



Excel Pivot Tables



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About the Tutorial

PivotTable is an extremely powerful tool that you can use to slice and dice data. In this tutorial, you will learn these PivotTable features in detail along with examples. By the time you complete this tutorial, you will have sufficient knowledge on PivotTable features that can get you started with exploring, analyzing, and reporting data based on the requirements.

Audience

This guide targets professional who have to track and analyze hundreds of thousands of data points with a compact table.

This guide targets people who want to use tables or charts in presentations and help people understand data quickly. Whether you want to make a comparison, show a relationship, or highlight a trend, these tables help your audience "see" what you are talking about.

Prerequisites

Before you proceed with this tutorial, we are assuming that you are already aware of the basics of Microsoft Excel basics. If you are not well aware of these concepts, then we will suggest you to go through our short tutorials on Excel.

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1. PivotTable – Overview

A PivotTable is an extremely powerful tool that you can use to slice and dice data. You can track and analyze hundreds of thousands of data points with a compact table that can be changed dynamically to enable you to find the different perspectives of the data. It is a simple tool to use, yet powerful.

The major features of a PivotTable are as follows-

- Creating a PivotTable is extremely simple and fast
- Enabling churning of data instantly by simple dragging of fields, sorting and filtering and different calculations on the data.
- Arriving at the suitable representation for your data as you gain insights into it.
- Ability to create reports on the fly.
- Producing multiple reports from the same PivotTable in a matter of seconds.
- Providing interactive reports to synchronize with the audience.

In this tutorial, you will understand these PivotTable features in detail along with examples. By the time you complete this tutorial, you will have sufficient knowledge on PivotTable features that can get you started with exploring, analyzing, and reporting data based on the requirements.

Creating a PivotTable

You can create a PivotTable from a range of data or an Excel table. You can start with an empty PivotTable to fill in the details, if you are aware of what you are looking for. You can also make use of Excel Recommended PivotTables that can give you heads up on the PivotTable layouts that are best suited for summarizing your data.

You will learn how to create a PivotTable from a data range or Excel table in the Chapter - Creating a PivotTable from a Table or Range.

Excel gives you a more powerful way of creating a PivotTable from multiple tables, different data sources, and external data sources. It is named as PowerPivot that works on its database known as Data Model. You will learn these Excel power tools in other tutorials in this Tutorials Library.

You need to first know about the normal PivotTable as explained in this tutorial, before you venture into the power tools.

PivotTable Layout - Fields and Areas

The PivotTable layout simply depends on what fields you have selected for the report and how you have arranged them in Areas. The selection and arrangement can be done by just dragging the fields. As you drag the fields, the PivotTable layout keeps the changing and it happens in a matter of seconds.

You will learn about PivotTable Fields and Areas in the Chapters – PivotTable Fields and PivotTable Areas.

Exploring Data with PivotTable

The primary goal of using a PivotTable normally is to explore the data to extract significant and required information. You have several options to do this that include Sorting, Filtering, Nesting, Collapsing and Expanding, Grouping and Ungrouping, etc.

You will have an overview of these options in the Chapter - Exploring Data with PivotTable.

Summarizing Values

Once you collate the data required by you by the different exploration techniques, the next step that you would like to take is to summarize the data. Excel provides you with a variety of calculation types that you can apply based on suitability and requirement. You can also switch across different calculation types and view the results in a matter of seconds.

You will learn how to apply the calculation types on a PivotTable in the Chapter - Summarizing Values by Different Calculation Types.

Updating a PivotTable

Once you have explored the data and summarized it, you need not repeat the exercise if and when the source data gets updated. You can refresh the PivotTable so that it reflects the changes in the source data.

You will learn the various ways of refreshing data in the Chapter – Updating a PivotTable.

PivotTable Reports

After exploring and summarizing the data with a PivotTable, you would be presenting it as a report. PivotTable reports are interactive in nature, with the specialty that even a person not familiar with Excel can use them intuitively. Because of their inherent dynamic nature, they will enable you to change the perspective quickly of the report to show the required level of detail or to focus on the specific items in which the audience expresses interest.

Further, you can structure a PivotTable report for standalone presentation or as an integral part of a broad report as the case may be. You will learn the several of reporting with PivotTables in the Chapter – PivotTable Reports.

2. PivotTable – Creation

You can create a PivotTable either from a range of data or from an Excel table. In both the cases, the first row of the data should contain the headers for the columns.

If you are sure of the fields to be included in the PivotTable and the layout you want to have, you can start with an empty PivotTable and construct the PivotTable.

In case you are not sure which PivotTable layout is best suitable for your data, you can make use of Recommended PivotTables command of Excel to view the PivotTables customized to your data and choose the one you like.

Creating a PivotTable from a Data Range

Consider the following data range that contains the sales data for each Salesperson, in each Region and in the months of January, February and March -

A	B	C	D	E	F
1					
2	Salesperson	Region	Account	Order Amount	Month
3	Albertson, Kathy	East	29386	\$925.00	January
4	Albertson, Kathy	East	74830	\$875.00	February
5	Albertson, Kathy	East	90099	\$500.00	February
6	Albertson, Kathy	East	74830	\$350.00	March
7	Brennan, Michael	West	82853	\$400.00	January
8	Brennan, Michael	West	72949	\$850.00	January
9	Brennan, Michael	West	90044	\$1,500.00	January
10	Brennan, Michael	West	82853	\$550.00	February
11	Brennan, Michael	West	72949	\$400.00	March
12	Davis, William	South	55223	\$235.00	February
13	Davis, William	South	10354	\$850.00	January
14	Davis, William	South	50192	\$600.00	March
15	Davis, William	South	27589	\$250.00	January
16	Dumiao, Richard	West	67275	\$400.00	January
17	Dumiao, Richard	West	41828	\$965.00	February
18	Dumiao, Richard	West	87543	\$125.00	March
19	Flores, Tia	South	97446	\$1,500.00	March
20	Flores, Tia	South	41400	\$305.00	January
21	Flores, Tia	South	30974	\$1,350.00	January

To create a PivotTable from this data range, do the following –

- Ensure that the first row has headers. You need headers because they will be the field names in your PivotTable.
- Name the data range as SalesData_Range.
- Click on the data range – SalesData_Range.
- Click the INSERT tab on the Ribbon.

Click PivotTable in the Tables group. The **Create PivotTable** dialog box appears.

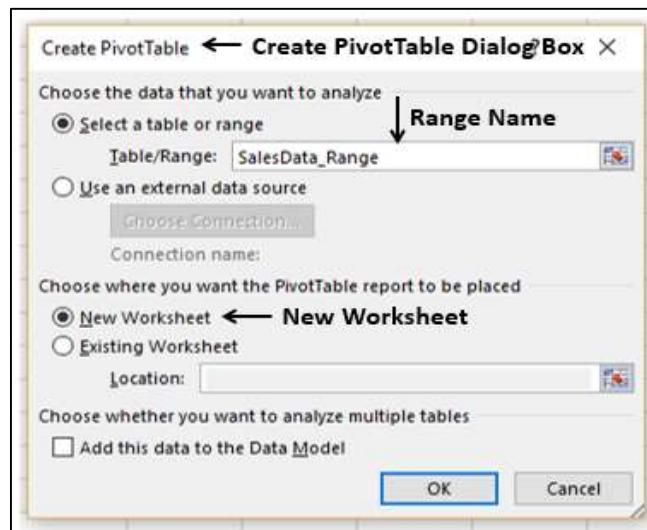
Salesperson	Region	Account	Order Amount	Month
Albertson, Kathy	East	29386	\$925.00	January
Albertson, Kathy	East	74830	\$875.00	February
Albertson, Kathy	East	90099	\$500.00	February
Albertson, Kathy	East	74830	\$350.00	March
Brennan, Michael	West	82653	\$400.00	January
Brennan, Michael	West	72949	\$850.00	January
Brennan, Michael	West	90044	\$1,500.00	January
Brennan, Michael	West	82653	\$550.00	February
Brennan, Michael	West	72949	\$400.00	March
Davis, William	South	55223	\$255.00	February
Davis, William	South	10354	\$850.00	January
Davis, William	South	50192	\$600.00	March
Davis, William	South	27589	\$250.00	January
Dumiao, Richard	West	67275	\$400.00	January
Dumiao, Richard	West	41828	\$965.00	February
Dumiao, Richard	West	87543	\$125.00	March
Flores, Ira	South	97446	\$1,500.00	March
Flores, Ira	South	41400	\$305.00	January
Flores, Ira	South	20974	\$1,350.00	January
Flores, Ira	South	41400	\$435.00	February

In Create PivotTable dialog box, under **Choose the data that you want to analyze**, you can either select a Table or Range from the current workbook or use an external data source.

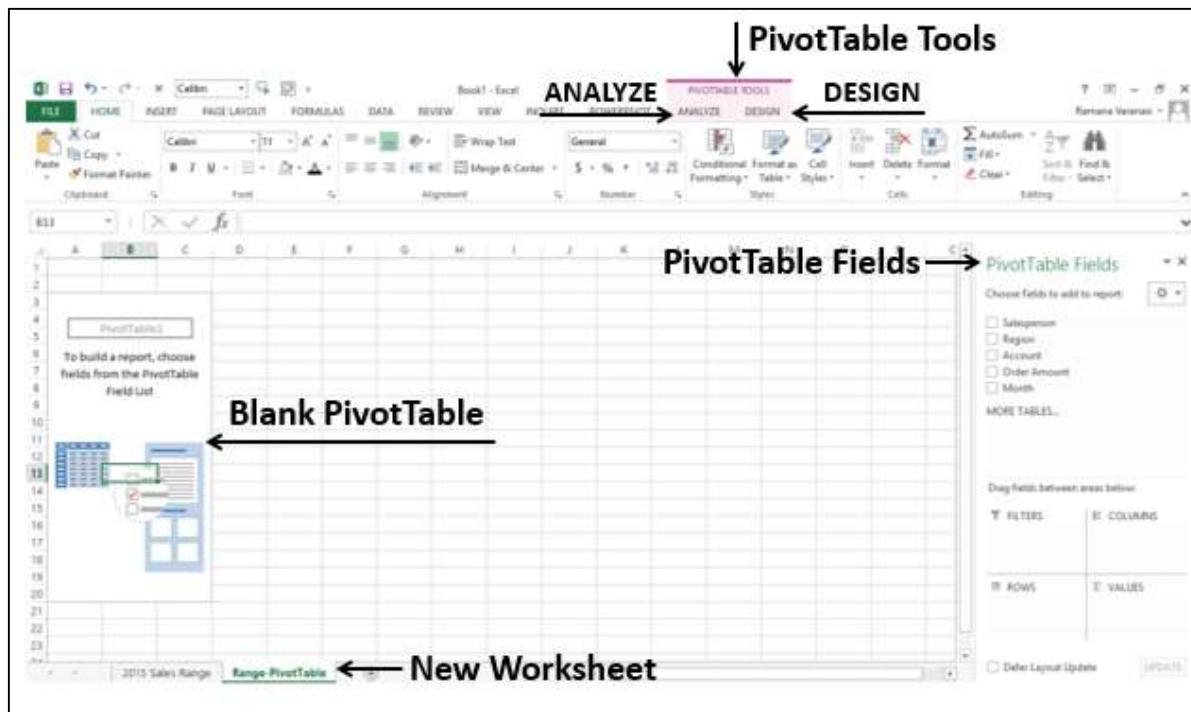
As you are creating a PivotTable from a data range, select the following from the dialog box-

- Select **Select a table or range**.
- In the Table/Range box, type the range name – SalesData_Range.
- Select New Worksheet under Choose where you want the PivotTable report to be placed and click OK.

You can choose to analyze multiple tables, by adding this data range to Data Model. You can learn how to analyze multiple tables, use of Data Model and how to use an external data source to create a PivotTable in the tutorial Excel PowerPivot.



A new worksheet is inserted into your workbook. The new worksheet contains an empty PivotTable. Name the worksheet – Range-PivotTable.



As you can observe, the **PivotTable Fields** list appears on the right side of the worksheet, containing the header names of the columns in the data range. Further, on the Ribbon, PivotTable Tools – ANALYZE and DESIGN appear.

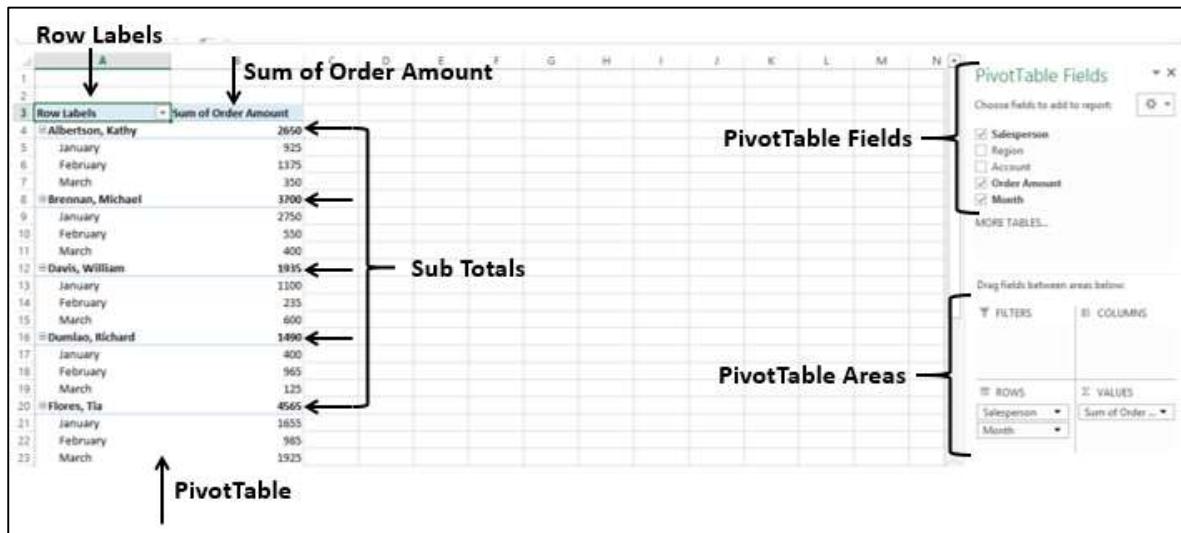
Adding Fields to the PivotTable

You will understand in detail about PivotTable Fields and Areas in the later chapters in this tutorial. For now, observe the steps to add fields to the PivotTable.

Suppose you want to summarize the order amount salesperson-wise for the months January, February, and March. You can do it in few simple steps as follows-

- Click on the field Salesperson in the PivotTable Fields list and drag it to the ROWS area.
- Click the field Month in the PivotTable Fields list and drag that also to ROWS area.
- Click on Order Amount and drag it to Σ VALUES area.

Your first PivotTable is ready as shown below-



Observe that two columns appear in the PivotTable, one containing the Row Labels that you selected, i.e. Salesperson and Month and a second one containing Sum of Order Amount. In addition to Sum of Order Amount month wise for each Salesperson, you will also get subtotals representing the total sales by that person. If you scroll down the worksheet, you will find the last row as Grand Total representing total sales.

You will learn more about producing PivotTables as per the need as you progress through this tutorial.

Creating a PivotTable from a Table

Consider the following Excel table that contains the same sales data as in the previous section-

A	B	C		D	E	F
1	2	Salesperson	Region	Account	Order Amount	Month
3	Albertson, Kathy	East	29386	\$925.00	January	
4	Albertson, Kathy	East	74830	\$875.00	February	
5	Albertson, Kathy	East	90099	\$500.00	February	
6	Albertson, Kathy	East	74830	\$350.00	March	
7	Brennan, Michael	West	82853	\$400.00	January	
8	Brennan, Michael	West	72949	\$850.00	January	
9	Brennan, Michael	West	90044	\$1,500.00	January	
10	Brennan, Michael	West	82853	\$550.00	February	
11	Brennan, Michael	West	72949	\$400.00	March	
12	Davis, William	South	55223	\$235.00	February	
13	Davis, William	South	10354	\$850.00	January	
14	Davis, William	South	50192	\$600.00	March	
15	Davis, William	South	27589	\$250.00	January	
16	Dumlao, Richard	West	67275	\$400.00	January	
17	Dumlao, Richard	West	41828	\$965.00	February	
18	Dumlao, Richard	West	87543	\$125.00	March	
19	Flores, Tia	South	97446	\$1,500.00	March	
20	Flores, Tia	South	41400	\$305.00	January	
21	Flores, Tia	South	30974	\$1,350.00	January	
22	Flores, Tia	South	41400	\$435.00	February	
23	Flores, Tia	South	30974	\$550.00	February	

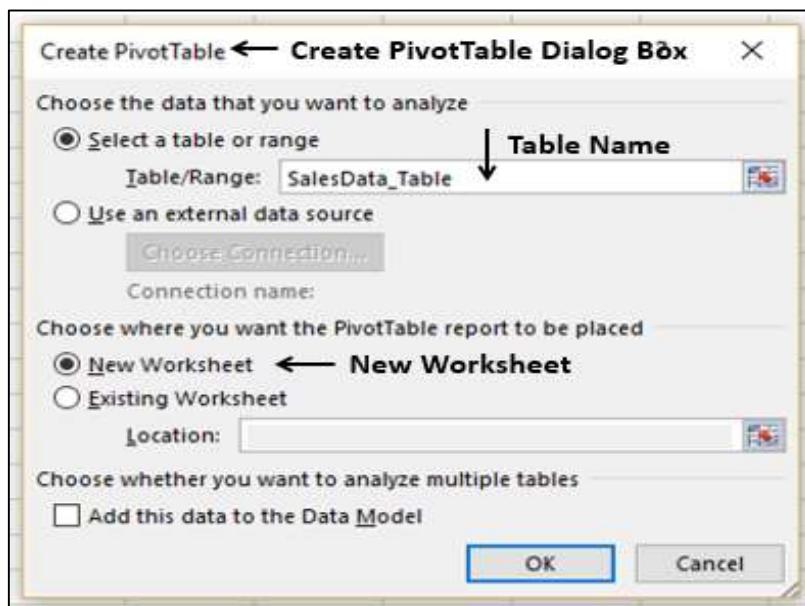
An Excel table will inherently have a name and the columns will have headers, which is a requirement to create a PivotTable. Suppose the table name is SalesData_Table.

To create a PivotTable from this Excel table, do the following –

- Click on the table – SalesData_Table.
- Click the INSERT tab on the Ribbon.
- Click PivotTable in the Tables group. The **Create PivotTable** dialog box appears.

Salesperson	Region	Account	Order Amount	Month
Albertson, Kathy	East	29386	\$925.00	January
Albertson, Kathy	East	74830	\$875.00	February
Albertson, Kathy	East	90099	\$500.00	February
Albertson, Kathy	East	74830	\$350.00	March
Brennan, Michael	West	82853	\$400.00	January
Brennan, Michael	West	72949	\$850.00	January
Brennan, Michael	West	90044	\$1,500.00	January
Brennan, Michael	West	82853	\$550.00	February
Brennan, Michael	West	72949	\$400.00	March
Davis, William	South	55223	\$235.00	February
Davis, William	South	10354	\$850.00	January
Davis, William	South	50192	\$600.00	March
Davis, William	South	27589	\$250.00	January
Dumlao, Richard	West	67275	\$400.00	January
Dumlao, Richard	West	41828	\$965.00	February
Dumlao, Richard	West	87543	\$125.00	March
Flores, Tia	South	97446	\$1,500.00	March
Flores, Tia	South	41400	\$305.00	January
Flores, Tia	South	30974	\$1,350.00	January

- Click Select a table or range.
- In the Table/Range box, type the table name – SalesData_Table.
- Select New Worksheet under **Choose where you want the PivotTable report to be placed**. Click OK.



A new worksheet is inserted into your workbook. The new worksheet contains an empty PivotTable. Name the worksheet – Table-PivotTable. The worksheet – Table-PivotTable looks similar to the one you have got in the data range case in the earlier section.

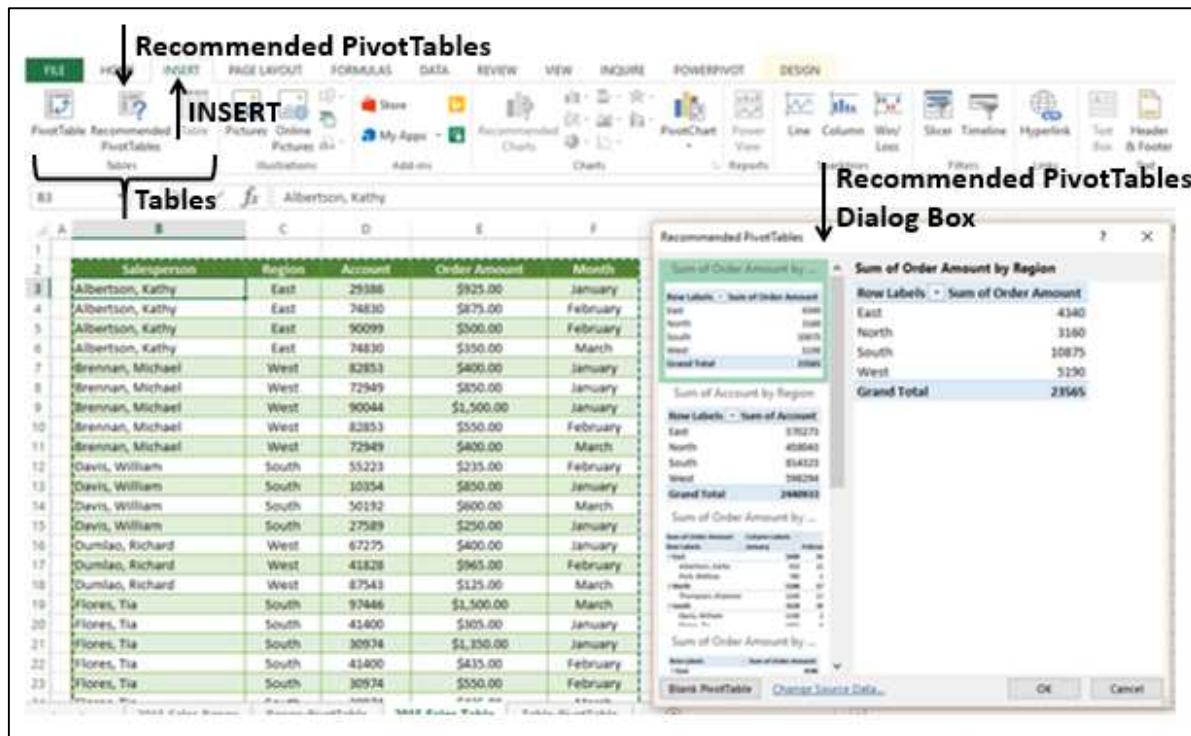
You can add fields to the PivotTable as you have seen in the section – Adding Fields to the PivotTable, earlier in this chapter.

Creating a PivotTable with Recommended PivotTables

In case you are not familiar with Excel PivotTables or if you do not know which fields would result in a meaningful report, you can use the Recommended PivotTables command in Excel. Recommended PivotTables gives you all the possible reports with your data along with the associated layout. In other words, the options displayed will be the PivotTables that are customized to your data.

To create a PivotTable from the Excel table SalesData-Table using Recommended PivotTables, proceed as follows –

- Click on the table SalesData-Table.
- Click the INSERT tab.
- Click Recommended PivotTables in the Tables group. The Recommended PivotTables Dialog Box appears.

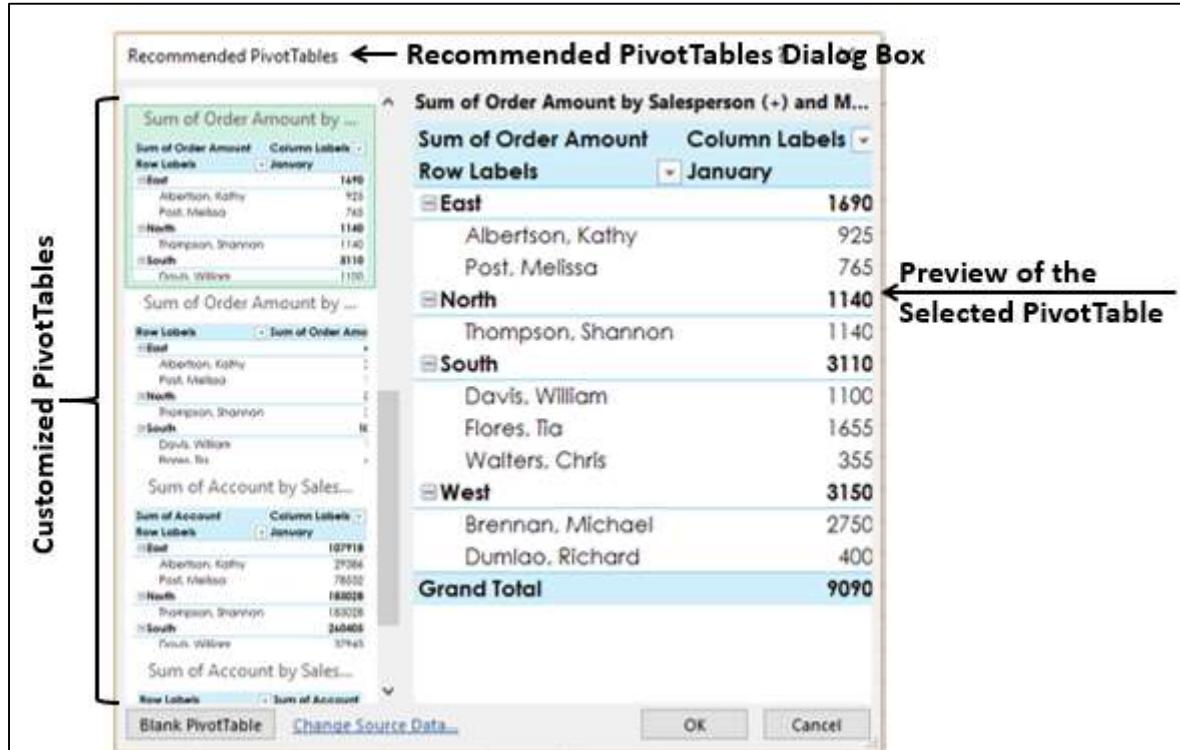


In the Recommended PivotTables dialog box, the possible customized PivotTables that suit your data will be displayed.

