PLANNING AND CONTROL
USING
ORACLE® PRIMAVERA® P6
VERSIONS 18 to 23 PPM PROFESSIONAL

Planning and Progressing Project Schedules
With and Without Roles and Resources
in an
Established Database

BY

PAUL EASTWOOD HARRIS

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INTRODUCTION

This publication is an upgrade of the authors original publication *Project Planning & Control Using Primavera P6 Version 7* and has been written to enable new users to learn the planning and scheduling functions of Primavera 18, 19, 20, 21, 22 and 23. Please note there are no versions 9 to 14 and Oracle changed their naming convention with the release of 15.1 so the name is the same as the year of the release.

Many users will have prior experience with Elecosoft (Asta) Powerproject or Microsoft Project and the author explains where there are differences in the products' functionality.

The author would appreciate any constructive comments on how this publication may be improved.

SUMMARY

The publication may be used as:

- A training manual for a three-day training course, or
- A self-teach book, or
- A reference manual.

The screen shots for this publication are mainly taken from Primavera Versions 18 or 19 or 20 or 21 or 22 or 23. Screen shots from earlier versions are used when required for demonstrating differences in versions.

One-day, two-day, or three-day training courses may be run using this publication and it includes exercises for the students to complete at the end of each chapter. After the course, students may use this publication as a reference book. Instructors' PowerPoint presentations are available from Eastwood Harris web sites.

This publication is ideal for people who would like to quickly gain an understanding of how the software operates and explains how the software differs from Elecosoft Powerproject and Microsoft Project, thus making it ideal for people who wish to convert from these products.

CUSTOMIZATION FOR TRAINING COURSES

Training organizations or companies that wish to conduct their own training may have this publication tailored to suit their requirements. This may be achieved by removing, reordering or adding content to the publication and by writing their own exercises. Please contact the author to discuss this service.

AUTHOR'S COMMENT

As a project controls consultant, I have used a number of planning and scheduling software packages for the management of a range of project types and sizes. The first publications I published were user guides/training manuals for Primavera SureTrak, P3 and Microsoft Project users. These were well received by professional project managers and schedulers, so I decided to turn my attention to Primavera Enterprise, which is now called Primavera P6. This publication follows the same proven layout of my previous publications. I trust this publication will assist you in understanding how to use Primavera P6 on your projects.

APPRECIATION

I would like thank Michael Jack for his assistance in writing this book and Thomas Grant for his assistance in proof reading parts of the book.

CURRENT BOOKS PUBLISHED BY EASTWOOD HARRIS

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3.19 Workshop 1 – Navigating Around the Windows

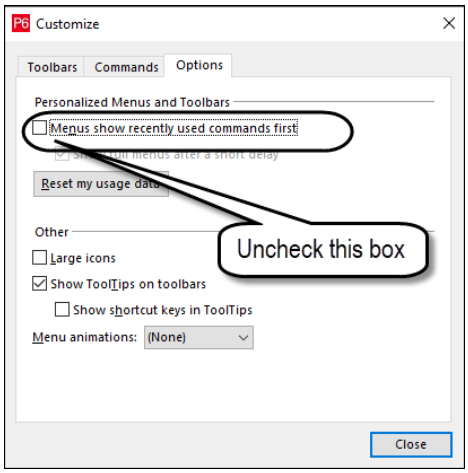
Background

To become familiar with Primavera you will open your database and navigate around the windows.

Note: Your windows may look different from the ones used in this publication which uses a demonstration database provided by Oracle Primavera.

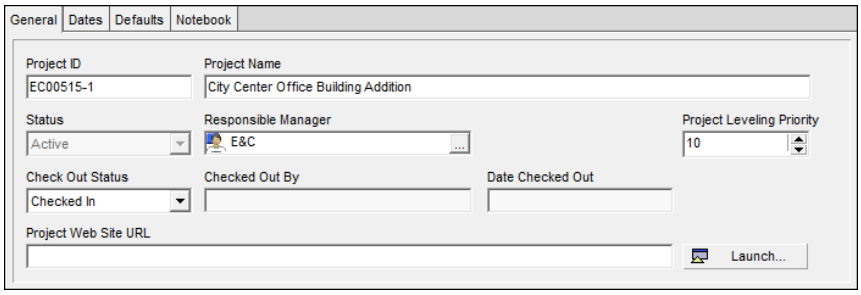
Assignment

1. Open your database. If a project is open then select **File**, **Close All** to close the project.
2. Close all open windows except the **Projects Window**. If the **Project Window** is not open then select **Enterprise**, **Projects** to open the **Projects Window**.
3. From the **Projects Window**, hide and display the bottom pane **Projects Details** form by clicking on the **View**, **Show on Bottom, No Bottom Layout** and **View**, **Show on Bottom, Details**.
4. Add the  button to the **Bottom Layout** toolbar and then use the  and  buttons on the **Bottom Layout** toolbar to hide and display the bottom pane **Projects Details** form. See para **Error! Reference source not found.** for details.
5. To ensure you see the full menus each time you select menu then right click on a Toolbar and select **Customize…** to open the **Customize** form, select the **Options** tab and uncheck **Menus show recently used command first**, as per the picture:



6. Scroll up and down and inspect the Enterprise Project Structure and the projects.
7. Expand and close the EPS structure using the + and - buttons to the left of the project descriptions and use the right mouse menu **Expand All**, **Collapse All** and **Collapse To…**.
8. Explore the **EPS** by selecting **Enterprise**, **Enterprise Project Structure…**, click on the column headings and explore the menu options by clicking on the **Display: EPS** menu.
9. Double click in the Gantt Chart area in line with a project to bring the project bar into view. If no project bars are being displayed then your projects need to be **Summarized** so the latest project data is available in the **Projects** window.
10. Select the **View**, **Toolbars…**, **Customize**, **Options** tab and uncheck the **Show full menus after a short delay** and the **Menus show recently used commands first** options in to ensure full menus are always displayed.
11. Hide and display the **Status Bar** by using the **View**, **Status Bar** menu.

12. Open the **Projects Details** form, right-click on a tab in the **Projects Details** form and select **Customize Project Details…** then hide and display some tabs. Leave only the **General**, **Dates**, **Defaults** and **Notebook** tabs displayed. We will reveal the remainder as needed:

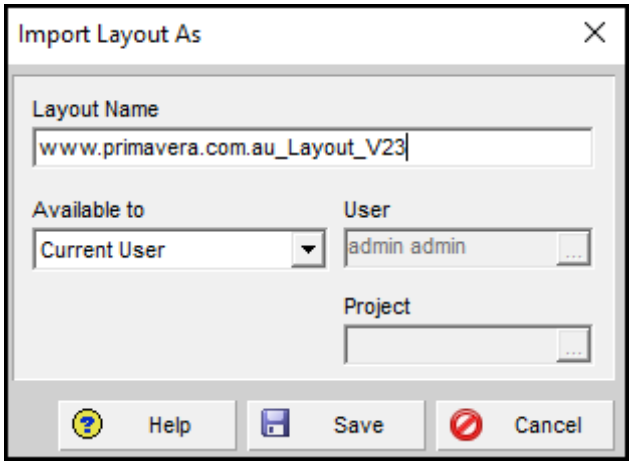


13. Select a project you have access to (possibly the City Center Office Building Addition project if you are operating in the Primavera Demonstration database) and open the **Project** by right-clicking on the project and selecting **Open Project**.

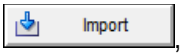
14. Click on the **Activities** tab or the  icon on the right-hand side of the screen or select **Project**, **Activities** if the **Activities Window** does not open automatically and display the project activities.

15. You should now download a layout titled **www.primavera.com.au_Layout.plf** found at https://primavera.com.au/ under **Software and Downloads** page, unzip it and place it on your desktop. You may double click on the zip file to open it and then drag the file to your desktop. There are layouts exported from later P6 Versions are identified by the software version in the file name.

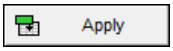
16. Import the Layout as a **User Layout** by selecting **View**, **Layout**, **Open Layout**.

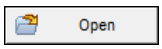


17. Do not save your Layout.

18. Select  , select the layout from your desktop,

19. Set your options as per the picture and the Layout will be saved as a User Layout,

20. Select  to apply the layout and you will see the changes on the screen.

21. Now select  to apply the Layout and close the **Open Layout** form.

22. Double-click in the Gantt Chart area in line with an activity to bring the activity bar into view.

23. Click on the Activity ID column title multiple times and see the activities reorder, then click on other column titles and see the activities reorder based on the column data. Leave the activities ordered by Activity ID.

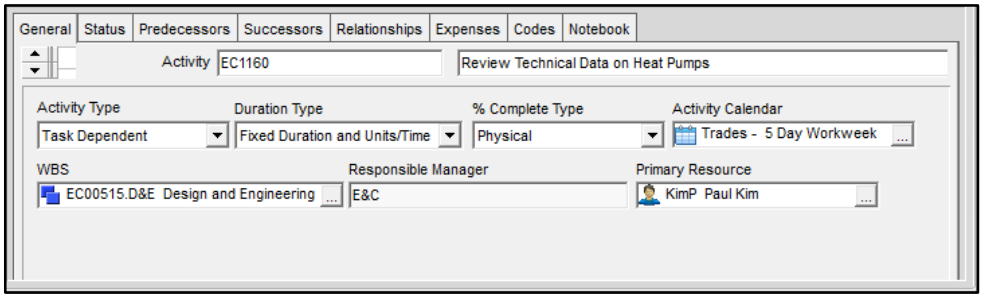
24. Adjust the timescale using the  buttons.

25. Move back to the **Projects Window** and then back to the **Activities Window** using the tabs at the top of the window.

26. From the **Activities Window** display the **Activity Details** form in the **Bottom** pane by selecting **View**, **Show on Bottom**, **Details** and then hide it by selecting **View**, **Show on Bottom**, **No Bottom Layout**.

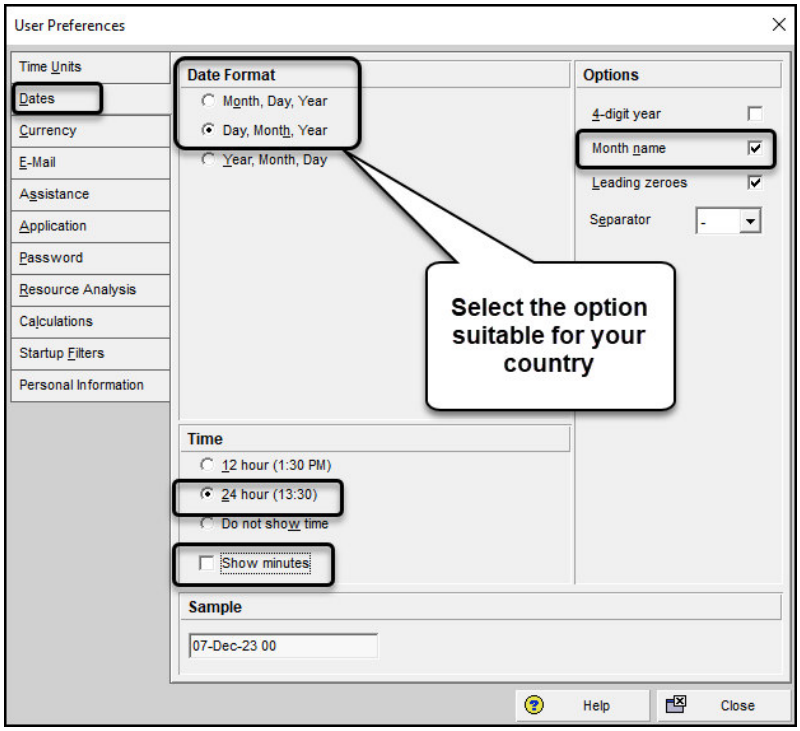
27. From the **Activities Window** hide and display the bottom pane **Activity Details** form by clicking on the  and  buttons on the **Bottom Layout** toolbar.

28. Open the **Activity Details** form, right-click on a tab in the **Activity Details** form and select **Customize Activity Details…** then hide and display some tabs. Set the tabs as per the picture below:



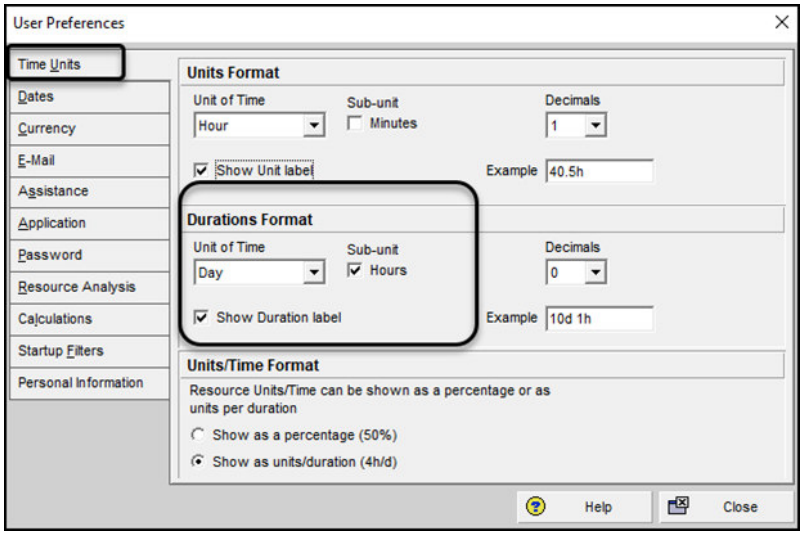
29. Close the project by selecting **File**, **Close All** and return to the **Projects Window**.

30. Open the **User Preferences** form by selecting **Edit**, **User Preferences…**and select the method you wish to display the date from the **Dates** tab and set your options as per below. People in the US may wish to use the **Month, Day, Year** option, but ensure you show the time in 24 hour format and do not select **Show minutes**:

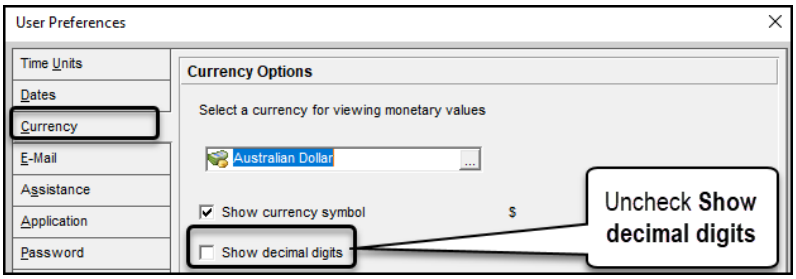


NOTE: It is strongly recommended that the time is always displayed as per the picture above so the user knows the time when Actual Start, Actual Finish and Constraints are applied because the software will often select 00:00, first minute of a day.

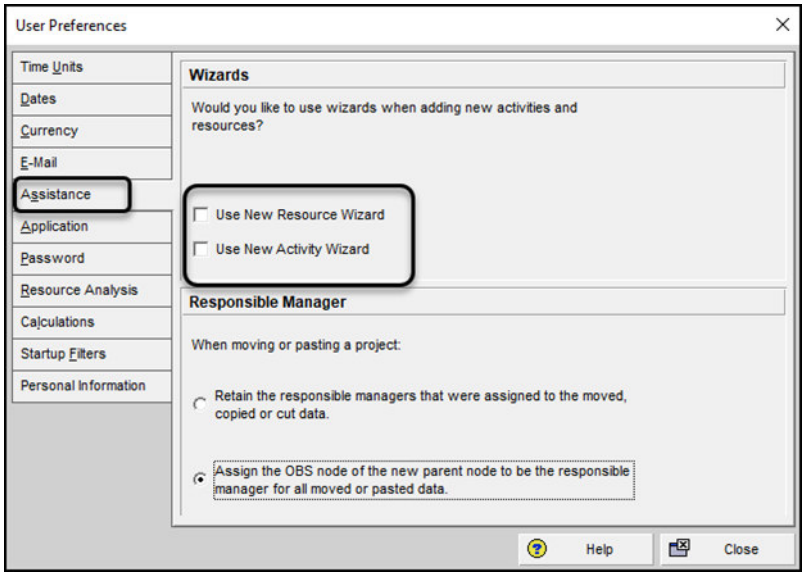
31. Select the **Time Units** tab and set your options as shown below:



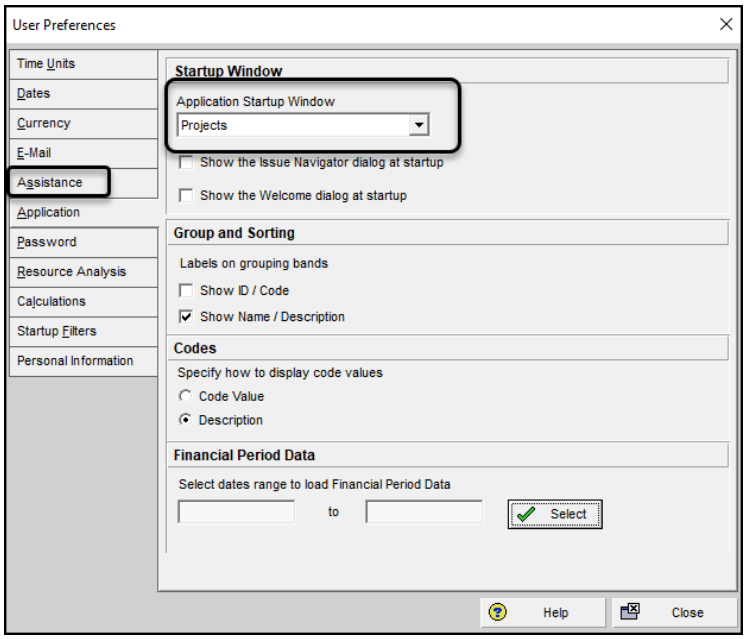
32. In the **Currency** tab it is worth unchecking **Show decimal digits** to make the display of cashflow and cost columns narrower.



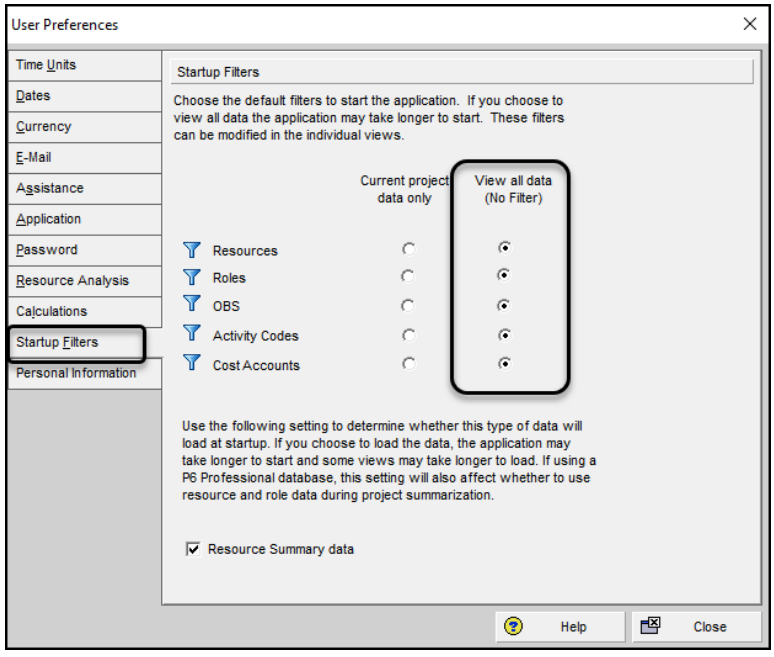
33. Select the **Assistance** tab and uncheck both **Wizards** as shown below because these make it slower to add activities and resources:



34. Select the **Application** tab and select the **Application Startup Window** as **Projects**. This will ensure the database opens at the **Project Window** each time you start up Primavera.



35. Select the **Startup Filters** and check **View all data (No Filter)** as this will ensure that when you open one of the windows you will see all the database data and not a blank screen.



36. Close the **User Preferences** form.

37. Ensure all projects are closed by selecting **File**, **Close All**.

38. Restart P6 to lock in these options.

NOTES FOR TRAINING COURSE INSTRUCTORS AND/OR DATABASE ADMINISTRATORS:

1. Training course instructors and/or administrators may consider purchasing the instructor's PowerPoint presentation from https://primavera.com.au/. There is an option of a fully editable pdf of the slide show that may not be edited. A sample in pdf format may be downloaded from these web sites.
2. Completed workshops and layouts may be downloaded from https://primavera.com.au/.
3. This book is only available through bookshops in eBook format (Google, Kobo, Kindle and iTunes) and as paperback or spiral bound books. Training companies may consider buying the Google eBook for students as this format may be gifted, thus you may buy and supply this format to your students.
4. If you are a training organization and you wish to train multiple users in one database, please contact the author for a paper on how to set up your database.
5. In summary, when multiple users are working in a single database, the Database Administrator or Course Instructor should:
    - Create a unique EPS Node for each student to work in,
    - Assign a unique Project ID for each student to use,
    - Create a unique Resource for each student to use, and
    - Assign a protocol that the students use to create Project IDs and Resource IDs so that each student project, and their resources, all have a unique name.

4.7 Workshop 2 – Creating Your Project

Background

You are an employee of Wilson International and are responsible for planning the Bid preparation required to ensure that a response to an RFQ (Request for Quote) from OzBuild Pty Ltd is submitted on time. While short-listed, you have been advised that the RFQ will be available on 09 December 2024 at 8:00 hrs (8:00 am) and you will be required to submit 3 bound copies of the proposal before 27 January 2025 at 16:00 hrs (4:00 pm).

NOTE: When multiple users are working in a single Professional database or using the Windows Client then:

- The Database Administrator or Instructor should create a unique EPS Node for each student to create their projects under.
- Each student should also be assigned a unique Project ID to use when creating their projects.

Assignment

1. Close any open projects.
2. Create a new project with the following information by selecting **File**, **New…** to open the **Create a New Project** wizard:
   - Select an appropriate EPS Node in your database to create the project or your nominated node when working in a shared database.
   - Project ID – OZB.

     NOTE: This Project ID may not be accepted if you are working in a shared database when there is another project with this Project ID. You may need to use another Project ID in this situation, such as OZB plus your initials.
   - Project Name – Bid for Facility Extension
   - Planned Start Date – 09 December 2024 at 08:00

     NOTE: Ensure that the time of 08:00 (8:00 AM) is added in this step. Forgetting to check and, if required, setting the time when assigning dates may lead to the schedule not calculating correctly.
   - Must Finish By – Leave Blank
   - Responsible Manager – Accept the default
   - Rate Type – Accept the default which is usually Price/Unit or Standard Rate
   - Click 

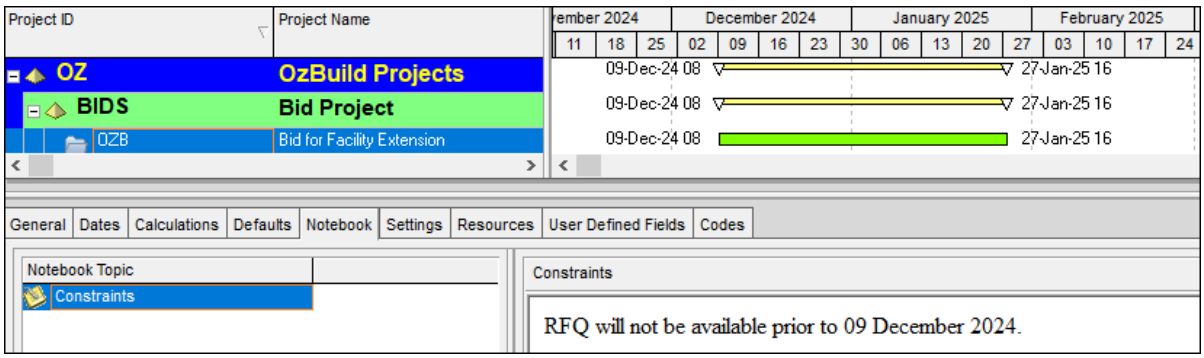
to create the project.
3. The project should now be open. Check the text in the top left side of the screen; the project name should be displayed.
4. Ensure you are in the **Projects Window**.
5. Ensure the project is selected by clicking on it.

6. Add the following project information in **Project Details** in the **Bottom Pane**:

   - Select your project in the **Project Window** by clicking on it.
   - In the **General** tab set the **Status** to **What-if**. The project needs to be open to change the **Status**.
   - **Dates** tab
     - Set the Data Date to 09 December 2024 at 08:00
     - Anticipated Start 09 December 2024 at 08:00
     - Anticipated Finish 27 January 2025 at 16:00

     You should now see a bar in the Bar Chart above spanning these dates although there are no activities in the schedule. If no bar is displayed double-click in the Gantt Chart area level with the project.
   - Add a Notebook Topic using a suitable topic such as Constraints, Project Status or Issues stating, "RFQ will not be available prior to 09 December 2024."

7. Your project should look like this:



NOTES:

The date format will be displayed according to the **User Preferences** settings by selecting **Edit**, **User Preferences…** and selecting the **Dates** tab. Your date format should display the time as per the picture above.

The **First day of week** dates are displayed in the Timescale are normally a Sunday or Monday. This display option is set by the Administrator and applies to all projects and users in a database. By default, this is a Sunday but, in the picture above and below the Start of week has been set as Monday as Monday is usually a work day and Sunday is normally not a working day:

5.15 Workshop 3 – Maintaining the Calendars

Background

The normal working week at OzBuild Pty Ltd is Monday through Friday, 8 hours per day excluding public holidays. The installation staff works Monday through Saturday, 8 hours per day and the company observes the following holidays:

	2024	2025	2026	2027
New Year's Day	1 January	1 January	1 January	1 January
Easter	29 March- 1 April	18 - 21 April	3 - 6 April	26 - 29 March
Christmas Day	25 December	25 December	25 December	27 December*
Boxing Day	26 December	26 December	28 December*	28 December*

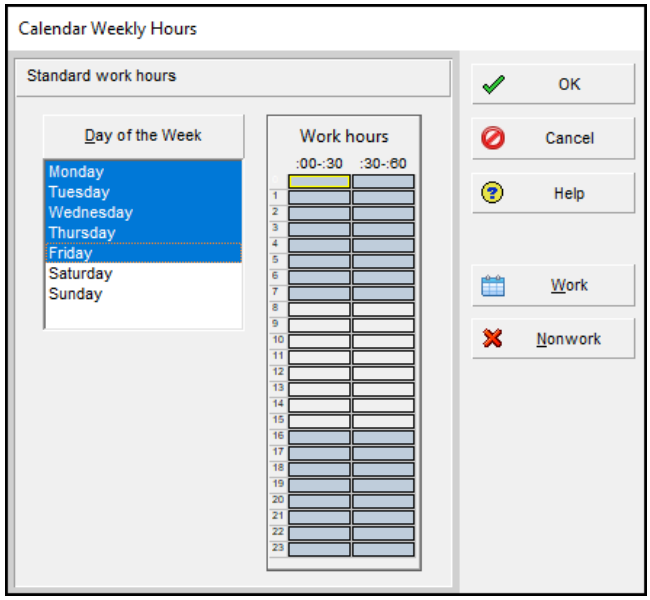
* These holidays occur on a weekend and the dates have been moved to the next weekday.

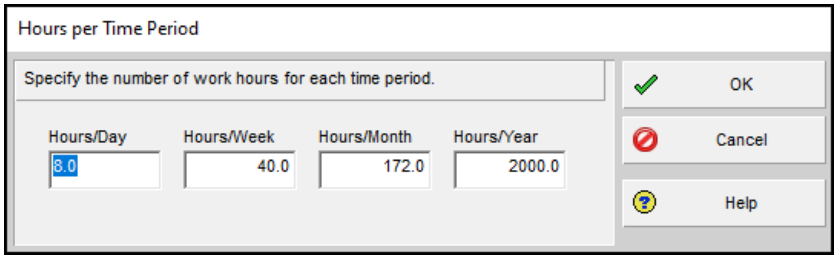
NOTE: Boxing Day is a holiday the day after Christmas celebrated in many countries.

Assignment

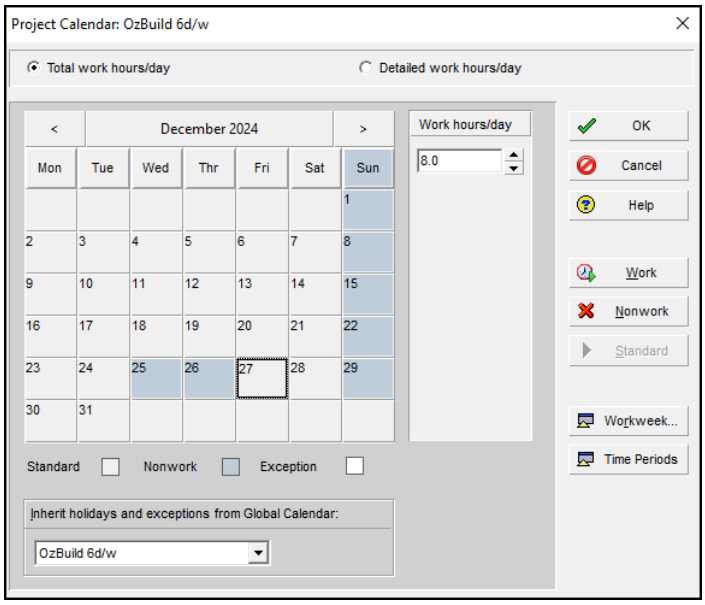
We will create two new calendars for this project, although we could use a standard calendar.

