



## Learn Pivot Tables Tutorial

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4

In this Excel Pivot Tables tutorial you will learn how to create a Pivot Table and perform some essential techniques to work with your data. This tutorial covers;

1. [Creating a Pivot Table](#)
2. [Specifying Pivot Table data](#)
3. [Changing a Pivot Tables calculation](#)
4. [Sorting and filtering a Pivot Table](#)
5. [Grouping fields of a Pivot Table](#)
6. [Refreshing a Pivot Table](#)
7. [Creating a Pivot Chart](#)

The file used in this tutorial can be downloaded to follow along. [Download the learn Pivot Tables tutorial file.](#)

Excel Pivot Tables are a powerful reporting tool in Excel that allow you to easily organise and summarise a large list of data. They can make analysing even the most complex list of data like a walk in the park.

At first they can seem quite daunting, but fear not, because once you have created your first one you will see that they are very easy and user friendly to use.

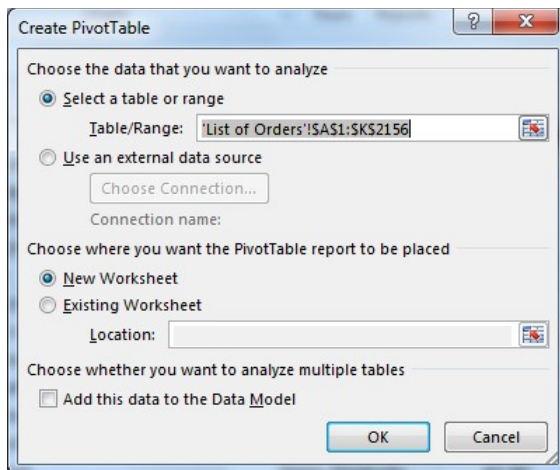
### Creating a Pivot Table

To create a Pivot Table:

1. Select the range of cells you want to use for the Pivot Table.
2. Click the **Insert** tab on the Ribbon and then the **PivotTable** button.
3. The Create PivotTable dialogue box appears.

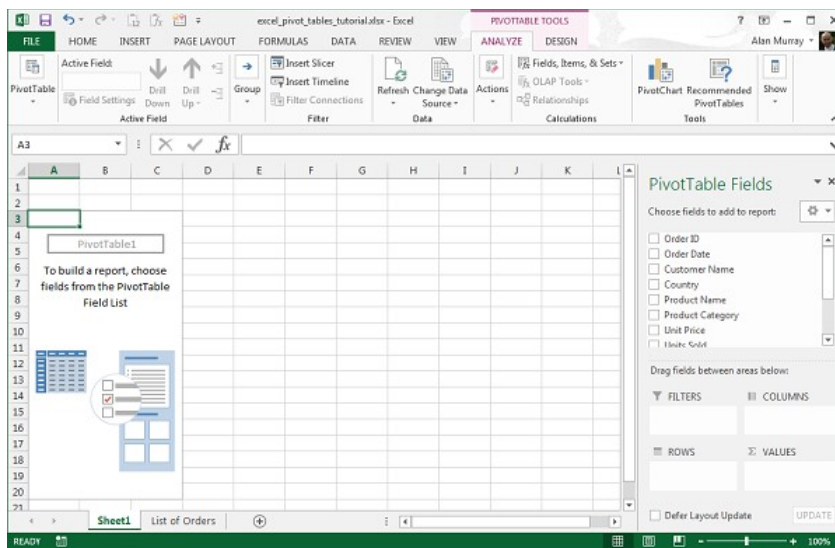
The range of cells that you selected is shown within the **Table/Range** field. If the range is not correct, select the data range you wish to use again.