- Click on each of the PivotTable options to see the preview on the right side.

- Click on the PivotTable - Sum of Order Amount by Salesperson and Month and click OK.

You will get the preview on the right side.



The selected PivotTable appears on a new worksheet in your workbook.

Region	Salesperson	Month	Sum of Order Amount
East	Albertson, Kathy	January	1410
East	Post, Melissa	January	745
North	Thompson, Shannon	January	1140
South	Davis, William	January	8110
South	Rivas, Tia	January	1100
North	Thompson, Shannon	January	1140
South	Davis, William	January	3110
South	Flores, Tia	January	1655
South	Walters, Chris	January	355
West	Brennan, Michael	January	3150
West	Dumlao, Richard	January	400
Grand Total			9090

You can see that the PivotTable Fields - Salesperson, Region, Order Amount and Month got selected. Of these, Region and Salesperson are in ROWS area, Month is in COLUMNS area, and Sum of Order Amount is in Σ VALUES area.

The PivotTable summarized the data Region-wise, Salesperson-wise and Month-wise. The subtotals are displayed for each Region, each Salesperson, and each Month.

3. PivotTable – Fields

PivotTable Fields is a Task Pane associated with a PivotTable. The PivotTable Fields Task Pane comprises of Fields and Areas. By default, the Task Pane appears at the right side of the window with Fields displayed above Areas.

Fields represent the columns in your data – range or Excel table, and will have check boxes. The selected fields are displayed in the report. Areas represent the layout of the report and the calculations included in the report.

At the bottom of the Task Pane, you will find an option – Defer Layout Update with an UPDATE button next to it.

- By default, this is not selected and whatever changes you make in the selection of fields or in the layout options are reflected in the PivotTable instantly.
- If you select this, the changes in your selections are not updated until you click on the **UPDATE** button.

The screenshot illustrates the PivotTable Fields Task Pane. On the left, a PivotTable is displayed with data for Salesperson, Region, Account, Order Amount, and Month. The PivotTable Fields Task Pane on the right is divided into two main sections: **Fields** and **Areas**. The **Fields** section contains checkboxes for Salesperson, Region, Account, Order Amount, and Month, with a link to 'MORE TABLES...'. The **Areas** section includes 'ROWS' and 'VALUES' settings. Below these sections is a 'Defer Layout Update' checkbox and an 'UPDATE' button with an upward arrow. Arrows indicate the relationship between the sections and the overall task pane.

In this chapter, you will understand the details about Fields. In the next chapter, you will understand the details about Areas.

PivotTable Fields Task Pane

You can find the PivotTable Fields Task Pane on the worksheet where you have a PivotTable. To view the PivotTable Fields Task Pane, click the PivotTable. In case the PivotTable Fields Task Pane is not displayed, check the Ribbon for the following –

- Click the ANALYZE tab under PIVOTTABLE TOOLS on the Ribbon.
- Check if Fields List is selected (i.e. highlighted) in the Show group.
- If Fields List is not selected, then click it.

The PivotTable Fields Task Pane will be displayed on the right side of the window, with the title – PivotTable Fields.

PivotTable Tools

PivotTable Fields → **PivotTable Fields**

Show

Moving PivotTable Fields Task Pane

On the right of the title PivotTable Fields of the PivotTable Task Pane, you will find the button . This represents Task Pane Options. Click the button . The Task Pane Options- Move, Size and Close appear in the dropdown list.

Task Pane Options

PivotTable Fields →

Move, **Size**, **Close**

You can move the PivotTables Task Pane to anywhere you want in the window as follows-

- Click Move in the dropdown list. The button appears on the Task Pane.
- Click the icon and drag the pane to a position where you want to place it. You can place the Task Pane next to the PivotTable as given below.

The screenshot shows a Microsoft Excel spreadsheet with a PivotTable in the main area. The PivotTable has 'Sum of Order Amount' as the value field, 'Region' as the row label, and 'Month' as the column label. The data includes sales for four regions (East, North, South, West) across three months (January, February, March). The 'Grand Total' row shows the sum for each month and the overall total. On the right side of the screen, the 'PivotTable Fields' Task Pane is open. It lists fields from the source data: Salesperson, Region, Account, Order Amount, and Month. Under 'ROWS', 'Region' is selected. Under 'VALUES', 'Sum of Order ...' is selected. The 'FILTERS' section shows 'Month' is assigned to the 'COLUMNS' area. A 'Defer Layout Update' checkbox is checked, and an 'UPDATE' button is visible.

You can place the Task Pane on the left side of the window as given below.

This screenshot shows the same Excel environment as above, but the 'PivotTable Fields' Task Pane has been moved to the left side of the window. The main spreadsheet area contains the same PivotTable data. The Task Pane's layout remains identical, with sections for choosing fields to report, filters, rows, and values.

Resizing PivotTable Fields Task Pane

You can resize the PivotTables Task Pane – i.e. increase / decrease the Task Pane length and/or width as follows-

- Click on Task Pane Options - that is on the right side of the title - PivotTable Fields.
- Click on Size in the dropdown list.
- Use the symbol to increase / decrease the width of the Task Pane.
- Use the symbol to increase / decrease the height of the Task Pane.

In the Σ VALUES area, to make Sum of Order Amount visible completely, you can resize the Task Pane as given below.

		January	February	March	Grand Total
Sum of Order Amount	Column Labels				
Row Labels		January	February	March	Grand Total
East		1670	1750	700	4340
Albertson, Kathy		925	1375	350	2650
Post, Melissa		765	575	350	1690
North		1140	1720	300	3140
Thompson, Shannon		1140	1720	300	3160
South		3110	3775	3790	10875
Davis, William		1100	235	600	1935
Flores, Ila		1655	985	1925	4565
Waters, Chris		355	2755	1265	4375
West		3150	1515	525	5190
Brennan, Michael		2750	550	400	3700
Durkao, Richard		400	965	125	1490
Grand Total		9190	9140	\$315	23545

PivotTable Fields

The PivotTable Fields list comprises of all the tables that are associated with your workbook and the corresponding fields. It is by selecting the fields in the PivotTable fields list, you will create the PivotTable.

The tables and the corresponding fields with check boxes, reflect your PivotTable data. As you can check / uncheck the fields randomly, you can quickly change the PivotTable, highlighting the summarized data that you want to report or present.

PivotTable Fields

Choose fields to add to report:

- Salesperson
- Region
- Account
- Order Amount
- Month

As you can observe, if there is only one table, the table name will not be displayed in the PivotTable Fields list. Only the fields will be displayed with check boxes.

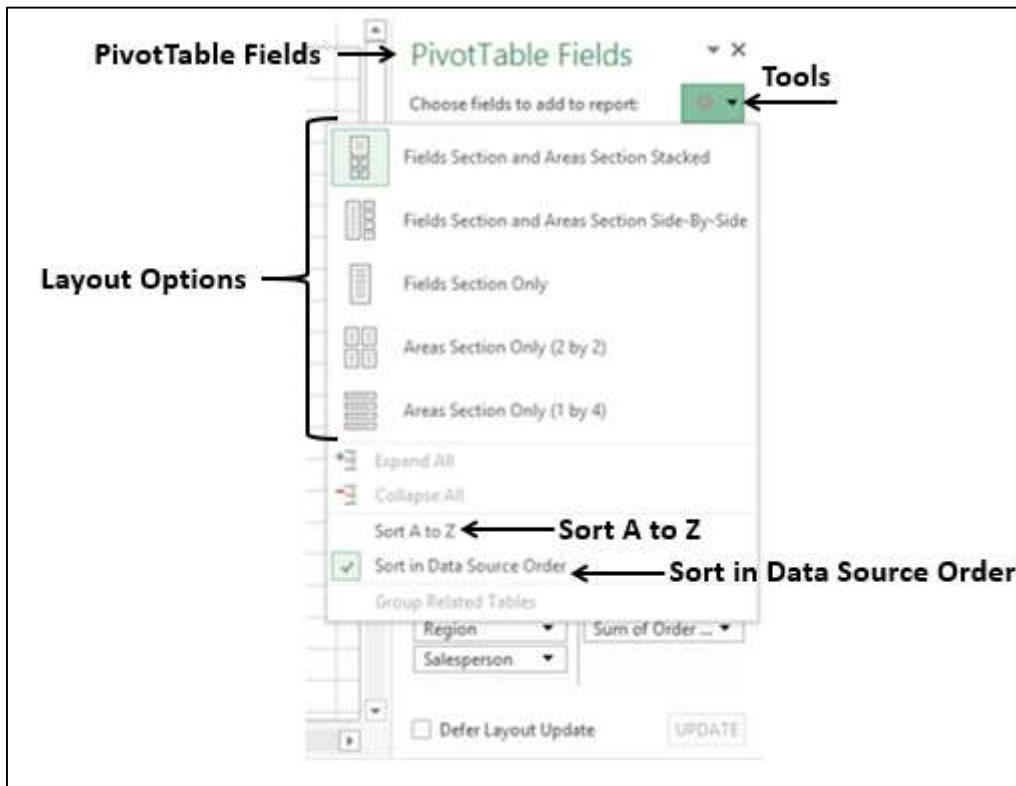
Above the fields list, you will find the action **Choose fields to add to report**. To the right, you will find the button - that represents Tools.

- Click on the Tools button.

In the dropdown list, you will find the following –

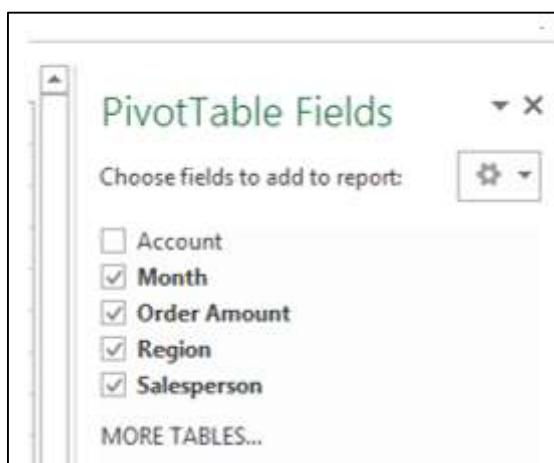
- Five different layout options for Fields and Areas.

- Two options for Sort order of the fields in the Fields list –
 - Sort A to Z.
 - Sort in Data Source Order.



As you can observe in the above Fields list, the Sort order is by default – i.e. in Data Source Order. This means, it is the order in which the columns in your data table appear.

Normally, you can retain the default order. However, at times, you might encounter many fields in a table and might not be acquainted with them. In such a case, you can sort the fields in alphabetical order by clicking on – Sort A to Z in the dropdown list of Tools. Then, the PivotTable Fields list looks as follows –



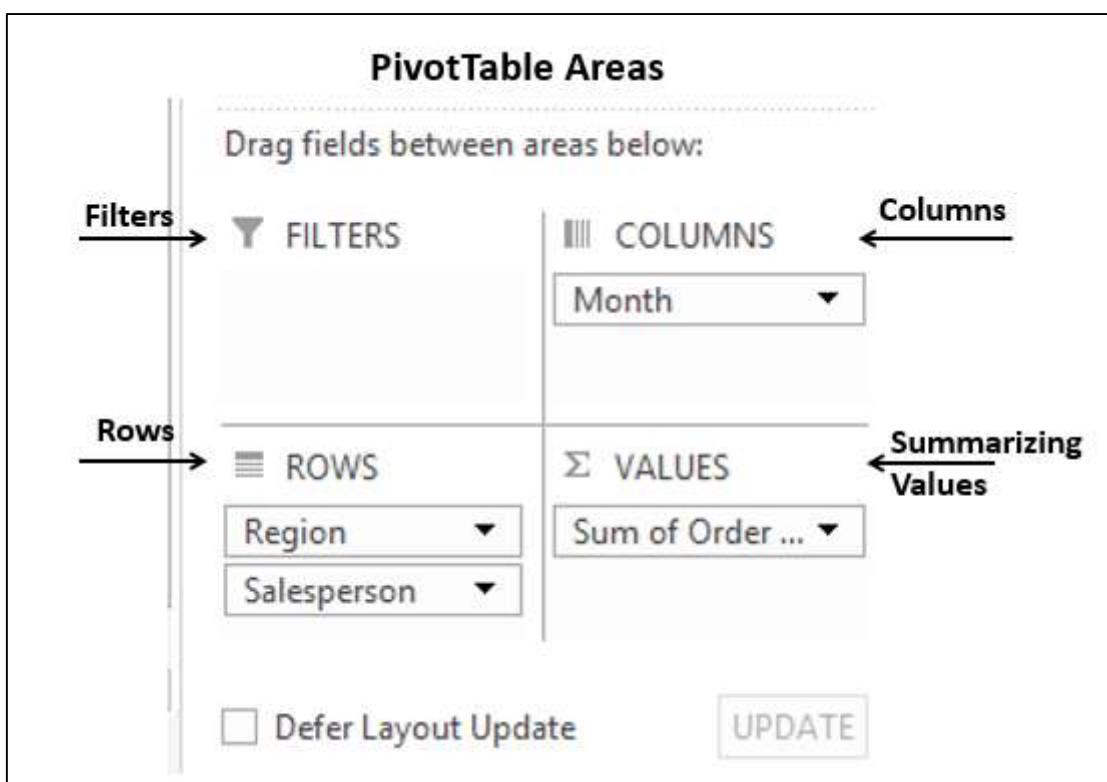
4. PivotTable – Areas

PivotTable areas are a part of PivotTable Fields Task Pane. By arranging the selected fields in the areas, you can arrive at different PivotTable layouts. As you can simply drag the fields across areas, you can quickly switch across the different layouts, summarizing the data, in a way you want.

You have already learnt about PivotTable Fields Task Pane in the earlier chapter on PivotTable Fields in this tutorial. In this chapter, you will learn about the PivotTable areas.

There are four PivotTable areas available –

- ROWS.
- COLUMNS.
- FILTERS.
- Σ VALUES (Read as Summarizing Values).



The message- **Drag fields between areas below** appears above the areas.

With PivotTable Areas, you can choose-

- What fields to display as rows (ROWS area).
- What fields to display as columns (COLUMNS area).
- How to summarize your data (Σ VALUES area).
- Filters for any of the fields (FILTERS area).

You can just drag the fields across these areas and observe how the PivotTable Layout changes.

ROWS

If you select the fields in the PivotTable Fields lists by just checking the boxes, all the non-numeric fields will automatically be added to the ROWS area, in the order you select.

You can optionally, drag a field to the ROWS area. The fields that are put in ROWS area appear as rows in the PivotTable, with the Row Labels being the values of the selected fields.

For example, consider the Sales data table.

- Drag the field Salesperson to ROWS area.
- Drag the field Month to ROWS area.

Your PivotTable appears with one column containing the Row Labels – Salesperson and Month and a last row as Grand Total, as given below.

The screenshot shows the PivotTable Fields ribbon in Excel. The 'ROWS' section is active, displaying the fields 'Salesperson' and 'Month'. The 'VALUES' section also contains 'Salesperson' and 'Month'. The data table below shows rows for Salesperson (Albertson, Kathy; Brennan, Michael; Davis, William; Dumiao, Richard; Flores, Tia) and months (January, February, March), with a Grand Total row at the bottom.

Salesperson	Month
Albertson, Kathy	January
Albertson, Kathy	February
Albertson, Kathy	March
Brennan, Michael	January
Brennan, Michael	February
Brennan, Michael	March
Davis, William	January
Davis, William	February
Davis, William	March
Dumiao, Richard	January
Dumiao, Richard	February
Dumiao, Richard	March
Flores, Tia	January
Flores, Tia	February
Flores, Tia	March
Grand Total	

COLUMNS

You can drag fields to the COLUMNS area.

The fields that are put in COLUMNS area appear as columns in the PivotTable, with the Column Labels being the values of the selected fields.

Drag the field Region to COLUMNS area. Your PivotTable appears with the first column containing the Row Labels – Salesperson and Month the next four columns containing the Column Labels – Region and a last column Grand Total as given below.

A screenshot of an Excel PivotTable interface. The PivotTable Fields pane on the right lists fields: Salesperson (checked), Region (checked), Account (unchecked), Order Amount (unchecked), and Month (checked). The Columns area shows Salesperson and Month. The Rows area shows Salesperson and Month. The PivotTable itself displays data for Salesperson (Albertson, Kathy; Brennan, Michael; Davis, William; Dumiao, Richard; Flores, Tia) across Months (January, February, March) and Regions (East, West). A Grand Total column is present.

- Drag the field Month from ROWS to COLUMNS.
- Drag the field Region from COLUMNS to ROWS. Your PivotTable layout changes as given below.

A screenshot of the modified Excel PivotTable. The PivotTable Fields pane is identical to the previous one. The Columns area now shows Month. The Rows area shows Salesperson and Region. The PivotTable structure has changed to have five columns: Row Labels, January, February, March, and Grand Total. The data rows remain the same as in the first screenshot.

You can see that there are only five columns now – the first column with Row Labels, three columns with Column Labels and a last column with Grand Total.

The number of Rows and Columns is based on the number of values you have in those fields.

Σ VALUES

The primary use of a PivotTable is to summarize values. Hence, by placing the fields by which you want to summarize the data in **Σ VALUES** area, you arrive at the summary table.

- Drag the field Order Amount to **Σ VALUES**.
- Drag the field Region to above the field Salesperson in ROWS area. This step is to change the nesting order. You will learn nesting in the chapter – Nesting in the PivotTable in this tutorial.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
3	Sum of Order Amount	Column Labels																	
4	Row Labels	January	February	March	Grand Total														
5	East	1690	1950	700	4340														
6	Albertson, Kathy	925	1375	350	2650														
7	Post, Melissa	765	575	350	1690														
8	North	1140	1720	300	3160														
9	Thompson, Shannon	1140	1720	300	3160														
10	South	3110	3975	3790	10875														
11	Davis, William	1100	235	600	1935														
12	Flores, Tia	1655	985	1925	4565														
13	Walters, Chris	355	2755	1265	4375														
14	West	3150	1515	525	5190														
15	Brennan, Michael	2750	550	400	3700														
16	Dumiao, Richard	400	965	125	1490														
17	Grand Total	9090	9160	5315	23565														

As you can observe, the data is summarized region-wise, salesperson-wise and month-wise. You have subtotals for each region, month wise. You also have grand totals month wise in the Grand Total row grand totals region wise in the Grand Total column.

FILTERS

The Filters area is to place filters in PivotTable. Suppose you want to display results separately for the selected regions only.

Drag the field Region from ROWS area to FILTERS area. The filter Region will be placed above the PivotTable. In case you do not have empty rows above the PivotTable, the PivotTable is pushed down inserting rows above the PivotTable for the filter.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	Region	(All)																	
2	3	Sum of Order Amount	Column Labels																
4	4	Row Labels	January	February	March	Grand Total													
5	5	Albertson, Kathy	925	1375	350	2650													
6	6	Brennan, Michael	2750	550	400	3700													
7	7	Davis, William	1100	235	600	1935													
8	8	Dumiao, Richard	400	965	125	1490													
9	9	Flores, Tia	1655	985	1925	4565													
10	10	Post, Melissa	765	575	350	1690													
11	11	Thompson, Shannon	1140	1720	300	3160													
12	12	Walters, Chris	355	2755	1265	4375													
13	13	Grand Total	9090	9160	5315	23565													

As you can observe, (ALL) appears in the filter by default, and the PivotTable displays data for all the values of the Region.

- Click on the arrow to the right of filter.
- Check the box – Select Multiple Items.

Select Multiple Items

Region	February	March	Grand Total
All	1375	350	2650
East	550	400	3700
North	235	600	1935
South	965	125	1490
West	985	1925	4565
	575	350	1690
	1720	300	3160
	2755	1265	4375
	9160	5315	23565

Check boxes will appear for all the options in the dropdown list. By default, all the boxes are checked.

- Check the boxes – North and South.
- Clear the other boxes. Click OK.

Select Multiple Items

Region	February	March	Grand Total
All	1375	350	2650
East	550	400	3700
North	235	600	1935
South	965	125	1490
	985	1925	4565
	575	350	1690
	1720	300	3160
	2755	1265	4375
	9160	5315	23565

The PivotTable gets changed to reflect the filtered data.

Region	January	February	March	Grand Total	
Davis, William		1100	235	600	1935
Flores, Tia		1655	985	1925	4565
Thompson, Shannon		1140	1720	300	3160
Walters, Chris		355	2755	1265	4375
Grand Total		4250	5695	4090	14035

You can observe that the filter displays (Multiple Items). Therefore, when someone is looking at the PivotTable, it is not immediately obvious of what values are filtered.

Excel provides you another tool called Slicers to handle filtering more efficiently. You will understand Filtering Data in a PivotTable in detail in a later chapter in this tutorial.

5. PivotTable – Exploring Data

Excel PivotTable allows you to explore and extract significant data from an Excel table or a range of data. There are several ways of doing this and you can choose the ones that are best suited to your data. Further, while you are exploring the data, you can view the different combinations instantly as you change your choices to pick the data values.

You can do the following with a PivotTable –

- Sort the data.
- Filter the data.
- Nest the PivotTable fields.
- Expand and Collapse the fields.
- Group and ungroup field values.

Sorting and Filtering Data

You can sort the data in a PivotTable in ascending or descending order of the field values. You can also sort by subtotals from largest to smallest or smallest to largest values. You can also set sort options. You will learn these in detail in the chapter – Sorting Data in a PivotTable in this tutorial.

You can filter the data in a PivotTable to focus on some specific data. You have several filtering options in PivotTable that you will learn in the chapter – Filtering Data in a PivotTable in this tutorial. You can use Slicers for filtering, which you will learn in the chapter – Filtering using Slicers in this tutorial.

Nesting, Expanding and Collapsing Fields

You can nest fields in a PivotTable to show a hierarchy, if relevant to your data. You will learn this in the chapter - Nesting in a PivotTable in this tutorial.

When you have nested fields in your PivotTable, you can expand and collapse the values of those fields. You will learn these in the Chapter – Exploring Data with PivotTable Tools in this tutorial.

Grouping and Ungrouping Field Values

You can group and ungroup specific values of a field in a PivotTable. You will learn this in the Chapter – Exploring Data with PivotTable Tools in this tutorial.

6. PivotTable – Sorting Data

You can sort the data in a PivotTable so that it will be easy for you to find the items you want to analyze. You can sort the data from lowest to highest values or highest to lowest values or in any other custom order that you choose.

Consider the following PivotTable wherein you have the summarized sales data region-wise, salesperson-wise and month-wise.

