How to Add a Running Total to Your Excel Pivot Table

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Understanding how to generate a running total is essential for performing sequential analysis on time-series data or categorized sales figures. In Excel, the most efficient way to calculate this metric within a grouped structure is by leveraging the powerful capabilities of a Pivot Table. This method bypasses complex formulas in the source data and uses native Pivot Table functions, specifically the **Show Values As** setting.

This comprehensive guide details the precise, step-by-step process required to correctly implement a cumulative summation column in your data visualization. We will explore how to set up your raw data, configure the Pivot Table fields, and utilize the specialized **Value Field Settings** dialog box to transform a standard sum into an insightful, running total analysis.

The subsequent sections provide a highly detailed, step-by-step walkthrough. We will use a typical sales dataset example to illustrate the practical application of this technique, ensuring you can replicate the process accurately within your own Excel worksheets. Pay close attention to the field placements and the configuration within the **Value Field Settings** panel, as these steps are crucial for achieving the desired cumulative results.

Understanding Running Totals in Data Analysis

A running total, also known as a cumulative sum, is a sequence of partial sums of a given data set. It is an indispensable tool in business intelligence and financial reporting, allowing analysts to monitor performance trends over time, such as tracking total sales achieved up to a specific month, quarter, or year. By providing context on accumulation, running totals offer much deeper insights than simple periodic totals.

When dealing with large datasets, manually calculating these sums can be prone to error. This is where Pivot Table functionality in Excel becomes invaluable. Pivot Tables simplify the aggregation process, allowing you to quickly group data by categorical fields (like months or regions) and then apply specialized calculations, such as the running total, across those groupings.

Before proceeding, ensure your source data is clean, consistent, and structured in a tabular format with clear headers. This preparation is foundational for any effective Pivot Table analysis.

Step 1: Preparing the Source Data for Analysis

The first critical step involves preparing the raw data within your worksheet. For this demonstration, we will use a small dataset detailing monthly sales figures. Note that the data must contain at least one categorization field (like **Month** or **Date**) and one quantitative field (like **Sales** or **Revenue**) that will be aggregated.

The following table represents the dataset we will analyze. It includes thirteen rows of data,

covering monthly sales from January through December, plus the initial header row. It is imperative that the columns are correctly labeled (**Month** and **Sales** in this instance) to ensure proper recognition when creating the Pivot Table.

We are using the following sample data:

	A	B	C	D	E
1	**Month**	**Sales**			
2	January	22			
3	January	7			
4	January	8			
5	February	14			
6	February	29			
7	February	25			
8	February	24			
9	March	20			
10	March	17			
11	March	10			
12	April	9			
13	April	4			
14	April	8			
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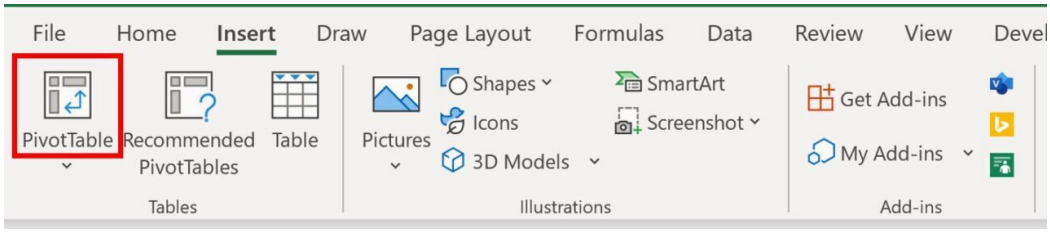
21					