1. Ensure your new OzBuild Bid project is open.
2. Select **Enterprise**, **Calendars…** to open the **Calendars** form,
3. Select the **Project** radio button,
4. Create a new Project Calendar titled "OzBuild 5d/w" by clicking on the Add button and copying a calendar, if available, with 8 working hours per day and 5 working days per week.
5. Click on the Modify... button to open the **Calendars** form.
6. Select the **Detailed work hours/day** radio button.
7. Click on the Workweek... button to open the **Calendar Weekly Hours** form.
8. Make the work hours from 08:00 to 16:00 without a lunch break from Monday to Friday and close the form.
9. Select **<None>** for **Inherit holidays and exceptions from Global Calendar**.
10. Click on the Time Periods button and check the Hours per Time Period are the same as in the diagram below, if not then edit them and then close the form:



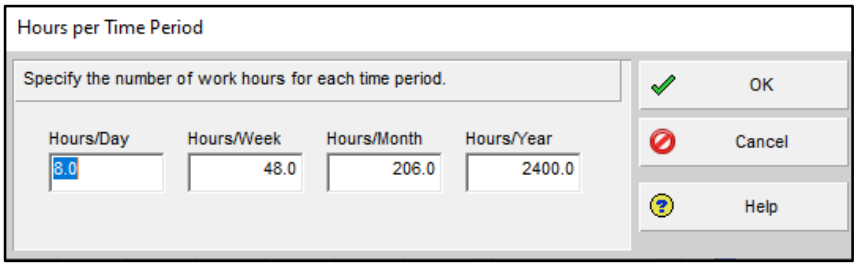


11. As the project starts in 2024 you only need to add holidays in 2024 and 2025 from the table above.
12. Check there are no pre-existing holidays in the source calendar that should be made into work days.



13. Create a new calendar titled “OzBuild 6d/w” for the 6-day week by copying the same Global calendar.
14. Make the work hours from 8:00 to 16:00 from Monday to Saturday and close the form.
15. Select **<None>** for **Inherit holidays and exceptions from Global Calendar**.
16. Click on the 

button and check the Hours per Time Period are the same as in the diagram below, if not then edit them and then close the form:



17. Add the holidays above in 2024 and 2025 only.
18. Ensure Easter Saturdays are made into Nonwork days.
19. Check there are no pre-existing holidays in the source calendar that should be made into work days.
20. Should you wish to make the first day of the week a Monday then select **Admin**, **Admin Preferences**, **General** tab and change the Starting Day of Week to Monday.

6.8 Workshop 4 – Creating the Work Breakdown Structure

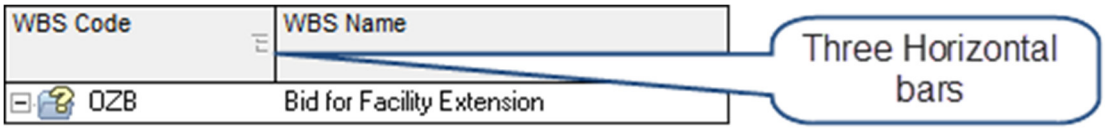
Background

A review of the scope identifies three deliverables:

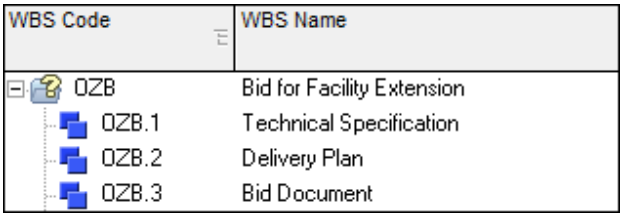
- Technical Specification
- Delivery Plan
- Bid Document

Assignment

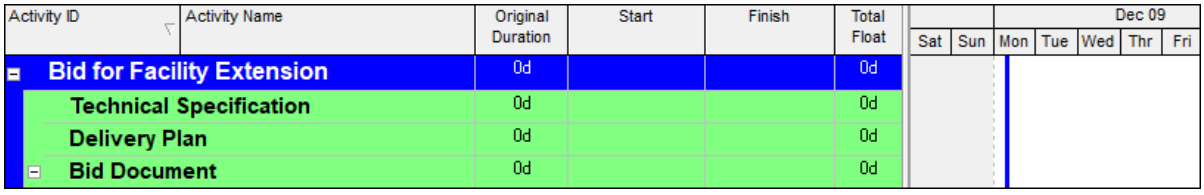
1. With your OzBuild project open click on the  button to open the **WBS Window**.
2. Click in the WBS field header until the sort indicator is displayed as three horizontal bars, as displayed in the picture below. The WBS will now be displayed hierarchically now:



3. Select the Project Node and press the **Ins** key, or right-click and select **Add** to add the WBS Nodes and continue to add all three WBS Nodes for the three Phases above.
4. If the WBS Nodes are not indented, click the **WBS Code** heading as described in paragraph 2, until they are indented.
5. Use the arrows on the **Move** toolbar (right side of screen) to put them in the correct order and indent.
6. Your result should look like the following picture:



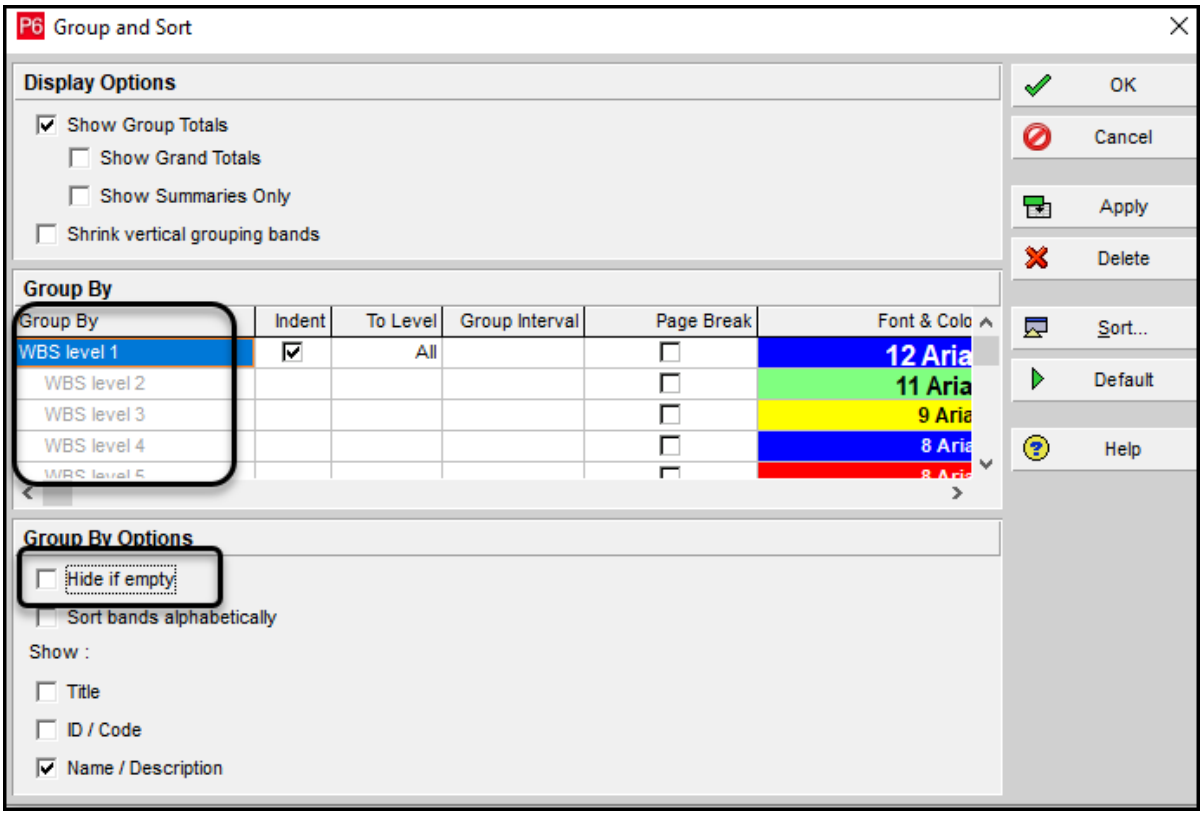
7. Move to the **Activities Window** by clicking on the  icon on the **Project** toolbar or clicking on the **Activities** tab. Your screen may look like this:



NOTE: Users may have to press the F5 key to refresh their data if the WBS is displayed incorrectly.

8. Your view may look different when you have not used the https://primavera.com.au/.

9. The WBS will not be displayed for two reasons, in the **Group and Sort** form:
   - The **Group By** must be set to **WBS level 1** and **To Level** set to **All**, and/or
   - **Hide if empty** must not be checked.
10. If the WBS is not displayed correctly select **View**, **Group and Sort by** to open the **Group and Sort** form and set it as per the picture below:
    - **Group By** WBS and
    - **Hide if empty** NOT checked.



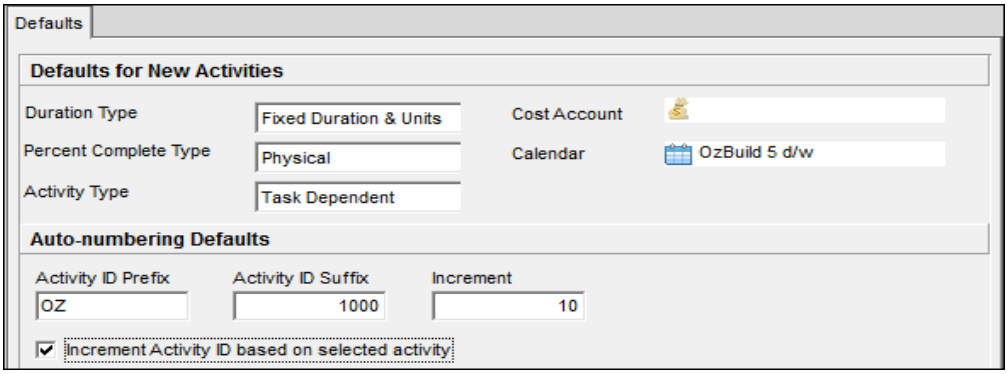
7.16 Workshop 5 – Adding Activities

Background

We need to set up the defaults and add the activities to the schedule.

Assignment

1. Go to the **Projects Window**, highlight the OzBuild project and select the **Defaults** tab in the **Activity Details** pane. If required, adjust all the following parameters.



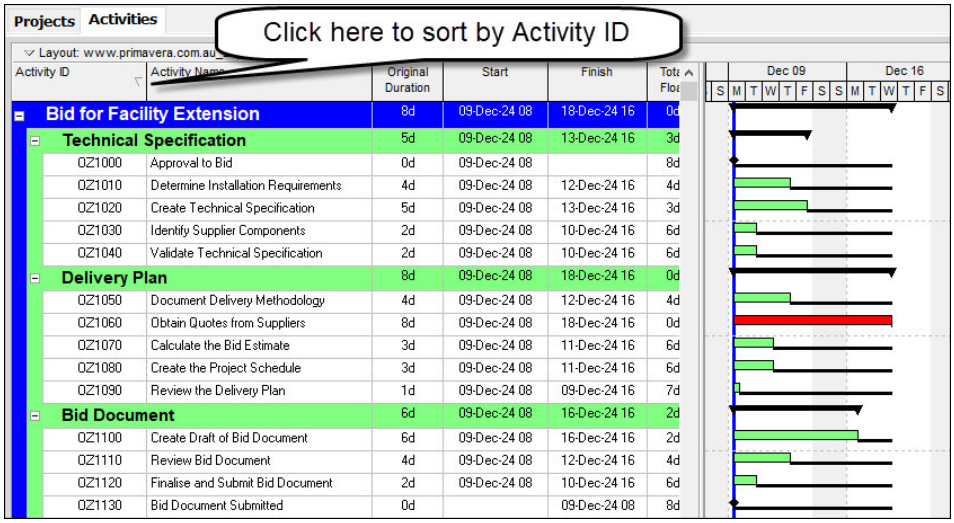
2. Open the **Activities Window** and add the following activities under the appropriate WBS.

NOTE: If the **New Activity** wizard appears select the "do not show this wizard again."

3. Click on the Activity ID column header if the activities become out of order.

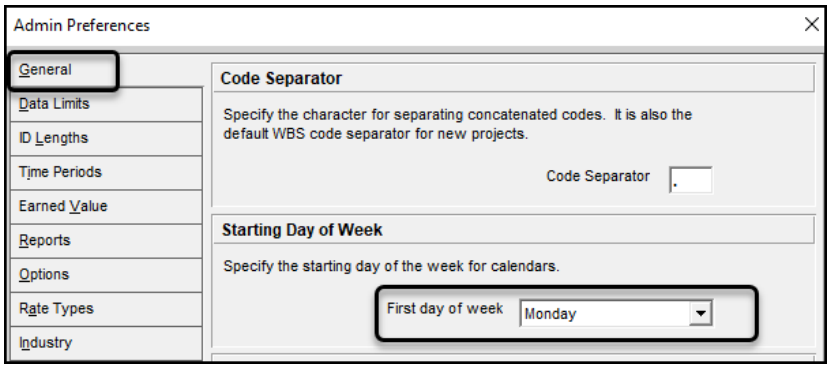
Activity ID	Activity Name	Orig Dur	Calendar	Activity Type
	Technical Specification			
OZ1000	Approval to Bid	0d	OzBuild 5d/w	Start Milestone
OZ1010	Determine Installation Requirements	4d	OzBuild 5d/w	Task Dependent
OZ1020	Create Technical Specification	5d	OzBuild 5d/w	Task Dependent
OZ1030	Identify Supplier Components	2d	OzBuild 5d/w	Task Dependent
OZ1040	Validate Technical Specification	2d	OzBuild 5d/w	Task Dependent
	Delivery Plan			
OZ1050	Document Delivery Methodology	4d	OzBuild 5d/w	Task Dependent
OZ1060	Obtain Quotes from Suppliers	8d	OzBuild 5d/w	Task Dependent
OZ1070	Calculate the Bid Estimate	3d	**OzBuild 6d/w**	Task Dependent
OZ1080	Create the Project Schedule	3d	**OzBuild 6d/w**	Task Dependent
OZ1090	Review the Delivery Plan	1d	OzBuild 5d/w	Task Dependent
	Bid Document			
OZ1100	Create Draft of Bid Document	6d	OzBuild 5d/w	Task Dependent
OZ1110	Review Bid Document	4d	OzBuild 5d/w	Task Dependent
OZ1120	Finalise and Submit Bid Document	2d	OzBuild 5d/w	Task Dependent
OZ1130	Bid Document Submitted	0d	OzBuild 5d/w	Finish Milestone

4. Assign the **Activity Calendar** a **6-day per week calendar** to Activity IDs OZ1070 and OZ1080 in the **General** tab of the **Activity Details** form.
5. Reschedule by pressing **F9** and check that the Data Date is set at 9 December 2024 at 08:00.
6. Your answer should look like the following picture, but you may have different columns displayed and there may be different text on the bars.
7. Ensure the sort order is by Activity ID by clicking on the Activity ID Heading:



NOTE:

1. The picture above was created using the **www.primavera.com.au_Layout**, you will see different colors and columns when you use a different Layout. If you are unable to import this Layout, try selecting a different layout using the command **View**, **Layouts**, **Open Layout…**and select another layout from the list, such as the **Classic** or **Default WBS** Layout. If this does not solve your problem, then refer to the Layouts and Formatting sections of this book.
2. If your timescale week start date is different to the one above, for example the first day in the timescale is Sunday 10 Dec 24 whereas the first day above is Monday 9 Dec 24, then you may change this for all projects in the database if you have the access rights:
   - From the **Windows Client** (PPM database) select **Admin**, **Admin Preferences** form, **General** tab, **Starting Day of Week** section and select Monday:



   - From the Web Client (EPPM database) for the Windows Client, log into the web and select **Administer**, **Application Settings**, **General** tab, **Starting Day of Week** section.

8.12 Workshop 6 – Formatting the Bar Chart

Background

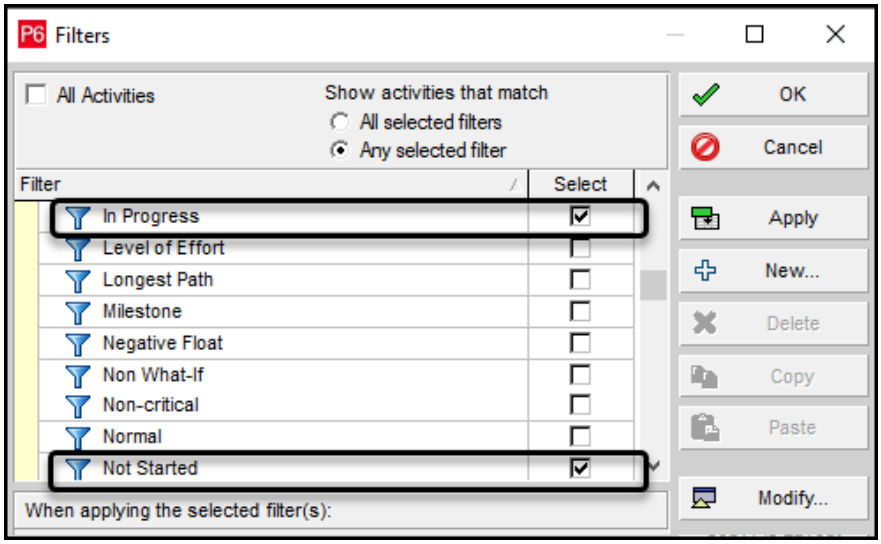
Management has received your draft report and requests that some changes be made to the presentation.

Assignment

Format your schedule as follows, but depending on the default settings, your Gantt Chart View may differ from that shown, e.g., there may be no summary bars:

1. You will not have to complete the Step 2 of this workshop if you have internet access and are able to download a **www.primavera.com.au_Layout.plf** layout from https://primavera.com.au/. There are layouts for later P6 Versions which are identified by the software version in the file name.
   - If you have downloaded and applied a **www.primavera.com.au_Layout.plf** move to Step 3, DO NOT COMPLETE Step 2.
   - If you have NOT downloaded and applied a **www.primavera.com.au_Layout.plf** complete Step 2.
2. Format Bars, only if you are unable to download a **www.primavera.com.au_Layout.plf** layout then:
   - To format the bars, open the **Bars** form,
   - Click on the Default button to set the bars to the Primavera default settings,
   - Edit the **Float Bar** Filter (**Total Float** bar) so it only shows float for Not Started or In Progress activities. Ensure you select the **Any selected filter** in the **Filters** form:

Display	Name	Timescale	User Start Date	User Finish Date	Filter	Preview
☑	Float Bar	Float Bar			Not Started or In Progress	



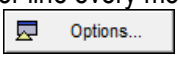
   - Delete the **Secondary Baseline** & **Tertiary Baseline** bars,

- Move the Baseline bars and Baseline Milestones to the bottom of the Bars form to remove relationships on the Baseline bars,
- Add missing Project Baseline Milestone and format the Baseline bars as per the picture below, making them different colors:

Display	Name	Timescale	User S	User F	Filter	Preview
☐	Project Baseline Bar	Project Baseline Bar			Normal	
☐	Project Baseline Milestone	Project Baseline Bar			Milestone	
☐	Primary Baseline	Primary Baseline Bar			Normal	
☐	Primary Baseline Milestone	Primary Baseline Bar			Milestone	

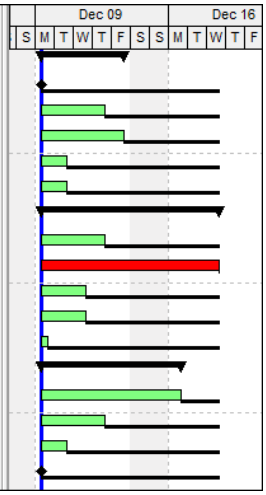
- Remove all text from all bars, except from the **Current Bar Labels** bar, by:
  - Clicking on the **Bar Labels** tab at the bottom,
  - Clicking on one bar at a time and using the Delete button at the bottom (NOT SIDE) of the screen to delete the text line,
  - Change the **Current Bar Labels** bar filter to read All Activities and do not display.

3. Display the following bars:
   - Remaining Level of Effort
   - Actual Level of Effort
   - Actual Work
   - Remaining Work
   - Remaining Critical Work
   - Milestones
   - % Complete
   - Summary Bar
   - Float Bar (Total Float)
   - Negative Float Bar
4. Adding Columns:
   - Add **Calendar** and **Activity Type** columns, from the **General** section of the **Columns** form, to the right of the Activity Name column.
   - Adjust the column widths to the best fit by dragging the column header divider lines.
   - Display the **Total Float** column if not displayed.
5. Press the **F9** key and click the Schedule button which will schedule the project and calculate the float.
6. Adjusting Row Heights:
   - Change the Row Height to 30 points by selecting **View, Table Font and Row** and apply,
   - Now check the **Optimize height by row content** box, not exceeding 1 line per row and apply,
   - Now change the setting to 18 point height for all rows and apply.
   - Click on OK to close the form.

7. Format Timescale to Year and Month, then Week and Day (two options), then Month and Week by using the  buttons.
8. Format the Vertical lines with a solid Major line every month and a Minor line every week by selecting **View**, **Bars** and clicking on the 

button and selecting the **Sight Lines** tab, or right-clicking in the Gantt Chart area and selecting **Bar Chart Options…** and selecting the **Sight Lines** tab.
9. Expand and contract the timescale and adjust it so that all the bars are visible.
10. See below for the expected results:

Activity ID	Activity Name	Calendar	Activity Type	Original Duration	Start	Finish	Total Float
Technical Specification		OzBuild 5d/w		5d	09-Dec-24 08	13-Dec-24 16	3d
OZ1000	Approval to Bid	OzBuild 5d/w	Start Milestone	0d	09-Dec-24 08		8d
OZ1010	Determine Installation Requirements	OzBuild 5d/w	Task Dependent	4d	09-Dec-24 08	12-Dec-24 16	4d
OZ1020	Create Technical Specification	OzBuild 5d/w	Task Dependent	5d	09-Dec-24 08	13-Dec-24 16	3d
OZ1030	Identify Supplier Components	OzBuild 5d/w	Task Dependent	2d	09-Dec-24 08	10-Dec-24 16	6d
OZ1040	Validate Technical Specification	OzBuild 5d/w	Task Dependent	2d	09-Dec-24 08	10-Dec-24 16	6d
Delivery Plan				8d	09-Dec-24 08	18-Dec-24 16	0d
OZ1050	Document Delivery Methodology	OzBuild 5d/w	Task Dependent	4d	09-Dec-24 08	12-Dec-24 16	4d
OZ1060	Obtain Quotes from Suppliers	OzBuild 5d/w	Task Dependent	8d	09-Dec-24 08	18-Dec-24 16	0d
OZ1070	Calculate the Bid Estimate	OzBuild 6d/w	Task Dependent	3d	09-Dec-24 08	11-Dec-24 16	6d
OZ1080	Create the Project Schedule	OzBuild 6d/w	Task Dependent	3d	09-Dec-24 08	11-Dec-24 16	6d
OZ1090	Review the Delivery Plan	OzBuild 5d/w	Task Dependent	1d	09-Dec-24 08	09-Dec-24 16	7d
Bid Document		OzBuild 5d/w		6d	09-Dec-24 08	16-Dec-24 16	2d
OZ1100	Create Draft of Bid Document	OzBuild 5d/w	Task Dependent	6d	09-Dec-24 08	16-Dec-24 16	2d
OZ1110	Review Bid Document	OzBuild 5d/w	Task Dependent	4d	09-Dec-24 08	12-Dec-24 16	4d
OZ1120	Finalise and Submit Bid Document	OzBuild 5d/w	Task Dependent	2d	09-Dec-24 08	10-Dec-24 16	6d
OZ1130	Bid Document Submitted	OzBuild 5d/w	Finish Milestone	0d		09-Dec-24 08	8d



11. Check the following:
    - Click on Activity ID to make sure they are ordered correctly,
    - The dates and times of all activities should start and finish at the same time of the day,
    - Activity OZ1060 bar should be colored red as it is the Critical activity representing the shortest duration that the project may be completed,
    - All other activities should have Float.

9.14 Workshop 7 – Adding the Relationships

Background

You have determined the logical sequence of activities, so you may now create the relationships.

Assignment

1. Display the **Predecessor** column from the **Lists** section of the **Columns** form, to the right of the Activity Name.
2. Input the logic below using several of the methods detailed in this chapter:

Activity ID	Activity Name	Predecessors
Bid for Facility Extension		
Technical Specification		
OZ1000	Approval to Bid	
OZ1010	Determine Installation Requirements	OZ1000
OZ1020	Create Technical Specification	OZ1010
OZ1030	Identify Supplier Components	OZ1020
OZ1040	Validate Technical Specification	OZ1030
Delivery Plan		
OZ1050	Document Delivery Methodology	OZ1040
OZ1060	Obtain Quotes from Suppliers	OZ1030
OZ1070	Calculate the Bid Estimate	OZ1050, OZ1060
OZ1080	Create the Project Schedule	OZ1070
OZ1090	Review the Delivery Plan	OZ1080
Bid Document		
OZ1100	Create Draft of Bid Document	OZ1050
OZ1110	Review Bid Document	OZ1090, OZ1100
OZ1120	Finalise and Submit Bid Document	OZ1110
OZ1130	Bid Document Submitted	OZ1120

3. Press **F5** – **Refresh Data** if the relationships do not appear in columns.
4. Press **F9** or click on the Schedule button to schedule.
5. Hide and display the Logic Links using the  icon. Leave them displayed.

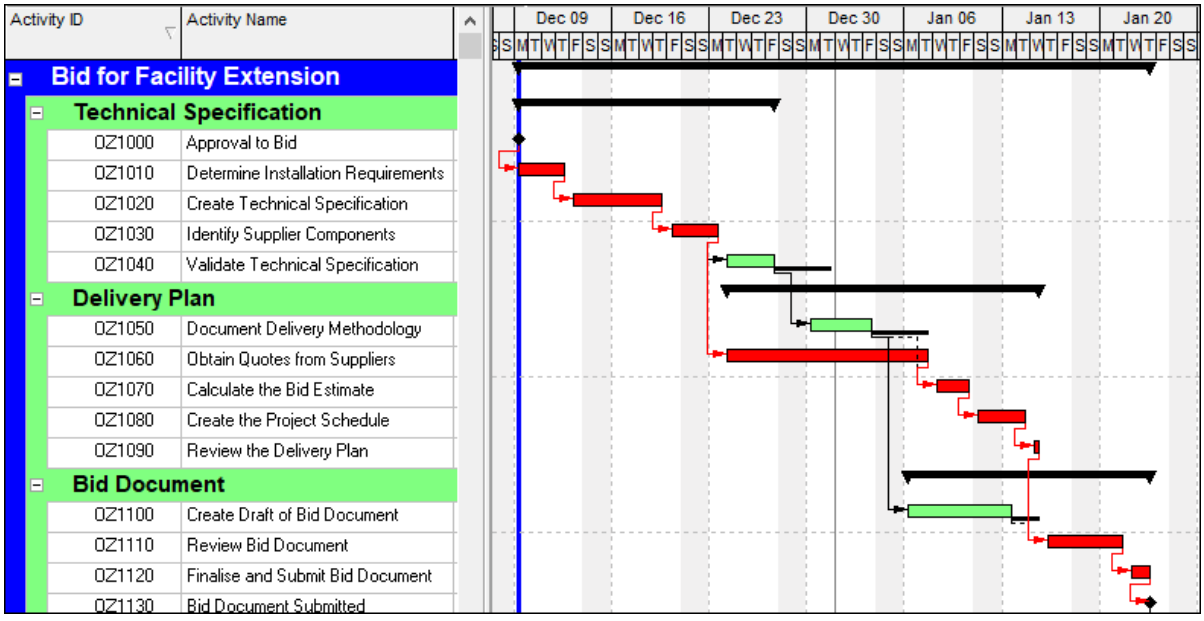
continued…

Answer to Workshop 7

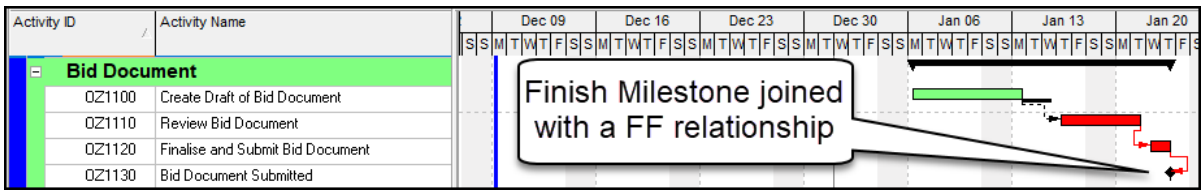
6. Format the columns as per the following picture:

Activity ID	Activity Name	Predecessors	Successors	Original Duration	Start	Finish	Total Float	Free Float
Bid for Facility Extension				31d	09-Dec-24 08	23-Jan-25 16	0d	0d
Technical Specification				13d	09-Dec-24 08	27-Dec-24 16	2d	0d
OZ1000	Approval to Bid		OZ1010	0d	09-Dec-24 08		0d	0d
OZ1010	Determine Installation Requirements	OZ1000	OZ1020	4d	09-Dec-24 08	12-Dec-24 16	0d	0d
OZ1020	Create Technical Specification	OZ1010	OZ1030	5d	13-Dec-24 08	19-Dec-24 16	0d	0d
OZ1030	Identify Supplier Components	OZ1020	OZ1040, OZ1060	2d	20-Dec-24 08	23-Dec-24 16	0d	0d
OZ1040	Validate Technical Specification	OZ1030	OZ1050	2d	24-Dec-24 08	27-Dec-24 16	2d	0d
Delivery Plan				14d	24-Dec-24 08	15-Jan-25 16	0d	0d
OZ1050	Document Delivery Methodology	OZ1040	OZ1070, OZ1100	4d	30-Dec-24 08	03-Jan-25 16	2d	0d
OZ1060	Obtain Quotes from Suppliers	OZ1030	OZ1070	8d	24-Dec-24 08	07-Jan-25 16	0d	0d
OZ1070	Calculate the Bid Estimate	OZ1050, OZ1060	OZ1080	3d	08-Jan-25 08	10-Jan-25 16	0d	0d
OZ1080	Create the Project Schedule	OZ1070	OZ1090	3d	11-Jan-25 08	14-Jan-25 16	0d	0d
OZ1090	Review the Delivery Plan	OZ1080	OZ1110	1d	15-Jan-25 08	15-Jan-25 16	0d	0d
Bid Document				14d	06-Jan-25 08	23-Jan-25 16	0d	0d
OZ1100	Create Draft of Bid Document	OZ1050	OZ1110	6d	06-Jan-25 08	13-Jan-25 16	2d	2d
OZ1110	Review Bid Document	OZ1090, OZ1100	OZ1120	4d	16-Jan-25 08	21-Jan-25 16	0d	0d
OZ1120	Finalise and Submit Bid Document	OZ1110	OZ1130	2d	22-Jan-25 08	23-Jan-25 16	0d	0d
OZ1130	Bid Document Submitted	OZ1120		0d		23-Jan-25 16	0d	0d

P6 Version 20 and earlier will join Milestones with a FS relationship:



P6 Version 21 and later will NOT join Milestones with a FS relationship and your answer will look like the picture below:

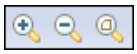


10.8 Workshop 8 – Scheduling Calculations and Activity Network View

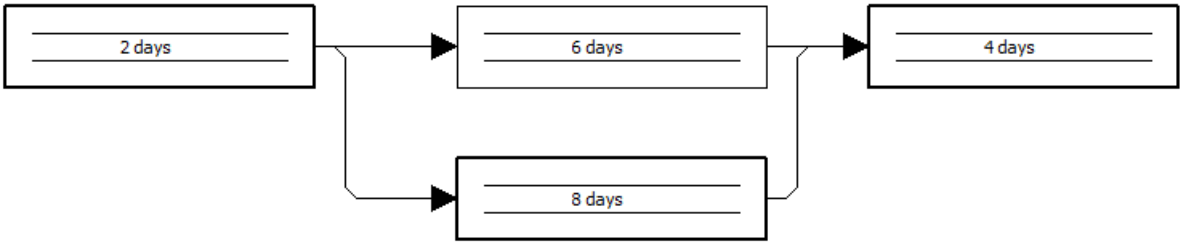
Background

We want to practice calculating early and late dates with a simple manual exercise.

