# Scheduling Options

To understand the Scheduling options it would be helpful to review some of the scheduling terms the options are referring to.

MS Project 2013’s schedule engine it is using the terms “Duration” and “Work” which is fundamental to understanding project scheduling.

## Definitions

* Duration:
* Is a length of time ie: a day, a week, or a month
* It is the amount of actual time that will pass before a task is completed
* Work:
* Is the quantity of work that occurs ie: 8 hours in one day, 40 hours in a week
* It is the amount of work (effort or man hours) which a resource(s) will work to complete the task

Tip: It is very helpful within an organization to have a standard for these terms. IE: All work will be planned in hours and all durations will be planned in days.

### Effort-driven scheduling

Tasks have the option of being scheduled using Effort-driven scheduling. Effort-driven scheduling is defined as when more workers are added to a task, the effort (or work) will be divided across the workers.

For example: A project has a task called “Moving Boxes”. The work of the task is to move 100 boxes from location A to B. If one person moves the boxes, it will take 10 hours of duration moving 10 boxes per hour. However, if 2 people move the boxes it will take 5 hours, 3 people can accomplish this task in one-third of the original time, etc.

With effort-driven scheduling the duration of the task will shorten when more workers are added because the work is divided over the resources.

### Understanding Task Types

Each task will be assigned a task type when the task is added to the schedule. Task types work hand-in-hand with the effort-driven option discussed above. Task types will determine how a task is scheduled and will have an effect on the assignment of the resources to the task. Task types are considered unique per task and may be set on a task by task basis.

The option - setting is to establish the default task type you would like each task to acquire when it is entered. Task types may be changed to match the needs of the tasks at a later point in time.

MS Project 2013 allows for the following 3 task types:

* Fixed Duration: A fixed duration task is a task created with a fixed length of time. Fixed Duration tasks are also tied to dates.

Example: This training class. When the time scheduled for this class is over, the work of the class is completed.

* Fixed Units: Units means quantity of a resource. Fixed Units means that the resource assignment quantity is fixed for the task. Using this task type will result in the quantity of the units assigned to a task coupled with the availability of the resource to determine the scheduling of the task.

Example: If you assign a resource to a 5 day, 40 hour task at 100% of their effort the task will be completed in 5 days working 8 hours per day. If you assign a resource to the same task with 50% of their effort, the task will be worked 4 hours per day and will be scheduled for 10 days of duration. The 100% and 50% are the resource units.

* Fixed Work: The work of the task is fixed. Fixed work tasks, by default, are also effort-driven. The more resources assigned to the task, the less time the task will take to be complete. Fixed work tasks will be scheduled based on the quantity of the units of the resources assigned to the task and their availability based on their resource calendar.

Example: If a task called “Plan event“ will take 80 hours of work to complete, the work will be completed in 2 weeks with 1 full time resource. If a second resource is added full time, the task will be completed in 1 week dividing the work between the 2 resources. Each resource would have performed 50% of the work. As resources are added to the task, the duration of the task is reduced.

### Task type, Effort-driven combinations:

When task types are coupled with the effort-driven option, the scheduling engine allows for the following task type, effort-driven combinations:

* Fixed Duration, Effort-driven on
* Fixed Duration, Effort-driven off
* Fixed Units, Effort-driven on
* Fixed Units, Effort-driven off
* Fixed Work, Effort-driven on

The project options will allow for setting a default that each task will be assigned when the task is entered. It should be noted that each task is different and unique. The default should be considered a starting point.

Tip – This is a brief introduction to this topic. Detailed coverage of task types and effort driven settings with assignments will be addressed throughout Chapter 9 Work Assignments.