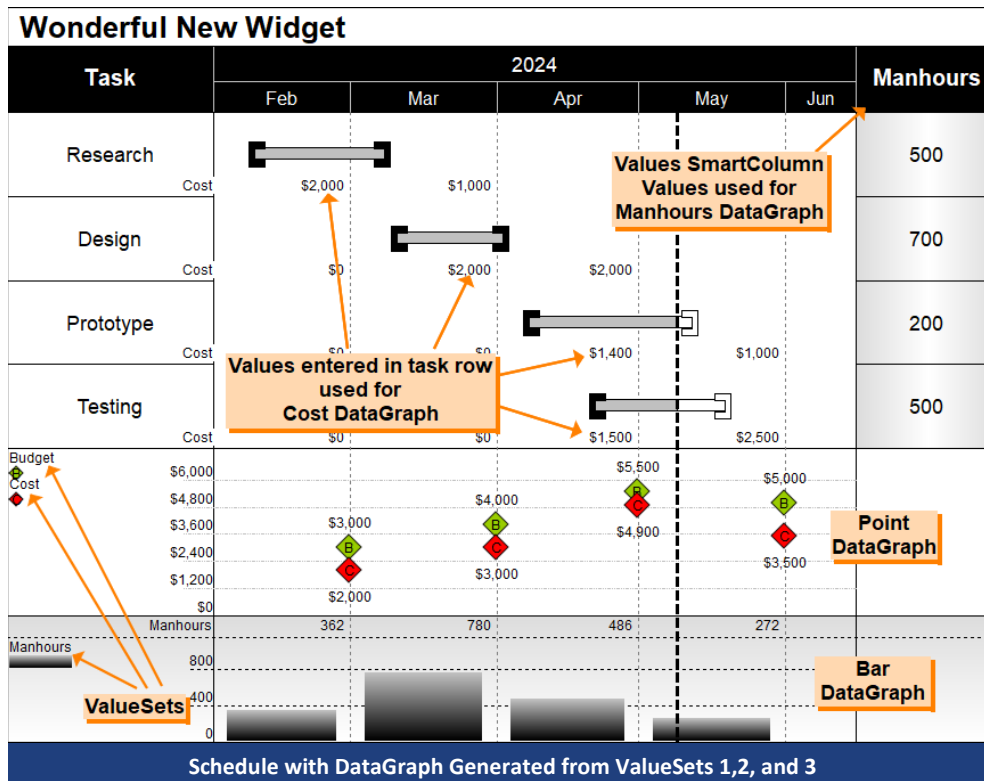


Milestones PROFESSIONAL[®] TUTORIALS

Lesson 11 - Introduction to ValueSets and DataGraphs

In this lesson you will learn how to:

- Create a **Type 1: Keyed-In Global Values** ValueSet.
- Create a **Type 2: Sum of Values Keyed into a Task Row** ValueSet.
- Create a **Type 3: Allocate Column Values Across a Time-line** ValueSet.
- Enter the values for a ValueSet.
- Set up DataGraphs which display the ValueSets.
- Create a Values SmartColumn.
- Enter values in the Values SmartColumn.



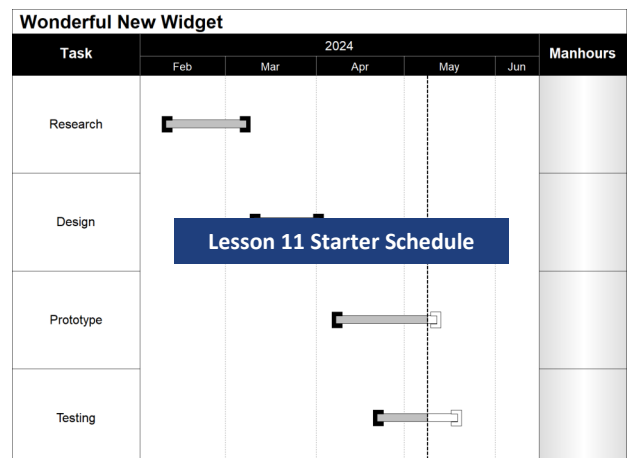
Numbers can be shown along with a schedule. These numbers can be contained in value categories called ValueSets (e.g. Manhours, Budget, and Costs) and then graphed on a DataGraphs, as well as totaled for each row (in columns).

