

MS Project Professional 2021

Tutorial #2 - Demo

CS 587 – Software Project Management

Dr. Atef Bader

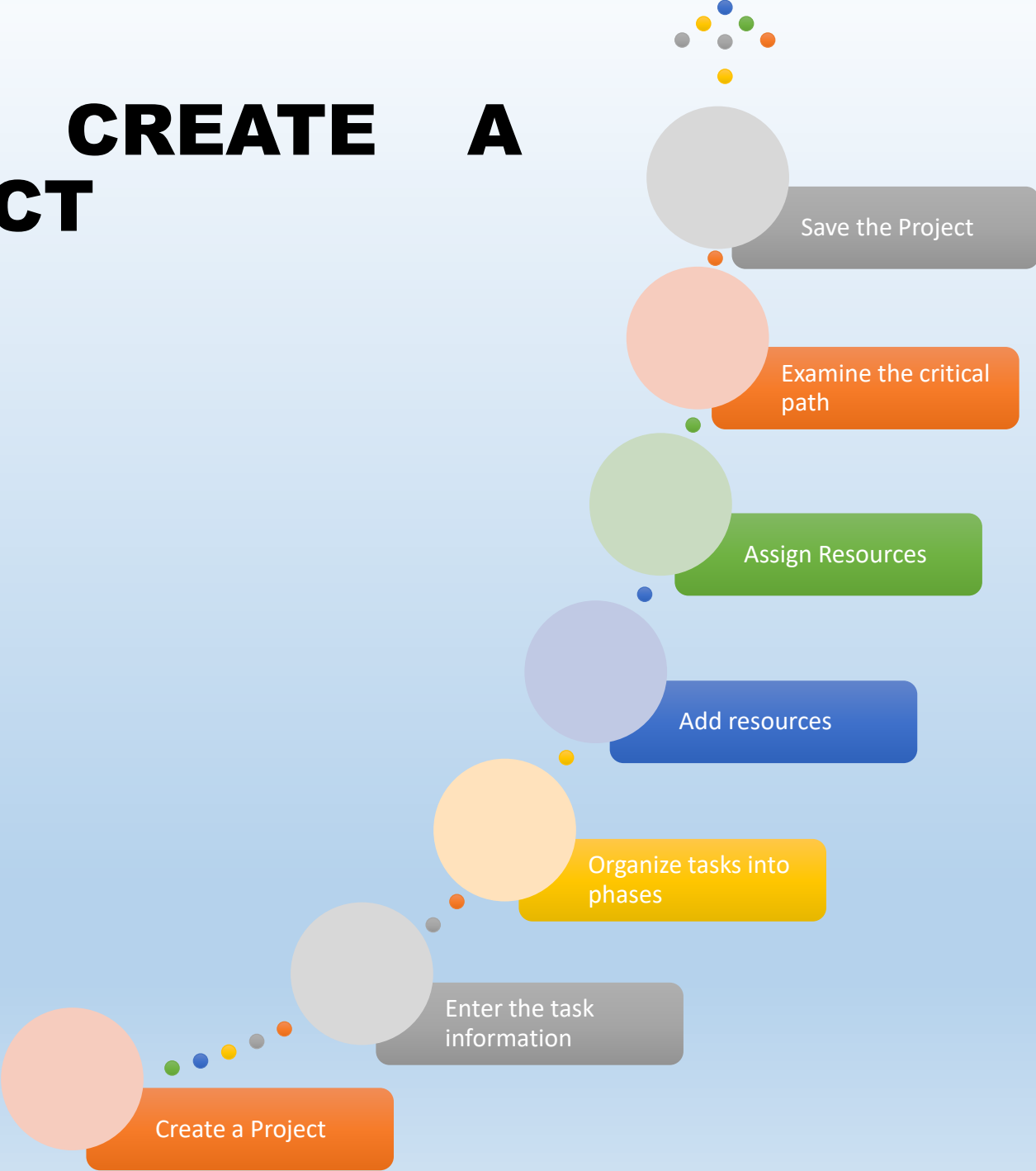
Illinois Institute of Technology



Develop the Following Development Project

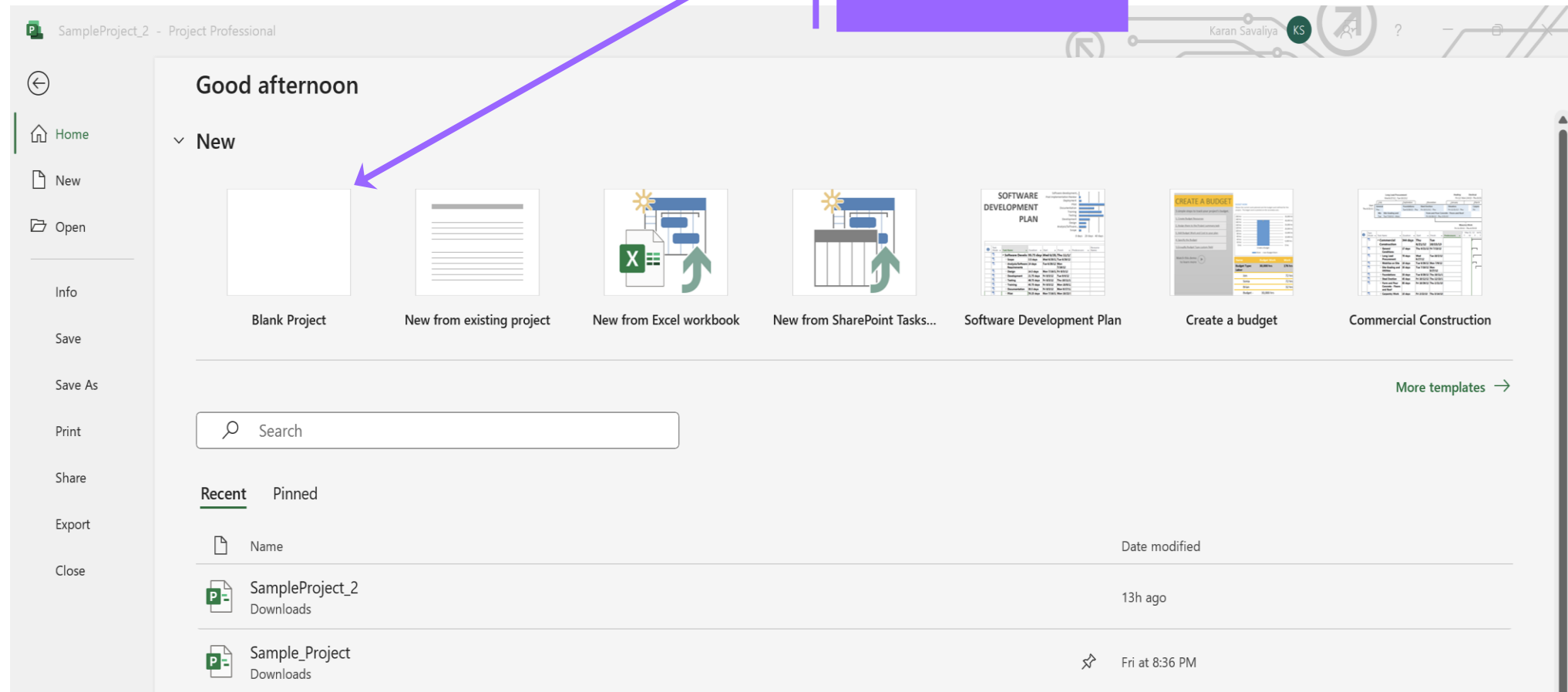
Activity	Predecessor	Human Resources	Duration
1. Requirement definition and analysis		•Requirement Engineer •Team Leader •Project Manager	3 Days
2. Requirement Review	1	•Business Analyst •Team Leader •Project Manager	1 Day
3. Analysis	2	•Designer •Team Leader	6 Days
4. Analysis Review	3	•Team Leader •Project Manager •Designer	1 Day
5. Design	4	•Designer •Team Leader	4 Days
6. Design Review	5	•Team Leader •Project Manager •Designer	1 Day
7. Programming	6	•Programmer	4 Days
8. Code Review	7	•Programmer •Team Leader •Tester •Requirement Engineer	3 Days
9. Testing	8	•Testers •Requirement Engineer	6 Days
10. Installation	9	•Programmer •Team Leader •Program Manager	2 Days