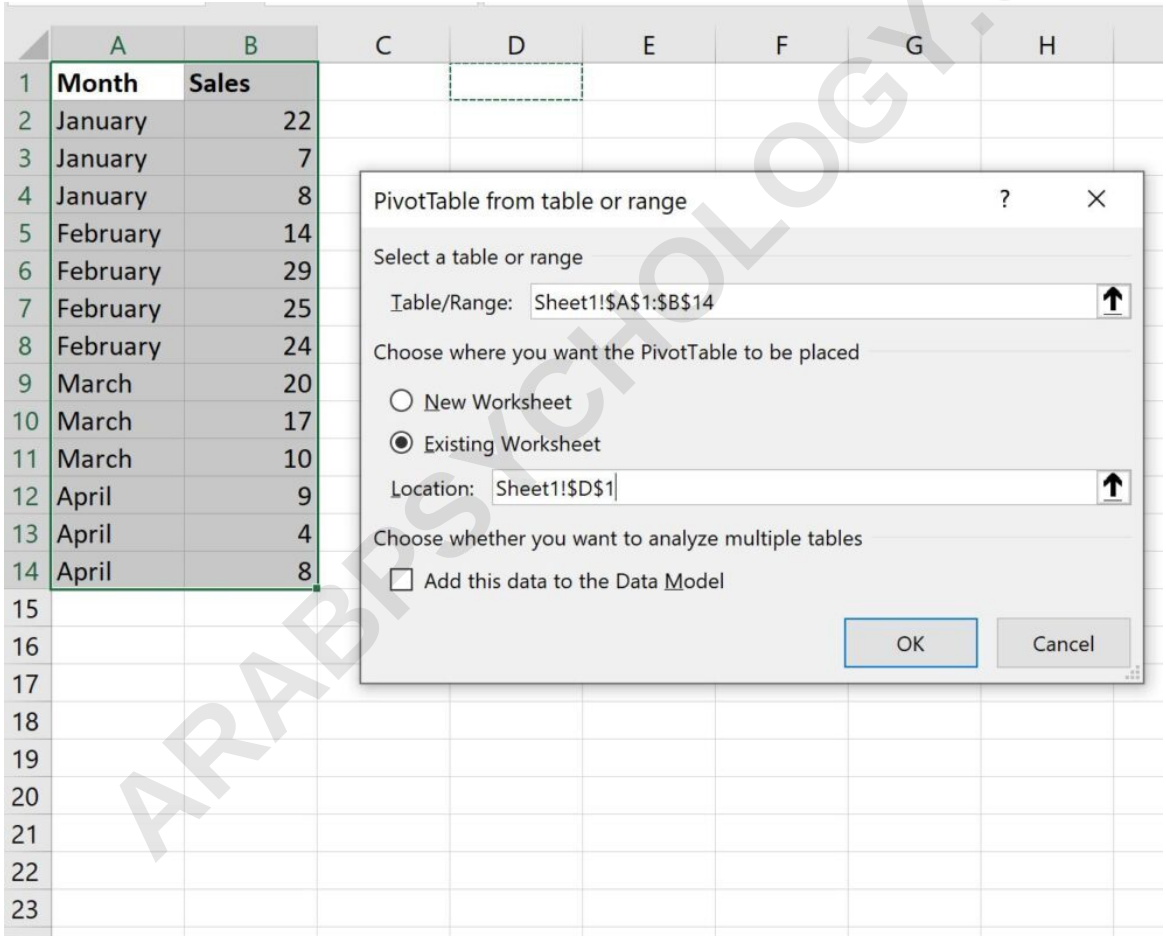
Verify that your data range is contiguous and free of blank rows or hidden cells within the data set itself. This ensures that Excel correctly captures the entire range (A1:B14 in this case) when initiating the Pivot Table creation process in the next step.

Step 2: Creating the Initial Pivot Table Structure

With the source data prepared, navigate to the **Insert** tab on the Excel ribbon. Locate and click the **PivotTable** icon, which is typically found on the far left of the ribbon within the Tables group. This action will launch the **Create PivotTable** dialog box, prompting you to define the data range and the placement of the resulting table.



In the dialog box, ensure that the data range specified is correct (for our example, **A1:B14**). We recommend placing the new Pivot Table on the **Existing Worksheet** to keep the data and the analysis visible simultaneously. Specify a starting cell, such as **D1**, as the destination for the Pivot Table report. Confirm these settings and click **OK**.



