.

To reduce the amount of work assigned to a resource:
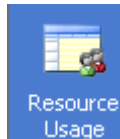
1. Click **Resource Usage** on the **View Bar**, or click **View - Resource Usage**. Any resources that are overallocated will be shown in red.

2. In the **Work** field, for tasks to which an overallocated resource is assigned, type in a smaller amount of work, until the overallocation is resolved.
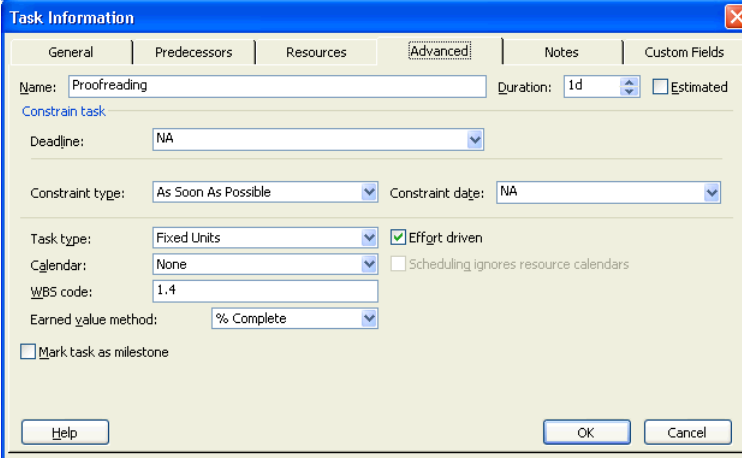
- You may want a task's duration to stay the same, even though you have decreased the amount of work spent on it. The % assignment units for the task will be automatically decreased, if you set the task's duration to be constant but decrease the amount of work.

To set a task's duration as constant after decreasing the work time to be spent on it:

1. Click **Gantt Chart** on the **View Bar**.

2. Click in the **Task Name** field of the task whose duration you want to be constant.

3. Click the **Task Information** [icon] toolbar button, and click on its **Advanced** tab.
    (or double-click the task and click on the **Advanced** tab of the **Task Information**
    dialog box.)

4. From the **Task type** drop-down list, select **Fixed Duration**.

•   If you assign a resource to a task, they may not necessarily work continually on
    that task, but may have days when they work on it and days when they don't, or
    don't spend so many hours on it. If you know that the work will be discontinuous,
    this can be represented in your project plan by splitting a task. On your Gantt
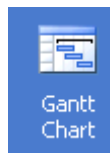   chart, there will then be gaps representing the non-work time on a task. Tasks
    can be split into any number of portions, and can be recombined later, if required.

To split a task:

1. Click **Gantt Chart** [icon] on the **View Bar**.

2. Click the **Split Task** [icon] toolbar button.

3. To create the split, position the pointer over the required toolbar and drag.

4. Repeat steps 2 and 3 for each step required.

To recombine split tasks:
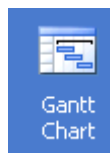
1. Click **Gantt Chart** [icon] on the **View Bar**.

2. Click on a portion of the split task bar, then drag it from right to left until it is
    touching another portion of the bar.

To share the work between over- and underallocated resources:

1. From **Gantt Chart** view, click on a **Task Name**.

2. Click the **Assign Resources** toolbar button. The **Assign Resources** dialog box will be displayed.
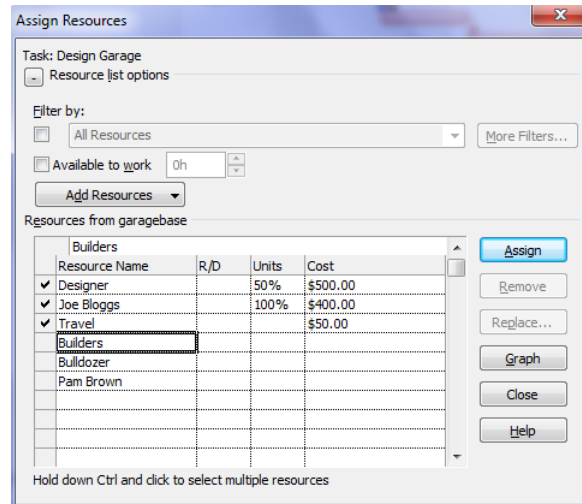
3. Select an underallocated resource from the **Name** field.

4. Type in a percentage in the **Units** field, to represent the time to be spent on the task.

5. Select the overallocated resource from the **Name** field.

6. Type in a percentage in the **Units** field, to represent the reduced amount of time the overallocated resource is to spend on the task.

7. Click **Close**.

Using Overtime

- An alternative method of coping with overallocation of resources is to ask the resources to work overtime to reduce the total duration of the task.

- Although Janet might only work a 4-hour day, if the manual needs finishing quickly, so that training can start, she might well get asked to put in more than 4 hours for a few days to beat the deadline.

To add overtime working:

1. Click **Gantt Chart** on the **View Bar**.

2. Click **Window - Split**, then click anywhere in the bottom pane.

3. Click **Format - Details - Resource Work**.

4. In the **Task Name** field, in the top pane, select the task for which overtime is to be assigned.

5. In the **Ovt. Work** field, in the bottom pane, type in the number of hours for each resource.

6. Click **Window - Remove Split**.

- Note that the **Work** field will stay the same as it is actually the total work. The **Regular Work** field contains the amount of regular (non-overtime) work, based on the amount of total work:

Regular Work + Overtime Work = (total) Work

Tracking Progress

- The baseline is used to track the progress of a project. It contains your initial scheduling, resource and cost estimates.

Saving the Baseline

While you are planning the project, you may well save it without a baseline. However, as the start date approaches, it is wise to create a baseline, so that any changes made to the schedule can be compared to the baseline to assess their impact.

To create a baseline:

1. Click **Tools - Tracking - Set Baseline**. The **Set Baseline** dialog box will be displayed.
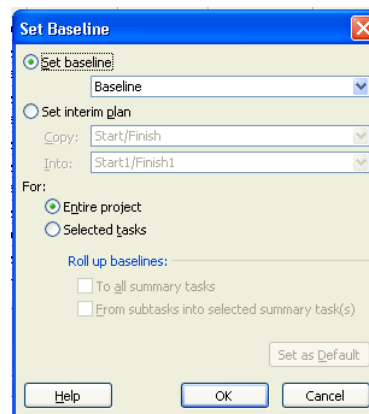
2. You are given the option to allow a baseline to be saved for the entire project, or for selected tasks within the project. You can also choose to copy dates to other fields. Make your selection, then click **OK**.

- Alternatively, to save a baseline using the **Project Guide**, click **Track** on the **Project Guide** toolbar, then click **Save a baseline plan to compare with later versions**, then click **Save Baseline**.

- Once your baseline has been set, you will be able to track the percentage a task has been completed, the actual work done on a task, the cost, and the remaining amount of work and cost of a task.

- Once your baseline has been set it is important to regularly update and monitor your schedule and to compare the current data with the predicted data.

The Tracking Toolbar

The **Tracking** toolbar can be displayed by clicking **View - Toolbars - Tracking**.

The toolbar buttons are as follows:

Project statistics. The statistics screen gives an overview on how your plan is progressing compared with the baseline.

Update as scheduled. This gives progress on a task up to the current date, assuming that the task is running to plan.

Reschedule work. If tasks are running behind schedule, this will reschedule outstanding work.

Add progress line. Enables you to see a line showing progress for all tasks around a selected date.
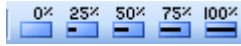
% complete. Can be used to record progress if don't require a greater degree of precision. If you have a two day task, and one day has been completed, then it is 50% complete.

Update tasks. Can be used to set a specific % completed, or the actual durations, or to re-plan tasks if necessary.

To track a project's schedule in detail, you should track some or all of
- Task Start Dates
- Task Finish Dates
- Percentage completed of each task
- Task duration
- Task cost
- Work

Updating Tasks and Projects

To use the **Project Guide** to track your project, click **Track** on the **Project Guide** toolbar, then click **Prepare to track the progress of your task**. Select whether you want to **Always track by entering the Percent of Work Complete**, **Always track by entering the Actual Work Done and Work Remaining** or **Always track by entering the amount of work done per time period**. Click **Done**. Click **Incorporate progress information into the project**.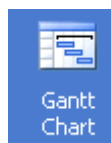 The instructions given will depend on the option you chose in the **Prepare to track the progress of your task** section.

If you are not using the **Project Guide**, then proceed as follows:

To enter actual start and finish dates for a task:

1. Click **Gantt Chart** on the **View Bar**.

2. Click on the task, for which you want to enter start and finish dates, in its **Task Name** field.

3. Click **Tools - Tracking - Update Tasks** or select the **Update Tasks** button on the **Tracking** toolbar. The **Update Tasks** dialog box will be displayed.

4. In the **Actual** section, input the actual start and finish dates in their relevant boxes. Click **OK**.

To set actual start and finish information for several tasks at once (assuming all are running to schedule):
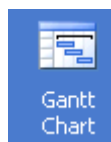
1. Click **Gantt Chart** on the **View Bar**.