STEPS TO CREATE A NEW PROJECT



Step 1: Creating a new project

➤ Select a new blank project



➤ Create a new project called “SampleProject”

The screenshot displays the Microsoft Project Professional interface for a new project named "SampleProject". The ribbon is set to "Task" > "Gantt Chart Format". The main workspace shows a Gantt chart with a single task bar starting on Monday, October 12, 2009, and ending on Monday, October 12, 2009. The task bar is currently selected, and the "Task Mode" dropdown is visible. The timeline at the top indicates the start and finish dates. The status bar at the bottom shows "Ready" and "New Tasks : Manually Scheduled".

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

Undo **View** **Clipboard** **Font** **Schedule** **Tasks** **Insert** **Properties** **Editing**

Task Mode **Task Name** **Duration**

Timeline Start: Mon 10/12/09 Finish: Mon 10/12/09

Gantt Chart

Ready New Tasks : Manually Scheduled

Step 2: Entering the Task Information

- Write the name of each task in the spreadsheet using the column “*Task Name*”.
- Write the duration in days of each task in the spreadsheet using the column “*Duration*”.
- Write the predecessors of each task in the spreadsheet using the column “*Predecessors*” (If you can’t see the column, try to expand the vertical bar that divides the spreadsheet to the Gantt Chart).
- You can also write the successors of each task in the spreadsheet using the column “*Successors*”

➤ Entering Task Name, Duration and Predecessors

Today							
Start Sep 1, '24							
Add tasks with dates to the ti							
	Task	Task Name	Duration	Start	Finish	Predecessors	Resource Names
1	→	Sample Project	15.33 days	Tue 8/27/24	Tue 9/17/24		
2	→	Requirements	1.33 days	Tue 8/27/24	Wed 8/28/24		
3	→	Requirements Definition	1 day	Tue 8/27/24	Tue 8/27/24		Project Manager,Team Leader
4	→	Requirements Review	0.33 days	Wed 8/28/24	Wed 8/28/24	3	Business Analyst,Project Mani
5	→	Analysis	3.5 days	Wed 8/28/24	Mon 9/2/24		
6	→	Detailed Analysis	3 days	Wed 8/28/24	Mon 9/2/24	4	Designer,Team Leader
7	→	Analysis Review	0.5 days	Mon 9/2/24	Mon 9/2/24	6	Designer,Project Manager
8	→	Design	2.5 days	Mon 9/2/24	Thu 9/5/24		
9	→	Detailed Design	2 days	Mon 9/2/24	Wed 9/4/24	7	Designer,Team Leader
10	→	Design Review	0.5 days	Wed 9/4/24	Thu 9/5/24	9	Designer,Project Manager
11	→	Coding	5.5 days	Thu 9/5/24	Thu 9/12/24		
12	→	Programming	4 days	Thu 9/5/24	Wed 9/11/24	10	Programmer
13	→	Code Review	1.5 days	Wed 9/11/24	Thu 9/12/24	12	Requirement Engineer,Project
14	→	Testing	14.33 days	Tue 8/27/24	Mon 9/16/24		
15	→	Test Plan	3 days	Tue 8/27/24	Thu 8/29/24		Tester
16	→	Testing	1.5 days	Thu 9/12/24	Mon 9/16/24	13	Tester,Requirement Engineer
17	→	Installation	1 day	Mon 9/16/24	Tue 9/17/24	16	Project Manager,Team Leader

