MS Project Professional 2021

Tutorial #4 – Resource Pool

CS 587 – Software Project Management Dr. Atef Bader Illinois Institute of Technology



Resource pool project and Sharer project

- Resource pool project The project containing the resources that you want to share.
- **Sharer project** The project that will share resources from another project.

Tasks for both projects

Resource pool project

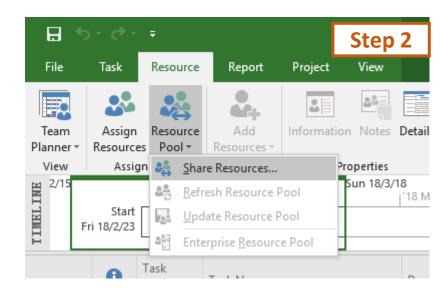
(Task Mode •	Task Name	▼ WBS	Duration	Ctout	Finials
1	Mode ▼	4 Project1 ResourcePool	▼ WBS	■ Duration 149 days		Finish Thu 8/31/23
2	~ =	4 Project Plan	1.1	11 days		Mon 2/20/23
3	→ <u>=</u>	Write Plan	1.1.1	5 days	Mon 2/6/23	
4		4 Review Plan	1.1.2	,		
5	=			5 days	Mon 2/13/23	
	=	Preparation for review	1.1.2.1	3 days		Wed 2/15/23
6	=	Review Meeting	1.1.2.2	2 days	Thu 2/16/23	' '
7	<u></u>	Rework	1.1.3	1 day		Mon 2/20/23
8	-	⁴ Risk Mitigation and Contingency Plan	1.2	8 days	Tue 2/21/23	
9	=	Write Plan	1.2.1	2 days		Wed 2/22/23
10	\rightarrow	₄ Review Plan	1.2.2	5 days	Thu 2/23/23	
11	=	Preparation for review	1.2.2.1	3 days	Thu 2/23/23	Mon 2/27/23
12	<u></u>	Review Meeting	1.2.2.2	2 days	Tue 2/28/23	Wed 3/1/23
13	<u></u>	Rework	1.2.3	1 day	Thu 3/2/23	Thu 3/2/23
14	\longrightarrow	₄ Requirement	1.3	18 days	Fri 3/3/23	Tue 3/28/23
15	<u> </u>	Write requirements	1.3.1	3 days	Fri 3/3/23	Tue 3/7/23
16	<u></u>	Write Use Case Model	1.3.2	2 days	Wed 3/8/23	Thu 3/9/23
17	<u></u>	4 Review Requirements/ Use Case Model	1.3.3	11 days	Fri 3/10/23	Fri 3/24/23
18	=	Preparation for review(Requirements)	1.3.3.1	3 days	Fri 3/10/23	Tue 3/14/23
19	<u></u>	Preparation for review(UseCases)	1.3.3.2	4 days	Wed 3/15/23	Mon 3/20/23
20	=	Review Meeting(Requirements)	1.3.3.3	2 days	Tue 3/21/23	Wed 3/22/23
21	<u></u>	Review Meeting(UseCases)	1.3.3.4	2 days	Thu 3/23/23	Fri 3/24/23
22	=	Rework	1.3.4	2 days	Mon 3/27/23	Tue 3/28/23
23	<u>_</u>	⊿ Analysis	1.4	13 days	Wed 3/29/23	Fri 4/14/23
24	<u></u>	Write Analysis Document	1.4.1	1 day	Wed 3/29/23	Wed 3/29/23
25	<u></u>	₄ Review Analysis Document	1.4.2	7 days	Thu 3/30/23	Fri 4/7/23
26	<u></u>	Preparation for Analysis Document	1.4.2.1	3 days	Thu 3/30/23	