A	B	C	D	E	
1					
2					
3	Sum of Order Amount	Column Labels			
4	Row Labels	January	February	March	Grand Total
5	East	1690	1950	700	4340
6	Albertson, Kathy	925	1375	350	2650
7	Post, Melissa	765	575	350	1690
8	North	1140	1720	300	3160
9	Thompson, Shannon	1140	1720	300	3160
10	South	3110	3975	3790	10875
11	Davis, William	1100	235	600	1935
12	Flores, Tia	1655	985	1925	4565
13	Walters, Chris	355	2755	1265	4375
14	West	3150	1515	525	5190
15	Brennan, Michael	2750	550	400	3700
16	Dumlao, Richard	400	965	125	1490
17	Grand Total	9090	9160	5315	23565
18					

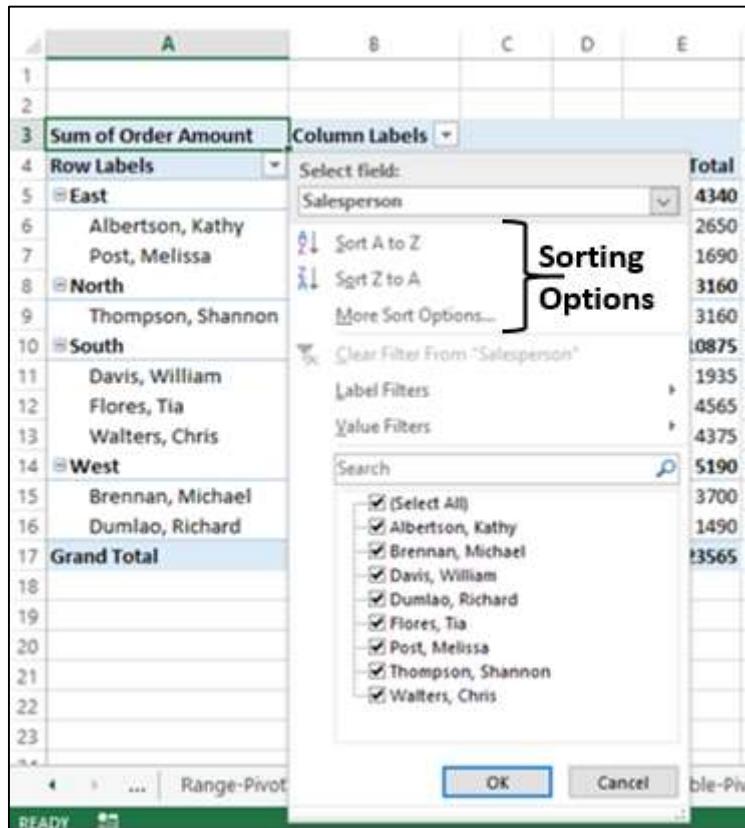
← PivotTable

Sorting on Fields

You can sort the data in the above PivotTable on Fields that are in Rows or Columns – Region, Salesperson and Month.

To sort the PivotTable with the field Salesperson, proceed as follows-

- Click the arrow  in the Row Labels.
- Select Salesperson in the Select Field box from the dropdown list.



The screenshot shows the 'Column Labels' context menu open over a PivotTable. The menu includes options like 'Select field:', 'Sort A to Z', 'Sort Z to A', 'More Sort Options...', 'Clear Filter From "Salesperson"', 'Label Filters', 'Value Filters', and a 'Search' bar. A bracket labeled 'Sorting Options' points to the 'Sort A to Z' and 'Sort Z to A' buttons. The PivotTable itself displays data grouped by Region (East, North, South, West) and Salesperson, with a column for Total Order Amount.

	Total
Albertson, Kathy	4340
Post, Melissa	2650
Thompson, Shannon	1690
Davis, William	3160
Flores, Tia	3160
Walters, Chris	10875
Brennan, Michael	1935
Dumiao, Richard	4565
Grand Total	4375
	5190
	3700
	1490
	\$3565

The following sorting options are displayed-

- Sort A to Z.
- Sort Z to A.
- More Sort Options.

Further, the Salesperson field is sorted in ascending order, by default. Click **Sort Z to A**. The Salesperson field will be sorted in descending order.

A	B	C	D	E	
1					
2					
3	Sum of Order Amount	Column Labels			
4	Row Labels	January	February	March	Grand Total
5	East	1690	1950	700	4340
6	Post, Melissa	765	575	350	1690
7	Albertson, Kathy	925	1375	350	2650
8	North	1140	1720	300	3160
9	Thompson, Shannon	1140	1720	300	3160
10	South	3110	3975	3790	10875
11	Walters, Chris	355	2755	1265	4375
12	Flores, Tia	1655	985	1925	4565
13	Davis, William	1100	235	600	1935
14	West	3150	1515	525	5190
15	Dumlao, Richard	400	965	125	1490
16	Brennan, Michael	2750	550	400	3700
17	Grand Total	9090	9160	5315	23565

In the same way, you can sort the field in column – Month, by clicking on the arrow  in the column labels.

Sorting on Subtotals

Suppose you want to sort the PivotTable based on total order amount – highest to lowest in every Region. That is, you want to sort the PivotTable on subtotals.

A	B	C	D	E	
1					
2					
3	Sum of Order Amount	Column Labels			
4	Row Labels	January	February	March	Grand Total
5	East	1690	1950	700	4340
6	Albertson, Kathy	925	1375	350	2650
7	Post, Melissa	765	575	350	1690
8	North	1140	1720	300	3160
9	Thompson, Shannon	1140	1720	300	3160
10	South	3110	3975	3790	10875
11	Davis, William	1100	235	600	1935
12	Flores, Tia	1655	985	1925	4565
13	Walters, Chris	355	2755	1265	4375
14	West	3150	1515	525	5190
15	Brennan, Michael	2750	550	400	3700
16	Dumlao, Richard	400	965	125	1490
17	Grand Total	9090	9160	5315	23565
18					

You can see that there is no arrow for subtotals. You can still sort the PivotTable on subtotals as follows-

- Right-click on the subtotal of any of the Salespersons in the Grand Total column.
- Select **Sort** from the dropdown list.
- Another dropdown list appears with the sorting options – Sort Smallest to Largest, Sort Largest to Smallest and More Sort Options. Select Sort Largest to Smallest.

	A	B	C	D	E	F	G	H	I	J	K
1											
2											
3	Sum of Order Amount	Column Labels									
4	Row Labels	January	February	March	Grand Total						
5	East	1690	1950	700	4340						
6	Albertson, Kathy	925	1375	350	2650						
7	Post, Melissa	765	575	350	1690						
8	North	1140	1720	300	3160						
9	Thompson, Shannon	1140	1720	300	3160						
10	South	3110	3975	3790	10875						
11	Davis, William	1100	235	600	4565						
12	Flores, Tia	1655	985	1925	4375						
13	Walters, Chris	355	2755	1265	1935						
14	West	3150	1515	525	5190						
15	Brennan, Michael	2750	550	400	3700						
16	Dumlao, Richard	400	965	125	1490						
17	Grand Total	9090	9160	5315	23565						
18											
19											
20											
21											

The subtotals in the Grand Total column are sorted from highest to lowest values, in every region.

	A	B	C	D	E
	Sum of Order Amount	Column Labels			
	Row Labels	January	February	March	Grand Total
5	East	1690	1950	700	4340
6	Albertson, Kathy	925	1375	350	2650
7	Post, Melissa	765	575	350	1690
8	North	1140	1720	300	3160
9	Thompson, Shannon	1140	1720	300	3160
10	South	3110	3975	3790	10875
11	Flores, Tia	1655	985	1925	4565
12	Walters, Chris	355	2755	1265	4375
13	Davis, William	1100	235	600	1935
14	West	3150	1515	525	5190
15	Brennan, Michael	2750	550	400	3700
16	Dumlao, Richard	400	965	125	1490
17	Grand Total	9090	9160	5315	23565

Likewise, if you want to sort the PivotTable on subtotals region wise, do the following –

- Right click on the subtotal of any of the regions in the Grand Total column.
- Click Sort in the dropdown list.
- Click Sort Largest to Smallest in the second dropdown list. The PivotTable will get sorted on subtotals region-wise.

	A	B	C	D	E
1					
2					
3	Sum of Order Amount	Column Labels ▾			
4	Row Labels	▼ January	February	March	Grand Total
5	■ South	3110	3975	3790	10875
6	Davis, William	1100	235	600	1935
7	Flores, Tia	1655	985	1925	4565
8	Walters, Chris	355	2755	1265	4375
9	■ West	3150	1515	525	5190
10	Brennan, Michael	2750	550	400	3700
11	Dumlao, Richard	400	965	125	1490
12	■ East	1690	1950	700	4340
13	Albertson, Kathy	925	1375	350	2650
14	Post, Melissa	765	575	350	1690
15	■ North	1140	1720	300	3160
16	Thompson, Shannon	1140	1720	300	3160
17	Grand Total	9090	9160	5315	23565

As you can observe, South has the highest order amount while North has the lowest.

You can also sort the PivotTable based on the total amount month wise as follows –

- Right click on any of the Subtotals in the Grand Total row.
- Select Sort from the dropdown list.
- Select Sort Largest to Smallest from the second dropdown list.

The PivotTable will be sorted on total amount month wise.

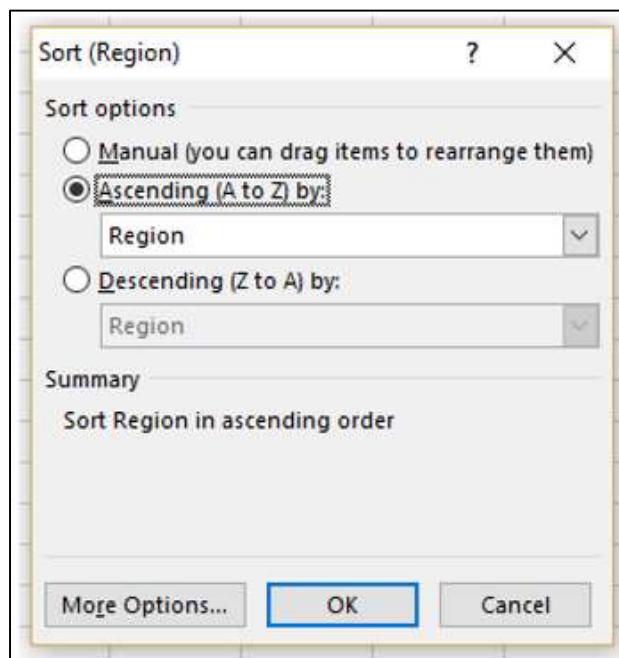
A	B	C	D	E	
1					
2					
3	Sum of Order Amount	Column Labels			
4	Row Labels	February	January	March	Grand Total
5	East	1950	1690	700	4340
6	Albertson, Kathy	1375	925	350	2650
7	Post, Melissa	575	765	350	1690
8	North	1720	1140	300	3160
9	Thompson, Shannon	1720	1140	300	3160
10	South	3975	3110	3790	10875
11	Davis, William	235	1100	600	1935
12	Flores, Tia	985	1655	1925	4565
13	Walters, Chris	2755	355	1265	4375
14	West	1515	3150	525	5190
15	Brennan, Michael	550	2750	400	3700
16	Dumlao, Richard	965	400	125	1490
17	Grand Total	9160	9090	5315	23565
18					

You can observe that February has highest order amount while March has the lowest.

More Sort Options

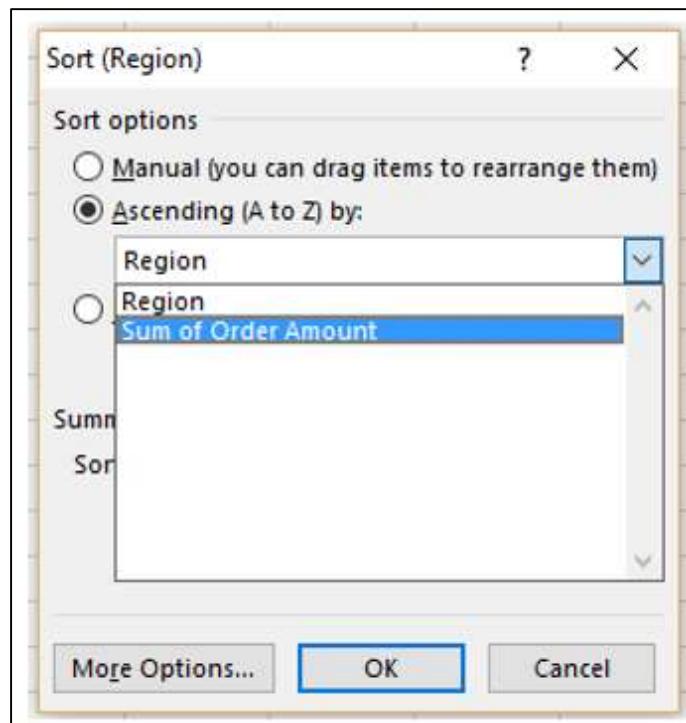
Suppose you want to sort the PivotTable on total amount region wise in the month of January.

- Click on the arrow  in Row Labels.
- Select More Sort Options from the dropdown list. The **Sort (Region)** dialog box appears.

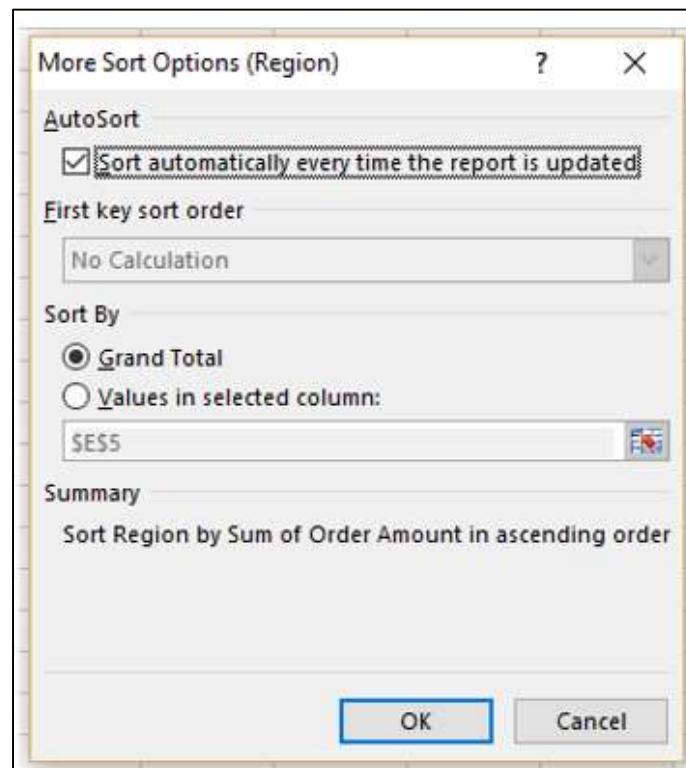


As you can observe, under Summary, the current Sort order is given as Sort Region in ascending order. Ascending (A to Z) by is selected under Sort Options. In the box below that, **Region** is displayed.

- Click the box containing Region.
- Click Sum of Order Amount.



Click the **More Options** button. The **More Sort Options (Region)** dialog box appears.



As you can observe, under Sort By, Grand Total is selected. Under Summary, the current sort order is given as **Sort Region by Sum of Order Amount** in ascending order.

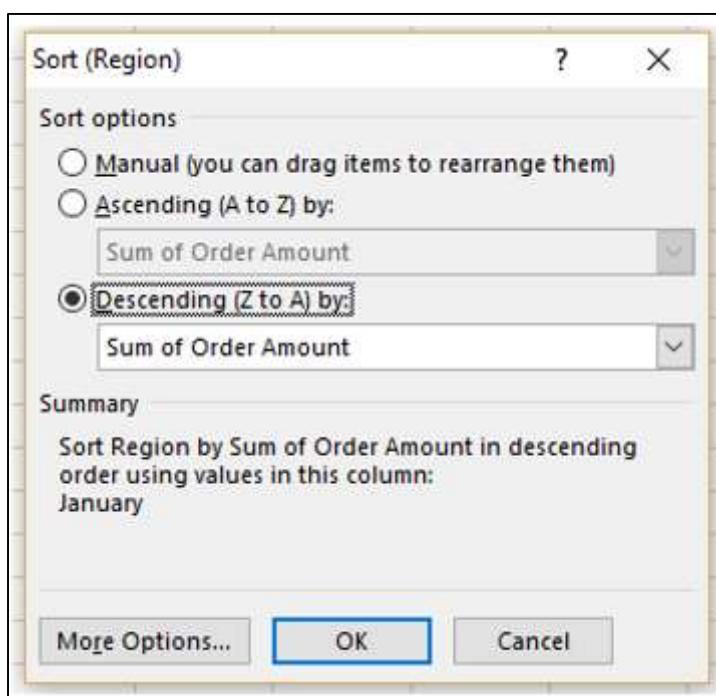
- Click **Values in selected column:** under Sort By.
- In the box below that, type B5.

The screenshot shows a PivotTable with data for four regions: East, North, South, and West. The columns represent months: January, February, March, and Grand Total. The 'Sum of Order Amount' is listed in the Row Labels. The 'More Sort Options (Region)' dialog box is open, showing the following settings:

- AutoSort:** Sort automatically every time the report is updated (checked).
- First key sort order:** No Calculation.
- Sort By:** Values in selected column (radio button selected). The selected range is \$B\$5.
- Summary:** Sort Region by Sum of Order Amount in ascending order using values in this column: January.

As you can observe, under Summary, the current sort order is given as follows –

- Sort Region by **Sum of Order Amount** in ascending order using values in this column: January. Click OK.
- The Sort (Region) dialog box appears. Select Descending (Z to A) by: under Sort Options.



Under Summary, the current sort order is given as follows –

Sort Region by Sum of Order Amount in descending order, using values in this column: January. Click OK. The PivotTable will be sorted on region, using values in January.

	A	B	C	D	E
1					
2					
3	Sum of Order Amount	Column Labels			
4	Row Labels	January	February	March	Grand Total
5	West	3150	1515	525	5190
6	Brennan, Michael	2750	550	400	3700
7	Dumlao, Richard	400	965	125	1490
8	South	3110	3975	3790	10875
9	Davis, William	1100	235	600	1935
10	Flores, Tia	1655	985	1925	4565
11	Walters, Chris	355	2755	1265	4375
12	East	1690	1950	700	4340
13	Albertson, Kathy	925	1375	350	2650
14	Post, Melissa	765	575	350	1690
15	North	1140	1720	300	3160
16	Thompson, Shannon	1140	1720	300	3160
17	Grand Total	9090	9160	5315	23565

As you can observe, in the month of January, West has the highest order amount while North has the lowest.

Sorting Data Manually

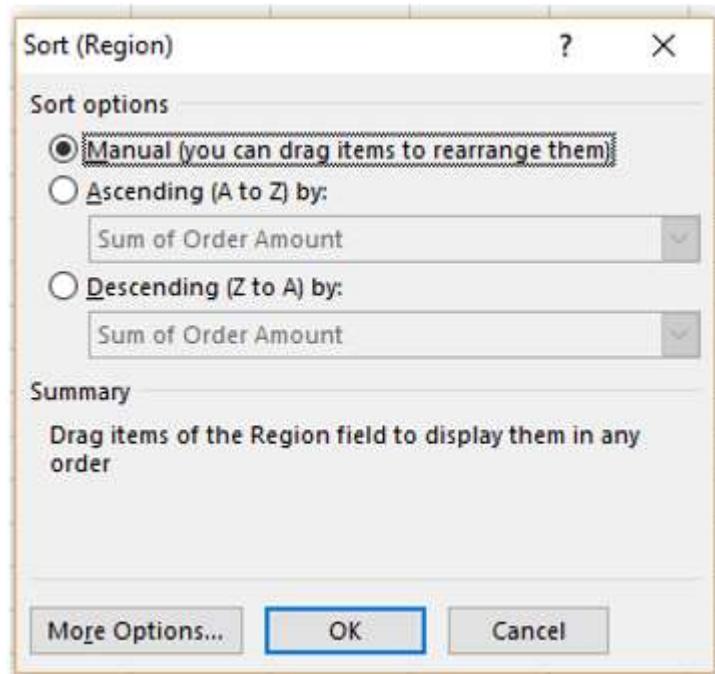
In the PivotTable, the data is sorted automatically by the sorting option that you have chosen. This is termed as AutoSort.

Place the cursor on the arrow  in Row Labels or Column Labels.

	A	B	C	D	E
1					
2					
3	Sum of Order Amount	Column Labels			
4	Row Labels	January	February	March	Grand Total
5	West	3150	1515	525	5190
6	Brennan, Michael	AutoSort			3700
7	Dumlao, Richard	Region: Largest to Smallest by Sum of Order Amount			1490
8	South	Salesperson: A to Z			10875
9	Davis, William	Month: A to Z			1935
10	Flores, Tia		1655	985	4565
11	Walters, Chris		355	2755	4375
12	East		1690	1950	4340
13	Albertson, Kathy		925	1375	2650
14	Post, Melissa		765	575	1690
15	North		1140	1720	3160
16	Thompson, Shannon		1140	1720	3160
17	Grand Total		9090	9160	23565

AutoSort appears, showing the current sort order for each of the fields in the PivotTable. Now, suppose you want to sort the field Region in the order – East, West, North and South. You can do this manually, as follows-

- Click the arrow  in Row Labels.
- Select Region in the Select Field box from the dropdown list.
- Click **More Sort Options**. The Sort (Region) dialog box appears.
- Select Manual (you can drag items to rearrange them).
- Click OK.



Under Summary, the current sort order is given as Drag items of the Region field to display them in any order.

Click on the East and drag it to the top. While you are dragging East, a horizontal green bar appears across the entire row moves.

A	B	C	D	E	
1					
2					
3	Sum of Order Amount	Column Labels			
4	Row Labels	January	February	March	Grand Total
5	West	3150	1515	525	5190
6	Brennan, Michael	2750	550	400	3700
7	Dumlao, Richard	400	965	125	1490
8	South	3110	3975	3790	10875
9	Davis, William	1100	235	600	1935
10	Flores, Tia	1655	985	1925	4565
11	Walters, Chris	355	2755	1265	4375
12	East	1690	1950	700	4340
13	Albertson, Kathy	925	1375	350	2650
14	Post, Melissa	765	575	350	1690
15	North	1140	1720	300	3160
16	Thompson, Shannon	1140	1720	300	3160
17	Grand Total	9090	9160	5315	23565

Repeat the dragging with other items of the Region field until you get the required arrangement.

A	B	C	D	E		
1						
2						
3	Sum of Order Amount	Column Labels				
4	Row Labels	January	February	March	Grand Total	
5	East	1690	1950	700	4340	
6	Albertson, Kathy	AutoSort	25	1375	350	2650
7	Post, Melissa	Salesperson: A to Z	65	575	350	1690
8	West	Month: A to Z	50	1515	525	5190
9	Brennan, Michael		2750	550	400	3700
10	Dumlao, Richard		400	965	125	1490
11	North		1140	1720	300	3160
12	Thompson, Shannon		1140	1720	300	3160
13	South		3110	3975	3790	10875
14	Davis, William		1100	235	600	1935
15	Flores, Tia		1655	985	1925	4565
16	Walters, Chris		355	2755	1265	4375
17	Grand Total		9090	9160	5315	23565

You can observe the following –

- The items of the nested field – Salesperson also move along with the corresponding Region field item. Further, the values in the other columns also moved accordingly.

- If you place the cursor on the arrow in Row Labels or Column Labels, AutoSort appears showing the current sort order of the fields Salesperson and Month only. As you have sorted Region field manually, it will not show up in AutoSort.

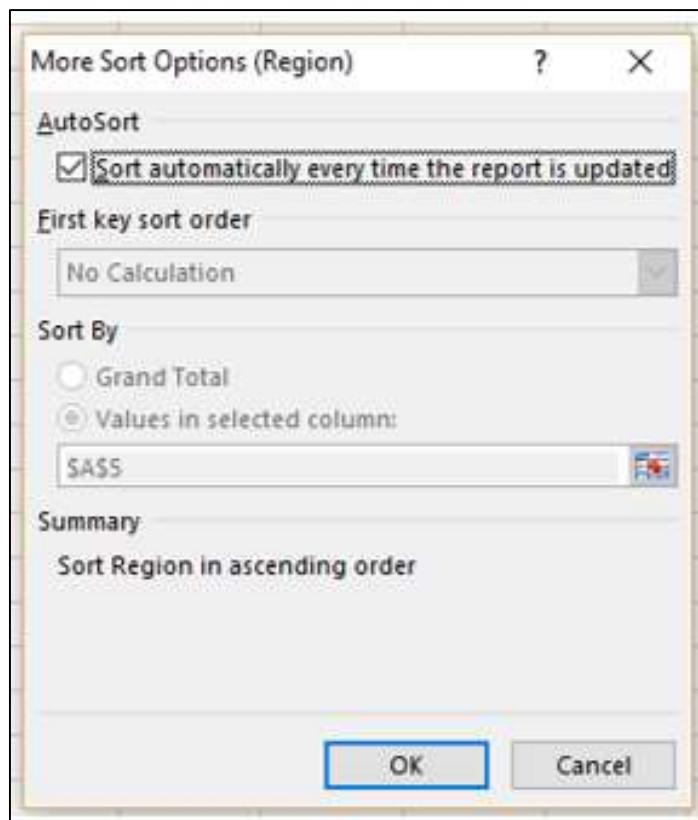
Note: You cannot use this manual dragging of items of the field that is in Σ VALUES area of the PivotTable Fields list. Therefore, you cannot drag the Sum of Order Amount values in this PivotTable.

Setting Sort Options

In the previous section, you have learnt how to set the sorting option for a field to manual. You have some more sort options that you can set as follows-

- Click the arrow in Row Labels.
- Select Region in the Select Field box.
- Click More Sort Options. The Sort (Region) dialog box appears.
- Click the More Options button.

More Sort Options (Region) dialog box appears. You can set more sort options in this dialog box.