2. Select the tasks, for which you want to enter start and finish dates, in their **Task Name** field. To select consecutive tasks, hold down the **Shift** key whilst clicking on each required task. To select non-consecutive tasks, hold down the **Ctrl** key whilst clicking on each required task.

3. Click **Tools - Tracking - Update Project**. The **Update Project** dialog box will be displayed.
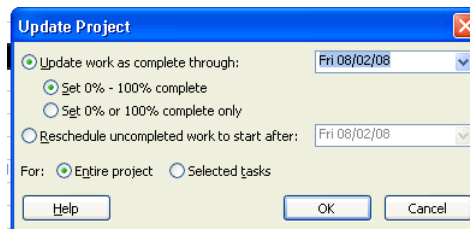
4. Click either **Update work as complete through** or **Reschedule uncompleted work to start after**. Type in the relevant date or select it from the Calendar opened from the dropdown. Click **Selected tasks**. Click **OK**.

• If you enter the duration spent on a task so far, Microsoft Project will use this information to automatically calculate the actual start date of the task, the percentage of the task that has been completed and the amount of duration remaining for the task.

• If you are using effort-driven scheduling, the scheduled or actual duration of tasks should not be changed.

To enter the actual duration of a task:

1. Click **Gantt Chart** on the **View Bar**.

2. Click on the task, for which you want to enter start and finish dates, in its **Task Name** field.

3. Click **Tools - Tracking - Update Tasks** or select the **Update Tasks** button on the **Tracking** toolbar. The **Update Tasks** dialog box will be displayed.
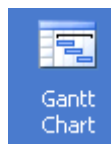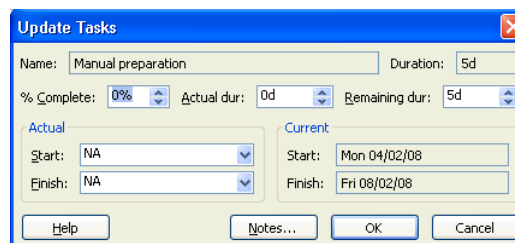

4. Enter the actual duration of the task in the **Actual dur** box.

5. Click **OK**.

• The quickest way to enter the progress achieved on a particular task, is to click on it in the **Task Name** field, then to click on one of the % buttons as shown on the **Tracking** toolbar. You may, however, want to give a more exact percentage.

To enter the percentage complete for a task:

1. Click on the **Update Tasks** button on the **Tracking** toolbar. The **Update Tasks** dialog box will be displayed.

2. Input a figure in the **% Complete** box. The actual duration and the remaining duration will then be automatically calculated, as will the **Actual Start** date. This assumes that the task is running to schedule.

3. Click **OK**.

•   A line will now run through your tracking bar, representing percentage complete.

•   It is also possible to indicate percentage completed by positioning the mouse pointer at the beginning of a task bar, (your pointer becomes a **%>** symbol), and click and drag the mouse to the right, releasing the mouse when it is at the required position in the task bar.

•   Once you have input percentage complete for a task, if the task is running behind schedule, then Project calculates an extension to the work done on a task by an allocated resource.

•   If tasks are scheduled based on resource availability, you will need to track task progress by updating work completed on a task. Microsoft Project then automatically calculates the work remaining.

To update work completed on a task:

1. Click **Task Usage** on the **View Bar**.

2. Click **View - Table - Tracking**.

3. Drag the divider bar to the right until the **Act. Work** field becomes visible.
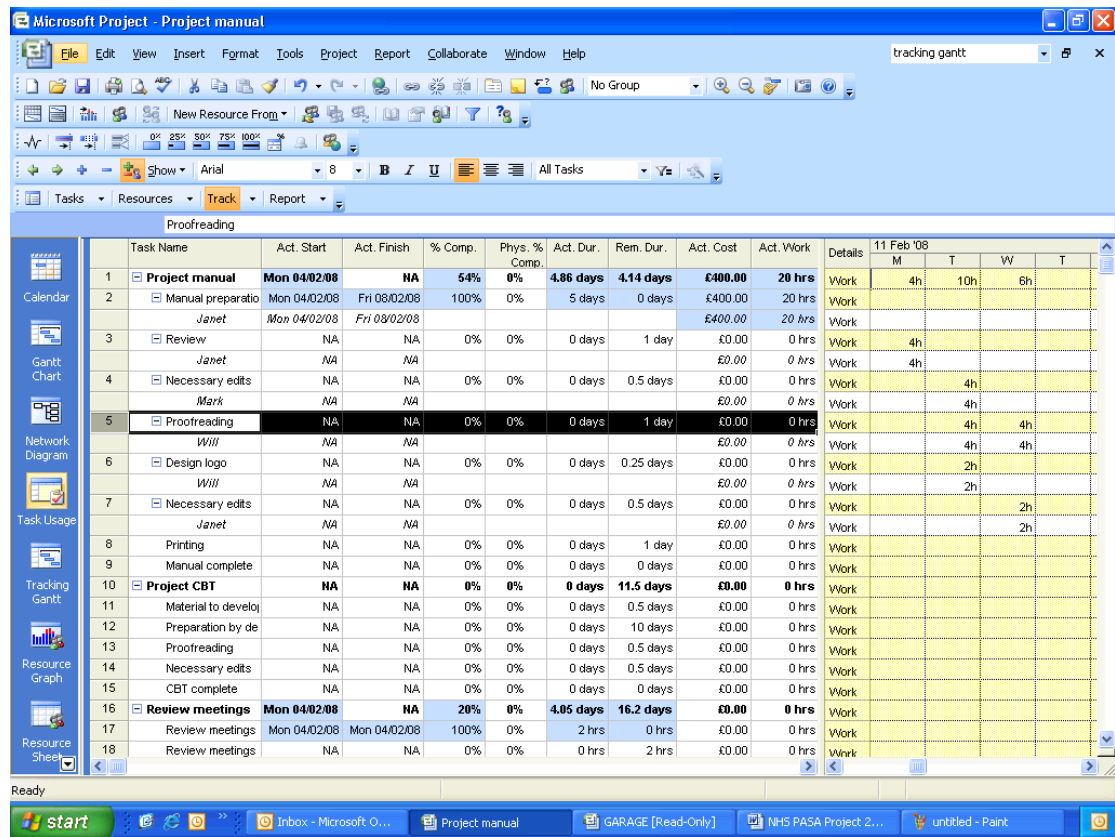
4. Type in the updated work amount in the **Act. Work** field.

To update work completed on a daily basis:

1. Click **Resource Usage** on the **View Bar**.

2. Click **View - Table - Work**.

3. Click **Format - Details - Actual Work**.

		Resource Name	% Comp.	Work	Overtime	Details	11 Feb '08							
							F	S	S	M	T	W	T	F
1		⊟ Janet	77%	26 hrs	0 hrs	Work	4h			4h		2h		
						Act. W	4h							
		Manual prepara	100%	20 hrs	0 hrs	Work	4h							
						Act. W	4h							
		Review	0%	4 hrs	0 hrs	Work				4h				
						Act. W								
		Necessary edit.	0%	2 hrs	0 hrs	Work						2h		
						Act. W								
2		⊟ Mark	0%	4 hrs	0 hrs	Work					4h			
						Act. W								
		Necessary edit.	0%	4 hrs	0 hrs	Work					4h			
						Act. W								
3		⊟ Will	0%	10 hrs	0 hrs	Work					6h	4h		
						Act. W								
		Proofreading	0%	8 hrs	0 hrs	Work					4h	4h		
						Act. W								
		Design logo	0%	2 hrs	0 hrs	Work					2h			
						Act. W								
4		John	0%	0 hrs	0 hrs	Work								
						Act. W								

4. To input the actual work for a particular resource, select the relevant date and then type in a value for the resource.

5. Alternatively, to input the actual work done on a particular task, select the relevant date and type in an actual work value for that particular task in the relevant cell.

• As costs change these need to be updated within Microsoft Project. Costs include both pay and also material costs, such as printing of materials, etc. Sometimes costs are increased (or even occasionally decreased) during the lifetime of a project.