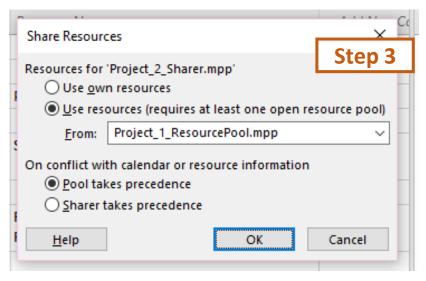
Sharer project

	(i)	Task Mode	Task Name	▼ WBS	Duration	▼ Start	▼ Finish ▼
1		₩ COURT	⁴ Project2_Sharer	1	179 days	Mon 2/20/23	Thu 10/26/23
2		<u></u>	4 Project Plan	1.1	10 days	Mon 2/20/23	Fri 3/3/23
3		<u></u>	Write Plan	1.1.1	3 days	Mon 2/20/23	Wed 2/22/23
4		<u></u>	₄ Review Plan	1.1.2	5 days	Thu 2/23/23	Wed 3/1/23
5		<u></u>	Preparation for review	1.1.2.1	2 days	Thu 2/23/23	Fri 2/24/23
6		<u> </u>	Review Meeting	1.1.2.2	3 days	Mon 2/27/23	Wed 3/1/23
7		<u> </u>	Rework	1.1.3	2 days	Thu 3/2/23	Fri 3/3/23
8		<u> </u>	₄ Requirement	1.2	16 days	Mon 3/6/23	Mon 3/27/23
9		<u> </u>	Write requirements	1.2.1	4 days	Mon 3/6/23	Thu 3/9/23
10		<u> </u>	^₄ Review Requirements	1.2.2	9 days	Fri 3/10/23	Wed 3/22/23
11		<u> </u>	Preparation for review	1.2.2.1	5 days	Fri 3/10/23	Thu 3/16/23
12		\Longrightarrow	Review Meeting	1.2.2.2	4 days	Fri 3/17/23	Wed 3/22/23
13		\Longrightarrow	Rework	1.2.3	3 days	Thu 3/23/23	Mon 3/27/23
14		\Longrightarrow	⁴ Lab and Environment Setup	1.3	20 days	Tue 3/28/23	Mon 4/24/23
15		\longrightarrow	⊿ Hardware	1.3.1	13 days	Tue 3/28/23	Thu 4/13/23
16		\longrightarrow	⁴ Install Network Elements	1.3.1.1	7 days	Tue 3/28/23	Wed 4/5/23
17		\longrightarrow	Routers	1.3.1.1.1	3 days	Tue 3/28/23	Thu 3/30/23
18		\longrightarrow	Bridge	1.3.1.1.2	4 days	Fri 3/31/23	Wed 4/5/23
19		\longrightarrow	Install Server	1.3.1.2	3 days	Thu 4/6/23	Mon 4/10/23
20		\Longrightarrow	Install Clients	1.3.1.3	3 days	Tue 4/11/23	Thu 4/13/23
21		\longrightarrow	 ■ Software	1.3.2	7 days	Fri 4/14/23	Mon 4/24/23
22		<u></u>	Install Development Tools	1.3.2.1	4 days	Fri 4/14/23	Wed 4/19/23
23		<u>_</u>	Install Testing Tools	1.3.2.2	3 days	Thu 4/20/23	Mon 4/24/23
24		$\stackrel{\square}{\rightarrow}$	Analysis/Design Document	1.4	12 days	Tue 4/25/23	Wed 5/10/23
25		\Longrightarrow	Write DD	1.4.1	2 days	Tue 4/25/23	Wed 4/26/23

Step to create a resource pool

- Step 1: Click the sharer project, remember to have the resource pool project also open.
- Step 2: On the Resource Tab, click Resource Pool, and then click Share Resources.
- Step 3: Specify the resources and precedence in the pop-up window, and then click OK.
- If your project already had resources entered, the resources from both the projects are combined.