➤ Entering Task Name, Duration and Successors

Tue 8/27/24

Today

Sep 1, '24

Sep 8, '24

Tue 9/10/24

	<div><div><div></div><div></div></div><div></div></div>	Task Mode	Name	Leveling Delay	Duration	Start	Finish	Successors	Resource Names
1		<div><div></div><div></div></div>		Sample Project	0 edays	15.33 days	Tue 8/27/24	Tue 9/17/24	
2		<div><div></div><div></div></div>		Requirements	0 edays	1.33 days	Tue 8/27/24	Wed 8/28/24	
3		<div><div></div><div></div></div>		Requirements Definition	0 edays	1 day	Tue 8/27/24	Tue 8/27/24 4	Project Manager,Team Leader,Requirement Engineer
4		<div><div></div><div></div></div>		Requirements Review	0 edays	0.33 days	Wed 8/28/24	Wed 8/28/24 6	Business Analyst,Project Manager,Team Leader
5		<div><div></div><div></div></div>		Analysis	0 edays	3.5 days	Wed 8/28/24	Mon 9/2/24	
6		<div><div></div><div></div></div>		Detailed Analysis	0 edays	3 days	Wed 8/28/24	Mon 9/2/24 7	Designer,Team Leader
7		<div><div></div><div></div></div>		Analysis Review	0 edays	0.5 days	Mon 9/2/24	Mon 9/2/24 9	Designer,Project Manager
8		<div><div></div><div></div></div>		Design	0 edays	2.5 days	Mon 9/2/24	Thu 9/5/24	
9		<div><div></div><div></div></div>		Detailed Design	0 edays	2 days	Mon 9/2/24	Wed 9/4/24 10	Designer,Team Leader
10		<div><div></div><div></div></div>		Design Review	0 edays	0.5 days	Wed 9/4/24	Thu 9/5/24 12	Designer,Project Manager
11		<div><div></div><div></div></div>		Coding	0 edays	5.5 days	Thu 9/5/24	Thu 9/12/24	
12		<div><div></div><div></div></div>		Programming	0 edays	4 days	Thu 9/5/24	Wed 9/11/24 13	Programmer
13		<div><div></div><div></div></div>		Code Review	0 edays	1.5 days	Wed 9/11/24	Thu 9/12/24 16	Requirement Engineer,Project Manager
14		<div><div></div><div></div></div>		Testing	0 edays	14.33 days	Tue 8/27/24	Mon 9/16/24	
15		<div><div></div><div></div></div>		Test Plan	0 edays	3 days	Tue 8/27/24	Thu 8/29/24	Tester
16		<div><div></div><div></div></div>		Testing	0 edays	1.5 days	Thu 9/12/24	Mon 9/16/24 17	Tester,Requirement Engineer
17		<div><div></div><div></div></div>		Installation	0 edays	1 day	Mon 9/16/24	Tue 9/17/24	Project Manager,Team Leader

DETAIL GANTT

Step 3: Organize Tasks into Phases

- Before

Task Name	Duration
Requirement definition and analysis	3 days
Requirement Review	1 day
Analysis	6 days
Analysis Review	1 day
Design	4 days
Design Review	1 day
Programming	4 days
Code Review	3 days
Testing	6 days
Installation	2 days

- After

Task Name	Duration
▾ SampleProject	31 days
▾ Requirements	4 days
Requirement definition and analysis	3 days
Requirement Review	1 day
▾ Analysis	7 days
Analysis	6 days
Analysis Review	1 day
▾ Design	5 days
Design	4 days
Design Review	1 day
▾ Coding	7 days
Programming	4 days
Code Review	3 days
Testing	6 days
Installation	2 days

Step 3: Organize Tasks into Phases

- Group the tasks by the Phase according to the table of tasks shown before, and add a group that encloses the phases named “**SampleProject**”, and this will represent the plan as a whole.
- You may do this by:
 - Adding a new task “**SampleProject**”
 - Highlight the task you want to indent
 - Click the indent icon.
- Insert a new task at the beginning that will group everything. Here we insert “Requirements Phase” first.

➤ Highlight the tasks that are going to be added as sub tasks and click “*Indent*” icon.

The screenshot shows the Microsoft Project Professional interface. The 'Task' ribbon is active, and the 'Indent Task' icon (represented by three horizontal lines with a right-pointing arrow) is highlighted with a red box and labeled 'Indent Task'. Below the ribbon, the task list is displayed in a table format. The tasks are organized into a hierarchy, with subtasks indented under their parent tasks. The task list includes:

Task ID	Task Name	Leveling Delay	Duration	Start	Finish	Successors	Resource Names
1	Sample Project	0 edays 15.33 days	Tue 8/27/24	Tue 9/17/24			
2	Requirements	0 edays 1.33 days	Tue 8/27/24	Wed 8/28/24			
3	Requirements Definition	0 edays 1 day	Tue 8/27/24	Tue 8/27/24 4			Requirement Engineer,Project Manager,Team Leader
4	Requirements Review	0 edays 0.33 days	Wed 8/28/24	Wed 8/28/24 6			Business Analyst,Project Manager,Team Leader
5	Analysis	0 edays 3.5 days	Wed 8/28/24	Mon 9/2/24			
6	Detailed Analysis	0 edays 3 days	Wed 8/28/24	Mon 9/2/24 7			Designer,Team Leader
7	Analysis Review	0 edays 0.5 days	Mon 9/2/24	Mon 9/2/24 9			Designer,Project Manager
8	Design	0 edays 2.5 days	Mon 9/2/24	Thu 9/5/24			
9	Detailed Design	0 edays 2 days	Mon 9/2/24	Wed 9/4/24 10			Designer,Team Leader
10	Design Review	0 edays 0.5 days	Wed 9/4/24	Thu 9/5/24 12			Designer,Project Manager
11	Coding	0 edays 5.5 days	Thu 9/5/24	Thu 9/12/24			
12	Programming	0 edays 4 days	Thu 9/5/24	Wed 9/11/24 13			Programmer
13	Code Review	0 edays 1.5 days	Wed 9/11/24	Thu 9/12/24 16			Requirement Engineer,Project Manager
14	Testing	0 edays 14.33 days	Tue 8/27/24	Mon 9/16/24			
15	Test Plan	0 edays 3 days	Tue 8/27/24	Thu 8/29/24			Tester
16	Testing	0 edays 1.5 days	Thu 9/12/24	Mon 9/16/24 17			Tester,Requirement Engineer
17	Installation	0 edays 1 day	Mon 9/16/24	Tue 9/17/24			Project Manager,Team Leader

➤ Now repeat these steps to create the Subgroup that will represent the Analysis, Design and Coding phases.

i	Task Mode ▼	Task Name ▼	Duration ▼	Start ▼	Finish ▼	Predecessors ▼	Resource Names ▼
	→	▸ Sample Project	15.33 days	Tue 8/27/24	Tue 9/17/24		
	→	▸ Requirements	1.33 days	Tue 8/27/24	Wed 8/28/24		
	→	Requirements Definition	1 day	Tue 8/27/24	Tue 8/27/24		Requirement Engineer,Project Manager, Team Leader
	→	Requirements Review	0.33 days	Wed 8/28/24	Wed 8/28/24	3	Business Analyst,Project Manager,Team Leader
	→	▸ Analysis	3.5 days	Wed 8/28/24	Mon 9/2/24		
	→	Detailed Analysis	3 days	Wed 8/28/24	Mon 9/2/24	4	Designer,Team Leader
	→	Analysis Review	0.5 days	Mon 9/2/24	Mon 9/2/24	6	Designer,Project Manager
	→	▸ Design	2.5 days	Mon 9/2/24	Thu 9/5/24		
	→	Detailed Design	2 days	Mon 9/2/24	Wed 9/4/24	7	Designer,Team Leader
	→	Design Review	0.5 days	Wed 9/4/24	Thu 9/5/24	9	Designer,Project Manager
	→	▸ Coding	5.5 days	Thu 9/5/24	Thu 9/12/24		
	→	Programming	4 days	Thu 9/5/24	Wed 9/11/24	10	Programmer
	→	Code Review	1.5 days	Wed 9/11/24	Thu 9/12/24	12	Requirement Engineer,Project Manager
	→	▸ Testing	14.33 days	Tue 8/27/24	Mon 9/16/24		
	→	Test Plan	3 days	Tue 8/27/24	Thu 8/29/24		Tester
	→	Testing	1.5 days	Thu 9/12/24	Mon 9/16/24	13	Tester,Requirement Engineer
	→	Installation	1 day	Mon 9/16/24	Tue 9/17/24	16	Project Manager,Team Leader

- Now repeat these steps to create the Subgroup that will represent the Analysis, Design and Coding phases.