To update actual material costs:

1. Click **More Views** on the **View Bar**. The **Views** list will be displayed.

2. Click **Task Sheet**, then click **Apply**.

3. Click **View - Table - Cost**.

	Task Name	Fixed Cost	Fixed Cost Accrual	Total Cost	Baseline	Variance	Actual	Remaining
0	Garage Build	$0.00	Prorated	$1,950.00	$3,815.00	-$1,865.00	$0.00	$1,950.00
1	1 Planning	$0.00	Prorated	$1,950.00	$1,900.00	$50.00	$0.00	$1,950.00
2	1.1 Design Garage	$0.00	Prorated	$950.00	$900.00	$50.00	$0.00	$950.00
3	1.2 Purchase Materi	$1,000.00	Prorated	$1,000.00	$1,000.00	$0.00	$0.00	$1,000.00
4	1.3 Materials Availat	$0.00	Prorated	$0.00	$0.00	$0.00	$0.00	$0.00
5	2 Building	$0.00	Prorated	$0.00	$1,915.00	-$1,915.00	$0.00	$0.00
6	2.1 Dig Foundations	$0.00	Prorated	$0.00	$415.00	-$415.00	$0.00	$0.00
7	2.2 Build Walls	$0.00	Prorated	$0.00	$1,500.00	-$1,500.00	$0.00	$0.00
8	2.3 Build Roof	$0.00	Prorated	$0.00	$0.00	$0.00	$0.00	$0.00
9	2.4 Fit Door	$0.00	Prorated	$0.00	$0.00	$0.00	$0.00	$0.00
10	3 Complete	$0.00	Prorated	$0.00	$0.00	$0.00	$0.00	$0.00
11	4 Meeting with Builders	$0.00	Prorated	$0.00	$0.00	$0.00	$0.00	$0.00

4. For each task whose fixed task has altered, type in the new value in the **Fixed Cost** field.

To update actual costs for a resource assignment:

1. Click **Tools - Options - Calculation**.
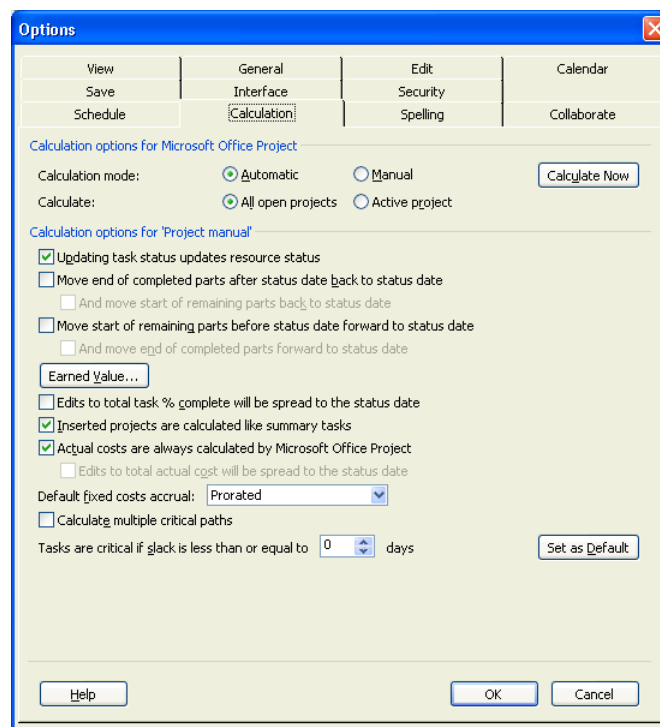
2. Remove the tick from **Actual costs are always calculated by Microsoft Office Project** by clicking on it. Click **OK**.

3. Click **Task Usage** on the **View Bar**.

4. Click **View - Table - Tracking**.

5. Drag the divider bar to the right until the **Act. Cost** field is displayed.

6. Type the actual cost for the relevant assignment in the **Act. Cost** field.

To update actual costs on a daily basis:

1. Click **Tools - Options - Calculation**.

2. Remove the tick from **Actual costs are always calculated by Microsoft Project** by clicking on it. Click **OK**.

3. Click **Task Usage** on the **View Bar**, or click **View - Task Usage**.

4. Click **View - Table - Tracking**.

5. Click **Format - Details - Actual Cost.**

6. Type in relevant costs as required.

• During the course of a task, you may realise that it is going to take more or less work than you had originally estimated.

To change the amount of work remaining on a task:

1. Click **Gantt Chart** on the **View Bar**, or click **View - Gantt Chart**.

2. Click **View - Table - Work**.

3. Drag the divider bar to the right until the **Remaining** field is displayed.

4. Click on the task you want to update, in its **Remaining** field, then input the new work value.

• If the project has fallen behind schedule, you can reschedule uncompleted work to start at today's date, as this will give a more accurate picture of the amount of work still required on the project.

To reschedule uncompleted work to start on today's date:

1. Click **Gantt Chart** on the **View Bar**, or click **View - Gantt Chart**.

2. Select the tasks you want to reschedule, in the **Task Name** field. (If you want to reschedule all the remaining work in the project, don't select any tasks).

3. Click **Tools - Tracking - Update Project**.

4. Click **Reschedule uncompleted work to start after**. Type in the date at which uncompleted work should be restarted.

5. Click **Selected tasks** to just reschedule selected tasks. If the whole project should be rescheduled, click **Entire project**. Click **OK**.

Comparing two versions of the same project

The **Compare Project Versions** utility can be used to review differences between a
current version and an earlier version of the same project in a detailed report. The
tool can also be used to contrast a current version and a projected version of the
same project.

1. Click **View - Toolbars - Compare Project Versions** to display the **Compare
    Project Versions** toolbar.
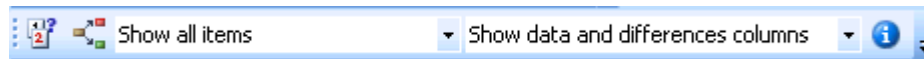
2. Click the **Compare Project Versions** toolbar button. The **Compare
    Project Versions** dialog box will be displayed.
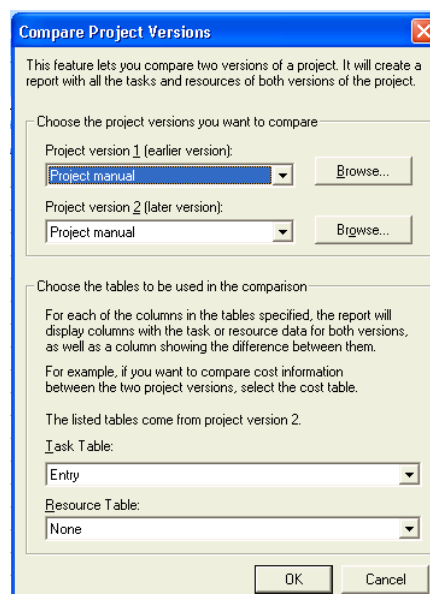
3. Under **Choose the project versions you want to compare**, select the versions
    you want to compare in the **Project version 1 (earlier version)** and **Project
    version 2 (later version)** boxes; to locate the relevant files, click the **Browse**
    button.

4. Under **Choose the tables to be used in the comparison**, in the **Task Table**
    and **Resource Table** boxes, click the tables containing the data you want to
    compare. If you do not want to compare tasks or resources, click **None**.

5. Click **OK**. A temporary project will be created showing the tasks and resources
    of both versions.

6. If you want to keep the report for future reference, click **File - Save**.

Analysing Change

•   If you have created a baseline plan, then when you have made changes to the schedule to reflect actual progress, the baseline plan can be compared with your actual progress. You identify variances that show areas where the project is not going to plan.

•   Useful variances include:

1. Tasks which have not started on time
2. Tasks which have not finished on time
3. Tasks that are progressing more slowly than expected
4. Tasks requiring more or less work than originally scheduled
5. Tasks which are costing more or less than was originally expected

•   Not all variances show bad news; sometimes costs are less, or less work is required than allowed for in your original project plan.

•   Analysing variances in the project plan gives you the necessary information to make such adjustments as reassigning resources, changing task dependencies, changing budgets, extending deadlines, etc.

To view baseline fields to compare with actual data:
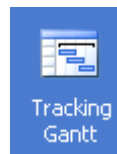
1. Click **Tracking Gantt** on the **View Bar**.

2. Click **View - Table - More Tables**. The **More Tables** list will be displayed.

3. Click **Baseline - Apply**.

The baseline is shown below the original data.

To compare baseline data with actual data:

1. Click **Tracking Gantt** on the **View Bar**.

2. Click **View - Table - Variance**.

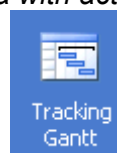3. Drag the divider bar to the right so that the variance columns are displayed.

	Task Name	Start	Finish	Baseline Start	Baseline Finish	Start Var.	Finish Var.	T F
1	⊟ **Ad Creation and A**_|	**Mon 06/08/07**	**Thu 16/08/07**	**Mon 06/08/07**	**Thu 16/08/07**	**0 days**	**0 days**	
2	Get approval for l	Mon 06/08/07	Tue 07/08/07	Mon 06/08/07	Tue 07/08/07	0 days	0 days	
3	Book Ad Space	Tue 07/08/07	Wed 08/08/07	Tue 07/08/07	Wed 08/08/07	0 days	0 days	
4	Photograph Produ	Tue 07/08/07	Thu 09/08/07	Tue 07/08/07	Thu 09/08/07	0 days	0 days	
5	Write Promo Litera	Tue 07/08/07	Mon 13/08/07	Tue 07/08/07	Mon 13/08/07	0 days	0 days	
6	Write Advertising	Tue 07/08/07	Thu 09/08/07	Tue 07/08/07	Thu 09/08/07	0 days	0 days	
7	Desk Top Publish	Fri 10/08/07	Wed 15/08/07	Fri 10/08/07	Wed 15/08/07	0 days	0 days	
8	Proof Reading	Wed 15/08/07	Thu 16/08/07	Wed 15/08/07	Thu 16/08/07	0 days	0 days	
9	Management Approva	Thu 16/08/07	Thu 16/08/07	Thu 16/08/07	Thu 16/08/07	0 days	0 days	
10	⊟ **Publishing and Dist**	**Tue 07/08/07**	**Tue 04/09/07**	**Tue 07/08/07**	**Tue 04/09/07**	**0 days**	**0 days**	
11	Send Ad to Publis	Thu 16/08/07	Fri 17/08/07	Thu 16/08/07	Fri 17/08/07	0 days	0 days	
12	Printing	Thu 16/08/07	Fri 31/08/07	Thu 16/08/07	Fri 31/08/07	0 days	0 days	
13	Prepare Computer	Tue 07/08/07	Mon 13/08/07	Tue 07/08/07	Mon 13/08/07	0 days	0 days	
14	Mail Finished Liter	Fri 31/08/07	Tue 04/09/07	Fri 31/08/07	Tue 04/09/07	0 days	0 days	

To compare actual and estimated costs of tasks:

1. Click **Gantt Chart**   on the **View Bar**.

2. Click **View - Table - Cost**.

3. Drag the divider bar to the right until the **Total Cost**, **Baseline** and **Variance** fields can be seen. The value in the **Variance** field is the difference between the actual cost and the original estimated cost.