4. Decide whether you want the Pivot Table to appear in a new worksheet or within an existing worksheet.



5. The **Add this data to the Data Model** checkbox is a new feature to Excel 2013. It is an advanced area of Pivot Tables where you can related data tables and is not covered in this tutorial.
6. Click **Ok**

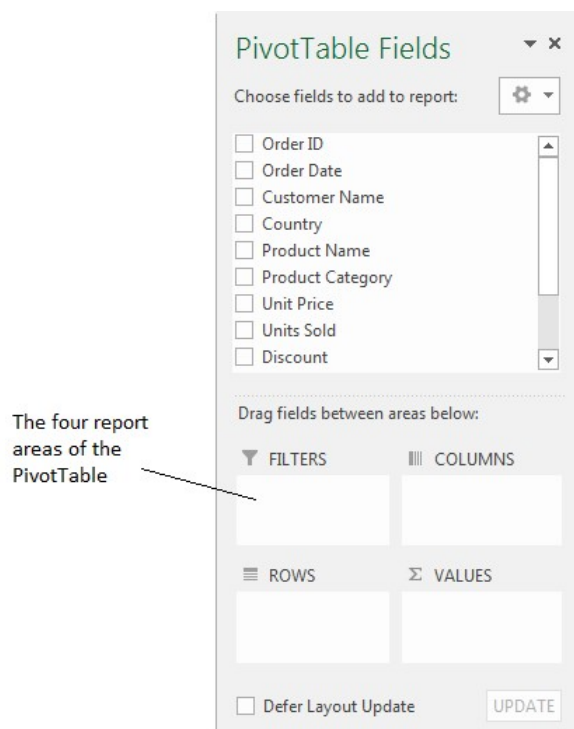
An empty PivotTable appears on the left and the PivotTable Fields list is on the right. It doesn't look very impressive yet, but that's because we need to pull some data into the table to give it something to work with and let the magic happen.



## Specifying PivotTable Data

To specify the data to use in the Pivot Table, you need to move the required fields into the relevant report areas at the bottom of the field list.

By simply moving the fields between the different report areas you change the configuration of the report, and is why they are known as Pivot Tables.



1. Click the checkbox for the *Product Category* field and Excel will move it into the **Rows** area. Click the checkbox for the *Total Sales Value* field and it will be moved into the **Values** area of the field list.

The Values area is where the calculations are performed. By default, the Sum function is used on any field containing numbers. We will look at changing this calculation later in this tutorial.

The Pivot Table displays the total sales by each category.

	A	B
1		
2		
3	Row Labels	Sum of Total Sales Value
4	Beverages	288694.68
5	Condiments	113992.64
6	Confections	179863.73
7	Dairy Products	251147.65
8	Grains/Cereals	101646.97
9	Meat/Poultry	174622.58
10	Produce	105745.71
11	Seafood	137989.33
12	Grand Total	1353703.29

2. Clicking a checkbox always puts a label field into the Rows area. So for more control you can drag a field into the appropriate area instead.

Drag the *Sales Rep* field into the **Rows** area below the Product Category field. The PivotTable will look like below with subtotals for the sales by category, and then a sum of those sales by sales rep.

	A	B
2		
3	Row Labels	Sum of Total Sales Value
4	Beverages	288694.68
5	Andrew Fuller	40785.85
6	Anne Dodsworth	20127.98
7	Janet Leverling	47311.63
8	Laura Callahan	18936.1
9	Margaret Peacock	56409.08
10	Michael Suyama	10075.4
11	Nancy Davolio	49156.53
12	Robert King	32924.45
13	Steven Buchanan	12967.66
14	Condiments	113992.64
15	Andrew Fuller	15759.89
16	Anne Dodsworth	11023.75
17	Janet Leverling	14245.85
18	Laura Callahan	16174.36
19	Margaret Peacock	25678.42
20	Michael Suyama	4733.79

- Click and drag the *Product Category* field below the *Sales Rep* Field to change the order of the groupings.

	A	B
2		
3	Row Labels	Sum of Total Sales Value
4	Andrew Fuller	173875.52
5	Beverages	40785.85
6	Condiments	15759.89
7	Confections	22708.15
8	Dairy Products	25060.05
9	Grains/Cereals	11854.13
10	Meat/Poultry	31664.6
11	Produce	9884.92
12	Seafood	16157.93
13	Anne Dodsworth	80413.45
14	Beverages	20127.98
15	Condiments	11023.75
16	Confections	8400.53
17	Dairy Products	21958.71
18	Grains/Cereals	1245.3

- Finally, click and drag the *Product Category* field into the **Columns** area. This will create a nice crosstab report with sales rep totals along a row, and product category totals down the columns.

	A	B	C	D	E	F	G	H	I	J
2										
3	Sum of Total Sales Value	Column Labels								
4	Row Labels	Beverages	Condiments	Confections	Dairy Products	Grains/Cereals	Meat/Poultry	Produce	Seafood	Grand Total
5	Andrew Fuller	40785.85	15759.89	22708.15	25060.05	11854.13	31664.6	9884.92	16157.93	173875.52
6	Anne Dodsworth	20127.98	11023.75	8400.53	21958.71	1245.3	8699.91	368.81	8588.46	80413.45
7	Janet Leverling	47311.63	14245.85	36408.69	34148.26	22505.98	21770.24	12358.2	26136.95	214885.8
8	Laura Callahan	18936.1	16174.36	23474.61	22281.35	11741.45	18979.33	12629.42	12916.67	137133.29
9	Margaret Peacock	56409.08	25678.42	30342.02	37050.78	24393.58	34676.82	18419.46	29104.92	256075.08
10	Michael Suyama	10075.4	4733.79	7453.93	19094.38	9766.5	9513.09	12139.64	6286.22	79062.95
11	Nancy Davolio	49156.53	14382.81	30893.3	38725.08	9086.72	16440.49	20451.18	25552.49	204688.6
12	Robert King	32924.45	9318.46	14931.64	28935.75	6843.75	21304.22	11912.98	7351.54	133522.79
13	Steven Buchanan	12967.66	2675.31	5250.86	23893.29	4209.56	11573.88	7581.1	5894.15	74045.81
14	Grand Total	288694.68	113992.64	179863.73	251147.65	101646.97	174622.58	105745.71	137989.33	1353703.29

As you can see it's very easy to adjust the data in a PivotTable. It's just a case of moving fields into different areas of the table.

It can take some practice to get more familiar with PivotTables, and the more you use them the better you will understand them and very quickly manipulate data and generate your reports.

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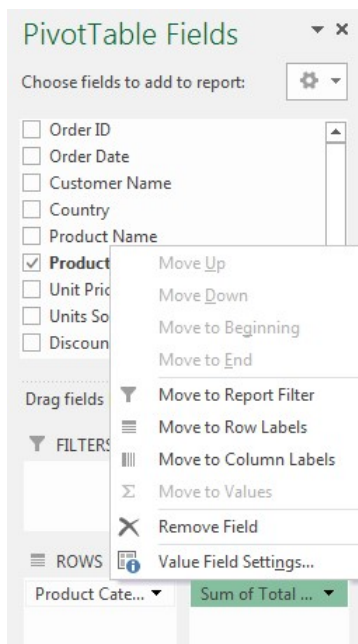
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### Changing a Pivot Tables Calculation

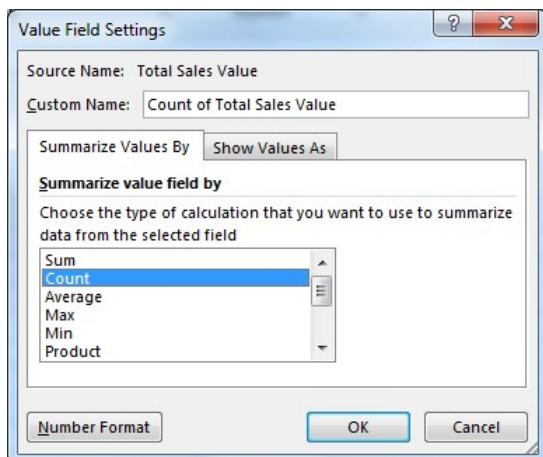
A Pivot Table summarises values using the Sum function by default. However, instead of totals you may wish to know the number of orders taken, or the average amount of those orders.

To change a Pivot Tables calculation:

1. Click the list arrow on the field being used in the **Values** area of the Pivot Table and select **Value Field Settings**.



2. Choose the function you wish to use from the list on the **Summarize by** tab.



3. Click **Ok**

## Sorting and Filtering a Pivot Table

You can sort and filter the data in a Pivot Table much like you would a normal data range.

### Filtering a Pivot Table

The Report Filter area can be used to filter the Pivot Table. To use this filter, you first need to drag a field into the Report Filter area.

1. Click and drag the *Country* field into the **Report Filter** area. This field will appear above the PivotTable on the worksheet.
2. Click the filter list arrow and select the required criteria. Click the **Select Multiple Items** checkbox to select multiple countries from the list.