Task Mode	Task Name	Duration	Start	Finish	Predecessors	Resource Names
→	Sample Project	15.33 days	Tue 8/27/24	Tue 9/17/24		
→	Requirements	1.33 days	Tue 8/27/24	Wed 8/28/24		
→	Requirements Definition	1 day	Tue 8/27/24	Tue 8/27/24		Requirement Engineer,Project Manager, Team Leader
→	Requirements Review	0.33 days	Wed 8/28/24	Wed 8/28/24	3	Business Analyst,Project Manager,Team Leader
→	Analysis	3.5 days	Wed 8/28/24	Mon 9/2/24		
→	Detailed Analysis	3 days	Wed 8/28/24	Mon 9/2/24	4	Designer,Team Leader
→	Analysis Review	0.5 days	Mon 9/2/24	Mon 9/2/24	6	Designer,Project Manager
→	Design	2.5 days	Mon 9/2/24	Thu 9/5/24		
→	Detailed Design	2 days	Mon 9/2/24	Wed 9/4/24	7	Designer,Team Leader
→	Design Review	0.5 days	Wed 9/4/24	Thu 9/5/24	9	Designer,Project Manager
→	Coding	5.5 days	Thu 9/5/24	Thu 9/12/24		
→	Programming	4 days	Thu 9/5/24	Wed 9/11/24	10	Programmer
→	Code Review	1.5 days	Wed 9/11/24	Thu 9/12/24	12	Requirement Engineer,Project Manager
→	Testing	14.33 days	Tue 8/27/24	Mon 9/16/24		
→	Test Plan	3 days	Tue 8/27/24	Thu 8/29/24		Tester
→	Testing	1.5 days	Thu 9/12/24	Mon 9/16/24	13	Tester,Requirement Engineer
→	Installation	1 day	Mon 9/16/24	Tue 9/17/24	16	Project Manager,Team Leader

Step 4: Add Resources

- Go to the view “Resource Sheet”.
- Add the necessary resources to the “Resources Sheet”, we are going to use only the Name, Initials and Standard rate in \$/hr The resources are going to be taken from the table showed at the beginning of the example, more specifically from the column “Human Resource”.
- Now, with the Resources already registered in the project file, go back to the View “Gantt Chart”.

SAMPLEPROJECT_2 - Project Professional

Karan Savaliya KS

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

Gantt Chart View	Paste Clipboard	Calibri 11 B I U A	Font	Mark on Track Respect Links Inactivate Schedule	Tasks	Insert Task Milestone Deliverable	Properties Information Details Add to Timeline Notes	Editing Scroll to Task
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TIMELINE Today Sep 1, '24 Sep 8, '24 Sep 15, '24 Finish

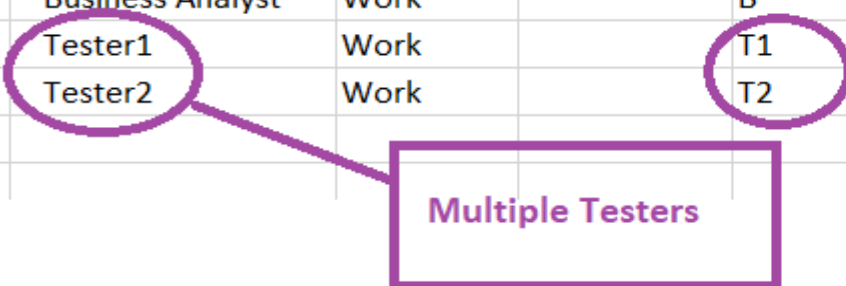
Add tasks with dates to the timeline

	Resource Name	Type	Material	Initials	Group	Max.	Std. Rate	Ovt. Rate	Cost/Use	Accrue	Base	Code	Add New Column
1	Requirement Engineer	Work		R		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	Designer	Work		D		100%	\$0.00/hr	\$0.00/hr	\$0.00	Prorated	Standard		
5	Programmer	Work		P		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		

Adding Multiple Resources of Same Type

- Go to the view “Resource Sheet”.
- Add the resources, differentiating them by numbering it.
- You can change the initials to reflect different resources of same type.
- In our example. we add two more testers as follows:

i	Resource Name ▼	Type ▼	Material ▼	Initials ▼	Group ▼	Max. ▼	Std. Rate ▼	Ovt. Rate ▼	Cost/Use ▼	Accrue ▼
	Requirement Engineer	Work		R		100%	\$0.00/hr	\$0.00/hr	\$0.00	Prorated
	Team Leader	Work		T		100%	\$0.00/hr	\$0.00/hr	\$0.00	Prorated
	Project Manager	Work		P		100%	\$0.00/hr	\$0.00/hr	\$0.00	Prorated
	Designer	Work		D		100%	\$0.00/hr	\$0.00/hr	\$0.00	Prorated
	Programmer	Work		P		100%	\$0.00/hr	\$0.00/hr	\$0.00	Prorated
	Tester	Work		T		100%	\$0.00/hr	\$0.00/hr	\$0.00	Prorated
	Business Analyst	Work		B		100%	\$0.00/hr	\$0.00/hr	\$0.00	Prorated
	Tester1	Work		T1		100%	\$0.00/hr	\$0.00/hr	\$0.00	Prorated
	Tester2	Work		T2		100%	\$0.00/hr	\$0.00/hr	\$0.00	Prorated



Multiple Testers

Step 5: Assign Resources

- Go to “Resource” tab.
- Then click “Assign resources” icon. A “Assign Resources” window appears.
- Click the resource to be assigned in the window, and then click the task in the spreadsheet behind.
- Then click the button “assign”.
- Repeat step 3 till all resources are assigned to the tasks.

Method 1: Drop down list.

The screenshot shows the Microsoft Project Professional interface. The 'Gantt Chart Format' ribbon is active, displaying various task management tools. The task list is visible, showing tasks such as 'Sample Project', 'Requirements', 'Analysis', 'Design', 'Coding', 'Testing', and 'Installation'. A red box highlights the 'Resource Names' dropdown menu, which is open, showing a list of resources to assign to a task. A red arrow points from the text 'Assign Resources' to the dropdown menu.