Change Highlighting

When you change a date or duration within a project, it can have impact on dates throughout the rest of the project, if you have task dependencies. The **Change Highlights** feature shows which dates will then be impacted if you change one date or duration.

To use change highlighting, from the **View** menu, select **Show Change Highlighting**.

		Task Name	Duration	Start	Finish	Predecessors	Resource Names
1		⊟ **Project manual**	**10 days**	**Mon 04/02/08**	**Fri 15/02/08**		
2		*Manual preparation*	*5 days*	*Mon 28/01/08*	*Fri 01/02/08*		
3	✓	Manual preparation	5 days	Mon 04/02/08	Fri 08/02/08	\\data-41v\users	Janet[50%]
4		Review	1 day	Tue 12/02/08	Tue 12/02/08	3	Janet[50%]
5		Necessary edits	0.5 days	Wed 13/02. ∨	Wed 13/02/08	4	Mark
6		Proofreading	1 day	Wed 13/02/08	Thu 14/02/08	5	Will
7		Design logo	0.25 days	Wed 13/02/08	Wed 13/02/08	6SS	Will
8		Necessary edits	0.5 days	Thu 14/02/08	Thu 14/02/08	6,7	Janet[50%]
9		Printing	1 day	Fri 15/02/08	Fri 15/02/08	8	
10		Manual complete	0 days	Fri 15/02/08	Fri 15/02/08	9	
11		⊟ **Project CBT**	**11.5 days**	**Mon 18/02/08**	**Tue 04/03/08**		
12		Material to developer	0.5 days	Mon 18/02/08	Mon 18/02/08	10	
13		Preparation by develop	10 days	Mon 18/02/08	Mon 03/03/08	12	
14		Proofreading	0.5 days	Mon 03/03/08	Mon 03/03/08	13	
15		Necessary edits	0.5 days	Tue 04/03/08	Tue 04/03/08	14	
16		CBT complete	0 days	Tue 04/03/08	Tue 04/03/08	15	
17	↻	⊟ **Review meetings**	**0.25 days**	**Mon 04/02/08**	**Mon 03/03/08**		
18	✓	Review meetings 1	2 hrs	Mon 04/02/08	Mon 04/02/08		
19		Review meetings 2	2 hrs	Mon 11/02/08	Mon 11/02/08		
20		Review meetings 3	2 hrs	Mon 18/02/08	Mon 18/02/08		
21		Review meetings 4	2 hrs	Mon 25/02/08	Mon 25/02/08		

In the above example, I have changed the start date of the **Necessary edits** task. This will have an impact on linked tasks, and all the start and end dates which will be impacted have their cells highlighted.

This feature is turned on by default. To turn off cell highlighting, click **View** - **Hide Change Highlighting**.

Reports

- Any of the Microsoft Project views with the exception of Task Form and Resource Form can be printed. There are also a large number of reports built into Microsoft Project allowing you to show specific information relating to your project.

Print Preview

As with other Microsoft Office applications, the toolbar button for **Print Preview** is . Click on it from within the view that you want to print.

An image showing what your printed view will look like is displayed. On the Status Bar at the bottom of the screen, you will see information about how many pages your printed view will contain and the size. Your printout will also show a legend of what the different bars etc. represent.

The buttons at the top of the screen are as follows:

Page left
Page right
Page up
Page down
Zoom
One page
Multiple pages

Page Setup

Changes to the way in which your view is printed can be made using **Page Setup**. This can be accessed by clicking the **Page Setup** button from within Print Preview, or by clicking **File - Page Setup**. The **Page Setup** dialog box will then be displayed.

Page tab
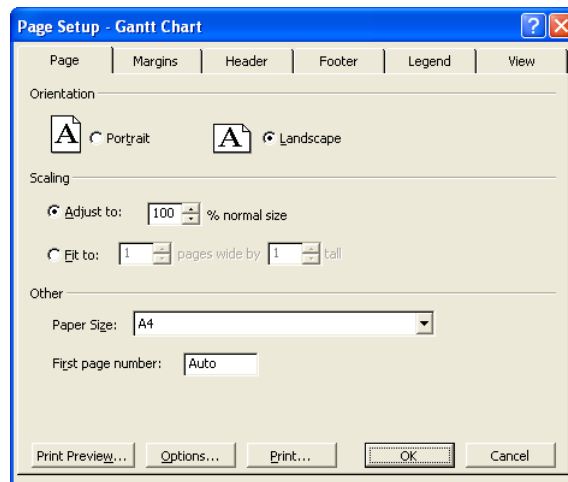
Options on this tab can be used to set page orientation and scaling options.

| Orientation	Select either **Portrait** or **Landscape**
Scaling - Adjust to % normal size	The default print size is 100% but you can make the printed characters larger or smaller by changing the percentage
Scaling - Fit to pages	Lets you specify how many pages your document will be spread across. If you type in how many pages wide it should be, Project will automatically calculate how many vertical pages are required.
Paper size	Lets you specify the size of paper that will be used for printing the document
First page number	Can select the number on which the first page should start
Print	The **Print** dialog box will be displayed
Print preview	The **Print Preview** window will be displayed
Options	Displays the Setup box for your printer

Margins tab
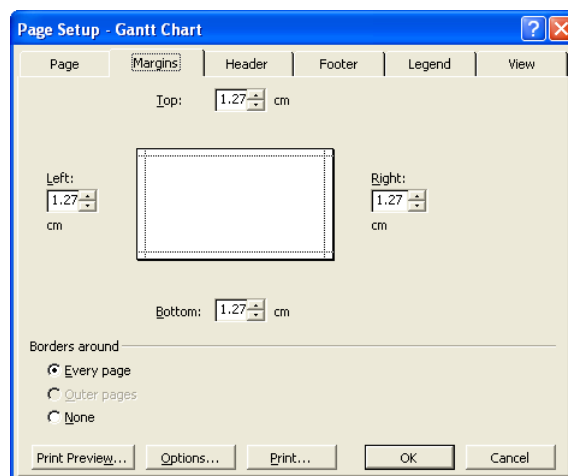
This tab is used for setting the margins and views for your printouts.

Top, Bottom, Left, Right	Type in your required margin size for each of these
Borders around	Choose from **Every page**, **Outer pages** or **None**
Sample	Shows what the borders will look like on printing

Header tab, Footer tab

These two look similar.
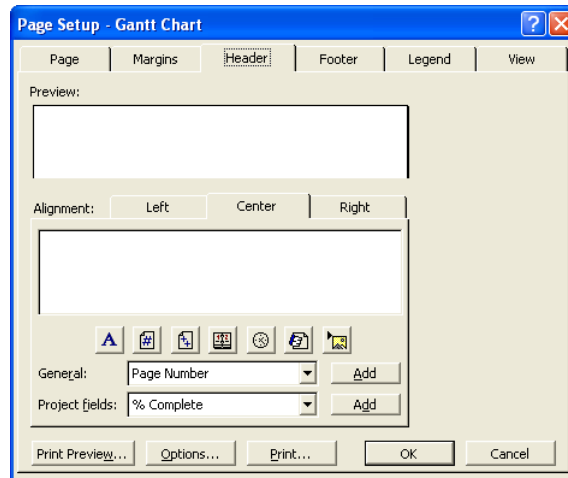
Used to specify the information to be included in the headers and footers of your printed documents.