Assignment

1. Apply the Activity Network View of your OzBuild schedule by clicking on the  icon.
2. Click on each node of the WBS and notice how only activities assigned to each node are displayed.
3. Click on the three Zoom icons  and notice their effect on the schedule.
4. Calculate the Early Dates, Late Dates, and Total Float for the following activities, assuming a Monday-to-Friday working week and the first activity starting on 1 April.

ES = Early Start EF = Early Finish
DUR = Duration TF - Total Float
LS = Late Start LF = Late Finish



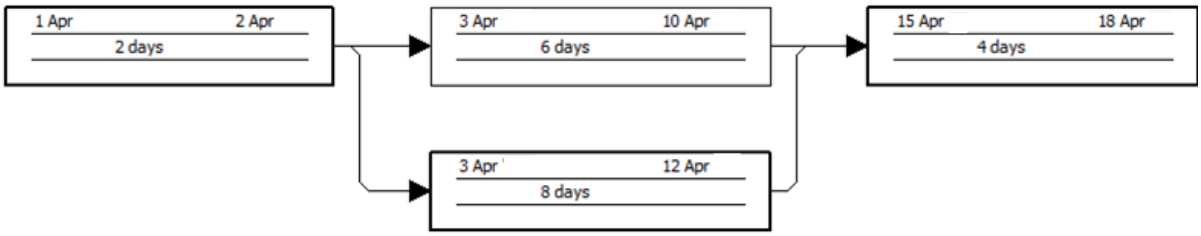
<	April					>
Sun	Mon	Tue	Wed	Thr	Fri	Sat
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

5. See over the page for the answer:

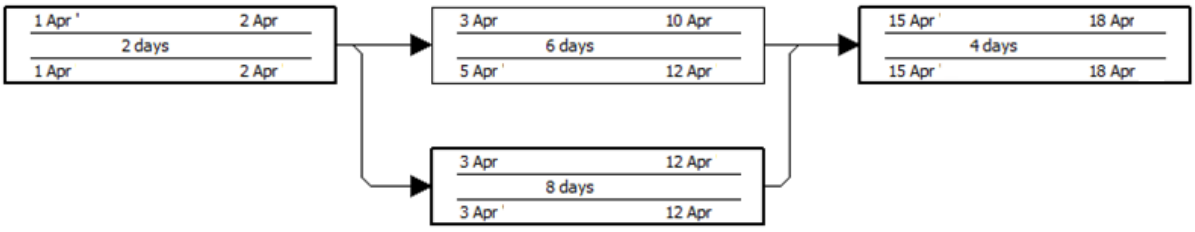
Answer to Workshop 8

Early Start	Early Finish
Duration	Float
Late Start	Late Finish

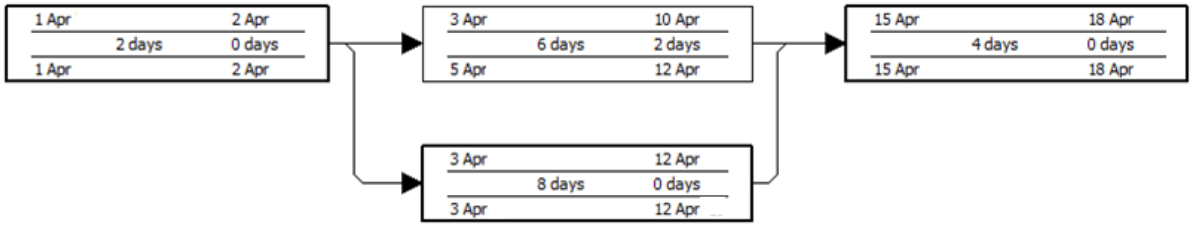
Forward Pass EF = ES + DUR – 1



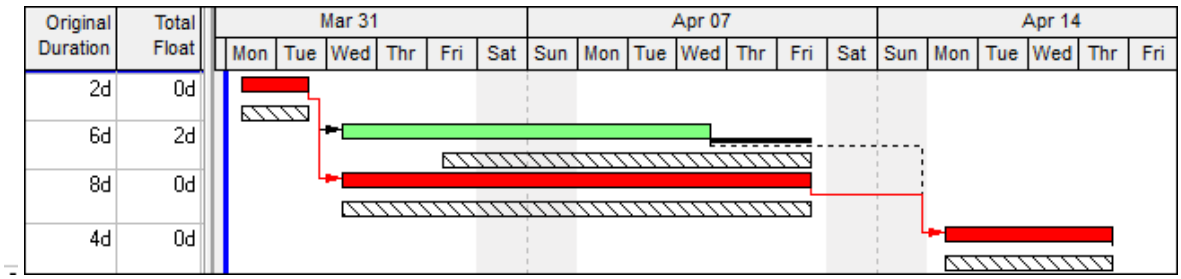
Backward Pass LS = LF – DUR + 1



Float Calculation TF = LS – ES



The Early Bar is the upper bar, the Late Bar the lower bar and the end of the Total Float bar, which is the thin bar, ends at the Late Finish date.



11.7 Workshop 9 – Constraints

Background

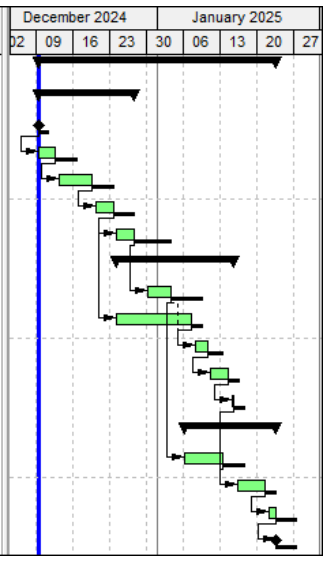
Management has provided further input to your schedule as the client has said that they require the submission on or before 27 January 2025.

Assignment

1. Go to the **Activities Window** and observe the calculated finish date and the critical path of the project before applying any constraints.
2. Bars – Display the **Float Bar** (**Total Float Bar)** and **Neg Float Bar (Negative Float Bar)**.
3. Columns – display the columns as per the picture below.
4. The client has said that they require the submission on 27 January 2025. Apply a **Finish On or Before** constraint and assign a constraint date of 27 January 2025 16:00 to the **Bid Document Submitted** activity from the **Status** tab.

   NOTE: The author has in the past found that constraint times have not always matched the activity calendar start times (e.g., 08:00) and finish times (e.g., 16:00) and have been set to 00:00. Therefore ensure the **User Preferences** form, **Dates** tab is set to display the time.
5. Schedule the project. There should be no change in the Total Float as a **Finish On or Before** constraint will not develop Positive Float.
6. Remove the **Finish On or Before** constraint from the **Bid Document Submitted** activity.
7. Now move to the **Project Window**, **Dates** tab and assign a **Project Must Finish By** constraint of 27 January 2025 16:00. Return to the **Activities Window** and reschedule.
8. All activities now have their Total Float calculated to a **Project Must Finish By** constraint date, all have positive Total Float and the Critical Path has disappeared, which is not useful.

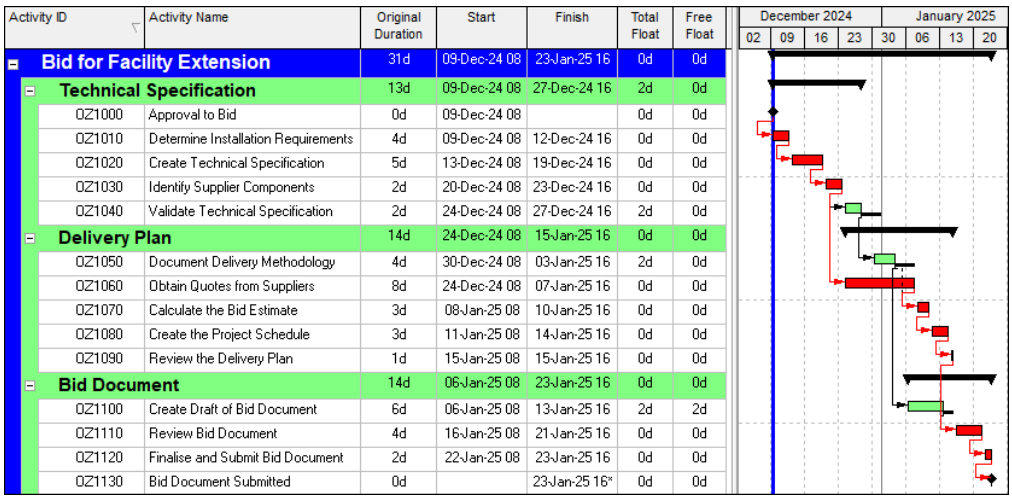
Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	Free Float
Bid for Facility Extension		31d	09-Dec-24 08	23-Jan-25 16	2d	0d
Technical Specification		13d	09-Dec-24 08	27-Dec-24 16	4d	0d
OZ1000	Approval to Bid	0d	09-Dec-24 08		2d	0d
OZ1010	Determine Installation Requirements	4d	09-Dec-24 08	12-Dec-24 16	2d	0d
OZ1020	Create Technical Specification	5d	13-Dec-24 08	19-Dec-24 16	2d	0d
OZ1030	Identify Supplier Components	2d	20-Dec-24 08	23-Dec-24 16	2d	0d
OZ1040	Validate Technical Specification	2d	24-Dec-24 08	27-Dec-24 16	4d	0d
Delivery Plan		14d	24-Dec-24 08	15-Jan-25 16	2d	0d
OZ1050	Document Delivery Methodology	4d	30-Dec-24 08	03-Jan-25 16	4d	0d
OZ1060	Obtain Quotes from Suppliers	8d	24-Dec-24 08	07-Jan-25 16	2d	0d
OZ1070	Calculate the Bid Estimate	3d	08-Jan-25 08	10-Jan-25 16	2d	0d
OZ1080	Create the Project Schedule	3d	11-Jan-25 08	14-Jan-25 16	2d	0d
OZ1090	Review the Delivery Plan	1d	15-Jan-25 08	15-Jan-25 16	2d	0d
Bid Document		14d	06-Jan-25 08	23-Jan-25 16	2d	0d
OZ1100	Create Draft of Bid Document	6d	06-Jan-25 08	13-Jan-25 16	4d	2d
OZ1110	Review Bid Document	4d	16-Jan-25 08	21-Jan-25 16	2d	0d
OZ1120	Finalise and Submit Bid Document	2d	22-Jan-25 08	23-Jan-25 16	2d	0d
OZ1130	Bid Document Submitted	0d		23-Jan-25 16	2d	0d



9. Remove **Project Must Finish By** constraint of 27 January 2025 16:00 (by highlighting the date and pressing the **Delete** key and tab out of the cell to ensure the date has been deleted.

10. Schedule the project and the Critical Path should return.

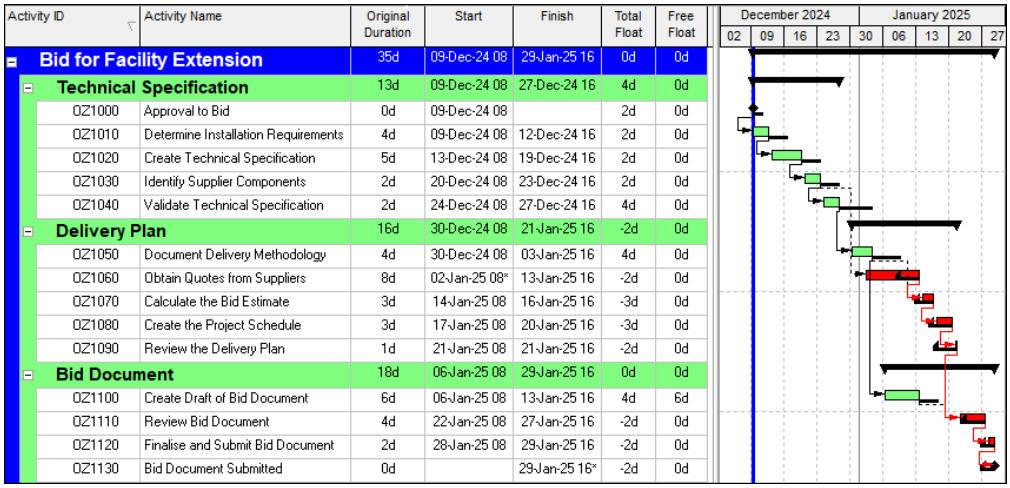
11. Apply a **Finish On or Before** constraint and assign a constraint date of 27 January 2025 16:00 to the **Bid Document Submitted** activity and schedule, the Critical Path will remain.



Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	Free Float
Bid for Facility Extension		31d	09-Dec-24 08	23-Jan-25 16	0d	0d
Technical Specification		13d	09-Dec-24 08	27-Dec-24 16	2d	0d
OZ1000	Approval to Bid	0d	09-Dec-24 08		0d	0d
OZ1010	Determine Installation Requirements	4d	09-Dec-24 08	12-Dec-24 16	0d	0d
OZ1020	Create Technical Specification	5d	13-Dec-24 08	19-Dec-24 16	0d	0d
OZ1030	Identify Supplier Components	2d	20-Dec-24 08	23-Dec-24 16	0d	0d
OZ1040	Validate Technical Specification	2d	24-Dec-24 08	27-Dec-24 16	2d	0d
Delivery Plan		14d	24-Dec-24 08	15-Jan-25 16	0d	0d
OZ1050	Document Delivery Methodology	4d	30-Dec-24 08	03-Jan-25 16	2d	0d
OZ1060	Obtain Quotes from Suppliers	8d	24-Dec-24 08	07-Jan-25 16	0d	0d
OZ1070	Calculate the Bid Estimate	3d	08-Jan-25 08	10-Jan-25 16	0d	0d
OZ1080	Create the Project Schedule	3d	11-Jan-25 08	14-Jan-25 16	0d	0d
OZ1090	Review the Delivery Plan	1d	15-Jan-25 08	15-Jan-25 16	0d	0d
Bid Document		14d	06-Jan-25 08	23-Jan-25 16	0d	0d
OZ1100	Create Draft of Bid Document	6d	06-Jan-25 08	13-Jan-25 16	2d	2d
OZ1110	Review Bid Document	4d	16-Jan-25 08	21-Jan-25 16	0d	0d
OZ1120	Finalise and Submit Bid Document	2d	22-Jan-25 08	23-Jan-25 16	0d	0d
OZ1130	Bid Document Submitted	0d		23-Jan-25 16*	0d	0d

12. Due to the proximity to Christmas, management has requested that you delay the **Obtain Quotes from Suppliers** until first thing in the New Year (02 January 2025). Consensus is that a better response and sharper prices will be obtained after the Christmas rush.

- To achieve this, set a **Start On or After** constraint date of 02 January 2025 08:00 on the **Obtain Quotes from Suppliers** activity.
- Now reschedule. Observe the impact on the critical path and end dates.



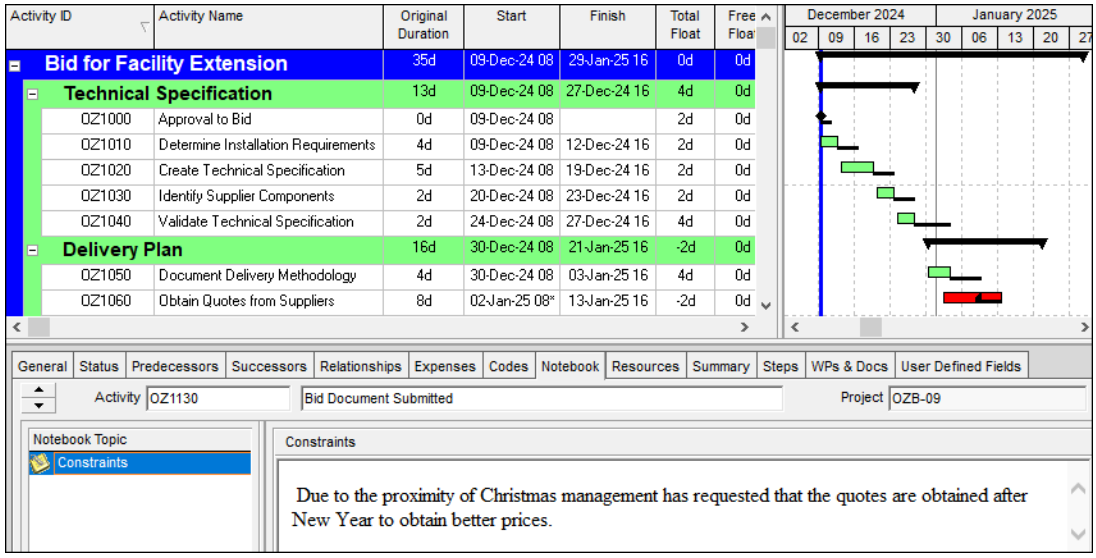
Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	Free Float
Bid for Facility Extension		35d	09-Dec-24 08	29-Jan-25 16	0d	0d
Technical Specification		13d	09-Dec-24 08	27-Dec-24 16	4d	0d
OZ1000	Approval to Bid	0d	09-Dec-24 08		2d	0d
OZ1010	Determine Installation Requirements	4d	09-Dec-24 08	12-Dec-24 16	2d	0d
OZ1020	Create Technical Specification	5d	13-Dec-24 08	19-Dec-24 16	2d	0d
OZ1030	Identify Supplier Components	2d	20-Dec-24 08	23-Dec-24 16	2d	0d
OZ1040	Validate Technical Specification	2d	24-Dec-24 08	27-Dec-24 16	4d	0d
Delivery Plan		16d	30-Dec-24 08	21-Jan-25 16	-2d	0d
OZ1050	Document Delivery Methodology	4d	30-Dec-24 08	03-Jan-25 16	4d	0d
OZ1060	Obtain Quotes from Suppliers	8d	02-Jan-25 08*	13-Jan-25 16	-2d	0d
OZ1070	Calculate the Bid Estimate	3d	14-Jan-25 08	16-Jan-25 16	-3d	0d
OZ1080	Create the Project Schedule	3d	17-Jan-25 08	20-Jan-25 16	-3d	0d
OZ1090	Review the Delivery Plan	1d	21-Jan-25 08	21-Jan-25 16	-2d	0d
Bid Document		18d	06-Jan-25 08	29-Jan-25 16	0d	0d
OZ1100	Create Draft of Bid Document	6d	06-Jan-25 08	13-Jan-25 16	4d	6d
OZ1110	Review Bid Document	4d	22-Jan-25 08	27-Jan-25 16	-2d	0d
OZ1120	Finalise and Submit Bid Document	2d	28-Jan-25 08	29-Jan-25 16	-2d	0d
OZ1130	Bid Document Submitted	0d		29-Jan-25 16*	-2d	0d

13. The Finish Constraint on the **Bid Document Submitted** activity has created some negative float, which is displayed in the **Total Float** column and the **Negative Float** bar.

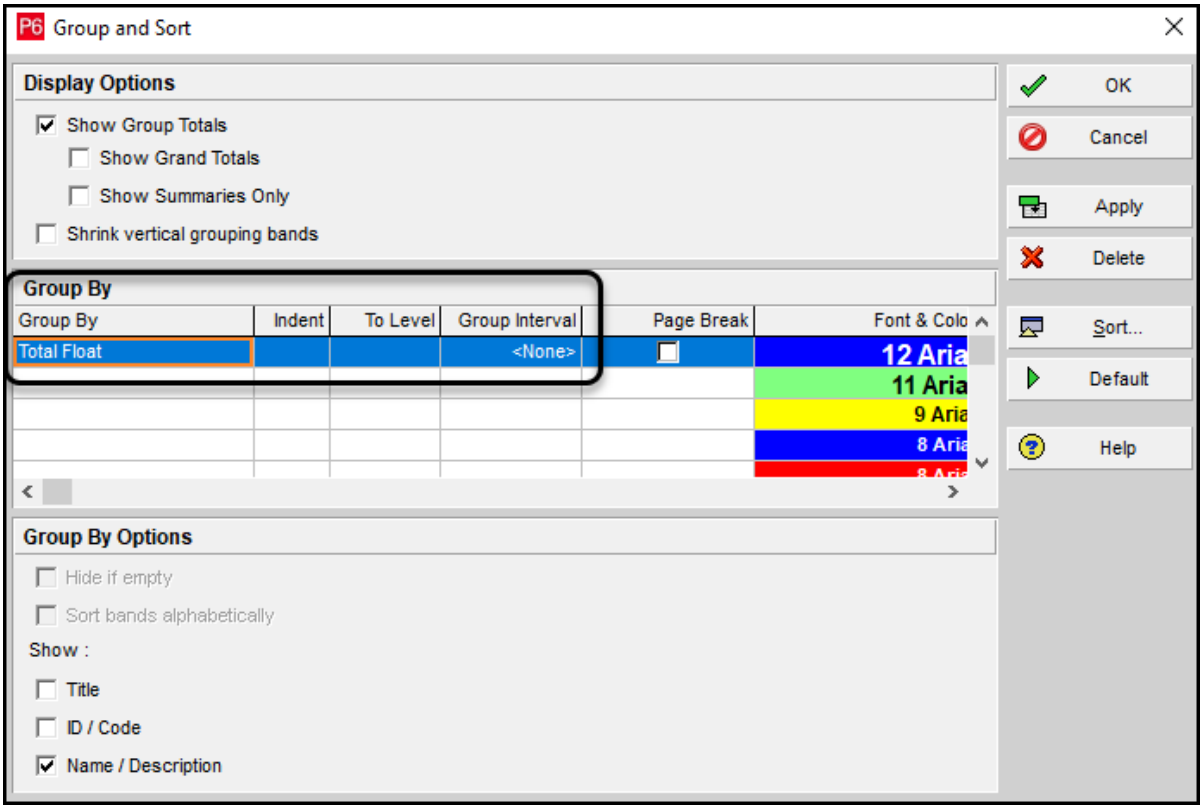
14. Notice that activities with constraints have an "*" by their dates.

15. Activity OZ1070 and OZ1080 have 3 days Negative Float because they are on a 6 day/week calendar, but the other Critical activities have 2 days Negative Float because they are on a 5 day/week calendar.

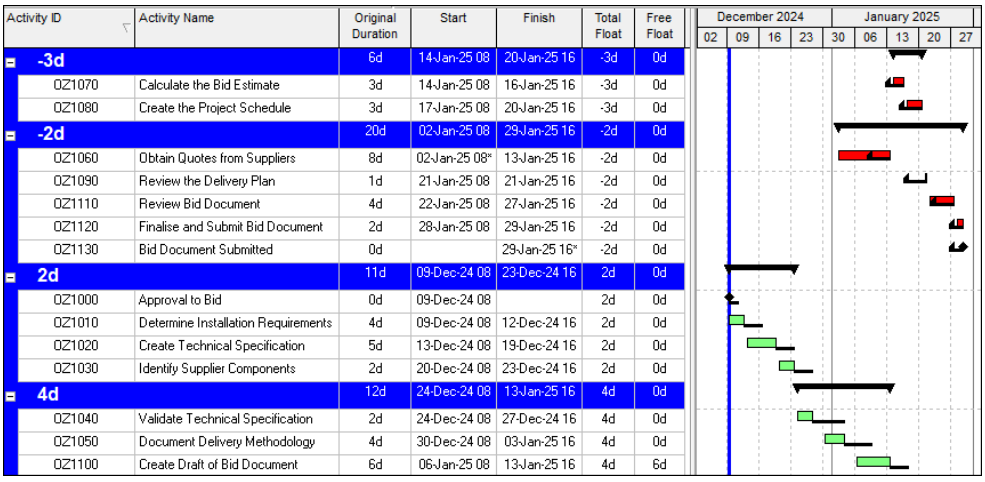
16. Display the Notebook tab in the **Activities Window**.
17. Add a **Notebook Topic** against the **Obtain Quotes from Supplier** activity indicating why there is a constraint on 02 January 2025.



18. Open the **Group and Sort** form by clicking on the  icon and group by **Total Float** and close the form.

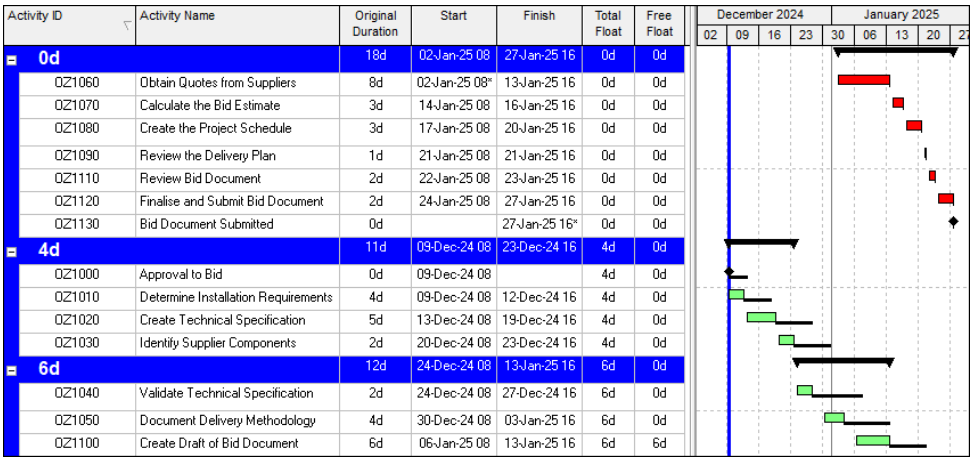


19. Sort on duration (by clicking in the **Original Duration** column) to bring the longest activity to the top. It is normally the longest activity that may be shortened.



