Excel Conditional Formatting Based on Another Cell

December 12, 2013   Jeff Lenning   Excel, Features   Conditional Formatting   25 comments

When you want to format a cell based on the value of a different cell, for example to format a report row based on a single column's value, you can use the conditional formatting feature to create a formatting formula. This post explores the details of formatting a cell or range based on the value in another cell.

Objective

Here's an example that will allow us to put this feature into context. Let's say that you have an invoice listing and your objective is to identify the open invoices. Here is a screenshot of our sample invoice listing:

	A	B	C	D	E	F	G
6		TID	Date	Status	CustID	Amount	
7		215087	1/1/2015	Open	RAM101	8,980	
8		215088	1/5/2015	Paid	DIG290	6,440	
9		215089	1/9/2015	Paid	HBC160	4,082	
10		215090	1/13/2015	Open	EIN405	732	
11		215091	1/17/2015	Credit	QCM550	730	
12		215092	1/21/2015	Paid	QEX711	48	

Since this is Excel, there are many ways to accomplish any given task. One way to identify the open invoices is to simply sort the list by the Status column so that the open invoices appear in a group. Another way is to filter the listing to show only the open invoices. These techniques are fairly straightforward, so, let's explore another method. We'll highlight the transaction rows with cell formatting…or, more precisely, a conditional formatting formula.

Conditional Formatting

Using conditional formatting, it would be pretty easy to highlight just the Status column. It would be simple because the cells we are formatting are the same cells that have the values to evaluate. That is, we would be formatting a cell based on the value within that cell. To perform this, we could simply highlight the Status column, and the use the following Ribbon command:

› Home > Conditional Formatting > Cell Rules > Equal To

In the Equal To dialog box, we could enter the word "Open" and pick the desired formatting and click OK. Excel would then apply the formatting to the cells within the Status column that are equal to Open. While this technique is easy, it does not meet our goal which is to highlight the entire transaction row, not just the Status column.

To highlight the entire transaction row requires us to format a cell based on the value in another cell. That is, we want to format the TID, Date, Status, CustID, and Amount columns based on the value in the Status column. Considering a single cell for a moment, we want to format B7 based on the value in D7. This means that we want to format a cell, B7, based on the value in a different cell, D7. Expanding this to the entire row, we want to format B7:F7 based on the value in D7.

Excel makes it easy for users to format a cell based on the value of that cell, and the built-in conditional formatting rules use this logic. When we want to format a cell based on the value in a different cell, we'll need to use a formula to define the conditional formatting rule. Fortunately, it is not very difficult to set up such a formatting formula.

Let's highlight the entire transaction listing (B7:F36) first, and then open the conditional formatting dialog box using the following Ribbon icon:

› Home > Conditional Formatting > New Rule
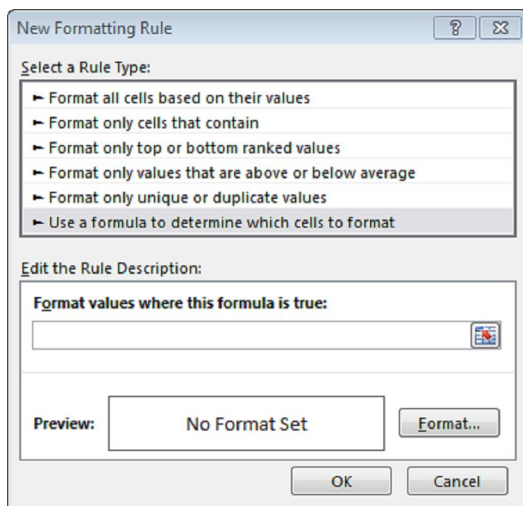
The New Formatting Rule dialog box has many choices, allowing you to, for example, format a cell based on the value, if it contains a value, the top or bottom ranked values, values that are above or below average, and unique or duplicate values. At the bottom of the list we find the option we need. We want to use a formula to determine which cells to format.

The formatting formula needs to be set up so that it returns a true or false value. If the formula returns true, then the desired formatting is applied. If the formula returns false, the formatting is not applied.

The key thing to understand about writing the formula is that the active cell is the reference point for the formula. Since this concept is absolutely critical, I don't want to just skip through it, I want to unpack it for a moment.

You want to write the formatting formula as if you are writing it into the active cell and use the appropriate cell references and reference styles, such as absolute, relative, and mixed. If you can visualize the idea that you are writing the formula into the active cell, and the formula will be filled through the selected range, then writing the formula becomes easier. The formula you write will not be used to compute the cell value, rather, it will be used only for formatting.