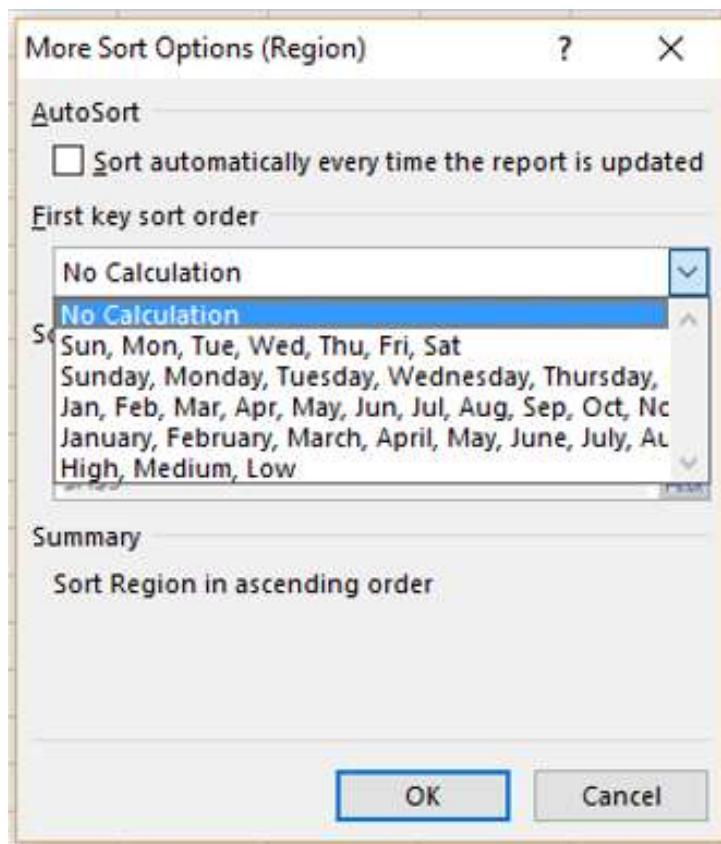


Under AutoSort, you can check or uncheck the box - Sort automatically every time the report is updated, to allow or stop automatic sorting whenever the PivotTable data is updated.

- Uncheck the box – **Sort automatically** every time the report is updated.

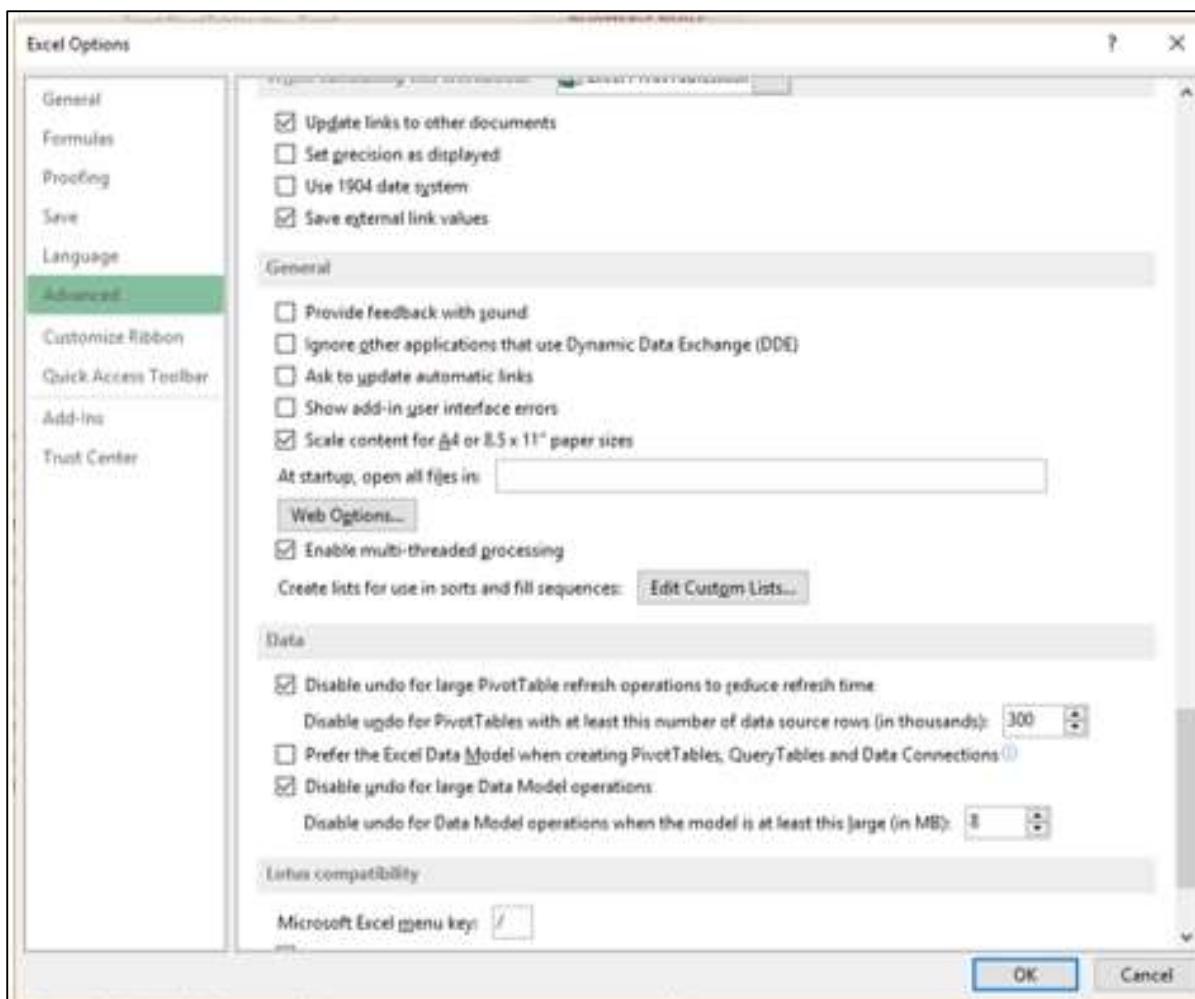
Now, First key sort order option becomes available. You can use this option to select the custom order you want to use.

- Click the box under First key sort order.



As you can observe, day-of-the-week and month-of-the year custom lists are provided in the dropdown list. You can use any of these, or you can use your own custom list such as High, Medium, Low or the sizes list S, M, L, XL that are not in alphabetical order.

You can create your custom lists from the FILE tab on the Ribbon. FILE -> Options. In the Excel Options dialog box, click on advanced and browse to General. You will find the Edit Custom Lists button next to Create lists for use in sort and fill sequences.



Note that a custom list sort order is not retained when you update (refresh) data in your PivotTable.

Under Sort By, you can click **Grand Total or Values** in selected columns to sort by these values. This option is not available when you set sorting to Manual.

Points to consider while sorting PivotTables

When you sort data in a PivotTable, remember the following-

- Data that has leading spaces will affect the sort results. Remove any leading spaces before you sort the data.
- You cannot sort case-sensitive text entries.
- You cannot sort data by a specific format such as cell or font color.
- You cannot sort data by conditional formatting indicators, such as icon sets.

7. PivotTable – Filtering data

You might have to do in-depth analysis on a subset of your PivotTable data. This might be because you have large data and your focus is required on a smaller portion of the data or irrespective of the size of the data, your focus is required on certain specific data. You can filter the data in the PivotTable based on a subset of the values of one or more fields. There are several ways to do that as follows-

- Filtering using Slicers.
- Filtering using Report Filters.
- Filtering data manually.
- Filtering using Label Filters.
- Filtering using Value Filters.
- Filtering using Date Filters.
- Filtering using Top 10 Filter.
- Filtering using Timeline.

You will learn filtering data using Slicers in the next chapter. You will understand filtering by the other methods mentioned above in this chapter.

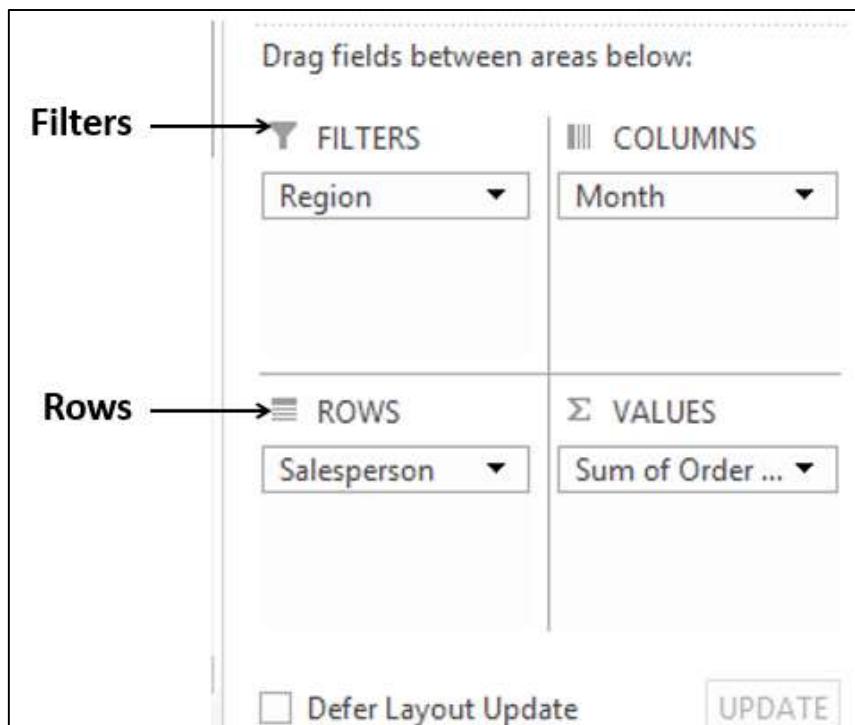
Consider the following PivotTable wherein you have the summarized sales data region wise, salesperson wise and month wise.

A	B	C	D	E	
1					
2					
3	Sum of Order Amount	Column Labels			
4	Row Labels	January	February	March	Grand Total
5	East	1690	1950	700	4340
6	Albertson, Kathy	925	1375	350	2650
7	Post, Melissa	765	575	350	1690
8	North	1140	1720	300	3160
9	Thompson, Shannon	1140	1720	300	3160
10	South	3110	3975	3790	10875
11	Davis, William	1100	235	600	1935
12	Flores, Tia	1655	985	1925	4565
13	Walters, Chris	355	2755	1265	4375
14	West	3150	1515	525	5190
15	Brennan, Michael	2750	550	400	3700
16	Dumlao, Richard	400	965	125	1490
17	Grand Total	9090	9160	5315	23565
18					

Report Filters

You can assign a Filter to one of the fields so that you can dynamically change the PivotTable based on the values of that field.

Drag Region from Rows to Filters in the PivotTable Areas.



The Filter with the label as Region appears above the PivotTable (in case you do not have empty rows above your PivotTable, PivotTable gets pushed down to make space for the Filter).

The screenshot shows a PivotTable with the following structure:

	Filter				Grand Total
1	Region	(All)	Columns		
3	Summarizing Value		Column Labels		Grand Total
4	Row Labels	January	February	March	Grand Total
5	Albertson, Kathy	925	1375	350	2650
6	Brennan, Michael	2750	550	400	3700
7	Davis, William	1100	235	600	1935
8	Dumlao, Richard	400	965	125	1490
9	Flores, Tia	1655	985	1925	4565
10	Post, Melissa	765	575	350	1690
11	Thompson, Shannon	1140	1720	300	3160
12	Walters, Chris	355	2755	1265	4375
13	Grand Total	9090	9160	5315	23565

A vertical bracket on the left labeled 'Rows' spans from row 1 to row 13. A bracket at the top labeled 'Summarizing Value' spans from row 3 to row 4. An arrow points from the 'Summarizing Value' bracket to the 'Sum of Order Amount' label in the Row Labels section. Another arrow points from the 'Grand Total' label in the Row Labels section to the 'Grand Total' label in the last row. A double-headed arrow at the bottom points between the 'Grand Total' label in the last row and the 'Grand Total' label in the header.

You will observe that-

- Salesperson values appear in rows.
- Month values appear in columns.
- Region Filter appears on the top with default selected as ALL.
- Summarizing value is Sum of Order Amount.
 - Sum of Order Amount Salesperson-wise appears in the column Grand Total.
 - Sum of Order Amount Month-wise appears in the row Grand Total.
- Click on the arrow in the box to the right of the Filter Region.

A drop-down list with the values of the field Region appears. Check the box **Select Multiple Items**.

	A	B	C	D	E
1	Region	(All)			
2		Search			
3	Sum of				
4	Row La				
5	Alberts	(All)			
6	Brenna	East			
7	Davis, V	North			
8	Dumlac	South			
9	Flores, I	West			
10	Post, M				
11	Thomps				
12	Walters				
13	Grand				

Region Values

Select Multiple Items

Select Multiple Items

OK Cancel

	February	March	Grand Total
Alberts	1375	350	2650
Brenna	550	400	3700
Davis, V	235	600	1935
Dumlac	965	125	1490
Flores, I	985	1925	4565
Post, M	575	350	1690
Thomps	1720	300	3160
Walters	2755	1265	4375
Grand	9160	5315	23565

By default, all the boxes are checked. Uncheck the box **(All)**. All the boxes will be unchecked.

Then check the boxes - South and West and click OK.

The screenshot shows a PivotTable in Excel with the following structure:

	A	B	C	D	E
1	Region	(All)			
2		Search <input type="text"/>			
3	Sum of Row Labels	<input type="checkbox"/> (All) <input type="checkbox"/> East <input type="checkbox"/> North <input checked="" type="checkbox"/> South <input checked="" type="checkbox"/> West			
4			February	March	Grand Total
5	Alberts		1375	350	2650
6	Brennan		550	400	3700
7	Davis, William		235	600	1935
8	Dumlao, Richard		965	125	1490
9	Flores, Tia		985	1925	4565
10	Post, Michael		575	350	1690
11	Thompson, John		1720	300	3160
12	Walters, Chris		2755	1265	4375
13	Grand Total		9160	5315	23565
14					

The filter dialog is open, showing the selected items: South and West. The checkbox "Select Multiple Items" is checked.

The data pertaining to South and West regions only will get summarized.

The screenshot shows a PivotTable in Excel with the following structure:

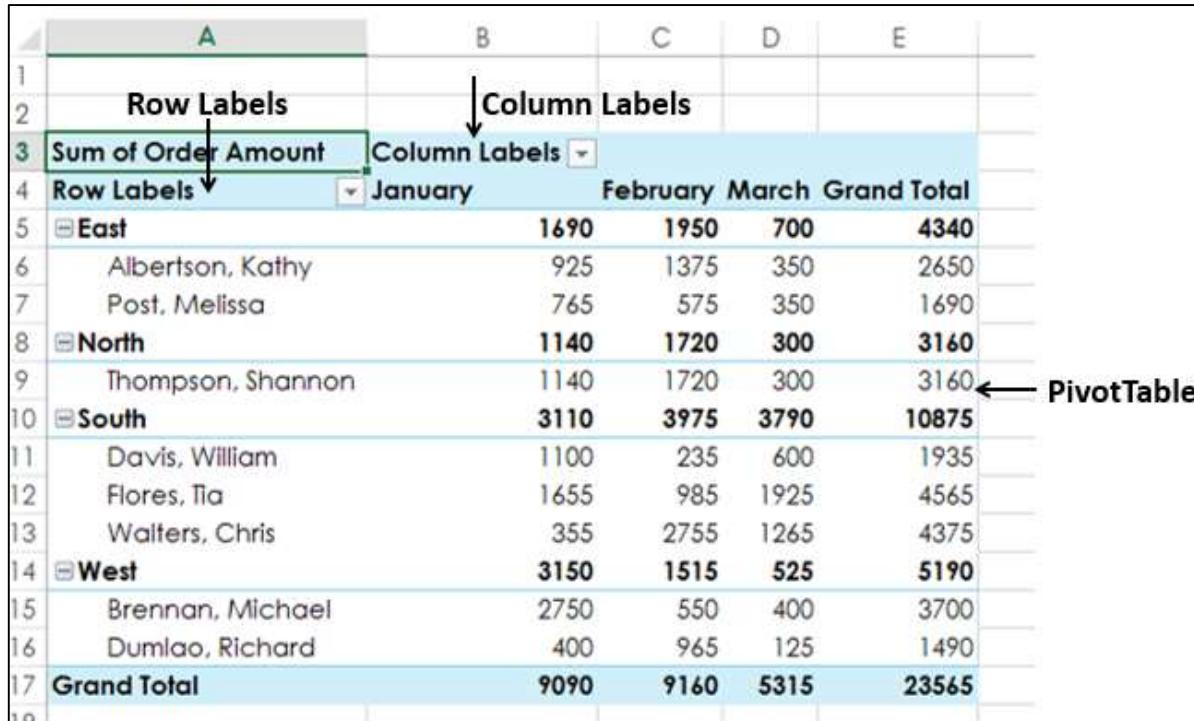
	A	B	C	D	E
1	Region	(Multiple Items)			
2					
3	Sum of Order Amount	Column Labels			
4	Row Labels	January	February	March	Grand Total
5	Brennan, Michael		2750	550	400
6	Davis, William		1100	235	600
7	Dumlao, Richard		400	965	125
8	Flores, Tia		1655	985	1925
9	Walters, Chris		355	2755	1265
10	Grand Total		6260	5490	4315
11					

The cell next to the filter dropdown shows "(Multiple Items)".

In the cell next to the Filter Region - (Multiple Items) is displayed, indicating that you have selected more than one item. However, how many items and / or which items is not known from the report that is displayed. In such a case, using Slicers is a better option for filtering.

Manual Filtering

You can also filter the PivotTable by picking the values of a field manually. You can do this by clicking on the arrow  in the Row Labels or Column Labels cell.



	A	B	C	D	E
1	Row Labels				
2	Sum of Order Amount	Column Labels			
3	Row Labels	January	February	March	Grand Total
4	East	1690	1950	700	4340
5	Albertson, Kathy	925	1375	350	2650
6	Post, Melissa	765	575	350	1690
7	North	1140	1720	300	3160
8	Thompson, Shannon	1140	1720	300	3160
9	South	3110	3975	3790	10875
10	Davis, William	1100	235	600	1935
11	Flores, Tia	1655	985	1925	4565
12	Walters, Chris	355	2755	1265	4375
13	West	3150	1515	525	5190
14	Brennan, Michael	2750	550	400	3700
15	Dumlao, Richard	400	965	125	1490
16	Grand Total	9090	9160	5315	23565
17					PivotTable

Suppose you want to analyze only February data. You need to filter the values by the field Month. As you can observe, Month is part of Column Labels.

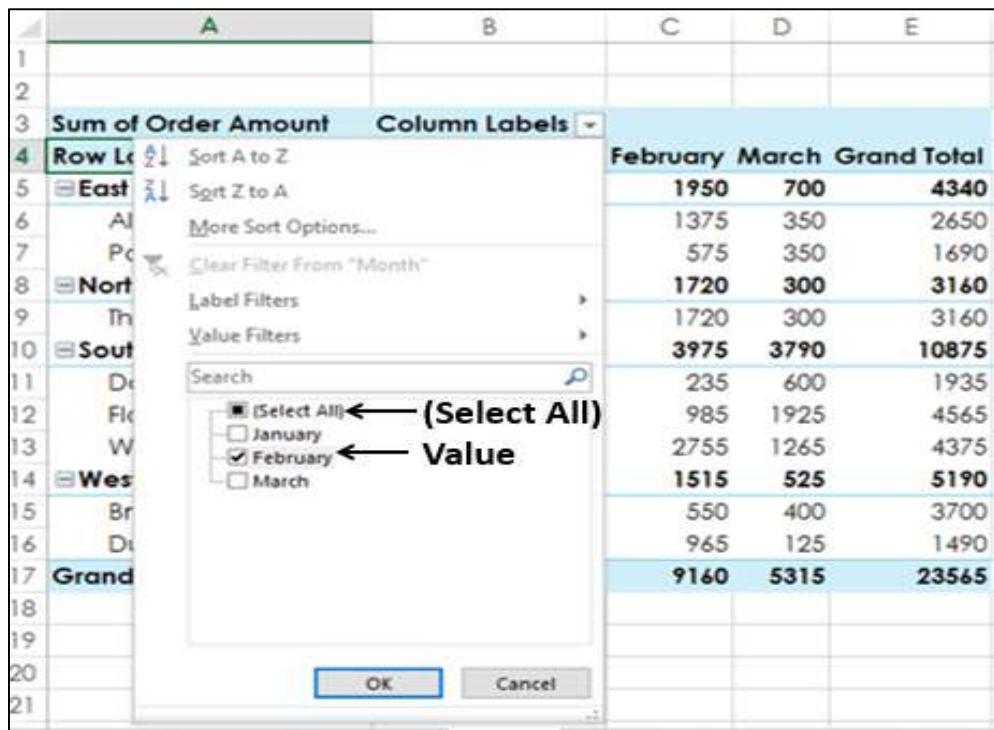
Click on the arrow  in the Column Labels cell.

As you can observe, there is a Search box in the dropdown list and below the box, you have the list of the values of the selected field, i.e. Month. The boxes of all the values are checked, showing that all the values of that field are selected.

The screenshot shows a PivotTable in Excel with the following structure:

	A	B	C	D	E
1					
2					
3	Sum of Order Amount	Column Labels			
4	Row Labels				
5	East	Sort A to Z	February	March	Grand Total
6	All	Sort Z to A	1950	700	4340
7	Per	More Sort Options...	1375	350	2650
8	North	Clear Filter From "Month"	575	350	1690
9	Th	Label Filters	1720	300	3160
10	South	Value Filters	1720	300	3160
11	De	Search	3975	3790	10875
12	Flo	(Select All)	235	600	1935
13	W	January	985	1925	4565
14	West	February	2755	1265	4375
15	Br	March	1515	525	5190
16	D		550	400	3700
17	Grand		965	125	1490
18			9160	5315	23565
19					
20					
21					

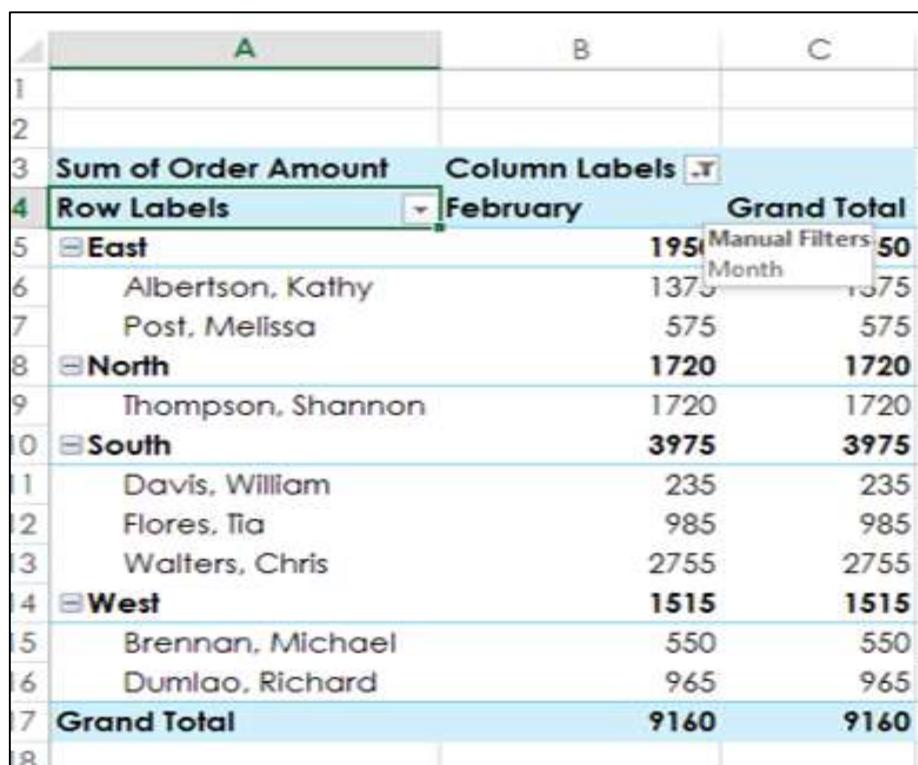
- Uncheck the (Select All) box at the top of the list of values.
- Check the boxes of the values you want to show in your PivotTable, in this case February and click OK.



The screenshot shows the context menu for the "Month" field in a PivotTable. The "Value Filters" option is selected, displaying a list of months: (Select All), January, February (which is checked), and March. Arrows point from the text "(Select All)" and "Value" to their respective labels in the menu.

	A	B	C	D	E
1					
2					
3	Sum of Order Amount	Column Labels			
4	Row Labels				
5	East		February	March	Grand Total
6	All		1950	700	4340
7	Post		1375	350	2650
8	North		575	350	1690
9	Th		1720	300	3160
10	South		1720	300	3160
11	D		3975	3790	10875
12	Flo		235	600	1935
13	W		985	1925	4565
14	West		2755	1265	4375
15	Bren		1515	525	5190
16	Dum		550	400	3700
17	Grand		965	125	1490
18			9160	5315	23565
19					
20					
21					

The PivotTable displays only those values that are related to the selected Month field value – February. You can observe that the filtering arrow changes to the icon to indicate that a filter is applied. Place the cursor on the icon.



The screenshot shows the PivotTable after applying a manual filter on the "Month" field. The "Month" column header now has a small filter icon next to it. The "Grand Total" row shows the total for February only, indicating that the filter is applied.