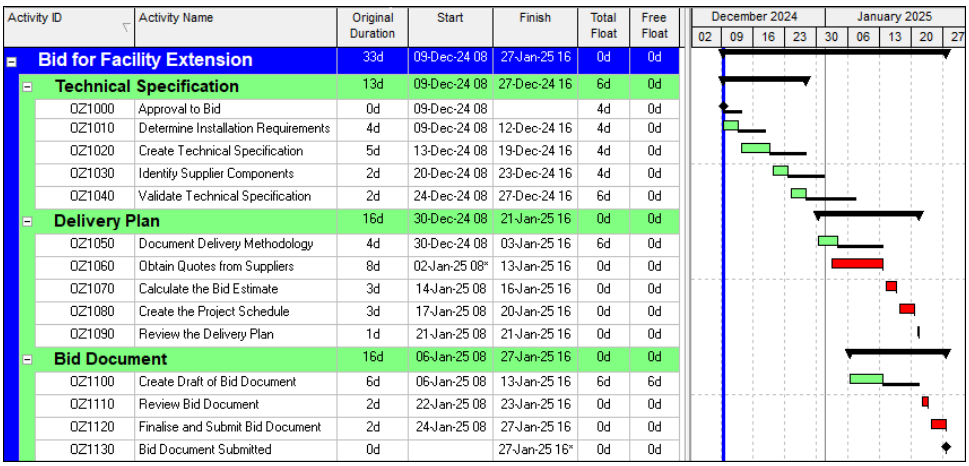
Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	Free Float
-3d		6d	14-Jan-25 08	20-Jan-25 16	-3d	0d
OZ1070	Calculate the Bid Estimate	3d	14-Jan-25 08	16-Jan-25 16	-3d	0d
OZ1080	Create the Project Schedule	3d	17-Jan-25 08	20-Jan-25 16	-3d	0d
-2d		20d	02-Jan-25 08	29-Jan-25 16	-2d	0d
OZ1060	Obtain Quotes from Suppliers	8d	02-Jan-25 08*	13-Jan-25 16	-2d	0d
OZ1090	Review the Delivery Plan	1d	21-Jan-25 08	21-Jan-25 16	-2d	0d
OZ1110	Review Bid Document	4d	22-Jan-25 08	27-Jan-25 16	-2d	0d
OZ1120	Finalise and Submit Bid Document	2d	28-Jan-25 08	29-Jan-25 16	-2d	0d
OZ1130	Bid Document Submitted	0d		29-Jan-25 16*	-2d	0d
2d		11d	09-Dec-24 08	23-Dec-24 16	2d	0d
OZ1000	Approval to Bid	0d	09-Dec-24 08		2d	0d
OZ1010	Determine Installation Requirements	4d	09-Dec-24 08	12-Dec-24 16	2d	0d
OZ1020	Create Technical Specification	5d	13-Dec-24 08	19-Dec-24 16	2d	0d
OZ1030	Identify Supplier Components	2d	20-Dec-24 08	23-Dec-24 16	2d	0d
4d		12d	24-Dec-24 08	13-Jan-25 16	4d	0d
OZ1040	Validate Technical Specification	2d	24-Dec-24 08	27-Dec-24 16	4d	0d
OZ1050	Document Delivery Methodology	4d	30-Dec-24 08	03-Jan-25 16	4d	0d
OZ1100	Create Draft of Bid Document	6d	06-Jan-25 08	13-Jan-25 16	4d	6d

20. After review, it is agreed that 2 days may be deducted from **Review Bid Document** activity. Change the duration of this activity to 2 days, reschedule:



Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	Free Float
0d		18d	02-Jan-25 08	27-Jan-25 16	0d	0d
OZ1060	Obtain Quotes from Suppliers	8d	02-Jan-25 08*	13-Jan-25 16	0d	0d
OZ1070	Calculate the Bid Estimate	3d	14-Jan-25 08	16-Jan-25 16	0d	0d
OZ1080	Create the Project Schedule	3d	17-Jan-25 08	20-Jan-25 16	0d	0d
OZ1090	Review the Delivery Plan	1d	21-Jan-25 08	21-Jan-25 16	0d	0d
OZ1110	Review Bid Document	2d	22-Jan-25 08	23-Jan-25 16	0d	0d
OZ1120	Finalise and Submit Bid Document	2d	24-Jan-25 08	27-Jan-25 16	0d	0d
OZ1130	Bid Document Submitted	0d		27-Jan-25 16*	0d	0d
4d		11d	09-Dec-24 08	23-Dec-24 16	4d	0d
OZ1000	Approval to Bid	0d	09-Dec-24 08		4d	0d
OZ1010	Determine Installation Requirements	4d	09-Dec-24 08	12-Dec-24 16	4d	0d
OZ1020	Create Technical Specification	5d	13-Dec-24 08	19-Dec-24 16	4d	0d
OZ1030	Identify Supplier Components	2d	20-Dec-24 08	23-Dec-24 16	4d	0d
6d		12d	24-Dec-24 08	13-Jan-25 16	6d	0d
OZ1040	Validate Technical Specification	2d	24-Dec-24 08	27-Dec-24 16	6d	0d
OZ1050	Document Delivery Methodology	4d	30-Dec-24 08	03-Jan-25 16	6d	0d
OZ1100	Create Draft of Bid Document	6d	06-Jan-25 08	13-Jan-25 16	6d	6d

21. Now organize by WBS and sort by Activity ID:



Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	Free Float
Bid for Facility Extension		33d	09-Dec-24 08	27-Jan-25 16	0d	0d
Technical Specification		13d	09-Dec-24 08	27-Dec-24 16	6d	0d
OZ1000	Approval to Bid	0d	09-Dec-24 08		4d	0d
OZ1010	Determine Installation Requirements	4d	09-Dec-24 08	12-Dec-24 16	4d	0d
OZ1020	Create Technical Specification	5d	13-Dec-24 08	19-Dec-24 16	4d	0d
OZ1030	Identify Supplier Components	2d	20-Dec-24 08	23-Dec-24 16	4d	0d
OZ1040	Validate Technical Specification	2d	24-Dec-24 08	27-Dec-24 16	6d	0d
Delivery Plan		16d	30-Dec-24 08	21-Jan-25 16	0d	0d
OZ1050	Document Delivery Methodology	4d	30-Dec-24 08	03-Jan-25 16	6d	0d
OZ1060	Obtain Quotes from Suppliers	8d	02-Jan-25 08*	13-Jan-25 16	0d	0d
OZ1070	Calculate the Bid Estimate	3d	14-Jan-25 08	16-Jan-25 16	0d	0d
OZ1080	Create the Project Schedule	3d	17-Jan-25 08	20-Jan-25 16	0d	0d
OZ1090	Review the Delivery Plan	1d	21-Jan-25 08	21-Jan-25 16	0d	0d
Bid Document		16d	06-Jan-25 08	27-Jan-25 16	0d	0d
OZ1100	Create Draft of Bid Document	6d	06-Jan-25 08	13-Jan-25 16	6d	6d
OZ1110	Review Bid Document	2d	22-Jan-25 08	23-Jan-25 16	0d	0d
OZ1120	Finalise and Submit Bid Document	2d	24-Jan-25 08	27-Jan-25 16	0d	0d
OZ1130	Bid Document Submitted	0d		27-Jan-25 16*	0d	0d

22. This is the end of the Workshop.

12.4 Workshop 10 – Organizing Your Data

Background

Having completed the schedule, you may report the information with different Layouts.

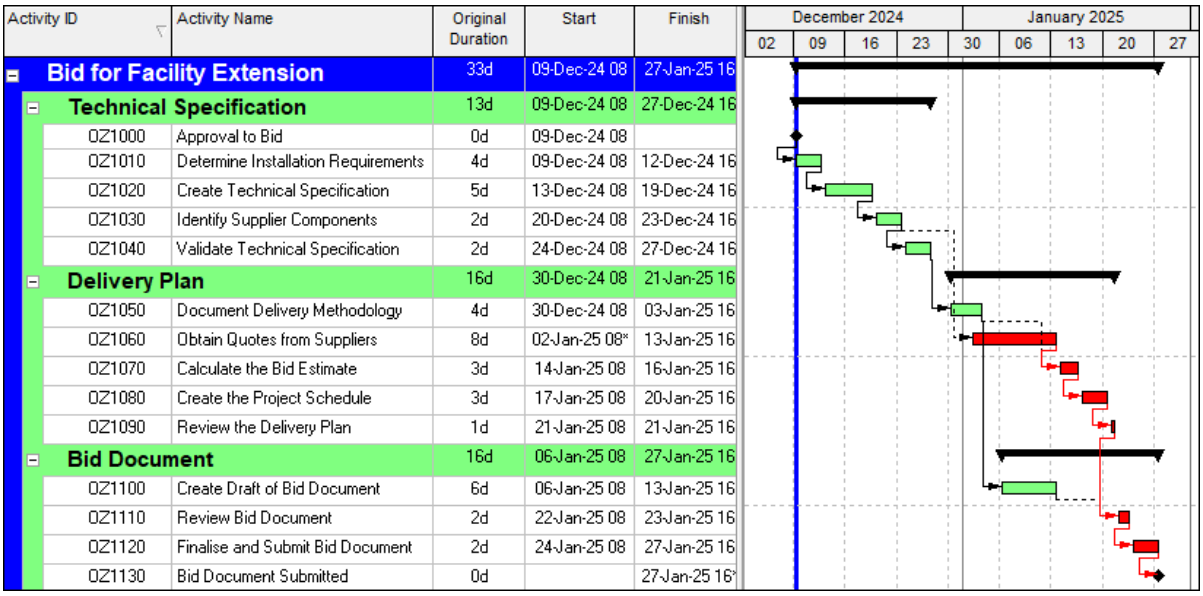
Assignment

Display your project in the following formats, noting the different ways you may represent the same data.

1. Hide and display the relationships, use the  icon.
2. Display the **Activity Network**, use the  icon.
3. Select **Zoom in**, **Zoom out** and **Best fit** using the  icons.
4. Scroll up and down or click the **WBS** Nodes on the left side of the screen. You will notice that only the Activities associated with the highlighted WBS are displayed.
5. Ctrl-click and select two WBS Nodes and you will see the relationships between the activities in each WBS Node.
6. Display the **Activity Table** by clicking on the  icon.
7. Now display the Gantt Chart by clicking on the  icon
8. Hide and display the **Bottom** pane by clicking on the  and  icons; you may need to add these icons to your toolbar.
9. With the bottom pane displayed click the  icon to show the **Trace Logic** form.
10. Right-click in the **Trace Logic** form, select **Trace Logic Options…** and change the number of Predecessor and Successor Levels displaying 1, 2 and 3 levels and note the change in the layout.
11. Click on the predecessors and successors in each option and observe the changes.
12. Click on different activities in the upper pane and see the effect on the **Trace Logic** form.
13. Click on the  icon to display the **Activity Details** form.

continued….

14. Create a new layout titled **OzBuild Workshop 10 – Without Float**, making it a **User Layout**, displaying the columns and formatting the bars per the following picture; the Total Float and Negative Float bars are not displayed:

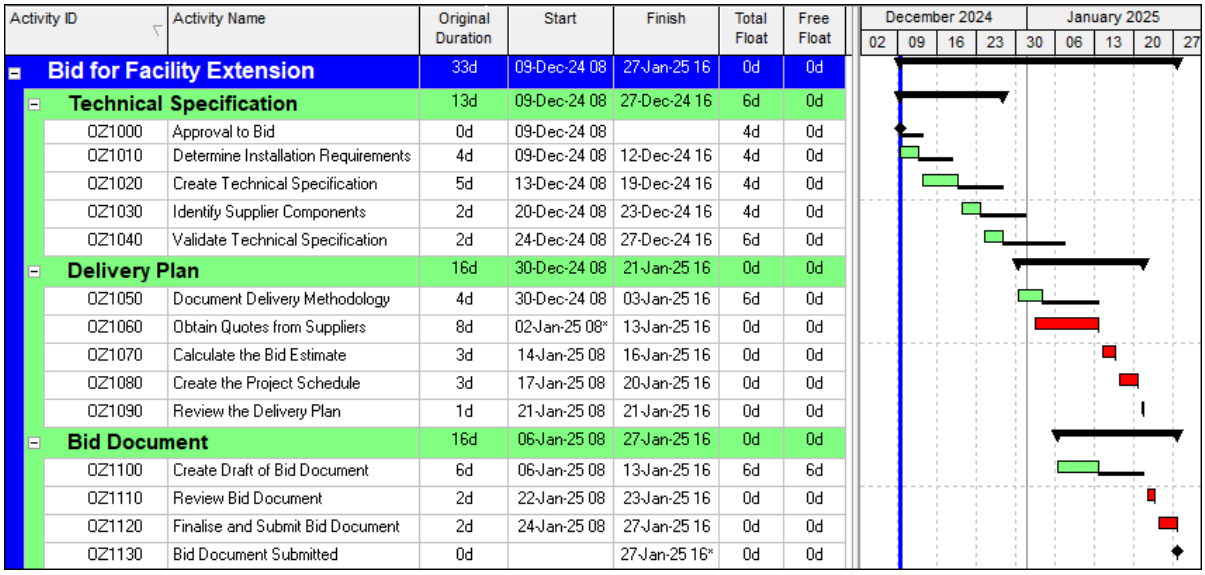


Activity ID	Activity Name	Original Duration	Start	Finish
Bid for Facility Extension		33d	09-Dec-24 08	27-Jan-25 16
Technical Specification		13d	09-Dec-24 08	27-Dec-24 16
OZ1000	Approval to Bid	0d	09-Dec-24 08	
OZ1010	Determine Installation Requirements	4d	09-Dec-24 08	12-Dec-24 16
OZ1020	Create Technical Specification	5d	13-Dec-24 08	19-Dec-24 16
OZ1030	Identify Supplier Components	2d	20-Dec-24 08	23-Dec-24 16
OZ1040	Validate Technical Specification	2d	24-Dec-24 08	27-Dec-24 16
Delivery Plan		16d	30-Dec-24 08	21-Jan-25 16
OZ1050	Document Delivery Methodology	4d	30-Dec-24 08	03-Jan-25 16
OZ1060	Obtain Quotes from Suppliers	8d	02-Jan-25 08*	13-Jan-25 16
OZ1070	Calculate the Bid Estimate	3d	14-Jan-25 08	16-Jan-25 16
OZ1080	Create the Project Schedule	3d	17-Jan-25 08	20-Jan-25 16
OZ1090	Review the Delivery Plan	1d	21-Jan-25 08	21-Jan-25 16
Bid Document		16d	06-Jan-25 08	27-Jan-25 16
OZ1100	Create Draft of Bid Document	6d	06-Jan-25 08	13-Jan-25 16
OZ1110	Review Bid Document	2d	22-Jan-25 08	23-Jan-25 16
OZ1120	Finalise and Submit Bid Document	2d	24-Jan-25 08	27-Jan-25 16
OZ1130	Bid Document Submitted	0d		27-Jan-25 16*

15. Save this layout.

16. Make a copy of it titled **OzBuild Workshop 10 – With Float**, making it a User Layout, displaying the columns and formatting the bars per the following picture; this is displaying the **Total Float** and **Negative Float** bars:

17. Save this layout.



Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	Free Float
Bid for Facility Extension		33d	09-Dec-24 08	27-Jan-25 16	0d	0d
Technical Specification		13d	09-Dec-24 08	27-Dec-24 16	6d	0d
OZ1000	Approval to Bid	0d	09-Dec-24 08		4d	0d
OZ1010	Determine Installation Requirements	4d	09-Dec-24 08	12-Dec-24 16	4d	0d
OZ1020	Create Technical Specification	5d	13-Dec-24 08	19-Dec-24 16	4d	0d
OZ1030	Identify Supplier Components	2d	20-Dec-24 08	23-Dec-24 16	4d	0d
OZ1040	Validate Technical Specification	2d	24-Dec-24 08	27-Dec-24 16	6d	0d
Delivery Plan		16d	30-Dec-24 08	21-Jan-25 16	0d	0d
OZ1050	Document Delivery Methodology	4d	30-Dec-24 08	03-Jan-25 16	6d	0d
OZ1060	Obtain Quotes from Suppliers	8d	02-Jan-25 08*	13-Jan-25 16	0d	0d
OZ1070	Calculate the Bid Estimate	3d	14-Jan-25 08	16-Jan-25 16	0d	0d
OZ1080	Create the Project Schedule	3d	17-Jan-25 08	20-Jan-25 16	0d	0d
OZ1090	Review the Delivery Plan	1d	21-Jan-25 08	21-Jan-25 16	0d	0d
Bid Document		16d	06-Jan-25 08	27-Jan-25 16	0d	0d
OZ1100	Create Draft of Bid Document	6d	06-Jan-25 08	13-Jan-25 16	6d	6d
OZ1110	Review Bid Document	2d	22-Jan-25 08	23-Jan-25 16	0d	0d
OZ1120	Finalise and Submit Bid Document	2d	24-Jan-25 08	27-Jan-25 16	0d	0d
OZ1130	Bid Document Submitted	0d		27-Jan-25 16*	0d	0d

13.5 Workshop 11 – Filters

Background

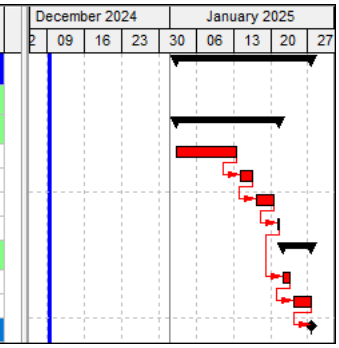
Management has asked for reports on activities to suit their requirements.

Assignment

Ensure your **OzBuild Bid** project is open.

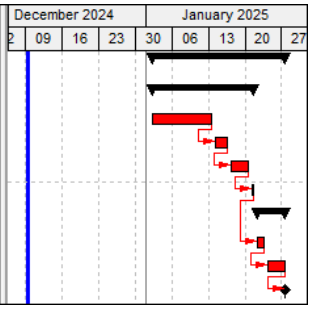
1. Apply the **OzBuild Workshop 10 – With Float** layout.
2. They would like to see all the critical activities.
   - Ensure a column showing the **Total Float** is displayed, and
   - Apply the **Critical** activities filter.
3. You will see only activities that are on the critical path.

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	Free Float
Bid for Facility Extension		18d	02-Jan-25 08	27-Jan-25 16	0d	0d
Technical Specification		0d			0d	0d
Delivery Plan		14d	02-Jan-25 08	21-Jan-25 16	0d	0d
OZ1060	Obtain Quotes from Suppliers	8d	02-Jan-25 08*	13-Jan-25 16	0d	0d
OZ1070	Calculate the Bid Estimate	3d	14-Jan-25 08	16-Jan-25 16	0d	0d
OZ1080	Create the Project Schedule	3d	17-Jan-25 08	20-Jan-25 16	0d	0d
OZ1090	Review the Delivery Plan	1d	21-Jan-25 08	21-Jan-25 16	0d	0d
Bid Document		4d	22-Jan-25 08	27-Jan-25 16	0d	0d
OZ1110	Review Bid Document	2d	22-Jan-25 08	23-Jan-25 16	0d	0d
OZ1120	Finalise and Submit Bid Document	2d	24-Jan-25 08	27-Jan-25 16	0d	0d
OZ1130	Bid Document Submitted	0d		27-Jan-25 16*	0d	0d

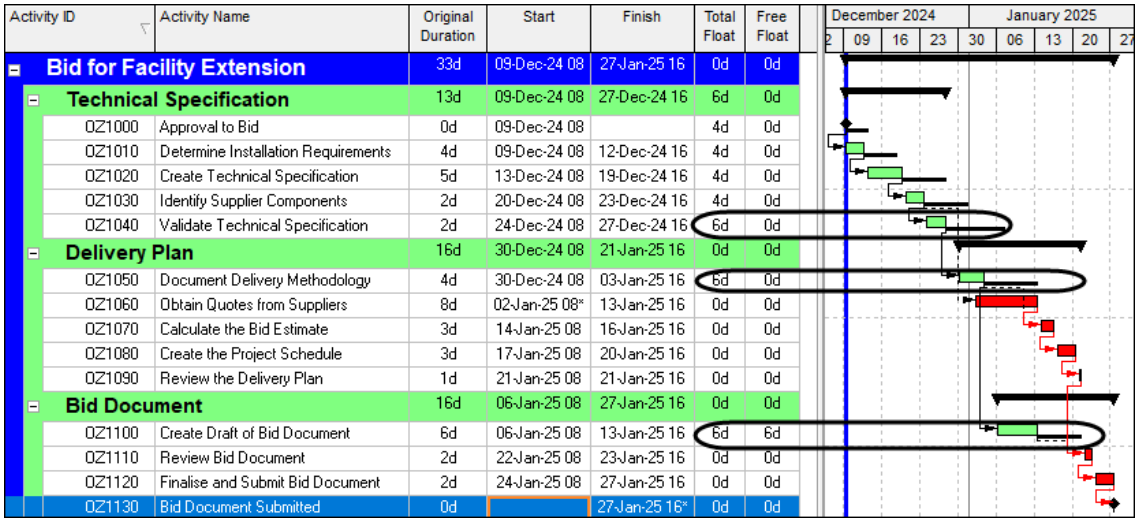


4. Open the **Group and Sort** form and check the **Hide if empty** box and notice the **Technical Specification** band is hidden because it has no activities displayed.

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	Free Float
Bid for Facility Extension		18d	02-Jan-25 08	27-Jan-25 16	0d	0d
Delivery Plan		14d	02-Jan-25 08	21-Jan-25 16	0d	0d
OZ1060	Obtain Quotes from Suppliers	8d	02-Jan-25 08*	13-Jan-25 16	0d	0d
OZ1070	Calculate the Bid Estimate	3d	14-Jan-25 08	16-Jan-25 16	0d	0d
OZ1080	Create the Project Schedule	3d	17-Jan-25 08	20-Jan-25 16	0d	0d
OZ1090	Review the Delivery Plan	1d	21-Jan-25 08	21-Jan-25 16	0d	0d
Bid Document		4d	22-Jan-25 08	27-Jan-25 16	0d	0d
OZ1110	Review Bid Document	2d	22-Jan-25 08	23-Jan-25 16	0d	0d
OZ1120	Finalise and Submit Bid Document	2d	24-Jan-25 08	27-Jan-25 16	0d	0d
OZ1130	Bid Document Submitted	0d		27-Jan-25 16*	0d	0d



5. Now apply some other filters such as the **Milestone**, **Has Start Constraint** and **Has Finish Constraint**.
6. There are two activities with 6 days Total Float, OZ1040, OZ1050 and OZ1100, see the picture below:



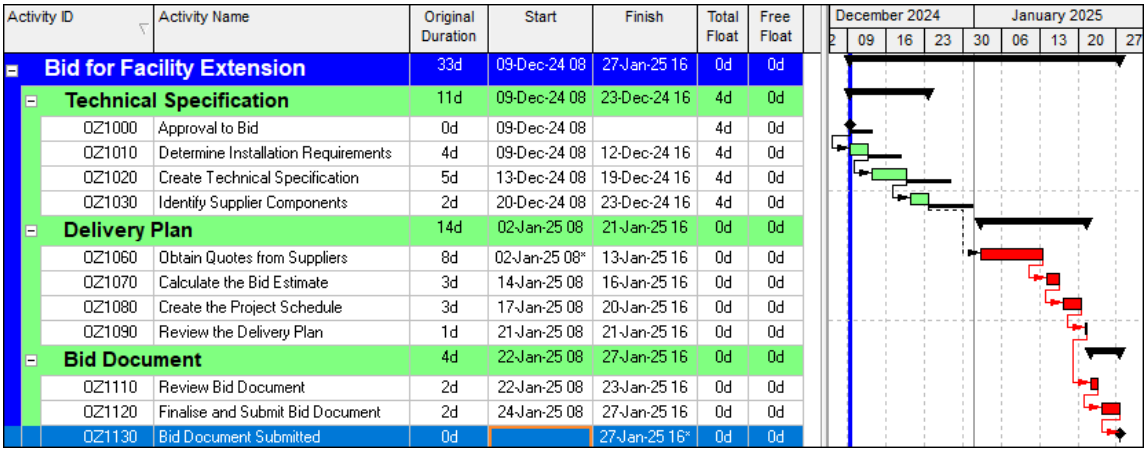
Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	Free Float
Bid for Facility Extension		33d	09-Dec-24 08	27-Jan-25 16	0d	0d
Technical Specification		13d	09-Dec-24 08	27-Dec-24 16	6d	0d
OZ1000	Approval to Bid	0d	09-Dec-24 08		4d	0d
OZ1010	Determine Installation Requirements	4d	09-Dec-24 08	12-Dec-24 16	4d	0d
OZ1020	Create Technical Specification	5d	13-Dec-24 08	19-Dec-24 16	4d	0d
OZ1030	Identify Supplier Components	2d	20-Dec-24 08	23-Dec-24 16	4d	0d
OZ1040	Validate Technical Specification	2d	24-Dec-24 08	27-Dec-24 16	6d	0d
Delivery Plan		16d	30-Dec-24 08	21-Jan-25 16	0d	0d
OZ1050	Document Delivery Methodology	4d	30-Dec-24 08	03-Jan-25 16	6d	0d
OZ1060	Obtain Quotes from Suppliers	8d	02-Jan-25 08*	13-Jan-25 16	0d	0d
OZ1070	Calculate the Bid Estimate	3d	14-Jan-25 08	16-Jan-25 16	0d	0d
OZ1080	Create the Project Schedule	3d	17-Jan-25 08	20-Jan-25 16	0d	0d
OZ1090	Review the Delivery Plan	1d	21-Jan-25 08	21-Jan-25 16	0d	0d
Bid Document		16d	06-Jan-25 08	27-Jan-25 16	0d	0d
OZ1100	Create Draft of Bid Document	6d	06-Jan-25 08	13-Jan-25 16	6d	6d
OZ1110	Review Bid Document	2d	22-Jan-25 08	23-Jan-25 16	0d	0d
OZ1120	Finalise and Submit Bid Document	2d	24-Jan-25 08	27-Jan-25 16	0d	0d
OZ1130	Bid Document Submitted	0d		27-Jan-25 16*	0d	0d

7. Management would like to see all the activities with float less than or equal to 5 days:
   - Create a new filter titled: **Total Float Less Than or Equal to 5 Days**, and
   - Add the condition to display a total float of less than 5 days.

Display: Filter

Display all rows	Parameter	Is	Value	High Value
	(All of the following)			
Where	Total Float	is less than	5d	

   - Close the **Filter** form,
   - Click on the **All Activities** check box to ensure all activities are displayed,
   - Apply the new filter **Total Float Less Than or Equal to 5 Days**,
   - You should find that three activities with more than 6 days float are hidden:



Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	Free Float
Bid for Facility Extension		33d	09-Dec-24 08	27-Jan-25 16	0d	0d
Technical Specification		11d	09-Dec-24 08	23-Dec-24 16	4d	0d
OZ1000	Approval to Bid	0d	09-Dec-24 08		4d	0d
OZ1010	Determine Installation Requirements	4d	09-Dec-24 08	12-Dec-24 16	4d	0d
OZ1020	Create Technical Specification	5d	13-Dec-24 08	19-Dec-24 16	4d	0d
OZ1030	Identify Supplier Components	2d	20-Dec-24 08	23-Dec-24 16	4d	0d
Delivery Plan		14d	02-Jan-25 08	21-Jan-25 16	0d	0d
OZ1060	Obtain Quotes from Suppliers	8d	02-Jan-25 08*	13-Jan-25 16	0d	0d
OZ1070	Calculate the Bid Estimate	3d	14-Jan-25 08	16-Jan-25 16	0d	0d
OZ1080	Create the Project Schedule	3d	17-Jan-25 08	20-Jan-25 16	0d	0d
OZ1090	Review the Delivery Plan	1d	21-Jan-25 08	21-Jan-25 16	0d	0d
Bid Document		4d	22-Jan-25 08	27-Jan-25 16	0d	0d
OZ1110	Review Bid Document	2d	22-Jan-25 08	23-Jan-25 16	0d	0d
OZ1120	Finalise and Submit Bid Document	2d	24-Jan-25 08	27-Jan-25 16	0d	0d
OZ1130	Bid Document Submitted	0d		27-Jan-25 16*	0d	0d

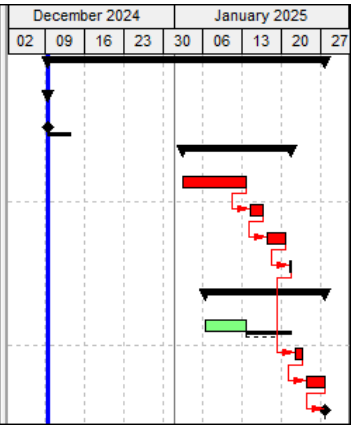
8. They would like to see all the activities that are critical or contain the word “Bid”.
   - Copy the **Critical** filter,
   - Edit the filter title to read: **Critical or Contains “Bid”,**
   - Edit the top line to read **(Any of the following)**,

- Add the condition: **Or** Name (Activity Name) contains **Bid**, and

Filter Name	Critical or Contains "Bid"			
Display: Filter				
Display all rows	Parameter	Is	Value	High Value
	(Any of the following)			
Where	Critical	equals	Yes	
Or	Activity Name	contains	bid	

- **Note:** The text is not case sensitive,
- Apply the filter.

