

MS Project Professional 2021

Tutorial #3 – Utilization of Resources, a walk-through example

CS 587 – Software Project Management

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An example

Assumptions and Constraints

1. Every review or inspection “meeting” task shall be carried by 5 engineers including ONE of the author(s)
2. Every review or inspection “preparation” task shall be carried by 4 engineers excluding the author(s)
3. Any “Rework” task can be executed by one or all authors of the original task
4. Project Plan shall be reviewed by at least ONE engineer from every technical area.
5. Risk mitigation and contingency plan shall be reviewed by at least ONE engineer from every technical area.
6. System Engineers are responsible for creating Analysis and Design artifacts

Consider the following assumptions...

- Allocate resources with 100% utilization
- Allocate resources with 25% utilization



Steps for specifying the resource utilization

1. Create the resource
2. Assign the resource to the tasks
3. Specify the resource utilization (Max units)

Create the resource

- Go to the “resource sheet”
- Enter the resources
 - Resource Name
 - Type
 - Initials
 - Max units
 - the maximum percentage of units representing the maximum capacity for which a resource is available to accomplish any tasks during the current time period

Sample_Project_3_100%_Utilization - Project Professional

File Task **Resource** Report Project View Help **Resource Sheet Format** Tell me what you want to do

Team Planner View Assign Resources Assignments Resource Pool Insert Add Resources Information Properties Notes Details Level Selection Level Resource Level All

TIMELINE Today Sep 9, '24

	Resource Name	Type	Material	Initials	Group	Max.
1	Requirements Engineer	Work		RE		100%
2	Team Leader	Work		T		100%
3	Project Manager	Work		P		100%
4	System Engineer	Work		SE		100%
5	Developer	Work		D		100%
6	Tester	Work		T		100%
7	Business Analyst	Work		B		100%
8	Tester 1	Work		T1		100%

Assign the resource

Using the pull-down list

Task Mode	Task Name	Duration	Start	Finish	Predec	Resource Names
	Sample Project	13.75 days	Wed 9/4/24	Mon 9/23/24		
	Requirements	3.25 days	Wed 9/4/24	Mon 9/9/24		
	Requirement Definition and Analysis	3 days	Wed 9/4/24	Fri 9/6/24		Requirement Engineer 1
	Requirement Review	0.25 days	Mon 9/9/24	Mon 9/9/24	3	<input type="checkbox"/> Business Analyst
	Analysis	2.25 days	Mon 9/9/24	Wed 9/11/24		<input type="checkbox"/> Developer
	Analysis Document	2 days	Mon 9/9/24	Wed 9/11/24	4	<input type="checkbox"/> Project Manager
	Analysis Review	0.25 days	Wed 9/11/24	Wed 9/11/24	6	<input checked="" type="checkbox"/> Requirement Engineer 1
	Design	1.58 days	Wed 9/11/24	Fri 9/13/24		<input type="checkbox"/> Requirement Engineer 2
	Design Document	1.33 days	Wed 9/11/24	Thu 9/12/24	7	<input type="checkbox"/> Requirement Engineer 3
	Design Review	0.25 days	Thu 9/12/24	Fri 9/13/24	9	<input type="checkbox"/> Requirements Engineer
	Coding	5 days	Fri 9/13/24	Fri 9/20/24		<input type="checkbox"/> System Engineer
	Implementation	4 days	Fri 9/13/24	Thu 9/19/24	10	<input type="checkbox"/> System Engineer 1
	Code Review	1 day	Thu 9/19/24	Fri 9/20/24	12	<input type="checkbox"/> System Engineer 2
	Testing	9.5 days	Mon 9/9/24	Fri 9/20/24		<input type="checkbox"/> System Engineer 3
	Write Test Plan	1 day	Mon 9/9/24	Tue 9/10/24	4	<input type="checkbox"/> Team Leader
	Execute Test Plan	0.67 days	Fri 9/20/24	Fri 9/20/24	15 13	<input type="checkbox"/> Tester
	Installation	1 day	Fri 9/20/24	Mon 9/23/24	16	<input type="checkbox"/> Tester 1
						<input type="checkbox"/> Tester 2
						Project Manager, Team Leader

Using assign resources window

The screenshot shows the Microsoft Project interface. The 'Assign Resources' button in the ribbon is highlighted with a red box. The 'Assign Resources' window is also highlighted with a red box, showing a list of resources and their availability. The 'Requirement Engineer 1' resource is selected in the list.

Resource Name	R/D	Units	Cost
Requirement Engineer		100%	\$0.00
Business Analyst			
Developer			
Project Manager			
Requirement Engineer			
Requirement Engineer			
Requirements Engineer			
System Engineer			
System Engineer 1			
System Engineer 2			
System Engineer 3			
Team Leader			

Specify the utilization

- Specify the max units in task sheet


The screenshot displays a task sheet with columns: Task Mode, Task Name, Duration, Start, Finish, Predecessors, Resource Names, WBS, and Add New Column. A red box highlights the 'Resource Names' column for the 'Requirement Review' task, containing the text 'System Engineer 1, Developer, Sy 1.1.2'. A red arrow points to this box with the text 'Double click'. Below the task sheet, the 'Task Information' dialog box is open, showing the 'Resources' tab. The 'Name' field is 'Requirement Review' and the 'Duration' is '0.25 days'. The 'Resources' table lists resources and their utilization:

Resource Name	Assignment Owner	Units	Cost
System Engineer 1		100%	\$0.00
Developer		100%	\$0.00
System Engineer 2		100%	\$0.00
Tester 1		100%	\$0.00

A red box highlights the 'Units' column in the 'Resources' table, showing 100% utilization for all listed resources.