	A	B	C
1			
2			
3	Sum of Order Amount	Column Labels	
4	Row Labels	February	Grand Total
5	East	1950	Manual Filters: 50
6	Albertson, Kathy	1375	1375
7	Post, Melissa	575	575
8	North	1720	1720
9	Thompson, Shannon	1720	1720
10	South	3975	3975
11	Davis, William	235	235
12	Flores, Tia	985	985
13	Walters, Chris	2755	2755
14	West	1515	1515
15	Brennan, Michael	550	550
16	Dumlao, Richard	965	965
17	Grand Total	9160	9160
18			

You can observe that is displayed indicating that the Manual Filter is applied on the field- Month.

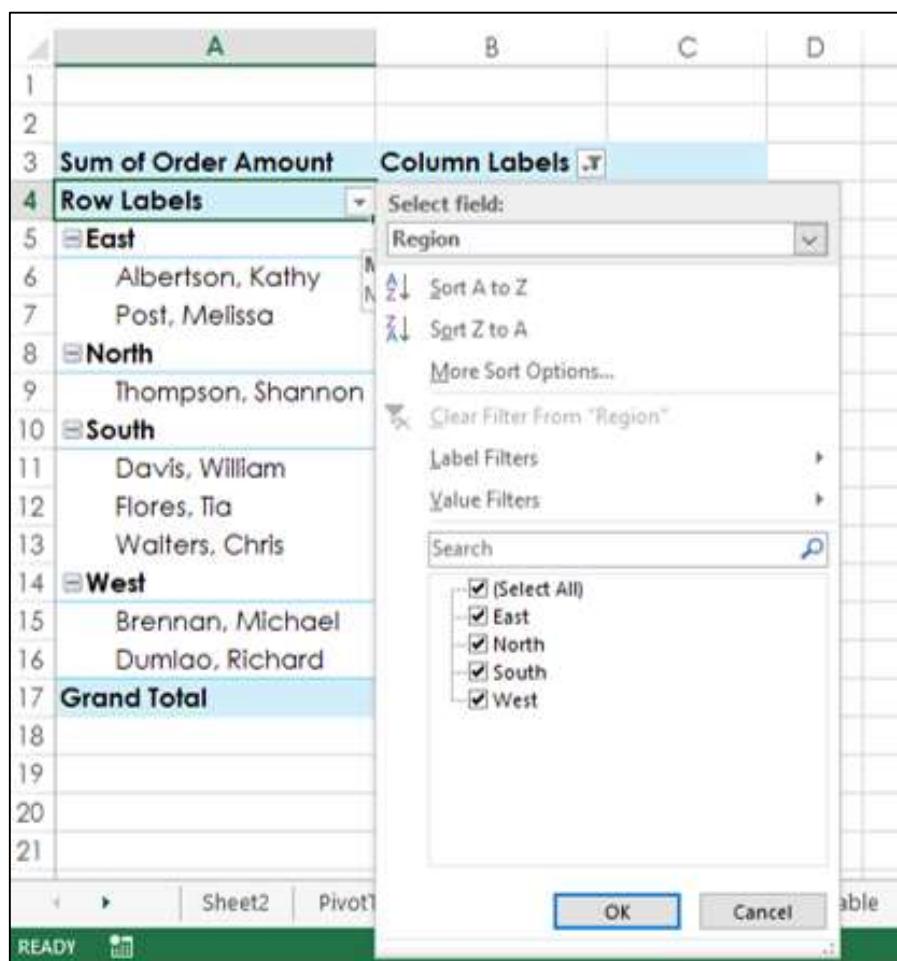
If you want to change the filter selection value, do the following-

- Click the  icon.
- Check / uncheck the boxes of the values.

If all the values of the field are not visible in the list, drag the handle in the bottom-right corner of the dropdown to enlarge it. Alternatively, if you know the value, type it in the Search box.

Suppose you want to apply another filter on the above filtered PivotTable. For example, you want to display the data of that of Walters, Chris for the month February. You need to refine your filtering by adding another filter for the field Salesperson. As you can observe, Salesperson is part of Row Labels.

- Click on the arrow  in the Row Labels cell.



The screenshot shows a Microsoft Excel spreadsheet with a PivotTable. The PivotTable has 'Sum of Order Amount' in the top-left cell (A3). The Row Labels column (B4) contains 'Region' with a dropdown arrow. A filter dialog box is open over the spreadsheet. The 'Select field:' dropdown shows 'Region'. Below it are sorting options: 'Sort A to Z' (highlighted), 'Sort Z to A', and 'More Sort Options...'. Under 'Label Filters', there is a tree view with checkboxes: '(Select All)' (checked), 'East' (checked), 'North' (checked), 'South' (checked), and 'West' (checked). At the bottom right of the dialog are 'OK' and 'Cancel' buttons, with 'OK' being the active button.

The list of the values of the field – Region is displayed. This is because, Region is at outer level of Salesperson in the nesting order. You also have an additional option – Select Field. Click on the Select Field box.

- Click Salesperson from the dropdown list. The list of the values of the field – Salesperson will be displayed.
- Uncheck (Select All) and check Walters, Chris.
- Click OK.

The screenshot shows the 'PivotTable Fields' dialog box in Excel. The 'Select field:' dropdown is set to 'Salesperson', which is highlighted with a blue selection bar. Below the dropdown, there are sections for 'Label Filters' and 'Value Filters'. Under 'Value Filters', the '(Select All)' checkbox is checked, and individual checkboxes for 'East', 'North', 'South', and 'West' are also checked. At the bottom right of the dialog box, the 'OK' button is highlighted with a blue border.

The PivotTable displays only those values that are related to the selected Month field value – February and Salesperson field value - Walters, Chris.

The filtering arrow for Row Labels also changes to the icon to indicate that a filter is applied. Place the cursor on the icon on either Row Labels or Column Labels.

	A	B	C
1			
2			
3	Sum of Order Amount	Column Labels	
4	Row Labels	February	Grand Total
5	South	275	Manual Filters 55
6	Walters, Chris	275	Salesperson 55
7	Grand Total	2755	2/55

A text box is displayed indicating that the Manual Filter is applied on the fields – Month, and Salesperson.

You can thus filter the PivotTable manually based on any number of fields and on any number of values.

Filtering by Text

If you have fields that contain text, you can filter the PivotTable by Text, provided the corresponding field label is text-based. For example, consider the following Employee data.

A	B	C	D	E	F	G	H
1							
2	EmployeeID	ManagerLevel	Title	BirthDate	MaritalStatus	Gender	HireDate
3	1	0	Chief Executive Officer	1/29/1969	S	M	1/14/2014
4	2	1	Vice President of Engineering	8/1/1971	S	F	1/31/2013
5	3	2	Engineering Manager	11/12/1974	M	M	11/11/2013
6	4	3	Senior Tool Designer	12/23/1974	S	M	12/5/2013
7	5	3	Design Engineer	9/27/1952	M	F	1/6/2013
8	6	3	Design Engineer	3/11/1959	M	M	1/24/2013
9	7	3	Research and Development Manager	2/24/1987	M	M	2/8/2014
10	8	4	Research and Development Engineer	6/5/1986	S	F	12/29/2013
11	9	4	Research and Development Engineer	1/21/1979	M	F	1/16/2014
12	10	4	Research and Development Manager	11/30/1984	M	M	5/3/2014
13	11	3	Senior Tool Designer	1/17/1978	S	M	12/5/2015
14	12	4	Tool Designer	7/29/1959	M	M	12/11/2013
15	13	4	Tool Designer	5/28/1989	M	F	12/23/2015
16	14	3	Senior Design Engineer	6/16/1979	S	M	12/30/2015
17	15	3	Design Engineer	5/2/1961	M	F	1/18/2014
18	16	1	Marketing Manager	3/19/1975	S	M	12/20/2013
19	17	2	Marketing Assistant	5/3/1987	S	M	1/26/2013
20	18	2	Marketing Specialist	3/6/1978	S	M	2/7/2014
21	19	2	Marketing Assistant	1/29/1978	S	F	2/14/2014
22	20	2	Marketing Assistant	3/17/1975	M	F	1/7/2014
23	21	2	Marketing Specialist	2/4/1986	M	M	3/2/2014

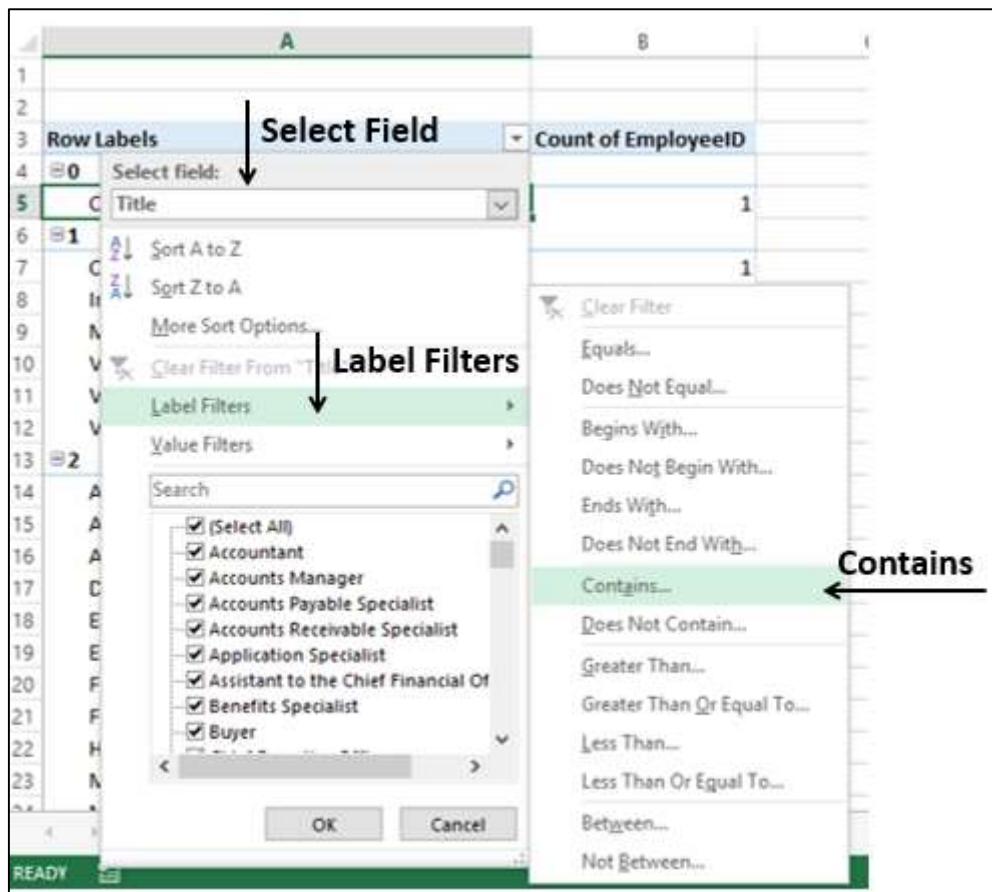
The data has the details of the employees – EmployeeID, Title, BirthDate, MaritalStatus, Gender and HireDate. Additionally, the data also has the manager level of the employee (levels 0 – 4).

Suppose you have to do some analysis on the number of employees reporting to a given employee by title. You can create a PivotTable as given below.

	A	B
1		
2		
3	Row Labels	Count of EmployeeID
4	0	1
5	Chief Executive Officer	1
6	1	6
7	Chief Financial Officer	1
8	Information Services Manager	1
9	Marketing Manager	1
10	Vice President of Engineering	1
11	Vice President of Production	1
12	Vice President of Sales	1
13	2	27
14	Accounts Manager	1
15	Application Specialist	4
16	Assistant to the Chief Financial Officer	1
17	Database Administrator	2
18	Engineering Manager	1
19	European Sales Manager	1
20	Facilities Manager	1
21	Finance Manager	1
22	Human Resources Manager	1
23	Marketing Assistant	3

You might want to know how many employees with 'Manager' in their title have employees reporting to them. As the Label Title is text-based, you can apply the Label Filter on the Title field as follows-

- Click on the arrow  in the Row Labels cell.
- Select Title in the Select Field box from the drop down list.
- Click on Label Filters.
- Click on Contains in the second dropdown list.



Label Filter (Title) dialog box appears. Type Manager in the box next to Contains. Click OK.

The screenshot shows a PivotTable report in Excel. The 'Chief Executive Officer' row is selected. A callout box points to the 'Label Filter (Title) dialog box' which is overlaid on the screen. The dialog box shows the 'contains' operator and the value 'Manager' entered in the search field.

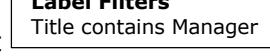
	Count of EmployeeID
Chief Executive Officer	1
Chief Financial Officer	1
Information Services Manager	1
Marketing Manager	1
Vice President of Engineering	1
Vice President of Production	1
Vice President of Sales	1
Accounts Manager	1
Application Specialist	4
Assistant to the Chief Financial Officer	1
Database Administrator	2
Engineering Manager	1
European Sales Manager	1
Facilities Manager	1
Finance Manager	1
Human Resources Manager	1
Marketing Assistant	3

The PivotTable will be filtered to the Title values containing 'Manager'.

- Click the  icon.

Label Filters

Title contains Manager

You can see that  is displayed indicating the following -

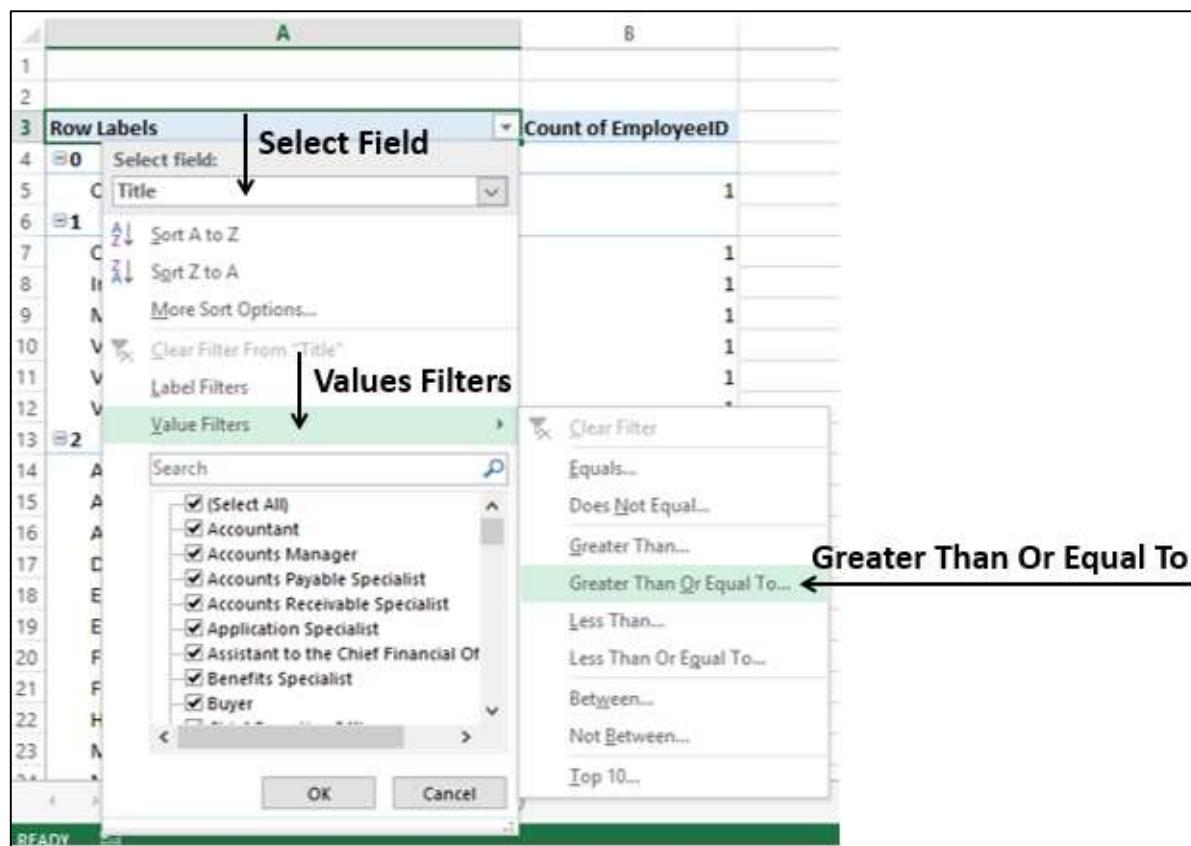
- The Label Filter is applied on the field – Title, and
- What the applied Label Filter is.

	A	B
1		
2		
3	Row Labels	 Count of EmployeeID
4	 1	
5	Information Services Manager	Label Filters
6	Marketing Manager	Title: contains Manager
7	 2	
8	Accounts Manager	1
9	Engineering Manager	1
10	European Sales Manager	1
11	Facilities Manager	1
12	Finance Manager	1
13	Human Resources Manager	1
14	Network Manager	1
15	North American Sales Manager	1
16	Pacific Sales Manager	1
17	Production Control Manager	1
18	Quality Assurance Manager	1
19	 3	
20	Document Control Manager	1
21	Purchasing Manager	1
22	Research and Development Manager	1
23	 4	

Filtering by Values

You might want to know the titles of the employees who have more than 25 employees reporting to them. For this, you can apply the Value Filter on the Title field as follows-

- Click on the arrow  in the Row Labels cell.
- Select **Title** in the Select Field box from the drop down list.
- Click on Value Filters.
- Select Greater than or equal to from the second dropdown list.



The PivotTable will be filtered to display the employee titles who have more than 25 employees reporting to them.

	A	B
3	Row Labels	Count of EmployeeID
4	4	
5	Production Technician - WC30	25
6	Production Technician - WC40	26
7	Production Technician - WC50	26
8	Production Technician - WC60	26
9	Grand Total	103
10		

Filtering by Dates

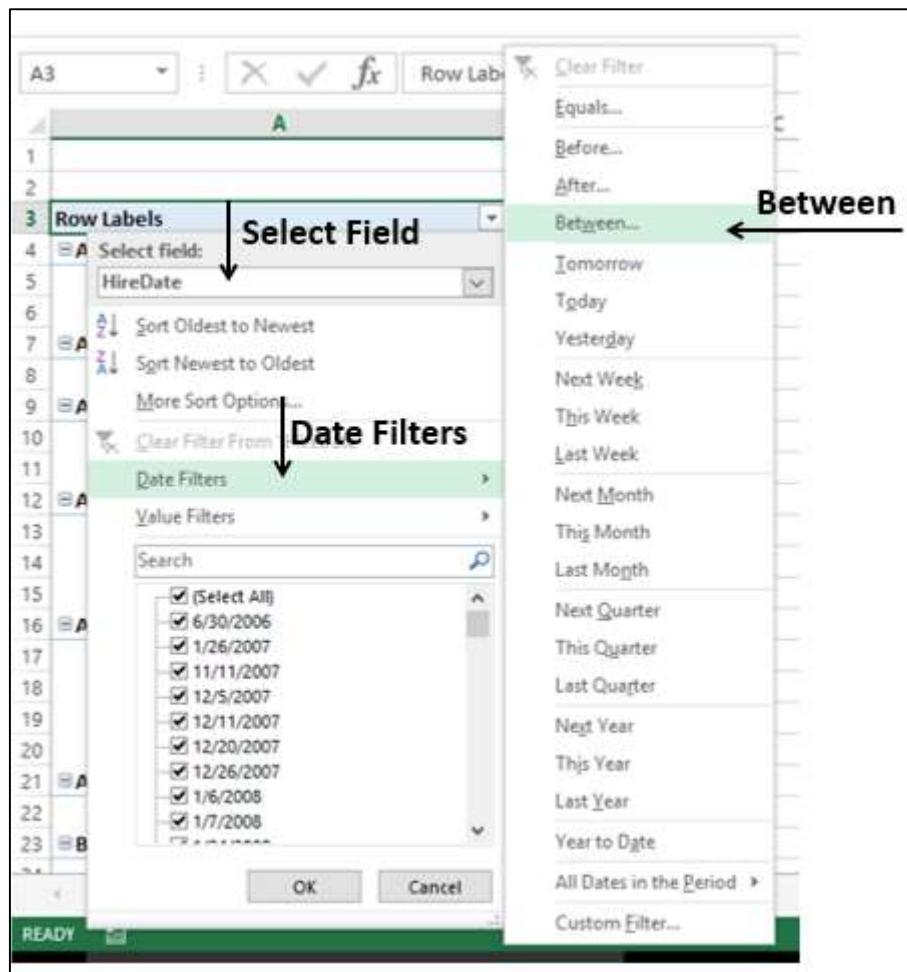
You might want to display the data of all the employees who were hired in the fiscal year 2015-15. You can use Data Filters for the same as follows –

- Include the HireDate field in the PivotTable. Now, you do not require manager data and so remove ManagerLevel field from the PivotTable.

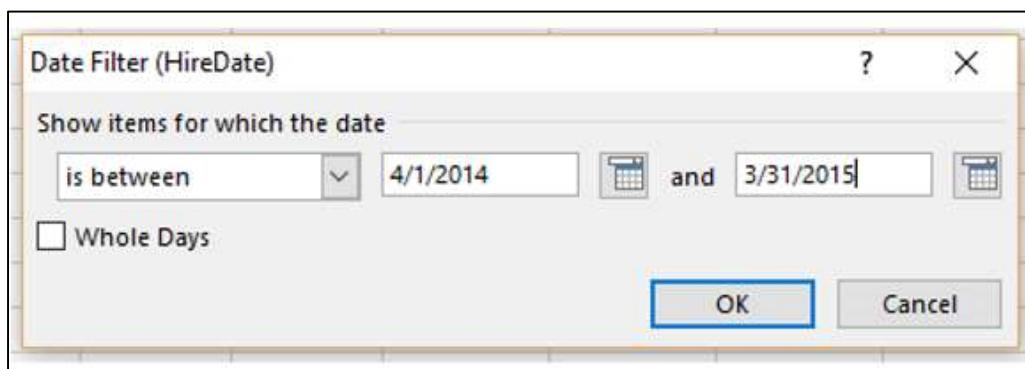
	A	B
1		
2		
3	Row Labels	Count of EmployeeID
4	Accountant	2
5	2/18/2014	1
6	3/8/2014	1
7	Accounts Manager	1
8	1/30/2014	1
9	Accounts Payable Specialist	2
10	2/11/2014	1
11	3/1/2014	1
12	Accounts Receivable Specialist	3
13	1/6/2014	1
14	12/18/2013	1
15	1/24/2014	1
16	Application Specialist	4
17	2/3/2014	1
18	2/16/2014	1
19	1/11/2014	1
20	12/23/2013	1
21	Assistant to the Chief Financial Officer	1
22	1/12/2014	1
23	Benefits Specialist	1

Now that you have a Date field in the PivotTable, you can use Date Filters.

- Click the arrow  in the Row Labels cell.
- Select HireDate in the Select Field box from the drop down list.
- Click Date Filters.
- Select **Between** from the second dropdown list.



The Date Filter (HireDate) dialog box appears. Type 4/1/2014 and 3/31/2015 in the two Date boxes. Click OK.

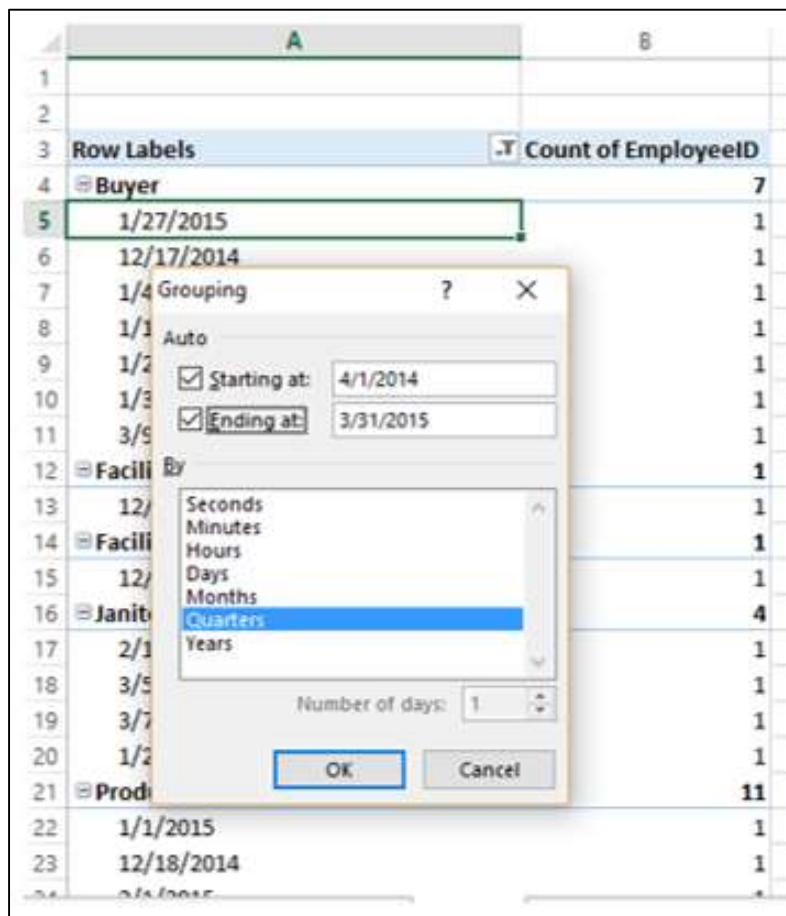


The PivotTable will be filtered to display only the data with HireDate between 1st April 2014 and 31st March 2015.