Handle conflicts

Pool takes precedence

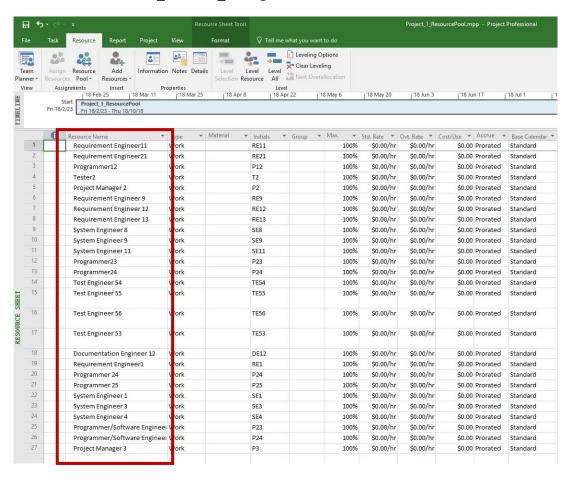
- Resource information in the resource pool project to override any conflicting information from the sharer project (default).
- For example, if the resource named Karen Berg has maximum units of 100% in the sharer project, and 75% in the resource pool project. If the pool takes precedence, then the value of 75% is retained as the maximum units for Karen Berg.

Sharer takes precedence

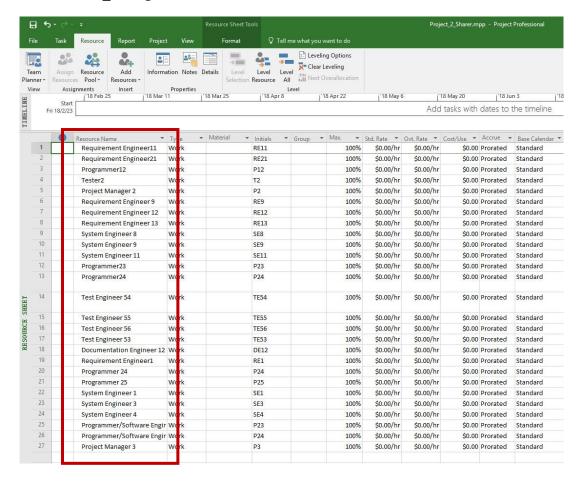
- Resource information in the sharer project to override any conflicting information from the resource pool project.
- For example, if Karen Berg has a standard rate of \$50 in the sharer project, and a standard rate of \$45 in the resource pool project. If sharer takes precedence, the value of \$50 is retained as the standard rate for Karen Berg.

Resources for both projects

Resource pool project

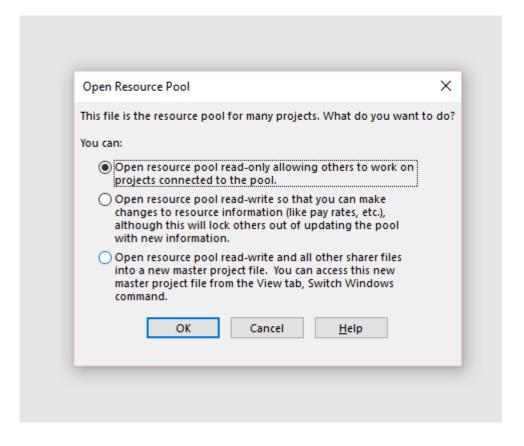


Sharer project

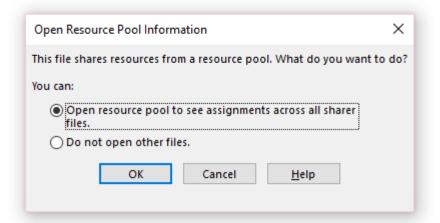


Open the projects

Open the resource pool

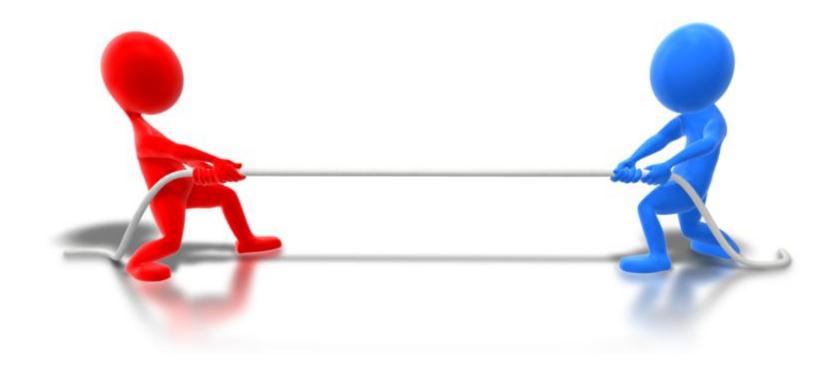


Open the sharer



Handle the conflicts

Conflicts can happen when two or more tasks are done in parallel, and the same resource is assigned to work on all the tasks simultaneously.