The selection of the placement cell is flexible, but choosing a location adjacent to the source data is often helpful for comparative viewing. After creation, the **PivotTable Fields** pane will appear on the right side of your screen, ready for field arrangement.

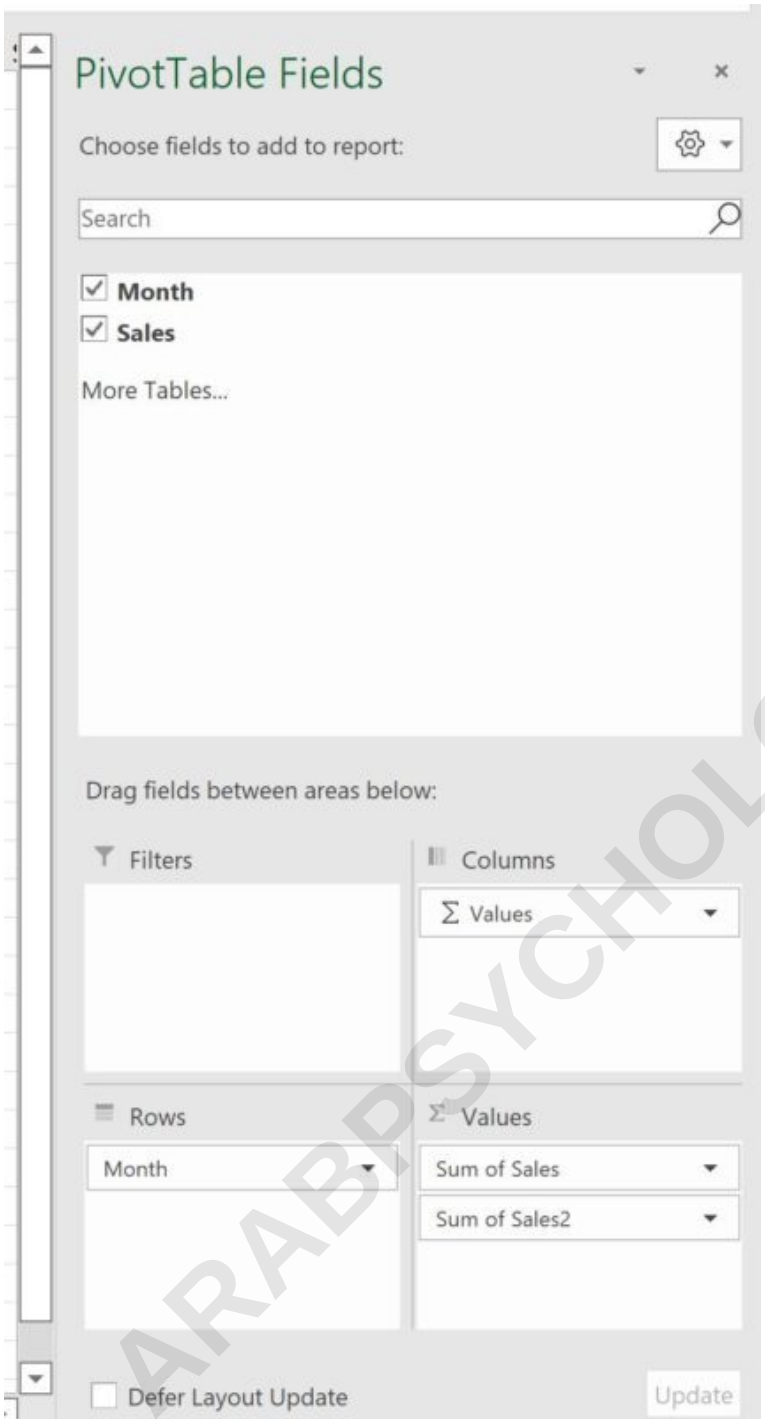
Step 3: Populating the Pivot Table Fields

The core of any successful Pivot Table lies in the proper assignment of its fields. To set up the structure for our running total analysis, we need to categorize the data by time and then introduce two separate calculations for the sales figures.