Specify the utilization

- Specify the max units in resource sheet










	Resource Name ▼	Type ▼	Material ▼	Initials ▼	Group ▼	Max. ▼	Std. Rate ▼	Ovt. Rate ▼
	Requirements Engineer	Work		RE		100%	\$0.00/hr	\$0.00/hr
	Team Leader	Work		T		100%	\$0.00/hr	\$0.00/hr
	Project Manager	Work		P		100%	\$0.00/hr	\$0.00/hr
	System Engineer	Work		SE		100%	\$0.00/hr	\$0.00/hr
	Developer	Work		D		100%	\$0.00/hr	\$0.00/hr
	Tester	Work		T		100%	\$0.00/hr	\$0.00/hr

Example

- Max units = 100%


	Task Mode ▾	Task Name ▾	Duration ▾	Start ▾	Finish ▾	Predec ▾	Resource Names ▾
		▸ Sample Project	13.75 days	Wed 9/4/24	Mon 9/23/24		
		▸ Requirements	3.25 days	Wed 9/4/24	Mon 9/9/24		
		Requirement Definition and Analysis	3 days	Wed 9/4/24	Fri 9/6/24		Requirement Engineer 1
		Requirement Review	0.25 days	Mon 9/9/24	Mon 9/9/24	3	System Engineer 1,Developer,Sy
		▸ Analysis	2.25 days	Mon 9/9/24	Wed 9/11/24		
		Analysis Document	2 days	Mon 9/9/24	Wed 9/11/24	4	System Engineer 1,Developer,Sy
		Analysis Review	0.25 days	Wed 9/11/24	Wed 9/11/24	6	Developer,System Engineer 1,Sy
		▸ Design	1.58 days	Wed 9/11/24	Fri 9/13/24		

- Max units = 25%


	Task ▾	Task Name ▾	Predecessors ▾	WBS ▾	Duration ▾	Start ▾	Finish ▾	Resource Names ▾
		▸ Sample_Project		1	266 days	Wed 9/4/24	Wed 9/10/25	
		▸ Project Plan		1.1	52 days	Wed 9/4/24	Thu 11/14/24	
		Write Plan		1.1.1	20 days	Wed 9/4/24	Tue 10/1/24	PM1[25%]
		▸ Review Plan	3	1.1.2	20 days	Wed 10/2/24	Tue 10/29/24	
		Preparation for review	3	1.1.2.1	12 days	Wed 10/2/24	Thu 10/17/24	DE1[25%],PE1[25%],RE1[25%],SE1[25%],TE1[25%]
		Review Meeting	5	1.1.2.2	8 days	Fri 10/18/24	Tue 10/29/24	DE1[25%],PE1[25%],RE1[25%],SE1[25%],TE1[25%],PM1[25%]
		Rework	6	1.1.3	12 days	Wed 10/30/24	Thu 11/14/24	PM1[25%]

Example

- Max units = 100%

		Resource Name	Type	Material	Initials	Group	Max.	Std. Rate	Ovt. Rate	Cost/Use	Accrue	Base
1		Requirements Engineer	Work		RE		100%	\$0.00/hr	\$0.00/hr	\$0.00	Prorated	Standard
2		Team Leader	Work		T		100%	\$0.00/hr	\$0.00/hr	\$0.00	Prorated	Standard
3		Project Manager	Work		P		100%	\$0.00/hr	\$0.00/hr	\$0.00	Prorated	Standard
4		System Engineer	Work		SE		100%	\$0.00/hr	\$0.00/hr	\$0.00	Prorated	Standard
5		Developer	Work		D		100%	\$0.00/hr	\$0.00/hr	\$0.00	Prorated	Standard
6		Tester	Work		T		100%	\$0.00/hr	\$0.00/hr	\$0.00	Prorated	Standard
7		Business Analyst	Work		B		100%	\$0.00/hr	\$0.00/hr	\$0.00	Prorated	Standard
8		Tester 1	Work		T1		100%	\$0.00/hr	\$0.00/hr	\$0.00	Prorated	Standard

- Max units = 25%

		Resource Name	Type	Material	Initials	Group	Max.	Std. Rate	Ovt. Rate	Cost/Use	Accrue	Base Calendar	Co
1		Requirement Engineer1	Work		RE1		25%	\$0.00/hr	\$0.00/hr	\$0.00	Prorated	Standard	
2		Requirement Engineer2	Work		RE2		25%	\$0.00/hr	\$0.00/hr	\$0.00	Prorated	Standard	
3		Programmer 23	Work		P23		25%	\$0.00/hr	\$0.00/hr	\$0.00	Prorated	Standard	
4		Programmer 24	Work		P24		25%	\$0.00/hr	\$0.00/hr	\$0.00	Prorated	Standard	
5		Programmer 25	Work		P25		25%	\$0.00/hr	\$0.00/hr	\$0.00	Prorated	Standard	
6		Programmer45	Work		P45		25%	\$0.00/hr	\$0.00/hr	\$0.00	Prorated	Standard	

Questions ?