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	Free Float
Bid for Facility Extension		33d	09-Dec-24 08	27-Jan-25 16	0d	0d
Technical Specification		0d	09-Dec-24 08	09-Dec-24 08	4d	0d
OZ1000	Approval to Bid	0d	09-Dec-24 08		4d	0d
Delivery Plan		14d	02-Jan-25 08	21-Jan-25 16	0d	0d
OZ1060	Obtain Quotes from Suppliers	8d	02-Jan-25 08*	13-Jan-25 16	0d	0d
OZ1070	Calculate the Bid Estimate	3d	14-Jan-25 08	16-Jan-25 16	0d	0d
OZ1080	Create the Project Schedule	3d	17-Jan-25 08	20-Jan-25 16	0d	0d
OZ1090	Review the Delivery Plan	1d	21-Jan-25 08	21-Jan-25 16	0d	0d
Bid Document		16d	06-Jan-25 08	27-Jan-25 16	0d	0d
OZ1100	Create Draft of Bid Document	6d	06-Jan-25 08	13-Jan-25 16	6d	6d
OZ1110	Review Bid Document	2d	22-Jan-25 08	23-Jan-25 16	0d	0d
OZ1120	Finalise and Submit Bid Document	2d	24-Jan-25 08	27-Jan-25 16	0d	0d
OZ1130	Bid Document Submitted	0d		27-Jan-25 16*	0d	0d

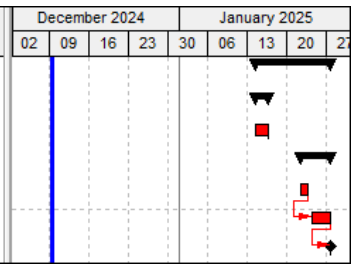


9. All the activities are either Critical or contain the word Bid.
10. Copy the filter and rename it **Critical and Contains "Bid",**

Filter Name	Critical and Contains "Bid"			
Display: Filter				
Display all rows	Parameter	Is	Value	High Value
	(All of the following)			
Where	Critical	equals	Yes	
And	Activity Name	contains	bid	

11. Now change the **(Any of the following)** option to **(All of the following)** apply the filter and see the effect.

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	Free Float
Bid for Facility Extension		10d	14-Jan-25 08	27-Jan-25 16	0d	0d
Delivery Plan		3d	14-Jan-25 08	16-Jan-25 16	0d	0d
OZ1070	Calculate the Bid Estimate	3d	14-Jan-25 08	16-Jan-25 16	0d	0d
Bid Document		4d	22-Jan-25 08	27-Jan-25 16	0d	0d
OZ1110	Review Bid Document	2d	22-Jan-25 08	23-Jan-25 16	0d	0d
OZ1120	Finalise and Submit Bid Document	2d	24-Jan-25 08	27-Jan-25 16	0d	0d
OZ1130	Bid Document Submitted	0d		27-Jan-25 16*	0d	0d



12. There should be fewer activities and it is now displaying activities that meet both conditions of being Critical and contain the word Bid.
13. Now apply the **All Activities** filter to display all the activities.

14.6 Workshop 12 – Printing

Background

We want to issue a report for comment by management.

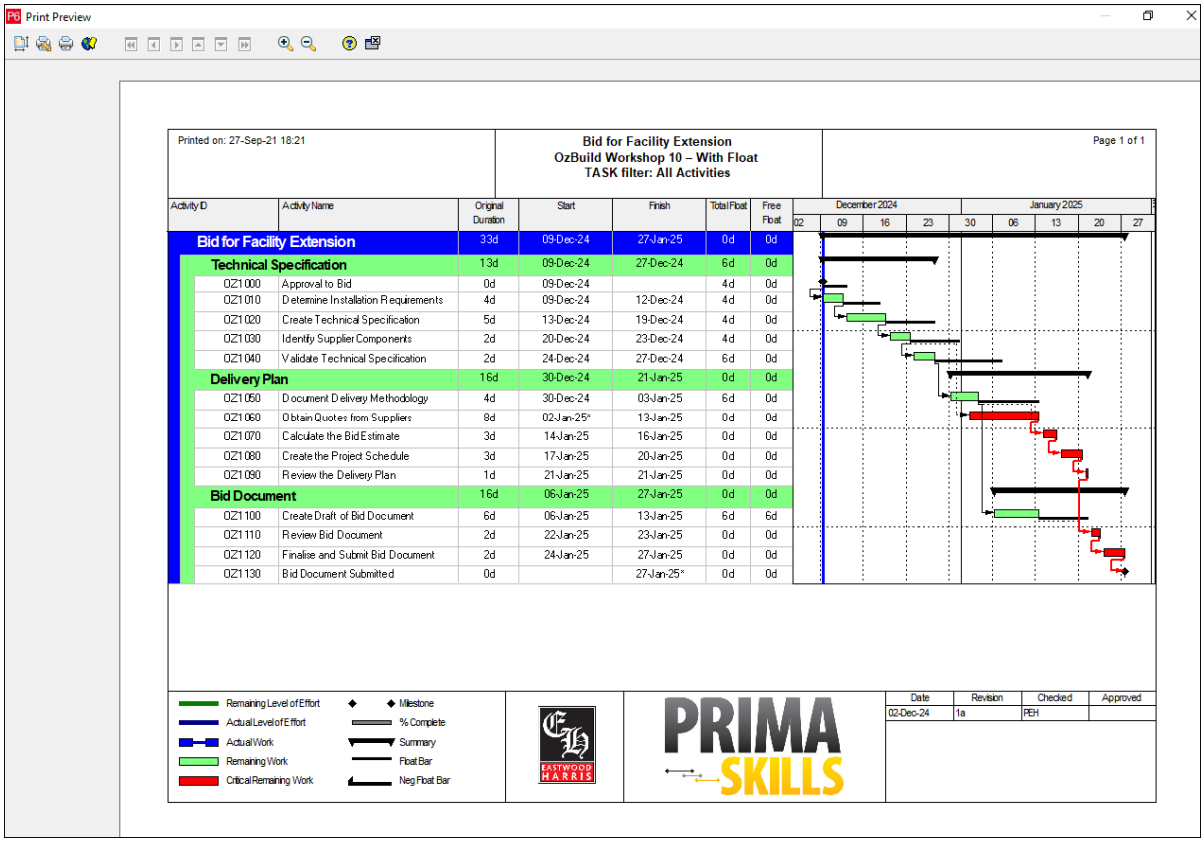
Assignment

Open your **OzBuild Bid** project from the previous workshop and complete the following steps:

1. Remove any filter.
2. Apply the **OzBuild Workshop 10 – With Float** layout.
3. From the **User Preferences**, **Dates** tab select **Do not show time**. It is not normal to display the time when submitting a schedule for review, but it must be displayed when manipulating a schedule.
4. Select **File**, **Print Preview** and click the  icon on the **Print toolbar** to open the **Page Setup** form.
5. In the **Page** tab select:
   - **Orientation** – Landscape
   - **Adjust to** – 100%
   - **Fit to** – 0 page(s) wide by 0 pages tall
   - **Fit timescale to:** – 1 page wide
   - **Paper size:** – A4 or Letter
6. In the **Margins** tab set all the settings to 0.5", except for the **Top:** settings which should be set to 0.75" to allow space for binding.
7. In the **Header** tab:
   - Divide Into: 3 Sections
   - Include on: All Pages, so this will repeat on every page
   - Height: 0.5
   - Section 1, insert as Text/Logo – **Printed on: [date] [time]** – Arial Regular 8 to the left
   - Section 2, insert as Text/Logo – **[project_name]** or **[project_pfolio_name] –** Arial Bold 12 in the middle
   - Section 3, insert as Text/Logo – **Page [page_number] of [total_pages]** – Arial Regular 8, aligned to the right
8. In the **Footer** tab:
   - Divide Into: 4 Sections
   - Include on: First Page, so this will only be printed on the first page
   - Height: 1.25

- Section 1 – Gantt Chart Legend
- Section 2 – Picture – Find a suitable picture to display
- Section 3 – Import a **Stored Image** and display
- Section 4 – Revision Box, edit as you wish
- Adjust widths as required.

9. In the **Options** tab:
   - Set the Timescale Start: from the Project Start minus 5 days and Timescale Finish: to the Project Finish plus 5 days,
   - Show the Activity Table, All Columns, Grid Lines and Gantt Chart.
10. Apply the Layout and click OK,
11. Compare your result with the picture below:



12. From the **User Preferences**, **Dates** tab select **24 hour (13:00)** and do not check **Show minutes**. This will ensure you know the time that activities will start and finish when you assign progress.

15.5 Workshop 13 – WBS, LOEs and Setting the Baseline

Background

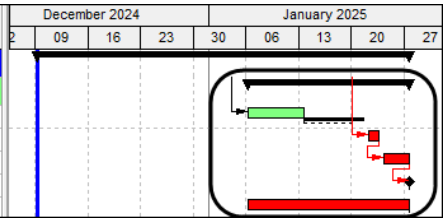
We will first look at how WBS and LOE activities work and then set a Baseline.

Assignment - WBS Activity

Open your **OzBuild Bid** project file and complete the following steps:

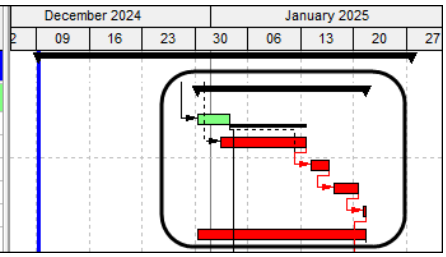
1. Apply the **OzBuild 10 – With Float** layout.
2. From the **User Preferences**, **Dates** tab select **24 hour** and do not check **Show minutes**.
3. Create a new activity under the **Bid Document** WBS Node:
   - Activity ID OZ1140
   - Titled **WBS Activity** and
   - Assign it an Activity Type of **WBS Summary** using the **Activities Window**, **General** tab.
4. Schedule to see how it calculates.

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	Free Float
Bid for Facility Extension		33d	09-Dec-24 08	27-Jan-25 16	0d	0d
Bid Document		16d	06-Jan-25 08	27-Jan-25 16	0d	0d
OZ1100	Create Draft of Bid Document	6d	06-Jan-25 08	13-Jan-25 16	6d	6d
OZ1110	Review Bid Document	2d	22-Jan-25 08	23-Jan-25 16	0d	0d
OZ1120	Finalise and Submit Bid Document	2d	24-Jan-25 08	27-Jan-25 16	0d	0d
OZ1130	Bid Document Submitted	0d		27-Jan-25 16*	0d	0d
OZ1140	WBS Activity	16d	06-Jan-25 08	27-Jan-25 16	0d	0d



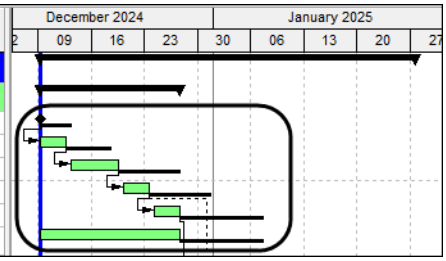
5. Drag the WBS activity to the **Delivery Plan** WBS Node and schedule to see how it operates.

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	Free Float
Bid for Facility Extension		33d	09-Dec-24 08	27-Jan-25 16	0d	0d
Delivery Plan		16d	30-Dec-24 08	21-Jan-25 16	0d	0d
OZ1050	Document Delivery Methodology	4d	30-Dec-24 08	03-Jan-25 16	6d	0d
OZ1060	Obtain Quotes from Suppliers	8d	02-Jan-25 08*	13-Jan-25 16	0d	0d
OZ1070	Calculate the Bid Estimate	3d	14-Jan-25 08	16-Jan-25 16	0d	0d
OZ1080	Create the Project Schedule	3d	17-Jan-25 08	20-Jan-25 16	0d	0d
OZ1090	Review the Delivery Plan	1d	21-Jan-25 08	21-Jan-25 16	0d	0d
OZ1140	WBS Activity	16d	30-Dec-24 08	21-Jan-25 16	0d	4d



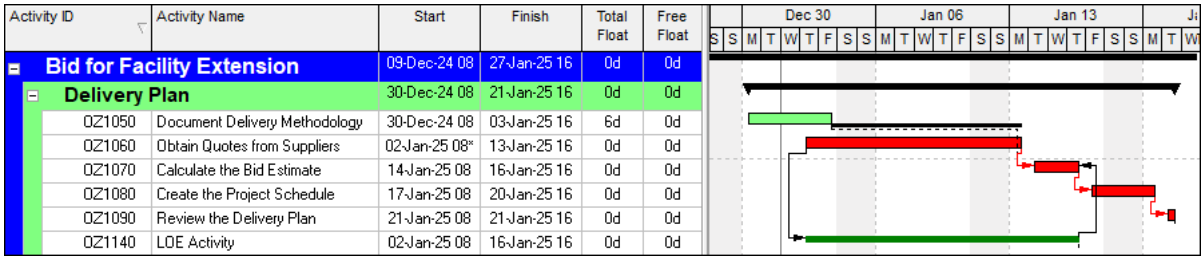
6. Drag the WBS activity to the **Technical Specification** WBS Node and schedule:

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	Free Float
OZB-09 Bid for Facility Extension		33d	09-Dec-24 08	27-Jan-25 16	0d	0d
OZB-09.1 Technical Specification		13d	09-Dec-24 08	27-Dec-24 16	6d	0d
OZ1000	Approval to Bid	0d	09-Dec-24 08		4d	0d
OZ1010	Determine Installation Requirements	4d	09-Dec-24 08	12-Dec-24 16	4d	0d
OZ1020	Create Technical Specification	5d	13-Dec-24 08	19-Dec-24 16	4d	0d
OZ1030	Identify Supplier Components	2d	20-Dec-24 08	23-Dec-24 16	4d	0d
OZ1040	Validate Technical Specification	2d	24-Dec-24 08	27-Dec-24 16	6d	0d
OZ1140	WBS Activity	13d	09-Dec-24 08	27-Dec-24 16	6d	20d



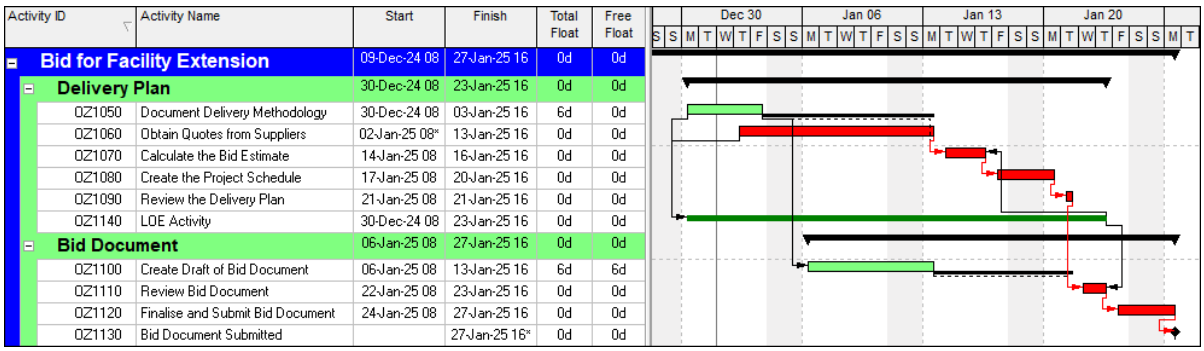
7. Apply the **OzBuild 10 – Without Float** Layout

8. Change the **Activity Type** of the WBS Activity to a **Level of Effort** and rename it to **LOE Activity**,
9. Drag activity OZ1140 to the **Delivery Plan** WBS Node and sort on Activity ID,
10. Open the Bars form and ensure LOE bars are displayed,
11. **Note:** If you reschedule before adding the relationships then the LOE activity bar will disappear because it will be marked as complete on the Data Date and you will need to take of progress from the **Status** tab in the lower pane by unchecking **Finished** and **Started** before you may see it again to add the relationships.
12. Add OZ1060 SS OZ1140 and OZ1140 FF OZ1070 relationships and reschedule to see how it calculates.



Activity ID	Activity Name	Start	Finish	Total Float	Free Float
Bid for Facility Extension		09-Dec-24 08	27-Jan-25 16	0d	0d
Delivery Plan		30-Dec-24 08	21-Jan-25 16	0d	0d
OZ1050	Document Delivery Methodology	30-Dec-24 08	03-Jan-25 16	6d	0d
OZ1060	Obtain Quotes from Suppliers	02-Jan-25 08*	13-Jan-25 16	0d	0d
OZ1070	Calculate the Bid Estimate	14-Jan-25 08	16-Jan-25 16	0d	0d
OZ1080	Create the Project Schedule	17-Jan-25 08	20-Jan-25 16	0d	0d
OZ1090	Review the Delivery Plan	21-Jan-25 08	21-Jan-25 16	0d	0d
OZ1140	LOE Activity	02-Jan-25 08	16-Jan-25 16	0d	0d

13. Add OZ1050 SS OZ1140 and OZ1140 FF OZ1110 relationships and see how it calculates.



Activity ID	Activity Name	Start	Finish	Total Float	Free Float
Bid for Facility Extension		09-Dec-24 08	27-Jan-25 16	0d	0d
Delivery Plan		30-Dec-24 08	23-Jan-25 16	0d	0d
OZ1050	Document Delivery Methodology	30-Dec-24 08	03-Jan-25 16	6d	0d
OZ1060	Obtain Quotes from Suppliers	02-Jan-25 08*	13-Jan-25 16	0d	0d
OZ1070	Calculate the Bid Estimate	14-Jan-25 08	16-Jan-25 16	0d	0d
OZ1080	Create the Project Schedule	17-Jan-25 08	20-Jan-25 16	0d	0d
OZ1090	Review the Delivery Plan	21-Jan-25 08	21-Jan-25 16	0d	0d
OZ1140	LOE Activity	30-Dec-24 08	23-Jan-25 16	0d	0d
Bid Document		06-Jan-25 08	27-Jan-25 16	0d	0d
OZ1100	Create Draft of Bid Document	06-Jan-25 08	13-Jan-25 16	6d	6d
OZ1110	Review Bid Document	22-Jan-25 08	23-Jan-25 16	0d	0d
OZ1120	Finalise and Submit Bid Document	24-Jan-25 08	27-Jan-25 16	0d	0d
OZ1130	Bid Document Submitted		27-Jan-25 16*	0d	0d

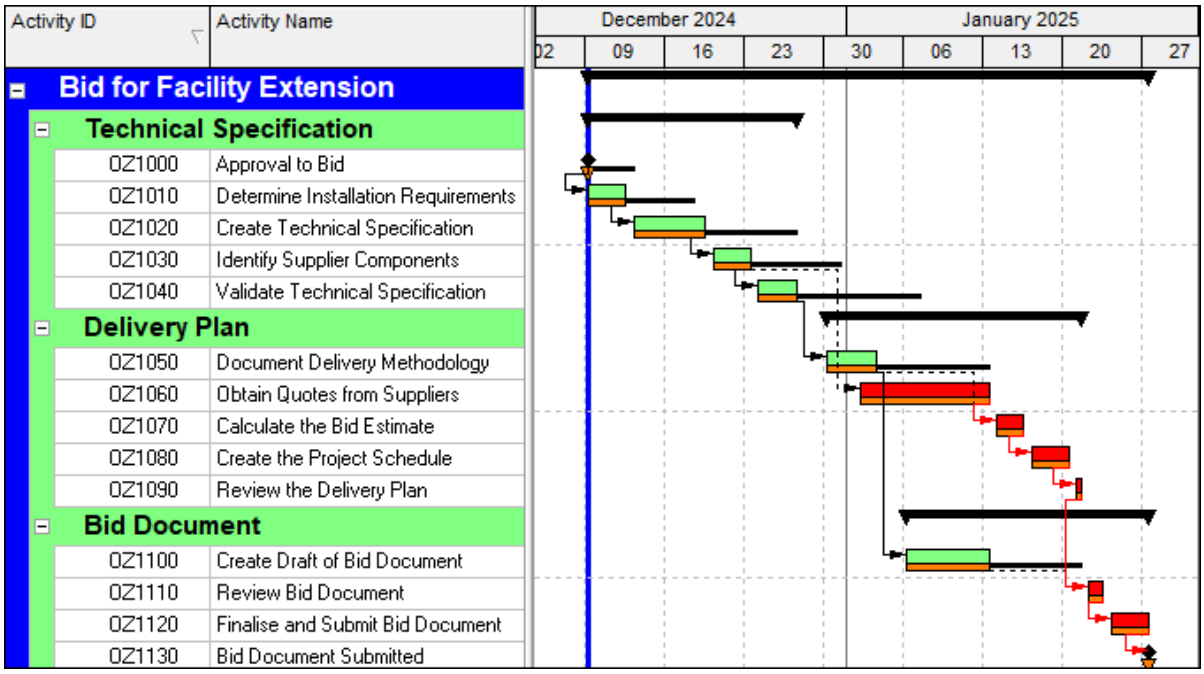
14. Delete the LOE activity.

Assignment - Setting a Baseline

15. **Earned value calculation** settings:
    - If you are using a PPM database you should check that the **Admin**, **Admin Preferences…, Earned Value** tab has the **Earned value calculation** set to **At Completion values with current dates** or **Budget Values with current dates**. You may not be able to change this if you do not have the necessary access.
    - If you are using aa EPPM database you should find out what the **Earned value calculation** option is set to. It should be set to **At Completion values with current dates** or **Budget Values with current dates**.
    - If the **Earned value calculation** is set to **Budget values with planned dates** or **Planned values with planned dates** the Baseline has progress, then the Planed Dates will be read and the Baseline bars may be wrong.
16. Select **Project**, **Maintain Baselines...** and save a copy of the current project as a Baseline and title it **Bid for Facility Extension – Baseline**.
17. Assign an appropriate **Baseline Type**, such as **Customer Sign-Off**, (the options may vary depending on your database) and close the form.
18. Select **Project**, **Assign Baselines...** and make this your **Project Baseline** and **Primary Baseline** and close the **Assign Baselines** form. This ensures that any baseline bar will show a real baseline and not the Planned Dates.
19. Apply the **OzBuild 10 – With Float** layout, do not save the current layout, and save this as a new layout titled **OzBuild Workshop 13 – Baseline**.
20. Create, if required, and display the following bars:
    - All current schedule bars which are Actual Work, Remaining Work and Critical Remaining Work, Milestones and Summary,
    - % Complete Bar,
    - Float Bar (Total Float) and Neg Float Bar (Negative Float),
    - The Project Baseline Bar and Project Baseline MS (Milestones),
    - For clarity ensure no text is displayed and adjust the row height if required.
21. Display the following columns:
    - Activity ID
    - Activity Name
    - Activity % Complete
    - Original Duration
    - Remaining Duration
    - Start
    - Finish
    - Total Float
    - Variance - BL Project Finish Date

22. Make sure the Timescale is daily or weekly and sorted by Activity ID.
23. Show the time in 24-hour format, but do not show the minutes by selecting **Edit, User Preferences…**, **Dates** tab.
24. Save your layout.
25. Check your answer against the pictures below:

Activity ID	Activity Name	Activity % Complete	Original Duration	Remaining Duration	Start	Finish	Total Float	Free Float	Variance - BL Project Finish Date
Bid for Facility Extension			33d	33d	09-Dec-24 08	27-Jan-25 16	0d	0d	0d
Technical Specification			13d	13d	09-Dec-24 08	27-Dec-24 16	6d	0d	0d
OZ1000	Approval to Bid	0%	0d	0d	09-Dec-24 08		4d	0d	0d
OZ1010	Determine Installation F	0%	4d	4d	09-Dec-24 08	12-Dec-24 16	4d	0d	0d
OZ1020	Create Technical Spec	0%	5d	5d	13-Dec-24 08	19-Dec-24 16	4d	0d	0d
OZ1030	Identify Supplier Compc	0%	2d	2d	20-Dec-24 08	23-Dec-24 16	4d	0d	0d
OZ1040	Validate Technical Spe	0%	2d	2d	24-Dec-24 08	27-Dec-24 16	6d	0d	0d
Delivery Plan			16d	16d	30-Dec-24 08	21-Jan-25 16	0d	0d	0d
OZ1050	Document Delivery Me	0%	4d	4d	30-Dec-24 08	03-Jan-25 16	6d	0d	0d
OZ1060	Obtain Quotes from Su	0%	8d	8d	02-Jan-25 08*	13-Jan-25 16	0d	0d	0d
OZ1070	Calculate the Bid Estim	0%	3d	3d	14-Jan-25 08	16-Jan-25 16	0d	0d	0d
OZ1080	Create the Project Sch	0%	3d	3d	17-Jan-25 08	20-Jan-25 16	0d	0d	0d
OZ1090	Review the Delivery Pl	0%	1d	1d	21-Jan-25 08	21-Jan-25 16	0d	0d	0d
Bid Document			33d	33d	09-Dec-24 08	27-Jan-25 16	0d	0d	0d
OZ1100	Create Draft of Bid Doc	0%	6d	6d	06-Jan-25 08	13-Jan-25 16	6d	6d	0d
OZ1110	Review Bid Document	0%	2d	2d	22-Jan-25 08	23-Jan-25 16	0d	0d	0d
OZ1120	Finalise and Submit Bid	0%	2d	2d	24-Jan-25 08	27-Jan-25 16	0d	0d	0d
OZ1130	Bid Document Submitte	0%	0d	0d		27-Jan-25 16*	0d	0d	0d



16.12 Workshop 14 – Progressing and Baseline Comparison

Background

At the end of the first week, you have to update the schedule and report progress and slippage.

Assignment

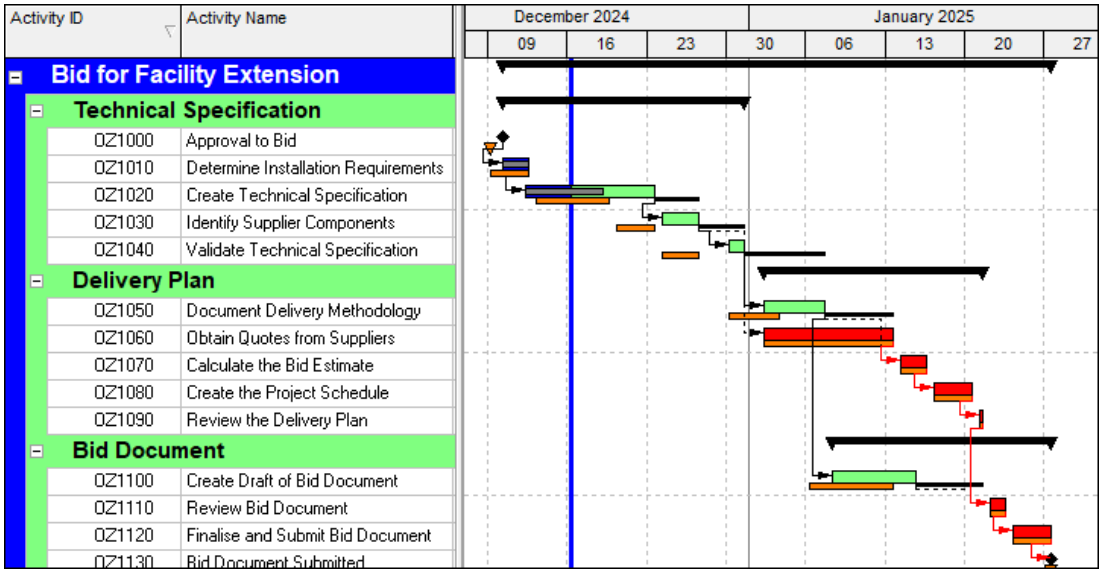
1. We are now going to update the schedule as at the end of the first week.
2. Check that all activities are **Physical % Complete**.
3. Update the activities in the **Activities** with the following information using the either:
   - The bottom pane **Status** tab or
   - By adding the **Actual Start**, **Actual Finish**, **Activity % Complete** and **Remaining Duration** columns:

Activity ID	Activity Name	Actual Start	Actual Finish	Activity % Complete	Remaining Duration
OZ1000	Approval to Bid	10-Dec-24 08:00		100%	0d
OZ1010	Determine Installation Requirements	10-Dec-24 08:00	12-Dec-24 16:00	100%	0d
OZ1020	Create Technical Specification	12-Dec-24 08:00		60%	6d

4. Reschedule the project by pressing **F9** to open the **Schedule** form:
   - When using Version 20 or later, select **Apply selected data date to all open project**,
   - Change the **Current Data Date** to 16-Dec-24 08:00, that will be Monday morning,
   - Click on the 

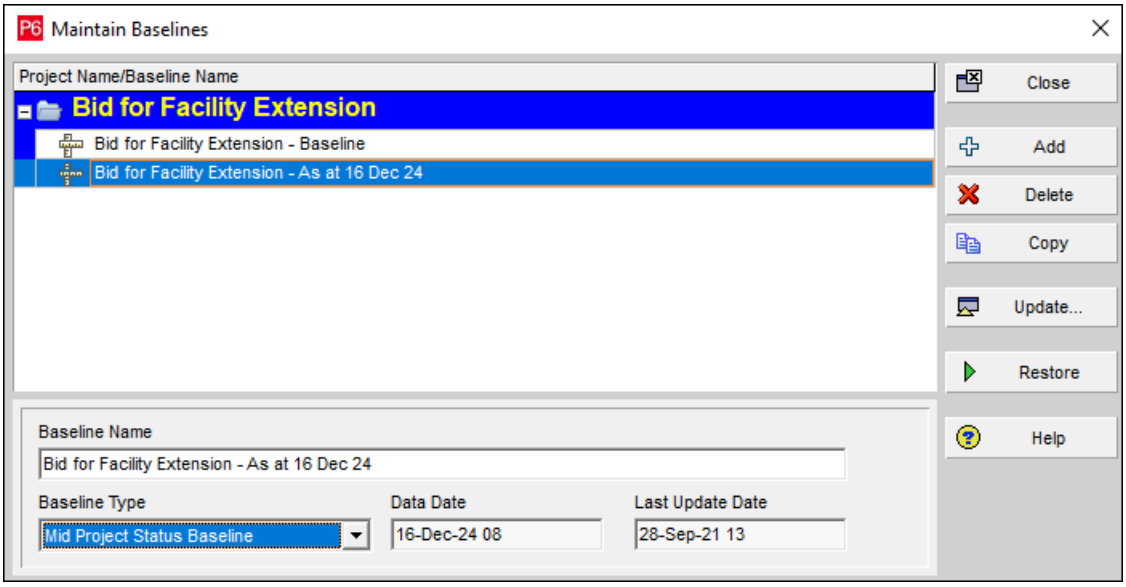
to reschedule,
   - Check the answer in the following pictures.