Sample	Shows what the header or footer will look like when it is printed
Alignment	Select **Left**, **Center** or **Right**.. Type in the required information or click on the relevant buttons for information to be automatically entered for you, or use **General** or **Project fields** drop-down lists.
	Format Text Font
	Insert Page Number
	Insert Total Page Count
	Insert Current Date
	Insert Current Time
	Insert Filename
	Insert Picture
General	Contains various options such as Project Title, Project Start Date, Project Manager, etc.
Project fields	Select one of the field names from the drop-down list

Legend tab
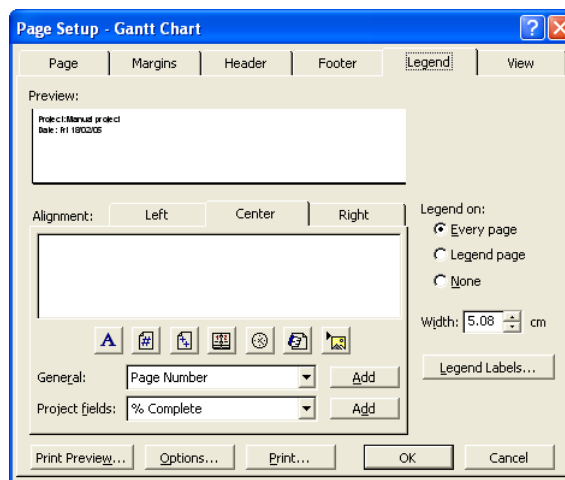
This tab is used only when printing Gantt charts, network diagrams or the calendar.

Options are similar to those on the **Header** and **Footer** tabs with the following additions:

Legend on	Choose between having a legend on **Every page**, a separate **Legend page** or **None**
Width	Type in the required area to be allowed for legend text, between 0 and 10 cm
Legend Labels	Allows you to select font and style for your labels

View tab
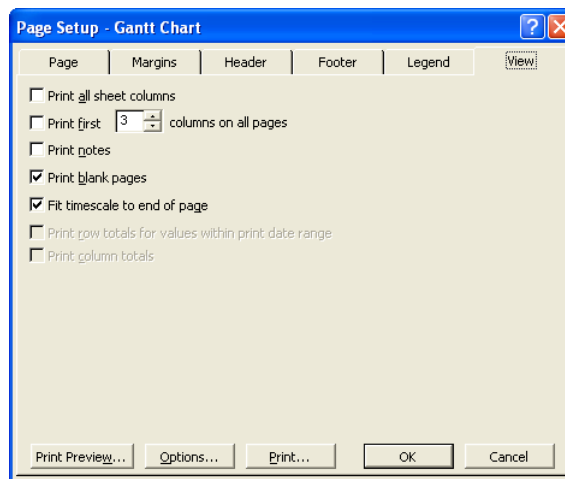
You can use this tab to specify options for printing views containing sheets. (The **View** tab for printing Calendars looks different).

Options you can set include:

Print all sheet columns	If this is not selected only those columns currently visible in your view will be printed
Print first XX columns on all pages	If you want the first so many columns to be repeated on each page, check this box and select how many columns should be repeated
Print notes	Prints the notes relating to tasks and resources as a separate page, following the main report
Print blank pages	Sometimes large charts have blank pages, which you do not need to print
Fit timescale to end of page	Either compresses information or expands it so that whole pages are covered with printout

The **View** tab for print setup of the calendar looks as follows:

Options include:

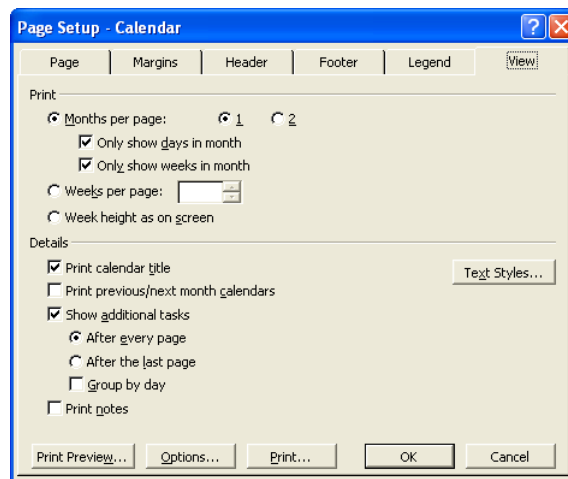| Months per page	Can select one or two. If you choose this option, you only need to select whether to **Only show days in month** (only shows relevant days even if week begins on Friday) and **Only show weeks in month**
Weeks per page	Select how many weeks you want to be printed per page
Week height as on screen	Gives the same height on the printout as on the screen
Print calendar title	Prints the monthly calendar title at the top of each page
Print previous/next month calendars	These will be printed as small calendars in the upper left and right-hand corners of the page and do not include project details
Show additional tasks	If you want to print out a list of tasks which are not shown on your calendar, select one of the options **After every page**, **After the last page** or **Group by day**
Print notes	Prints notes relating to tasks and resources as a group following your main printout

Once you have done the necessary page setup, to print, click **File - Print**. The **Print** dialog box will be displayed.
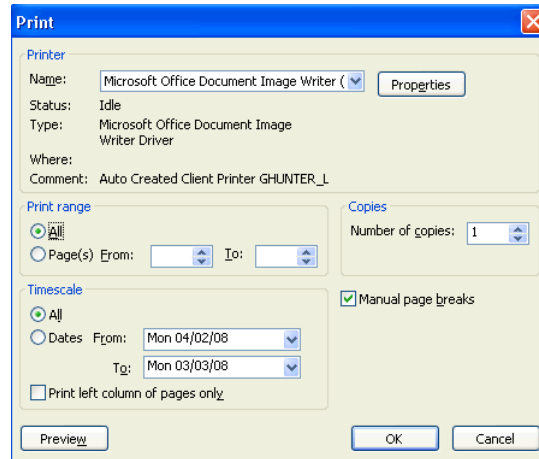
Select your required options, including the dates which you want printing off, and click **OK**.

- To use Project's predefined print settings, click the **Print** toolbar button.

- To add **page breaks**, from within your view, select the task or resource above which the page break should be inserted, then click **Insert - Page Break**.

- To remove a page break, select the task or resource above which the dotted line of the page break can be seen, then click **Insert - Remove Page Break**.

- To remove all page breaks at once, select all tasks by clicking on the **Task Name** column heading, then click **Insert - Remove All Page Breaks.**

Report gallery

- As well as printing views, Microsoft Project also has a report gallery that can be used to generate text-based reports.

To print a report from the Report gallery:

1. Click **Report - Reports**.
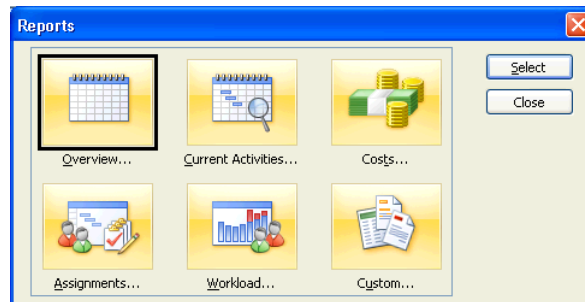
2. Select the type of report you want to create, then click **Select**, or double-click on the type of report. The dialog box that is then displayed will depend on the selection you made.
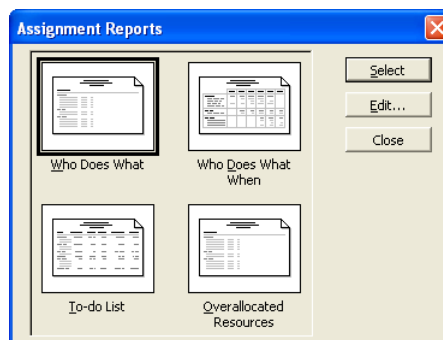
3. Select required report, then click **Select**, or to customise the report, click **Edit**.
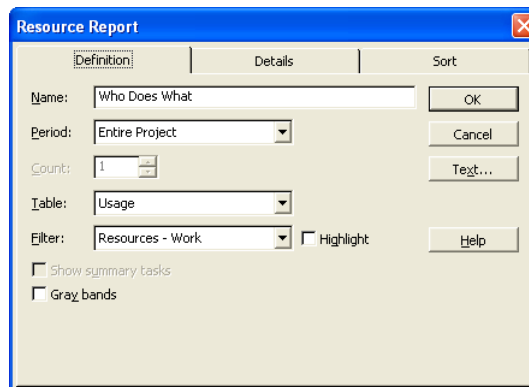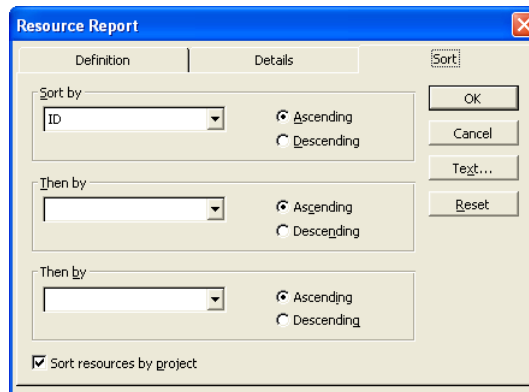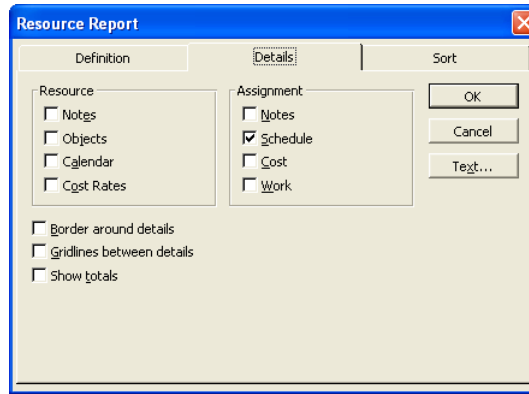
4. Make your selections (which will vary according to your chosen report), then click **OK**. Click **Select**. You will be placed in **Print Preview**, with a preview of your printed report.