Rows Field: Drag the **Month** field into the **Rows** area. This action organizes the resulting table by the chronological order of the months, which is essential for calculating a sequential running total.

Values Field (Standard Sum): Drag the **Sales** field into the **Values** area. This creates the baseline aggregation, typically defaulting to the **Sum of Sales**, which provides the total sales achieved in each respective month.

Values Field (Running Total Preparation): Drag the **Sales** field into the **Values** area a second time. We duplicate this field because we need one column to display the monthly total and a separate, identical column that we will subsequently convert into the cumulative sum.



Upon dragging the fields, your Pivot Table will instantly refresh, displaying the monthly sums in two adjacent columns, labeled "Sum of Sales" and "Sum of Sales2" (or similar default naming convention), structured as follows:

	A	B	C	D	E	F
1	**Month**	**Sales**		**Row Labels**	**Sum of Sales**	**Sum of Sales2**
2	January	22		January	37	37
3	January	7		February	92	92
4	January	8		March	47	47
5	February	14		April	21	21
6	February	29		**Grand Total**	**197**	**197**
7	February	25				
8	February	24				
9	March	20				
10	March	17				
11	March	10				
12	April	9				
13	April	4				
14	April	8				
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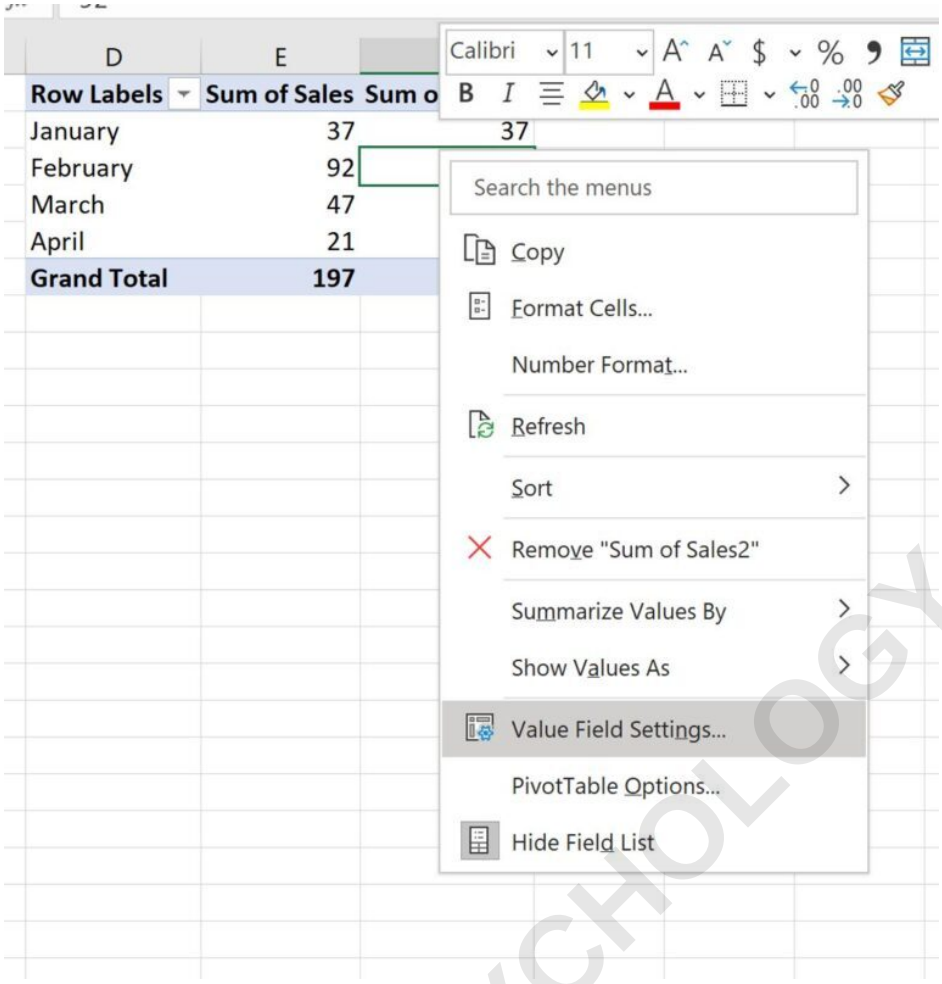
Step 4: Configuring the Running Total Calculation

The next phase involves converting the second sales column ("Sum of Sales2") into the desired running total display. We achieve this through the powerful configuration options available within the Value Field Settings dialog box.