	A	B
1	Country	France
2		
3	Row Labels	Sum of Total Sales Value
4	Beverages	14409.5
5	Condiments	6659.77
6	Confections	14367.95
7	Dairy Products	9871.23
8	Grains/Cereals	6614.33
9	Meat/Poultry	12169.53
10	Produce	8826.81
11	Seafood	16323.22
12	Grand Total	89242.34

You can add more fields to the Report Filter area for more advanced filtering. You can also filter the table using the row and column filters.

	A	B
1	Country	France
2	Sales Rep	Janet Leverling
3		
4	Row Labels	Sum of Total Sales Value
5	Beverages	4045.9
6	Condiments	1189.85
7	Confections	4884.2
8	Dairy Products	1005
9	Grains/Cereals	3055.33
10	Meat/Poultry	178.8
11	Produce	1331.5
12	Seafood	1827
13	Grand Total	17517.58

Country and Sales Rep fields being used in the Report Filter

Row filter

### Sorting a Pivot Table

You can sort a Pivot Table at any level. To sort the data, just right mouse click on one of the values that you want to use in the sort and choose the required sorting option.

The image below shows a sort being applied to the values of the product category field.

	A	B	C	D	E
1	Country	France			
2	Sales Rep	Janet Leverling			
3					
4	Row Labels	Sum of Total Sales Value			
5	Beverages	4045.9			
6	Condiments	1189.85			
7	Confections				
8	Dairy Products				
9	Grains/Cereals	3033.33			
10	Meat/Poultry				
11	Produce				
12	Seafood				
13	Grand Total				
14					
15					
16					
17					
18					
19					

## Grouping Fields of a Pivot Table

You can group Pivot Table fields to identify different subsets of data. You can group any numeric field. Grouping is commonly applied to date and time fields. For example, dates can be grouped into months, quarters or years.

1. Select the date field in the Pivot Table and click the **Group Field** button on the **Analyze** tab of the Ribbon.

The screenshot shows the Excel ribbon with the **DATA** tab selected. The **PivotTable** group contains the **Group Field** button, which is highlighted by an arrow labeled "Group Field button". Below the ribbon, a PivotTable is displayed with the following data:

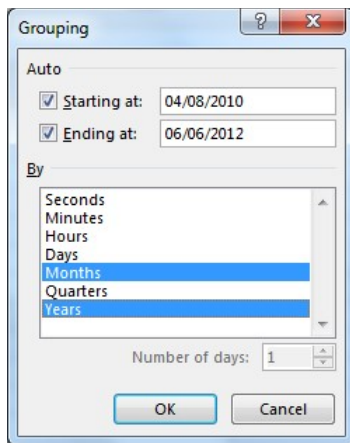
Row Labels	Sum of Total Sales Value
04-Aug-10	566
Dairy Products	426
Grains/Cereals	140
05-Aug-10	2329.25
Produce	2329.25
08-Aug-10	2760.22
Condiments	689.39
Grains/Cereals	397.58

An arrow labeled "Date field selected" points to the date field "08-Aug-10" in the PivotTable.

2. Specify start and end dates to group and the interval to group by. You can group a field by more than one date or time period.

To group by weeks, select days and enter 7 in the **Number of days** box.





The Pivot Table is grouped as specified. In this example the table was grouped by months and years. A new field called *Years* has been added to the field list. This field can be used in further analysis with the Pivot Table.

	A	B
1		
2		
3	<b>Row Labels</b>	<b>Sum of Total Sales Value</b>
4	<b>2010</b>	
5	<b>Aug</b>	<b>34863.68</b>
6	Beverages	3978.13
7	Condiments	2355.55
8	Confections	7226.13
9	Dairy Products	8547.58
10	Grains/Cereals	1588.58
11	Meat/Poultry	3328.3
12	Produce	4836
13	Seafood	3003.41
14	<b>Sep</b>	<b>31878.91</b>
15	Beverages	6083.6
16	Condiments	2877.47
17	Confections	6265.33

In the image below the *Years* field has been added to the **Columns** area.

