

The Company Rocks

# Introduction to Pivot Tables in Excel 2003

Step-by-step instructions to accompany video lessons

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4/11/2011

# Introduction to Pivot Tables in Excel 2003

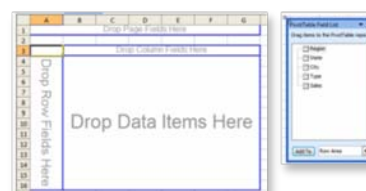
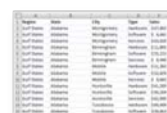
Pivot Tables are the most powerful tool available in Excel. At the same time, a Pivot Table is one of the easiest Excel tools to use! In fact, you can create your first Pivot Table with fewer than 10 mouse clicks.

How is this possible?

Rather than explain Pivot Table theory, let me show you how to create your first Pivot Table.

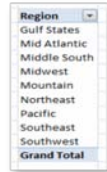
## Follow these steps:

- 1) Begin with a data set that has:
  - a. Clearly defined Field Headers – e.g. Apply **Bold** formatting to the labels in the top row of your data set.
  - b. The same category of data in each Column (field)of the data set. For example, include only telephone numbers in a field labeled **“Phone.”**
  - c. No blank rows and no blank columns in the data set. The limits of your data set are defined by the first blank row and the first blank column.
- 2) With one cell active in the data set, go to the Data Menu and select Pivot Table. This opens up Step 1 of the 3 step Pivot Table Wizard.
- 3) At this point, it would be fine to click the “Finish” button to accept the default settings for the Pivot Table:
  - a. The Range of data for your Pivot Table is the data set that we defined in Step 1.
  - b. The Pivot Table will be created on a new, blank worksheet.
- 4) If you click next twice to get to Step 3, you have two choices for completing the Wizard:
  - a. Choose the “Layout Button” and drag the Fields to one of the four drop areas of the Pivot Table Layout. Note, that this option does not show the “values” or “sums” until you lick Finish. Some people prefer this approach – it is your choice.
  - b. Click “Finish” to bring up the Pivot Table Template, The Pivot Table Field List and the Pivot Table Toolbar.
- 5) On the new Excel worksheet, look at the Pivot Table Field List box. Here, you see a list of each of the Fields (column labels) in your data set. Now, look at the Pivot Table Template which consists of four “drop areas” for your fields:
  - a. Page Fields
  - b. Column Fields
  - c. Row Fields
  - d. Data Items



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- 6) In the Field List box, select the “Region” field name and drag it and drop it in the Row Fields area on the Pivot Table Template. Each of the unique values from the Region field now appears on the Pivot Table.
- 7) In the Field List box, select the “Sales” field name and drag it and drop it in the Data Items area on the Pivot Table Template. Excel automatically uses the SUM function to “Subtotal” this field. This is the default setting for any field that contains numeric values.



Region	Sum of Sales
Gulf States	1011137
Mid Atlantic	1812137
Middle South	1254298
Midwest	5066798
Mountain	1826549
Northeast	3240507
Pacific	2426782
Southeast	1888848
Southwest	1947086
Grand Total	20754992

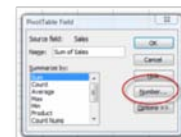
- a. Notice that in the Pivot Table that “Sum of Sales” is the label for the new field and that the sales for each region have been Subtotaled. A “Grand Total” has also been added.
  - b. The subtotaled numbers are not formatted – as they were in the original data set. I will show you how to format numbers in a Pivot Table field later in this lesson.
- 8) I want to place the “Type” field in the Columns Fields “drop zone.” One way to do this, is to select the “Type” field in the Field List and then, from the “Add to” drop down menu choose “Column Area.”

- a. Notice that each of the values in the “Type” field appears in the top row – going horizontally across – of the Pivot Table. A new “Grand Totals” Column appears for each row of the Pivot Table.
- b. Notice that the Subtotal Amount in the Grand Totals for each Region matches the number from the previous step. Now, in addition, you see Subtotals for the “cross-tabulation” of each Region and Type!

Sum of Sales	Type	Subtotal	Hardware	Services	Grand Total
Gulf States	884754	241769	280630	851137	1011137
Mid Atlantic	636113	455108	212104	1812137	1812137
Middle South	448188	547668	112647	1254298	1254298
Midwest	1880584	1857497	1728717	5066798	5066798
Mountain	672847	349628	108519	1826549	1826549
Northeast	1851087	988228	1328148	3240507	3240507
Pacific	827941	898428	710811	2426782	2426782
Southeast	504686	431192	950960	1888848	1888848
Southwest	1821171	848884	2161031	1947086	1947086
Grand Total	8888888	8888888	7888888	20754992	20754992

*At this point, the Pivot Table has performed several sophisticated calculations – on its own! We have not been asked to create a single formula! This shows you the power – and the simplicity – of a Pivot Table.*

- 9) Now that we have the basic Pivot Table set up. It is time to learn how to “Format Numbers” in a Pivot Table.
  - a. Right-mouse-click any number in the Pivot Table. From the shortcut menu, select “Field Settings.”
  - b. In the dialog box, select the “Number” Button. This opens a familiar dialog box where you select the Number Type, Symbol and number of decimal places that you want for the Subtotals and Grand Totals in your Pivot Table.



*In a Pivot Table, you format “a Field.” In an Excel Worksheet, you format “a cell.” This is an important distinction as you will see later in this lesson. Because we are able to “pivot” – or rearrange – the display of fields in a Pivot Table, we cannot apply formatting to a specific cell – as in an Excel worksheet. Rather, we format the field so that the formatting will remain in place when we change the orientation of that field from – e.g. a Row to a Column Label or vice versa.*

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So there you have it – you have created your first Pivot Table with fewer than 10 mouse clicks!