Activity ID	Activity Name	Activity % Complete	Remaining Duration	Original Duration	Start	Finish	Total Float	Free Float	Variance - BL Project Finish Date
Bid for Facility Extension			28d	33d	10-Dec-24 08 A	27-Jan-25 16	0d	0d	0d
Technical Specification			10d	15d	10-Dec-24 08 A	31-Dec-24 16	4d	0d	-2d
OZ1000	Approval to Bid	100%	0d	0d	10-Dec-24 08 A				-1d
OZ1010	Determine Installation Requirements	100%	0d	4d	10-Dec-24 08 A	12-Dec-24 16 A			0d
OZ1020	Create Technical Specification	60%	6d	5d	12-Dec-24 08 A	23-Dec-24 16	2d	0d	-2d
OZ1030	Identify Supplier Components	0%	2d	2d	24-Dec-24 08	27-Dec-24 16	2d	0d	-2d
OZ1040	Validate Technical Specification	0%	2d	2d	30-Dec-24 08	31-Dec-24 16	4d	0d	-2d
Delivery Plan			14d	14d	02-Jan-25 08	21-Jan-25 16	0d	0d	0d
OZ1050	Document Delivery Methodology	0%	4d	4d	02-Jan-25 08	07-Jan-25 16	4d	0d	-2d
OZ1060	Obtain Quotes from Suppliers	0%	8d	8d	02-Jan-25 08*	13-Jan-25 16	0d	0d	0d
OZ1070	Calculate the Bid Estimate	0%	3d	3d	14-Jan-25 08	16-Jan-25 16	0d	0d	0d
OZ1080	Create the Project Schedule	0%	3d	3d	17-Jan-25 08	20-Jan-25 16	0d	0d	0d
OZ1090	Review the Delivery Plan	0%	1d	1d	21-Jan-25 08	21-Jan-25 16	0d	0d	0d
Bid Document			14d	14d	08-Jan-25 08	27-Jan-25 16	0d	0d	0d
OZ1100	Create Draft of Bid Document	0%	6d	6d	08-Jan-25 08	15-Jan-25 16	4d	4d	-2d
OZ1110	Review Bid Document	0%	2d	2d	22-Jan-25 08	23-Jan-25 16	0d	0d	0d
OZ1120	Finalise and Submit Bid Document	0%	2d	2d	24-Jan-25 08	27-Jan-25 16	0d	0d	0d
OZ1130	Bid Document Submitted	0%	0d	0d		27-Jan-25 16*	0d	0d	0d



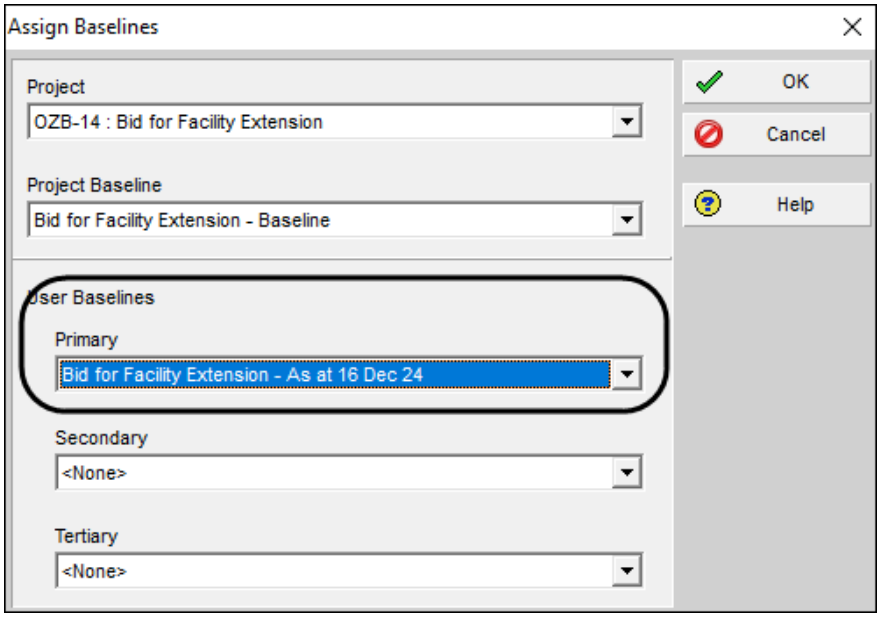
NOTE: The lower bar is the Baseline and delays to activities created by the late scheduling of the **Create Technical Specification** activity is clear in the picture above.

5. If you do not receive the same answer then check that all your activities are Physical % Complete.
6. We will update the schedule once more. Before we update it, we will set a second baseline to represent the status as at 16 Dec 24 and then we may see the change from both the original baseline and the last period status.
7. Create a second Baseline by:
    a. Selecting **Project**, **Maintain Baselines**,
    b. Click on **Add** and **Save a copy of the current project as a new baseline**,
    c. Name it as **Bid for Facility Extension - As at 16 Dec 24**,
    d. Set the **Baseline Type** as **Mid Project Status Baseline**:



8. Show a second Baseline Bar by for the Last Period Status by:

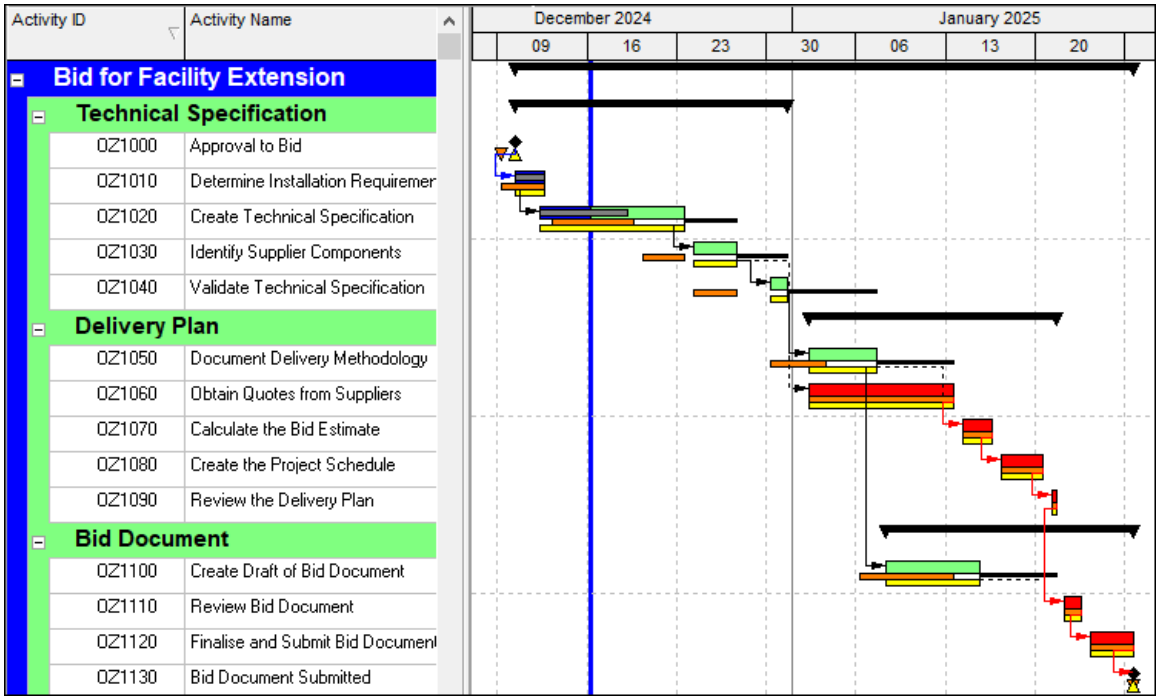
   a. Selecting **Project Assign Baselines**, set the **Primary User Baseline** as the **Bid for Facility Extension - As at 16 Dec 24** and select OK,



   b. Open the bars form and display the **Primary (User) Baseline** Bar and **Primary Baseline MS (Milestones)**:

   c. Use the **View**, **Table Font and Row** command and set the row height to ensure all the bars are clearly visible, the picture below has them set to 23,

   d. The picture below now displays two baseline bars:

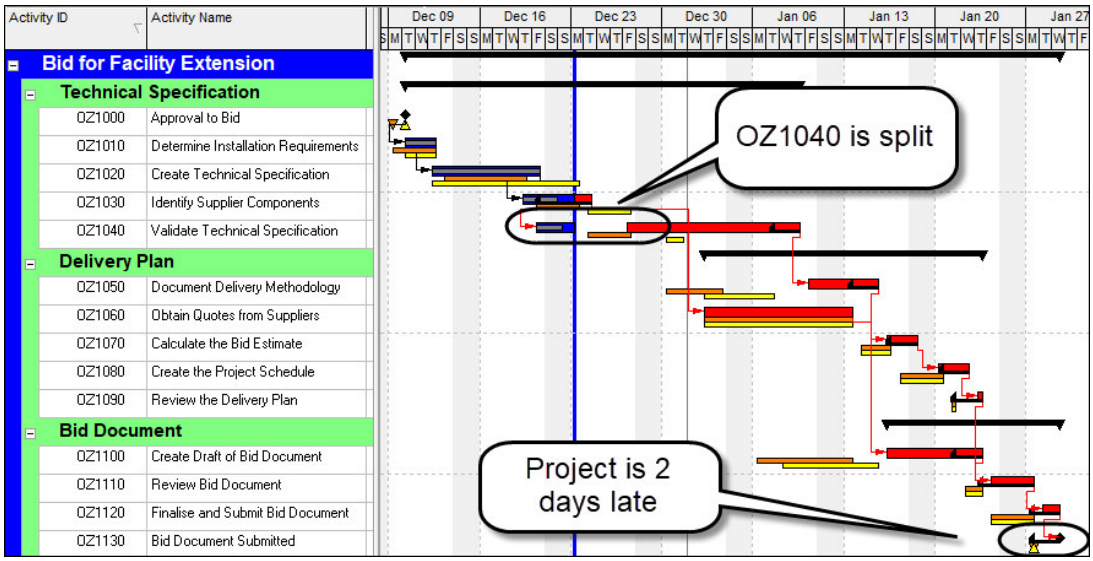


9. Now update the schedule with the information below:

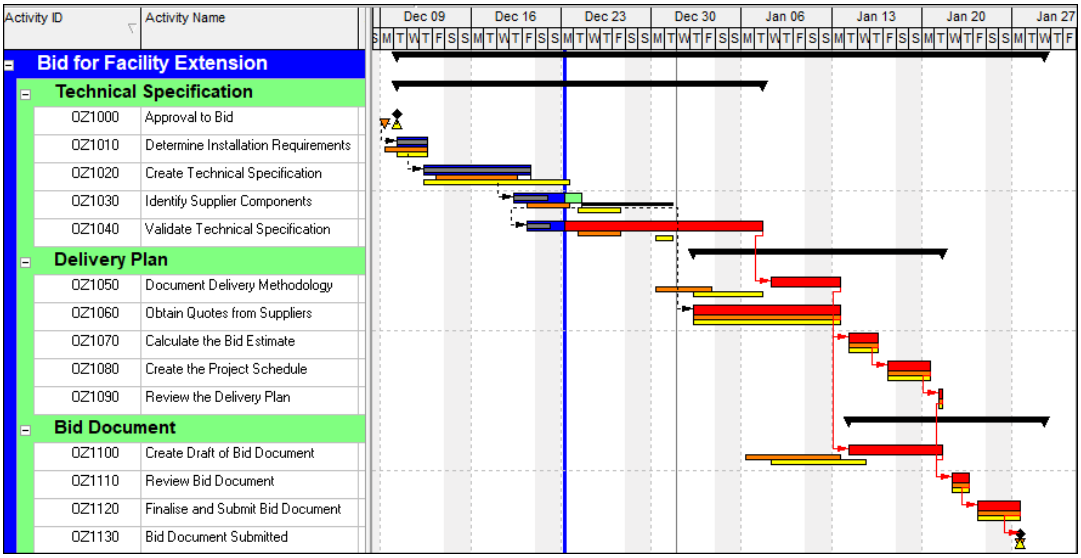
Activity ID	Activity Name	Actual Start	Actual Finish	Activity % Complete	Remaining Duration
OZ1020	Create Technical Specification	12-Dec-24 08:00	20 Dec 24 16:00	100%	0d
OZ1030	Identify Supplier Components	19-Dec-24 08:00		50%	2d
OZ1040	Validate Technical Specification	20-Dec-24 08:00		10%	9d

10. **Reschedule** with a new **Data Date** of 23 Dec 24 08:00:
    a. OZ1040 has split because of the **Retained Logic setting** and
    b. The project is two days late, see the **Variance – BL Project Finish date**:

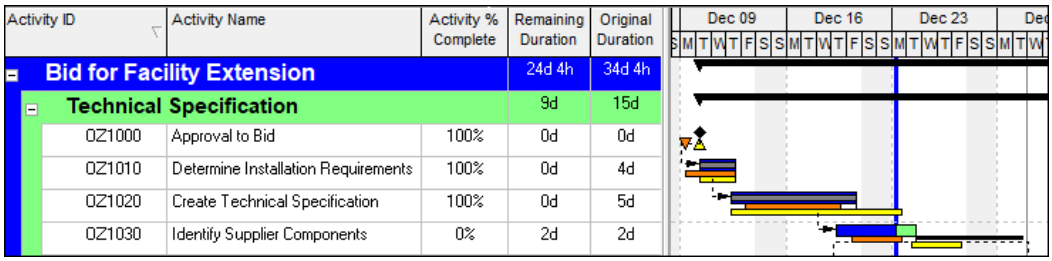
Activity ID	Activity Name	Activity % Complete	Remaining Duration	Original Duration	Start	Finish	Total Float	Free Float	Variance - BL Project Finish Date
Bid for Facility Extension			25d	35d	10-Dec-24 08 A	29-Jan-25 16	0d	0d	-2d
Technical Specification			11d	15d	10-Dec-24 08 A	09-Jan-25 16	-2d	0d	-8d
OZ1000	Approval to Bid	100%	0d	0d	10-Dec-24 08 A				-1d
OZ1010	Determine Installation Requirements	100%	0d	4d	10-Dec-24 08 A	12-Dec-24 16 A			0d
OZ1020	Create Technical Specification	100%	0d	5d	12-Dec-24 08 A	20-Dec-24 16 A			-1d
OZ1030	Identify Supplier Components	50%	2d	2d	19-Dec-24 08 A	24-Dec-24 16	-2d	0d	-1d
OZ1040	Validate Technical Specification	10%	9d	2d	20-Dec-24 08 A	09-Jan-25 16	-2d	0d	-8d
Delivery Plan			16d	16d	02-Jan-25 08	23-Jan-25 16	-2d	0d	-2d
OZ1050	Document Delivery Methodology	0%	4d	4d	10-Jan-25 08	15-Jan-25 16	-2d	0d	-8d
OZ1060	Obtain Quotes from Suppliers	0%	8d	8d	02-Jan-25 08*	13-Jan-25 16	0d	2d	0d
OZ1070	Calculate the Bid Estimate	0%	3d	3d	16-Jan-25 08	18-Jan-25 16	-2d	0d	-2d
OZ1080	Create the Project Schedule	0%	3d	3d	20-Jan-25 08	22-Jan-25 16	-2d	0d	-2d
OZ1090	Review the Delivery Plan	0%	1d	1d	23-Jan-25 08	23-Jan-25 16	-2d	0d	-2d
Bid Document			10d	10d	16-Jan-25 08	29-Jan-25 16	0d	0d	-2d
OZ1100	Create Draft of Bid Document	0%	6d	6d	16-Jan-25 08	23-Jan-25 16	-2d	0d	-8d
OZ1110	Review Bid Document	0%	2d	2d	24-Jan-25 08	27-Jan-25 16	-2d	0d	-2d
OZ1120	Finalise and Submit Bid Document	0%	2d	2d	28-Jan-25 08	29-Jan-25 16	-2d	0d	-2d
OZ1130	Bid Document Submitted	0%	0d	0d		29-Jan-25 16*	-2d	0d	-2d



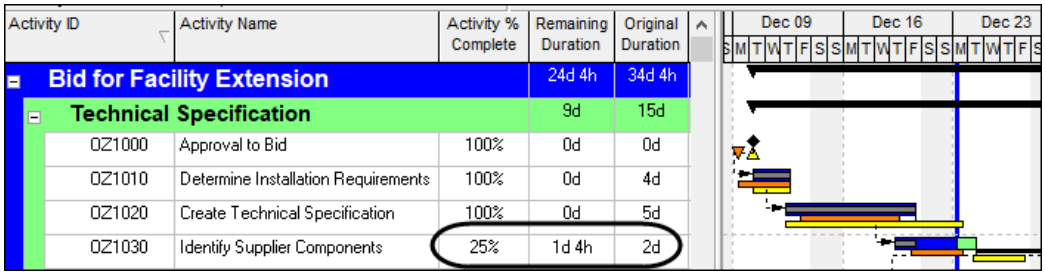
11. Now select **Tools**, **Schedule**, **Options** and select **Progress Override** and reschedule,
    a. OZ1040 is no longer split because of the **Progress Override** setting and
    b. The project is now on time:



12. Open the **General** tab of the **OZ1030 Identify Supplier Components** activity:
    a. Change the **% Complete Type** to **Duration**.
    b. **Reschedule** and the **% Complete** will change to 0%.
    c. A link is now established between the **% Complete** and **Remaining Duration** and therefore the **% Complete** and **Remaining Duration** may not be entered independently from the **Activity % Complete**.
    d. The **Activity % Complete** Value is zero when the **Remaining Duration** is greater or equal to the **Original Duration**.



13. Enter 25% Complete against the **OZ1030 Identify Supplier Components** activity in the **Status** tab, the **Remaining Duration** will reduce to 1days 4 hours and you will notice the link between the **Activity % Complete**, **Original Duration** and **Remaining Duration**.



14. Now select **Tools**, **Schedule**, **Options** and select **Retained Logic** and reschedule,
15. Ensure you are showing the **Duration Sub-unit** of **Hours** by opening the **Edit, User Preferences… Time Unit** tab and check the **Duration Format**, **Sub-unit Hours** box and check **Show Duration label**.
16. This has resulted in the Remaining Duration no longer being expressed in whole days and activities which are two days long. For example: Activity OZ1070 which is 3 days long is now spanning 4 days because it starts and finishes at midday.

Activity ID	Activity Name	Activity % Complete	Remaining Duration	Original Duration	Start	Finish	Total Float	Free Float
Bid for Facility Extension			24d 4h	34d 4h	10-Dec-24 08 A	29-Jan-25 12	0d	0d
Technical Specification			10d 4h	15d	10-Dec-24 08 A	09-Jan-25 12	-1d 4h	0d
OZ1000	Approval to Bid	100%	0d	0d	10-Dec-24 08 A			
OZ1010	Determine Installation Requirements	100%	0d	4d	10-Dec-24 08 A	12-Dec-24 16 A		
OZ1020	Create Technical Specification	100%	0d	5d	12-Dec-24 08 A	20-Dec-24 16 A		
OZ1030	Identify Supplier Components	25%	1d 4h	2d	19-Dec-24 08 A	24-Dec-24 12	-1d 4h	0d
OZ1040	Validate Technical Specification	10%	9d	2d	20-Dec-24 08 A	09-Jan-25 12	-1d 4h	0d
Delivery Plan			15d 4h	15d 4h	02-Jan-25 08	23-Jan-25 12	-1d 4h	0d
OZ1050	Document Delivery Methodology	0%	4d	4d	09-Jan-25 12	15-Jan-25 12	-1d 4h	0d
OZ1060	Obtain Quotes from Suppliers	0%	8d	8d	02-Jan-25 08*	13-Jan-25 16	0d	1d 4h
OZ1070	Calculate the Bid Estimate	0%	3d	3d	15-Jan-25 12	18-Jan-25 12	-1d 4h	0d
OZ1080	Create the Project Schedule	0%	3d	3d	18-Jan-25 12	22-Jan-25 12	-1d 4h	0d
OZ1090	Review the Delivery Plan	0%	1d	1d	22-Jan-25 12	23-Jan-25 12	-1d 4h	0d
Bid Document			10d	10d	15-Jan-25 12	29-Jan-25 12	0d	0d
OZ1100	Create Draft of Bid Document	0%	6d	6d	15-Jan-25 12	23-Jan-25 12	-1d 4h	0d
OZ1110	Review Bid Document	0%	2d	2d	23-Jan-25 12	27-Jan-25 12	-1d 4h	0d
OZ1120	Finalise and Submit Bid Document	0%	2d	2d	27-Jan-25 12	29-Jan-25 12	-1d 4h	0d
OZ1130	Bid Document Submitted	0%	0d	0d		29-Jan-25 12*	-1d 4h	0d

17. The situation of having durations that are not round days is often not desirable and may be prevented by using Physical % Complete and entering the Remaining Duration in whole days.
18. Save the layout as **OzBuild Workshop 14 –Baseline Comparison**.

18.4 Workshop 15 – Adding Resources to the Database

Background

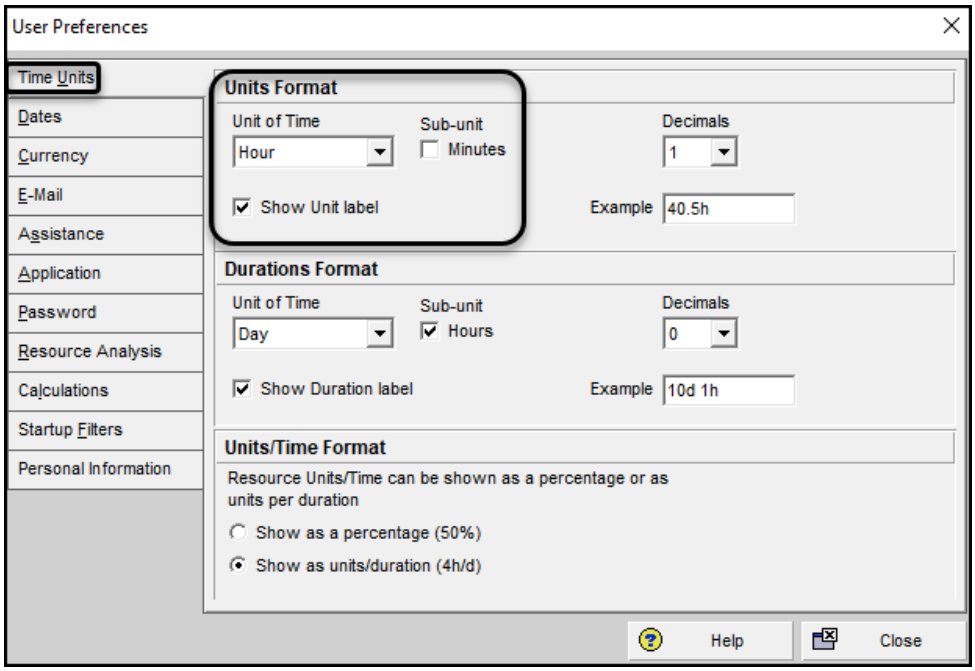
This workshop will only use Resources and these must now be added to the database.

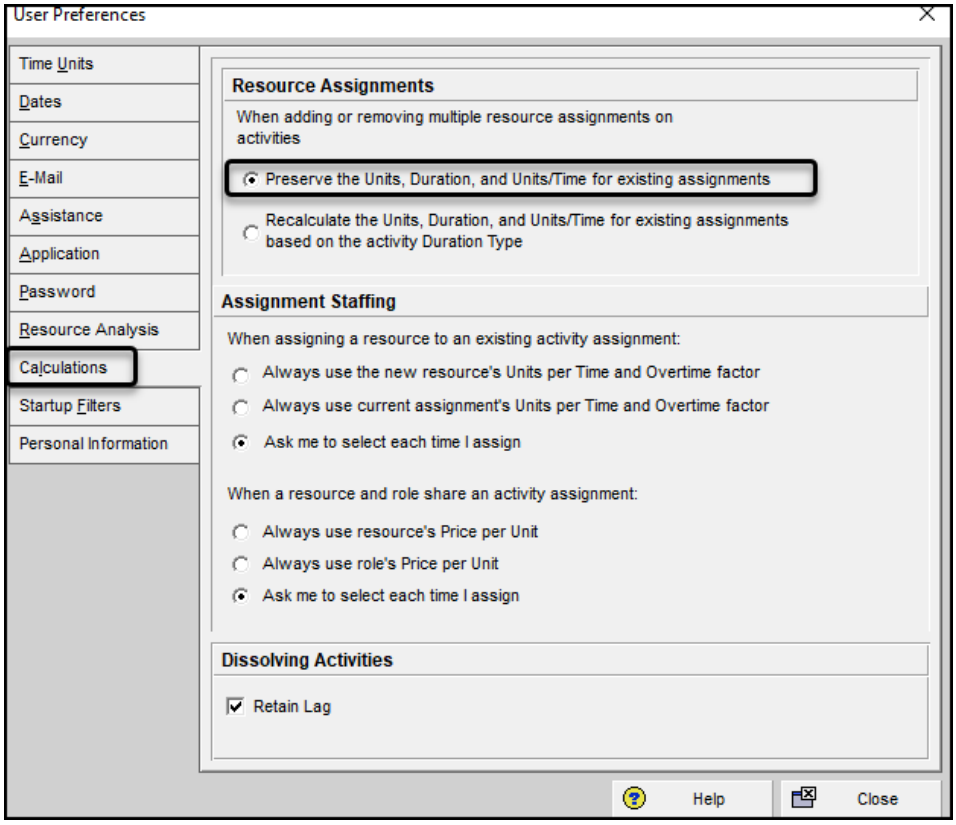
We have updated our current project, but we need a project that has not been updated for the next activity of assigning resources. Therefore, we will have to restore the Baseline schedule saved prior to updating the current schedule to provide an un-progressed schedule for this exercise.

NOTE: If you are working in a database with other people completing this workshop then each person's Resource ID will have to be unique, say by adding your initials at the end of each Resource ID. A training course leader or database administrator should advise here.

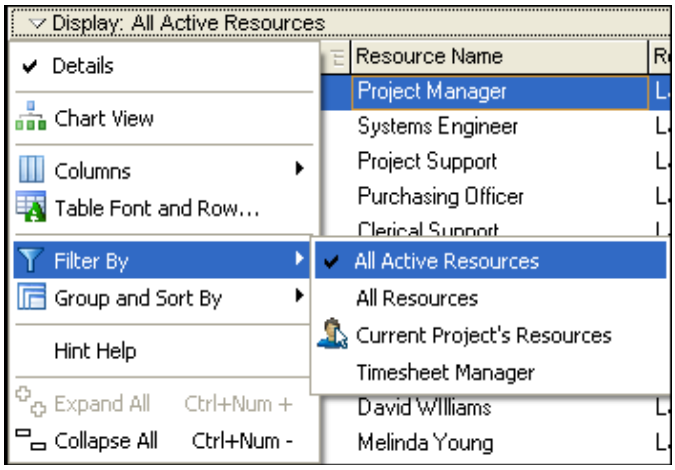
Assignment

1. Select **Project**, **Maintain Baselines…** and copy the **Bid for Facility Extension – Baseline**, which did not have any progress.
2. Restore the copied project using **Project**, **Maintain Baselines…**, **Restore** command.
3. Go to the **Projects Window** where the restored baseline file will be visible.
4. Rename the restored Baseline project **Bid for Facility Extension – Resourced Schedule** and change the Project ID to **OZB-R**.
   NOTE: Users sharing a database will need to use unique Project IDs.
5. Open the restored project.
6. Open the **User Preferences** form, set the **Calculations** and **Time Units** tab as per the following pictures.





7. Now open the **Resource Window**.
8. If no resources are displayed, then select all resources from the **Display:** menu:



9. Format the columns in the **Resources Window** as in the following picture.

10. Add the resources as in the following picture:

- If the **New resource Wizard** is displayed then close it and disable it in the **User Preferences** as it is quicker just to type in resources.
- The **Unit of Measure** may not be available in your database, so either add it in the **Admin**, **Admin Categories…**, or do not assign one if you do not have the access right to create a **Unit of Measure**.
- **Price/Unit** must be entered in the bottom pane, it may be viewed but not added or edited in a column.

  NOTE: If you are working in a database with other people completing this workshop then each person's Resource ID will have to be unique, say by adding your Initials at the end of each Resource ID.

Resource ID	Resource Name	Resource Type	Price/Unit or Standard Rate	Unit of Measure
OZB	OzBuild Resources	Labor		
PM	Project Manager	Labor	$120.00/h	
SE	Systems Engineer	Labor	$90.00/h	
PS	Project Support	Labor	$80.00/h	
PO	Purchasing Officer	Labor	$70.00/h	
CS	Clerical Support	Labor	$50.00/h	
RB	Report Binding	Material	$100.00/ea	Each

11. You may need to use the arrows on the **Move** toolbar to move the resources to the correct indent location:

12. Set the **Default Units/Time** to 8 hours per day for all the resources.
13. Set the calendar for all resources to be a Global 5-Day Workweek, with 8 hours per day, yours may be called a Standard 5 Day/Week or similar.
14. Check **Calculate Costs from units** and **Auto compute actuals** for each resource.
15. Ensure that the resource **Effective Date** in the **Units & Prices** tab is set to 1 December 2024 or earlier otherwise the Resource will be delayed beyond this date when Leveling the resources in the Resource Optimization Workshop.