Task List:

Task ID	Task Name	Duration	Start	Finish	Predecessors	Resource Names
1	Sample Project	15.33 days	Tue 8/27/24	Tue 9/17/24		
2	Requirements	1.33 days	Tue 8/27/24	Wed 8/28/24		
3	Requirements Definition	1 day	Tue 8/27/24	Tue 8/27/24		Requirement Team Lead
4	Requirements Review	0.33 days	Wed 8/28/24	Wed 8/28/24	3	Business Analyst
5	Analysis	3.5 days	Wed 8/28/24	Mon 9/2/24		
6	Detailed Analysis	3 days	Wed 8/28/24	Mon 9/2/24	4	Designer, Tester
7	Analysis Review	0.5 days	Mon 9/2/24	Mon 9/2/24	6	Designer, Programmer
8	Design	2.5 days	Mon 9/2/24	Thu 9/5/24		
9	Detailed Design	2 days	Mon 9/2/24	Wed 9/4/24	7	Designer, Tester
10	Design Review	0.5 days	Wed 9/4/24	Thu 9/5/24	9	Designer, Programmer
11	Coding	5.5 days	Thu 9/5/24	Thu 9/12/24		
12	Programming	4 days	Thu 9/5/24	Wed 9/11/24	10	Programmer
13	Code Review	1.5 days	Wed 9/11/24	Thu 9/12/24	12	Requirement Engineer
14	Testing	14.33 days	Tue 8/27/24	Mon 9/16/24		
15	Test Plan	3 days	Tue 8/27/24	Thu 8/29/24		Tester
16	Testing	1.5 days	Thu 9/12/24	Mon 9/16/24	13	Tester, Requirement Engineer
17	Installation	1 day	Mon 9/16/24	Tue 9/17/24	16	Project Manager

Resource Names Dropdown Menu:

- Sort A to Z
- Sort Z to A
- Group on this field
- No Group
- Clear Filter from Resource Names
- Filters
- (Select All)
- (blank)
- Business Analyst
- Designer
- Programmer
- Project Manager
- Requirement Engineer
- Team Leader
- Tester

Assign Resources

Method 2: Choosing “Assign Resources” option.

FileTaskResourceReportProjectViewHelpGantt Chart FormatTell me what you want to do

Team Planner

Assign Resources

Resource Pool

Notes

Details

Level Selection

Level Resource

Level All

Leveling Options

Clear Leveling

Next Overallocation

View

Assignments

Insert

Properties

Level

Today

Sep 1, '24

Sep 8, '24

Sep 15, '24

Finish

Task Mode

Task Name

Duration

Start

Finish

Predecessors

Resource Names

Add New Column

1	Sample Project	15.33 days	Tue 8/27/24	Tue 9/17/24		
2	Requirements	1.33 days	Tue 8/27/24	Wed 8/28/24		
3	Requirements Definition	1 day	Tue 8/27/24	Tue 8/27/24		Requirement Engineer,Project Manager,Team Leader
4	Requirements Review	0.33 days	Wed 8/28/24	Wed 8/28/24	3	Business Analyst,Project Manager,Team Leader
5	Analysis	3.5 days	Wed 8/28/24	Mon 9/2/24		
6	Detailed Analysis	3 days	Wed 8/28/24	Mon 9/2/24	4	Designer,Team Leader
7	Analysis Review	0.5 days	Mon 9/2/24	Mon 9/2/24	6	Designer,Project Manager
8	Design	2.5 days	Mon 9/2/24	Thu 9/5/24		
9	Detailed Design	2 days	Mon 9/2/24	Wed 9/4/24	7	Designer,Team Leader
10	Design Review	0.5 days	Wed 9/4/24	Thu 9/5/24	9	Designer,Project Manager
11	Coding	5.5 days	Thu 9/5/24	Thu 9/12/24		
12	Programming	4 days	Thu 9/5/24	Wed 9/11/24	10	Programmer
13	Code Review	1.5 days	Wed 9/11/24	Thu 9/12/24	12	Requirement Engineer,Project Manager
14	Testing	14.33 days	Tue 8/27/24	Mon 9/16/24		
15	Test Plan	3 days	Tue 8/27/24	Thu 8/29/24		Tester
16	Testing	1.5 days	Thu 9/12/24	Mon 9/16/24	13	Tester,Requirement Engineer
17	Installation	1 day	Mon 9/16/24	Tue 9/17/24	16	Project Manager,Team Leader

Assign Resources

Task: Coding

Resource list options

Resources from SampleProject_2

Resource Name	R/D	Units	Cost
Business Analyst			
Designer			
Programmer			
Project Manager			
Requirement Engineer			
Team Leader			
Tester			

Assign

Remove

Replace...

Graph

Close

Help

Hold down Ctrl and click to select multiple resources

Detailed steps for assigning multiple resources

1. If you have assigned multiple resources to the task, first remove all the resources that you have assigned for the task. If you have not assigned resources yet, please move to Step 2 below.
2. Change the mode of the task to “Auto Scheduled” as shown below in screenshot.

Task Mode	Task Name	Duration	Start	Finish	Predecessors	Resource Names
	Sample Project	15.33 days	Tue 8/27/24	Tue 9/17/24		
	Requirements	1.33 days	Tue 8/27/24	Wed 8/28/24		
	Requirements Definition	1 day	Tue 8/27/24	Tue 8/27/24		Requirement Engineer,Project Manager, Team Leader
	Requirements Review	0.33 days	Wed 8/28/24	Wed 8/28/24	3	Business Analyst,Project Manager,Team Leader
	Analysis	3.5 days	Wed 8/28/24	Mon 9/2/24		
	Detailed Analysis	3 days	Wed 8/28/24	Mon 9/2/24	4	Designer,Team Leader
	Analysis Review	0.5 days	Mon 9/2/24	Mon 9/2/24	6	Designer,Project Manager
	Design	2.5 days	Mon 9/2/24	Thu 9/5/24		
	Detailed Design	2 days	Mon 9/2/24	Wed 9/4/24	7	Designer,Team Leader
	Design Review	0.5 days	Wed 9/4/24	Thu 9/5/24	9	Designer,Project Manager
	Coding	5.5 days	Thu 9/5/24	Thu 9/12/24		
	Programming	4 days	Thu 9/5/24	Wed 9/11/24	10	Programmer
	Code Review	1.5 days	Wed 9/11/24	Thu 9/12/24	12	Requirement Engineer,Project Manager
	Testing	14.33 days	Tue 8/27/24	Mon 9/16/24		
	Test Plan	3 days	Tue 8/27/24	Thu 8/29/24		Tester
	Testing	1.5 days	Thu 9/12/24	Mon 9/16/24	13	Tester,Requirement Engineer
	Installation	1 day	Mon 9/16/24	Tue 9/17/24	16	Project Manager,Team Leader

Set to
Auto
Mode

3. Assign the resources that you want to the task. Once you assign resources, you will see a yellow color warning sign on the left. Note that you will get this warning sign only if you assign 2 or more resources to the task.