3	Sum of Sales	Type			
4	Region	Hardware	Services	Software	Grand Total
5	Gulf States	345763	280620	384754	1011137
6	Mid Atlantic	655318	553106	624113	1832537
7	Middle South	547865	512047	444386	1504298
8	Midwest	1657497	1728737	1680564	5066798
9	Mountain	565629	588573	672347	1826549
10	Northeast	988824	1218546	1033587	3240957
11	Pacific	899420	710021	827341	2436782
12	Southeast	633192	700960	554696	1888848
13	Southwest	614694	750220	582172	1947086
14	Grand Total	6908202	7042830	6803960	20754992

This Pivot Table can help us to discover the “information” that might be hidden inside the rows and rows of records - 840 in this example – of your data set. And, we are just beginning to scratch the surface of what is “possible” with a Pivot Table! For example, you can now:

- Use the drop-down filters to focus your attention to specific region(s) or particular Type(s) of products sold.
- Take advantage of the “Page Fields Drop-zone to apply filters to the complete Pivot Table..” For example, by moving the “Region” field to the “Page Fields” and adding the “State” field to the “Rows Fields,” you have now created a very different – and valuable – Pivot Table view of your data set.

The screenshot shows a PivotTable with 'Region' in the Page Fields and 'State' in the Rows Fields. The data is filtered to show only records from the 'Midwest' region. The columns are State, Hardware, Services, and Software. The total sales for the Midwest region is \$5,066,798.

## Compare Pivot Tables to Subtotals and Filters

By this point, you may be asking yourself, what is the difference between a Pivot Table and a Subtotal Report or a Filtered Records Report. Let’s take a look at the differences between these reports:

### Subtotal Report

Advantages	Disadvantages
Easy to create	Must sort the data first
	Must include each field
	Adding additional subtotals is “clumsy” at best
	Extra steps required to “copy & paste “results”

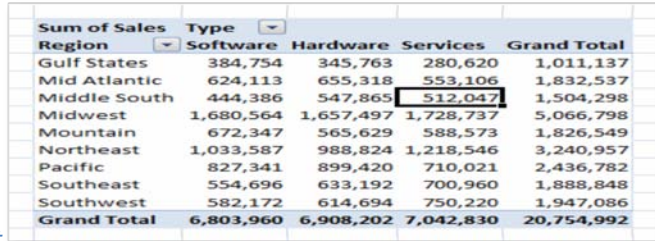
The screenshot shows a Subtotal Report with columns for Region, State, City, Type, and Sales. Subtotals are provided for each region: Gulf States Total (\$1,011,137), Mid Atlantic Total (\$1,832,537), Middle South Total (\$1,504,298), Midwest Total (\$5,066,798), Mountain Total (\$1,826,549), Northeast Total (\$3,240,957), Pacific Total (\$2,436,782), Southeast Total (\$1,888,848), Southwest Total (\$1,947,086), and Grand Total (\$20,754,992).

### Filtered Data Report

The screenshot shows a filtered data report with columns for Region, State, City, Type, and Sales. The data is filtered to show only records from the 'Midwest' region. The rows are sorted by State (Illinois) and then by City. The total sales for the Midwest region is \$49,701.

Advantages	Disadvantages
Easy to create	Requires multiple steps to produce
	Does not produce a “total” for results of filter
	Must include each field
	Needs to be saved as “a View” to quickly recreate

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The screenshot shows a Pivot Table with the following data:

Region	Software	Hardware	Services	Grand Total
Gulf States	384,754	345,763	280,620	1,011,137
Mid Atlantic	624,113	655,318	553,106	1,832,537
Middle South	444,386	547,865	512,047	1,504,298
Midwest	1,680,564	1,657,497	1,728,737	5,066,798
Mountain	672,347	565,629	588,573	1,826,549
Northeast	1,033,587	988,824	1,218,546	3,240,957
Pacific	827,341	899,420	710,021	2,436,782
Southeast	554,696	633,192	700,960	1,888,848
Southwest	582,172	614,694	750,220	1,947,086
<b>Grand Total</b>	<b>6,803,960</b>	<b>6,908,202</b>	<b>7,042,830</b>	<b>20,754,992</b>

## Pivot Table Report

Advantages	Disadvantages
Easy to create	Does not automatically update – requires “a refresh”
Flexible layout – easily changed	
Use only the fields you want	
Can use same field multiple times	

This concludes the “free” lesson, “Introduction to Pivot Tables in Excel 2003.” My goal was to demonstrate how easy it is to create a Pivot Table in Excel 2003. You should now be able to answer these questions:

- What is a Pivot Table?
- How do I create a Pivot Table?
- How can I modify – or customize – a Pivot Table Report?
- What are the advantages of using Pivot Tables vs. Subtotals or Filtered Data Reports?

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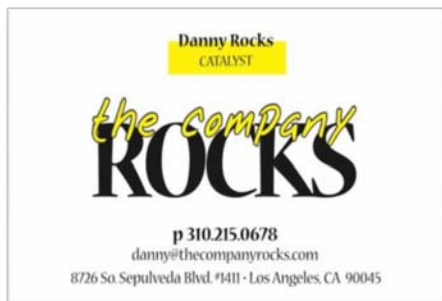
- Video Recording of the step-by-step lesson
- PDF – on Download – of the step-by-step instructions
- Copy – on Download – of the Excel Worksheet used in the lesson

Thank you for subscribing to and downloading my “Master Excel in Minutes – Not Months!” content!

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## Contact Information

I invite your feedback. I am interested in hearing your thoughts on this lesson and on this series of “Master Excel in Minutes” lessons. If you have an idea for a series of lessons or even a single question, send me an email”

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