Let's assume that when we selected the entire transaction range, B7:F36 that the active cell is B7. When you select a range, there is still a single active cell. Check out the screenshot below to see that the range is selected, yet, B7 remains the active cell:
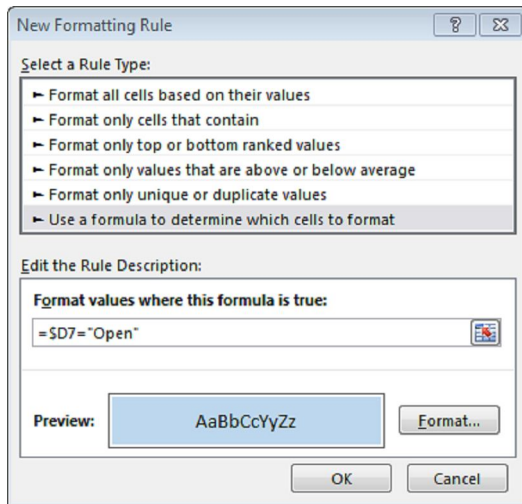

With this idea in mind, it is easy to write the conditional formatting formula now. We need to write the following formula in the New Formatting Rule dialog, as if we were writing it into cell B7:

```
=$D7="Open"
```

This simple comparison formula returns true when D7 is equal to Open, and thus, the desired format will be applied. Let's take a quick look at the cell reference for a moment. We used a mixed cell reference, $D7, where the column part (D) is absolute and the row part (7) is relative. Here's why. Remember we want to pretend that we are writing the formula into the active cell, in this case, B7. If we were only formatting B7, then, we could have used a relative reference D7, or an absolute reference D7, or a mixed reference. The reference style wouldn't matter because the formula was used in a single cell only and was not filled anywhere.

However, the moment that we fill a formula down or to the right, we need to be careful to use the proper cell reference styles. In our case, as the formatting formula is filled right, we don't want the column reference D to change. That is, for all cells, we want to reference the Status column, column D. To prevent Excel from changing the column reference as the formula is filed to the right, we lock it down with the dollar sign, resulting in $D. As the formatting formula is filled down throughout the selected range, we want to ensure that the row reference is updated accordingly. When formatting B7, we want to look at the Status column within the same row, or D7. However, when the formula is filled down to row 8, we want to format B8 based on the value in D8. Since we want Excel to update the row reference, we'll leave it relative and not use the dollar sign to lock it down.

Here is a screenshot of the formatting dialog box with the formula:

```
New Formatting Rule                                    ?   ⨯

Select a Rule Type:
  ► Format all cells based on their values
  ► Format only cells that contain
  ► Format only top or bottom ranked values
  ► Format only values that are above or below average
  ► Format only unique or duplicate values
  ► Use a formula to determine which cells to format

Edit the Rule Description:
  Format values where this formula is true:
  =$D7="Open"                                          ▦

  Preview:     AaBbCcYyZz            Format...

                              OK           Cancel
```

Once the formula is entered, you simply use the Format button to specify the desired format.

Once the conditional formatting is applied to the range, the resulting worksheet is shown below:

	A	B	C	D	E	F	G
6		TID	Date	Status	CustID	Amount	
7		215087	1/1/2015	Open	RAM101	8,980	
8		215088	1/5/2015	Paid	DIG290	6,440	
9		215089	1/9/2015	Paid	HBC160	4,082	
10		215090	1/13/2015	Open	EIN405	732	
11		215091	1/17/2015	Credit	QCM550	730	
12		215092	1/21/2015	Paid	QEX711	48	
13		215093	1/25/2015	Paid	SAT017	565	
14		215094	1/29/2015	Open	NEW011	542	

Bam…we got it!

Other Considerations

In the formula above, we hard-coded the value, "Open" however, we could have easily placed this value into a cell, and then referenced the cell either by name or A1-style notation. In addition, besides just determining if the cell value is equal to a value, other comparison operators are supported, for example, greater than (>) and less than (<). We could have highlighted all rows where the value is greater than $5,000 by using the following comparison formula:

```
=$F7>5000
```

Since the formatting is applied based on a formula, we can get very creative and use worksheet functions. We could format alternating worksheet rows by using the MOD and ROW functions. Or, we could highlight old transactions by computing the difference between the transaction date and today's date with the TODAY function. Indeed, this formatting formula provides many fun options.

Multiple Conditions

We can also use the logical AND and OR functions in case we want to consider multiple conditions. For example, formatting those rows where the status is open and the amount is greater than 5000 by using the following formula:

```
=AND($D7="Open",$F7>5000)
```

Since the AND function returns true when all of its arguments are true, the formatting is applied only when the status is open and the amount is greater than 5,000.