	A	B	C	D	E
1					
2					
3	<b>Sum of Total Sales Value</b>	<b>Column Labels</b>			
4	<b>Row Labels</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>Grand Total</b>
5	Beverages	48109.01	113684.14	126901.53	288694.68
6	Condiments	20530.22	54860.09	38602.33	113992.64
7	Confections	29812.54	86259.09	63792.1	179863.73
8	Dairy Products	37541.41	125622.18	87984.06	251147.65
9	Grains/Cereals	9159.91	57879.86	34607.2	101646.97
10	Meat/Poultry	24838.73	83783.08	66000.77	174622.58
11	Produce	13379.47	49050.31	43315.93	105745.71
12	Seafood	20318.54	66852.31	50818.48	137989.33
13	<b>Grand Total</b>	<b>203689.83</b>	<b>637991.06</b>	<b>512022.4</b>	<b>1353703.29</b>

## Refreshing a Pivot Table

If changes are made to the source data, the Pivot Table needs to be manually refreshed. It does not update automatically.

To refresh a Pivot Table, click the **Refresh** button on the **Analyze** tab. Use the list arrow to refresh all the Pivot Tables in the workbook.

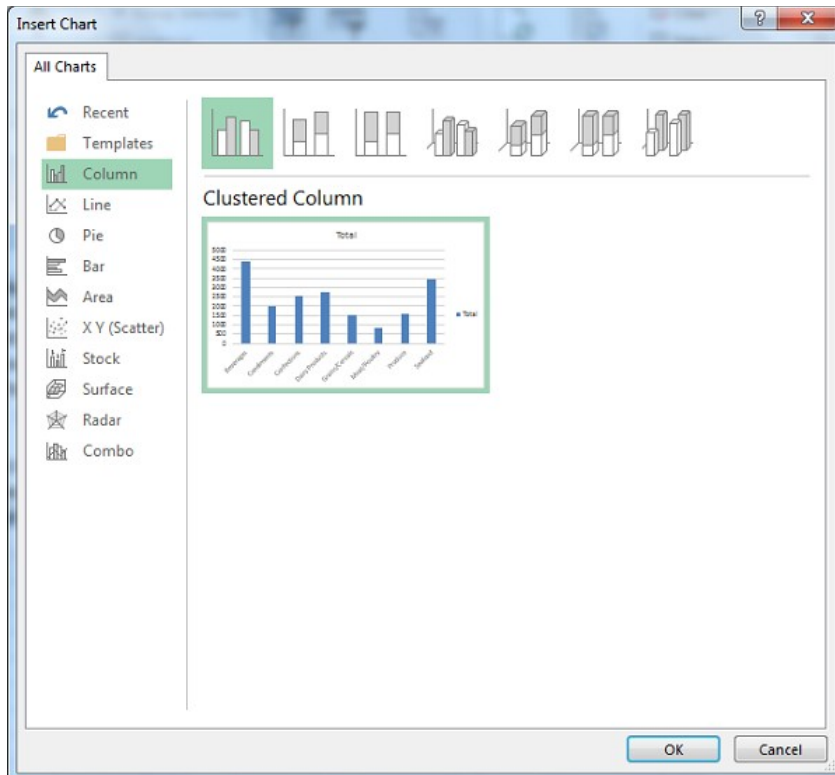


## Creating a Pivot Chart

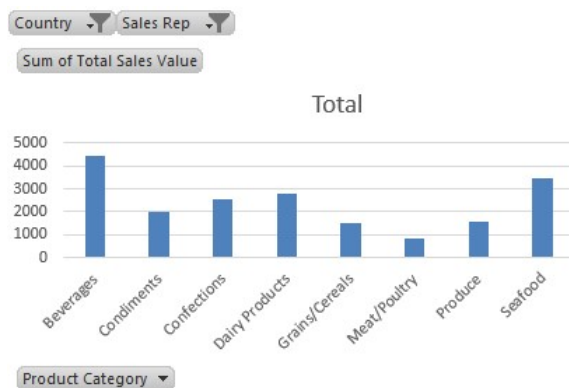
Excel Pivot Tables are awesome, but this data could also be presented graphically in a beautiful Pivot Chart.

Report filters would appear on the Pivot Chart making it easy to interact with and different data selected on the fly.

1. Click the **PivotChart** button on the **Analyze** tab of the Ribbon.
2. Select the chart you want to use from the dialog provided. Different chart types are displayed down the left, sub types along the top and a preview is shown in the main part of the dialog.



The Pivot Chart appears in the worksheet with the PivotTable. Use the tabs on the Ribbon to work on your PivotChart further.



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