Microsoft Application Series

Project 2010 Introduction

Best STL

- Courses never cancelled: guaranteed
- Last minute rescheduling
- 24 months access to Microsoft trainers
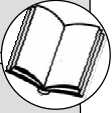- 12+ months schedule
- UK wide delivery

www.microsofttraining.net

BEST STL

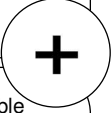Microsoft® CERTIFIED Partner

Institute of IT Training
Accredited Training Provider

Your Best STL Learning Tools

Welcome to your Best STL training course.

As part of your training, we provide you with the following tools and resources to support and enhance your learning experience.

Thank you for choosing Best STL.

1 In-course handbook

To guide you through your training while you are on the course.

Contains unit objectives, exercises and space to write notes.

2 Reference material

Available online through your delegate account.

Comprehensive reference material with 100+ pages, containing step-by-step instructions.

3 12 months access to Microsoft trainers

Available through online support forum.

Need help? Our team of Microsoft qualified trainers are on hand to offer advice and support.

4 Delegate account

Your delegate account gives you access to:

• Reference material
• Course exercise files
• Advice & support forum
• Rewards programme
• Promotions & Newsletters

5 Trainer hints and tips

Hints and tips available online from our Microsoft qualified trainers for:

• All MS Office applications
• VBA
• MS Project
• MS Visio
  + more

6 Save with Promotions

Save on further training courses you book with Promotions.

• 30% off list price
  (time limited)
• £50 off list price
  (blue card discount)

E&OE

Best Training reserves the right to revise this publication and make changes from time to time in its content without notice.

Contents

Introduction to MS Project

Basic Project Management Concepts

What is Project Management?

PMI: The application of knowledge, skills, tools and techniques to a broad range of activities in order to meet the requirements of a particular project - see http://www.pmi.org/WhoWeAre/Pages/About-PM.aspx

PRINCE2 projects have the following characteristics – see http://www.ogc.gov.uk/guidance_managing_successful_projects.asp:
A finite and defined life cycle
Defined and measurable business products
A corresponding set of activities to achieve the business products
A defined amount of resources
An organisation structure, with defined responsibilities, to manage the project

The Microsoft Project Map

The Microsoft Project Map outlines the three phases of the project life cycle:

Build a plan
Track and manage a project
Close a project

Project Triangle

All projects involve time, money, and scope. Change one and the others are impacted. At the centre of the triangle is Quality - affected by any change in the other three.
See article by Microsoft - http://office.microsoft.com/en-us/project/HA010211801033.aspx

PRINCE2

PRINCE2 stand for (**PR**ojects **IN C**ontrolled **E**nvironments) and is a process-based method for effective project management.

PRINCE2 offers best practice guidance on project management and has the following features:

Its focus on business justification
A defined organisation structure for the project management team
Its product-based planning approach
Its emphasis on dividing the project into manageable and controllable stages
Its flexibility to be applied at a level appropriate to the project.
http://www.microsofttraining.net/prince2-foundation-course-london.php

First released as Microsoft Project V1 in early 1990 the software has grown into a rich application designed to help Project Managers:

Organise

- List and group the tasks that together will lead to the desired Project outcome
- Identify and assign the resources required to their respective tasks

Schedule

- Use dependencies between tasks plus constraints to position tasks on the Gantt chart

Manage

- Forecast costs and spending (Cashflow)
- Allow the plan to be modified to account for actual progress
- Monitor and report on progress including spend and workload

Project environment overview

The Microsoft Project 2010 family of products consists of Microsoft Project Standard 2010, Microsoft Project Professional 2010 and Microsoft Project Server 2010.

The content of this course refers to features available in the two desktop versions (Standard and Professional). Most of the end user features are available in both versions, the main difference being that the Professional version is required if you want to connect to Project Server or sync tasks with SharePoint.

Templates

- o File ➔ New ➔ Available Templates (Templates on Office.com... On My Templates... or Recent Templates...)
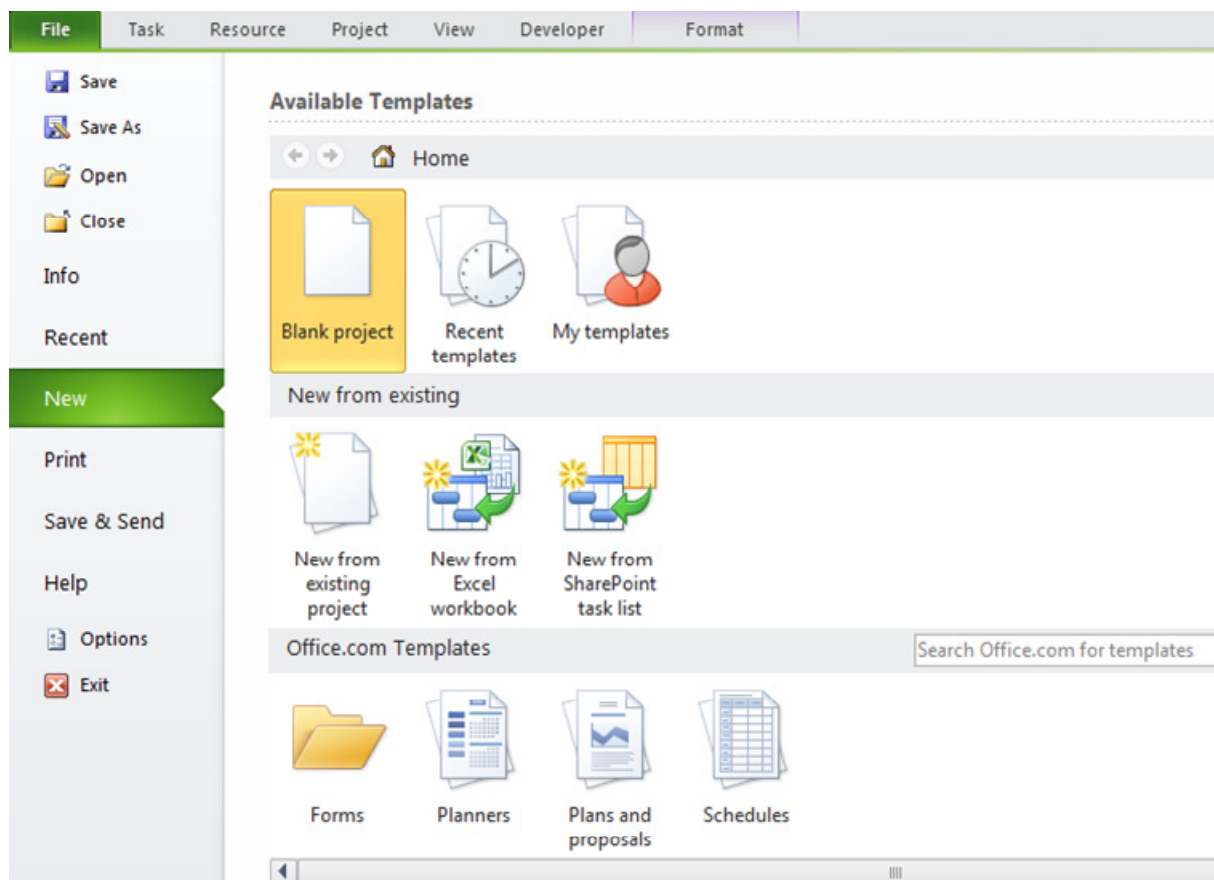
Microsoft Project 2010 has numerous new features which are explored during this course:

- Customisable fluent user interface (the new ribbon) and Quick Access Toolbar
- Backstage view
- Timeline view
- Team Planner (Professional version only)
- Manual v Auto scheduling
- Task Inspector
- Active/inactive tasks
- Top down summary tasks

Navigation

The default Project view is the *Gantt Chart* view which consists of a table of data on the left hand side of the screen and a Gantt bar chart on the right. The Divider Bar separates the two and can be repositioned to display more of the table or more of the chart. The Gantt table consists of rows and columns. Just like on a spreadsheet, the intersection of a row and a column is called a *cell*. The Gantt bar chart graphically displays your schedule.

Quick Access Toolbar

The Ribbon

GANTT CHART

The Project Timeline

The View Bar with the name of current view displayed: right-click to choose another view

Divider Bar

Horizontal Scroll Bar

Status Bar

View buttons and zoom slider
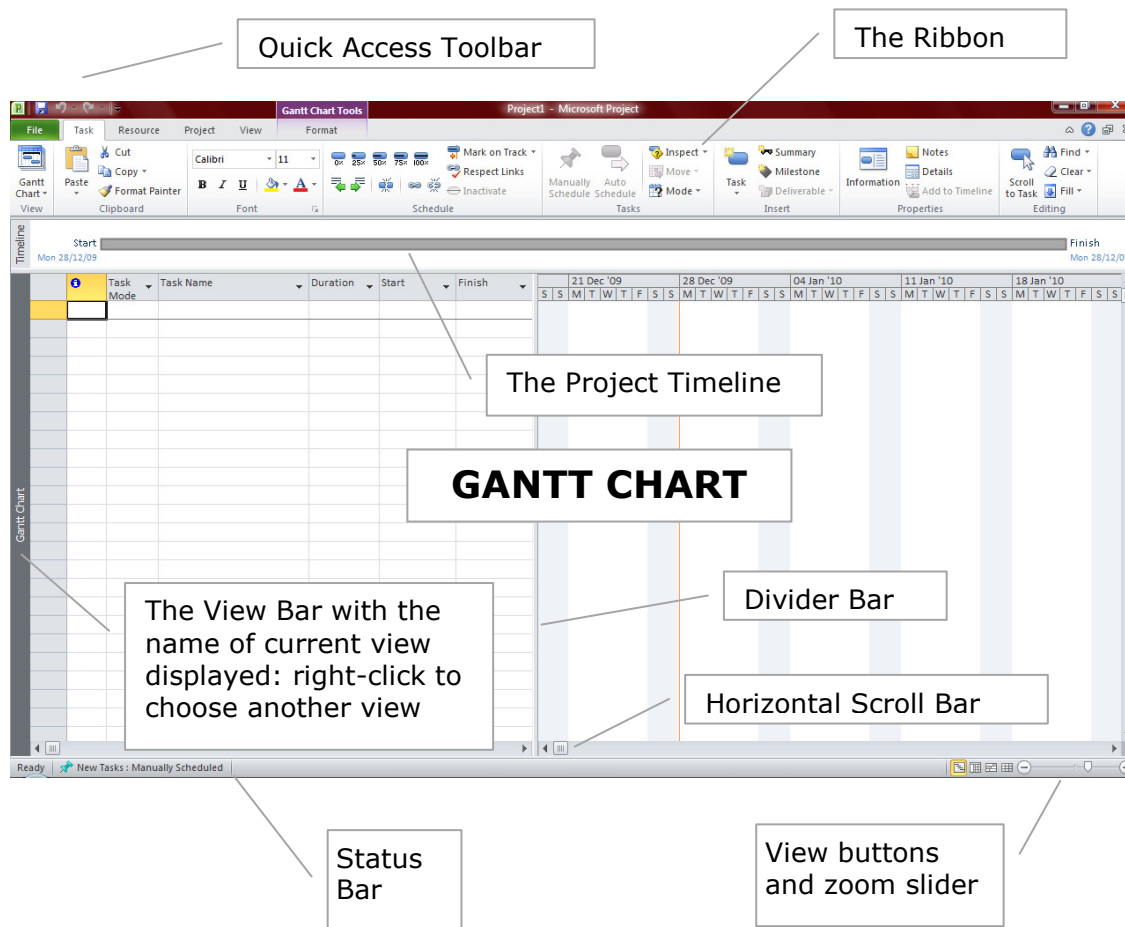
The Quick Access Toolbar:

The Quick Access Toolbar (QAT) is a customizable toolbar that can display either above or below the Ribbon. Click the **Customize Quick Access Toolbar** (on the right of the QAT) to change how it is displayed:
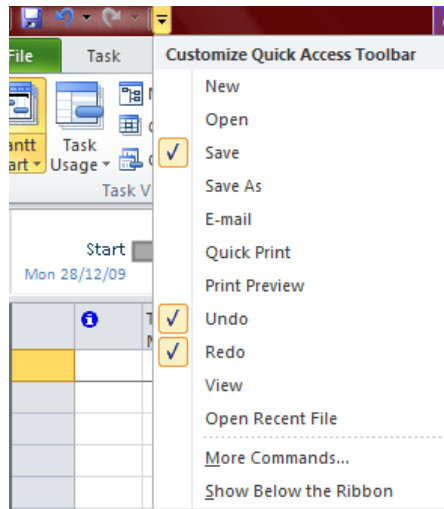
Tip: to add commands (buttons) to the Quick Access Toolbar, right click any existing command and from the shortcut menu choose Add to Quick Access Toolbar:

The Ribbon (with the Project tab displayed):

Click here to minimize

The Ribbon, which is part of the Microsoft Office Fluent user interface, is designed to help you quickly find the commands that you need. Commands are organized in logical groups that are collected together under tabs.
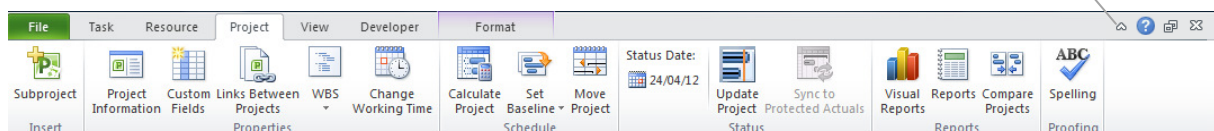
Note: The Format tab is context specific – the commands on it changes depending on the view/area of the screen that is selected.

When the Ribbon is minimized, you see only the tabs. To use the Ribbon while it is minimized, click the tab you want to use, and then click the option or command you want to use.

Tip: To quickly minimize the Ribbon, double-click the name of the active tab. Double-click a tab again to restore the Ribbon. The **Keyboard shortcut** to minimize or restore the Ribbon is CTRL+F1.