Identify any numerical cell within the column designated for the cumulative sum (i.e., the "Sum of Sales2" column). Right-click on that cell. A context menu will appear. From this menu, select **Value Field Settings**. This action opens a comprehensive window that controls how the selected field calculates and displays its data.



The Value Field Settings window contains two main tabs: **Summarize Values By** and **Show Values As**. While the first tab controls the basic aggregation type (Sum, Count, Average, etc.), the second tab is where we implement specialized, comparative calculations like the running total.

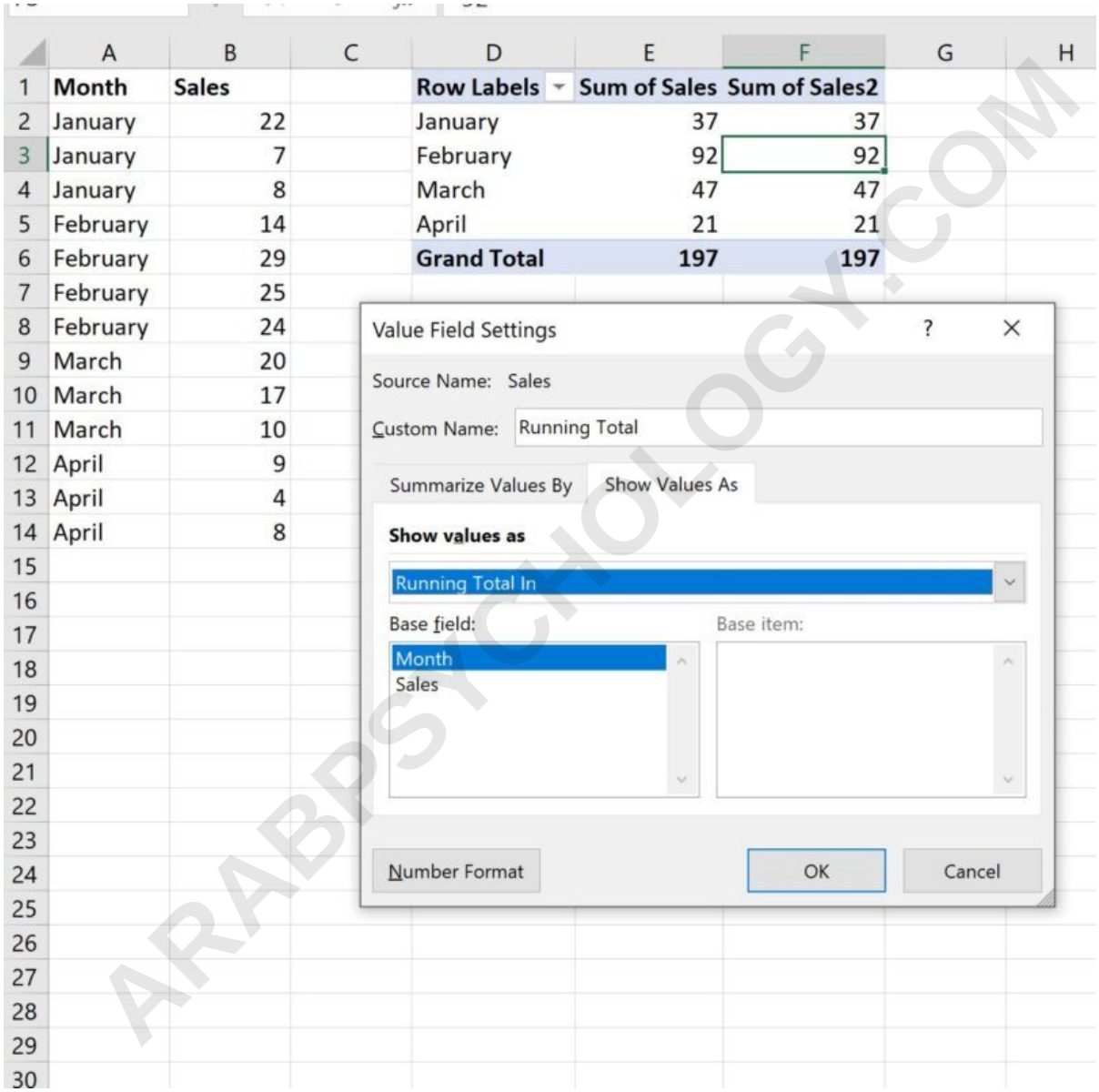
Step 5: Defining the Calculation Type and Base Field