There are five different types of ValueSets possible with Milestones Professional. In this lesson you will learn about Types 1, 2, and 3. You will learn how to work with these ValueSet types, build a DataGraph and more.

Up to 9 ValueSets can be added to a schedule. They can be graphed on up to 3 DataGraphs, a maximum of 8 ValueSets per DataGraph.

Open the schedule for this lesson

1. On the toolbar, choose **File**.
2. In the **Files and Templates: Open and Save Options** section, select **Open Samples or Lessons**. The **Open a Sample Chart** dialog displays.
3. Under **Select a Folder below to Open**, select **Lessons**. The Lesson schedules will display in the window to the right.
4. Pick **Lesson 11 Starter Schedule.mlj**.
5. Save the schedule to an accessible folder on your computer. Choose the **File** tab. In the **Files and Templates: Open and Save Options** section, choose **Save As....** In the menu that displays choose **Chart**. Name, then save the schedule.



Create the Budget ValueSet as Type 1: Keyed-in Global Values

First, create one Type 1 ValueSet. These values are entered by specified time increments (daily, weekly, monthly, etc.) and do not relate to specific tasks. Here, you will enter monthly Budget values for the whole project.

1. Click the **Tools** tab.
2. In the **Graph Options** section choose **Set Up ValueSets**. The **Create or Edit ValueSets** dialog box displays.
3. For the **Set Alignment for ValueSets** option choose **Monthly** as the time period to align the values.
4. Click the first **Create/Edit** button to the left of **1: No Name Assigned ...**. The **ValueSet Properties** dialog displays.

ValueSet Properties

ValueSet 1

ValueSet Name: Clear ValueSet

Automation Tag:

Select Project Type Field:

Data Source Graphic Properties

Type 1: Keyed-in Global Values Type 2: Sum of Values Keyed into Task Rows

Create or Edit ValueSets

Press the Create/Edit... button to define a new ValueSet or to change the values or source of an existing ValueSet.

Available ValueSets

1. No Name Assigned. Contains 0 Values.

2. No Name Assigned. Contains 0 Values.

3. No Name Assigned. Contains 0 Values.

4. No Name Assigned. Contains 0 Values.

5. No Name Assigned. Contains 0 Values.

6. No Name Assigned. Contains 0 Values.

7. No Name Assigned. Contains 0 Values.

8. No Name Assigned. Contains 0 Values.

9. No Name Assigned. Contains 0 Values.

Monthly Set Alignment for ValueSets

Align Year on Fiscal Year Endings

5. For **ValueSet Name** enter **Budget**.
6. Under the **Data Source** tab, choose **Type 1: Keyed-in Global Values** as the ValueSet type.
7. Click the **Display/Edit Values...** button. The **Edit Values** dialog box displays.

The **From** date for row 1 is defined by the start date of this schedule (2/1/24). The **To** date for row 1 is defined by alignment chosen in Step 3 (for this tutorial Monthly). Thus, row 1 is February's budget, row 2 is March's budget, and so on. The final date where a value can be entered is established by the end date of the schedule. If the end date is not the last day of a time increment selected a value can not be entered for the last time increment as seen in this tutorial. The last day of this schedule is 6/15/2024 therefore the last budget value that can be added is for May. A June budget value can not be inserted because the entire month of June is not included in the date range of the schedule.

8. In the **Edit Value** dialog box enter the following values a monthly budget value in each cell under **Value**.
 February: **3000**
 March: **4000**
 April: **5500**
 May: **5000**
9. Choose **OK** to return to the **ValueSet Properties** dialog box (keep this dialog box open for the next set of instructions.)

Edit Values

Enter or update values for each of the time periods. Values are always displayed to immediate left of each date on the schedule.