5. If needed, click **Page Setup** to make changes to margins, header, footer, etc.

6. Click **Print**, and print as normal.

Printing Wizard

A wizard to help you print a view as a report is available in the **Report** task pane of the Project Guide.

To print a view as a report:

1. In the **Project Guide**, print **Report**.

2. Click **Print current view as a report**.

3. Select whether the report should be printed on **One page** or on **Multiple pages**. Click **Continue to Step 2**.
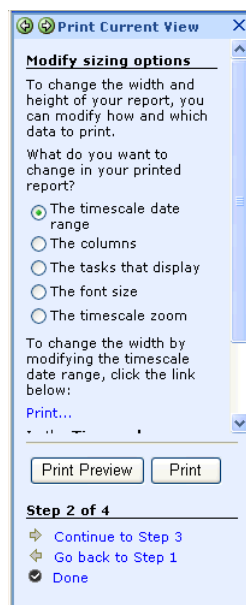
4. Make any changes regarding sizing options by clicking the appropriate radio button. Click **Continue to Step 3**.

5. Set header, footer or legend as required, following the instructions given. Click **Continue to Step 4**.
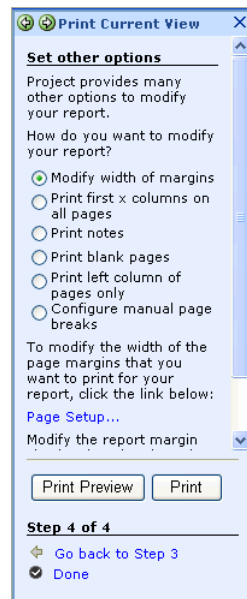
6. Make other modifications to your report by clicking the appropriate radio button and following the instructions given. Click **Print**.

Useful printouts

What you decide to print out from Microsoft Project obviously depends what you are trying to see, or show to others. There are many different printouts available, some of which are outlined below, with the left column showing what to use, and the right column indicating what will be printed:

Project Overviews

Project Summary report (View - Reports - Overview)	Number of tasks and resources, project cost, total amount of work, project start and finish dates
Top-Level Tasks report (View - Reports - Overview)	A list of the top level tasks with scheduled start and finish dates, % completed, cost and work
Milestones report (View - Reports - Overview)	A list of milestone tasks (sorted by start date)
Working Days report (View - Reports - Overview)	Shows scheduled working and non-working days
Gantt Chart view, View - Table Entry, filtered by summary task	A list of summary tasks, durations together with a Gantt bar chart showing summary tasks

Task Information

Gantt Chart view, View - Table Entry, filtered by All Tasks	A list of tasks, durations, together with a Gantt bar chart showing tasks, durations, task relationships, assigned resources
Calendar view, filtered by All Tasks	Scheduled tasks in Calendar format
Task Usage Report (View - Reports - Workload)	A list of tasks assigned resources and amount of work assigned to them by week
Task Sheet view, View - Table Entry, filtered by All Tasks	A list of tasks with start and finish dates with assigned resources
Critical Tasks report (View - Reports - Overview)	A list of critical tasks with start and finish dates, plus predecessors and successors of each task
Network Diagram view	A flow chart, or network diagram, showing all tasks and task relationships

Resource Usage Information

Resource Sheet view, View - Table Work, filtered by All Resources	A list giving detailed work information by resource
Resource Usage report (View - Reports - Assignment)	A list of resources showing tasks to which each resource is assigned and the amount of work assigned to each resource each week
Who Does What report (View - Reports - Assignment)	A list of resources with assigned tasks, the work schedule for each task, start and finish dates, and additional resources
Who Does What When report (View - Reports - Assignment)	A list of resources with assigned tasks and daily work scheduled by task
Resource Usage view, View - Table Summary, filtered by All Resources	A list of resource use over time, plus cost, the work and pay rate per resource
Resource Graph view, filtered by All Resources	A graph of the amount of work assigned to each resource over time
Weekly To-Do List report (View - Reports - Overview)	Tasks for a resource, broken down by week
Overallocated Resources report (View - Reports - Overview)	A list showing overallocated resources and their assigned tasks

Cost Information

Resource sheet view, View - Table Cost, filtered by All Resources	A summary of all resource costs
Resource Sheet view, View - Table Cost	A list showing actual and estimated resource costs
Weekly Cash Flow report (View - Reports - Cost)	The cost per task per week, plus total cost of all task per week, and the total cost of each task
Over Budget Resources report (View - Reports - Cost)	A list showing those resources where costs are going to be greater than their baseline cost.
Earned Value report (View - Reports - Cost)	A list of tasks showing whether you are ahead of or behind schedule as compared with actual costs
Budget report (View - Reports - Cost)	A list of tasks with their budgeted costs and the variance between budgeted and current costs
Over Budget Tasks report (View - Reports - Cost)	A list of tasks where the costs will exceed the baseline cost
Resource Graph view + Format - Details - Cumulative Cost	A graph showing cumulative cost per resource over the project life
Resource Usage view, View - Table Cost, and Cost details displayed in the timescale	Cost information broken down by task and resource over time

Progress Information

Tasks in Progress report (View - Reports - Current Activity)	A list of tasks currently in progress together with the months in which each task occurs
Gantt Chart view, View - Table Tracking, filtered by All Tasks	A list of tasks with actual start and finish dates, % of each task complete, plus actual and remaining task durations
Tasks Starting Soon report (View - Reports - Current Activities)	A list of tasks due to start within a specified time period
Unstarted Tasks report (View - Reports - Current Activities)	A list of tasks that have not yet been started
Should Have Started Tasks report (View - Reports - Current Activities)	A list of tasks that should have been started by a specified date
Slipping Tasks report (View - Reports - Current Activities)	A list of tasks that have been rescheduled to happen after their baseline start dates
Completed Tasks report (View - Reports - Completed Tasks)	A list of completed tasks with the time period in which they each occurred
Task Sheet view, View - Table Variance, filtered by All Tasks	A list of tasks with scheduled start and finish dates, baseline start and finish dates, and differences between scheduled and baseline dates
Task Sheet view, View - Table Entry, filtered by Completed Tasks	A list of completed tasks

Visual Reports

New to Project 2007, is the Visual Reports feature. This uses Microsoft Visio and Microsoft Excel to produce charts, diagrams and graphs based on the project data. There is a list of customisable, ready-to-use report templates and custom report templates can also be defined. Reports can then be shared with other Microsoft Project users.

To use Visual Reports:

1. Click **Report - Visual Reports**. The **Visual Reports - Create Report** dialog box will be opened with a list of inbuilt report templates.
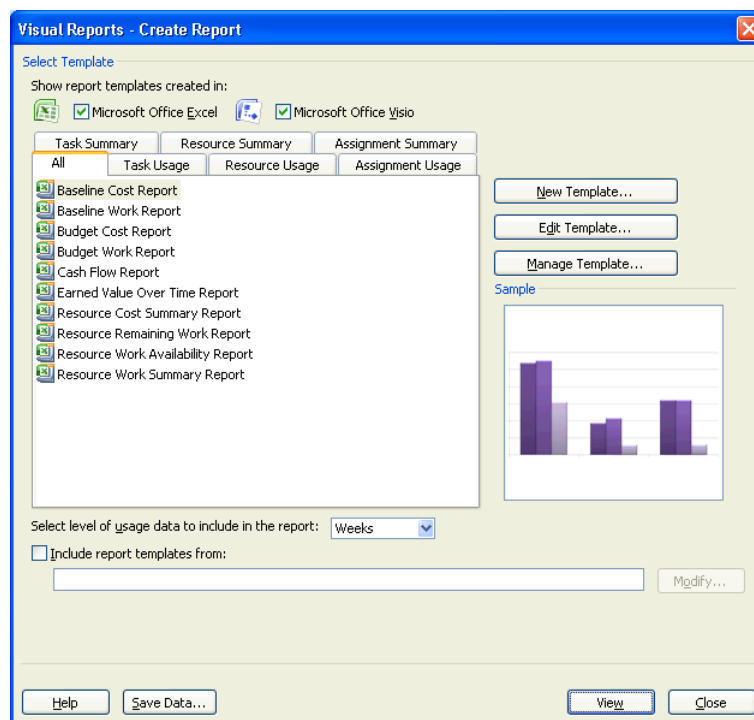
2. To use one of the inbuilt templates, click on it – you will see a sample preview in the **Sample** box.

3. From the **Select level of usage data to include in the report** drop-down box, select one of **Days, Weeks**, **Months**, **Quarters** or **Years**.

4. If you have some report templates installed on your computer or network that you want to use, check the **Include report templates from** box and use the **Modify** button to navigate to the required templates.

