

# Learn How to Combine Date and Time in Excel: Two Effective Methods

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November 10, 2025

## RECOMMENDED CITATION

Mohammed looti (2025). *Learn How to Combine Date and Time in Excel: Two Effective Methods*. PSYCHOLOGICAL STATISTICS. Retrieved from <https://statistics.arabpsychology.com/?p=15478>

## Understanding Date and Time Data in Excel

Effectively managing chronological data is fundamental to advanced spreadsheet operations in [Excel](#). Often, users encounter scenarios where the date and the corresponding time are stored in separate cells, which necessitates combining them into a single, comprehensive data point for easier analysis, sorting, or reporting. This integration is crucial because [Date and Time Values](#) in Excel are internally represented as numerical serial numbers, where the integer portion represents the date (days since January 1, 1900) and the fractional portion represents the time (a fraction of a 24-hour day). Combining these components allows the resulting cell to be treated as a single, fully sortable and calculable timestamp. We will explore two primary, highly efficient methods for achieving this combination, catering to both simplicity and granular formatting control.

The first technique leverages the inherent mathematical structure of Excel's timekeeping system, using simple arithmetic to merge the two separate serial numbers. This method is the fastest and most straightforward if you intend to keep the resulting timestamp in its native numerical format for further calculations. This approach maintains the data's utility for advanced functions, such as calculating the difference between two timestamps or performing time-series analysis directly on the combined cell value. It is the preferred method when the combined data is intended for internal spreadsheet processing rather than immediate presentation.

The second technique, while slightly more complex, utilizes specialized text manipulation functions to ensure the output is displayed in a precise, user-defined format, which is ideal for final reports or visual presentations where specific conventions (such as DD/MM/YYYY or 12-hour clock with AM/PM indicators) must be followed rigorously. By converting the date and time values into text strings before combining them, this method guarantees absolute control over the visual output. Understanding both methods provides the flexibility required to handle diverse data integration challenges within the spreadsheet environment, ensuring that the chosen approach aligns perfectly with the goal of the data manipulation.

### Method 1: Utilizing Simple Addition for Timestamp Integration

The most elegant and efficient way to combine a date and time stored in separate cells into a single cell is by using the fundamental operation of addition. Since Excel treats dates as whole numbers and times as decimal fractions, simply adding the cell containing the date to the cell containing the time results in a new single serial number that incorporates both components. For example, if the date is stored as 44000 (representing a specific day) and the time as 0.5 (representing noon, or half a day), the combined result will be 44000.5. This combined serial number is recognized by Excel as a complete timestamp, maintaining full compatibility for future mathematical operations, such as calculating durations or sorting events chronologically without needing to reference multiple columns.

To implement this technique, you only need to reference the two source cells and place a plus sign between them. This approach assumes that the cell designated for the date contains a valid date value (the integer part) and the cell designated for the time contains a valid time value (the fractional part). The formula is inherently simple and requires no specialized function calls, making it easy to deploy across large datasets quickly and minimizing computational overhead. This technique relies entirely on the underlying numerical structure of Excel's timekeeping system.

The basic syntax for this operation is shown below. We assume, for standardization across this tutorial, that the date resides in cell **A2** and the time is located in cell **B2**. This method is highly recommended for users who prioritize mathematical utility over immediate display aesthetics, as the resulting cell may require subsequent manual formatting to appear as a recognizable date and time string rather than a raw serial number.

The formula to execute this combination using addition is as follows:

**=A2+B2**

## Method 2: Using CONCAT and TEXT for Precise Formatting Control

While the addition method is powerful for calculation, it lacks inherent control over how the combined value is displayed without subsequent manual cell formatting. For scenarios demanding specific output string formats--such as needing the date and time separated by a space and adhering to specific regional formats--the combination of the [CONCAT function](#) and the [TEXT function](#) offers unparalleled flexibility. The **TEXT** function converts a numerical value (like a date or time serial number) into a string of text, formatted exactly according to a user-defined format code. The **CONCAT** function then joins these separately formatted text strings, along with any necessary separators, together into a single cell output.

The key benefit of using the **TEXT** function within this combination is the ability to specify the exact format of the resulting date and time components independently, entirely overriding Excel's default formatting behavior. This allows users to enforce presentation standards, such as forcing the date to display as "month/day/year" and the time to include seconds and AM/PM indicators, regardless of the user's local system settings. This capability is paramount for ensuring consistency and presentation accuracy when distributing reports or integrating data into systems that demand specific text formats. Furthermore, because **TEXT** output is a string, you can easily insert custom separators, like spaces, dashes, or custom phrases, between the date and time elements using the **CONCAT** function.