Detailed steps for assigning multiple resources

4. Click on the yellow warning sign and you will see three options. Select the option “Reduce duration but keep the amount of work” to handle this warning.

5. Note: If you fail to click on one of the options, the duration will still not change. In that case, repeat again from Step 1.

The screenshot shows the Microsoft Project Professional interface. The 'Resource' tab is active in the ribbon. A task assignment warning dialog box is displayed, asking 'You added resources to this task. Do you want to:'. The first option, 'Reduce duration but keep the same amount of work', is selected. A red arrow points from a red box labeled 'Choose the respective option' to this option.

Task Mode	Task Name	Duration	Start	Finish	Predecessors	Resource Names
1	Sample Project	15.33 days	Tue 8/27/24	Tue 9/17/24		
2	Requirements	1.33 days	Tue 8/27/24	Wed 8/28/24		
3	Requirements Definition	1 day	Tue 8/27/24	Tue 8/27/24		Project Manager, Team Leader, Requirement Engineer
4	Requirements Review	0.33 days	Wed 8/28/24	Wed 8/28/24	3	
5	Analysis	3.5 days	Wed 8/28/24	Mon 9/2/24		
6	Detailed Analysis	3 days	Wed 8/28/24	Mon 9/2/24	4	
7	Analysis Review	0.5 days	Mon 9/2/24	Mon 9/2/24	6	
8	Design	2.5 days	Mon 9/2/24	Thu 9/5/24		
9	Detailed Design	2 days	Mon 9/2/24	Wed 9/4/24	7	Designer, Team Leader
10	Design Review	0.5 days	Wed 9/4/24	Thu 9/5/24	9	Designer, Project Manager
11	Coding	5.5 days	Thu 9/5/24	Thu 9/12/24		
12	Programming	4 days	Thu 9/5/24	Wed 9/11/24	10	Programmer
13	Code Review	1.5 days	Wed 9/11/24	Thu 9/12/24	12	Requirement Engineer, Project Manager
14	Testing	14.33 days	Tue 8/27/24	Mon 9/16/24		
15	Test Plan	3 days	Tue 8/27/24	Thu 8/29/24		Tester
16	Testing	1.5 days	Thu 9/12/24	Mon 9/16/24	13	Tester, Requirement Engineer
17	Installation	1 day	Mon 9/16/24	Tue 9/17/24	16	Project Manager, Team Leader

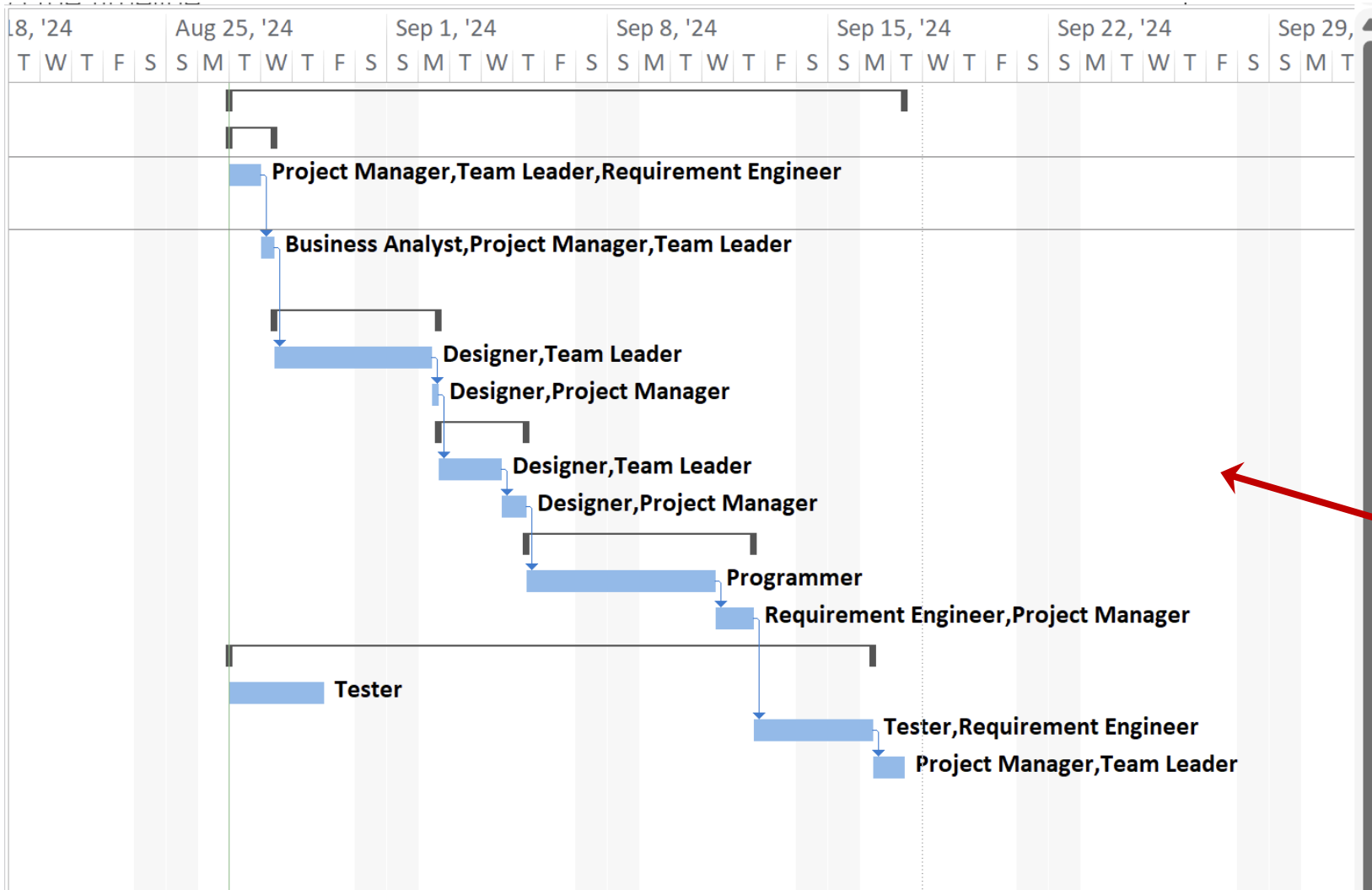
6. MS Project will automatically update the Duration according to the number of resources assigned to a task.