5. To see the visual report, click **View**.

To create a new template:

1. Click **Report - Visual Reports**, then from the **Visual Reports** - **Create Report** dialog box, click **New Template**. The **New Template** dialog box will be displayed.
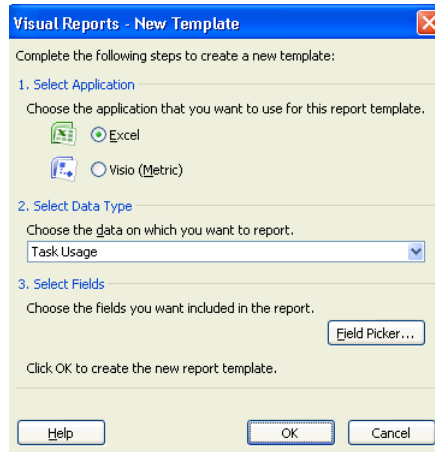
2. Select whether you want to use **Excel** or **Visio** for the report template.

3. Select the data type from the **Choose the data on which you want to report** drop-down box.

4. Click the **Field Picker** button to select the fields to be included in the report. The **Visual Reports - Field Picker** dialog box is displayed.
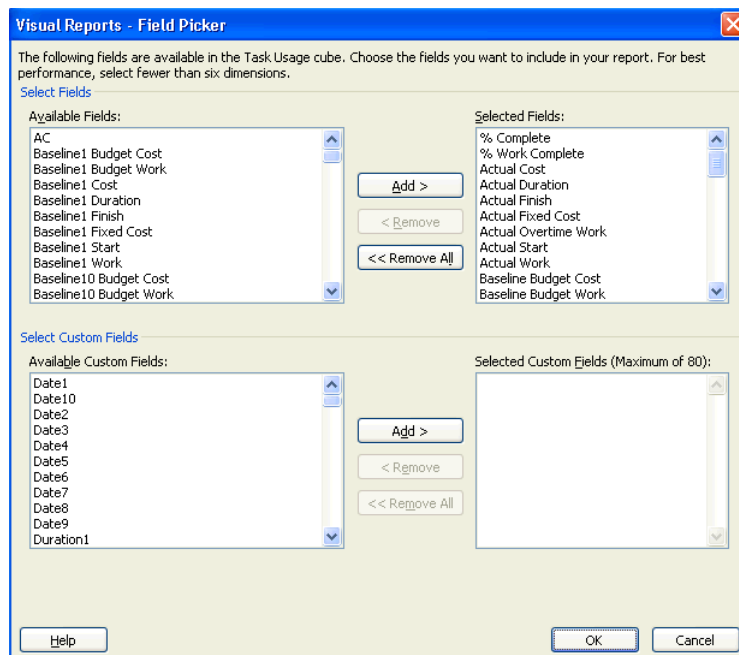
5. The fields in the view you have chosen are displayed in the **Selected Fields** section. To add a field to the view, select it from the **Available Fields** section and click **Add**. To remove a field, select it in the **Selected Fields** section and click **Remove**.

6. To add a custom field, select it from the **Select Custom Fields** section and click **Add**.

7. When you have finished adding fields to your report, click **OK**. You will be returned to the **Visual Reports - New Template** dialog box. Click **OK** and the report will be run.

•   To edit a template, select **Edit Template** from the **Visual Reports - Create Report** dialog box. You are then taken to the **Visual Reports - Field Picker** dialog box and can change the fields to be displayed in your report.

•   If you click the **Save Data** button from the **Visual Reports - Create Report** dialog box, the **Visual Reports - Save Reporting Data** dialog box will be displayed. You can save the reporting data for the current project, customise the fields used as part of the data, and save the reporting database.
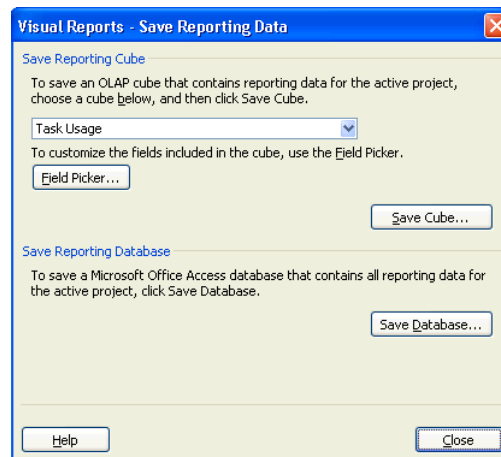
Resource Pooling

- It is not unusual for two or more projects to be running concurrently, and some of the same resources may be required for each project. This complicates considerations when priorities, resources, or project schedules change, as it then impacts on the other projects.

- If you have a number of projects, they can be configured in one of three main ways:

    1. One project can be a subproject of another project
    2. One project can use another project's resources
    3. A number of projects can share a common resource 'pool'

- The above options can also exist in combination.

- Microsoft Project can be used to set up common resource pools for use with multiple projects, or for subprojects within a project. The project manager can then view task assignments across all current projects to make sure that there are no resourcing conflicts.

- Please note that if each subproject is run by a separate team, resources will not need to be pooled and the project will only be linked at task level.

Consolidating Subprojects

- First create each subproject as a new project file. It may be that our client wants several training manuals written; each of these can be thought of as a subproject of the total project, which might also include giving training. The subprojects can then all be consolidated into one master project file, allowing you to view all the separate inserted projects in one window.

- In a consolidated project, in **Gantt Chart** view, each subproject is represented as a summary task.

- However, in a consolidated project, the resources of each of the subprojects remain separate. Sharing resources amongst projects is discussed later.

- Up to 1000 projects can be inserted in a consolidated project file.

- Situations in which you might want to consolidate projects include:

    1. The tracking of several separate but related projects
    2. The need to create reports which include information from several projects
    3. Several projects sharing the same resources, where you use a resource pool
    4. A large, complicated project that is better broken down into smaller, more manageable projects, but the scheduling relationship between the subprojects still need to be maintained.
    5. The inserted projects of a large project are often updated and you want the changes automatically reflecting in the larger project.

- Each source file remains separate from the consolidated file, so the files need to be linked so that changes made in the source file are also made in the consolidated file.

To consolidate several files:

1. Open all the files that you want to consolidate.

2. Click **Window - New Window**. The **New Window** dialog box will be displayed.

3. Hold down the **Ctrl** key, then click all your required projects from the **Projects** list.

4. If you want the consolidated project to appear in a different view, select one from the drop-down **View** list.

5. Click **OK**. Note the Project icon in the Information column at start of subprojects.

- If you want you can insert subprojects into a consolidated project in a specific order.

To customise a project file consolidation:

1. Click **Gantt Chart** on the **View Bar**.

2. Make sure that your master project is open, but that your subprojects are closed. Click in the **Task Name** field where you want the project(s) inserting, then click **Insert - Project**. The **Insert Project** dialog box will be displayed.
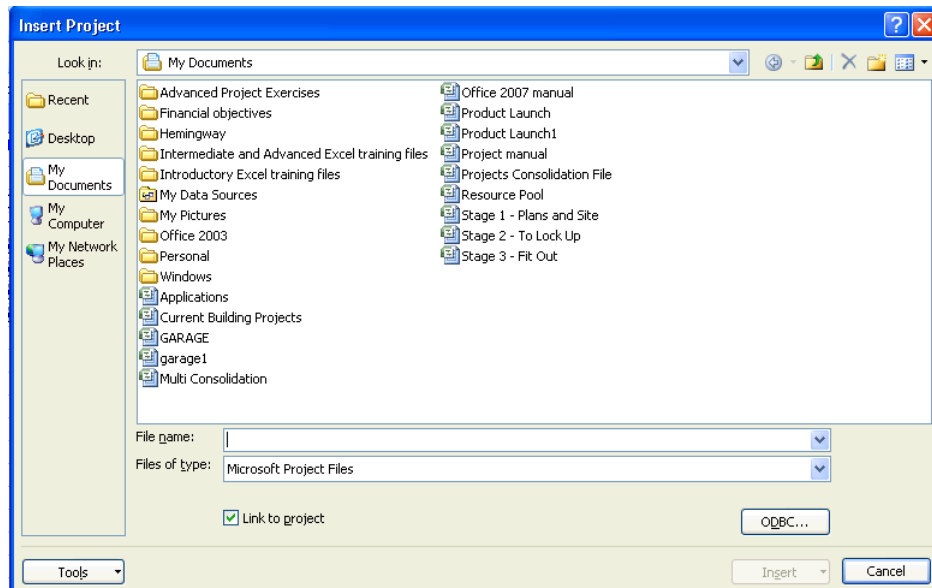

3. Select the drive or folder containing the project file from the **Look in** box.

4. Hold down the **Ctrl** key, then click on each file you want inserting.

5. Click **Insert**. The files will be consolidated in the order listed.

•   You may want to break the link between the source and consolidated files, so that making a change to one doesn't automatically change the other. To do this, double-click the project summary task of the inserted project in the **Task Name** field, then click **Advanced** and clear the **Link to project** check box under **Source project**.
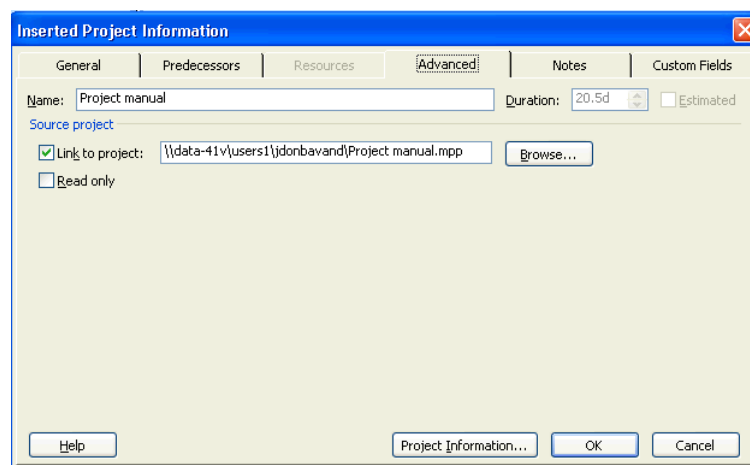
- Once the plans have been consolidated, you can create links between the tasks in different projects in the same way as you would create links between tasks in a single project.