	From:	To:	Value:
1	Thu 2/1/24	Thu 2/29/24	3000.00
2	Fri 3/1/24	Sun 3/31/24	4000.00
3	Mon 4/1/24	Tue 4/30/24	5500.00
4	Wed 5/1/24	Fri 5/31/24	5000.00
5			

Create the Budget ValueSet as Type 1: Keyed-in Global Values cont'd

10. Chose the **Graphic Properties** tab to set the **ValueSet Display Properties** and **Graph Properties** for Budget ValueSet.

UNDER ValueSet Display Properties

- Check on **Graph Values** to have the Budget ValueSet values graph as bars, lines, or points in the DataGraph.
- Check on **Values Represent Currency** and the \$ will display on all values for the Budget ValueSet in the DataGraph.
- Select **0** for **Number of Decimals to Display**. All values for the Budget ValueSet will not show any decimal values.
- Check on **Show Value Near Point**. For this example the Budget ValueSet is going to be a point graph. For each month a point (represented by a symbol) will have the Budget value for that time increment displayed above the point (symbol).

UNDER Graphic Properties

- Budget ValueSet values are going to be graphed as points. Under **Symbol for Point Graphs**: select **symbol 4 green diamond with letter B**. The list of symbols available for points is a reflection of the toolbox. The green diamond was set up in the toolbox, see tutorial Lesson 4 for more information on setting up symbols in the toolbox.

11. Click **OK** to return to the **Create or Edit ValueSets** dialog box (keep this dialog box open for the next set of instructions).

Notice:

Row 1. Budget. Contains 4 Values referencing the values entered in step 8 on previous page.

Create the Cost ValueSet as Type 2: Sum of Values Keyed into Task Rows

Next you will create a Type 2 ValueSet. These values are entered by specified time increments (this tutorial monthly) for a specific project task. Later, you will enter monthly Costs values for each of the project tasks.

1. Click the **Create/Edit** button to the left of **2: No Name Assigned ...** to display the **ValueSet Properties** dialog

2. For **ValueSet Name** enter **Cost**.
3. Under the **Data Source** tab, choose **Type 2: Sum of Values Keyed into Task Rows** as the ValueSet type.
4. Click the **Graphic Properties** tab to change the **ValueSet Display Properties** and **Graph Properties**.

UNDER ValueSet Display Properties

- a. Check on **Graph Values** to have cause the Cost ValueSet to be graphed.
- b. Check on **Values Represent Currency**. The \$ will display on all values for the Cost ValueSet in the DataGraph.
- c. Select **0** for **Number of Decimals to Display**. No decimal places will be shown for values in the Cost ValueSet.
- d. Check on **Show Values under Each Task Row**. Because Cost is a Type 2 ValueSet the values entered are associated with a task row. The values can be displayed in their task row by checking on this option. A Milestones message displays informing that the font used for these values is Symbol Text font To change choose **Format | Default Text | Symbol Text**.
- e. Check on **Show Value Near Point**. For this example the Cost ValueSet is going to be a point graph. For each month a point (represented by a selected symbol) will have the Cost value for that time increment displayed.
- f. Check on **Show value Below Point** to have the Cost values display below the point (symbol).

UNDER Graphic Properties

- a. Cost ValueSet values are going to be graphed as points. Under **Symbol for Point Graphs**: select **symbol 3 red diamond with letter C**. The list of symbols available for points is a reflection of the toolbox. The red diamond that was set up in the toolbox, see tutorial Lesson 4 for more information on setting up symbols in the toolbox.

5. Click **OK** to return to the **Create or Edit ValueSets** dialog box (keep this dialog box open for the next set of instructions).

Notice:

Row 1. Budget. Contains 4 Values.

Row 2. Cost. Contains 0 Values. Values will be entered later.

Create the Manhours ValueSet as Type 3: Allocate Column Values Across Timeline

Now, create a Type 3 ValueSet. These values are taken from a Values SmartColumn, evenly distributed across each task's Gantt bar, and graphed by time period in the DataGraph. Here, the **Manhours** column will contain the values for this Manhours ValueSet.

1. Click the third **Create/Edit** button to the left of **3: No Name Assigned ...** to reach the **ValueSet Properties** dialog box.