	A	B
1		
2		
3	Row Labels	Count of EmployeeID
4	Buyer	7
5	1/27/2015	1
6	12/17/2014	1
7	1/4/2015	1
8	1/11/2015	1
9	1/23/2015	1
10	1/31/2015	1
11	3/9/2015	1
12	Facilities Administrative Assistant	1
13	12/21/2014	1
14	Facilities Manager	1
15	12/2/2014	1
16	Janitor	4
17	2/16/2015	1
18	3/5/2015	1
19	3/7/2015	1
20	1/27/2015	1
21	Production Technician - WC10	11
22	1/1/2015	1
23	12/18/2014	1
24	3/4/2015	1

You can group the dates into Quarters as follows –

- Right click on any of the dates. The **Grouping** dialog box appears.
- Type 4/1/2014 in the box Starting at. Check the box.
- Type 3/31/2015 in the box Ending at. Check the box.
- Click Quarters in the box under **By**.



The dates will be grouped into quarters in the PivotTable. You can make the table look compact by dragging the field HireDate from ROWS area to COLUMNS area.

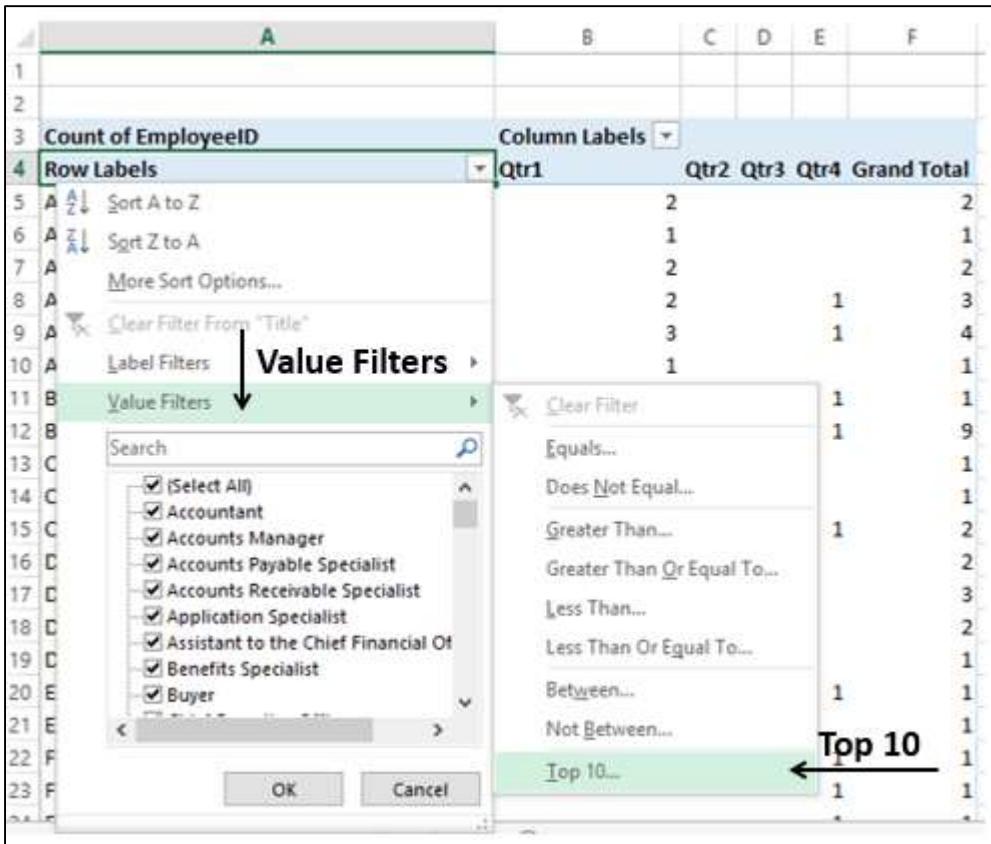
You will be able to know how many employees were hired during the fiscal year, quarter wise.

	A	B	C	D	E	F
1						
2						
3	Count of EmployeeID	Column Labels				
4	Row Labels	Qtr1	Qtr2	Qtr3	Qtr4	Grand Total
5	Accountant	2				2
6	Accounts Manager	1				1
7	Accounts Payable Specialist	2				2
8	Accounts Receivable Specialist	2		1		3
9	Application Specialist	3		1		4
10	Assistant to the Chief Financial Officer	1				1
11	Benefits Specialist				1	1
12	Buyer	8		1		9
13	Chief Executive Officer	1				1
14	Chief Financial Officer	1				1
15	Control Specialist	1		1		2
16	Database Administrator	2				2
17	Design Engineer	3				3
18	Document Control Assistant	2				2
19	Document Control Manager	1				1
20	Engineering Manager				1	1
21	European Sales Manager		1			1
22	Facilities Administrative Assistant				1	1
23	Facilities Manager				1	1

Filtering Using Top 10 Filter

You can use the Top 10 Filter to display the top few or bottom few values of a field in the PivotTable.

- Click the arrow  in the Row Labels cell.
- Click Value Filters.
- Click Top 10 in the second dropdown list.



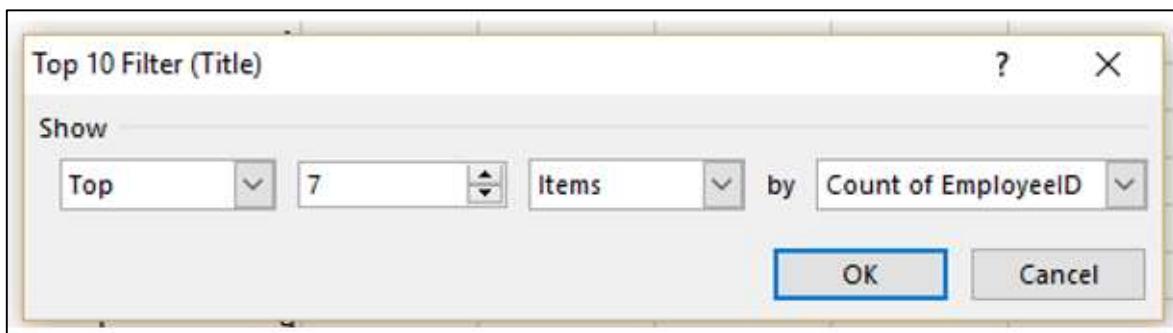
The screenshot shows a PivotTable in Excel with the following structure:

	A	B	C	D	E	F
1						
2						
3	Count of EmployeeID		Column Labels			
4	Row Labels	Qtr1	Qtr2	Qtr3	Qtr4	Grand Total
5	A  Sort A to Z		2			2
6	A  Sort Z to A		1			1
7	A More Sort Options...		2			2
8	A  Clear Filter From "Title"		2	1		3
9	A Label Filters		3	1		4
10	A Value Filters 		1			1
11	B Value Filters 					
12	B Search 					
13	C  (Select All)					
14	C  Accountant					
15	C  Accounts Manager					
16	D  Accounts Payable Specialist					
17	D  Accounts Receivable Specialist					
18	D  Application Specialist					
19	D  Assistant to the Chief Financial Of					
20	E  Benefits Specialist					
21	E  Buyer					
22	F	 OK	 Cancel			

The 'Value Filters' dialog box is open, showing various filter options. The 'Top 10...' option is highlighted with a green background and a black border. An arrow points from the 'Value Filters' label to the 'Top 10...' option. Another arrow points from the 'Top 10...' option towards the bottom right corner of the dialog box.

Top 10 Filter (Title) dialog box appears.

- In the first box, click on Top (You can choose Bottom also).
- In the second box, enter a number, say, 7.
- In the third box, you have three options by which you can filter.
 - Click on Items to filter by number of items.
 - Click on Percent to filter by percentage.
 - Click on Sum to filter by sum.
- As you have count of EmployeeID, click Items.
- In the fourth box, click on the field Count of EmployeeID.
- Click OK.



The top seven values by count of EmployeeID will be displayed in the PivotTable.

	A	B	C	D	E	F
1						
2						
3	Count of EmployeeID	Column Labels	▼			
4	Row Labels	▼	Qtr1	Qtr2	Qtr3	Qtr4
5	Production Technician - WC10		13		4	17
6	Production Technician - WC20		16		6	22
7	Production Technician - WC30		17		8	25
8	Production Technician - WC40		17		9	26
9	Production Technician - WC45		10		5	15
10	Production Technician - WC50		18		8	26
11	Production Technician - WC60		18	1	7	26
12	Grand Total		109	1	47	157

As you can observe, the highest number of hires in the fiscal year is that of Production Technicians and a predominant number of these are in Qtr1.

Filtering Using Timeline

If your PivotTable has a date field, you can filter the PivotTable using Timeline.

Create a PivotTable from the Employee Data that you used earlier and add the data to the Data Model in the Create PivotTable dialog box.

- Drag the field Title to ROWS area.
- Drag the field EmployeeID to Σ VALUES area and choose Count for calculation.

A	B
3 Row Labels	Count of EmployeeID
4 Accountant	2
5 Accounts Manager	1
6 Accounts Payable Specialist	2
7 Accounts Receivable Specialist	3
8 Application Specialist	4
9 Assistant to the Chief Financial Officer	1
10 Benefits Specialist	1
11 Buyer	9
12 Chief Executive Officer	1
13 Chief Financial Officer	1
14 Control Specialist	2
15 Database Administrator	2
16 Design Engineer	3
17 Document Control Assistant	2
18 Document Control Manager	1
19 Engineering Manager	1
20 European Sales Manager	1
21 Facilities Administrative Assistant	1
22 Facilities Manager	1
23 Finance Manager	1

- Click on the PivotTable.
- Click the INSERT tab.
- Click Timeline in the Filters group. The Insert Timelines dialog box appears.

Insert Timelines Dialog Box

The screenshot shows the Microsoft Excel ribbon with the **INSERT** tab selected. In the center of the screen, the **Insert Timelines** dialog box is open, showing a list of fields: **Employee_Data**, **BirthDate**, and **HireDate**. The **HireDate** checkbox is checked. To the right of the dialog box, the **PivotTable Fields** pane is visible, showing the **ACTIVE** field list with **EmployeeID**, **Title**, and **ManagerLevel** checked. Below the pane, the **FILTERS** and **COLUMNS** sections are shown. At the bottom of the ribbon, the **Timeline** icon is highlighted with a red arrow. Another red arrow points from the **Filters** button in the ribbon to the **FILTERS** section in the PivotTable Fields pane.

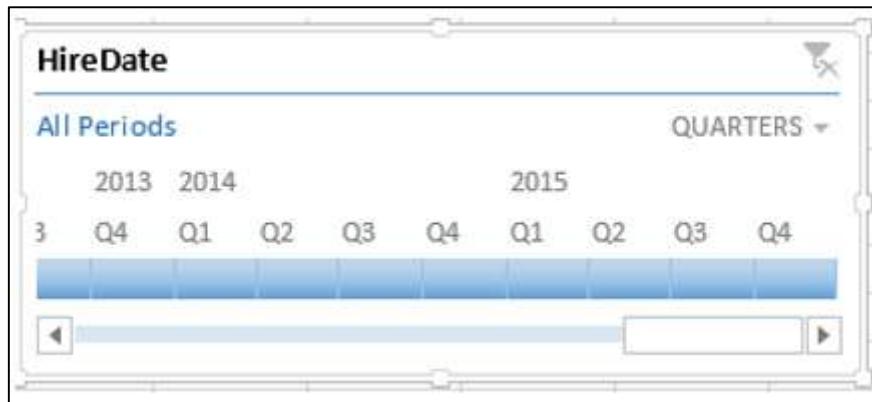
- Check the box **HireDate**.
- Click **OK**. The Timeline appears in the worksheet.
- Timeline Tools appear on the Ribbon.

Timeline Tools

The screenshot shows the Microsoft Excel ribbon with the **TIMELINE TOOLS** tab selected. In the center of the screen, a timeline control is displayed for the **HireDate** field. The timeline shows months from JUL to NOV and quarters QUARTERS. Arrows point from the **Timeline** icon in the ribbon to the Timeline control in the worksheet. The worksheet itself contains a PivotTable with **Row Labels** set to **Count of EmployeeID** and **Column Labels** set to **Title**. The data shows various employee titles and their counts.

As you can observe, All Periods – in Months are displayed on the Timeline.

- Click on the arrow next to - **MONTHS**.
- Select **QUARTERS** from the drop-down list. The The Timeline display changes to All Periods – in Quarters.



- Click on 2014 Q1.
- Keep the Shift key pressed and drag to 2014 Q4. The Timeline Period is selected to Q1 – Q4 2014.
- PivotTable is filtered to this Timeline Period.

The screenshot shows an Excel spreadsheet with a PivotTable on the left and a timeline filter on the right. The PivotTable has "Row Labels" (Job Titles) and "Count of EmployeeID" as the value. The timeline filter is titled "HireDate" and shows "Q1 - Q4 2014" selected. The timeline bar is grey, and the current selection is "Q1 - Q4 2014".

Row Labels	Count of EmployeeID
Accountant	2
Accounts Manager	1
Accounts Payable Specialist	2
Accounts Receivable Specialist	2
Application Specialist	3
Assistant to the Chief Financial Officer	1
Buyer	3
Chief Executive Officer	1
Chief Financial Officer	1
Control Specialist	1
Database Administrator	2
Document Control Assistant	2
Document Control Manager	1
Facilities Administrative Assistant	1
Facilities Manager	1
Human Resources Administrative Assistant	2
Marketing Specialist	3
Network Administrator	1
Network Manager	1
Production Supervisor - WC10	1

Clearing the Filters

You might have to clear the filters you have set from time to time to switch across different combinations and projections of your data. You can do this in several ways as follows –

Clearing all the filters in a PivotTable

You can clear all the filters set in a PivotTable at one go as follows-

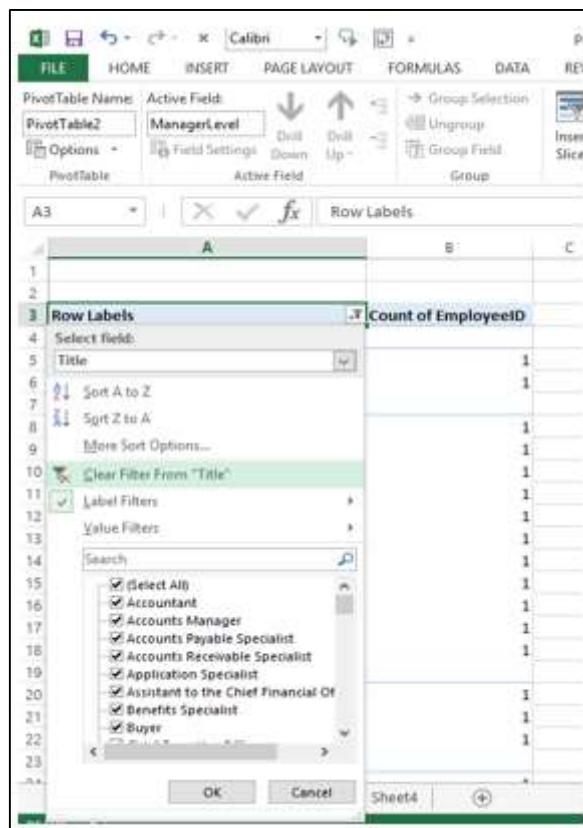
- Click the HOME tab on the Ribbon.
- Click Sort & Filter in the Editing group.
- Select Clear from the dropdown list.

	Count of EmployeeID
1	Information Services Manager
2	Marketing Manager
3	Accounts Manager
4	Engineering Manager
5	European Sales Manager
6	Facilities Manager
7	Finance Manager
8	Human Resources Manager
9	Network Manager
10	North American Sales Manager
11	Pacific Sales Manager
12	Production Control Manager
13	Quality Assurance Manager
14	Document Control Manager
15	Purchasing Manager
16	Research and Development Manager

Clearing a Label, Date or Value Filter

To clear a Label, Date, or Value Filter do the following-

- Click on the  icon in the Row Labels or Column Labels.
- Click on the <field name> from which you want to clear the filter in the Select Field box in the dropdown list.
- Click on Clear Filter From <Filed Name> that appears in the dropdown list.
- Click OK. The specific filter will be cleared.



8. Filtering data using Slicers

Using one or more slicers is a quick and effective way to filter your data. Slicers can be inserted for each of the fields that you want to filter. Slicer will have buttons denoting the values of the field that it represents. You can click on the buttons of a slicer to select/unselect the values in the field.

Slicers stay visible with the PivotTable and so you will always know what fields are used for filtering and what values in those fields are shown or hidden in the filtered PivotTable.

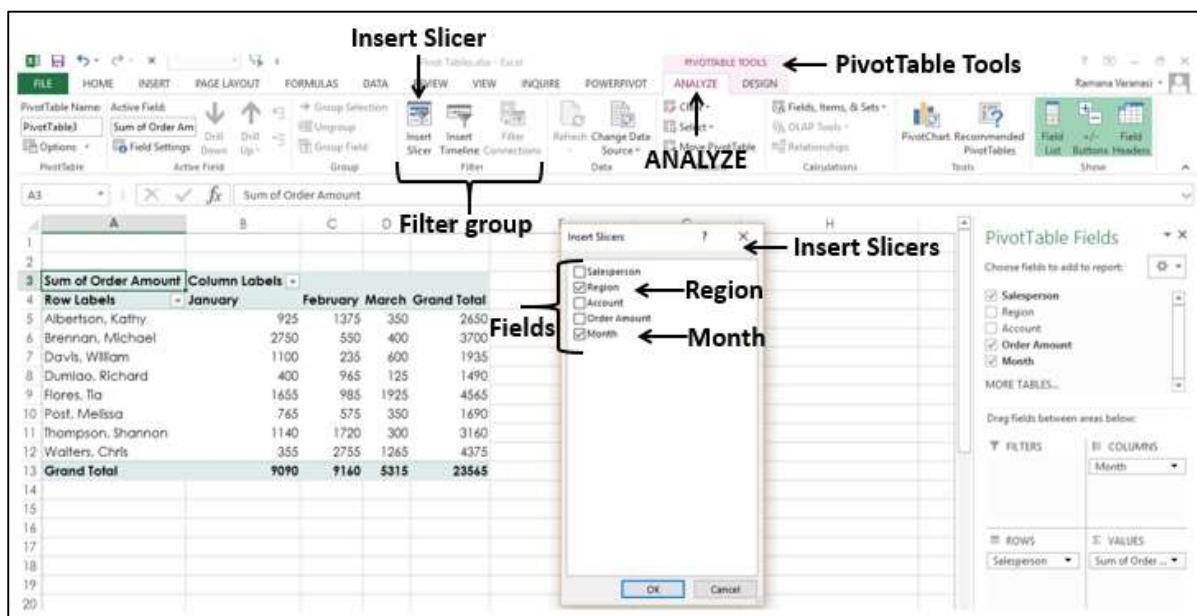
To understand the usage of slicers, consider the example of sales data region-wise, month wise and salesperson-wise. Assume you have the following PivotTable with this data.

	A	B	C	D	E
1					
2					
3	Sum of Order Amount	Column Labels			
4	Row Labels	January	February	March	Grand Total
5	Albertson, Kathy	925	1375	350	2650
6	Brennan, Michael	2750	550	400	3700
7	Davis, William	1100	235	600	1935
8	Dumlao, Richard	400	965	125	1490
9	Flores, Tia	1655	985	1925	4565
10	Post, Melissa	765	575	350	1690
11	Thompson, Shannon	1140	1720	300	3160
12	Walters, Chris	355	2755	1265	4375
13	Grand Total	9090	9160	5315	23565

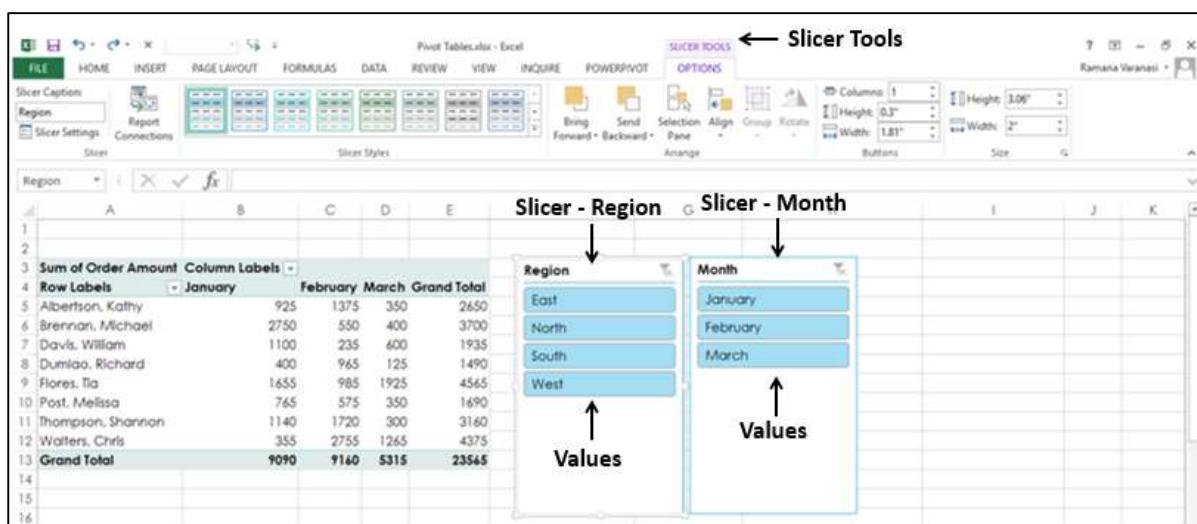
Inserting Slicers

Suppose you want to filter this PivotTable based on the fields – Region and Month.

- Click on ANALYZE under PIVOTTABLE TOOLS on the Ribbon.
- Click on Insert Slicer in the Filter group. The Insert Slicers dialog box appears. It contains all the fields from your data table.
- Check the boxes Region and Month.
- Click OK.



Slicers for each of the selected fields appear with all the values selected by default. Slicer Tools appear on the Ribbon to work on the Slicer settings, look and feel.



Filtering with Slicers

As you can observe, each slicer has all the values of the field that it represents and the values are displayed as buttons. By default, all the values of a field are selected and hence all the buttons are highlighted.

Suppose you want to display the PivotTable only for the regions South and West and for the Months February and March.

- Click on South in the Slicer for Region. Only South will be highlighted in the Slicer – Region.
- Keep Ctrl key pressed and click on West in the Slicer for Region.
- Click on February in the Slicer for Month.
- Keep Ctrl key pressed and click on March in the Slicer for Month.

Selected items in the Slicers are highlighted. PivotTable with summarized values for the selected items will be displayed.

	A	B	C	D	E	F	G	H
1								
2								
3	Sum of Order Amount	Column Labels						
4	Row Labels	February	March	Grand Total				
5	Brennan, Michael	550	400	950				
6	Davis, William	235	600	835				
7	Dumiao, Richard	965	125	1090				
8	Flores, Tia	985	1925	2910				
9	Walters, Chris	2755	1265	4020				
10	Grand Total	5490	4315	9805				
11								
12								
13								
14								
15								
1K								

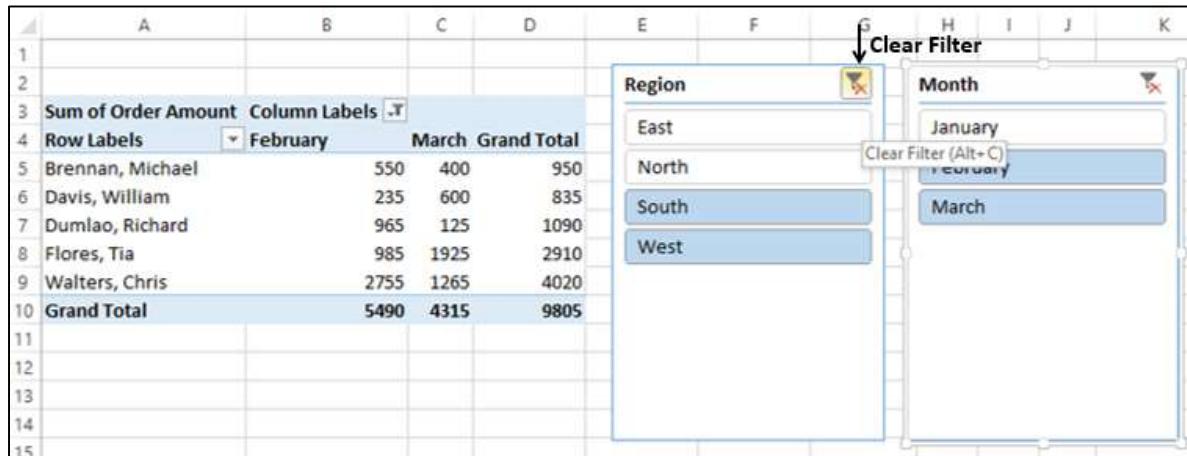
Region
East
North
South
West

Month
January
February
March

To add/remove values of a field from the filter, keep the Ctrl key pressed and click on those buttons in the slicer of the field.