The Status Bar:

The status bar displays information such as whether filters are applied or whether new tasks are 'Manually' or 'Auto Scheduled':
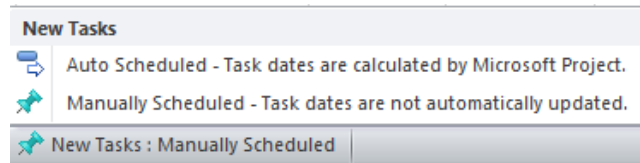
On the right of the status bar is the Zoom Slider and quick buttons for displaying the main views of Project (Gantt Chart, Task Usage, Team Planner and Resource Sheet):

The Entry Bar:

The Entry Bar allows you to edit the content of a cell:
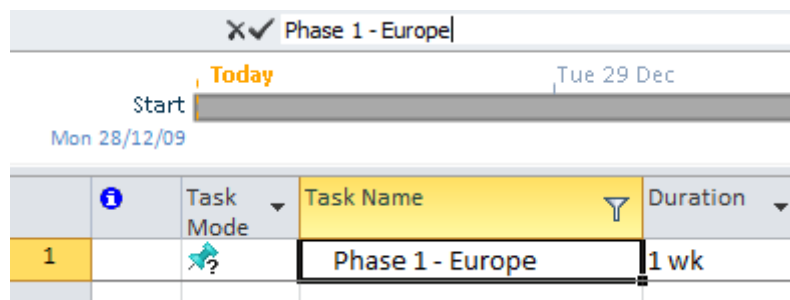
Note: Unlike previous versions of Project, the Entry Bar is not displayed by default. To display the Entry Bar:

1. Click the File Tab
2. Click Options
3. Click Display

Click the option to show the element Entry Bar
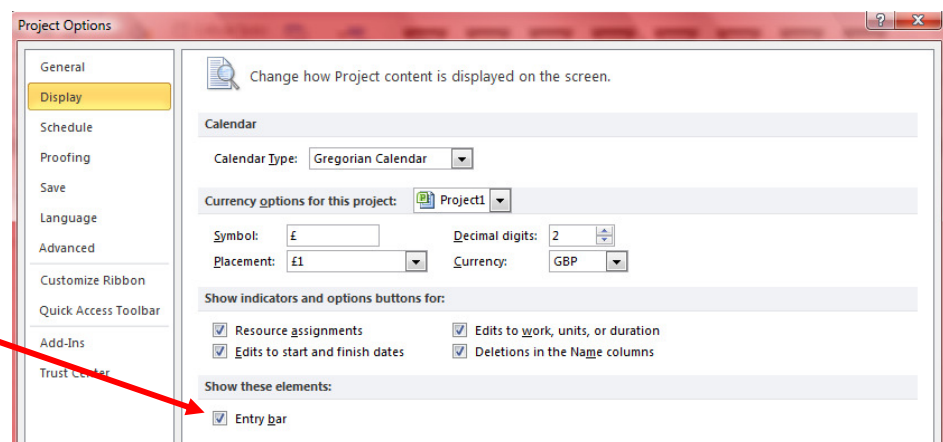
MS Project – using the Ribbon

The File Tab

After you click the **File** tab, you can see the new **Microsoft Office Backstage view** which is common across all the MS Office 2010 suite of applications. The Backstage view is where you manage your files and data — creating, saving, inspecting for hidden metadata or personal information, and setting options.

> Note: To continue working on your project, you need to click back on the Task tab of the ribbon.

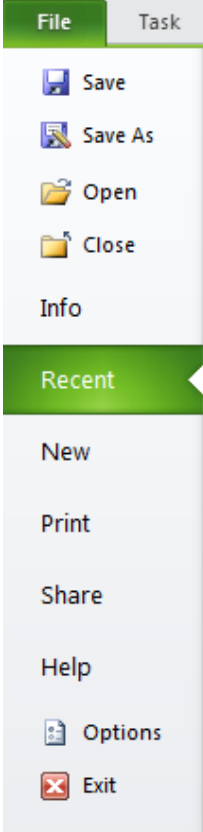|		
The Task Tab	The **Task tab** is similar to the Standard and Formatting toolbars available in previous versions and has commands to link, outline and track tasks.
The Resource Tab	The **Resource tab** pulls together the various tools for allocating, sharing and levelling resources.
The Project Tab	The **Project tab** is a combination of both the Project and Tools menus available in previous versions and includes commands to change the Project calendar and baseline the project.
The View Tab	The **View tab** has features from View, Project and Windows menus available in previous versions and includes commands to Group, sort, filter, highlight tasks, zoom controls and split views.
The Format Tab	The **Format tab** includes options to customise the look of the Gantt chart (like the Gantt Chart wizard in the previous versions) and show/hide summary tasks & project summary task

Getting Help

Note: The Project Guide is no longer available in Project 2010

1. Click on **Help** or press **[F1]** to display the Help dialog box:
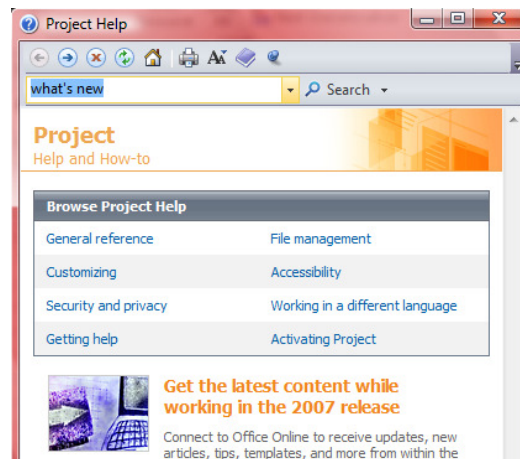
2. Type a word or phrase and click **Search** to find help on that specific topic:
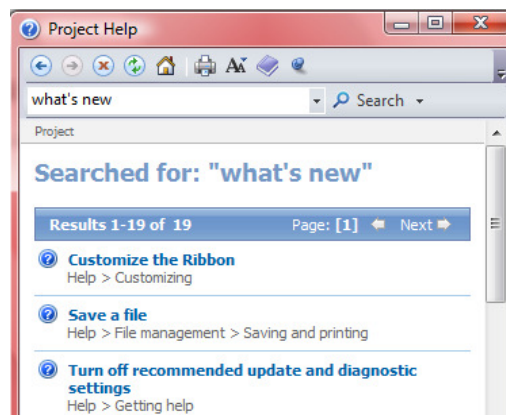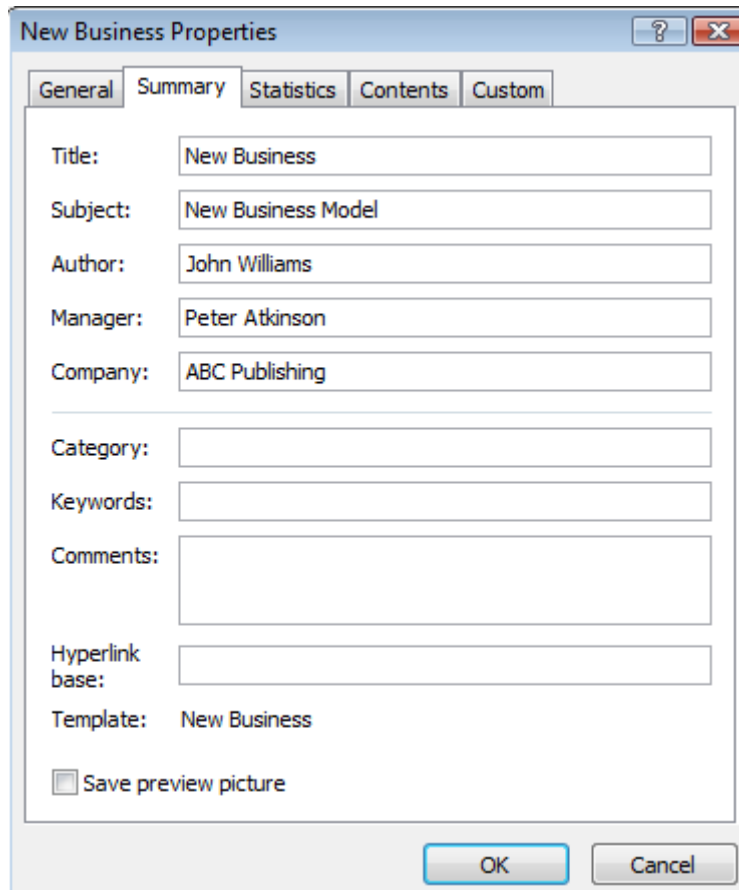
3. Click on any of the blue hyperlinks to display the various help topics

4. **Exit** the Help system by clicking the red **Close** button

Basics of the MS Project Environment
Follow a checklist when setting up new projects. Your checklist will evolve to match the requirements of your organisation:

Simple check-list

1. File ➔ Info ➔ Project Information ➔ Advanced Properties ➔ Summary tab - enter the Project Title and other relevant information (can re-use this later in reports.)

2. Project ribbon ➜ Change working time ➜ Create a new calendar based on the Standard calendar and mark off non-standard working and non-working days such as public holidays etc. in the Exceptions tab.
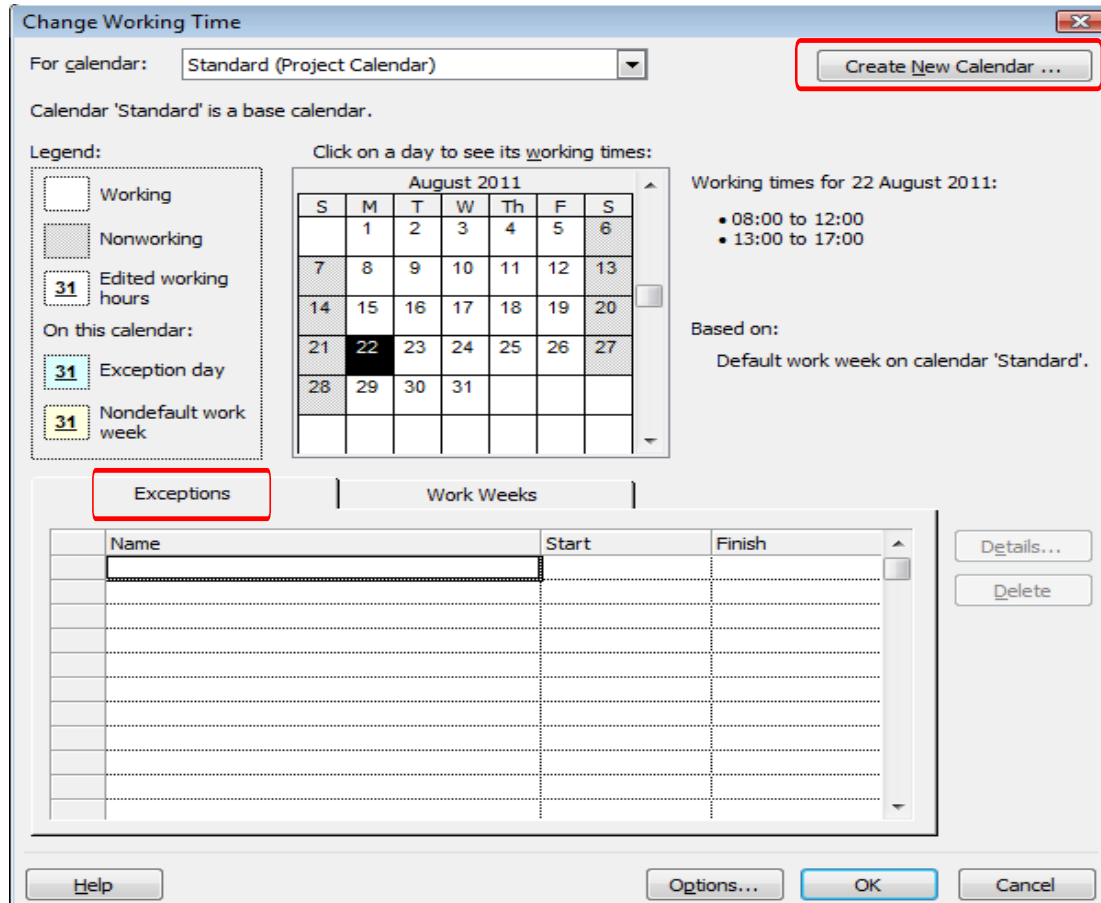
3. File ➔ Info ➔ Organiser ➔ Calendars tab ➔ select new calendar from the right side and click Copy. This will make your new company calendar available for all new projects.
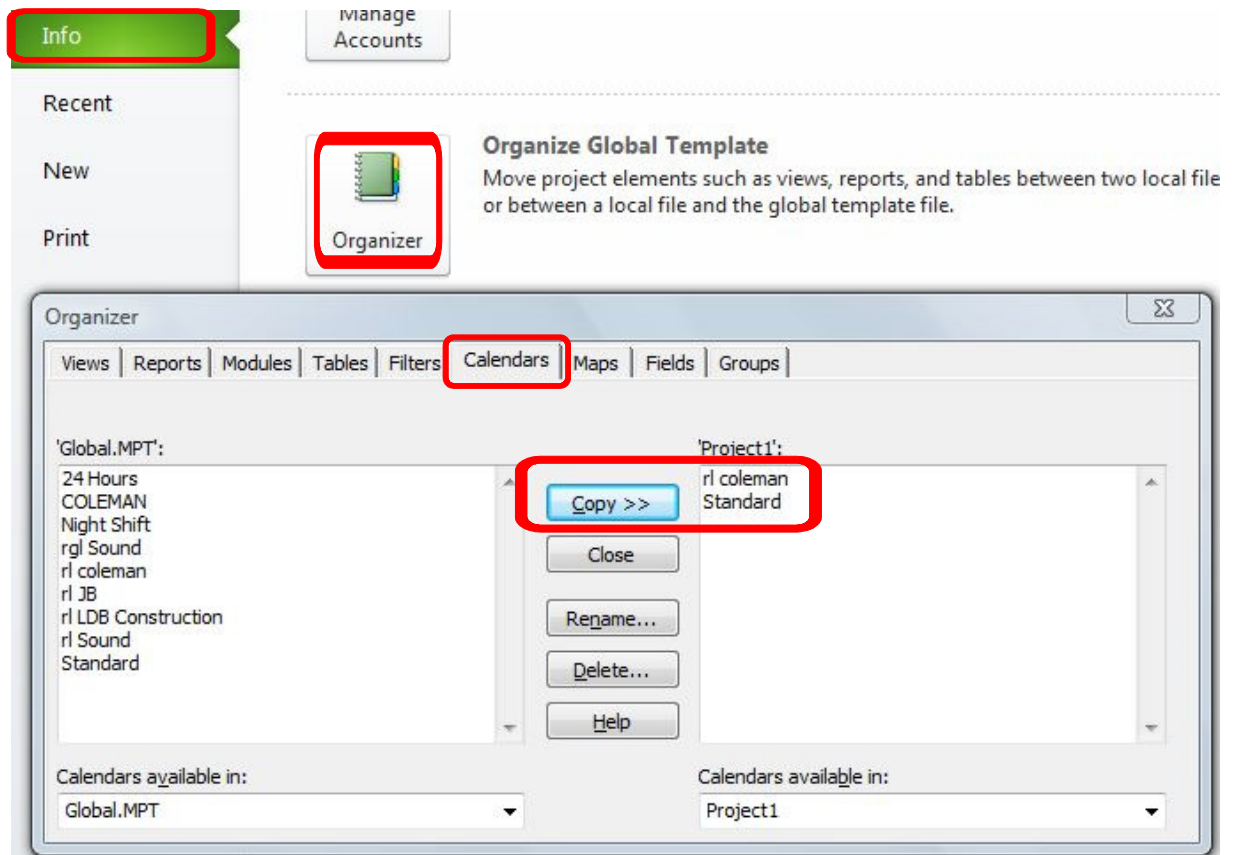
4. Project ➜ Project Information ➜ Start Date - enter the estimated start date of your Project and from the Calendar drop-down arrow select your new calendar as the project calendar.
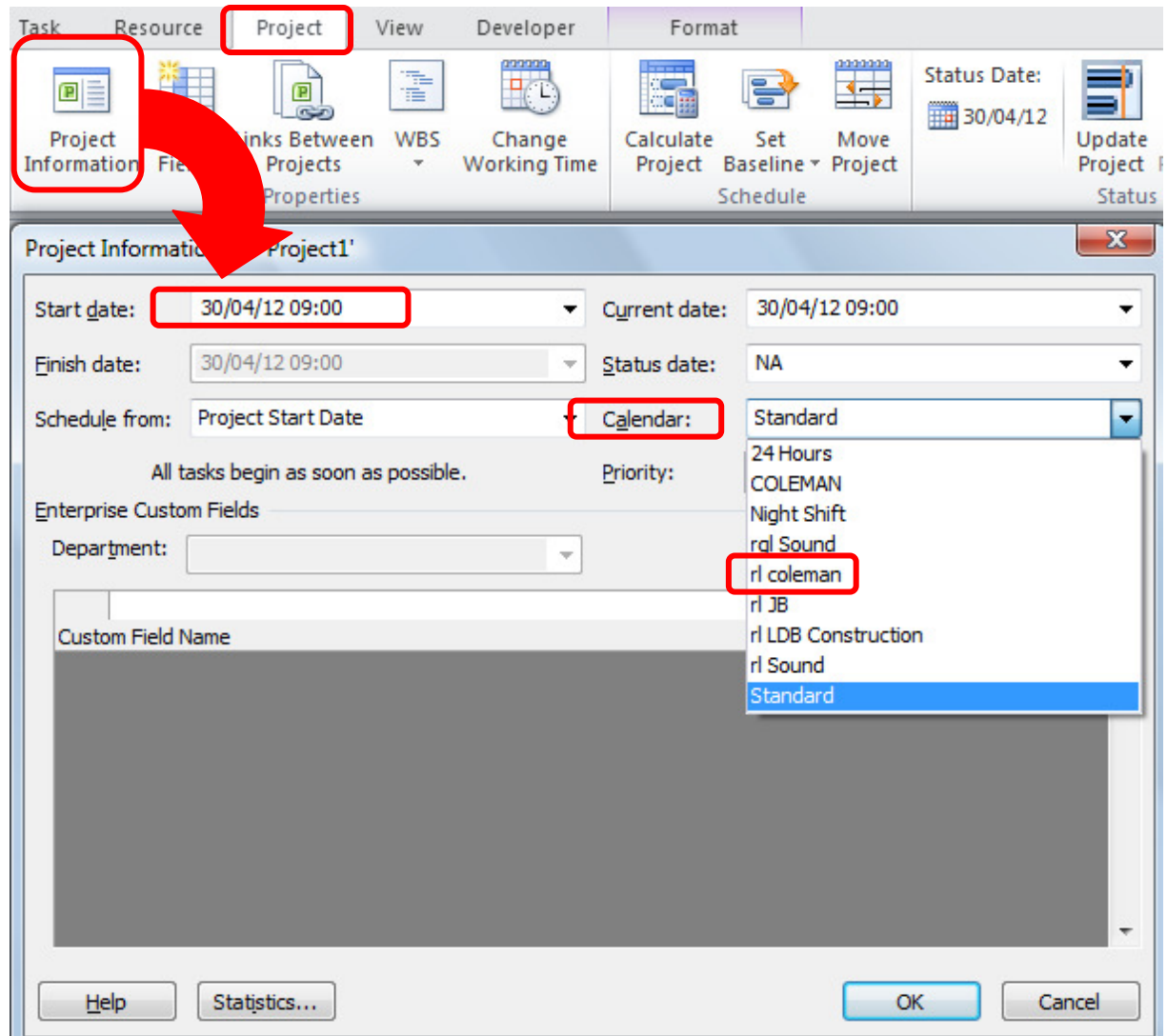
5. Right-Click Gantt chart ➔ Non Working Time ➔ draw non-working time in front of task bars to make the Gantt Chart easier to read and then select the Project Calendar from the Calendar drop-down.
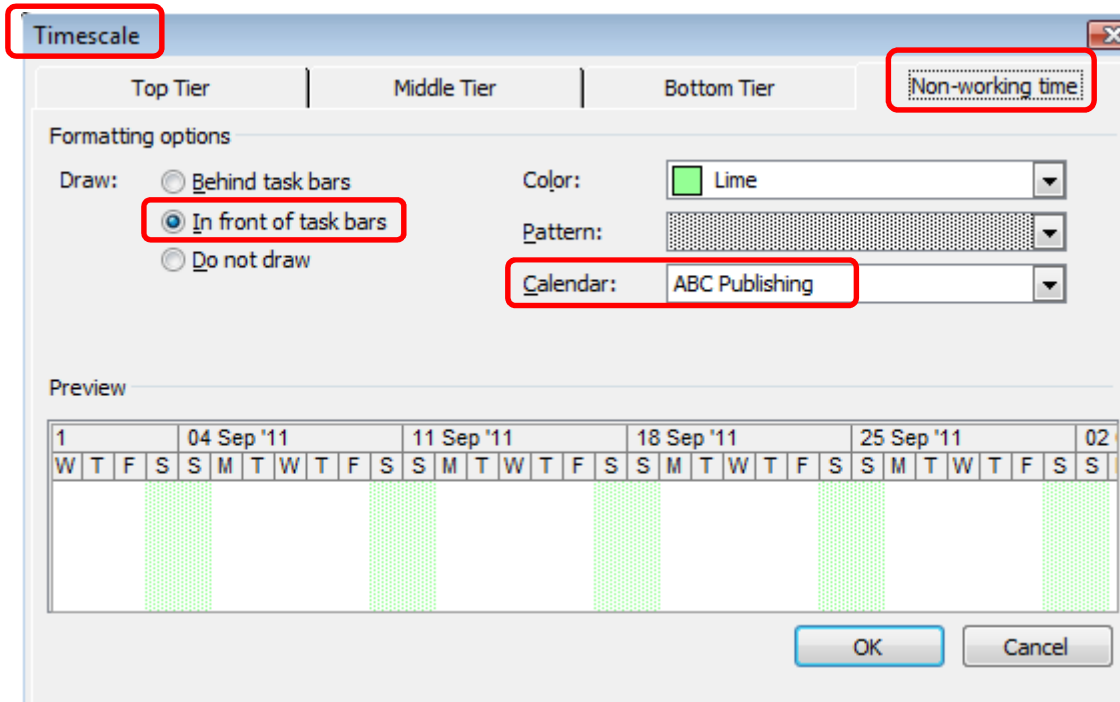
Task Creation