2. For **ValueSet Name** enter **Manhours**.
3. Under the **Data Source** tab, choose **Type 3: Allocate Column Values Across Timeline** as the ValueSet type.
4. For **Select Column** scroll to **11. Manhours** and select it.
5. Check on **Allocate to Current Date**. Values will only graph to the schedule's current date.

6. Click the **Graphic Properties** tab to Set the **ValueSet Display Properties** and **Graph Properties**.

UNDER ValueSet Display Properties

- a. Check on **List Numeric Values above or Below Graph** to have Manhours ValueSet values display in each time increment above the graph. For values to display below graph select option when setting up the DataGraph.
- b. Check on **Graph Values** to have Manhours ValueSet values graph as bars, lines, or points in the DataGraph.
- c. Select **0** for **Number of Decimals to Display**. All Values for the Cost ValueSet will not show any decimal values.

UNDER Graphic Properties

- a. Manhour ValueSet values are going to be graphed as bars with a gradient from Silver to Black. Select the **Line/Bar Color: Silver**
- b. Select the **Bar Pattern: solid** which is the first option in the drop down
- c. Select the **Solid Bar Target Color: Black**
- d. Select the **Solid Bar Effects: Fade to Bottom**.

7. Click **OK** to return to the **Create or Edit ValueSets** dialog box, where you should have these three ValueSets: Budget, Cost and Manhours

Row 1. Budget. Contains 4 Values.
Row 2. Cost. Contains 0 Values. Values will be entered later.
Row 3. Manhour. Contains 0 Values. Values will be entered later.

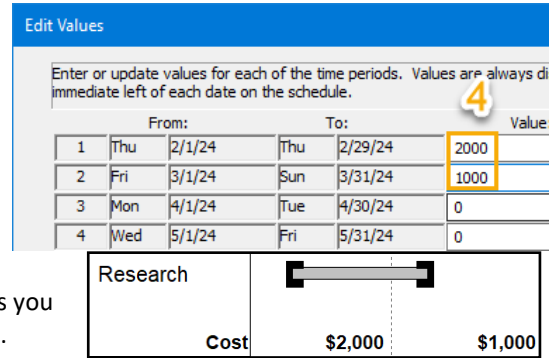
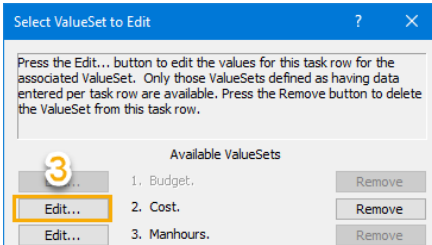
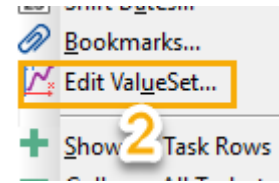
8. Choose **OK** to return to the schedule. You will not notice any change in the schedule.

Enter the Values for the "Costs" ValueSet

The **Costs** ValueSet already exists, yet does not contain values. On a row-by-row basis, you will now enter those values.

Enter the costs for the Research task row...

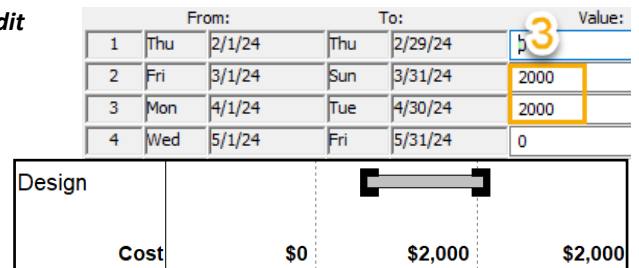
1. Click the (↶) **Arrow** tool in the toolbox.
2. On the schedule, right-click the word **Research**, and from the right click menu choose **Edit ValueSet**. The **Select ValueSet to Edit** dialog box displays.
3. Click the **Edit** button to the left of **2. Costs**.



4. The **Edit Values** dialog box appears. Since **Research** takes place only in February and March enter **2000** for February and **1000** for March.
5. Click **OK**, and **OK** again, to return to the schedule. You will see the values you entered in the **Research** task row however the graph will not appear yet.