Handle the conflicts

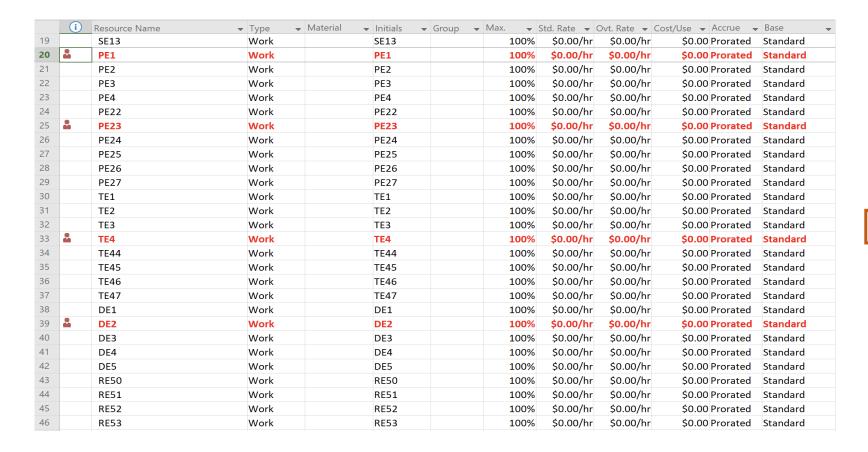
• View conflicts

	(i)	Task Mode ▼	Task Name	▼ WBS	D	Charle	Finish -	Predecessors	▼ Resource Names
1		Mode ▼	4 Project1 ResourcePool	▼ WBS	→ Duration 149 days	▼ Start		Predecessors	▼ Resource Names
2		~ =	4 Project Plan	1.1	11 days	Mon 2/6/23			
3	<u>.</u>	→ <u>=</u>	Write Plan	1.1.1	5 days	Mon 2/6/23			SE13.PM2
4	_	→ <u> </u>	₄Review Plan	1.1.2	5 days		Fri 2/17/23	2	JLIJ,I IVIZ
5	*	→ <u></u>	Preparation for review	1.1.2.1	3 days		Wed 2/15/23		PE1,SE1,TE1,PM3,DE5
6		→ <u>=</u>	Review Meeting	1.1.2.2	2 days	Thu 2/16/23			DE1,PE1,SE1,TE1,SE13
7	_	→ <u></u>	Rework	1.1.3	1 day		Mon 2/20/23		SE13
8		→ <u>=</u>	4 Risk Mitigation and Contingency Plan	1.2	8 days	Tue 2/21/23			5115
9		→ =	Write Plan	1.2.1	2 days	Tue 2/21/23			SE13
			4 Review Plan		,				2513
10		=		1.2.2	5 days	Thu 2/23/23			DE4 DE4 DE22 CE4 TE4
11		<u></u>	Preparation for review	1.2.2.1	3 days	Thu 2/23/23			DE1,PE1,PE22,SE1,TE1
12		<u> </u>	Review Meeting	1.2.2.2	2 days	Tue 2/28/23			DE1,PE1,PE22,SE1,TE1,SE13
13		\rightarrow	Rework	1.2.3	1 day			12	SE13
14		\Rightarrow	▲ Requirement	1.3	18 days	Fri 3/3/23	Tue 3/28/23	13,7	
15		\longrightarrow	Write requirements	1.3.1	3 days	Fri 3/3/23	Tue 3/7/23	13,7	PE22,RE2,RE3,RE8,RE9,RE10
16		\longrightarrow	Write Use Case Model	1.3.2	2 days	Wed 3/8/23	Thu 3/9/23	15	RE8,PE22,RE2,RE3,RE9,RE10
17		<u></u>	₄ Review Requirements/ Use Case Model	1.3.3	11 days	Fri 3/10/23	Fri 3/24/23	16	
18		<u></u>	Preparation for review(Requirements)	1.3.3.1	3 days	Fri 3/10/23	Tue 3/14/23	16	DE1,PE1,SE1,TE1
19		<u></u>	Preparation for review(UseCases)	1.3.3.2	4 days	Wed 3/15/23	Mon 3/20/23	18	DE2,PE2,SE2,TE2
20		<u></u>	Review Meeting(Requirements)	1.3.3.3	2 days	Tue 3/21/23	Wed 3/22/23	19	DE1,PE1,SE1,TE1,RE3
21		<u></u>	Review Meeting(UseCases)	1.3.3.4	2 days	Thu 3/23/23	Fri 3/24/23	20	DE2,PE2,SE2,TE2,RE10
22		<u></u>	Rework	1.3.4	2 days	Mon 3/27/23	Tue 3/28/23	21	PE22,RE2,RE10,RE3,RE8
23		<u></u>	△ Analysis	1.4	13 days	Wed 3/29/23	Fri 4/14/23	22	
24		<u></u>	Write Analysis Document	1.4.1	1 day	Wed 3/29/23	Wed 3/29/23	22	SE1,SE2,SE3,SE4,SE8
25		<u></u>	⁴ Review Analysis Document	1.4.2	7 days	Thu 3/30/23	Fri 4/7/23	24	