When constructing this formula, we first apply the **TEXT** function to the date cell (A2), defining its desired string format. Next, we insert a literal string, such as a space (" ") or a comma, to act as a

separator between the date and time. Finally, we apply the **TEXT** function to the time cell (B2), defining its specific time format. All three components are then woven together using the **CONCAT** function. This method is exceptionally useful when the resulting data is intended purely for display or integration into non-Excel systems that require specific text inputs, although it is important to remember that the resulting value is now text, not a numerical timestamp, meaning it cannot be used directly in date arithmetic without conversion.

The standard formula utilizing **CONCAT** and **TEXT** to achieve a unified, formatted timestamp string is structured as follows:

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

A crucial aspect to remember for both methods is the assumed cell structure: both formulas rely on the assumption that the date value is located in cell **A2** and the time value is located in cell **B2**. You must adjust these cell references accordingly based on the location of your specific source data. The following practical examples illustrate how to apply these two methods efficiently using a sample dataset where dates and times are presented in adjacent columns:

	A	B	C	D	E
1	<b>Date</b>	<b>Time</b>			
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					

## Practical Implementation: Combining Date & Time Using Addition

To demonstrate the addition method, we will use the sample data provided above, where Column

A contains the dates and Column B contains the corresponding times. Our objective is to generate the combined timestamp in Column C. This method is favored for its simplicity and the preservation of the numerical integrity of the resulting timestamp, which facilitates any subsequent time-based analysis or calculation you may need to perform on the resulting data set, such as calculating lead times or project durations.

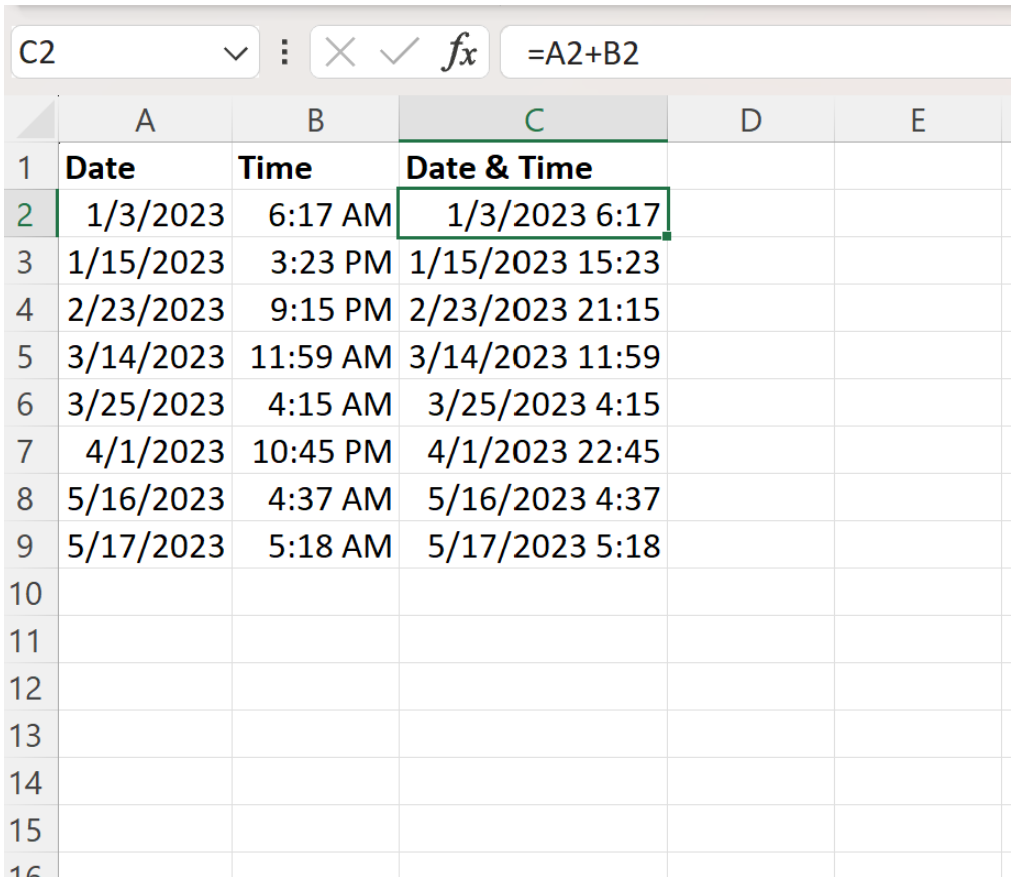
We begin by selecting the target cell, which is **C2** in this instance. In this cell, we input the straightforward addition formula to reference the date in A2 and the time in B2. This action immediately combines the two serial number components into a single, comprehensive serial number representing the exact moment in time defined by the source cells.