From the consolidated plan, to get information about the inserted projects, double-click on the project summary task bar. The **Inserted Project Information** dialog box will be displayed.
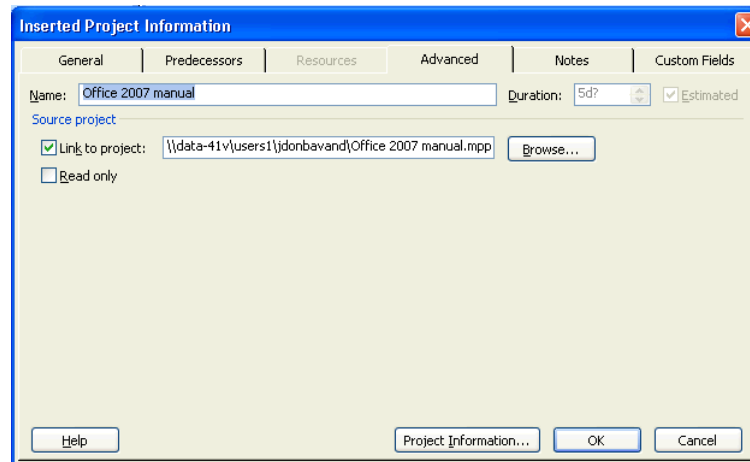
If you click the **Advanced** tab, you are given options about the kind of link to be set up between the projects. If you have the option **Link to project** checked, then changes to the project specified in the **Source Project** box will be uploaded to the master project. If the **Read only** option is turned off, changes to the master project will be downloaded to the subproject.

Linking Tasks without Consolidating

- Tasks can be linked across projects without setting up a master plan.

- By default, if you link tasks in this way, a finish-to-start dependency is set up between tasks. However, after the tasks have been linked, you can change the link type or add lag or lead times, in the usual way.

To link tasks between projects:

1. Open the projects containing the tasks you want to link.

2. Click **Window - New Window**.

3. Holding down the **Ctrl** key, click on the projects containing the tasks you want to link, then click **OK**.

4. Click **Gantt Chart** on the **View Bar**.

5. Place the mouse pointer over the Gantt bar of the predecessor task in one project and drag it to the successor task in the other project. A finish-to-start dependency between the tasks is created.

- If the start or finish date of one project is entirely dependent on the start or finish date of another project, you may want to link the two projects together.

To link two projects:

1. Open the two projects.

2. Click **Window - New Window**.

3. Holding down the **Ctrl** key, click on the projects you want to link, then click **OK**.

4. Click **Gantt Chart** on the **View Bar**.

5. Place the mouse pointer over that Gantt bar of the project summary task and drag it to the summary task bar of the successor project.
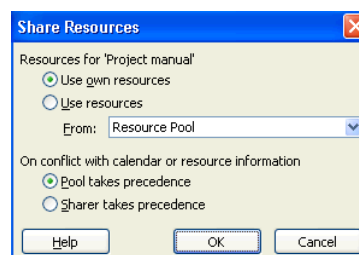
Resource Sharing

- If resources are shared between projects, the project manager can keep control of the resources' allocations to several plans.

- You can choose to share resources between two or more projects, or set up a separate plan, containing no task data, to become the resource pool for other plans.

To create a separate resource pool to share resources between projects:

1. Create a new project file in which to contain the resource pool.

2. For each resource that will be assigned to projects sharing the resource pool, enter the relevant information.

3. Click the **Save** 💾 toolbar button, or click **File - Save As**. The **Save As** dialog box will be displayed.
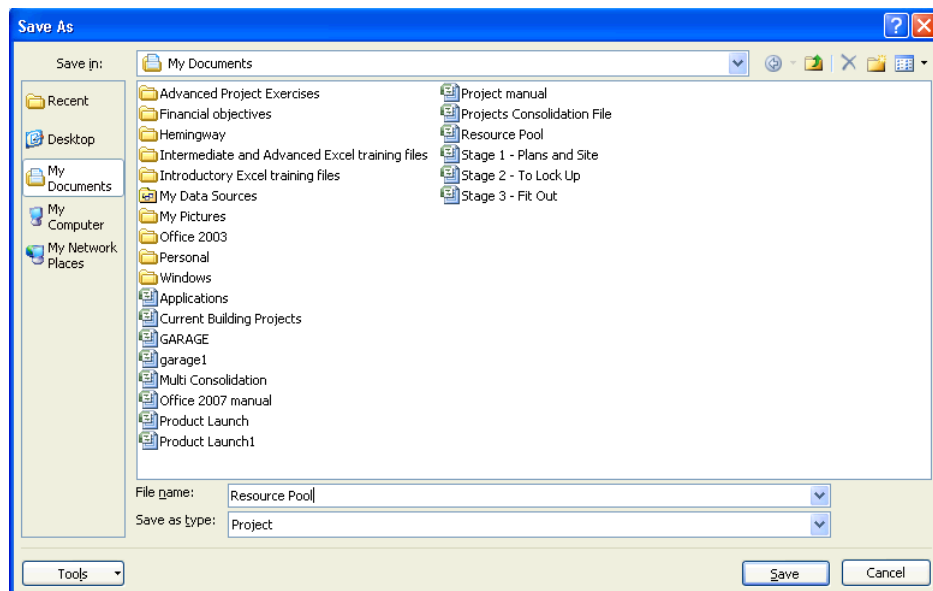
4. Select the drive and folder in which to save your project, using the drop-down **Save in** list.

5. Type a suitable name for the project in the **File name** box. Click **Save**.

6. Create or open all the projects required to share the resource pool. From one of these files, click **Tools - Resource Sharing - Share Resources**.

7. Click **Use resources**, then select the resource pool file from the **From** box.

8. Repeat steps 6 and 7 for each project sharing the resource pool.

9. Click **OK**. Task can now be assigned to the resources in the normal way.

Saving as a Workspace

If you are likely to want to load up several projects together on a regular basis, it is worth saving them as a workspace.

To save as a workspace:

1. Open the relevant project files, but make sure no other project files are open.

2. Click **File - Save Workspace**. The **Save Workspace As** dialog box will be displayed.
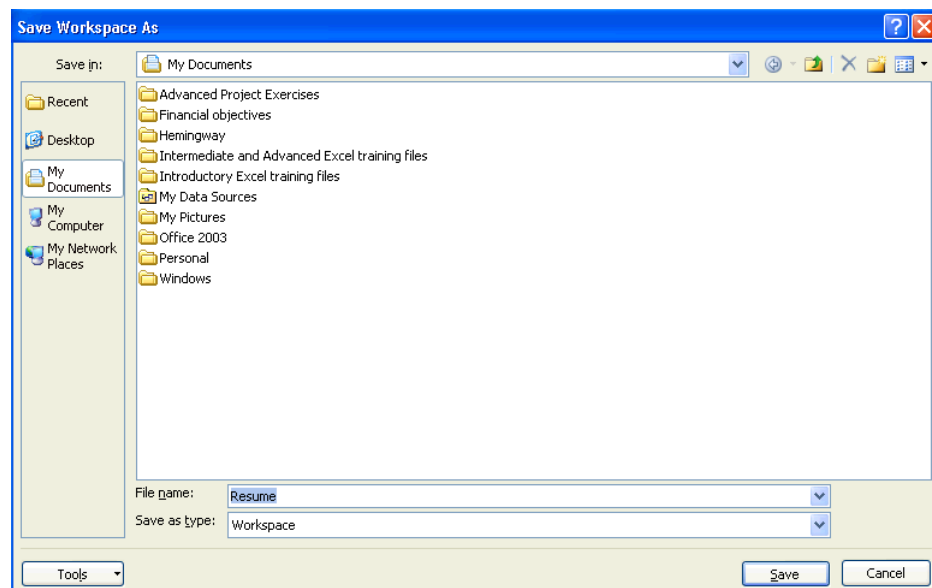
3. Select the drive and folder in which to save your workspace, using the drop-down **Save in** list.

4. Type a suitable name for the workspace in the **File name** box.

5. Click **Save**.