View in Gantt Chart

Handle the conflicts

View conflicts



View in Resource Sheet

How to resolve conflicts?

There are two ways to solve conflicts:

Strategy 1

Allocate 50% (or any %) units of resource to one project and the remaining units to the other project.

Strategy 2

Assign 100% units of resource to both projects, but at different time slots.



Note: The above strategies can be used for solving conflicts within the same project.

Strategy 1

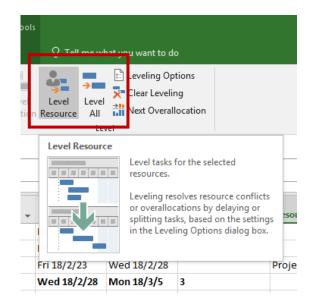
- Step 1: Select the task that has conflicts
- **Step 2**: Double click the resources
- **Step 3**: Change the percentage

	Task Mode	▼ Task Name	→ WBS	▼ Duration	▼ Start ▼ Finish ▼ Predecessors ▼ Resource Names
	→ IVIOGE	⁴ Project1_ResourcePool	1	149 days	Mon 2/6/23 Thu 8/31/23
		⁴ Project Plan	1.1	11 days	Mon 2/6/23 Mon 2/20/23
		Write Plan	1.1.1	5 days	Task Information X
	-	₄ Review Plan	1.1.2	5 days	General Predecessors Resources Advanced Notes Custom Fields
2	<u> </u>	Preparation for review	1.1.2.1	3 days	Name: Preparation for review Duration: 3 days Estimated
*	-	Review Meeting	1.1.2.2	2 days	Resources:
	<u>_</u>	Rework	1.1.3	1 day	Resource Name Assignment Owner Units Cost
	<u>_</u>	♣ Risk Mitigation and Contingency Plan	1.2	8 days	PE1 100% \$0.00
	<u>_</u>	Write Plan	1.2.1	2 days	SE1 100% \$0.00
	<u>_</u>	₄ Review Plan	1.2.2	5 days	TE1 200% \$ 0.00
	<u> </u>	Preparation for review	1.2.2.1	3 days	PM3 100% \$0.00 DE5 100% \$0.00
	<u>_</u>	Review Meeting	1.2.2.2	2 days	000
	<u> </u>	Rework	1.2.3	1 day	
	<u>_</u>	₄ Requirement	1.3	18 days	
	<u> </u>	Write requirements	1.3.1	3 days	
	<u> </u>	Write Use Case Model	1.3.2	2 days	
	<u> </u>	Review Requirements/ Use Case Model	1.3.3	11 days	
		Preparation for review(Requirements)	1.3.3.1	3 days	4
	<u> </u>	Preparation for review(UseCases)	1.3.3.2	4 days	
		Review Meeting(Requirements)	1.3.3.3	2 days	Help OK Cancel
	<u> </u>	Review Meeting(UseCases)	1.3.3.4	2 days	1110 3/23/23 111 3/24/23 20 DEZ,1 EZ,3EZ,1EZ,1EZ
	<u> </u>	Rework	1.3.4	2 days	Mon 3/27/23 Tue 3/28/23 21 PE22,RE2,RE10,RE3,RE8
	<u></u>	₄ Analysis	1.4	13 days	Wed 3/29/23 Fri 4/14/23 22
	<u></u>	Write Analysis Document	1.4.1	1 day	Wed 3/29/23 Wed 3/29/23 22 SE1,SE2,SE3,SE4,SE8