The formula entered into cell **C2** to combine the date in cell **A2** with the time in cell **B2** is:

**=A2+B2**

Once the formula is correctly entered in cell **C2**, we can efficiently apply it to the entire dataset by using the drag handle (fill handle) feature. We simply click on the bottom-right corner of cell C2 and drag this formula down to each remaining cell in Column C. Excel intelligently adjusts the cell references (A3+B3, A4+B4, etc.) for each row, quickly populating the entire column with the calculated numerical timestamps.

Upon execution, Column C will now display the combined date and time value for each respective row. However, a common observation when using the addition method is the default display format. By default, Excel frequently displays the time component using the [24-hour clock](#) format and may omit the AM or PM indicator, showing the hours in military time (e.g., 14:30 instead of 2:30 PM). If a different visual format is desired, the resulting cells in Column C must be manually formatted using the 'Format Cells' dialog box to apply a custom date and time format (e.g., 'm/d/yyyy h:mm AM/PM').



	A	B	C	D	E
1	<b>Date</b>	<b>Time</b>	<b>Date &amp; Time</b>		
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					

## Practical Implementation: Combining Date & Time Using CONCAT and TEXT

For users who require immediate, precise control over the output format without subsequent manual formatting steps, the combination of **CONCAT** and **TEXT** is the superior method. This approach ensures that the resulting string adheres strictly to predefined display conventions, which is vital for standardized reporting and integration with external systems. We will again target Column C for the results, using A2 and B2 as the source cells, but this time we are generating a single text string that looks like a timestamp, rather than a numerical value.

The formula must be constructed carefully, specifying the format codes for both the date and time components. In this initial example, we specify "**mm/dd/yyyy**" for the date format and "**h:mm:ss AM/PM**" for the time format. This guarantees that the date appears in the standard U.S. convention, and the time includes seconds and a clear AM/PM designation, enhancing readability and clarity for the end-user. The inclusion of the space (" ") within the **CONCAT** function ensures a clean visual separation between the date and time components in the final output string.

The formula entered into cell **C2** for this implementation is designed to generate the formatted text string:

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

Similar to the previous method, after inputting the formula into cell C2, we employ the click-and-drag functionality to propagate this calculation down to each remaining cell in Column C. Because the **TEXT** function dictates the display format internally, the results immediately appear in the desired structured format across all rows, without requiring manual cell formatting. Column C now displays the date and time in one cell for each row, perfectly reflecting the specified formatting codes. It is important to reiterate that while visually correct, these resulting values are text strings and should be treated as such for further spreadsheet operations.

	A	B	C	D	E	F	G	H
1	<b>Date</b>	<b>Time</b>	<b>Date &amp; Time</b>					
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								

## Customizing Output Formats with TEXT Function Flexibility

One of the most compelling advantages of using the **TEXT** function approach is the absolute control it grants over format customization. We noted that we specified **mm/dd/yyyy** as the format for the date and **h:mm:ss AM/PM** as the format for the time in the preceding example. However, Excel offers a vast array of format codes, allowing users to tailor the output string to meet any specific presentation requirement, such as international date standards or specialized time notations. This flexibility makes the **CONCAT** and **TEXT** approach indispensable for data localization and detailed reporting when strict compliance with presentation standards is necessary.

For instance, if your target audience uses the European date standard, which places the day before the month, or if you simply prefer a shorter time representation omitting seconds, you can easily modify the format codes within the formula. This requires only adjusting the string arguments