7. Check again to make sure that the duration has changed (if it was supposed to change).

Step 6: Examine the critical Path

- For the example, we are going to use the Detailed Gantt Chart to view the Critical Path, because this option also shows the **Slack Time** of the activities that don't belong to the critical path, therefore first we must select the option “More Views”.
- Then we must select the Detail Gantt to obtain the view desired.
- The View should look like this (If the Gantt Chart doesn't appear check that you are in the right date on the Gantt Chart).

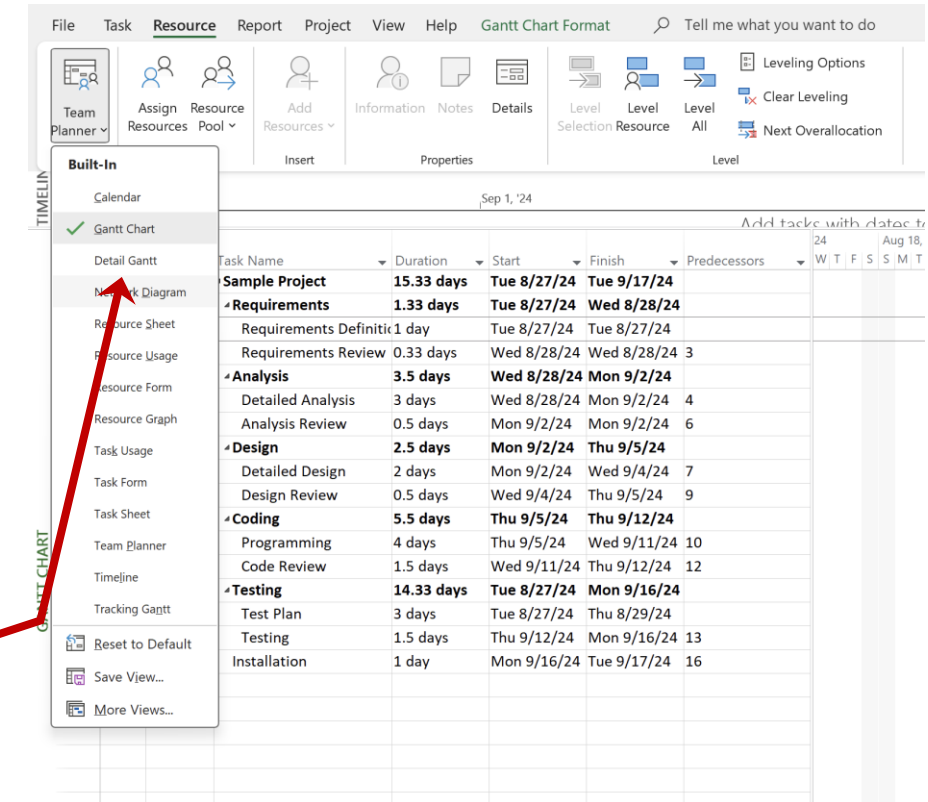
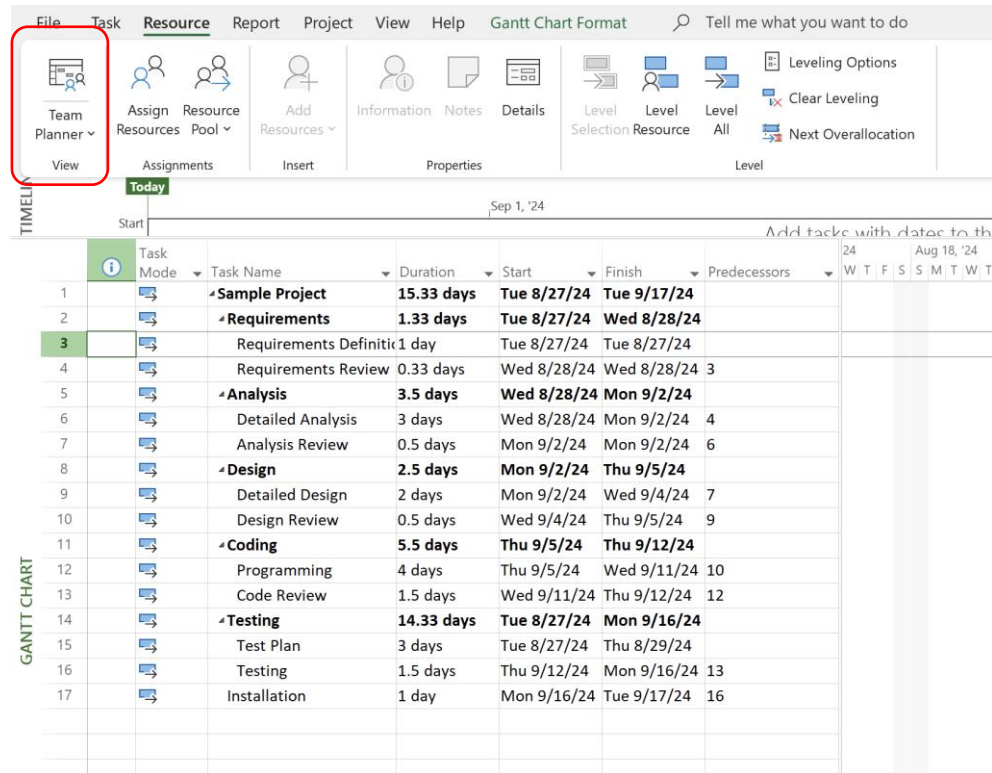
➤ Gantt Chart