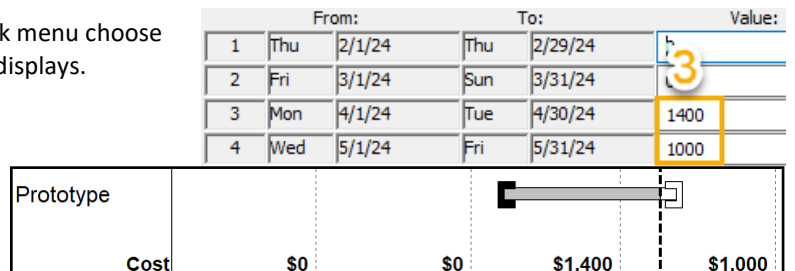
Enter the costs for Design...

1. Right-click the word **Design**, from the right click menu choose **Edit ValueSet**. The **Select ValueSet to Edit** dialog displays.
2. Click the **Edit** button to the left of **2. Costs**.
3. Since **Design** takes place only in March and April enter **2000** for March and **2000** for April.
4. Click **OK**, and **OK** again, to return to the schedule. You will now see those values in the **Design** task row.



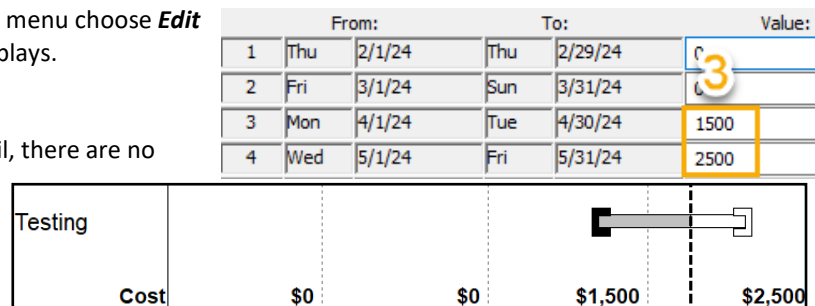
Enter the costs for Prototype...

1. Right-click the word **Prototype**, from the right click menu choose **Edit ValueSet**. The **Select ValueSet to Edit** dialog displays.
2. Click the **Edit** button to the left of **2. Costs**.
3. Since **Prototype** takes place only in April and May, enter **1400** April and **1000** for May.
4. Click **OK**, and **OK** again, to return to the schedule.



Enter the costs for Testing...

1. Right-click the word **Testing**, from the right click menu choose **Edit ValueSet**. The **Select ValueSet to Edit** dialog displays.
2. Click the **Edit** button to the left of **2. Costs**.
3. Since **Testing** takes place only in March and April, there are no costs associated with other months. Therefore, enter **1500** for March and **2500** for April.
4. Click **OK**, and **OK** again, to return to the schedule. You will see the values you entered in each task row however the graph will not appear yet.



Choose F9 on the keyboard to refresh the Milestones schedule to show any values or words that are not fully visible.