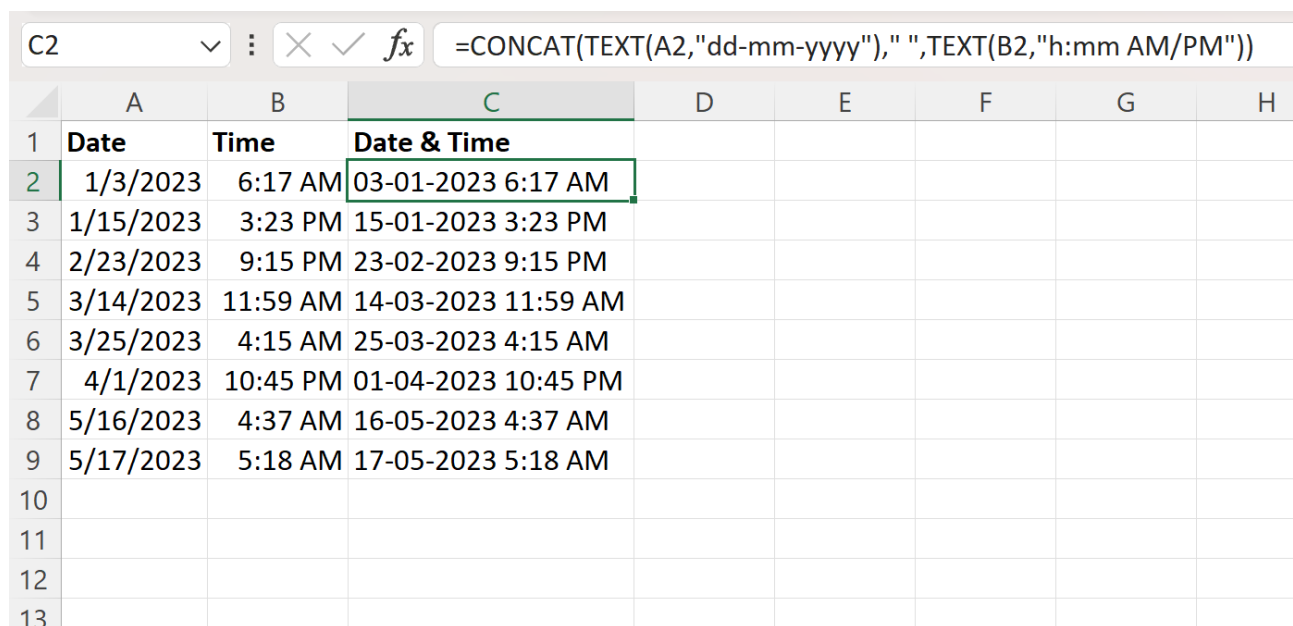
passed to the **TEXT** functions. For date formats, using "dd-mm-yyyy" will restructure the output using dashes as separators, aligning with many international conventions. For time, simplifying the code to "h:mm AM/PM" removes the display of seconds, resulting in a cleaner, more concise timestamp.

To illustrate this adaptability, consider a scenario where we need to display the date with the day first, then the month, then the year, separated by dashes, and the time displayed only in hours and minutes with the AM/PM designation. We could achieve this specific layout by modifying the format arguments passed to the **TEXT** function within the **CONCAT** formula to align with these specific presentation requirements.

The customized formula typed into cell **C2** to achieve the "dd-mm-yyyy" date format and the "h:mm AM/PM" time format would be:

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

Upon entering this revised formula, we again click and drag this calculation down to each remaining cell in Column C. The visual result immediately reflects the changes: Column C now displays the date with the day first, then the month, then the year with dashes in between. Simultaneously, the time is displayed concisely, using only hours and minutes. This demonstrates the power of utilizing various format codes within the **TEXT** functions in the formula to format the resulting date and time in any desired way. Users are encouraged to explore the full range of Excel custom number formats to maximize the presentation quality of their combined data.



	A	B	C	D	E	F	G	H
1	<b>Date</b>	<b>Time</b>	<b>Date &amp; Time</b>					
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								

## Summary and Additional Resources

In conclusion, combining date and time fields in Excel is a straightforward task, but the choice between the two methods depends entirely on the intended use of the resulting data. The addition method is structurally simple, preserving the numerical integrity of the timestamp for mathematical operations, though it often requires subsequent manual cell formatting for optimal display. Conversely, the **CONCAT** and **TEXT** method provides immediate, precise formatting control, ideal for presentation and reporting, but yields a text string that is not suitable for direct date arithmetic. Analysts should select the method that best aligns with their downstream data processing requirements to ensure maximum utility and accuracy.

We have demonstrated that both techniques are highly effective when applied correctly, assuming the source data is properly formatted into valid Excel date and time serial numbers. Mastery of these fundamental data manipulation techniques is essential for anyone working extensively with temporal data in spreadsheets, enabling more efficient analysis and cleaner data presentation.

To assist with related data challenges and to deepen your understanding of Excel functionalities, the following tutorials explain how to perform other common operations in Excel: