

How to Combine Date and Time in Excel: A 2-Step Guide

Authored by
stats writer

February 19, 2026

RECOMMENDED CITATION

stats writer (2026). *How to Combine Date and Time in Excel: A 2-Step Guide*.

PSYCHOLOGICAL SCALES. Retrieved from <https://scales.arabpsychology.com/?p=131617>

Introduction to Temporal Data Management in Microsoft Excel

In the modern landscape of **data analysis** and **information management**, the ability to manipulate and synthesize temporal information is a cornerstone of professional efficiency. **Microsoft Excel** provides users with a robust environment for handling complex datasets, yet one of the most common challenges remains the integration of disparate data types. When date and time information is stored in separate columns, it can hinder the ability to perform chronological sorting, time-based calculations, or generate cohesive reports. Learning how to merge these elements into a single, unified cell is not merely a formatting convenience but a fundamental skill for anyone looking to optimize their **spreadsheet** workflows.

The process of combining date and time in **Excel** can be approached through various methodologies, each offering distinct advantages depending on the user's ultimate goal. Whether you require a quick mathematical solution or a highly customized visual representation, understanding the mechanics behind **Excel**'s functions is essential. By consolidating this information, you enable more advanced **data management** practices, such as calculating the exact duration between two timestamps or creating automated logs for project management. This guide will delve into two primary methods--mathematical addition and the **TEXT** function--to provide you with a comprehensive understanding of these operations.

Efficiently managing your data requires a balance between technical accuracy and readability. While **Excel** is exceptionally powerful, its default settings often require manual intervention to display information in a way that is intuitive for the human eye. In the following sections, we will explore the nuances of **Excel**'s internal logic and provide step-by-step instructions on how to transform fragmented dates and times into a professional, integrated format. This ensures that your **data analysis** remains both accurate and accessible to stakeholders who rely on your reports.

Understanding the Underlying Logic of Date and Time Serial Numbers

To master the integration of temporal data, one must first understand how **Microsoft Excel** perceives time. Unlike a human reader who sees a date as a calendar entry, **Excel** treats dates and times as **serial numbers**. This internal system is designed to facilitate mathematical calculations. In this system, every whole number represents a single day, starting from January 1, 1900. For example, the integer 1 corresponds to that start date, while larger integers represent subsequent days. This linear progression allows the software to subtract one date from another to determine the number of days elapsed without needing complex algorithms for leap years or month lengths.

Time, on the other hand, is stored as a **decimal fraction** of a 24-hour day. Since a whole number

represents a full day (24 hours), any value less than one represents a portion of that day. For instance, 0.5 represents noon (12:00 PM), while 0.25 represents 6:00 AM. When you see a cell that contains both a date and a time, **Excel** is actually storing a floating-point number where the integer part is the date and the decimal part is the time. Understanding this concept is crucial because it explains why simple addition is a viable method for merging these two pieces of information.

When you encounter data stored in separate columns, you are essentially looking at two halves of a single **data type**. The date column contains the integer values, and the time column contains the fractional values. By merging them, you are effectively reconstructing the full serial number. This technical foundation is what makes **Excel** such a versatile tool for **data management**, as it allows for seamless transitions between different display formats while maintaining the integrity of the underlying numerical value. Recognizing this logic helps users troubleshoot errors when a formula returns an unexpected number instead of a recognizable date.

Method 1: The Simplicity of Mathematical Addition

The most straightforward approach to combining these values is the addition method. Given that dates are integers and times are decimals, adding them together creates a combined value that **Excel** can interpret as a timestamp. This method is highly efficient for large datasets because it requires minimal processing power and uses a basic **formula** structure. It is the preferred choice when you intend to use the resulting data for further calculations, such as determining the difference between two events, as it keeps the data in a numeric format.

To implement this method, you simply use the addition operator between the two relevant cells. For example, if your date is located in cell **A2** and your time is in cell **B2**, the resulting formula in cell **C2** would be:

=A2+B2

Once the formula is entered, you can utilize **Excel's AutoFill** feature to apply the calculation across your entire dataset. By hovering over the bottom-right corner of the cell and dragging the fill handle downward, the software automatically adjusts the cell references for each row. This ensures consistency and saves significant time when dealing with thousands of entries. The following image illustrates the initial setup of dates and times in separate columns before the addition is applied:

	A	B	C	D	E
1	Date	Time			
2	1/3/2023	6:17 AM			
3	1/15/2023	3:23 PM			
4	2/23/2023	9:15 PM			
5	3/14/2023	11:59 AM			
6	3/25/2023	4:15 AM			
7	4/1/2023	10:45 PM			
8	5/16/2023	4:37 AM			
9	5/17/2023	5:18 AM			
10					
11					
12					
13					
14					
15					
16					
17					

After executing the addition, the combined value will appear in the target column. It is important to note that if the target cell is formatted as a general number, you might see a decimal value like "45342.5" instead of a date. This is not an error; it is the raw serial number representation of the data. To fix this, you will need to adjust the **cell formatting**, which we will discuss in the next section. The visual result of the addition method, once properly formatted, provides a clear and concise integration of the two data points.

	A	B	C	D	E
1	Date	Time	Date & Time		
2	1/3/2023	6:17 AM	1/3/2023 6:17		
3	1/15/2023	3:23 PM	1/15/2023 15:23		
4	2/23/2023	9:15 PM	2/23/2023 21:15		
5	3/14/2023	11:59 AM	3/14/2023 11:59		
6	3/25/2023	4:15 AM	3/25/2023 4:15		
7	4/1/2023	10:45 PM	4/1/2023 22:45		
8	5/16/2023	4:37 AM	5/16/2023 4:37		
9	5/17/2023	5:18 AM	5/17/2023 5:18		
10					
11					
12					
13					
14					
15					
16					

Navigating Cell Formatting for Combined Values

After using the addition method, the resulting value may not immediately look like a date and time. This is because **Excel** often defaults to a "General" or "Number" format for new calculations. To ensure the data is readable, you must apply a specific **cell formatting**. This can be done by accessing the "Format Cells" dialog box (Ctrl+1) and navigating to the "Date" or "Custom" categories. Here, you can select a format that includes both the calendar date and the clock time, such as "mm/dd/yyyy hh:mm".

Formatting is a powerful layer that sits on top of your data without changing the underlying value. When you use addition, the underlying value remains a number, which is ideal for **data analysis**. However, the visual display can be tailored to meet regional standards or organizational preferences. For example, some users may prefer a 24-hour clock, while others may require an AM/PM indicator. By default, **Excel** might use a 24-hour clock in certain locales, but this is easily modified through the formatting menu. This flexibility allows for high levels of clarity in report generation.

One caveat of the addition method is that it relies heavily on the source cells being recognized as valid date and time **data types**. If your dates are stored as text, the addition formula will return a

"#VALUE!" error. In such cases, you may need to convert the text to numbers using the **DATEVALUE** or **TIMEVALUE** functions before proceeding. Ensuring that your data is clean and correctly typed is a vital step in any **data management** process. Once the formatting is applied, the addition method offers a seamless look that is perfect for professional documentation.

Method 2: The Flexibility of the **CONCAT** and **TEXT** Functions

While addition is excellent for numerical data, there are scenarios where you need the combined date and time to be treated as a text string, perhaps for use in a header or a descriptive sentence. This is where the **CONCAT** (or **CONCATENATE**) function combined with the **TEXT** function becomes invaluable. This method allows you to define the exact appearance of the date and time within the formula itself, bypassing the need for separate cell formatting menus. It is a more "explicit" way of defining how you want your data to be displayed.

The **TEXT** function works by taking a numeric value and converting it into a text string based on a format code you provide. When you combine this with **string concatenation**, you can insert spaces, dashes, or custom labels between the date and time components. This provides a level of customization that the addition method simply cannot match. The general structure of this formula involves converting the date to a string, adding a space, and then converting the time to a string. The syntax is as follows:

```
=CONCAT(TEXT(A2,"mm/dd/yyyy")," ",TEXT(B2,"h:mm:ss AM/PM"))
```

Using this formula ensures that the resulting cell always displays the date and time in the specified format, regardless of the user's local **Excel** settings. This is particularly useful when sharing workbooks across international teams who may have different default date formats (e.g., DD/MM/YYYY vs. MM/DD/YYYY). By hard-coding the format into the **formula**, you guarantee consistency. The following image demonstrates how this method looks when applied to a standard spreadsheet:

	A	B	C	D	E	F	G	H
1	Date	Time	Date & Time					
2	1/3/2023	6:17 AM	01/03/2023 6:17:00 AM					
3	1/15/2023	3:23 PM	01/15/2023 3:23:00 PM					
4	2/23/2023	9:15 PM	02/23/2023 9:15:00 PM					
5	3/14/2023	11:59 AM	03/14/2023 11:59:00 AM					
6	3/25/2023	4:15 AM	03/25/2023 4:15:00 AM					
7	4/1/2023	10:45 PM	04/01/2023 10:45:00 PM					
8	5/16/2023	4:37 AM	05/16/2023 4:37:00 AM					
9	5/17/2023	5:18 AM	05/17/2023 5:18:00 AM					
10								
11								
12								
13								
14								

As seen in the results, the **CONCAT** method creates a clean, readable string. However, because the result is a text string, you cannot directly perform mathematical operations (like adding 5 days) on the result without first converting it back into a number. This method is therefore best suited for final presentation layers rather than intermediate **data analysis** steps. It allows for the integration of specific **ISO 8601** standards or other custom formatting requirements essential for formal reporting.

Exploring Custom Date and Time Format Codes

The true power of the **TEXT** function lies in the variety of format codes available to the user. You are not limited to the standard "mm/dd/yyyy" format; instead, you can tailor the output to fit any specific need. For example, if you prefer a European date style or a more abbreviated time display, you simply change the format string within the quotes. This allows for a high degree of personalization in your **data management** tasks, ensuring that the information is presented in the most relevant way for your audience.

Consider a scenario where you want to display the date with dashes and the time without seconds. You could modify the formula to look like this:

```
=CONCAT(TEXT(A2,"dd-mm-yyyy")," ",TEXT(B2,"h:mm AM/PM"))
```

This modification changes the visual output significantly, as shown in the following screenshot. The day now precedes the month, and the seconds have been removed from the time portion, resulting in a cleaner look for certain types of logs or schedules. This flexibility is why many advanced **Excel**

users prefer the **TEXT** function when preparing data for dashboards or external summaries where visual style is paramount.

	A	B	C	D	E	F	G	H
1	Date	Time	Date & Time					
2	1/3/2023	6:17 AM	03-01-2023 6:17 AM					
3	1/15/2023	3:23 PM	15-01-2023 3:23 PM					
4	2/23/2023	9:15 PM	23-02-2023 9:15 PM					
5	3/14/2023	11:59 AM	14-03-2023 11:59 AM					
6	3/25/2023	4:15 AM	25-03-2023 4:15 AM					
7	4/1/2023	10:45 PM	01-04-2023 10:45 PM					
8	5/16/2023	4:37 AM	16-05-2023 4:37 AM					
9	5/17/2023	5:18 AM	17-05-2023 5:18 AM					
10								
11								
12								
13								

Beyond simple day and month swaps, you can also use codes like "dddd" to display the full name of the day (e.g., "Monday") or "mmmm" for the full month name. You can even include literal text within the format codes by using backslashes or extra quotes. This capability transforms **Excel** from a simple calculator into a dynamic reporting engine. Mastery of these codes is a significant advantage for anyone involved in professional **data analysis**, as it allows for the creation of human-friendly timestamps that retain the precision of the original data.

By experimenting with different codes, you can create a wide array of formats:

"ddd, mmm d, yyyy": Mon, Jan 1, 2024

"hh:mm": 24-hour time without seconds

"mm/yy": Abbreviated month and year

"h:mm AM/PM": Standard 12-hour clock with period indicator

Comparative Advantages of Each Integration Technique

Choosing between the addition method and the **CONCAT/TEXT** method depends largely on your final objective. The addition method is superior for **data analysis** because it preserves the numeric nature of the date and time. This means you can still sort the results chronologically, calculate the time difference between two rows, or use the result in a **PivotTable**. If your combined cell is a stepping stone to further calculations, addition is almost always the correct choice. It is the "backend" approach to merging temporal data.

Conversely, the **CONCAT** and **TEXT** approach is a "frontend" solution. It is designed for human consumption and visual clarity. Because the output is a text string, it behaves differently than a number. For instance, if you try to sort a column of text-based dates, **Excel** will sort them alphabetically rather than chronologically (e.g., "10/01/2023" might come before "02/01/2024"). Therefore, this method should be reserved for the final output of your workbook or for cases where the date needs to be joined with other text, such as "Report generated on: 12/01/2024 09:00 AM".

In summary, the choice follows these general guidelines:

Use **Addition** if you need to perform math, sorting, or filtering on the combined result.

Use **Addition** for better performance in very large workbooks.

Use **CONCAT** and **TEXT** if you need a specific, unchangeable visual format.

Use **CONCAT** and **TEXT** when embedding the date and time within a larger string of text.

Use **CONCAT** and **TEXT** to ensure the format remains the same when the file is opened on different computers with different regional settings.

Understanding these distinctions allows for more strategic **data management**. Often, a professional **spreadsheet** will use the addition method for internal calculations on hidden sheets and the **TEXT** method on a summary dashboard for the end-user. This "best of both worlds" approach ensures both technical accuracy and aesthetic appeal.

Optimizing Data Integrity and Common Troubleshooting Steps

Regardless of the method you choose, maintaining **data integrity** is paramount. One of the most common issues arises when the source data--the date in **A2** or the time in **B2**--is not actually a valid date or time in **Excel**'s eyes. This often happens when data is imported from external software or web forms. If the data is left-aligned in the cell, it is likely being treated as text. You can use the **ISNUMBER** function to check; if it returns **FALSE**, your addition formula will fail. In these instances, you must clean your data before attempting to combine it.

Another frequent hurdle is the "hidden" seconds or milliseconds in a time value. You might format a cell to show only hours and minutes, but the underlying serial number might contain seconds. When you add these to a date, those seconds remain. This can cause issues with **VLOOKUP** or **MATCH** functions if you are trying to find an exact timestamp. Using the **ROUND** or **TRUNC** functions can help you "clean" the time values to a specific level of precision before merging them, ensuring that your **data analysis** remains precise and predictable.

Finally, always be mindful of time zones and regional date formats. If your work involves international collaboration, the **TEXT** function is your best friend for preventing confusion. By explicitly defining the format, you remove the ambiguity of whether "01/02/2024" refers to January 2nd or February 1st. Utilizing these methods effectively will not only make your **Excel** workbooks

more professional but also significantly reduce the likelihood of errors in your **data management** lifecycle. With these tools at your disposal, you can confidently handle any temporal data integration task that comes your way.

The following tutorials explain how to perform other common operations in Excel:

ARABPSYCHOLOGY.COM