Set up the DataGraphs that will display the ValueSets

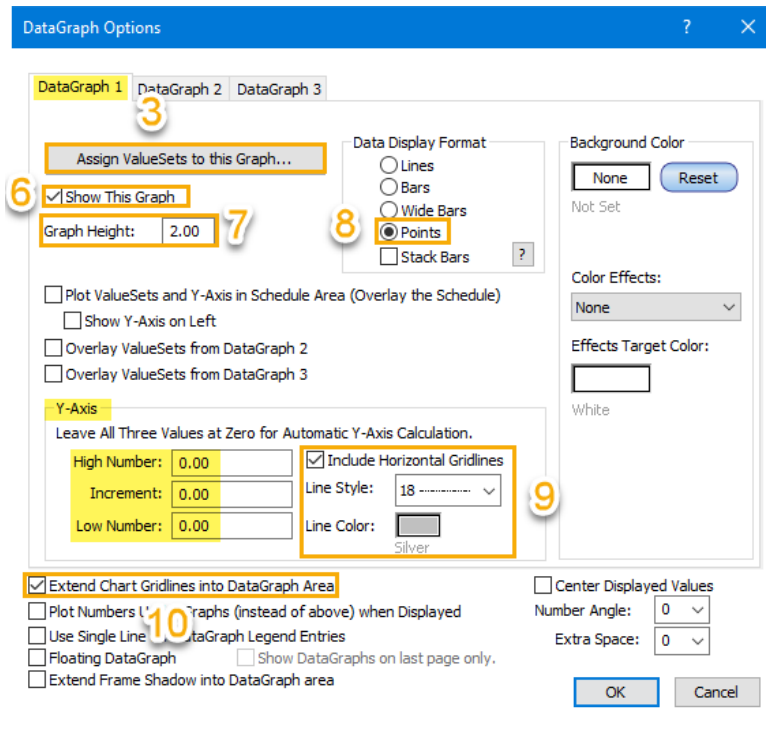
In the previous steps, you set up three ValueSets (**Budget**, **Costs**, and **Manhours**) and entered the values for two of those ValueSets (**Budget** and **Costs**). Next, you will set up two DataGraphs: The first will display **Budget** and **Costs**, and the second will display **Manhours**.

Milestones can have a total of three DataGraphs containing up to 8 ValueSets.

DataGraph 1

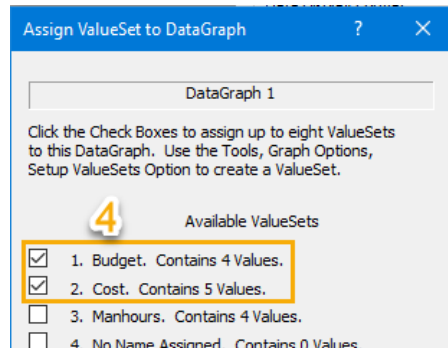
1. Select the **Tools** tab.

2. In the **Graph Options** section choose **Setup DataGraph**. The **DataGraph Options** dialog box displays with **DataGraph 1** options showing.



3. Select the **Assign ValueSets to this Graph...** button the **Assign ValueSet to DataGraph** dialog box comes up.

4. Check on **1. Budget. Contains 4 Values** and **2. Cost. Contains 5 Values**.



5. Click **OK** to go back to the **DataGraph 1** options.

6. Check on **Show this Graph**.

7. For **Graph Height** enter **2.00**.

8. For **Data Display Format** choose **Points**. Values entered for budget and costs will show on the DataGraph as the symbols selected under the respective ValueSets Graphic Properties tab.

9. Under **Y axis** you can select values for **High Number**, **Increment** and **Low Number** these values build the Y-axis values of the DataGraph. For this tutorial we will leave the values at zero allowing Milestones to automatically build the Y axis values. Do check on **Include Horizontal Gridlines**. For **Line Style** select **18**. For **Line Color** select **Silver**.

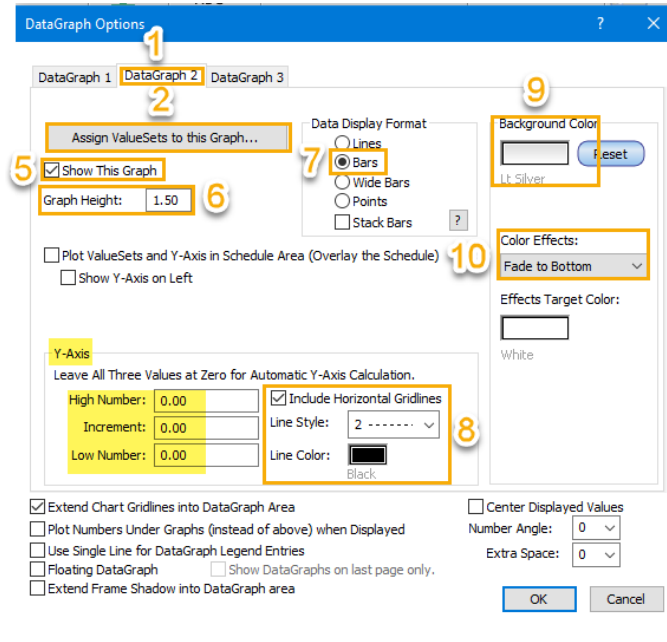
10. Check on **Extend Chart Gridlines into DataGraph Area**. Monthly vertical gridlines that are showing in the schedule area will also show in the DataGraph. (Keep this dialog box open for the next set of instructions).