The Gantt Chart

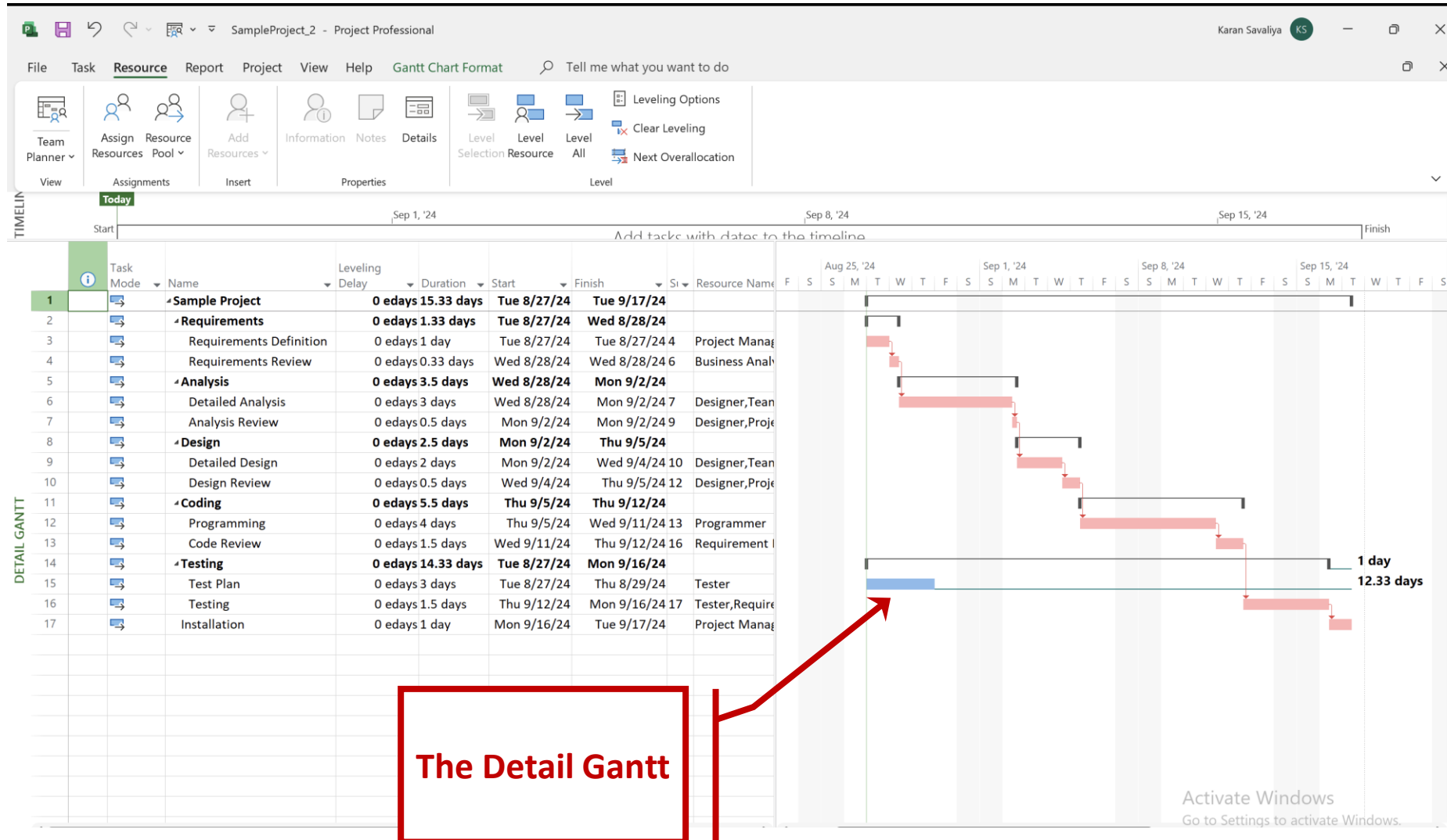
Viewing The Critical Path

- To see the critical path, click on View tab and then click on the “*Detail Gantt*”



Select “Detail Gantt” from Gantt Chart

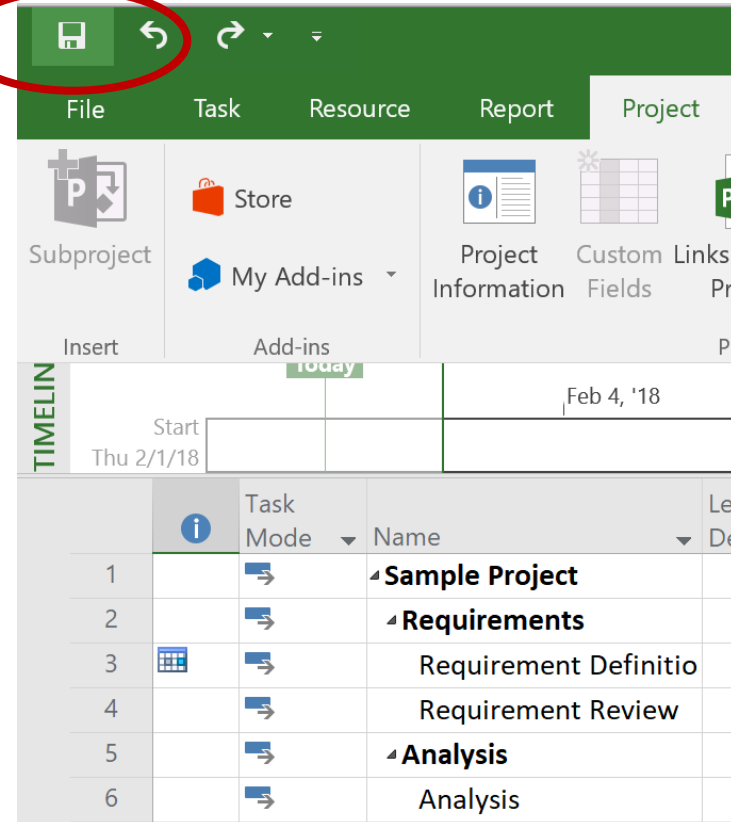
➤ Detail Gantt



Step 7: Save the Project

For this example, we are saving the file at the end, but it is recommended that you save the file frequently while you are working to avoid losing data as a result of problems such as a Power Failure for instance.

Save the Project



NOTE:

Microsoft Project Schedules

- Microsoft Project schedules each task according to the formula:

$$\textit{Effort} = \textit{Amount of work} / \textit{Productivity Rate}$$

$$\textit{Duration} = \textit{Effort} / \textit{No. of resources}$$

- Duration is the actual amount of time that passes before the task is done.
- Amount of work is the total work required to be done.
- Resource effort is the amount of effort of all the resources that are assigned to the task.
- Effort of each resource is measured by productivity rate.
- Productivity rate is the total amount of output in a given time period.

Example

1. Let Work = 3000 SLOC

2. Effort will be calculated as:

$$\begin{aligned}\text{Work/Productivity Rate} &= \frac{3000}{100 \text{ SLOC/day}} \\ &= 30 \text{ days/1 Head Count}\end{aligned}$$

3. Duration will be calculated as:

$$\begin{aligned}\text{Effort/\# Head Count} &= 30 \text{ days/1 HC} \\ &\text{duration will be 30 days for 1 HC} \\ &\text{or, for 2 Head Counts it will be} \\ &= 30 \text{ days/2 HC} \\ &= 15 \text{ days.}\end{aligned}$$

Questions ?