

Course  
&  
Test Series

Using What - if Analysis in MS Excel

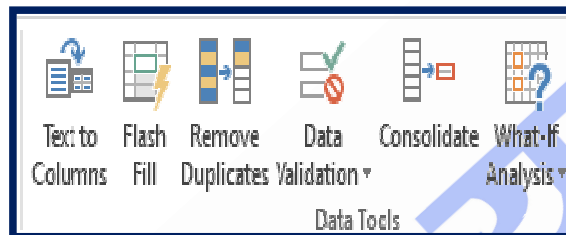
Microsoft Excel

Module 42 - Using What - if Analysis in MS Excel

**What- If Analysis**

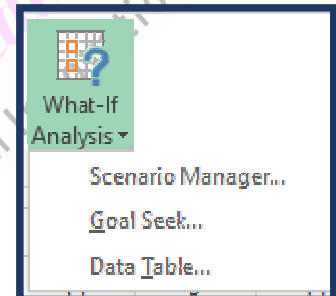
**What-If Analysis** in Excel helps you see how changing values affects your results. It answers questions like “What if my income increases?” or “What if expenses go down?”

You can test different situations using tools like **Scenario Manager**, **Goal Seek**, and **Data Table**. It’s useful for planning, forecasting, and making smart decisions without changing your original data.



**Three Types of What If - Analysis in MS Excel:**

- **Scenario Manager** - Allows you to create and compare different groups of input values to see how they affect results.
- **Goal Seek** - Finds the input value needed to achieve a specific result in a formula.
- **Data Table** - Shows how changing one or two variables impacts the result of a formula.



**Scenario Manager**

Scenario Manager is a tool in Microsoft Excel (part of the What-If Analysis feature) that lets you create and compare different sets of input values to see how they affect the results of your spreadsheet model. It’s particularly useful for sensitivity analysis, budget planning, forecasting, and decision-making under uncertainty.

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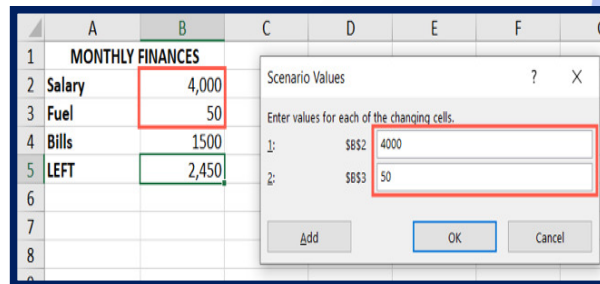
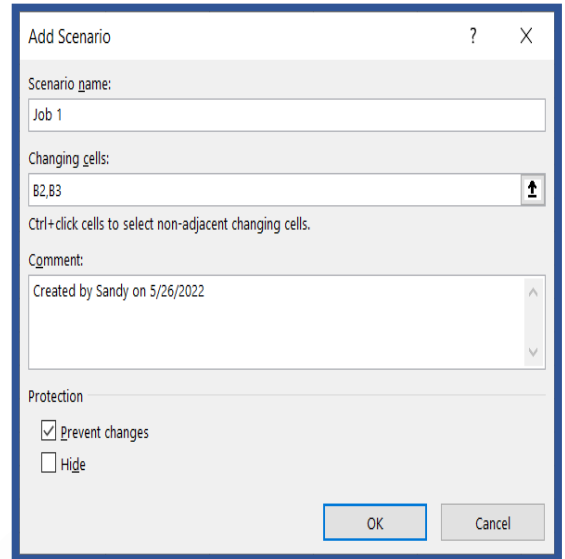
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Give your scenario a name; we'll use **Job 1**.

For our example, our changing cells are B2 for the salary and B3 for the fuel cost. Click "OK."

In the subsequent pop-up box, enter the values.

Since this is the first scenario and you've already entered the amounts in the sheet, you should see those values in the corresponding boxes. You'll then see the Scenario Manager window display your first scenario.