All selections below the DataGraphs tabs border are generic settings for all 3 DataGraphs.

Set up the DataGraphs that will display the ValueSets cont'd

DataGraph 2

1. Select the **DataGraph 2** tab. All options will be available for selection for DataGraph 2.



2. Select the **Assign ValueSets to this Graph...** button. The **Assign ValueSet to DataGraph** dialog box comes up.

3. Check on **3. Manhours. Contains 0 Values.**

4. Click **OK** to go back to the **Datagraph 2** options.

5. Check on **Show this Graph.**

6. For **Graph Height** enter **1.50**.

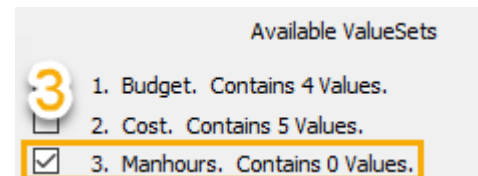
7. For **Data Display Format** choose **Bars**. Values entered for Manhours will show on the DataGraph as bars.

8. Again leave the **High Number**, **Increment** and **Low Number** zero allowing Milestones to automatically build the Y axis values. Do check on **Include Horizontal Gridlines**. For **Line Style** select **2**. For **Line Color** select **Black**.

9. Under **Background Color** select **light silver** or a color of your choice.

10. For **Color Effects** choose **Fade to Bottom**.

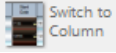
11. Click **OK** to return to the schedule. Budget and Cost DateGraph is generated. Manhours Data-Graph is generated however the values will not populate until the Manhours column is set up.



Wonderful New Widget						
Task	2024					Manhours
	Feb	Mar	Apr	May	Jun	
Research	[Bar]					
Cost	\$2,000	\$1,000				
Design		[Bar]				
Cost	\$0	\$2,000	\$2,000			
Prototype			[Bar]			
Cost	\$0	\$0	\$1,400	\$1,000		
Testing	Budget and Cost Points DataGraph					
Cost	\$0	\$0	\$1,500	\$2,500		
Budget	\$6,000			\$5,500	\$5,000	
Cost	\$4,800			\$4,900	\$3,500	
	\$3,600	\$3,000	\$4,000			
	\$2,400					
	\$1,200	\$2,000	\$3,000			
	\$0					
Manhours	1.00					
	0.00					

Create a Values SmartColumn that contains user-entered values

You will change the **Manhours** column to a Values SmartColumn, then enter values for that column.

1. Click the (↶) **Arrow** tool in the toolbox.
2. Click the **Manhours column heading**. The toolbar will change to the **Selection** tab with **Current Object: Column Heading**.
3. Choose **Switch to Column**. 
4. In the **Column Type and Format** section, click the (none) **down arrow** next to (none). From the drop down menu choose **Values**. The **Indicators for Values** column dialog box displays.
5. In the **Indicators for Values** column dialog box make no changes from the default options already chosen, just select **OK** to return to the schedule. You will now see 0's in the Manhours Values SmartColumn.

Enter values in the Values SmartColumn

1. Click the (T) **Text** tool the toolbox.
2. Click once in the **Manhours** column **Research** task row cell.
3. Enter a value of **500**.
4. Select Enter or the down arrow key on your keyboard, to get to the next task row's **Manhours** cell. Notice, the DataGraph will build.
5. Enter the following values:
 In **Design** cell enter **700**
 In **Prototype** cell enter **200**
 In **Testing** cell enter **500**

Manhours
500
700
200
500

When the last value is entered do not click enter or down arrow. Simply click with your mouse outside the schedule. If you do select enter or the down arrow this will take you to a second page. To get back to the first page choose the **Edit** tab. In the **Delete** section choose **Current page**. Below is the Manhours Data-Graph populated with bars.