Strategy 2

- Step 1: Select the task that has a conflict.
- Step 2: On the Resource Tab, click on "Level Resource".
- **Step 3:** Select the responsible resources.
- Step 4: Click on "Level now".

	Task Mode	▼ Task Name	▼ WBS	▼ Duration	→ Start →	Finish 🔻	Predecessors	▼ Resource Names
	×	⁴ Project1_ResourcePool	1	149 days	Mon 2/6/23	Thu 8/31/23		
	=	₄ Project Plan	1.1	11 days	Mon 2/6/23	Mon 2/20/23		
. L	=	Write Plan	1.1.1	5 days	Mon 2/6/23	Fri 2/10/23		SE13,PM2
	=	₄ Review Plan	1.1.2	5 days	Level Resources	,	×	
	->	Preparation for review	1.1.2.1	3 days				PE1,SE1,TE1,PM3,DE5
	-	Review Meeting	1.1.2.2	2 days	Level:			DE1,PE1,SE1,TE1,SE13
	=	Rework	1.1.3	1 day	○ <u>E</u> veryone			SE13
	=	- Risk Mitigation and Contingency Plan	1.2	8 days	Selected Resource	es:		
)	\Rightarrow	Write Plan	1.2.1	2 days	Project1_ResourceP	ool	~	SE13
0	-		1.2.2	5 days	SE1			
1	=	Preparation for review	1.2.2.1	3 days	SE11 SE12			DE1,PE1,PE22,SE1,TE1
2	<u> </u>	Review Meeting	1.2.2.2	2 days	SE13			DE1,PE1,PE22,SE1,TE1,SE13
3	->	Rework	1.2.3	1 day	SE2			SE13
4	\Rightarrow	▲ Requirement	1.3	18 days	SE3 SE30		,7	
5	=	Write requirements	1.3.1	3 days	SE31		,7	PE22,RE2,RE3,RE8,RE9,RE10
6	=	Write Use Case Model	1.3.2	2 days	SE32 SE33			RE8,PE22,RE2,RE3,RE9,RE10
7	=	Review Requirements/ Use Case Model	1.3.3	11 days	SE4			
В	->	Preparation for review(Requirements)	1.3.3.1	3 days				DE1,PE1,SE1,TE1
9	-	Preparation for review(UseCases)	1.3.3.2	4 days	Level N	ow Cancel		DE2,PE2,SE2,TE2
0	=	Review Meeting(Requirements)	1.3.3.3	2 days	Level N	<u>C</u> ancel		DE1,PE1,SE1,TE1,RE3
1	=	Review Meeting(UseCases)	1.3.3.4	2 days	Thu 3/23/23	Fri 3/24/23	20	DE2,PE2,SE2,TE2,RE10
2	-	Rework	1.3.4	2 days	Mon 3/27/23	Tue 3/28/23	21	PE22,RE2,RE10,RE3,RE8
23		⁴ Analysis	1.4	13 days	Wed 3/29/23	Fri 4/14/23	22	



Note: The tasks in the project having precedence will start at the scheduled time. The tasks in the project **NOT** having precedence will be delayed until the resource is available to work on that task.