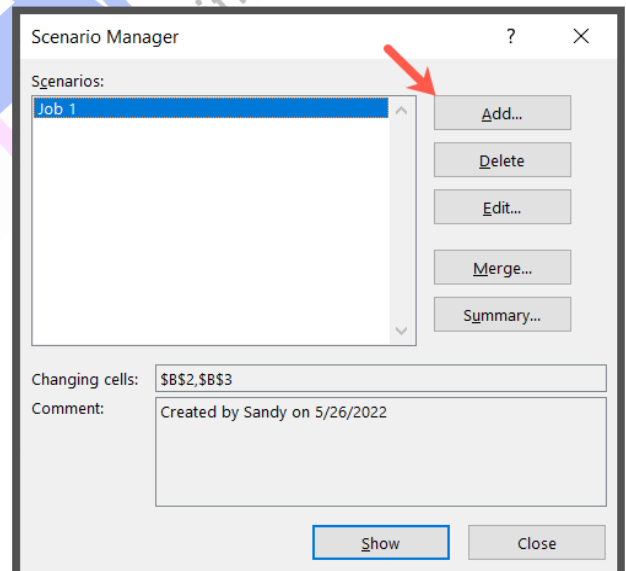


Select "**Add**" to set up the second scenario.

You'll then see the Scenario Manager window display your first scenario. Select "Add" to set up the second scenario.

Follow the same steps to give the scenario a name and enter the Changing Cells.

The changing cells will likely be the same cell references since you are comparing situations. However, you



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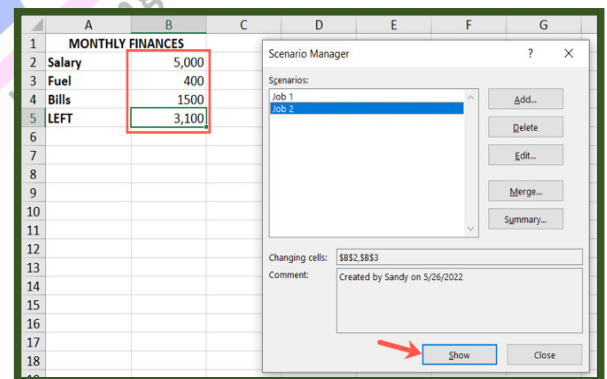
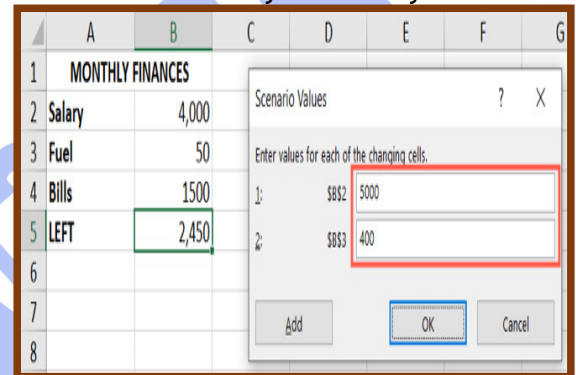
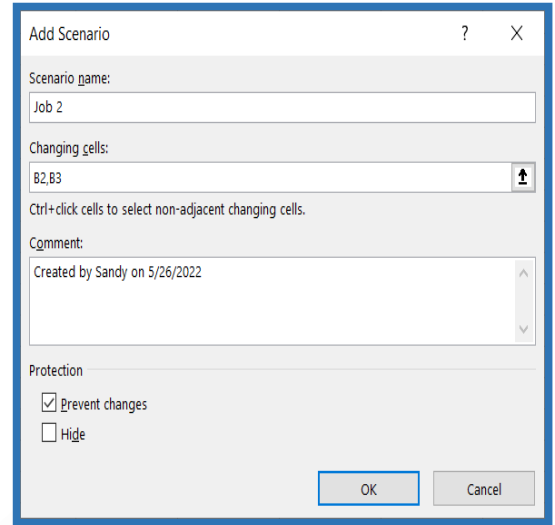
may use different or additional cells than those shown if necessary. Click "OK."

Now, enter the values for the second scenario in the box (not in the sheet). For our example, we enter the salary (B2) and fuel cost (B3) for Job 2.

Remember, these are the two variables that change and that we are comparing. **Click "OK."**

You already see the first scenario for Job 1 in the sheet since you initially entered those details. To see the second scenario, select it in the window and click "Show."

- You'll see your spreadsheet update to display the values and calculation for the second scenario.
- To display the first one again, select it in the Scenario Manager window and click "Show."



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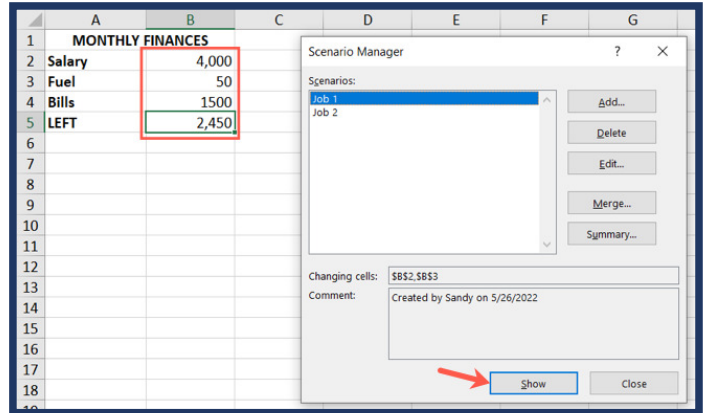
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This lets you quickly and easily **flip back and forth between the scenarios.**

- When you have decided on the one you want to **keep in your sheet**, make sure it's displayed there and click "Close" in the Scenario Manager window.



- To change or remove a scenario, open the Scenario Manager, select the scenario and click "**Edit**" to make changes or "**Delete**" to remove it.
- To change or remove a scenario, open the Scenario Manager, select the scenario and click "Edit" to make changes or "Delete" to remove it.
- To show a comparison in one spot, open the Scenario Manager, click "Summary," and mark Scenario Summary. You'll see a new tab open with a nice visual of your comparison that you can save or share.

Scenario Summary			
	Current Values:	Job 1	Job 2
<b>Changing Cells:</b>			
\$B\$2	4,000	4,000	5,000
\$B\$3	50	50	400
<b>Result Cells:</b>			
\$B\$5	2,450	2,450	3,100

Notes: Current Values column represents values of changing cells at time Scenario Summary Report was created. Changing cells for each scenario are highlighted in gray.

**Goal Seek in MS Excel**

Goal Seek in Excel is a tool used to find the input value needed to achieve a desired result in a formula.

It changes one specific cell's value to make another cell reach a target result.

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## Using What - if Analysis in MS Excel

You set the formula cell, the target value, and the input cell to adjust. It's commonly used for financial forecasting, budgeting, and scenario analysis.

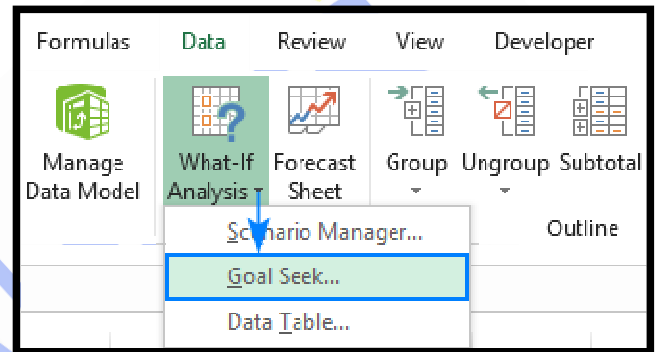
### How to use Goal Seek in Excel?