Within the Value Field Settings dialog, navigate to the **Show Values As** tab. This section is where the cumulative magic happens. It allows the Pivot Table to display calculated results based on other items in the data structure, rather than just the raw summary.

First, improve the report's clarity by renaming the column. In the **Custom Name** input box (located at the top of the dialog, accessible from both tabs), change the default name "Sum of Sales2" to a more descriptive title, such as "Running Total Sales" or simply "Running Total."

Next, use the dropdown menu labeled **Show Values As**. Scroll through the options and select **Running Total In**. This choice signals to Excel that you want the field to continuously accumulate the values as it traverses the specified base field.

Crucially, after selecting **Running Total In**, you must define the **Base field**. The Base field is the categorical dimension upon which the calculation is ordered. Since we are accumulating sales sequentially by month, select **Month** from the Base field dropdown menu. This ensures the calculation progresses correctly from January, through February, and so on, accumulating the sales figures correctly.



Once both the calculation type and the Base field are correctly set, click **OK** to apply the changes to the Pivot Table report.

Step 6: Reviewing the Final Running Total Report

Immediately after clicking **OK**, the Pivot Table will update. The column previously labeled "Sum of

Sales2" (or your custom name) now displays the cumulative figures, providing an immediate visual representation of your total sales accumulation throughout the year.

	A	B	C	D	E	F
1	**Month**	**Sales**		**Row Labels**	**Sum of Sales**	**Running Total**
2	January	22		January	37	37
3	January	7		February	92	129
4	January	8		March	47	176
5	February	14		April	21	197
6	February	29		**Grand Total**	**197**	
7	February	25				
8	February	24				
9	March	20				
10	March	17				
11	March	10				
12	April	9				
13	April	4				
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You can verify the accuracy of the calculation by observing the progression. For instance, the running total for February should equal the sum of sales from January plus the sum of sales from February. This sequential addition continues down the list, culminating in the final value at the bottom row, which represents the grand total sales for the entire period analyzed.

If the final running total matches the grand total displayed in the initial "Sum of Sales" column, the calculation has been correctly implemented. This technique provides a dynamic and flexible way to present sequential aggregation without relying on external worksheet formulas.

Advanced Formatting and Interpretation Tips

While the calculation is complete, enhancing the readability of the report is essential. We strongly recommend applying consistent number formatting, especially currency formats, to both the standard Sales column and the Running Total column.

To format the values, return to the Value Field Settings dialog for each column. On the **Summarize Values By** tab, click the **Number Format** button. Choose the appropriate category (e.g., Currency or Accounting) and set the desired decimal places. Consistency in formatting improves the professional appearance and interpretability of the Pivot Table output.

Furthermore, running totals are powerful for identifying growth trajectories and measuring key performance indicators (KPIs). If you were to add additional fields to the Pivot Table--such as filtering by region or product category--the running total calculation automatically recalculates based on the newly filtered subset of data, maintaining its cumulative integrity within the defined scope of the report.