This is the initial activity in setting up a new project. The system will hold task information in a Task database, used by the system whenever we view task data. This is one of three databases the system uses, the others being the Resource database and the Assignment database.

The order of entry for tasks does not need to follow any set pattern: to keep the Gantt Chart as simple as possible, enter your tasks in approximate chronological order, but this is by no means essential. You do not need to enter tasks in order of resource or resource group in order to readily see tasks being performed by a given resource or resource group because you can use filters or reports to see this information.

There is no need to enter all the tasks at this stage: additional tasks can be inserted, tasks can be moved, copied or deleted. A practical approach is to initially enter only the main tasks (Summary Tasks) and afterwards fill in the detailed tasks (Subtasks): this is a 'brainstorming' stage where you and the project team are recognising all the tasks necessary to meet the project's objectives. This method is also known as 'Top-down Planning'.

Do not at this stage be concerned regarding the resources for each task or the duration: concentrate on thinking of all the requirements which need to be covered by creating the necessary tasks.

Manual Scheduling vs. Auto Scheduling

In Project 2010 there is a new concept called 'User-Controlled Scheduling'. It's a collection of features designed to make Project a more flexible planning and schedule management tool. The idea is that you, as the project manager, can have complete control over when a task should happen. If and when appropriate, you can leverage Project's powerful scheduling engine to help forecast the date of a task based on various factors like dependencies, calendar, constraints, etc. But at any time, you have the flexibility to manually override Project's automatic calculations to better capture all of the high-level, possibly vague information that you have when you start your project.

Tasks are by default "Manually Scheduled", meaning that you have complete control over their dates. For example, when you start typing tasks the Start, Finish & Duration fields are blank. When tasks are in this 'Manually Scheduled' mode, Project will not automatically calculate and fill in dates for you.

	ⓘ	Task Mode	Task Name	Duration	Start	Finish	Oct 1 S M
1		📌?	Design				
2		📌?	Engineering				
3		📌?	QA				
4		📌?	Marketing				
5							

If you have specific dates for some tasks and just a rough idea for others you can enter the information, even using text in the duration, start or finish columns:

	ⓘ	Task Mode	Task Name	Duration	Start	Finish	Oct 18, '09 S M T W T F S	Oct 25, '09 S M T W T F S
1		📌	Design	2 wks	Mon 10/19/09	Fri 10/30/09		
2		📌?	Engineering		Mon 11/2/09			
3		📌?	QA	3 wks	TBD			
4		📌?	Marketing	Talk to Jack				
5								

An example where "Manually Scheduled" mode could be useful is when a task's predecessor slips. Instead of automatically moving the linked task, a red squiggle underneath the Finish Date indicates a potential problem. This gives you, the project manager, a better way of spotting problems and a chance to decide on a mitigation plan.

At any point, if you wish to have Project calculate your schedule for you instead of maintaining manual control, you can toggle your tasks to 'Auto Schedule' mode. When tasks are Auto Scheduled, Project will calculate and update their dates automatically just like it has always done in previous versions.

Auto
Schedule

> **Note:** Manual Scheduling was not available in previous versions of project so if you are working in compatibility mode you can only use Auto Scheduling.

Using the Gantt Chart to enter tasks

The most user-friendly way to enter tasks is to use the Gantt Chart view with the Entry table and the Insert commands on the Task tab:
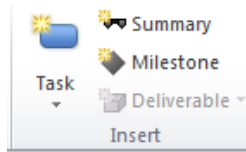
1. Click the Summary command to insert your first main task and overtype the placeholder text with the correct task/phase name:

2. Click the Task command to enter more subtasks
3. Continue adding as many Summary tasks and subtasks as you require
    – you will need to make sure that the Summary tasks are entered at the right outline level and you can indent/outdent them by using the command buttons on the schedule group of the **Task** tab

4. You can write long, descriptive task names – the text should wrap automatically in the cell and you can also change the column width if required:

Click and drag to widen the column

5. the Undo button on the Quick Access Toolbar will undo your recent actions: by default up to 20 actions, but you can increase this to a maximum of 99 actions (on the File, Options, Advanced tab)

6. The cells which are affected by your last modification are automatically temporarily highlighted in a blue colour so you easily see if other cells have been affected by the change

7. It is possible to use In-Cell Editing but you may prefer to double click the task and make the changes on the general tab of the Task Information Dialog Box:

Create the Work Breakdown structure

Manually outlining tasks into summary tasks and subtasks
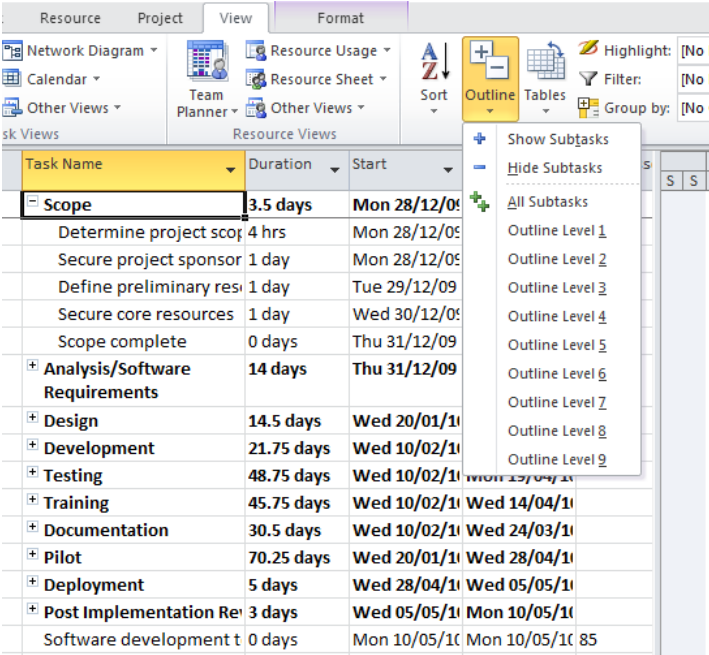
Subtasks are defined by being *indented* - the Task above **automatically** becomes a Summary Task formatted in **bold**.

1. Select the Task(s) in the Task Name column
2. Click the **Indent** ➡ command on the **Tasks** tab to make it a sub task and note the task above it becomes bold

> Tip: more than one Task can be indented/ outdented at once by selecting the required Tasks with the mouse before the indent/ outdent operation

Choosing to show all subtasks or a specific outline level

- You can click the ⊟ outline button next to the summary task name to show/hide the subtasks
- On the **View** tab, choose the **Outline** command to choose which level of subtasks are displayed:

Modifying a Task List

Inserting an additional task

1. Select the Task that is to appear immediately below the inserted Task
2. Click the relevant command button to insert a Summary or Task.

Tip: You can also press the Insert key (Ins) on the keyboard

Note: The Task ID numbers will automatically change

Deleting a task

1. Select the whole Task record by clicking on the Task ID number
2. Press the Delete key (DEL) on the keyboard.

Note: The Task ID numbers will automatically change

Moving a task

Drag and drop

1. Select the **whole Task** on the ID number
2. **Release** the mouse button
3. Hold down the mouse button while you drag and drop the Task to the new position already visible on the screen – the task is inserted between existing tasks

Cut and paste

1. Select the **whole Task** on the ID number
2. Click the **Cut** command
3. Click on the Task Name of the task which is to be **below** the moved Task
4. Click the **Paste** command

Copying a task

Drag and drop
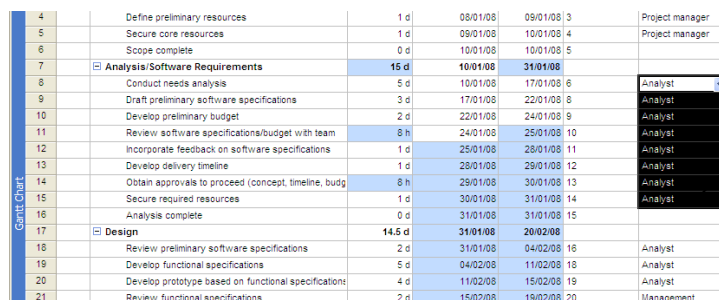
1. Select the whole Task on the ID number
2. Release the mouse button
3. Hold down the Ctrl key while you drag and drop the Task to copy to the new position already visible on the screen – the copied Task is inserted between existing tasks.

Copy and Paste

1. Select the **whole Task** on the ID number
2. Click the **Copy** button
3. Click on the Task Name of the task which is to be **below** the moved Task
4. Click the **Paste** button – the copied Task is inserted between existing Tasks

Using AutoFill to enter repeat data

As in Microsoft Excel, in any table view in Project you can use the **'Fill Handle'** for fast entry of repeat information. For example, you don't have to type out repeat durations or resource names:

Click the bottom right corner of the cell and .

Using AutoComplete

Like with Excel, when you type something similar to information that is already in the same column of data, Project will automatically offer to complete the entry.

Using AutoCorrect

AutoCorrect automatically corrects mistyped words and expands abbreviations as you type. Project provides an extensive list of predefined typing corrections and abbreviations, and enables you to customise the list by adding your own:

1.   Click the File Tab, choose Options, choose Proofing
2.   Type the name of the entry in the Replace text box.
3.   Type the name of the replacement in the With text box.
4.   Click Add and then click OK
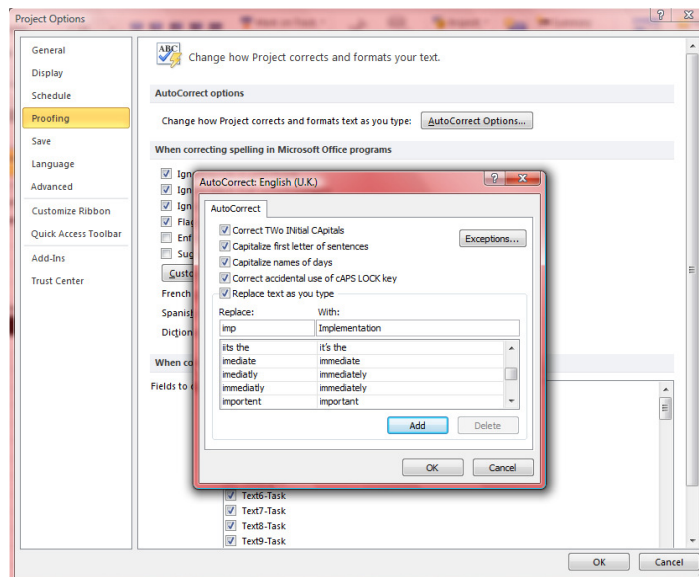
Entering a milestone task

Select where you want to insert the task and click the Milestone command. Note the Duration is zero and the format of the Milestone symbol on the Gantt chart is: ◆ 01/01

Editing Tasks using the Gantt Chart

One method of editing tasks is to change them on the Gantt Chart using the mouse and dragging:

1.   Positioning the pointer at the beginning of a bar will change the pointer to a % sign and dragging with the mouse to the left will update the percentage complete of the task.

2. If the pointer is placed in the centre of the bar it will change to a four-way arrow pointer. It is then possible to drag the bar to the left or right. A label will appear informing you of what you are doing:
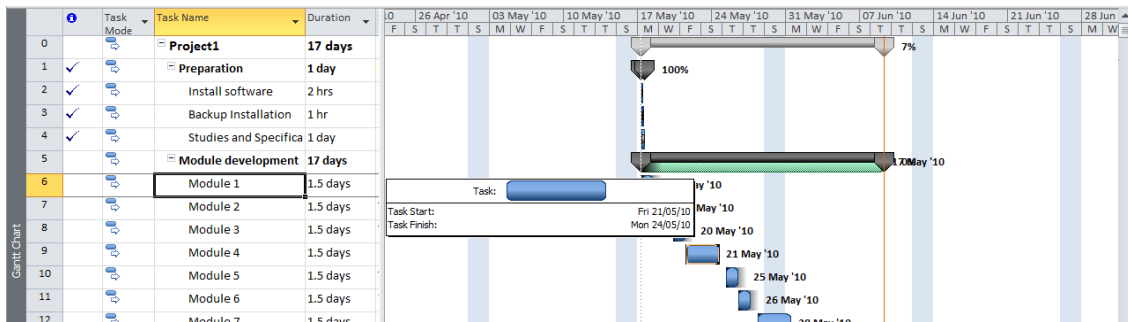
If you change a date that then causes a conflict, the Planning Wizard dialog box will alert you of the problem:
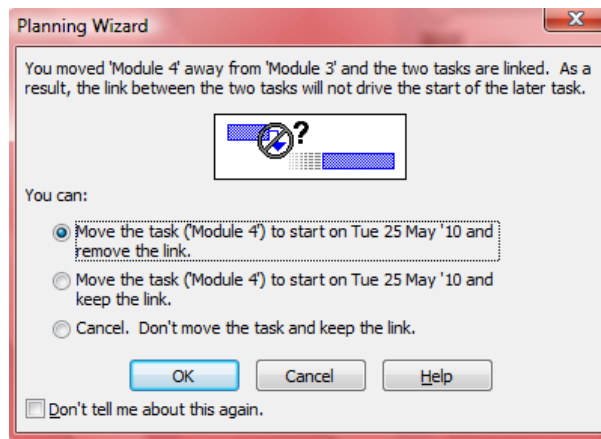
3. The duration of the task can be changed by changing the length of the bar. If the pointer is positioned at the right end of the bar it will change into a right pointing arrow. You can then drag to change the length of the bar.

Tips for naming tasks and setting level of detail

Summary tasks: use a broad description ("selection phase", "User testing")

Tasks: verb + noun are often enough ("Brief consultant", "Install transformer")

Milestones: describe a point in time, a start/end ("start of review", "testing completed")

To find the right level of detail for your tasks aim for tasks that:

- have durations that can be reasonably estimated
- are hard to divide into smaller tasks
- will be easy to measure progress / completion
- are self-contained
- are likely to be carried out by parties outside your project

If you still need to add further detail you can avoid having to create more tasks by adding the additional information into the task notes tab (double click on the task name)

Add Notes to tasks to provide details - double click the task name and go to Notes tab

Working with base calendars

Calendars are used by Project to determine when the work by the resources assigned to that task can proceed.

Microsoft Project comes with three base calendars of working and non-working time: Standard, 24-Hours and Night Shift. By default, the Microsoft Standard Calendar is used. You can amend any of the base calendars or create your own and you can assign different resources to different calendars. For tasks to which no resources have been assigned, the base calendar you choose to be the 'Project Calendar' is used. The 'Project Base Calendar' is set in the Project Information dialog box.

It is important that you amend the Calendars because no bank holidays or festivals are included in the Standard calendar.

Note: Whilst all calendars will be applied, the Gantt Chart can only display one calendar - the vertical grey columns indicate the non-working time in the calendar which is currently chosen to be displayed.

Recurring exceptions and work weeks

To modify the hours available for work in the calendar (e.g. change from 8 hours per day, 40 hours per week to 7.5 hours per day and 37.5 hours per week):

Go to the Project ribbon ➔ Properties group ➔ Change Working Time

1. Below the calendar choose the Work Weeks tab. Make sure Default is highlighted then click on Details
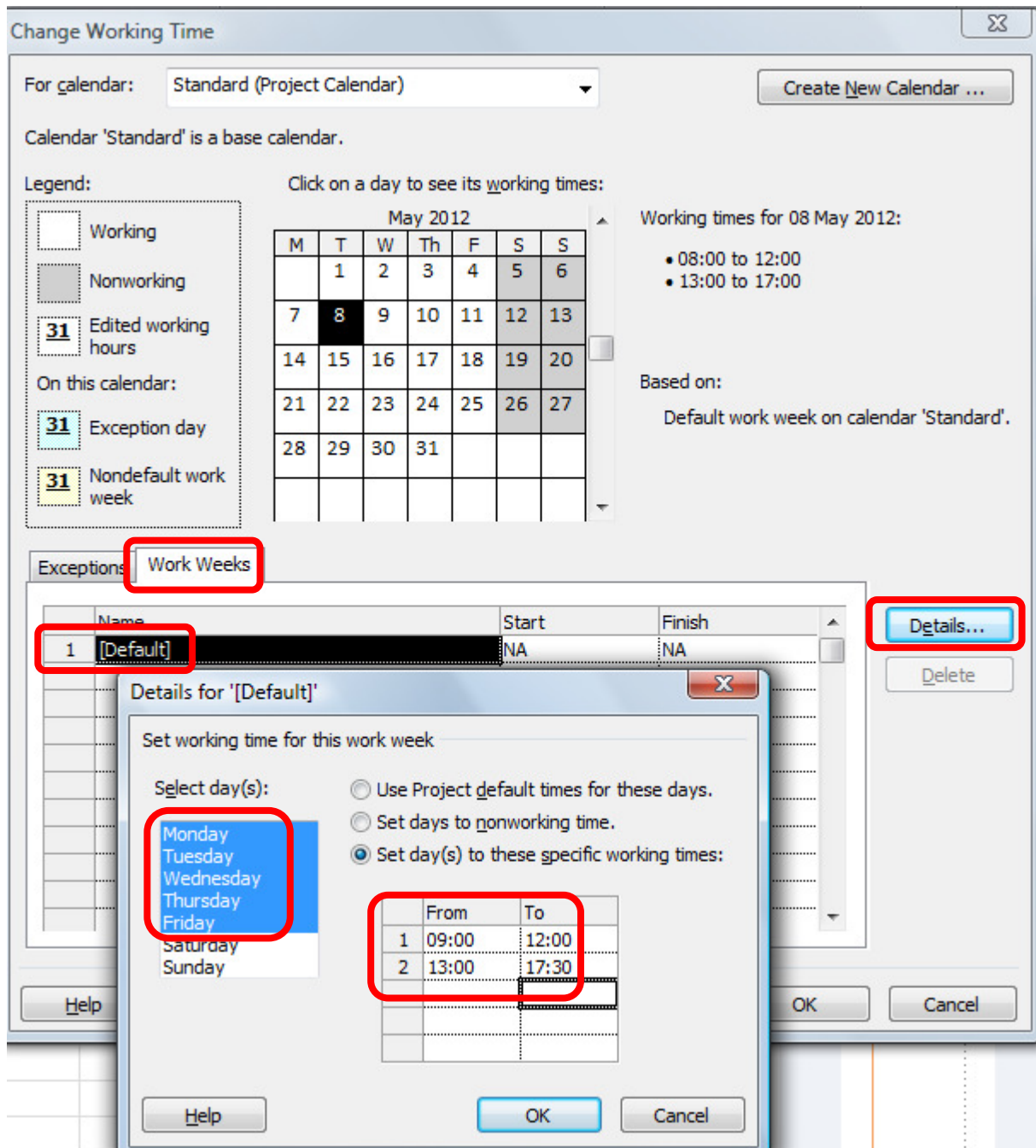
2. Select Monday to Friday from the Select Day(s) list

3. Select the option to Set day(s) to these specific working times:

4. Using the form on the right of the dialog box enter the pattern of work that will follow on those days(e.g. 9:00 to 12:00 and 13:00 to 17:30) then click OK

5. Click on the Options button and a new dialog box appears
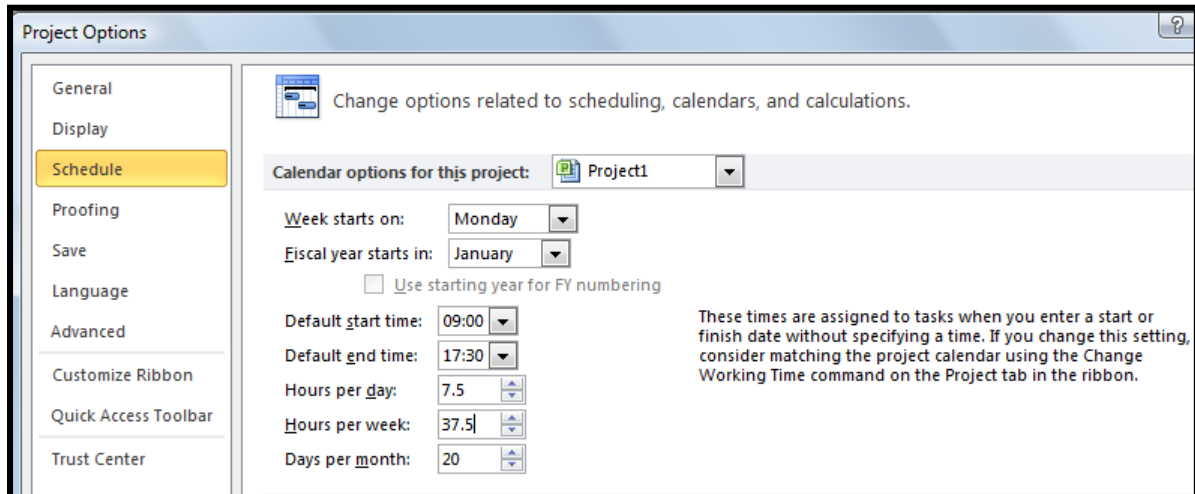
1.   Set the default start and end times to 9:00 and 17:30 respectively

2.   Set the Hours per day to 7.5 and Hours per week to 37.5

> Note: If your revised hours apply only to this project click OK, alternatively if all your projects will follow these new hours click set as default

3.   Finally confirm your project start time is correct. To help you do this set Project to show task times as well as hours. Go to File then choose Options ➔ General Project ➔ View ➔ Date Format. Choose a date format that also includes time and click OK.

4.   From the Project ribbon choose Project Information. Check the start date and time of your project and if necessary bring it into line with the new start time for your tasks. Click OK. Go back to options and set the date format back to date only.

5.   If your project already contains tasks you will need to correct their durations, *therefore it is best practice to set the calendar options first and then add tasks*.

6.   New tasks will align with the new hours you have applied.

Creating Task dependencies

Linking tasks

Each task has a Start and a Finish. These can be used to connect one task to another using a dependency or link. Linking your tasks lets Project adjust the schedule as tasks change.

Types of task dependency

Predecessors and successors

When tasks are connected they take on the following roles:

Predecessor is the task whose start or finish drives the start or finish of the successor

Successor is the task whose start or finish is driven by the predecessor task

There are four types of dependency that can link Predecessors and Successors. You choose the type that best describes the relationship between them:

Finish to Start (FS) - **F**inish of Predecessor drives **S**tart of Successor
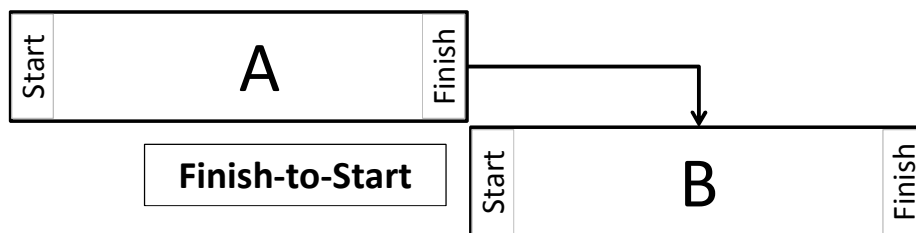
Start to Start (SS) - **S**tart of Predecessor drives **S**tart of Successor
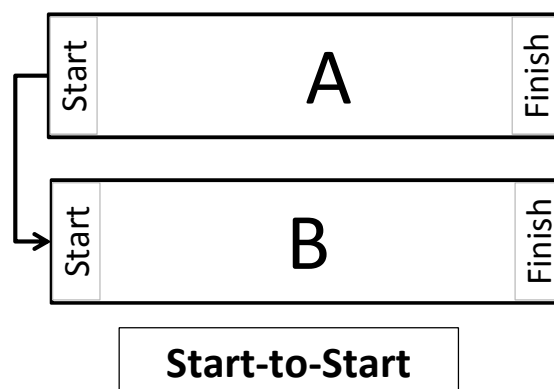
Finish to Finish (FF) - **F**inish of Predecessor drives **F**inish of Successor
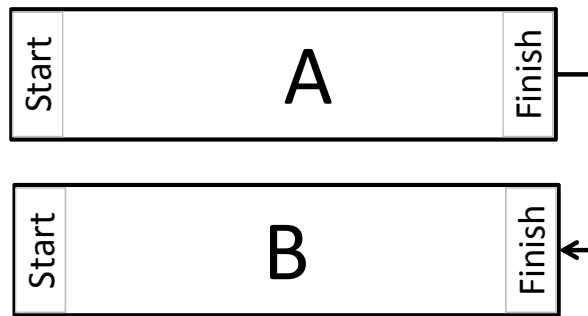
Finish-to-Finish

Start to Finish (SF) - **S**tart of Predecessor drives **F**inish of Successor
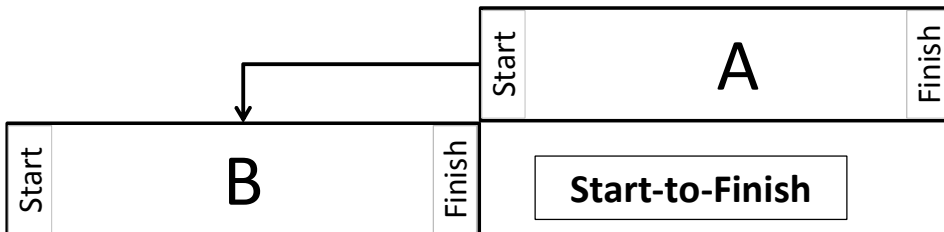
Start-to-Finish

Five ways to create task links

1. Block-select the tasks to be linked (use Click with the Ctrl key held down to select tasks that are not adjacent) and click the link button on the Schedule group on the Task ribbon.
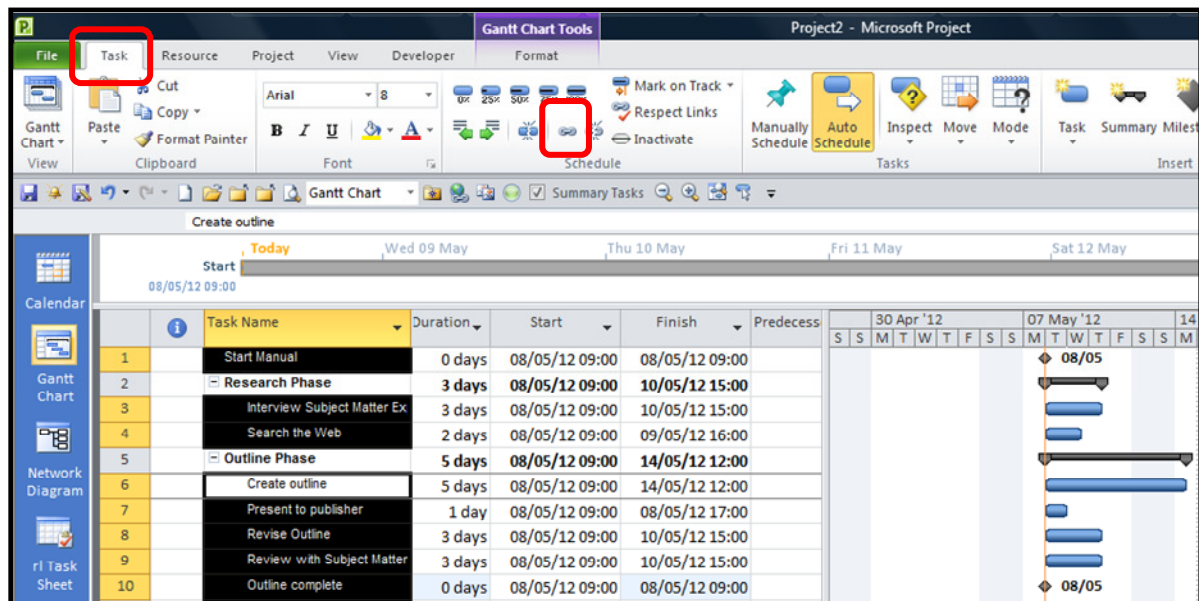
2. Hover the mouse over the middle of the predecessor bar on the Gantt Chart, left click and drag a link up/down to its successor

3. Double click on the name of a task, on the predecessors tab choose the name of the predecessor(s) and set the link type

4. On the successor task row, in the predecessor column enter the ID number of the predecessor followed by the initials of the relationship (e.g. 11FS)

5. Split the screen and in the top half of the screen select a task that will be the successor and in the lower right half of the screen click below task name to choose the predecessor and type of link. Click OK to commit the change.

Breaking links

6.   Double click on dependency line between the tasks, from the task dependency dialog box that appears click delete.

7.   Highlight or Ctrl click the tasks to be disconnected and click the unlink tasks button on the Schedule group on the Task ribbon.

8.   Double click on the task name. On the predecessors tab click on the predecessor to remove and press the delete key.

9.   On the successor task row, in the predecessor column delete the values in the cell.

10.   With a split screen in the lower right half of the screen select the predecessor to remove and press delete.

Using Lag (delay) & Lead time

To model delay between tasks you can either:

- Double click on the arrow linking the tasks or

- Double click on the name of the successor and choose the predecessor tab then

- In the lag field add the number of days, estimated days or % delay

A negative value produces "lead" rather than lag, and brings the successor earlier into the plan as opposed to delaying it.

Setting Constraints

Use constraints to model dates that affect the start or finish of your tasks. In addition to the constraint and date you set, Project will also take into account other factors such as calendars, resource availability and dependencies when calculating where to place the task on the chart.

All automatically scheduled tasks have a constraint. By default this is set to <u>As Soon As Possible</u> (ASAP). This means that unless another task or link gets in the way Project will position the task as early in the plan as it can.

Constraints can be modified by:

Double clicking on the name of the task to be constrained then from the advanced tab choose the constraint type and if appropriate add a date:

As Late As Possible (ALAP)   the task will take place as late it can

Finish No Earlier Than (FNET)   models a task that is not able to finish before a certain date, but could be delayed beyond it

Finish No Later Than (FNLT)   is used to describe tasks that are not able to finish beyond a date, but are able to finish earlier

Must Finish On (MFO)   positions the task's finish on the specified date

Must Start On (MSO)   as MFO but positions the task's start on the specified date.

Start No Earlier Than (SNET)   the task starts on or after the specified date but no earlier

Start No Later Than (SNLT)   for activities that must start on or before a specified date.

Setting Deadlines

Deadlines added to a task show the date when it should finish but won't prevent the task being delayed beyond that date. Instead an alert icon appears in the indicators column if the task finishes later than its deadline. To add a deadline to a task:

- Double click the task
- On the advanced tab enter a date in the Deadline box and click OK. On the Gantt Chart a green arrow indicates the deadline for the task.
- To remove a deadline double click the task and delete the date from the deadline field then click OK

A deadline has been added to this task... indicated by the arrow

Introduction to Resources

Resources are best defined using the Resource Sheet, which can be accessed via the Quick Access toolbar, the View ribbon, the Task ribbon, the Resource ribbon or the View bar.
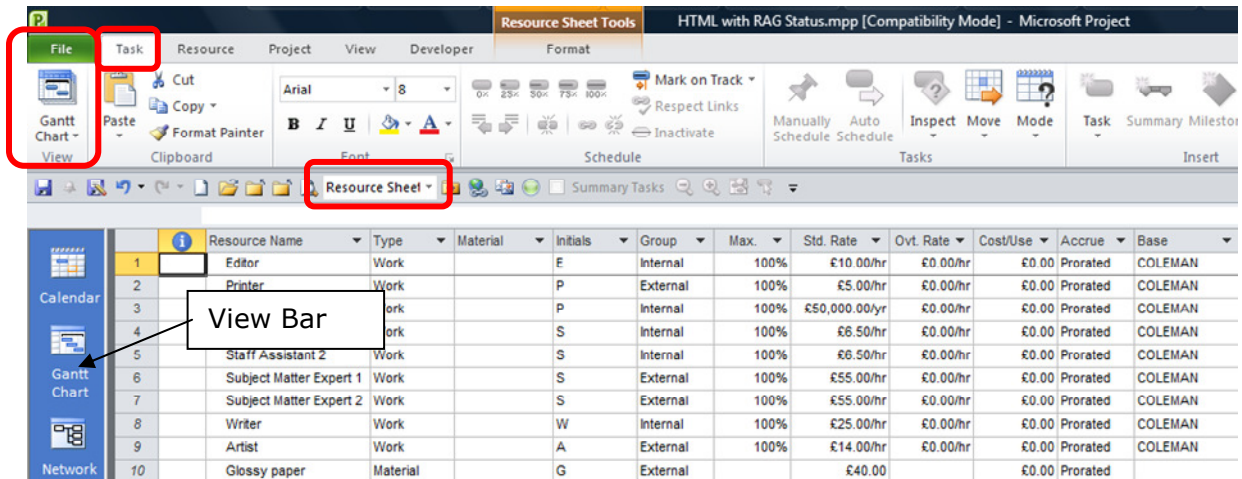
Creating resources

Each resource is entered on its own line as follows:

Basic resource properties

Name	Enter an appropriate name for the resource. This can either be the name of an individual, a job role or a team name for generic resources.
Type	Resource types can be **work, material** or **Cost**. Use the **Work** resource type for people and equipment whose availability is capped (Max Units) so you can see if they become over-allocated. Use the **material** resource type if the resource is a consumable. Use the **cost** resource type to track variable items such as expenses. The rate for this type of resource is not stored in the resource sheet. Each time this resource is assigned to a task you can enter the cost that applies just to that task.
Material Label	Only applicable for material resources. This is the volume that the resource is purchased in. For example paint might be purchased in litres.
Initials	An alternative to having the full name beside bars on the GANTT chart
Group	Can be used to categorise resources appropriately for reports, filters and grouping. Typical uses are team names, departments, subcontractors etc.

Max Units	The maximum number of units of the resource. 100% generally means one individual; 300% 3 individuals. (Work type only)
Standard Rate	Cost of standard work, can be recorded as Hourly/Daily/Weekly/Monthly/Yearly e.g. £200/d for a daily rate
Overtime Rate	Cost of resource when work is specified as overtime. (work type only)
Cost/Use	A one off cost associated with the resource. Is charged every time resource is allocated to a task. Can also be used in addition to Standard Rate.
Accrue At	Determines if the resource costs are charged at the start of the task; throughout the task, or at its end.
Base Calendar	The base calendar which determines the resource's working time. (Work Type only)
Code	A general code that can be used to identify the resource or resource group. A typical example would be a cost centre code.

Making Simple Assignments to Tasks

There are two stages of resource allocation. The Initial allocation, where resources are first allocated to a task; and then any changes made to that allocation, for example adding extra resources, or removing resources.

Initial allocation

The initial allocation of resources involves specifying the resources necessary to complete each task in the duration specified.

Procedure

1. In the Gantt chart view
2. Split the window to show the Task Form view below the Gantt Chart
3. Select the task which is to be resourced

Then in the lower pane, under resources:

4. Select each resource required for the task
5. Then Click OK (Note all required resources must be selected before OK is clicked)

Allocating multiple resources

When multiple resources are allocated to a task Project will assume that each resource must work on the task for the specified duration. So if two resources are to work on a 2 day task, then each resource must work on it for 2 days. If both resources can work at the same time, then the total duration of the task will remain unchanged. If however, they are working at different times then the duration of the task will likely change.

Example

A two day task starts on Monday and finishes on Tuesday. Two resources are then allocated to it.

Resource 1, works both Monday and Tuesday, thus finishing its contribution within the 2 day duration. Resource 2 however is on holiday on Monday, and therefore starts its 2 day contribution on Tuesday, finishing Wednesday.

Therefore the task starts on Monday with resource 1 and finishes on Wednesday with resource 2; thus having a new duration of 3 days.

Modifying allocations

When modifying a resource allocation, it is necessary to understand that you are changing one of three variables, *units of resource*, the other two being *task duration* and *work*.

When you change the units of resource, either the duration of the task will change, or the amount of work will change, as the three variables can the represented in the formula

$$\underline{Duration\ x\ Units\ of\ Resource}\ =\ \underline{Work}$$

So, increasing the units of resource would require either the duration to decrease and work to remain fixed; or for Work to increase and duration to remain fixed.

The key is to be able to specify which option applies.

Procedure

1. Open the Gantt chart
2. Split the screen to show the details pane View ribbon ➔ Split View ➔ Details
3. Select the task to be modified.
4. In the lower pane ensure the "Effort Driven" tick box is empty. If there is a tick in the box remove it then click OK before proceeding (see below)
5. If you want the duration to alter change the task type to "fixed work"
6. If you want work to alter change the task type to "fixed duration"
7. Add or remove resources as required
8. Click OK

Working with the Timeline

On the View tab there is an option to show or hide the Project Timeline
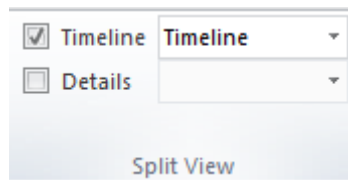
The Timeline is a new feature in Project 2010 which allows you to easily create a high level view of your project plan that you can then share through other Office applications such as PowerPoint and Outlook.

You can use the Timeline to zoom or change the time displayed for your project:

Click and drag here to move the timeline of the Gantt chart

Click and drag here to change the zoom
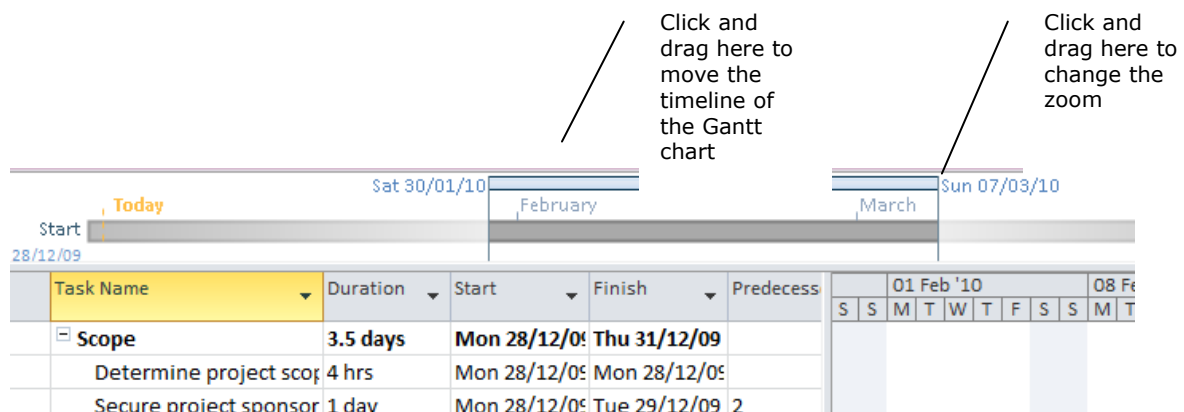
Click on the Timeline to select it and then click the Format tab so see specific options:
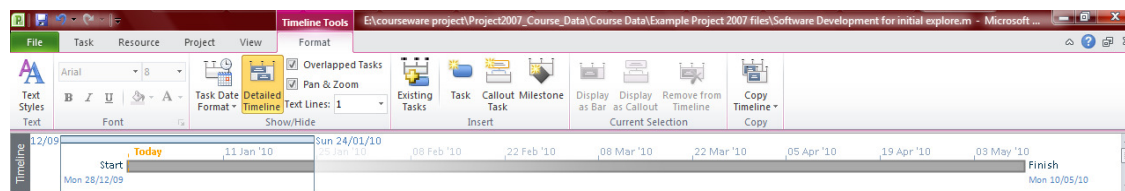
Note: When the Timeline is active, many of the commands on the Task and Resource tabs of the ribbon will be greyed out. Click back on the Gantt chart/Gantt table to work as normal.

Click the Copy Timeline command to be able to paste a picture of your project into an email or other document:
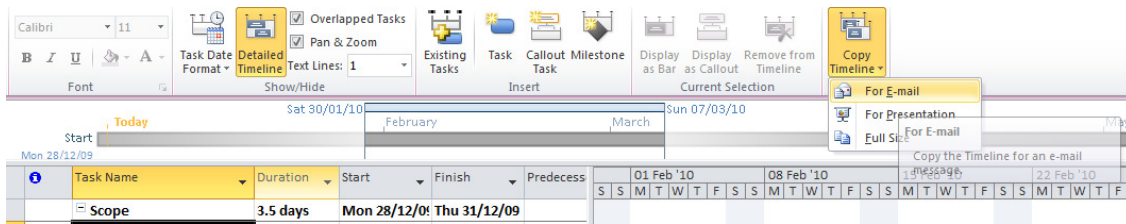
Click the Existing Tasks command to display specific tasks on the timeline:
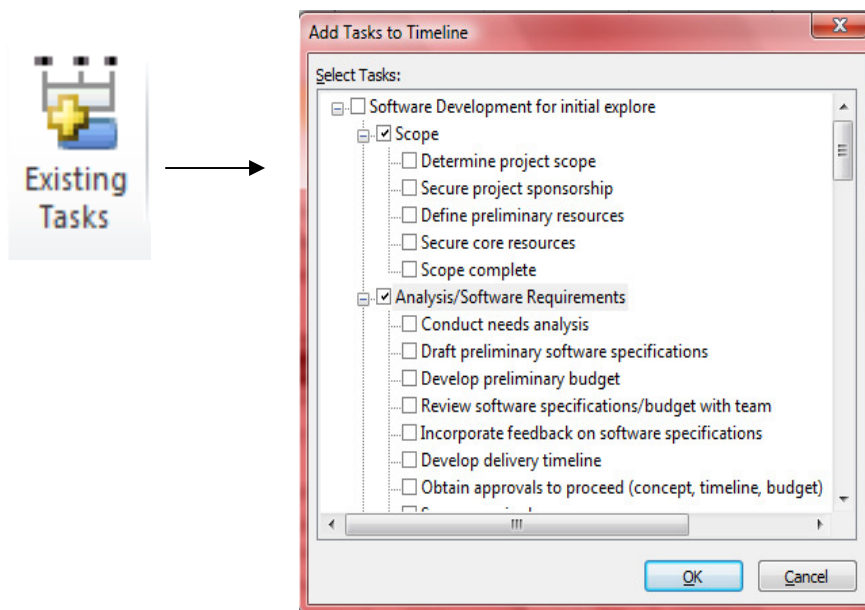
Tip: You can also drag and drop tasks onto the Timeline.

Right click the Timeline to change how tasks are displayed: tasks can be displayed on the timeline as a bar, or as callouts:
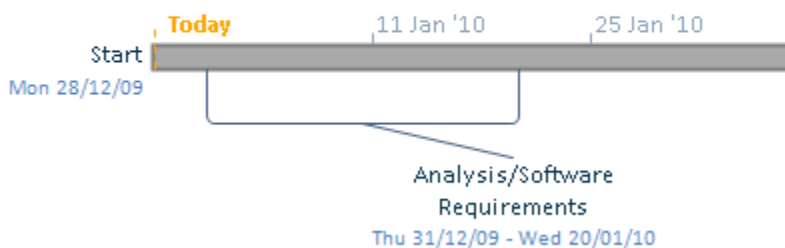
Using Calendar view

In MS Project, changing to the Calendar view will allow you to create, edit, show or review tasks scheduled on specific days, weeks, or months.

To open the Calendar view go to the 'View' ribbon and from the 'Task Views' section click the 'Calendar' button.
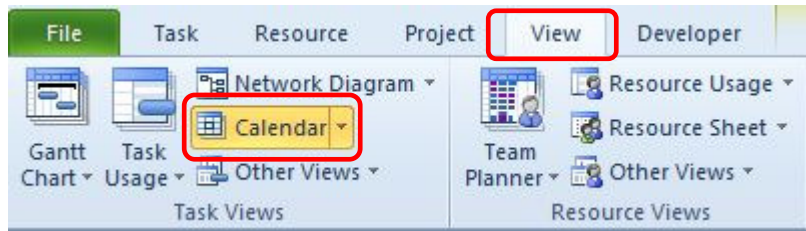
The view below shows calendars for three months with the current month enlarged on the right-hand side. This view has three options for viewing your project tasks: -

by Month, by Week or Custom.

Right-clicking the calendar will give you options to modify settings such as the Timescale where in the 'Week Headings' tab you can change the default view of 7 days to 5 days.
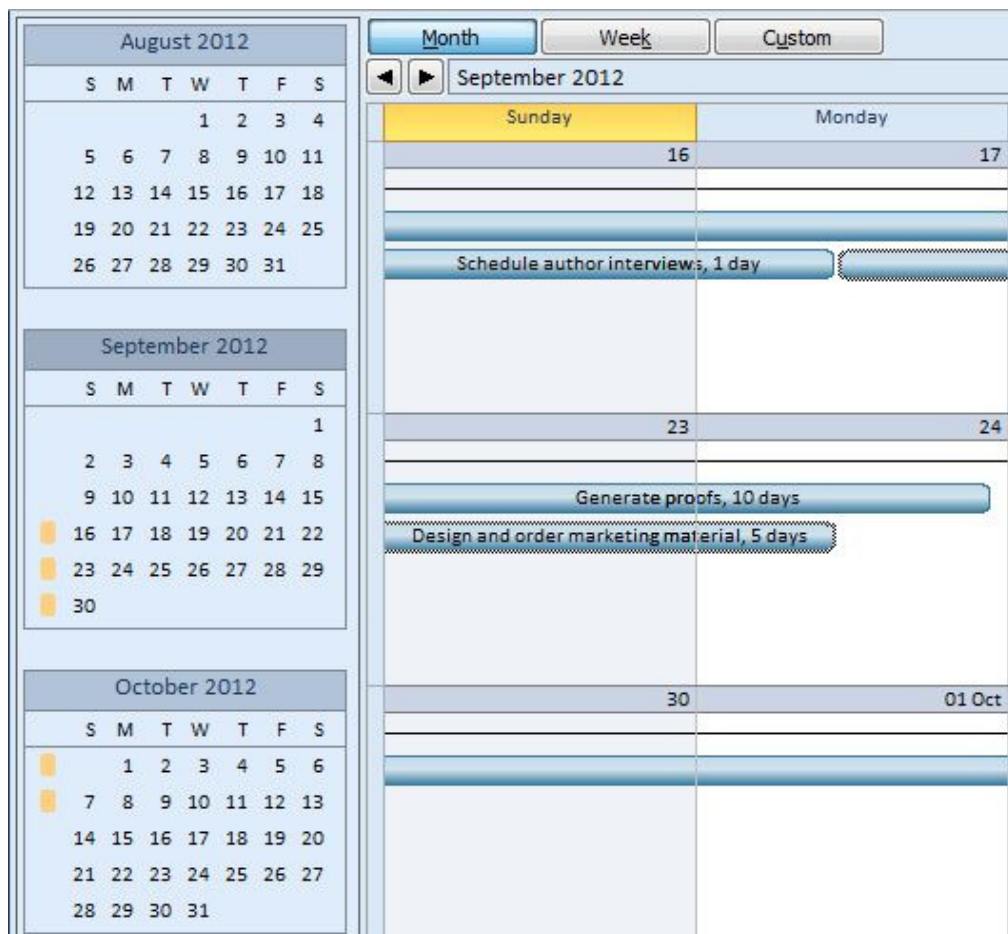
Using Network Diagram view

To see the Network Diagram, on the View tab of the Ribbon click Network Diagram
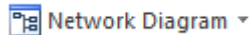
⊞ Network Diagram ▾

The Network Diagram view displays tasks and task dependencies in a network or flowchart format. A box (sometimes called a node) represents each task, and a line connecting two boxes represents the dependency between the two tasks.

It is possible to create a new project in the Network diagram or modify an existing project by adding and linking tasks.

- To create a new task, in an empty part of the Network diagram drag a rectangle shape with your mouse – a new node will appear ready for you to type in the details
- To create a new task that is linked to an existing task, click the existing task and drag with your mouse to an empty part of the diagram -– a new node will appear ready for you to type in the details.

The Network Box (or Node)

A Network box consists of five fields, as illustrated below. The Task Name, Task ID, Scheduled Start Date, Scheduled Finished Date, and Task Duration are the default fields in the Network box. The Task Name field is white because it is currently ready for user input.

Task Name ——— **Module 1** ——— Task ID
Start: 18/05/00 ID: 6
Finish: 19/05/00 Dur: 1.5 days ——— Task Duration
Res: Emma Cheesman
Scheduled Start Date
Scheduled Finish Date   Resource
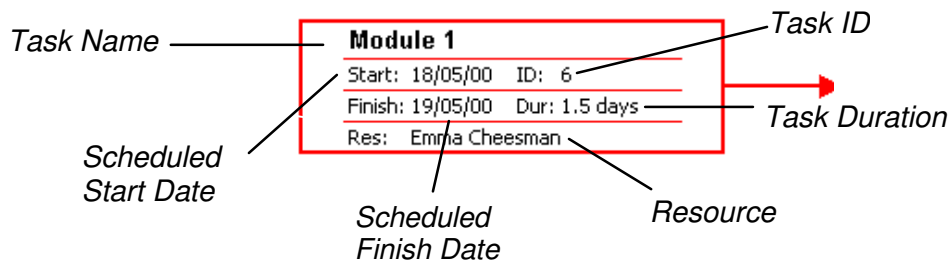
Note: By default, the network diagram shows critical tasks in red and displays one diagonal line through a task that is in progress and crossed diagonal lines through a completed task.

Adjust the diagram layout

Depending on the structure of your project, the number of summary tasks and subtasks and the number and types of task links, the Network Diagram boxes may not be arranged as you expected. You can modify the layout by applying different box arrangements, adjusting various layout parameters, and applying one of two different link styles:

On the Format tab, click Layout.

1. Under Box Layout, in the Arrangement list, click how you want the boxes to be arranged.

2. For rows and columns, specify alignment, spacing, height, and width in the corresponding boxes.

3. To space boxes evenly, click Fixed in the Height and Width boxes.
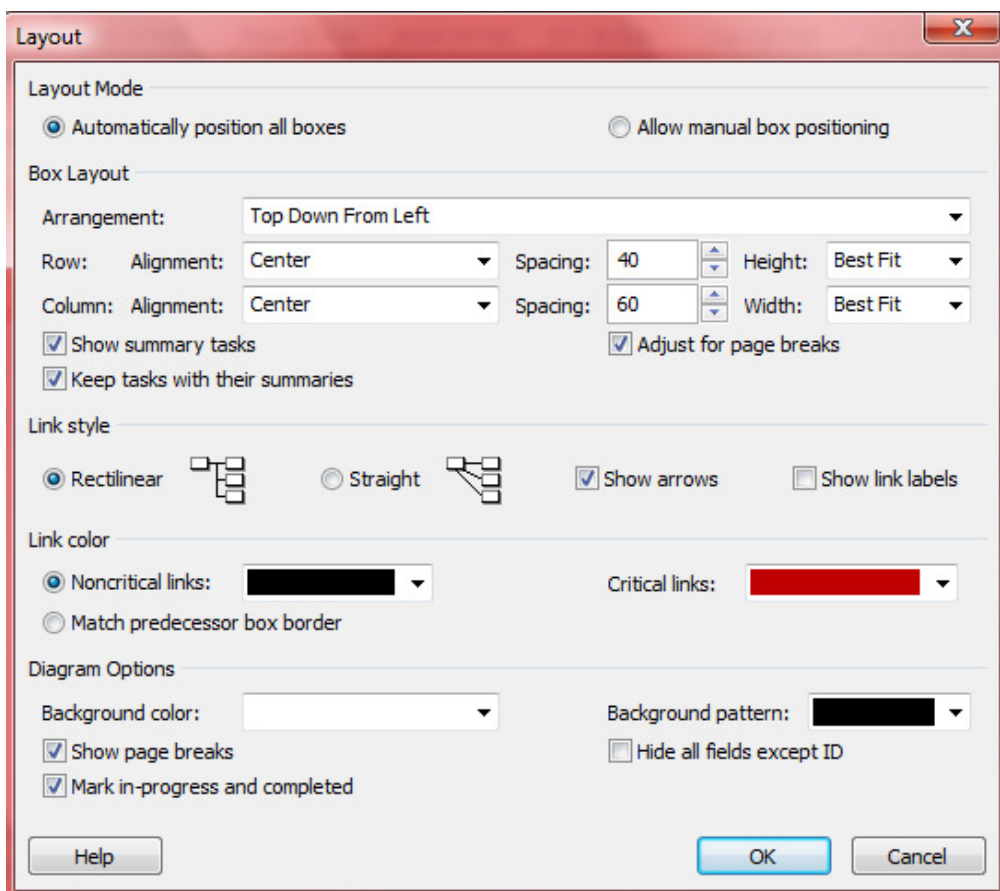
Note: If you can't arrange Network Diagram boxes the way you want, you may want to position them manually: Click Allow manual box positioning, click OK, and then drag the boxes to the location you want.

Navigating the Network Diagram

The table below summarises how to move around the Network Diagram with your keyboard and with your mouse.

Movement	Keys	Mouse
To a different NETWORK box	Arrow keys	Click the NETWORK box
Next field in NETWORK box	**TAB** or **ENTER**	Click the field
Previous field in NETWORK box	**SHIFT+ TAB** or **SHIFT+ ENTER**	Click the field
Page up or page down	**PAGE UP** or **PAGE DOWN**	On the vertical scroll bar, click the gray area above or below the scroll box
Page to the left or right	**CTRL+ PAGE UP** or **CTRL+ PAGE DOWN**	On the horizontal scroll bar, click the gray area on the left or right of the scroll box to scroll left or right in increments
To upper-left NETWORK box in project	**HOME**	
To lower-right NETWORK box in project	**END**	
To upper-left NETWORK box on screen	**CTRL+ HOME**	
To lower-right NETWORK box on screen	**CTRL+ END**	

Viewing the Critical Path

Project will identify the Critical Path for your plan so that you can easily see which tasks are driving your Project end date. This makes it easy to focus on these influential tasks and ensure they are correctly estimated, appropriately linked and adequately resourced.
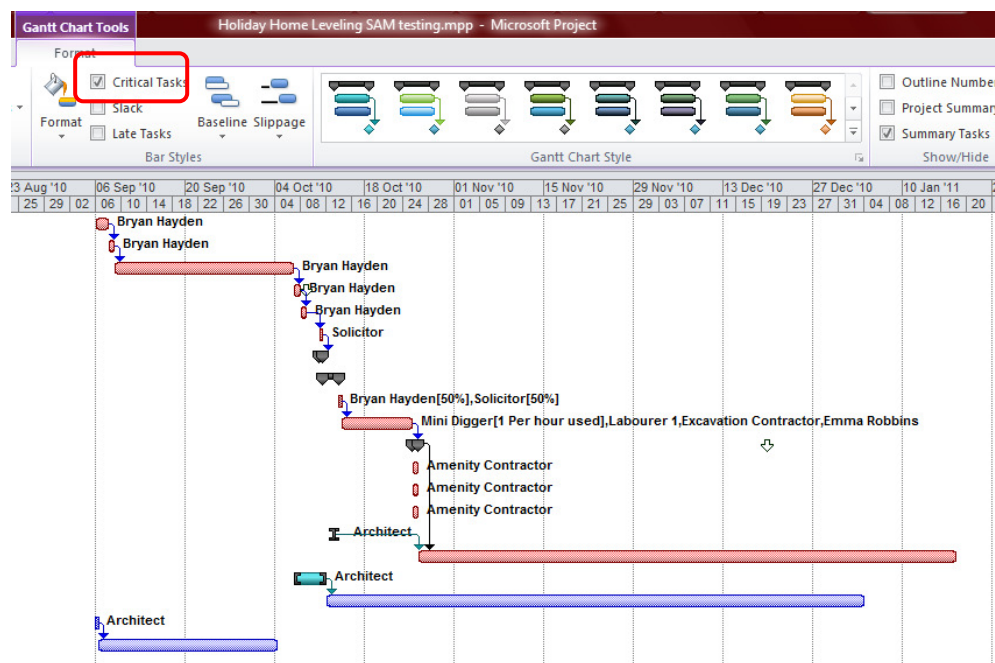
Critical Path

The Critical Path is made up of those tasks that determine the end date of your project. In other words if a task on the critical path moves, the finish of the project will move as well (positively or negatively)

A quick way to see the critical path is to switch to the Tracking Gantt view. Critical tasks are coloured red.

- From the Task ribbon View group on the left hand side, click the lower half of the Gantt Chart button and choose Tracking Gantt.

To view the critical path in the Gantt view

On the Format tab of the ribbon, click the Critical Path check box:

Slack (Float)

Slack (also referred to as Float) refers to the time that a task can move before it impacts another task or moves the project's end date. Slack interrupts the critical path and can be created when constraints are applied to tasks.

Modifying Views

Resource Usage and Task Usage views

The Usage views are useful for quickly adjusting the amount of work a resource needs to do and the dates when the work needs to be done.

- With the **Task Usage** view, resources are grouped under the tasks to which they are assigned:

⊟ Clear land	140 hrs	Work				12h	24h
Labourer 1	56 hrs	Work				4h	8h
Mini Digger	1 Per hour used	Work				0.07	0.14
Emma Robbins	56 hrs	Work				4h	8h
Excavation Contractor	28 hrs	Work				4h	8h
⊞ Install services/amenities	32 hrs	Work					
⊟ Design Garage	4 hrs	Work			4h		
Architect	4 hrs	Work			4h		
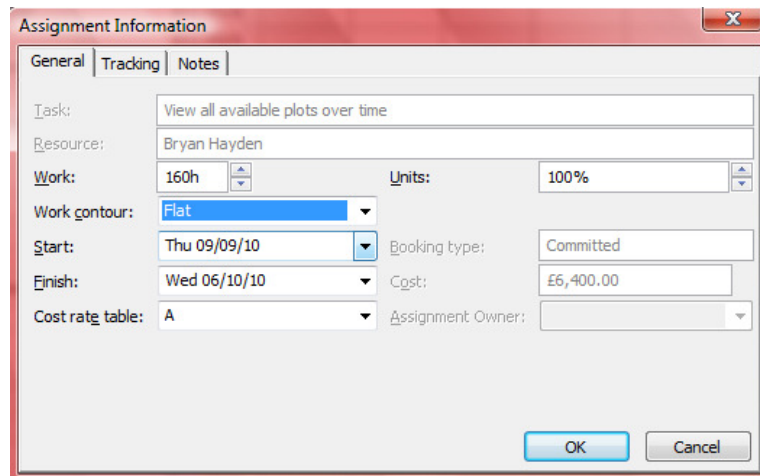
- With the **Resource Usage** view, tasks are grouped under the resources assigned to them:

⊟ Bryan Hayden	208 h	Work	32h	24h	24h
Travel to France	16 h	Work			
Start searching for plot	8 h	Work			
View all available plots over time	160 h	Work	32h	24h	24h
Make offer on suitable plot	8 h	Work			
Pay deposit for plot	8 h	Work			
Complete application form	2 h	Work			
Submit plan	4 h	Work			
Pay balance on land acquisition	2 h	Work			
Builder 1	0 h	Work			
Builder 2	0 h	Work			

You can change the total work value for a resource assignment by entering a new value in the Work row

Double click a task to display the Assignment Information dialog box and use this to:
- apply a built in work contour
- apply a different cost table
- Change the **Start** and **Finish** dates of that particular resource assignment
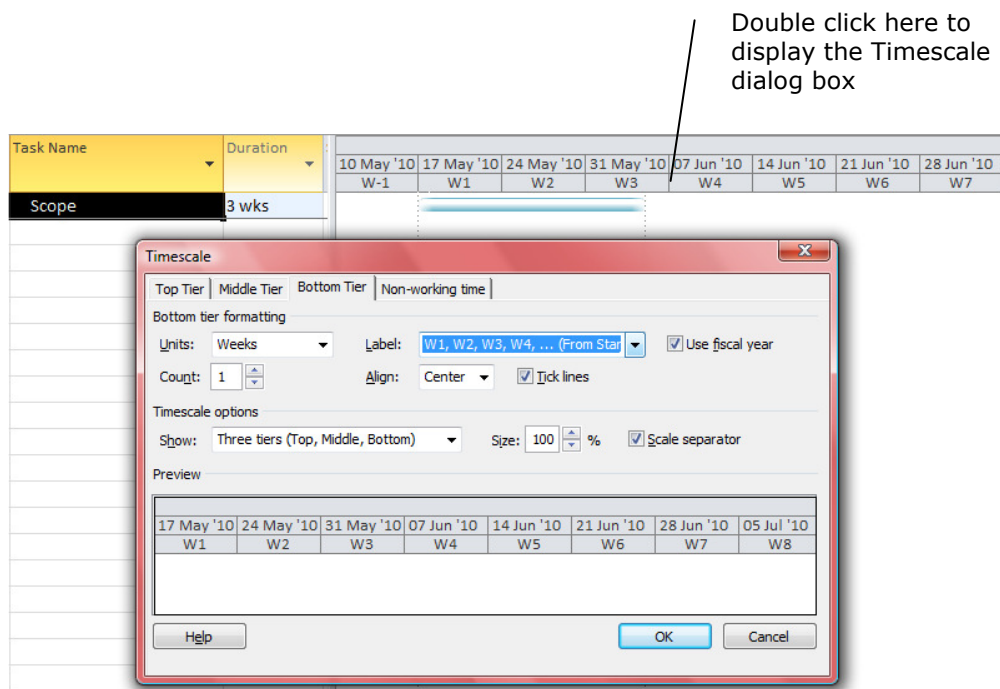
Note: if you change the contour, an indicator representing the contour pattern appears in the **Indicators** field next to the assigned resource:

Modifying the Timescale, Zoom and Zoom Slider

The time scale of the Gantt Chart is changed by using the **Zoom Slider** on the Status bar, but you can also use the Timescale dialog box to customise the way the Timescale is displayed:

Double click here to display the Timescale dialog box

In the Timescale dialog box you can choose to display up to three tiers (Top, Middle and Bottom) and within each of these it is possible to alter the units, the label and the count of the interval.
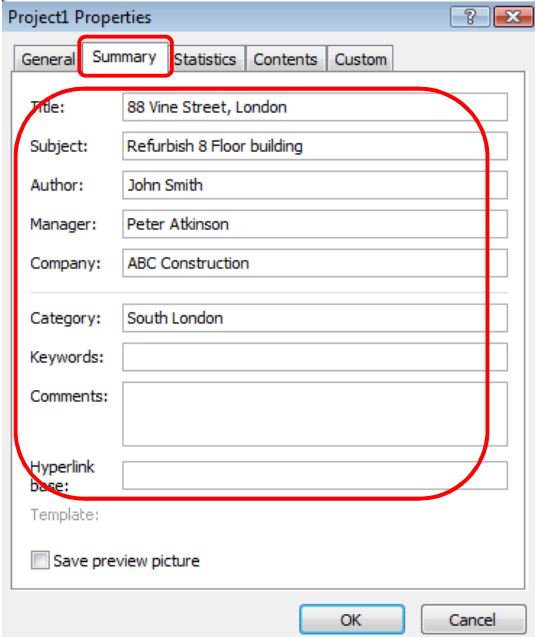
Formatting and sharing information

Project Properties

You can enter descriptive information about your project in the Properties dialog box.
This information will help you and others identify the source and purpose of your project.
The Properties dialog box consists of five tabs, described in the table below.

Tab	Function
General	Provides information about the project, including filename, file type and size, file location, size and times of file creation, most recent modification, and most recent access.
Summary	Provides fields for: Project Title, Subject, Author, Manager, Company, Category, Keywords, And Comments.
Statistics	Provides information about project file editing including date created; most recent modification, access, printing, person who last saved it, current revision number and total editing time
Contents	Contains overall schedule information, including project start and finish dates, duration, total work and cost, and percent complete.
Custom	Allows you to enter project properties by which you can search and define links to actual values in your project.

To view and change the Project Information

1. Select the **File** tab and from **Info,** click **Project Information**/**Advanced Properties:**

2. On the Summary tab of the properties dialog box you can type the Project Title, Manager's name, etc.

3. Click OK when you are finished

Adding notes and hyperlinks

Adding Notes to a Task

1. Select the task and click the Notes command on the Standard toolbar
2. With the flashing cursor in the Note text area, type your note or click the Insert Object command to attach relevant documents such as Excel spreadsheets or the minutes of a meeting

Click here to attach a document
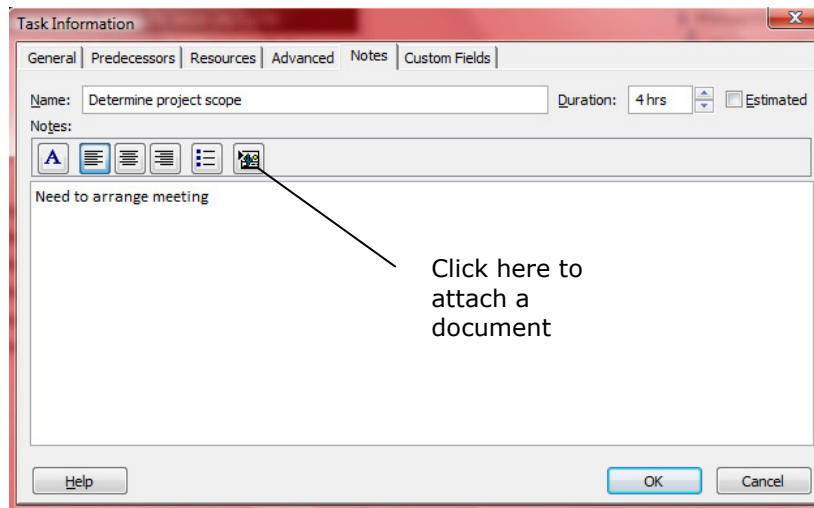
Note: a Note indicator will appear in the Task's Indicators field

- for a quick view of the Note's first paragraph, point the mouse at the Task's Note indicator
- to **view all** of a Task Note or to **edit** a Note, click in any of the Task's fields and again click the Task Notes button on the Task ribbon Properties group
- **or** double-click the Note icon in the Indicators field
- Task Notes can be printed out with your project plan

Adding Hyperlinks to a Task

In Project, a hyperlink is an interactive icon that, when clicked, links to a location in the current project plan, a file in its corresponding application, a web page in a browser, or a new Message form in Outlook for an email address. Hyperlinks are displayed in the **Indicators** column. Only one hyperlink can be attached to any task, resource, or assignment. A default screen tip is assigned to a hyperlink. However, a screen tip of your choice can be specified.

Hyperlinks keep the project plan's file size to a minimum as they only store the location of the object they link to.

1. To insert a Hyperlink into a task first right-click the task and select hyperlink at the bottom of the menu to open the Insert Hyperlink dialogue box. You can also use the short cut key CTRL+K.
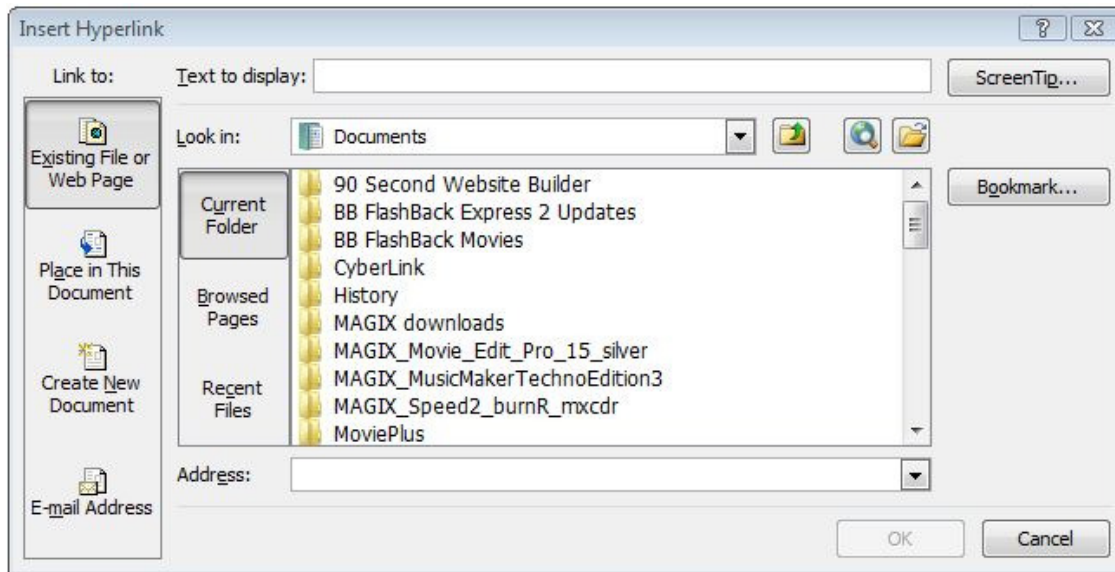
2. Choose Existing File or Web Page
3. From the Look in: section, click the drop-down arrow and navigate to the file you wish to hyperlink to
4. Select the required document
5. If you require a screen tip, click the ScreenTip button in the top right corner and complete the screen tip text and click OK
6. Click OK and observe that a hyperlink icon has appeared in the Indicators column
7. To open the document from within Project, click the hyperlink icon.

Copy / Paste tasks and rows

Project table data can also be copied and pasted into Excel by selecting the rows you wish to copy and then pasting the copied rows into an Excel worksheet with a normal paste option. This will paste the data into a table format and includes the headings.

If you use Paste Special you can select Microsoft Project Document Object which will paste the table data and the Gantt chart if visible.

Procedure to Copy and Paste Project Data into Excel

1. If necessary, modify the position of the columns and charts in the current project plan view.
2. Select the rows you wish to copy
3. Click the 'Copy' button in the 'Clipboard' section of the 'Task' ribbon.
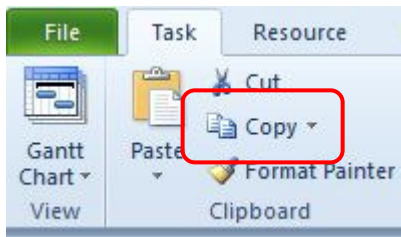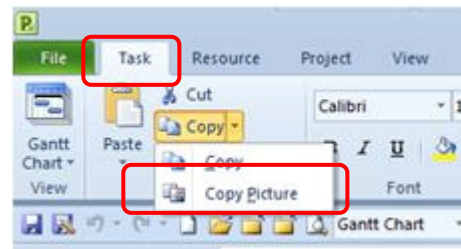
4. Open an Excel file and select the cell where you wish to paste the copied data
5. Click Paste OR select Paste Special and choose Microsoft Project Document Object and click OK
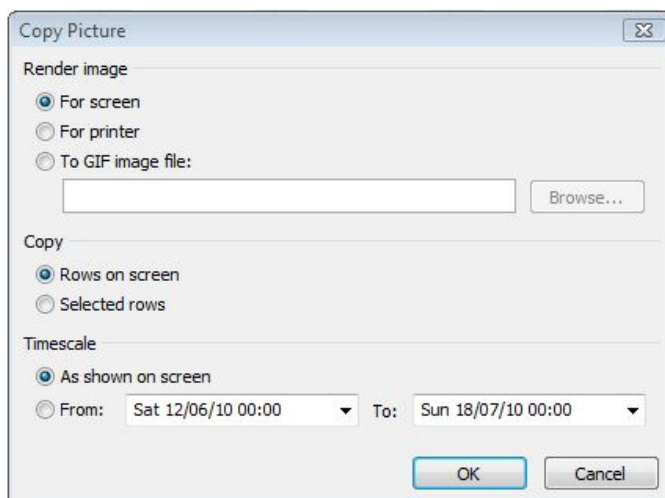
Copy / Paste Picture

By taking pictures of your project plan, you can include project plan details in a wider variety of applications. So, even though people may not have access to Project or one of the applications that can access exported data, you can still give project information in the form of a picture. You can take a snapshot of any project plan view and either paste it into an open file that can display pictures such as in a PowerPoint slide show, or save it as a graphic file that you can attach to an email, or store in a folder on your computer

Copy Picture

You can capture an image of the project plan as a non-editable picture using the Copy Picture dialog box which is opened when using the 'Copy Picture' button located in the 'Task' ribbon, 'Clipboard' section. Click the drop-down arrow of the 'Copy' button then click the 'Copy Picture' button. The Copy Picture dialog box provides various options to set the way in which the image is rendered or copied. The copied picture can be pasted into Visio, Word, Excel, or PowerPoint, as well as into an email that is being drafted.