19.10 Workshop 16 – Assigning Resources and Expenses to Activities

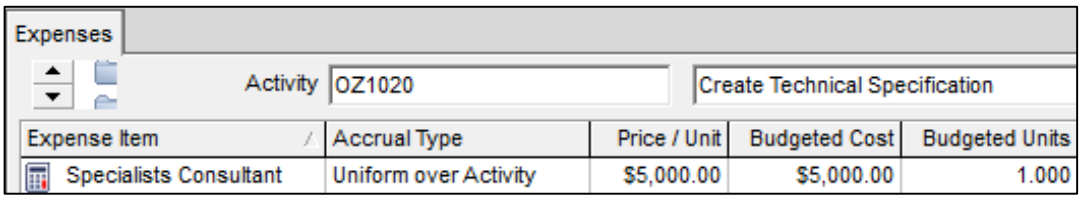
Background

The Resources must now be assigned to their specific activities.

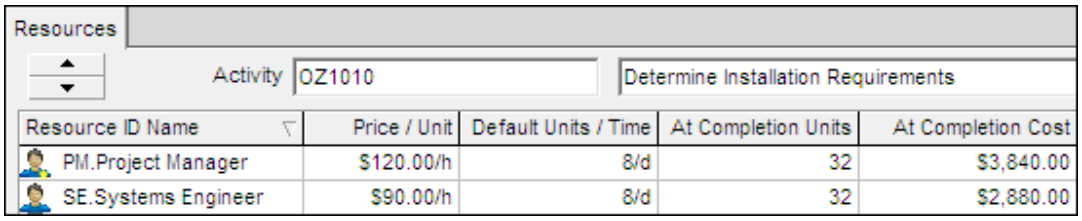
Assignment

Open the OzBuild with Resources project and complete the following steps.

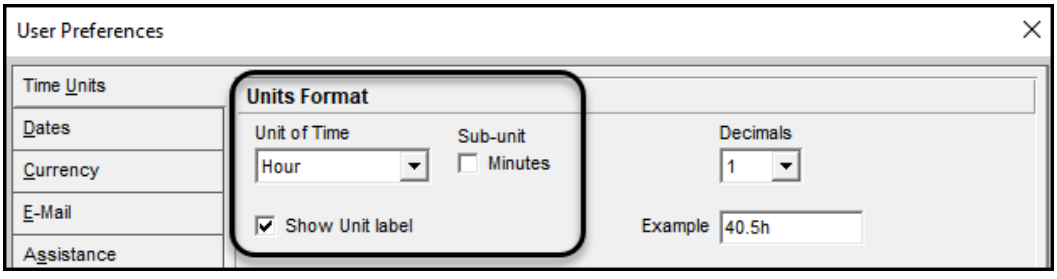
1. Apply the **OzBuild Workshop 10 – Without Float** layout and save as **OzBuild Workshop 16 – Assigning Resources** layout.
2. In the **Activities Window** display the **Gantt Chart** in the top view and **Resources** and **Expenses** tab of the **Activities Details** form in the bottom view.
3. Assign an Expense to the **Create Technical Specification** activity as per the picture below:



4. Format the **Resources** tab with the columns shown in the following picture:



5. Set your **User Preferences** as in the picture below:



continued....

6. Add the **Resources** column to the Gantt Chart per the picture below.

7. Assign the following Resources to the Activities using the **Resource** tab  icon:

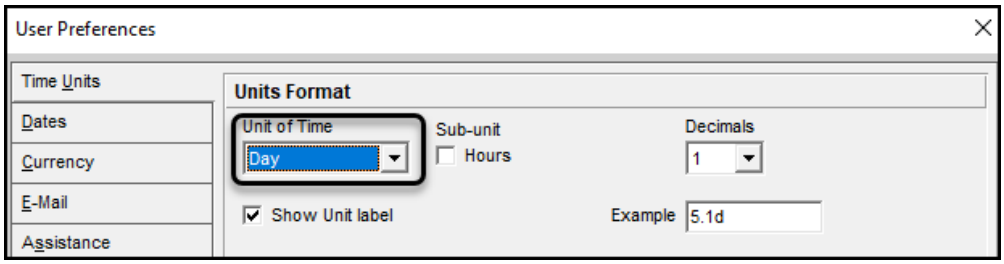
Activity ID	Activity Name	Resources
Bid for Facility Extension		
Technical Specification		
OZ1000	Approval to Bid	
OZ1010	Determine Installation Requirements	Project Manager, Systems Engineer
OZ1020	Create Technical Specification	Systems Engineer
OZ1030	Identify Supplier Components	Purchasing Officer
OZ1040	Validate Technical Specification	Project Manager, Systems Engineer
Delivery Plan		
OZ1050	Document Delivery Methodology	Project Manager
OZ1060	Obtain Quotes from Suppliers	Purchasing Officer, Project Manager
OZ1070	Calculate Bid Estimate	Project Support
OZ1080	Create the Project Schedule	Project Support
OZ1090	Review the Delivery Plan	Project Manager, Systems Engineer
Bid Document		
OZ1100	Create Draft of Bid Document	Clerical Support, Project Manager
OZ1110	Review Bid Document	Project Manager, Systems Engineer
OZ1120	Finalise and Submit Bid Document	Project Manager, Report Binding
OZ1130	Bid Docuement Submitted	

8. Enter 3 as the Budgeted Units and At Completion Units for the Report Binding.

9. Add the columns per below and your answer should look like this:

Activity ID	Activity Name	Resources	At Completion Labor Units	At Completion Labor Cost	At Completion Expense	At Completion Material Cost	At Completion Total Cost
Bid for Facility Extension			520h	$49,760.00	$5,000.00	$300.00	$55,060.00
Technical Specification			152h	$14,800.00	$5,000.00	$0.00	$19,800.00
OZ1000	Approva		0h	$0.00	$0.00	$0.00	$0.00
OZ1010	Determir	Project Manager, Systems Engineer	64h	$6,720.00	$0.00	$0.00	$6,720.00
OZ1020	Create T	Systems Engineer	40h	$3,600.00	$5,000.00	$0.00	$8,600.00
OZ1030	Identify	Purchasing Officer	16h	$1,120.00	$0.00	$0.00	$1,120.00
OZ1040	Validate	Project Manager, Systems Engineer	32h	$3,360.00	$0.00	$0.00	$3,360.00
Delivery Plan			224h	$21,520.00	$0.00	$0.00	$21,520.00
OZ1050	Docume	Project Manager	32h	$3,840.00	$0.00	$0.00	$3,840.00
OZ1060	Obtain C	Purchasing Officer, Project Manager	128h	$12,160.00	$0.00	$0.00	$12,160.00
OZ1070	Calculat	Project Support	24h	$1,920.00	$0.00	$0.00	$1,920.00
OZ1080	Create tl	Project Support	24h	$1,920.00	$0.00	$0.00	$1,920.00
OZ1090	Review	Project Manager, Systems Engineer	16h	$1,680.00	$0.00	$0.00	$1,680.00
Bid Document			144h	$13,440.00	$0.00	$300.00	$13,740.00
OZ1100	Create D	Clerical Support, Project Manager	96h	$8,160.00	$0.00	$0.00	$8,160.00
OZ1110	Review	Project Manager, Systems Engineer	32h	$3,360.00	$0.00	$0.00	$3,360.00
OZ1120	Finalise	Project Manager, Report Binding	16h	$1,920.00	$0.00	$300.00	$2,220.00
OZ1130	Bid Doc		0h	$0.00	$0.00	$0.00	$0.00

10. Change the **User Preferences, Time Units, Units Format, Units per Time** to **Days** and see the difference:



11. You will notice that there is no column to display the Materials quantity at completion.

Activity ID	Activity Name	Resources	At Completion Labor Units	At Completion Labor Cost	At Completion Expense	At Completion Material Cost	At Completion Total Cost
Bid for Facility Extension			65d	$49,760.00	$5,000.00	$300.00	$55,060.00
Technical Specification			19d	$14,800.00	$5,000.00	$0.00	$19,800.00
OZ1000	Approve		0d	$0.00	$0.00	$0.00	$0.00
OZ1010	Determir	Project Manager, Systems Engineer	8d	$6,720.00	$0.00	$0.00	$6,720.00
OZ1020	Create T	Systems Engineer	5d	$3,600.00	$5,000.00	$0.00	$8,600.00
OZ1030	Identify !	Purchasing Officer	2d	$1,120.00	$0.00	$0.00	$1,120.00
OZ1040	Validate	Project Manager, Systems Engineer	4d	$3,360.00	$0.00	$0.00	$3,360.00
Delivery Plan			28d	$21,520.00	$0.00	$0.00	$21,520.00
OZ1050	Docume	Project Manager	4d	$3,840.00	$0.00	$0.00	$3,840.00
OZ1060	Obtain C	Purchasing Officer, Project Manager	16d	$12,160.00	$0.00	$0.00	$12,160.00
OZ1070	Calculat	Project Support	3d	$1,920.00	$0.00	$0.00	$1,920.00
OZ1080	Create tl	Project Support	3d	$1,920.00	$0.00	$0.00	$1,920.00
OZ1090	Review	Project Manager, Systems Engineer	2d	$1,680.00	$0.00	$0.00	$1,680.00
Bid Document			18d	$13,440.00	$0.00	$300.00	$13,740.00
OZ1100	Create D	Clerical Support, Project Manager	12d	$8,160.00	$0.00	$0.00	$8,160.00
OZ1110	Review	Project Manager, Systems Engineer	4d	$3,360.00	$0.00	$0.00	$3,360.00
OZ1120	Finalise	Project Manager, Report Binding	2d	$1,920.00	$0.00	$300.00	$2,220.00
OZ1130	Bid Doc		0d	$0.00	$0.00	$0.00	$0.00

In a multi-user environment it is important that all users have the same User Preferences otherwise each person may display different Quantities at completion.

12. Change the **User Preferences, Time Units, Units Format, Units of Time** to **Hours**.
13. Save your layout as **OzBuild Workshop 16 – Assigning Resources**.

20.12 Workshop 17 – Resources Optimization

Assignment

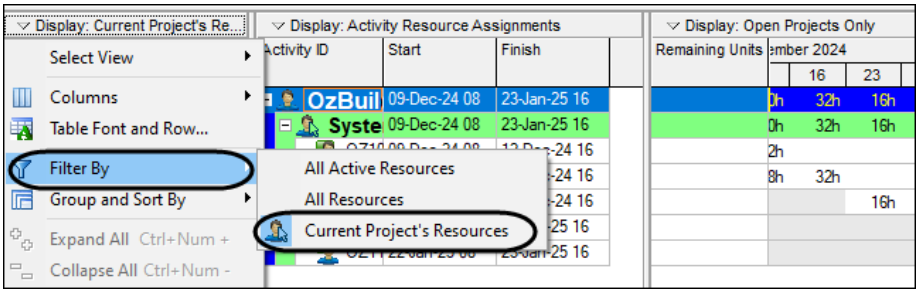
1. Open the OzBuild schedule and apply the **OzBuild 10 – With Float** Layout,

2. Display the **Activity Usage Spreadsheet** by clicking on the  icon. The following picture shows the number of hours per week per activity, adjust the timescale to weeks and change your **User Preferences**, **Time Units**, **Units of Time** as required:

Activity ID	Activity Name	Remainin Labor	December 2024			January 2025				
			09	16	23	30	06	13	20	27
OZB-16	Bid for Facility Extension		72h	40h	40h	64h	160h	72h	64h	8h
OZB-16.1	Technical Specification		72h	40h	40h					
OZ1000	Approval to Bid									
OZ1010	Determine Installation Requirements		64h							
OZ1020	Create Technical Specification		8h	32h						
OZ1030	Identify Supplier Components			8h	8h					
OZ1040	Validate Technical Specification				32h					
OZB-16.2	Delivery Plan					64h	80h	56h	24h	
OZ1050	Document Delivery Methodology					32h				
OZ1060	Obtain Quotes from Suppliers					32h	80h	16h		
OZ1070	Calculate the Bid Estimate							24h		
OZ1080	Create the Project Schedule							16h	8h	
OZ1090	Review the Delivery Plan								16h	
OZB-16.3	Bid Document						80h	16h	40h	8h
OZ1100	Create Draft of Bid Document						80h	16h		
OZ1110	Review Bid Document								32h	
OZ1120	Finalise and Submit Bid Document								8h	8h
OZ1130	Bid Document Submitted									

3. Display the **Resource Usage Sheet** by clicking on the  icon.

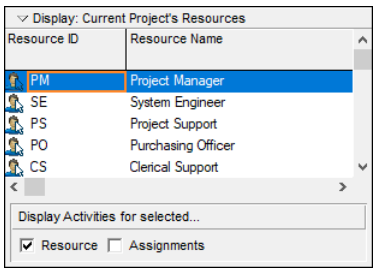
4. Use the **Display**, **Filter** option in the bottom left window to display the **Current Project's Resources** only,



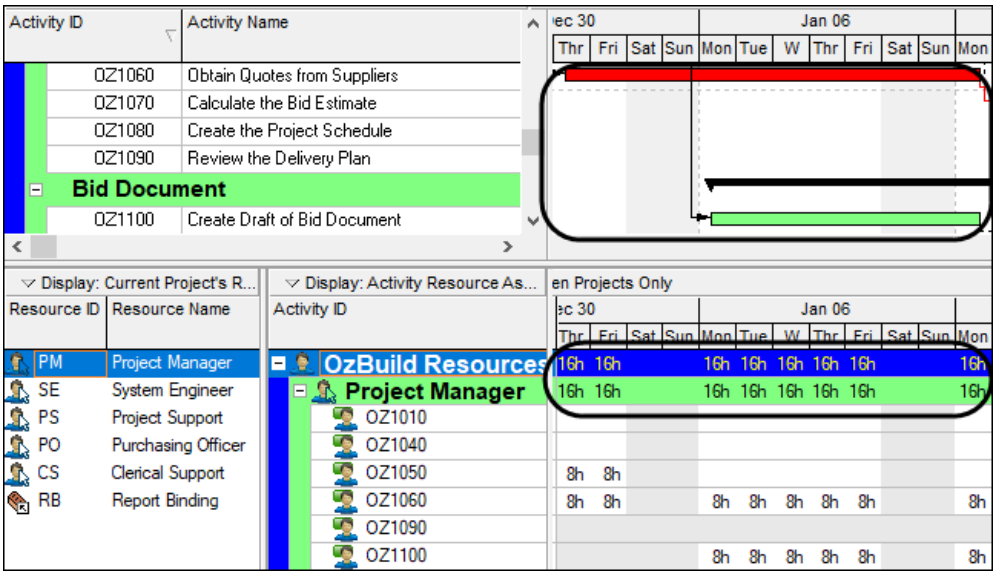
5. Select **Resource** for the option **Display Activities for selected…** (in the bottom left corner of the screen), this will display only the activities assigned to this resource.

6. Select the **Project Manager** (in the bottom left window), which will display the Project Managers Resource Table,

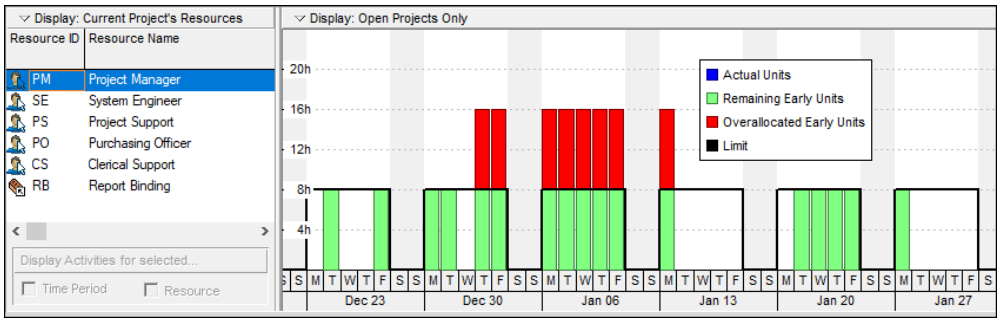
7. Increase the timescale to a daily interval.



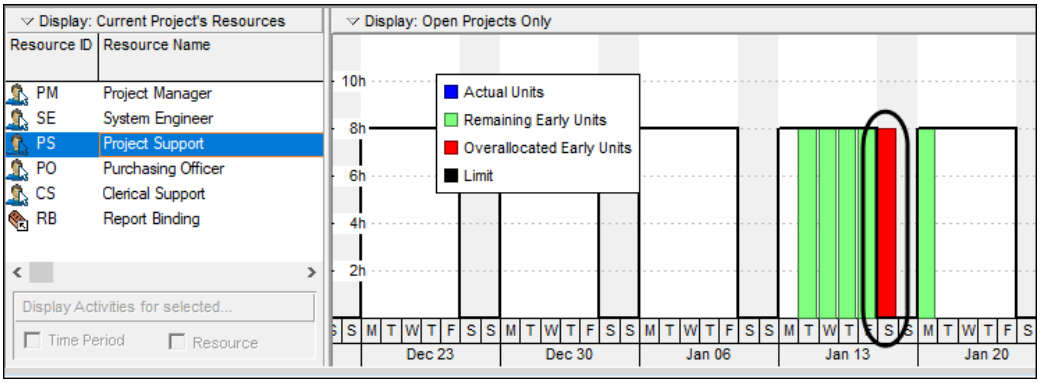
8. The **Projects Manager** is overloaded (16 hours per day) on a number of days where he/she is working two activities at a time:



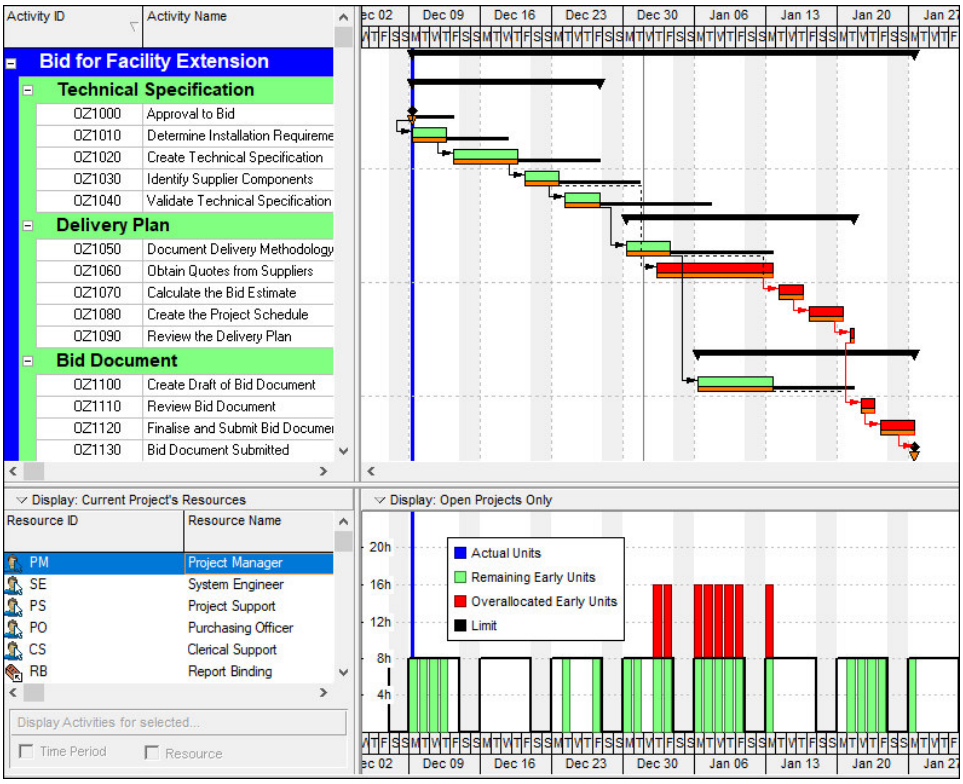
9. Display the **Resource Usage Profile** by clicking on the  icon; you will also see that the Project Manager is overloaded from the end of December to start of January.



10. Check the other resources. Project Support appears overloaded on Saturday 15 January. This is because some activities are on a 6-day per week calendar and the resource calendar is a 5-day per week:

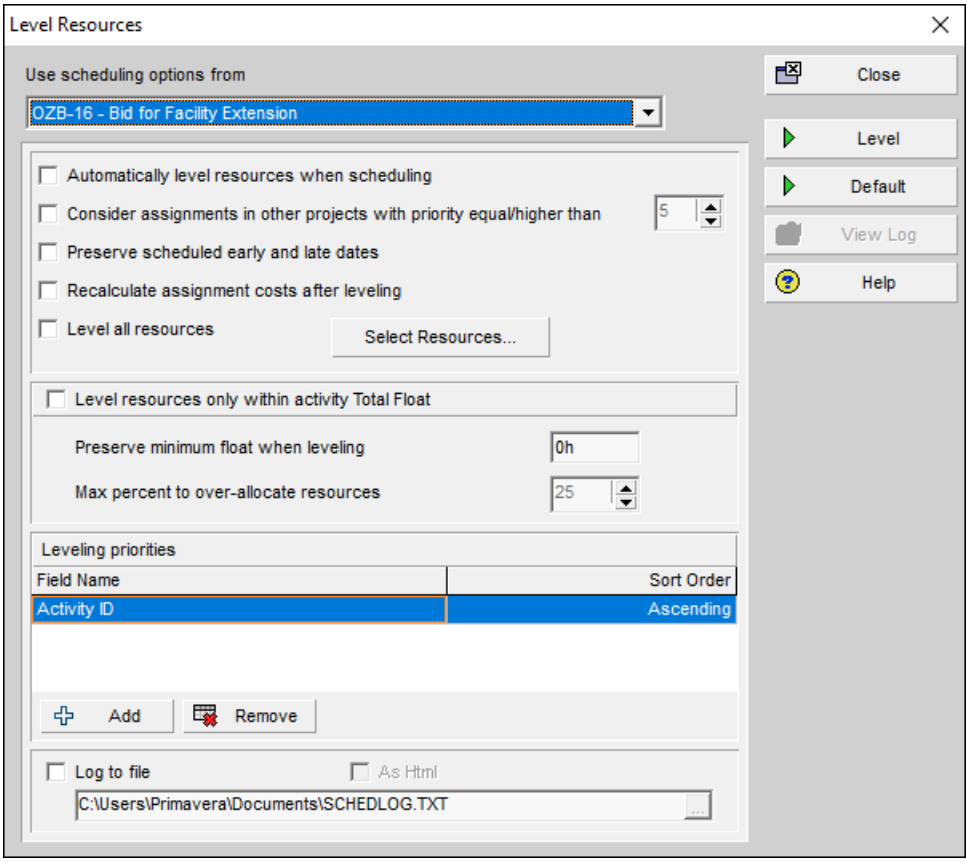


11. At this point in time resources may be optimized by a number of methods including:
    - Assigning a different resource, or
    - Reducing the assignment against the activities, or
    - Adding sequencing logic to level the schedule, or
    - Splitting activities, this has to be done by creating two activities in P6, or
    - Using the Bucket Planning function, or
    - Using the Primavera leveling function.
12. We will try using the leveling function to resolve the Project Managers overload.
13. Firstly, we will create and assign a baseline and display the Baseline bar by:
    - Select **Project**, **Maintain Baselines…** and create a Baseline by saving a copy of the existing project,
    - Select **Project**, **Assign Baselines…** and select this as both your **Project Baseline** and **Primary User Baseline**, thus ensuring the baseline bar will either be blank or display the **Baseline** and not the **Planned Dates**.
    - Apply your **OzBuild Workshop 13 – Baseline** layout and the Baseline bars should be displayed,
    - Ensure only the **Project Baseline** bars are displayed by hiding all **Primary Baseline Bars**.
    - If there is a yellow vertical band then this is created by the **Progress Spotlight** line. Drag the **Progress Spotlight** line back to the **Data Date**.
14. Display the **Resource Usage Profile** by clicking on the  icon,
15. Select **Current Projects Resources**.
16. Increase the timescale to a daily timescale.

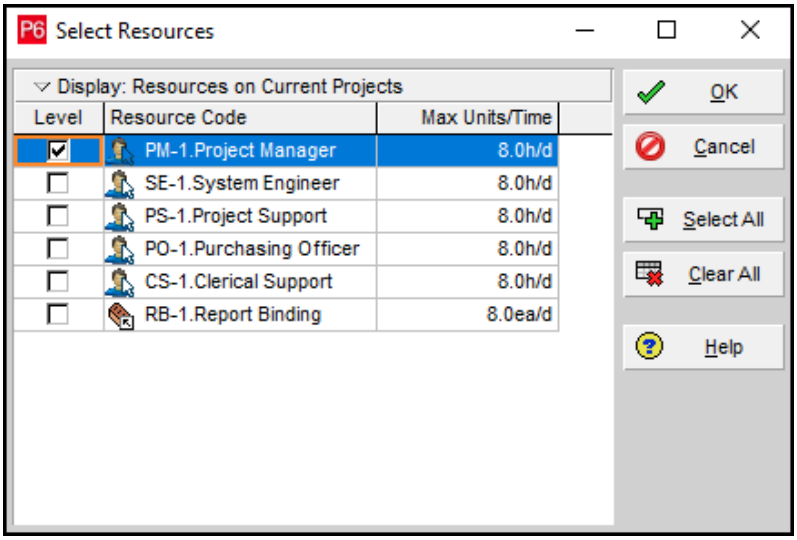


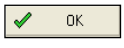
continued…

17. Save the layout as **OzBuild Workshop 17 – Leveling**.
18. Select **Tools**, **Level Resources**.
19. Set options as per the picture below:



20. Click on the  icon and select only **Project Manager** to level:

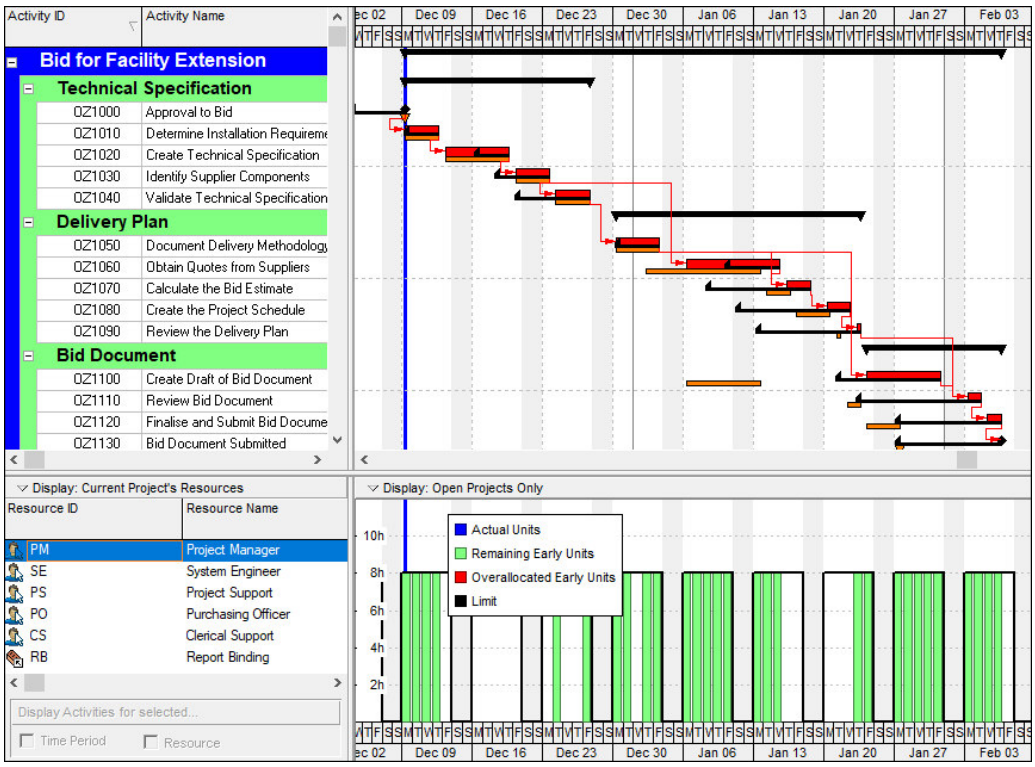


21. Click on the  icon to return to the **Level Resources** form,

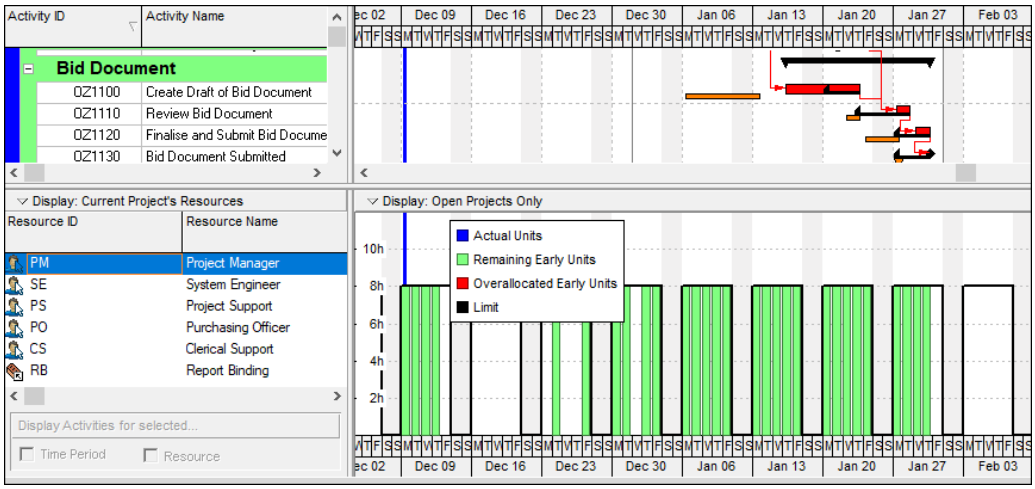
22. Click on the 

icon to level **Project Manager's** resource assignment:

- The **Project Manager's** assignment will be leveled,
- There should be Negative Float as your schedule should have a **Late Finish Constraint** on the last activity, and
- There will be a Baseline variance.