If we wanted to format the row if either condition was met, then we'd want to use the OR function instead of the AND function since it returns true if any single argument is true.

Conclusion

Having the ability to format a cell based on the value of another cell is quite handy. The key is to imagine that you are writing a formula into the active cell. The formula needs to use the appropriate cell reference styles (absolute, relative, mixed) so that as the formatting formula is filled throughout the selected range, the proper cells are considered. The

sample file below has the conditional formatting rules included, so feel free to check it out.

Hope this helps, and remember, Excel rules!

Sample File

Here is the sample file in case you'd like to open it up and reference it.

FormattingFormula

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This article was written by Jeff Lenning

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25 comments:

Alison
April 22, 2014 at 4:05 am • Reply

This is fabulous; thank you! Completely clear, worked first time and did what I expected – and I even understand how to apply this to other, similar formatting issues.

VAKKALANKA SRIDHAR
July 21, 2014 at 5:00 am • Reply

"YES" It is very useful

Thanks

kelly standridge
August 12, 2014 at 6:46 am • Reply

Thank you! I have a long spreadsheet where I track production percentages by date, but sometimes it is hard staying on the correct row. I enter the data for the previous workday, so I highlighted that row using the formula =$A4=Workday(Today(),-1). When I open my sheet every day, the correct row is highlighted!

jefflenning `Post author`
August 14, 2014 at 7:01 am • Reply

Kelly,

Thanks for sharing your application of conditional formatting…that is very cool and creative…I love it!

Thanks,

Jeff

Sonja
October 24, 2014 at 10:46 am • Reply

Thanks, Jeff. This is great. I have the perfect spreadsheet to experiment with this. Great tip!

jefflenning Post author
October 24, 2014 at 11:01 am • Reply

Welcome 😃

Gerry S
December 5, 2014 at 8:31 am • Reply

Hi Jeff, great article. Is there any reason that the row would not update after changing the value? I change the value and I need to highlight the cells for it to show. I have one formula to set the color and another to clear the color . Your sample works fine for me but not in my spreadsheet.
Thx

jefflenning Post author
December 22, 2014 at 4:08 pm • Reply

Gerry,

Thanks! If the cell value changes, and the conditional formatting doesn't update as expected, I would check the following items. First, I would remove the conditional formatting rule that clears the color (as it is not needed it may be confusing Excel). Next, I would double check that the conditional formatting rule uses the proper cell reference style, for example, $D7…that is…absolute column reference with a relative row reference. If it uses D7 or D$7 you may not be getting the desired result. Last, I would confirm that you initially set up the conditional formatting rule by using the row reference for the active cell.

Hope these ideas help!

Thanks
Jeff

HILTON JOHN
February 10, 2015 at 11:22 pm • Reply

Hi Jeff Lenning, Thanks for this article. I just need to know how to get highlighted one empty cell in a column (say "B") when other cell(s) (one or more, say "A" & "C") in the same raw is filled with some values. And the highlight remains until the cell in "B" is filled with some values. Is that possible? your reply will be very helpful and is highly appreciated. Thanks in advance..

jefflenning Post author
February 11, 2015 at 3:56 pm • Reply

Sure, you can accomplish that by using the AND function in the conditional formatting rule. For example, to format B1 when B1 is empty, A1 is not empty, and C1 is not empty, use the following:
=AND($B1="",$A1<>"",$C1<>"")
This AND function returns true when all three arguments are true, and triggers the formatting rule. You can easily adapt this basic formula as needed, for example, to add other cells in the analysis.
Hope this helps!
Thanks
Jeff

Austin Rentsch
March 4, 2015 at 9:51 am • Reply

="TOTAL "&'1_Category Trends'!B8&" "&TEXT('1_Category Trends'!C8,"##.#%")&" VS LY"

Above is my formula to concatenate a series of information to arrive at something that reads like this:

Total Beef -2.9% vs LY

How can I get conditional formatting to make this red if it's less than 0?

jefflenning Post author

March 5, 2015 at 9:44 am • Reply

You would set up the conditional formatting rule based on the value in C8 rather than the concatenated text string. For example, =C8<0.

Thanks
Jeff

Melanie

March 31, 2015 at 6:19 pm • Reply

Thanks so much for this article. It's one of the best I have read on this subject and, amazingly, it's the only one that explains cell references correct. Most blogs (even Microsoft's own one) state that **cell references are relative to the top-left most cell in the Applies to range** . You wrote "that the active cell is the reference point for the formula" – I tested this and you're spot on! If I start selecting cells from the bottom (OK, most people wouldn't do that, but still) and follow MS rule I end up with incorrect results. Starting my formula from the active cell I'm fine though. Someone should perhaps tell Microsoft, unless I missed something? Anyway, this article deserves much more attention. Well done!! 😃

jefflenning Post author

April 2, 2015 at 8:21 pm • Reply

Thanks!! Glad it was helpful 😃

Uche Ofia

April 17, 2015 at 2:59 pm • Reply

Wow! This was very helpful to me. Worked like magic. Thanks.