Clearing the Filter in a Slicer

To clear the filter in a slicer, click on  at the top-right corner of the slicer.

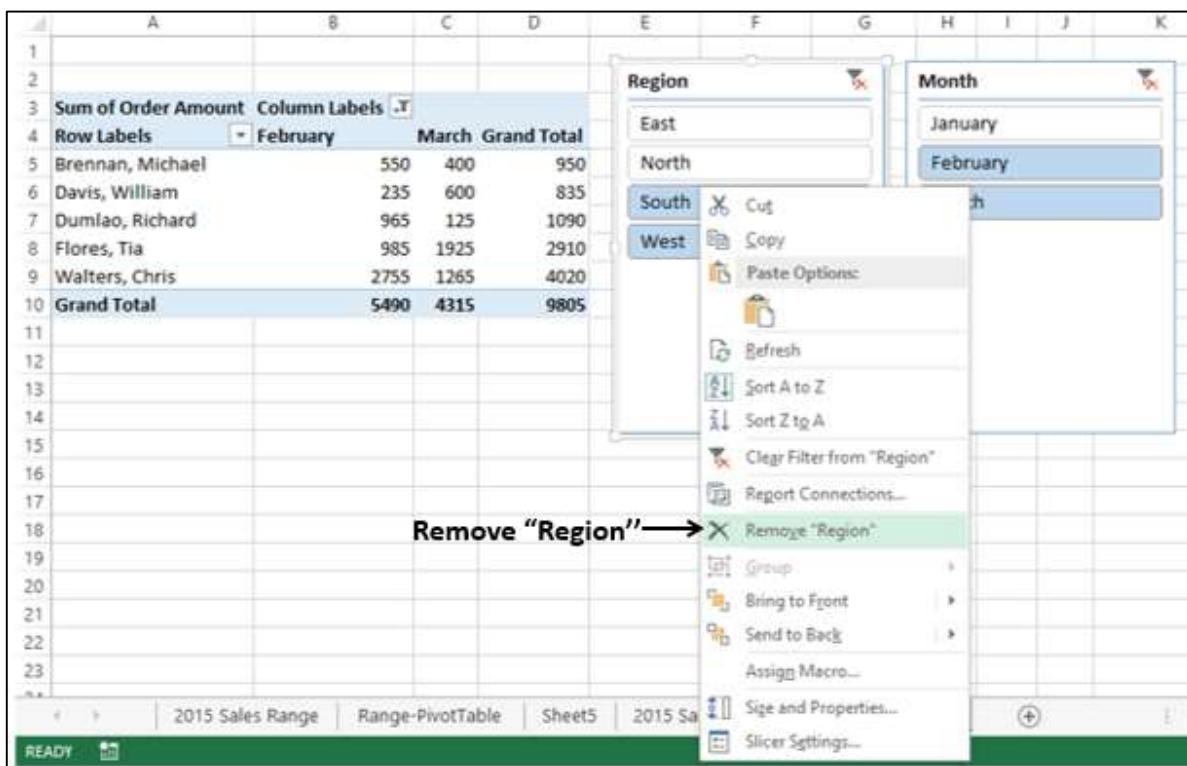


A screenshot of an Excel spreadsheet. On the left, there is a PivotTable with data for 'Sum of Order Amount' across 'Region' (East, North, South, West) and 'Month' (February, March). The grand total is 9805. To the right of the PivotTable are two slicers. The first slicer, titled 'Region', shows the four regions. The second slicer, titled 'Month', shows the months January, February (which is selected), and March. An arrow points to the clear icon (an 'X' inside a square) at the top-right corner of the 'Region' slicer.

Removing a Slicer

Suppose you want to remove the slicer for the Region field.

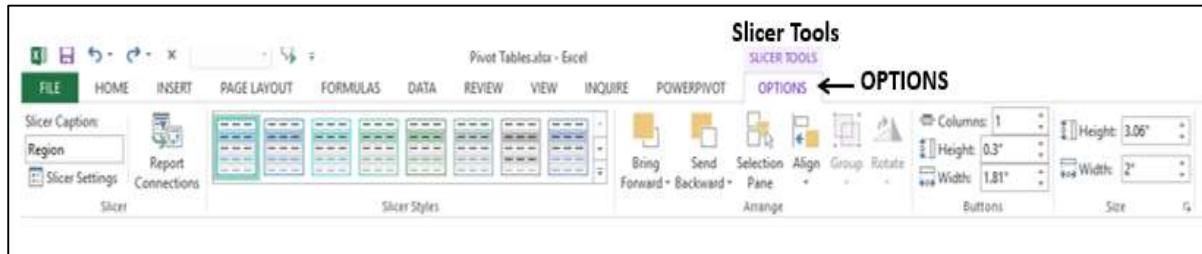
- Right click on the Slicer – Region.
- Click on Remove “Region” in the dropdown list.



A screenshot of an Excel spreadsheet. It shows a PivotTable on the left and two slicers on the right. The 'Region' slicer has items East, North, South, and West. The 'Month' slicer has items January, February (selected), and March. A context menu is open over the 'Region' slicer, listing options like Cut, Copy, Paste Options, Refresh, Sort A to Z, Sort Z to A, Clear Filter from "Region", Report Connections, Remove "Region" (which is highlighted in green with an arrow pointing to it), Group, Bring to Front, Send to Back, Assign Macro, Size and Properties, and Slicer Settings.

Slicer Tools

Once you insert a slicer, Slicer Tools appear on the Ribbon with OPTIONS tab. To view Slicer Tools, click on a slicer.



As you can observe, under the Slicer Tools – OPTION tab, you have several options to change the look and feel of the slicer that include –

- Slicer Caption
- Slicer Settings
- Report Connections
- Selection Pane

Slicer Caption

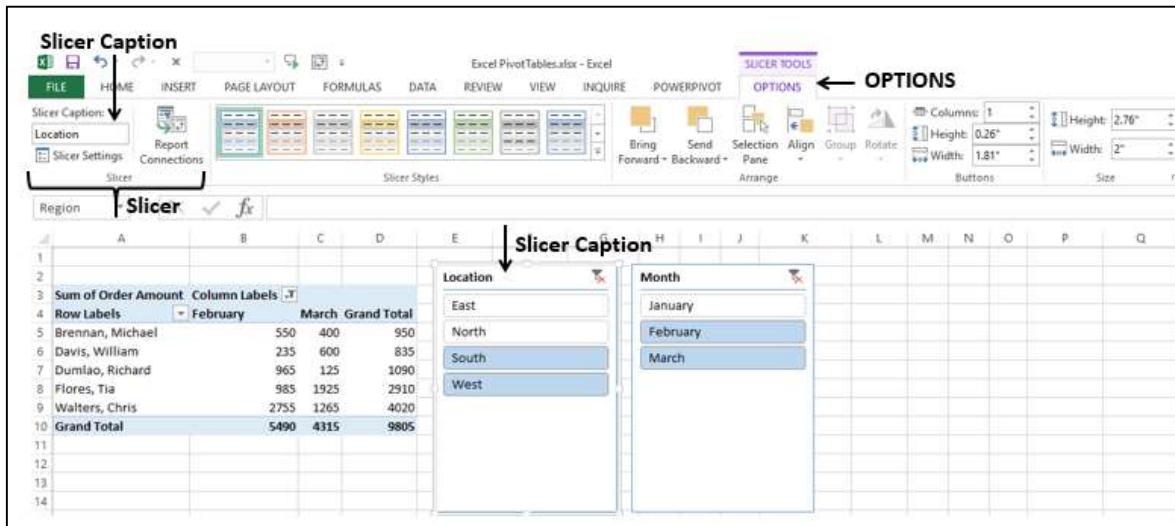
You can find the Slicer Caption box in the Slicer group. The Slicer Caption is the header that is displayed on the slicer. By default, **Slicer Caption** is the name of the field that it represents.

- Click on the Slicer for Region.
- Click the OPTIONS tab on the Ribbon.

	A	B	C	D	E	G	H	I	J	K	L	M	N	O	P	Q
3	Sum of Order Amount	Column Labels				Region										
4	Row Labels	February		March	Grand Total		Month									
5	Brennan, Michael	550	400		950		January									
6	Davis, William	235	600		835		February									
7	Dumlao, Richard	965	125		1090		March									
8	Flores, Tia	985	1925		2910											
9	Walters, Chris	2755	1265		4020											
10	Grand Total	5490	4315		9805											

The Slicer group on the Ribbon, in the Slicer Caption box, Region is displayed as the header of the slicer. It is the name of the field for which the slicer is inserted. You can change the Slicer Caption as follows –

- Click on the Slicer Caption box in the Slicer group on the Ribbon.
- Delete Region. The box is cleared.
- Type Location in the box and press Enter. The Slicer Caption changes to Location and the same is reflected as header in the slicer.



Note: You have changed only the slicer caption, i.e. the header. The name of the field that the slicer represents – Region remains as it is.

Slicer Settings

You can use Slicer Settings to change the name of the slicer, change the slicer caption, choose whether to display the slicer header or not and set the sorting and filtering options for the items-

- Click on the slicer - Location.
- Click the OPTIONS tab on the Ribbon. You can find the Slicer Settings in the Slicer group on the Ribbon. You can also find Slicer Settings in the dropdown list when you right click on the slicer.
- Click the Slicer Settings. The Slicer Settings dialog box appears.

The screenshot shows a Microsoft Excel spreadsheet with a PivotTable in the center. A 'Slicer' tab is selected in the ribbon. A 'Slicer Settings' dialog box is open, titled 'Slicer Settings'. Inside the dialog box, under 'Source Name', 'Region' is selected. Under 'Name to use in formulas', 'Slicer_Region' is listed. Under 'Header', 'Location' is selected. Under 'Display header', the checkbox is checked. Under 'Item Sorting and Filtering', 'Ascending (A to Z)' is selected. There are several checkboxes for visibility: 'Hide items with no data' (unchecked), 'Visually indicate items with no data' (checked), 'Show items with no data last' (checked), and 'Show items deleted from the data source' (checked). At the bottom right of the dialog box are 'OK' and 'Cancel' buttons.

As you can observe, the following are fixed for the slicer –

- Source Name.
- Name to use in formulas.

You can change the following for the slicer –

- Name.
- Header – Caption.
- Display header.
- Sorting and Filtering options for the items displayed on the slicer.

Report Connections

You can connect different PivotTables to a Slicer, provided one of the following holds good-

- The PivotTables are created using the same data.
- One PivotTable has been copied and pasted as an additional PivotTable.
- Multiple PivotTables are created on separate sheets with Show Report Filter Pages.

Consider the following PivotTables that are created from the same data –

	A	B	C	D	E
1					
2	Sum of Order Amount	Column Labels			
3	Row Labels	January	February	March	Grand Total
4	Albertson, Kathy	925	1375	350	2650
5	Brennan, Michael	2750	550	400	3700
6	Davis, William	1100	235	600	1935
7	Dumlao, Richard	400	965	125	1490
8	Flores, Tia	1655	985	1925	4565
9	Post, Melissa	765	575	350	1690
10	Thompson, Shannon	1140	1720	300	3160
11	Walters, Chris	355	2755	1265	4375
12	Grand Total	9090	9160	5315	23565
13					
14					
15	Sum of Order Amount	Column Labels			
16	Row Labels	January	February	March	Grand Total
17	East	1690	1950	700	4340
18	North	1140	1720	300	3160
19	South	3110	3975	3790	10875
20	West	3150	1515	525	5190
21	Grand Total	9090	9160	5315	23565
22					

- Name the top PivotTable as PivotTable-Top and the bottom one as PivotTable-Bottom.
- Click on the top PivotTable.
- Insert a Slicer for the field Region.
- Select East and North on the Slicer.

The screenshot shows two PivotTables and a Slicer in an Excel spreadsheet. The top PivotTable (rows 2-7) has 'Region' selected in the 'Row Labels' dropdown. The bottom PivotTable (rows 15-21) also has 'Region' selected in its 'Row Labels' dropdown. A Slicer titled 'Region' is applied to both, with 'North' selected. The data in both tables is as follows:

	January	February	March	Grand Total
Albertson, Kathy	925	1375	350	2650
Post, Melissa	765	575	350	1690
Thompson, Shannon	1140	1720	300	3160
Grand Total	2830	3670	1000	7500

	January	February	March	Grand Total	
East		1690	1950	700	4340
North	1140	1720	300		3160
South		3110	3975	3790	10875
West	3150	1515	525		5190
Grand Total	9090	9160	5315	23565	

Observe that the filtering is applied only to the top PivotTable and not to the bottom PivotTable. You can use the same slicer for both the PivotTables by connecting it to the bottom PivotTable also as follows-

- Click on the slicer - Region. The SLICER TOOLS appear on the Ribbon.
- Click the OPTIONS tab on the Ribbon.

You will find Report Connections in the Slicer group on the Ribbon. You can also find Report Connections in the dropdown list when you right click on the slicer.

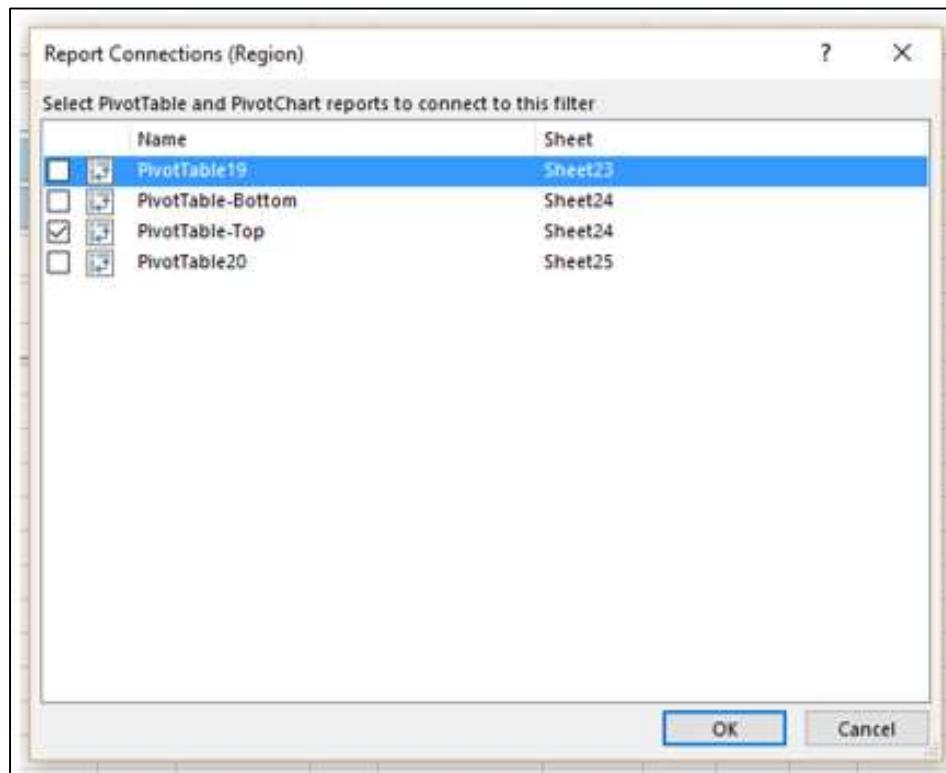
Click **Report Connections** in the Slicer group.

The screenshot shows the Excel ribbon with the 'Slicer Tools' tab selected. An arrow points to the 'Report Connections' button in the Slicer group. The 'OPTIONS' tab is also selected. The same two PivotTables and Slicer are visible as in the previous screenshot. The data remains the same:

	January	February	March	Grand Total
Albertson, Kathy	925	1375	350	2650
Post, Melissa	765	575	350	1690
Thompson, Shannon	1140	1720	300	3160
Grand Total	2830	3670	1000	7500

	January	February	March	Grand Total	
East		1690	1950	700	4340
North	1140	1720	300		3160
South		3110	3975	3790	10875
West	3150	1515	525		5190
Grand Total	9090	9160	5315	23565	

The **Report Connections** dialog box appears. The box PivotTable-Top is checked and other boxes are unchecked. Check the box PivotTable-Bottom also and click OK.



The bottom PivotTable will be filtered to the selected items – East and North.

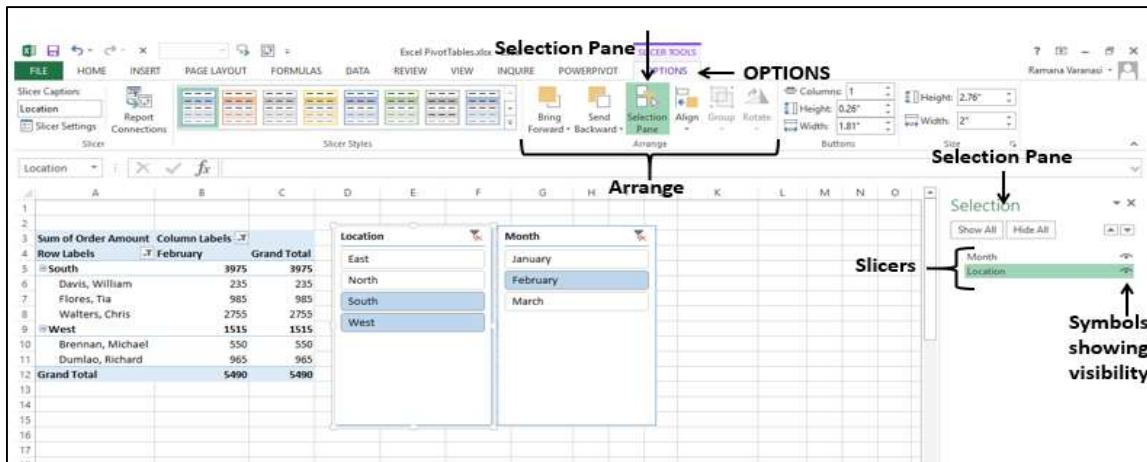
	A	B	C	D	E	F	G	H	I
1									
2	Sum of Order Amount	Column Labels							
3	Row Labels	January	February	March	Grand Total				
4	Albertson, Kathy		925	1375	350	2650			
5	Post, Melissa		765	575	350	1690			
6	Thompson, Shannon		1140	1720	300	3160			
7	Grand Total		2830	3670	1000	7500			
8									
9									
10									
11									
12									
13									
14									
15	Sum of Order Amount	Column Labels							
16	Row Labels	January	February	March	Grand Total				
17	East		1690	1950	700	4340			
18	North		1140	1720	300	3160			
19	Grand Total		2830	3670	1000	7500			
20									

This became possible because both the PivotTables are now connected to the slicer. If you make changes in the selections in the slicer, the same filtering will appear in both the PivotTables.

Selection Pane

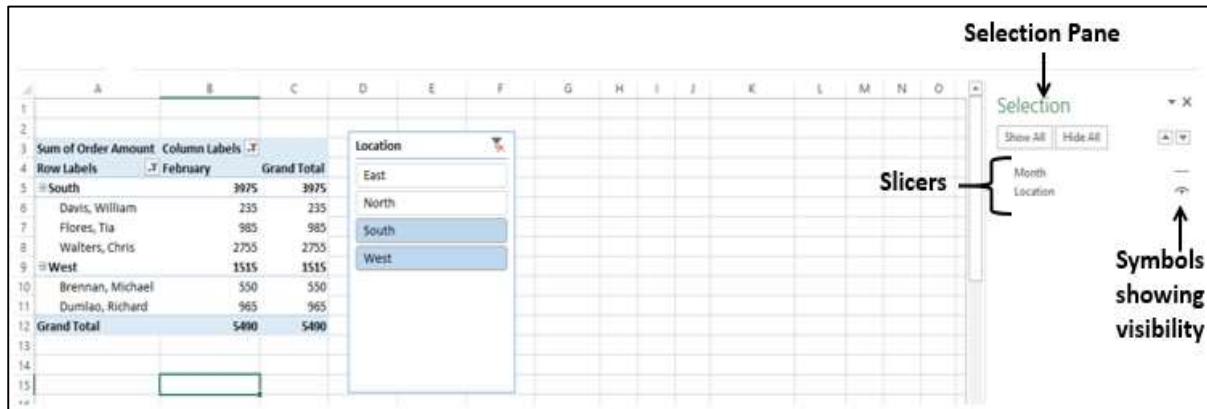
You can switch the display of the slicers on the worksheet off and on using the Selection Pane.

- Click on the slicer - Location.
- Click the OPTIONS tab on the Ribbon.
- Click the Selection Pane in the Arrange group on the Ribbon. The Selection Pane appears on the right side of the window.



As you can observe, the names of all the slicers are listed in the Selection pane. On the right side of the names, you can find the visibility symbol - indicating the slicer is visible on the worksheet.

Click the symbol for Month. The symbol changes to the symbol , indicating that the slicer is hidden (not visible).



As you can observe, the slicer – Month is not shown on the worksheet. However, remember that you did not remove the slicer for Month, but you have just hidden it.

- Click on the symbol for Month.
- The symbol changes to the symbol , indicating that the slicer is now visible.

When you switch the visibility of a slicer on / off, the selection of the items in that slicer for filtering remain unaltered. You can also change the order of the slicers in the Selection pane by dragging them up/down.

9. PivotTable – Nesting

If you have more than one field in any of the PivotTable areas, then the PivotTable layout depends on the order you place the fields in that area. This is called the Nesting Order.

If you know how your data is structured, you can place the fields in the required order. If you are not sure about the structure of the data, you can change the order of the fields that instantly changes the layout of the PivotTable.

In this chapter, you will understand the nesting order of the fields and how you can change the nesting order.

Nesting Order of the Fields

Consider the sales data example, where you have placed the fields in the following order-

The screenshot shows the 'PivotTable Fields' pane in Excel. At the top, it says 'Drag fields between areas below:' with sections for 'FILTERS', 'ROWS', 'COLUMNS', and 'VALUES'. In the 'ROWS' section, there is a label 'Nesting Order' with two dropdown menus: 'Salesperson' and 'Region'. An arrow points from the text 'Rows' to the 'ROWS' section. Below the rows section are checkboxes for 'Defer Layout Update' and 'UPDATE'.

As you can see, in the rows area there are two fields – salesperson and region in that order. This order of the fields is called nesting order i.e. Salesperson first and Region next.

In the PivotTable, the values in the rows will be displayed based on this order, as given below.

Summarizing Value

		3 Sum of Order Amount	Column Labels			
4 Row Labels			January	February	March	Grand Total
	5 Albertson, Kathy		925	1375	350	2650
	6 East		925	1375	350	2650
	7 Brennan, Michael		2750	550	400	3700
	8 West		2750	550	400	3700
	9 Davis, William		1100	235	600	1935
	10 South		1100	235	600	1935
	11 Dumlao, Richard		400	965	125	1490
	12 West		400	965	125	1490
	13 Flores, Tia		1655	985	1925	4565
	14 South		1655	985	1925	4565
	15 Post, Melissa		765	575	350	1690
	16 East		765	575	350	1690
	17 Thompson, Shannon		1140	1720	300	3160
	18 North		1140	1720	300	3160
	19 Walters, Chris		355	2755	1265	4375
	20 South		355	2755	1265	4375
	21 Grand Total		9090	9160	5315	23565

As you can observe, the values of the second field in the nesting order are embedded under each of the values of the first field.

In your data, each salesperson is associated with only one region, whereas most of the regions are associated with more than one salesperson. Hence, there is a possibility that if you reverse the nesting order, your PivotTable will look more meaningful.

Changing the Nesting Order

To change the nesting order of the fields in an area, just click the field and drag it to the position you want.

Click on the field Salesperson in the ROWS area, and drag it to below the field Region. Thus, you have changed the nesting order to – Region first and Salesperson next, as follows-

The screenshot shows the 'PivotTable Fields' pane in Excel. At the top, it says 'Drag fields between areas below:'. On the left, there's a vertical list of fields: 'Rows', 'Nesting Order', 'ROWS', and 'VALUES'. 'Nesting Order' has two items: 'Region' and 'Salesperson'. On the right, there are three sections: 'FILTERS' (with 'Month' selected), 'COLUMNS' (with 'Month' selected), and 'VALUES' (with 'Sum of Order ...' selected). Below these are two buttons: 'Defer Layout Update' and 'UPDATE'.

The resulting PivotTable will be as given below-

The screenshot shows a PivotTable in Excel. The 'Summarizing Value' is 'Sum of Order Amount'. The 'Columns' are 'January', 'February', 'March', and 'Grand Total'. The 'Row Labels' are 'Region' and 'Salesperson'. The data is organized into four levels:

- Rows - Level 1:** Regions: East, North, South, West.
- Rows - Level 2:** Salespeople under each region.
- Rows - Level 3:** Individual salesperson names.
- Rows - Level 4:** Grand totals for each row level.