23. Reschedule and therefore un-level by pressing **F9**.
24. Now try leveling on Early Start, the schedule is levelled with an earlier finish date:



25. At the end of the workshop, schedule so the project so it is not leveled.

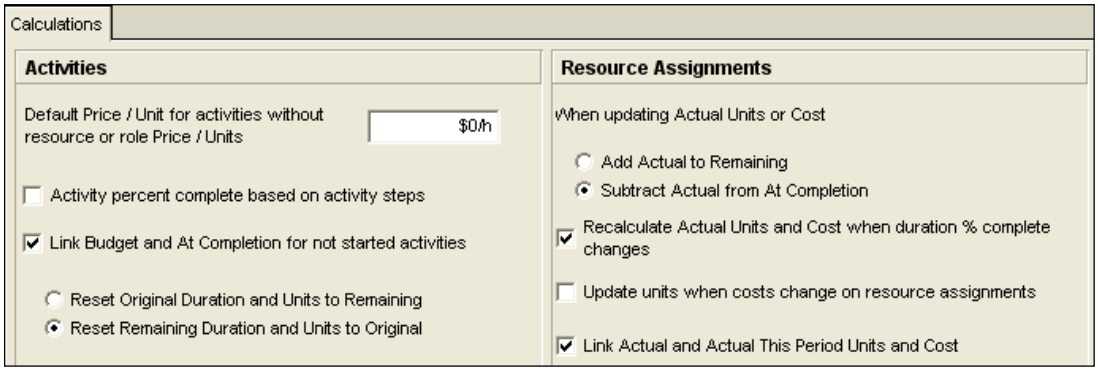
21.10 Workshop 18 – Updating a Resourced Schedule

Background

We now need to update the activities and resources as of 16 Dec 24.

Assignment

1. If you did not complete the previous Leveling Workshop you will need to create and assign a baseline and display the Baseline bar:
   - Select **Project**, **Maintain Baselines…** and create a Baseline by saving a copy of the existing project,
   - Select **Project**, **Assign Baselines…** and select this as both your **Project Baseline** and **Primary User Baseline**, thus ensuring the baseline bar will either be blank or display the Baseline and not the **Planned Dates**.
2. Apply your **OzBuild Workshop 13 – Baseline** layout and the Baseline bar should be displayed.
3. Ensure only the **Project Baseline** bar is displayed.
4. Go to the **Project Window**, **Calculations** tab ensure your settings are as per the following picture. These are the standard settings:

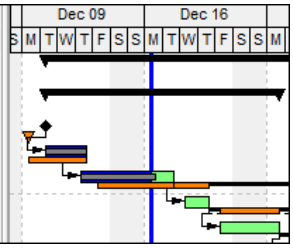


5. Assign the **Project Manager** to the **Create Technical Specification** activity as this resource was missed out at the estimating stage and will give an immediate difference between the Current Schedule and the Baseline Units and Costs.
6. Update this schedule manually by entering the following data in the **Activities**, **Status** tab or columns. Ensure all activities are **Physical % Complete**.

Activity ID	Activity Name	Actual Start	Actual Finish	Activity % Complete	Remaining Duration
OZ1000	Approval to Bid	10-Dec-24 08:00		100%	0d
OZ1010	Determine Installation Requirements	10-Dec-24 08:00	12-Dec-24 16:00	100%	0d
OZ1020	Create Technical Specification	12-Dec-24 08:00		80%	2d

7. Schedule and move the **Data Date** to 16-Dec-24 08:00.

Activity ID	Activity Name	Activity % Complete	Original Duration	Remaining Duration	Start	Finish	Total Float
Bid for Facility Extension			33d	28d	10-Dec-24 08 A	27-Jan-25 16	0d
Technical Specification			11d	6d	10-Dec-24 08 A	23-Dec-24 16	8d
OZ1000	Approval to Bid	100%	0d	0d	10-Dec-24 08 A		
OZ1010	Determine Installation F	100%	4d	0d	10-Dec-24 08 A	12-Dec-24 16 A	
OZ1020	Create Technical Spec	80%	5d	2d	12-Dec-24 08 A	17-Dec-24 16	6d
OZ1030	Identify Supplier Compo	0%	2d	2d	18-Dec-24 08	19-Dec-24 16	6d
OZ1040	Validate Technical Spe	0%	2d	2d	20-Dec-24 08	23-Dec-24 16	8d



8. OZ1010 is complete so there are no Remaining Costs or Remaining Units and the Actuals have been set to equal the Budget but may be manually adjusted.

Resources

Activity OZ1010 Determine Installation Requirements

Resource ID Name	Remaining Units / Time	Budgeted Units	Actual Units	Remaining Units	At Completion Units
PM.Project Manager	8h/d	32h	32h	0h	32h
SE.Systems Engineer	8h/d	32h	32h	0h	32h

Resources

Activity OZ1010 Determine Installation Requirements

Resource ID Name	Price / Unit	Budgeted Cost	Actual Cost	Remaining Cost	At Completion Cost
PM.Project Manager	$120/h	$3,840	$3,840	$0	$3,840
SE.Systems Engineer	$90/h	$2,880	$2,880	$0	$2,880

9. OZ1020 is in progress and the Remaining Units and Costs have been calculated from the Remaining Duration and the Remaining Units/Time but may be manually adjusted.

Resources

Activity OZ1020 Create Technical Specification

Resource ID Name	Price / Unit	Budgeted Cost	Actual Cost	Remaining Cost	At Completion Cost
PM.Project Manager	$120/h	$4,800	$2,880	$1,920	$4,800
SE.Systems Engineer	$90/h	$3,600	$2,160	$1,440	$3,600

Resources

Activity OZ1020 Create Technical Specification

Resource ID Name	Remaining Units / Time	Budgeted Units	Actual Units	Remaining Units	At Completion Units
PM.Project Manager	8h/d	40h	24h	16h	40h
SE.Systems Engineer	8h/d	40h	24h	16h	40h

10. Check the expenses for the Specialist Consultant assigned to OZ1020; they do not auto update. Update the Actual Costs to $2,000.00 and the remaining to $4,500.00.

Expenses

Activity OZ1020 Create Technical Specification

Expense Item	Budgeted Cost	Actual Cost	Remaining Cost	At Completion Cost
Specialist Consultant	$5,000	$2,000	$4,500	$6,500

11. Now create an **OzBuild Workshop 18 – Percentages** layout and display the Percent Complete columns as per the following picture. Ensure Group Totals are displayed:

12. Enter 40% against the Physical % Complete of **Create Technical Specification** and see the Activity % Complete change to 40% as the activity % Complete Type is Physical:

Activity ID	Activity Name	Activity % Complete	Physical % Complete	Duration % Complete	Units % Complete
Bid for Facility Extension				13.89%	20%
Technical Specification				45.45%	58.33%
OZ1000	Approval to Bid	100%	100%	100%	0%
OZ1010	Determine Installation Requirements	100%	100%	100%	100%
OZ1020	Create Technical Specification	40%	40%	60%	60%

13. Select the **Create Technical Specification** activity, open the Status tab, and change the Actual Labor Units from 48h to 24h in the box on the right side. Notice the Units % Complete change to 30% as fewer hours have been used, but the Remaining has changed to 56 hours:

Activity ID	Activity Name	Activity % Complete	Physical % Complete	Duration % Complete	Units % Complete
Bid for Facility Extension				13.89%	15.71%
Technical Specification				45.45%	45.83%
OZ1000	Approval to Bid	100%	100%	100%	0%
OZ1010	Determine Installation Requirements	100%	100%	100%	100%
OZ1020	Create Technical Specification	40%	40%	60%	30%

14. Now open the **Resources** tab, both resources now show 12h Actual and 28h remaining each. The **Remaining Units/Time** is now 14 hours/day because the **Activity Type** is **Fixed Duration and Units**:

Resources

Activity OZ1020 Create Technical Specification

Resource ID Name	Remaining Units / Time	Budgeted Units	Actual Units	Remaining Units	At Completion Units
PM.Project Manager	14h/d	40h	12h	28h	40h
SE.Systems Engineer	14h/d	40h	12h	28h	40h

15. The Actual Costs and Remaining Costs are also recalculated:

Resources

Activity OZ1020 Create Technical Specification

Resource ID Name	Price / Unit	Budgeted Cost	Actual Cost	Remaining Cost	At Completion Cost
PM.Project Manager	$120/h	$4,800	$1,440	$3,360	$4,800
SE.Systems Engineer	$90/h	$3,600	$1,080	$2,520	$3,600

16. Now change the **Remaining Units** of **Create Technical Specification** in the **Status** tab from 56 to 24. Note the change in the Units and Costs against the resources.

Resources

Activity OZ1020 Create Technical Specification

Resource ID Name	Remaining Units / Time	Budgeted Units	Actual Units	Remaining Units	At Completion Units
PM.Project Manager	6h/d	40h	12h	12h	24h
SE.Systems Engineer	6h/d	40h	12h	12h	24h

17. The Actual Costs and Remaining Costs should have also been recalculated:

Resources

Activity OZ1020 Create Technical Specification

Resource ID Name	Price / Unit	Budgeted Cost	Actual Cost	Remaining Cost	At Completion Cost
PM.Project Manager	$120/h	$4,800	$1,440	$1,440	$2,880
SE.Systems Engineer	$90/h	$3,600	$1,080	$1,080	$2,160

18. Create a new View titled **OzBuild Workshop 18 – Baseline Compare** and edit the columns so you are able to see the **At Completion Variances** against activity OZ1020, the Technical Specification WBS Node, and the Project:

Activity ID	Activity Name	Activity % Complete	BL Project Labor Units	At Completion Labor Units	Variance - BL Project Labor Units	BL Project Total Cost	At Completion Total Cost	Variance - BL Project Total Cost
Bid for Facility Extension			520h	528h	-8h	$55,060.00	$58,000.00	($2,940.00)
Technical Specification			152h	160h	-8h	$19,800.00	$22,740.00	($2,940.00)
OZ1000	Approval to Bid	100%	0h	0h	0h	$0.00	$0.00	$0.00
OZ1010	Determine Installation Re	100%	64h	64h	0h	$6,720.00	$6,720.00	$0.00
OZ1020	Create Technical Specifi	40%	40h	48h	-8h	$8,600.00	$11,540.00	($2,940.00)
OZ1030	Identify Supplier Compon	0%	16h	16h	0h	$1,120.00	$1,120.00	$0.00
OZ1040	Validate Technical Spec	0%	32h	32h	0h	$3,360.00	$3,360.00	$0.00
Delivery Plan			224h	224h	0h	$21,520.00	$21,520.00	$0.00
OZ1050	Document Delivery Meth	0%	32h	32h	0h	$3,840.00	$3,840.00	$0.00
OZ1060	Obtain Quotes from Supp	0%	128h	128h	0h	$12,160.00	$12,160.00	$0.00
OZ1070	Calculate the Bid Estimat	0%	24h	24h	0h	$1,920.00	$1,920.00	$0.00
OZ1080	Create the Project Schec	0%	24h	24h	0h	$1,920.00	$1,920.00	$0.00
OZ1090	Review the Delivery Plar	0%	16h	16h	0h	$1,680.00	$1,680.00	$0.00
Bid Document			144h	144h	0h	$13,740.00	$13,740.00	$0.00
OZ1100	Create Draft of Bid Docu	0%	96h	96h	0h	$8,160.00	$8,160.00	$0.00
OZ1110	Review Bid Document	0%	32h	32h	0h	$3,360.00	$3,360.00	$0.00
OZ1120	Finalise and Submit Bid D	0%	16h	16h	0h	$2,220.00	$2,220.00	$0.00
OZ1130	Bid Document Submitted	0%	0h	0h	0h	$0.00	$0.00	$0.00

19. At this point you may experiment with this activity. Uncheck **Auto Compute Actuals** will allow you to change the Costs and they are not recalculated from the Resource Rate.

20. You may also look at some of the other tabs such as the **Summary** tab.

22.10 Workshop 19 – Activity Codes and User Defined Fields

Background

This workshop will look at creating an Activity Code and some UDFs. In the next workshop you will populate the UDFs using Global Change.

We will create an activity code to represent the departments' responsibilities for the Project.

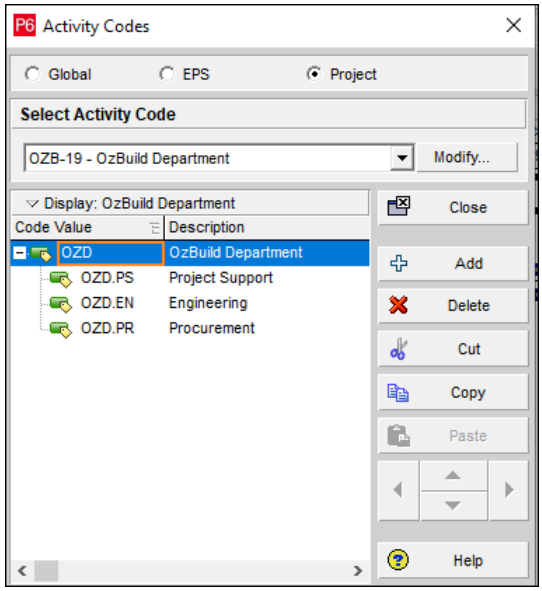
Assignment – Activity Codes

1. Select **Enterprise**, **Activity Codes**… to open the **Activity Code** form,
2. Click on the **Project** button at the top of the form.
3. Select 

to open the **Activity Code Definitions – Project** form.
4. Select 

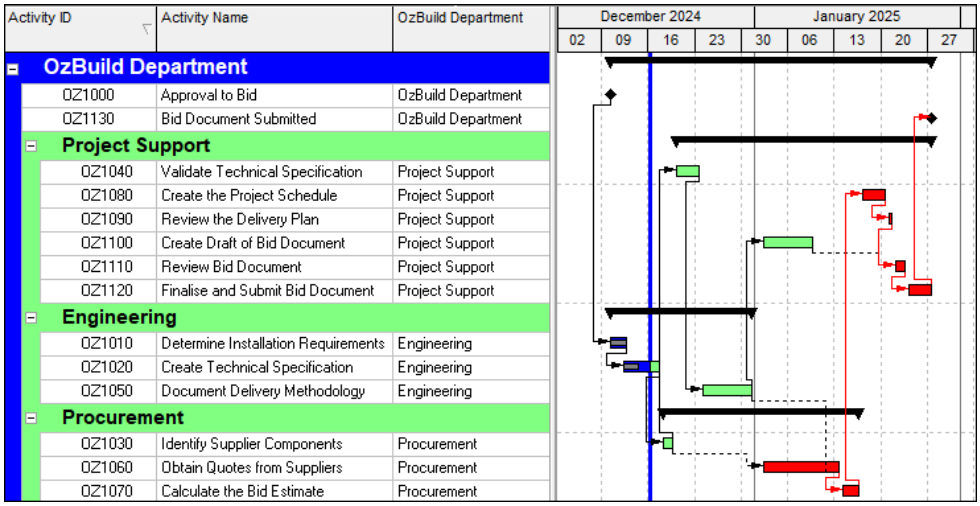
to create a new code titled **OzBuild Department** and assign a **Max Length** of 3.
5. Click on 

to close the form.
6. Create the Activity Code Values and Descriptions as in the picture on the right.
7. Apply the **OzBuild Workshop 10 – Without Float** layout.
8. Add the **OzBuild Department** column per the picture and save the layout as **OzBuild Workshop 19 – Assign Codes** layout.
9. Assign the **OzBuild Departments** using all the methods available as in the following picture:
10. **Note:** If the **OzBuild Department**'s Code Name and not Code is displayed in the column then this may be changed by selecting **Edit**, **User Preferences**, **Application**, **Codes** and selecting **Code Value**.



Activity ID	Activity Name	OzBuild Department
Bid for Facility Extension		
Technical Specification		
OZ1000	Approval to Bid	OZD
OZ1010	Determine Installation Requirements	OZD.EN
OZ1020	Create Technical Specification	OZD.EN
OZ1030	Identify Supplier Components	OZD.PR
OZ1040	Validate Technical Specification	OZD.PS
Delivery Plan		
OZ1050	Document Delivery Methodology	OZD.EN
OZ1060	Obtain Quotes from Suppliers	OZD.PR
OZ1070	Calculate the Bid Estimate	OZD.PR
OZ1080	Create the Project Schedule	OZD.PS
OZ1090	Review the Delivery Plan	OZD.PS
Bid Document		
OZ1100	Create Draft of Bid Document	OZD.PS
OZ1110	Review Bid Document	OZD.PS
OZ1120	Finalise and Submit Bid Document	OZD.PS
OZ1130	Bid Document Submitted	OZD

11. Now Group and Sort by the **Activity Code: OzBuild Department**, sort by Activity ID. The Milestones are now at the top of the screen.
12. The picture below has the Code Descriptions displayed selecting **Edit**, **User Preferences**, **Application**, **Codes** and selecting **Description**.



Activity ID	Activity Name	OzBuild Department
OzBuild Department		
OZ1000	Approval to Bid	OzBuild Department
OZ1130	Bid Document Submitted	OzBuild Department
Project Support		
OZ1040	Validate Technical Specification	Project Support
OZ1080	Create the Project Schedule	Project Support
OZ1090	Review the Delivery Plan	Project Support
OZ1100	Create Draft of Bid Document	Project Support
OZ1110	Review Bid Document	Project Support
OZ1120	Finalise and Submit Bid Document	Project Support
Engineering		
OZ1010	Determine Installation Requirements	Engineering
OZ1020	Create Technical Specification	Engineering
OZ1050	Document Delivery Methodology	Engineering
Procurement		
OZ1030	Identify Supplier Components	Procurement
OZ1060	Obtain Quotes from Suppliers	Procurement
OZ1070	Calculate the Bid Estimate	Procurement

13. Save the layout.
14. Now assign the **OzBuild Workshop13** – Baseline layout.

Assignment – UDFs

15. We will create some UDFs which we will populate using Global Change.

NOTE: If you are in a shared database the instructor will create these UDFs.

16. Select **Enterprise**, **User Defined Fields…** to open the **Used Defined Fields** form,
17. Select **Activities** in the drop-down box at the top of the form,
18. Add three UDFs titled:
    - **Last Period Start** as a **Data Type** of **Start Date**
    - **Last Period Finish** as a **Data Type** of **Finish date**
    - **Last Period AC Dur** (Last Period At Completion Duration) as a **Data Type** of **Number**.
19. Display the columns and Group by WBS as in the following picture:

Activity ID	Activity Name	Original Duration	Last Period AC Dur	Start	Last Period Start	Finish	Last Period Finish
Bid for Facility Extension		33d	0.00	10-Dec-24 08 A		27-Jan-25 16	
Technical Specification		11d	0.00	10-Dec-24 08 A		23-Dec-24 16	
OZ1000	Approval to Bid	0d		10-Dec-24 08 A			
OZ1010	Determine Installation F	4d		10-Dec-24 08 A		12-Dec-24 16 A	
OZ1020	Create Technical Spec	5d		12-Dec-24 08 A		17-Dec-24 16	
OZ1030	Identify Supplier Compo	2d		18-Dec-24 08		19-Dec-24 16	
OZ1040	Validate Technical Spe	2d		20-Dec-24 08		23-Dec-24 16	
Delivery Plan		18d	0.00	24-Dec-24 08		21-Jan-25 16	

20. Save the Layout as **Workshop 19 – UDF**.

23.11 Workshop 20 – Global Change

Background

We wish to copy the current update information to the User Defined Fields created in the previous workshop.

Assignment

1. Apply the **Workshop 19 – UDF** Layout.

2. Create a Global Change titled **Set Last Period Data** and add the following parameters:

   - Last Period Start to equal Start
   - Last Period Finish to equal Finish
   - Last Period AC Dur to equal At Completion Duration divided by 8 as P6 calculates in hours:

Select Subject Area: Activities

Global Change Name: Set Last Period data

If	Parameter	Is	Value	High Value
⊟	(All of the following)			
Where				

Then	Parameter	Is	Parameter/Value	Operator	Parameter/Value
	Last Period Start	=	Start		
And	Last Period Finish	=	Finish		
And	Last Period AC Dur	=	At Completion Duration	/	8.00

3. Run the Global Change and commit the changes with the icon at the bottom of the screen:

Activity ID	Activity Name	Original Duration	Last Period AC Dur	Start	Last Period Start	Finish	Last Period Finish
⊟ Bid for Facility Extension		33d	40.00	10-Dec-24 08 A	10-Dec-24 08	27-Jan-25 16	27-Jan-25 16
⊟ Technical Specification		11d	11.00	10-Dec-24 08 A	10-Dec-24 08	23-Dec-24 16	23-Dec-24 16
OZ1000	Approval to Bid	0d	0.00	10-Dec-24 08 A	10-Dec-24 08		10-Dec-24 08
OZ1010	Determine Installation F	4d	3.00	10-Dec-24 08 A	10-Dec-24 08	12-Dec-24 16 A	12-Dec-24 16
OZ1020	Create Technical Spec	5d	4.00	12-Dec-24 08 A	12-Dec-24 08	17-Dec-24 16	17-Dec-24 16
OZ1030	Identify Supplier Compo	2d	2.00	18-Dec-24 08	18-Dec-24 08	19-Dec-24 16	19-Dec-24 16
OZ1040	Validate Technical Spe	2d	2.00	20-Dec-24 08	20-Dec-24 08	23-Dec-24 16	23-Dec-24 16
⊞ Delivery Plan		18d	19.00	24-Dec-24 08	24-Dec-24 08	21-Jan-25 16	21-Jan-25 16
⊞ Bid Document		18d	10.00	02-Jan-25 08	02-Jan-25 08	27-Jan-25 16	27-Jan-25 16

You will notice that the WBS and Project Last Period Durations are not correct and are a mathematical addition of the values below. To resolve this, you may either:

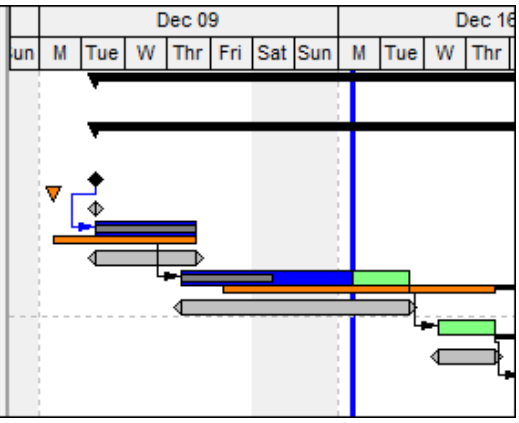
- Hide the **Group Total** in the **Group and Sort** form, or
- Use a further Global Change Line to put the Durations in a Text UDF that will not add up in the WBS and Project fields.

4. Create and display a gray bar showing from **Last Period Start** to **Last Period Finish** and place in position 3.

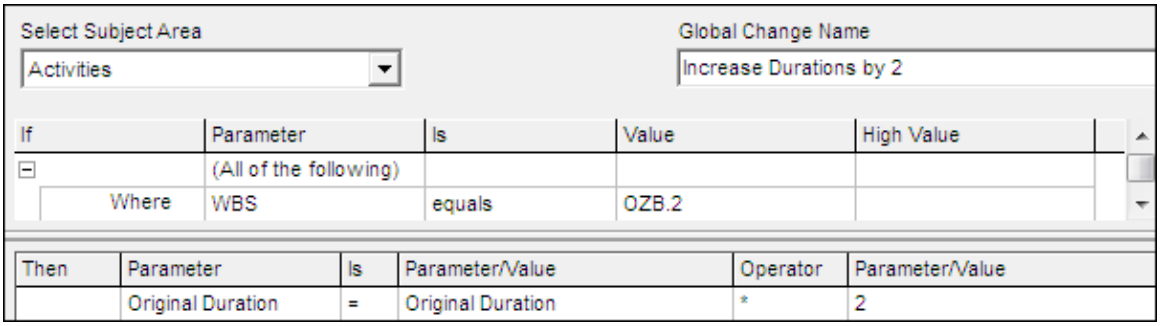
Display	Name	Timescale	User Start Date	User Finish Date	Filter	Preview
☑	Last Period	User Dates	Last Period Start	Last Period Finish	All Activities	

5. Display the Project Baseline, Total Float and Negative Float bars.
6. Adjust the row height as required, say about 27, and your schedule may look like the following picture with three bars.
7. Save the layout as **OzBuild Workshop 20 – Last Period Bars**.

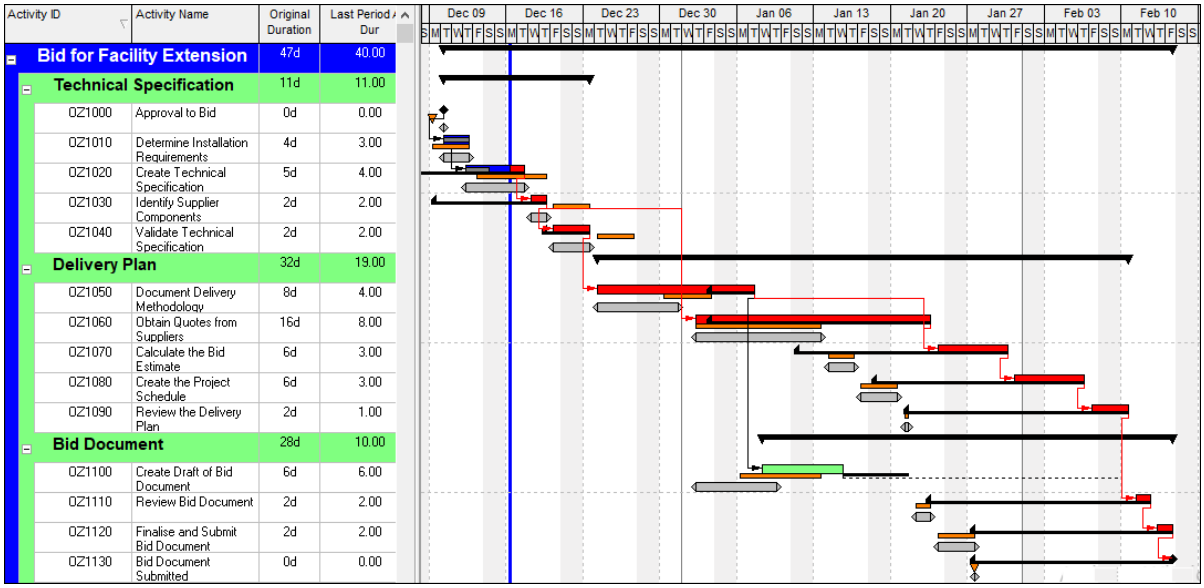
Activity ID	Activity Name	Original Duration	Last Period AC Dur
Bid for Facility Extension		33d	40.00
Technical Specification		11d	11.00
OZ1000	Approval to Bid	0d	0.00
OZ1010	Determine Installation Requirements	4d	3.00
OZ1020	Create Technical Specification	5d	4.00
OZ1030	Identify Supplier Components	2d	2.00
OZ1040	Validate Technical Specification	2d	2.00



8. Create and run a Global Change to multiply the Original Durations of Activities in the Delivery Plan Phase by 2.



9. Schedule your project:



Activity ID	Activity Name	Original Duration	Last Period Dur
Bid for Facility Extension		47d	40.00
Technical Specification		11d	11.00
OZ1000	Approval to Bid	0d	0.00
OZ1010	Determine Installation Requirements	4d	3.00
OZ1020	Create Technical Specification	5d	4.00
OZ1030	Identify Supplier Components	2d	2.00
OZ1040	Validate Technical Specification	2d	2.00
Delivery Plan		32d	19.00
OZ1050	Document Delivery Methodology	8d	4.00
OZ1060	Obtain Quotes from Suppliers	16d	8.00
OZ1070	Calculate the Bid Estimate	6d	3.00
OZ1080	Create the Project Schedule	6d	3.00
OZ1090	Review the Delivery Plan	2d	1.00
Bid Document		28d	10.00
OZ1100	Create Draft of Bid Document	6d	6.00
OZ1110	Review Bid Document	2d	2.00
OZ1120	Finalise and Submit Bid Document	2d	2.00
OZ1130	Bid Document Submitted	0d	0.00

10. You will notice that Negative Float has been created and the change in durations is observed in the bars and from the differences in the Duration values.