The purpose of this section is to walk you through how to use the Goal Seek function. So, we'll be working with a very simple data set:

	A	B	C
1	<b>Goal Seek</b>		
2	Item price	\$5	
3	Qty.	100	Variable
4	Commission	10%	
5	Revenue	\$450	=B2*B3*(1-B4)

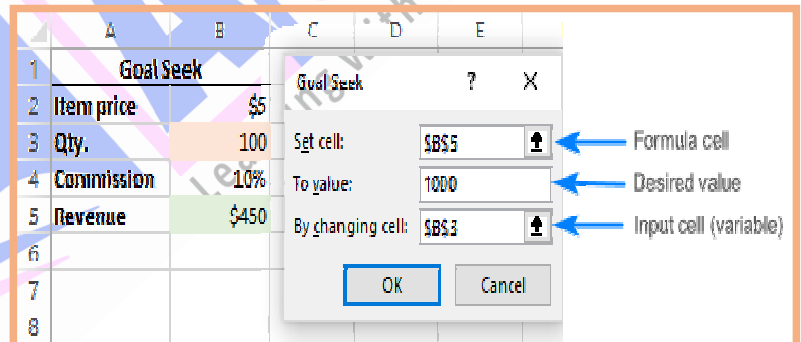
Set up your data so that you have a formula cell and a changing cell dependent on the formula cell.

Go to the Data tab > Forecast group, click the What if Analysis button, and select Goal Seek.



In the **Goal Seek dialog box**, define the cells/values to test and click OK:

- **Set cell** - the reference to the cell containing the formula (B5).
- **To value** - the formula result you are trying to achieve (1000).
- **By changing cell** - the reference for the input cell that you want to adjust (B3).



The **Goal Seek Status dialog box** will appear and let you know if a solution has been found.

If it succeeded, the value in the "changing cell" will be replaced with a new one. Click **OK** to keep the new value or **Cancel** to restore the original one.

• The Goal Seek Status dialog box will appear and let you know if a solution has been found. If it succeeded, the value in the "changing cell" will be replaced with a new one. Click OK to keep the new value or Cancel to restore the original one.

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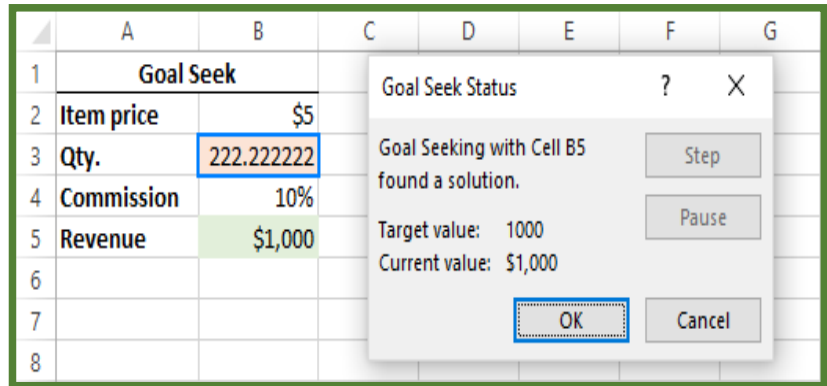
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In this example, Goal Seek has found that 223 items (rounded up to the next integer) need to be sold to achieve a revenue of \$1,000.

**Goal Seek result.**

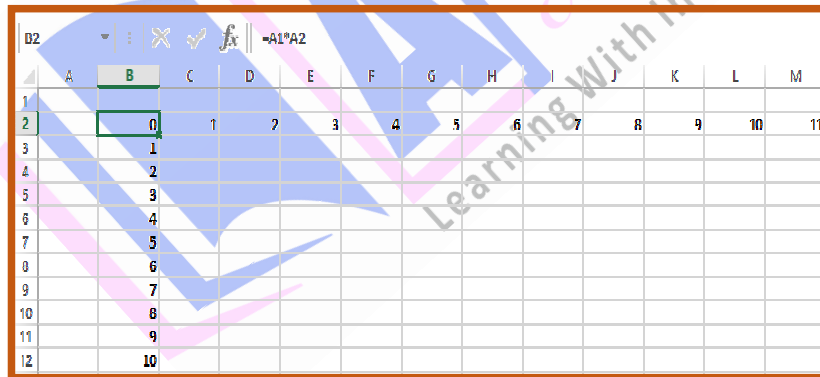
- Excel Goal Seek does not change the formula, it only changes the input value that you supply to the **By changing cell box**.



- If Goal Seek is not able to find the solution, it displays the closest value it has come up with.

### Data Table in MS Excel

Data Table in Excel is a tool used in What-If Analysis to see how changing one or two variables in formulas affects the results. It allows you to test different scenarios quickly and see their impact without manually altering the formula each time.