Nick

April 20, 2015 at 8:04 am • Reply

Jeff,
Can I conditionally format a cell based on the value of a cell in another tab in the workbook? No problem getting the formatting to work within the same tab.

jefflenning Post author

April 20, 2015 at 11:54 am • Reply

Nick,

Yep…you can conditionally format a cell based on the value of a cell in a different worksheet by referencing the sheet name in the formula. For example, instead of A1 you would use Sheet1!A1. The sheet name must be enclosed in single quotes if it contains a space, for example 'Sheet 1'!A1.

Hope this helps!

Thanks
Jeff

Kristyn

July 7, 2015 at 8:38 pm • Reply

Hi Jeff, Great info. I'm looking for something pretty specific. I have cells in column A and B that may be shaded either red/amber/green. I would like cells in column Q to highlight red IF two of the cells in column

A and B are both red, side by side. Is there a way to do that?

Thanks,
K

jefflenning [Post author]

July 13, 2015 at 7:04 pm • Reply

Kristyn,

Rather than do the conditional format rule based on the formatting (red), you may want to consider setting up the conditional formatting formula to format the cells based on the underlying logic that shades the cells red. For example, if the cells are red when they are less than zero, rather than set up the conditional formatting rule based on the cell format (red), set it up based on the formatting logic (less than zero). In the case when the logic is not uniform, but rather applied manually or arbitrarily, you may be able to use the CELL function or a macro.

Hope it helps!

Thanks,
Jeff

Thanks,
Jeff

Lisa Granata

July 10, 2015 at 1:09 pm • Reply

THANK YOU SO MUCH for the Conditional Format based on another cell!!!!!

You wrote it so it's very easily understood. Really appreciate the sample file, too.

I have been thinking about taking some advanced classes and will Definitely check out your online option!
I just noticed, your work is marketed as being for CPAs and Accounting Professionals… I'm an HR Analyst, would it not be suited for me?

-Lisa
Los Angeles

jefflenning [Post author]

July 12, 2015 at 4:17 pm • Reply

You are welcome, I'm glad it helped! Regarding the courses, I believe the Excel topics covered have broad applicability beyond accountants, but the course examples are designed to resonate with accountants. Check out the course descriptions for the exact items covered, and also the free evaluation course to get a feel for how they are set up.
Thanks
Jeff

Sudarshan

August 18, 2015 at 3:00 am • Reply

Hi Jeff,

It's really helpful topic thanks for sharing. But i have one question regarding this, I have placed some condition on your excel sheet but i am unable to get the desired result. The condition is:

Date should be >= 03/15/2015 and Amount should be >=5000

Formula which i have written is =AND($B2>=03/15/2015,$E2>=5000)

Thanks in advance
Sudarshan.

[Post author]

jefflenning

September 3, 2015 at 9:18 am • Reply

Sudarshan,

Based on your formula above, my best guess is that Excel is not understanding the date…so…I would recommend either storing the date in a cell or using a date function. For example, if you stored the date 3/15/2015 in cell A1, then, you would update your formula to this:
=AND($B2>=A1, $E2>=5000)
This will help Excel understand the date.
Alternatively, you could use a date function to generate the desired date, like DATE or DATEVALUE. Something like this:
=AND($B2>=DATE(2015,3,15), $E2>=5000)

Hope these ideas help!

Thanks
Jeff

Jeff

September 14, 2015 at 8:27 am • Reply

Thanks for the info Jeff, it's helped tremendously!! I've been able to create what I wanted but now I can't get it to copy:

I've created the conditional format:
Cell Value G2 | (format red fill) | =H2

So if the values in H2 and G2 are not the same H2 has a red fill. What I want to do now is do the same for the rest of my cells from H3:G3 on down the column. The only way I've been able to do this so far is to create a rule for each and every cell which gets quite tedious as some of my lists are 50+ items long. Is there a quicker way to just copy that conditional formatting where the cells (within the formula) automatically change with each row?

jefflenning Post author

September 17, 2015 at 10:24 am • Reply

Jeff,
The key to making this work is using relative references. For example, instead of G2 and H2 you would want to use G2 and H2.
This should enable you to copy the conditional formatting down…hope it helps!
Thanks
Jeff

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