The Copy Picture Dialog Box

Render Image	Decide on the output format in which the picture is to be copied. The user can either select the For Screen or For Printer option, depending on whether the image has to appear on screen or print. To save the picture as a file that can be used in a web page, the user can select the To GIF Image File option.
Copy	Specify the rows to be included in the picture. The user can include the selected rows or all the rows on screen.
Timescale	Determine the time range during which the project information is to be copied. The user can either include the dates displayed on the screen or specify a specific time range.

Formatting Bars and the Gantt area

Click the Text Styles command to display the Text Styles dialog box

1. From the Item to Change drop down list choose the item (for example Summary Tasks)
2. Choose the required Font, Size, Color, etc
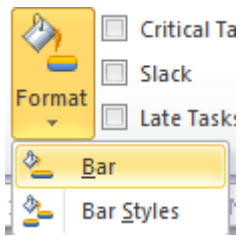3. Click OK
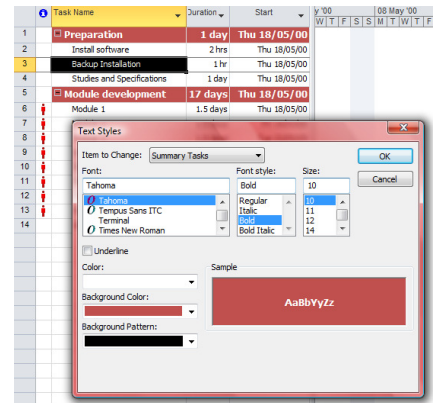
Customising the Gantt Chart

The Gantt Chart is a horizontal bar chart that represents each task in the time scale of the project. Each task entered in the project will be shown and by default the name of the resource allocated to the task appears next to the bars.

Gantt Charts form the significant part of a regular communication about your project and can be quickly formatted to display the critical tasks, the current progress, comparison with the original plan, and the new projected completion.

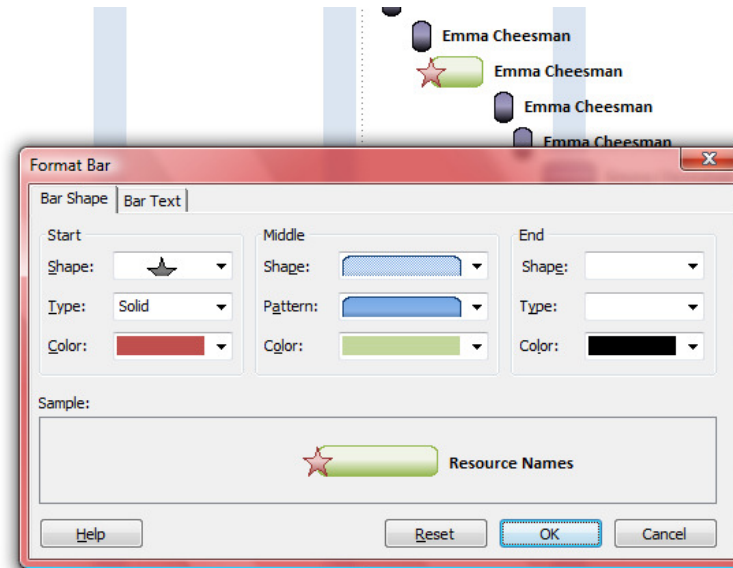## Using the Formatting Tab of the ribbon

To quickly apply different colours to the Gantt Chart bars, choose a different Gantt Chart Style:
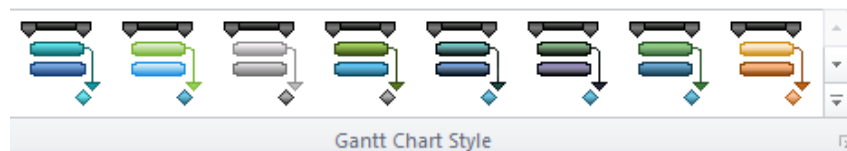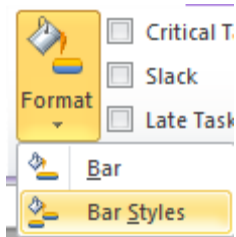
To manually change the look on one Gantt bar:

1. Select the task
2. Click the format command
3. Click bar
4. Select the required colours and shapes in the dialog box:

Use the **Bar Styles** command to manually change the display of the different types of tasks (for example, you might display the planned and actual times for each task, in different colours).

1. Select the type of task you want to change, for example Milestones
2. Chose the required colour and shape
3. Click OK

Use the Text tab of the Bar Styles dialog box to change what information is displayed next to the bars on the Gantt Chart:
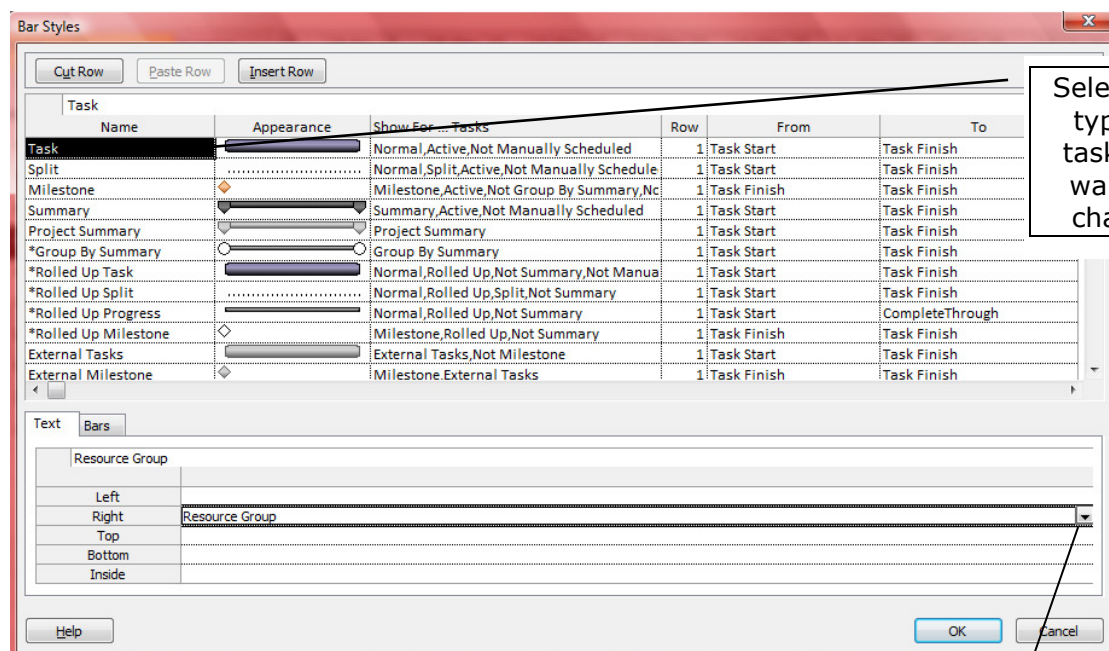
Select the type of task you want to change

Click the drop down lists to change the type of data that is displayed

Other formats - To add other formatting lines, choose Format ribbon ➔ Format group ➔ Gridlines and choose a line type. Project Start, Project Finish and Current date lines can also be set in Format ➔ Gridlines
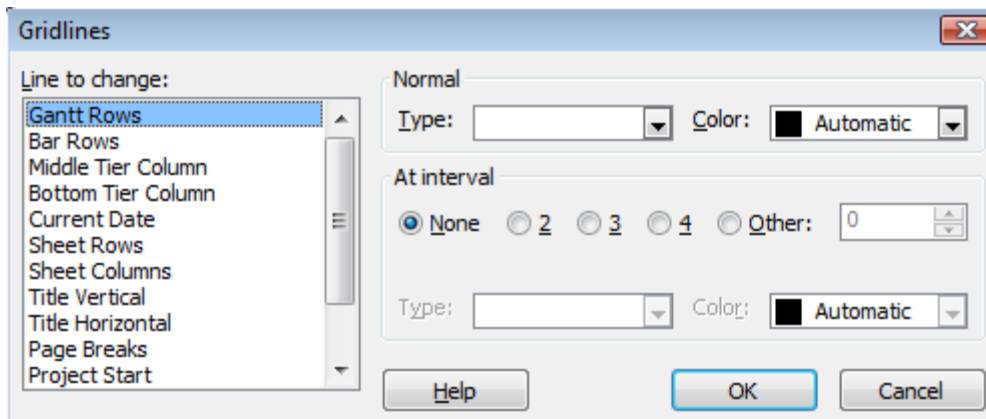
Formatting for Printing

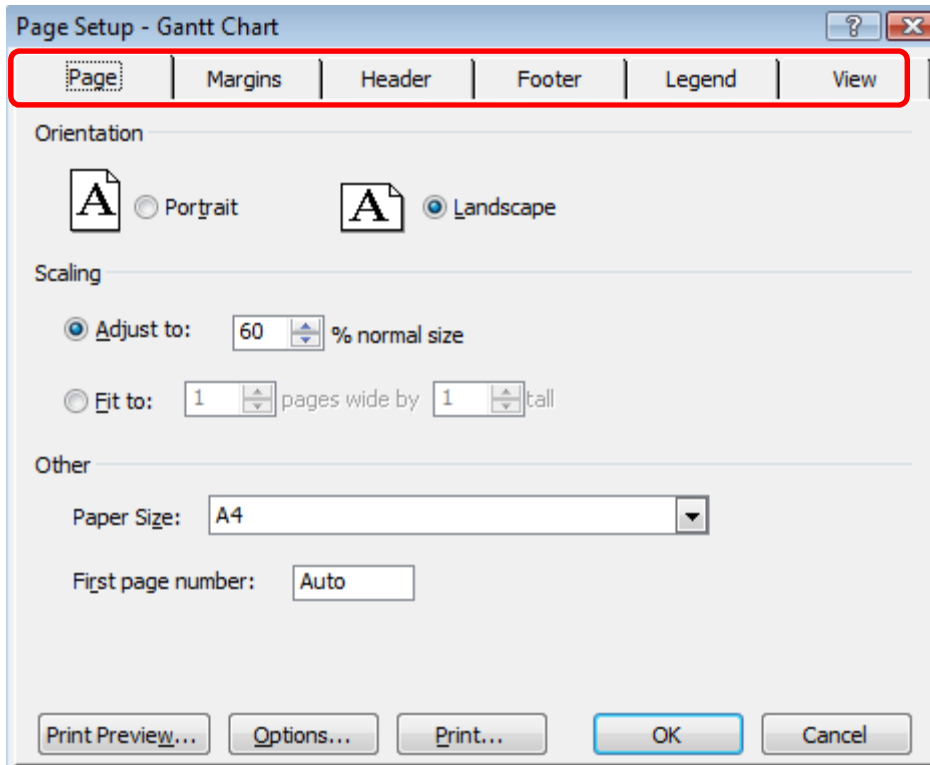To print a view; go to File ➔ Print, select the relevant settings and click OK.

1. Select relevant printer
2. Specify which pages to print
3. Specify the period of time to be covered by the print
4. How many copies are to be printed

Page Setup

To set up the page for printing

Click on Page Setup ➔ select the relevant options

|	
Page Tab	Orientation
	Scaling
	Paper size
Margins	Specify margins and page borders
Header / Footer	Specify data to go into the header and footer of each page
Legend	Modify the content and appearance of the legend
View	**Choose to print the following:**
	All Columns
	First *X* columns
	Notes associated with tasks
	Blank Pages
	And also select here if the timescale is to run to the end of the page

Working with built-in reports

When a project is in progress it is usually necessary to produce reports on how the project is performing in terms of schedule and cost.

Project has a number of pre-defined reports based on some principal types which can be used directly or changed as required. Alternatively, completely new reports can be created.

To access built in reports

Click on the Project ribbon then choose the Reports button located in the Reports group and double-click a category to access the available reports.
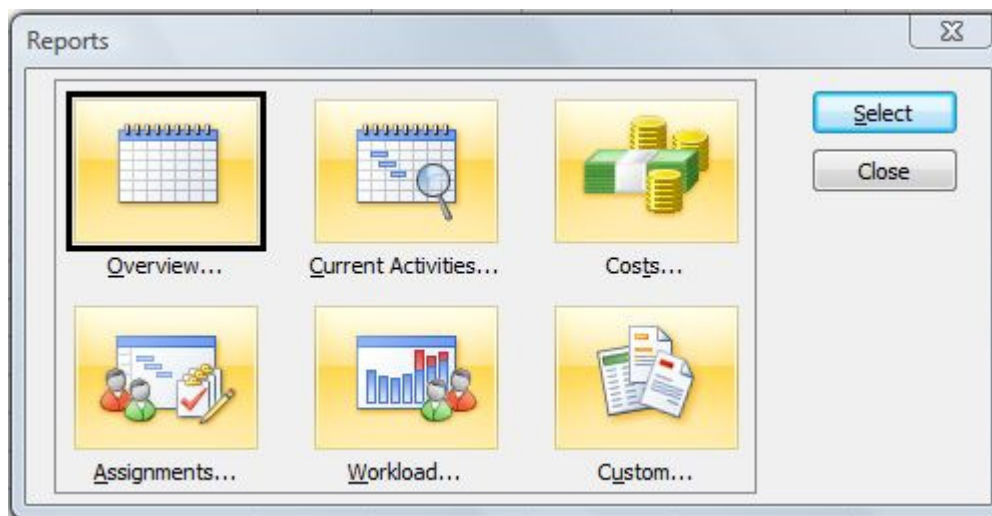
Overview:	Summarises the most significant project information, including numbers of tasks and resources, task and schedule status, costs, start and finish dates, and so on.
Current Activities:	Displays information about top-level tasks for the entire project. Includes summary tasks and task notes.
Costs:	Shows critical tasks for the entire project. Includes summary and successor tasks and task notes.
Assignments:	Shows project milestones. Includes summary tasks and task notes.
Workload:	Shows working and nonworking times for resources for the entire project duration.
Custom:	Create a new report.

Reports available include:

Category	Report
Overview	Project Summary
	Top Level Tasks
	Critical Tasks
	Milestones
Task Overview/ Current activities	Unstarted Tasks
	Tasks Starting soon
	Tasks In Progress
	Completed Tasks
	Should Have Started Tasks
	Slipping tasks
Costs	Cashflow
	Budget
	Overbudget
	Overbudget Resources
Assignments	Who does what
	Who does what when
	To Do List
	Overallocated Resources
Workload	Task Usage
	Resource Usage