We use a **One-Variable Data Table in Excel** to analyze how changing a single input value affects the result of a formula.

It's especially helpful for making quick, side-by-side comparisons of different scenarios without rewriting or copying formulas repeatedly.

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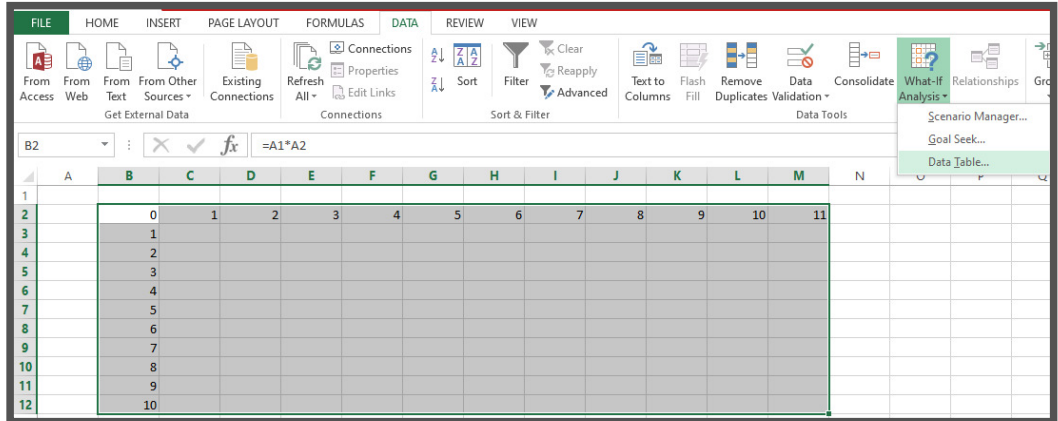
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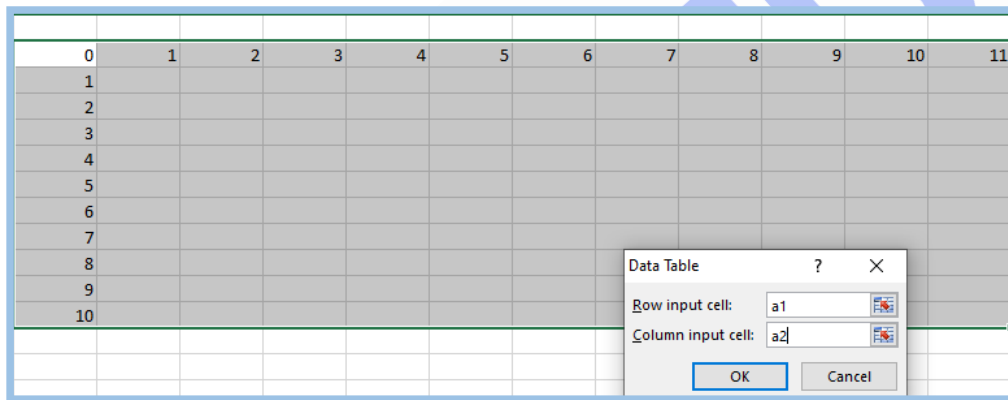
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- First you have to Multiply A1 and A2.
- After this you have to take the file series till which you want the table.

After this, select the entire range and click on the data table



After this you have to take A1 in row input and A2 in column



Now you can see that the table has been created

0	1	2	3	4	5	6	7	8	9	10	11
1	1	2	3	4	5	6	7	8	9	10	11
2	2	4	6	8	10	12	14	16	18	20	22
3	3	6	9	12	15	18	21	24	27	30	33
4	4	8	12	16	20	24	28	32	36	40	44
5	5	10	15	20	25	30	35	40	45	50	55
6	6	12	18	24	30	36	42	48	54	60	66
7	7	14	21	28	35	42	49	56	63	70	77
8	8	16	24	32	40	48	56	64	72	80	88
9	9	18	27	36	45	54	63	72	81	90	99
10	10	20	30	40	50	60	70	80	90	100	110