The data is summarized as follows:

		January	February	March	Grand Total
East	Albertson, Kathy	925	1375	350	2650
	Post, Melissa	765	575	350	1690
		1140	1720	300	3160
North	Thompson, Shannon	1140	1720	300	3160
		3110	3975	3790	10875
	Davis, William	1100	235	600	1935
South	Flores, Tia	1655	985	1925	4565
	Walters, Chris	355	2755	1265	4375
		3150	1515	525	5190
West	Brennan, Michael	2750	550	400	3700
	Dumlao, Richard	400	965	125	1490
		9090	9160	5315	23565
	Grand Total				

You can clearly observe that the Layout with the nesting order – Region and then Salesperson yields a better and compact report than the one with the nesting order – Salesperson and then Region.

In case a Salesperson represents more than one area and you need to summarize the sales by Salesperson, then the previous Layout would have been a better option.

10. PivotTable – Tools

In the worksheet containing a PivotTable, the Ribbon will contain the PivotTable Tools, with ANALYZE and DESIGN Tabs. The ANALYZE tab has several commands that will enable you to explore the data in the PivotTable. The DESIGN tab commands will be useful to structure the PivotTable with various report options and style options.

You will learn the ANALYZE commands in this chapter. You will learn the DESIGN commands in the Chapter - Aesthetic Reports with PivotTables.

ANALYZE Commands

The commands on the Ribbon of ANALYZE tab include the following-

- Expanding and Collapsing a Field.
- Grouping and Ungrouping Field Values.
- Active Field Settings.
- PivotTable Options.



Expanding and Collapsing a Field

If you have nested fields in your PivotTable, you can expand and collapse a single item or you can expand and collapse all the items of the active field.

Consider the following PivotTable, wherein you have Salesperson field nested under Region field.

A	B	C	D	E	
1					
2					
3	Sum of Order Amount	Column Labels			
4	Row Labels	January	February	March	Grand Total
5	East	1690	1950	700	4340
6	Albertson, Kathy	925	1375	350	2650
7	Post, Melissa	765	575	350	1690
8	North	1140	1720	300	3160
9	Thompson, Shannon	1140	1720	300	3160
10	South	3110	3975	3790	10875
11	Davis, William	1100	235	600	1935
12	Flores, Tia	1655	985	1925	4565
13	Walters, Chris	355	2755	1265	4375
14	West	3150	1515	525	5190
15	Brennan, Michael	2750	550	400	3700
16	Dumlao, Richard	400	965	125	1490
17	Grand Total	9090	9160	5315	23565

Click the  symbol to the left of East. The item East of the field Region will collapse.

A	B	C	D	E	
1					
2					
3	Sum of Order Amount	Column Labels			
4	Row Labels	January	February	March	Grand Total
5	East	1690	1950	700	4340
6	North	1140	1720	300	3160
7	Thompson, Shannon	1140	1720	300	3160
8	South	3110	3975	3790	10875
9	Davis, William	1100	235	600	1935
10	Flores, Tia	1655	985	1925	4565
11	Walters, Chris	355	2755	1265	4375
12	West	3150	1515	525	5190
13	Brennan, Michael	2750	550	400	3700
14	Dumlao, Richard	400	965	125	1490
15	Grand Total	9090	9160	5315	23565

As you can observe, the other items - North, South and West of the field Region are not collapsed. If you want to collapse any of them, repeat the steps that you have done for East.

- Click on the  symbol to the left of East. The item East of the field Region will expand.

If you want to collapse all the items of a field at once, do the following –

- Click any of the items of the field – Region.
- Click the ANALYZE tab on the Ribbon.
- Click Collapse Field in the Active Field group.

The screenshot shows the Microsoft Excel ribbon with the 'ANALYZE' tab selected. In the 'PIVOTTABLE TOOLS' ribbon group, the 'ACTIVE FIELD' section is active, and the 'Collapse Field' button is highlighted with a red arrow. The main area displays a PivotTable with data for Salesperson, Region, Account, Order Amount, and Month. The PivotTable Fields pane on the left lists these fields with checkboxes. The data area shows sales figures for different regions and months.

	A	B	C	D	E	F	G	H
1								
2								
3	Sum of Order Amount	Column Labels						
4	Row Labels	January	February	March	Grand Total			
5	+ East	1690	1950	700	4340			
6	+ Albertson, Kathy	925	1375	350	2650			
7	+ Post, Melissa	765	575	350	1690			
8	+ North	1140	1720	300	3160			
9	+ Thompson, Shannon	1140	1720	300	3160			
10	+ South	3110	3975	3790	10875			
11	Davis, William	1100	235	600	1935			
12	Flores, Tia	1655	985	1925	4565			
13	Walters, Chris	355	2755	1265	4375			
14	+ West	3150	1515	525	5190			
15	Brennan, Michael	2750	550	400	3700			
16	Dumiao, Richard	400	965	125	1490			
17	Grand Total	9090	9160	5315	23565			

All the items of the field Region will be collapsed.

The screenshot shows the same PivotTable after collapsing the 'Region' field. The 'Region' column in the Row Labels is now collapsed, and only the 'Grand Total' row for each region is visible. The data area remains the same as in the previous screenshot.

	A	B	C	D	E
1					
2					
3	Sum of Order Amount	Column Labels			
4	Row Labels	January	February	March	Grand Total
5	+ East	1690	1950	700	4340
6	+ North	1140	1720	300	3160
7	+ South	3110	3975	3790	10875
8	+ West	3150	1515	525	5190
9	Grand Total	9090	9160	5315	23565

If you want to expand all the items of a field at once, do the following –

- Click on any of the items of the field – Region.
- Click the ANALYZE tab on the Ribbon.
- Click Expand Field in the Active Field group.

The screenshot shows the Microsoft Excel ribbon with the 'ANALYZE' tab selected. In the 'Group Selection' group, there is a button labeled 'Expand Field'. A callout arrow points from the text 'Expand Field' to this button. The main area of the screen displays a PivotTable with data for Salesperson, Region, Account, Order Amount, and Month. The PivotTable fields pane on the left shows 'Region' as the active field.

All the items of the field Region will be expanded.

Grouping and Ungrouping Field Values

You can group and ungroup field values to define your own clustering. For example, you might want to know the data combining East and North regions.

- Select the East and North items of the Region field in the PivotTable, along with the nested Salesperson field items.
- Click the ANALYZE tab on the Ribbon.
- Click Group Selection in the group – Group.

The screenshot shows the Microsoft Excel ribbon with the 'REVIEW' tab selected. In the 'Group' group, there is a button labeled 'Group Selection'. A callout arrow points from the text 'Selection' to this button. The main area of the screen displays a PivotTable with data for Salesperson, Region, Account, Order Amount, and Month. The PivotTable fields pane on the left shows 'Region' as the active field. The 'East' and 'North' regions are selected in the PivotTable.

The items – East and North will be grouped under the name Group1. In addition, a new South is created under which South is nested and a new West is created under which West is nested.

The screenshot shows the PivotTable Fields ribbon. On the left, under 'Choose fields to add to report', 'Region' is selected. In the center, the PivotTable structure is displayed. Row 5 is highlighted with a green background and labeled 'Group1'. Arrows point from 'Group1' to 'East' at row 6 and 'South' at row 11. Row 11 is also highlighted with a green background and labeled 'South'. An arrow points from 'South' to 'West' at row 16. Row 16 is highlighted with a green background and labeled 'West'. The data table below shows sales figures for various regions and salespeople.

	A	B	C	D	E
1					
2					
3	Sum of Order Amount	Column Labels			
4	Row Labels	January	February	March	Grand Total
5	Group1				
6	East	1690	1950	700	4340
7	Albertson, Kathy	925	1375	350	2650
8	Post, Melissa	765	575	350	1690
9	North	1140	1720	300	3160
10	Thompson, Shannon	1140	1720	300	3160
11	South				
12	South	3110	3975	3790	10875
13	Davis, William	1100	235	600	1935
14	Flores, Tia	1655	985	1925	4565
15	Walters, Chris	355	2755	1265	4375
16	West				
17	West	3150	1515	525	5190
18	Brennan, Michael	2750	550	400	3700
19	Dumlao, Richard	400	965	125	1490
20	Grand Total	9090	9160	5315	23565
21					

You can also observe that a new field – Region2 is added in the PivotTable Fields list, which appears in the ROWS area.

- Select the South and West items of the Region2 field in the PivotTable, along with the nested Region and Salesperson field items.
- Click the ANALYZE tab on the Ribbon.
- Click Group Selection in the group – Group.

Group Selection

The screenshot shows the Excel ribbon with the 'ANALYZE' tab selected. In the 'DATA' section of the ribbon, the 'Group' button is highlighted. A callout points from this button to a green bracket labeled 'Group'. Another callout points from the 'Group' button to a green bracket labeled 'Selection', which covers the 'South' and 'West' sections of the pivot table.

PivotTable Fields

Choose fields to add to report:

- Account
- Order Amount
- Month
- Region2

Drag fields between areas below:

FILTERS

- COLUMNS**: Month
- ROWS**: Region2, Region, Salesperson
- VALUES**: Sum of Order ...

Group Selection

Group

Selection

	A	B	C	D	E	F
1						
2						
3	Sum of Order Amount	Column Labels				
4	Row Labels	January	February	March	Grand Total	
5	Group1					
6	East	1690	1950	700	4340	
7	Albertson, Kathy	925	1375	350	2650	
8	Post, Melissa	765	575	350	1690	
9	North	1140	1720	300	3160	
10	Thompson, Shannon	1140	1720	300	3160	
11	South					
12	South	3110	3975	3790	10875	
13	Davis, William	1100	235	600	1935	
14	Flores, Tia	1655	985	1925	4565	
15	Walters, Chris	355	2755	1265	4375	
16	West					
17	West	3150	1515	525	5190	
18	Brennan, Michael	2750	550	400	3700	
19	Dumlao, Richard	400	965	125	1490	
20	Grand Total	9090	9160	5315	23565	
21						
22						

The items – South and West of the field Region will be grouped under the name Group2.

PivotTable Fields

Choose fields to add to report:

- Order Amount
- Month
- Region2 ← **Region2**

Drag fields between areas below:

FILTERS

- COLUMNS**: Month
- ROWS**: Region2, Region, Salesperson
- VALUES**: Sum of Order ...

Group Selection

Group1

Group2

	A	B	C	D	E
1					
2					
3	Sum of Order Amount	Column Labels			
4	Row Labels	January	February	March	Grand Total
5	Group1				
6	East	1690	1950	700	4340
7	Albertson, Kathy	925	1375	350	2650
8	Post, Melissa	765	575	350	1690
9	North	1140	1720	300	3160
10	Thompson, Shannon	1140	1720	300	3160
11	South				
12	South	3110	3975	3790	10875
13	Davis, William	1100	235	600	1935
14	Flores, Tia	1655	985	1925	4565
15	Walters, Chris	355	2755	1265	4375
16	West				
17	West	3150	1515	525	5190
18	Brennan, Michael	2750	550	400	3700
19	Dumlao, Richard	400	965	125	1490
20	Grand Total	9090	9160	5315	23565
21					

To ungroup a group, do the following-

- Click on the Group Name.
- Click the ANALYZE tab.
- Click Ungroup in the group – Group.

The screenshot shows the Microsoft Excel ribbon with the ANALYZE tab selected. In the PivotTable Fields pane, 'Group1' is selected. An arrow points from the 'Ungroup' button in the ANALYZE tab's ribbon to the 'Group1' selection in the pane.

	January	February	March	Grand Total
East	1690	1950	700	4340
Albertson, Kathy	925	1375	350	2650
Post, Melissa	765	575	350	1690
North	1140	1720	300	3160
Thompson, Shannon	1140	1720	300	3160
Group2				
South	3110	3975	3790	10875
Davis, William	1100	235	600	1935
Flores, Tia	1655	985	1925	4565
Walters, Chris	355	2755	1265	4375
West	3150	1515	525	5190
Brennan, Michael	2750	550	400	3700
Dumlao, Richard	400	965	125	1490
Grand Total	9090	9160	5315	23565

Grouping by a Date Field

Consider the following PivotTable, wherein you have the employee data summarized by Count of EmployeeID, hiredate wise and title wise.

	A	B
1		
2		
3	Row Labels	Count of EmployeeID
4	6/30/2006	1
5	Production Technician - WC60	1
6	1/4/2011	1
7	North American Sales Manager	1
8	1/7/2011	1
9	Marketing Assistant	1
10	1/18/2011	1
11	Design Engineer	1
12	2/7/2011	1
13	Marketing Specialist	1
14	2/14/2011	1
15	Marketing Assistant	1
16	2/15/2011	1
17	Vice President of Sales	1
18	2/25/2011	1
19	Purchasing Manager	1
20	5/31/2011	9
21	Sales Representative	9
22	4/16/2012	1
23	European Sales Manager	1

Suppose you want to group this data by the HireDate field that is a Date field into years and quarters.

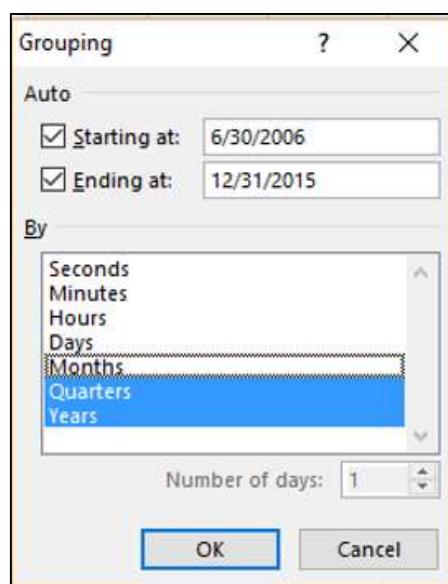
- Click on a Date item in the PivotTable.
- Click the ANALYZE tab on the Ribbon.
- Click Group Field in the group – Group.

The screenshot shows the Microsoft Excel ribbon with the 'ANALYZE' tab selected. In the 'Group' section of the ribbon, the 'Group Field' button is highlighted with a green box and a callout bubble labeled 'Group Field'. Below the ribbon, a PivotTable is displayed. The 'Row Labels' row contains the date '6/30/2006'. The first column of data is labeled 'Count of EmployeeID' and the second column is labeled 'Item of Date Field - HireDate'. The data shows various hire dates and their counts.

	Count of EmployeeID	Item of Date Field - HireDate
=6/30/2006	1	
=1/4/2011	1	Production Technician - WC60
=1/7/2011	1	North American Sales Manager
=1/18/2011	1	Marketing Assistant
=2/7/2011	1	Design Engineer
=2/14/2011	1	Marketing Specialist
=2/15/2011	1	Marketing Assistant
=2/25/2011	1	Vice President of Sales
=5/31/2011	9	Purchasing Manager
=4/16/2012	1	Sales Representative
European Sales Manager	1	

The Grouping dialog box appears.

- Set the dates for – Starting at and Ending at.
- Select Quarters and Years in the box under By. To select / deselect multiple items, keep the Ctrl-key pressed.
- Click OK.



The HireDate field values will be grouped into Quarters, nested in Years.

	A	B
1		
2		
3	Row Labels	Count of EmployeeID
4	2006	1
5	Qtr2	
6	Production Technician - WC60	1
7	2011	
8	Qtr1	7
9	Design Engineer	1
10	Marketing Assistant	2
11	Marketing Specialist	1
12	North American Sales Manager	1
13	Purchasing Manager	1
14	Vice President of Sales	1
15	Qtr2	9
16	Sales Representative	9
17	2012	
18	Qtr2	3
19	European Sales Manager	1
20	Sales Representative	2
21	Qtr3	1
22	Sales Representative	1
23	2013	

If you want to ungroup this grouping, you can do as shown earlier, by clicking **Ungroup** in the group – Group on the Ribbon.

Active Value Field Settings

You can set a field options by clicking on a value of that field. Consider the example of sales data that we used earlier in this chapter.

	A	B	C	D	E
1					
2					
3	Sum of Order Amount	Column Labels			
4	Row Labels	January	February	March	Grand Total
5	East	1690	1950	700	4340
6	Albertson, Kathy	925	1375	350	2650
7	Post, Melissa	765	575	350	1690
8	North	1140	1720	300	3160
9	Thompson, Shannon	1140	1720	300	3160
10	South	3110	3975	3790	10875
11	Davis, William	1100	235	600	1935
12	Flores, Tia	1655	985	1925	4565
13	Walters, Chris	355	2755	1265	4375
14	West	3150	1515	525	5190
15	Brennan, Michael	2750	550	400	3700
16	Dumiao, Richard	400	965	125	1490
17	Grand Total	9090	9160	5315	23565
18					

Suppose you want to set the options for the Region field.

- Click on East. On the Ribbon, in the Active Field group, in the Active Field box, Region will be displayed.
- Click on Field Settings. The **Field Settings** dialog box appears.

The screenshot shows a Microsoft Excel window with a PivotTable named 'PivotTable1'. The PivotTable has 'Region' selected in the 'Active Field' box on the ribbon. A callout arrow points from the text 'Field Settings' to the 'Field Settings' button on the ribbon. Another callout arrow points from the text 'Active Field' to the 'Active Field' box on the ribbon. A third callout arrow points from the text 'Field Settings Dialog Box' to the 'Field Settings' dialog box, which is overlaid on the Excel window. The dialog box shows 'Region' selected in the 'Source Name' field and 'Sum' selected in the 'Select one or more functions:' dropdown.

	January	February	March	Grand Total
Sum of Order Amount				
Row Labels	January	February	March	Grand Total
East	1690	1950	700	9140
Albertson, Kathy	925	1375	350	2650
Post, Melissa	765	575	350	1690
North	1140	1720	300	4160
Thompson, Shannon	1140	1720	300	4160
South	3110	3975	3790	10875
Davis, William	1100	235	600	1935
Flores, Tia	1655	985	1925	4565
Walters, Chris	355	2755	1265	4375
West	3150	1515	525	5185
Brennan, Michael	2750	550	400	3300
Dumla, Richard	400	965	125	1590
Grand Total	9090	9160	5315	23565

You can set your preferences for the field – Region.

PivotTable Options

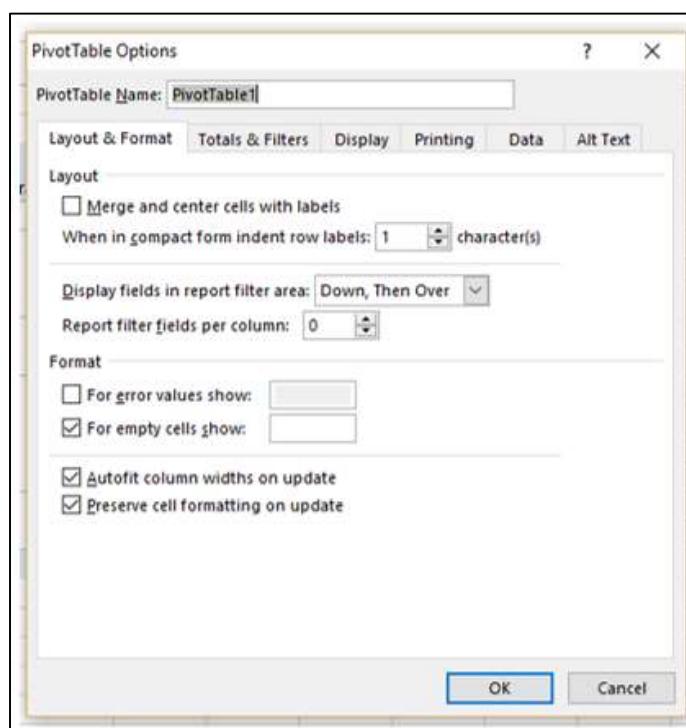
You can set the PivotTable Options according to your preferences.

- Click on the PivotTable.
- Click the ANALYZE tab.
- Click Options in the PivotTable group.

PivotTable Name: Active Field: PivotTable1 Region Drill Up / Drill Down Group Selection Group Options Options PivotTable Active Field Group Insert Slicer Filter Refresh Change Data Data Actions

		January	February	March	Grand Total
Row Labels	Region	1690	1950	700	4340
East	Albertson, Kathy	925	1375	350	2650
	Post, Melissa	765	575	350	1690
North	Thompson, Shannon	1140	1720	300	3160
	Davis, William	1100	1720	300	3160
South	Flores, Tia	1655	985	1925	4565
	Walters, Chris	355	2755	1265	4375
West	Brennan, Michael	3150	1515	525	5190
	Dumla, Richard	2750	550	400	3700
Grand Total		9090	9160	5315	23565

The **PivotTable Options** dialog box appears. You can set your preferences in the dialog box.



11. PivotTable – Summarizing Values

You can summarize a PivotTable by placing a field in Σ VALUES area in the PivotTable Fields Task pane. By default, Excel takes the summarization as sum of the values of the field in Σ VALUES area. However, you have other calculation types, such as, Count, Average, Max, Min, etc.

In this chapter, you will learn how to set a calculation type based on how you want to summarize the data in the PivotTable.

Sum

Consider the following PivotTable wherein you have the summarized sales data region-wise, salesperson-wise and month-wise.

The screenshot shows a Microsoft Excel spreadsheet with a PivotTable named "PivotTable4". The PivotTable displays sales data with rows grouped by Region (North, South, East, West) and columns grouped by Month (January, February, March). The "Grand Total" row and column are also present. The PivotTable Fields task pane is open on the right, showing the "Sum of Order Amount" field selected in the "VALUES" section. Other fields listed include Salesperson, Region, Account, Order Amount, and Month. The "Sum of Order Amount" field has a dropdown arrow indicating it can be modified.

	January	February	March	Grand Total
Region				
East	1690	1950	700	4340
Albertson, Kathy	925	1375	350	2650
Post, Melissa	765	575	350	1690
North	1140	1720	300	3160
Thompson, Shannon	1140	1720	300	3160
South	3110	3975	3790	10875
Davis, William	1100	235	600	1935
Flores, Tia	1655	985	1925	4565
Walters, Chris	355	2755	1265	4375
West	3150	1515	525	5190
Brennan, Michael	2750	550	400	3700
Dumfao, Richard	400	965	125	1490
Grand Total	9090	9160	5315	23565

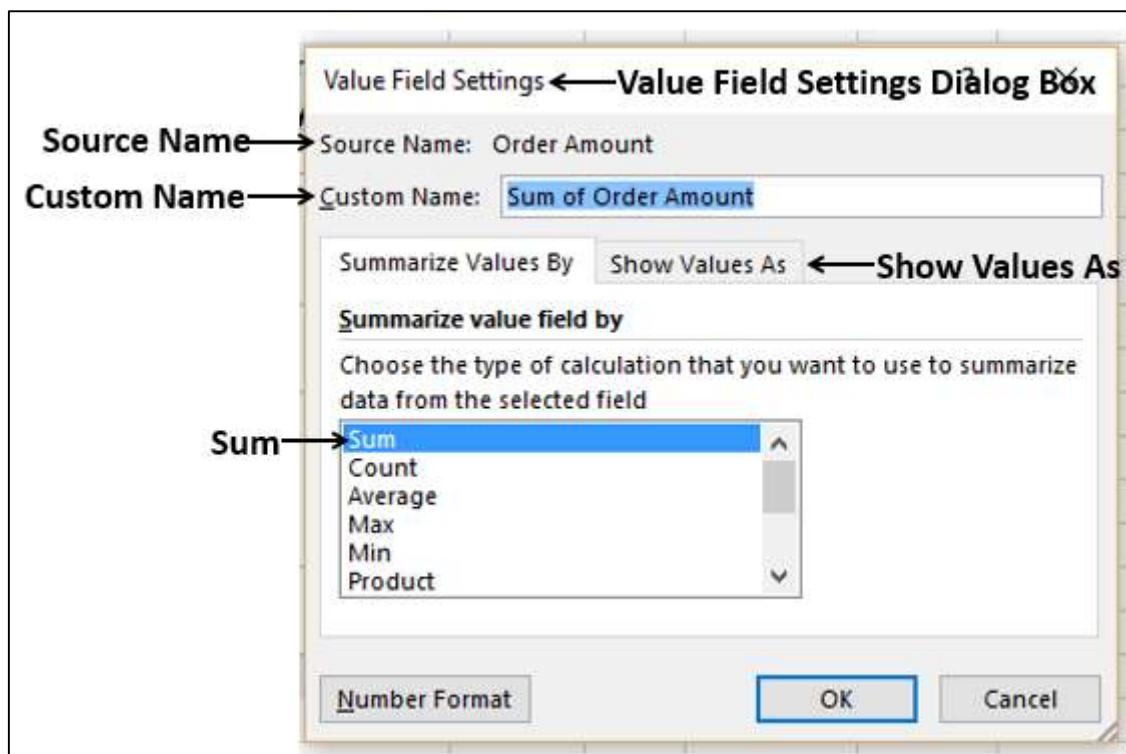
As you can observe, when you drag the field Order Amount to Σ VALUES area, it is displayed as Sum of Order Amount, indicating the calculation is taken as Sum. In the PivotTable, in the top-left corner, Sum of Order Amount is displayed. Further, Grand Total column and Grand Total row are displayed for subtotals field-wise in rows and columns respectively.

Value Field Settings

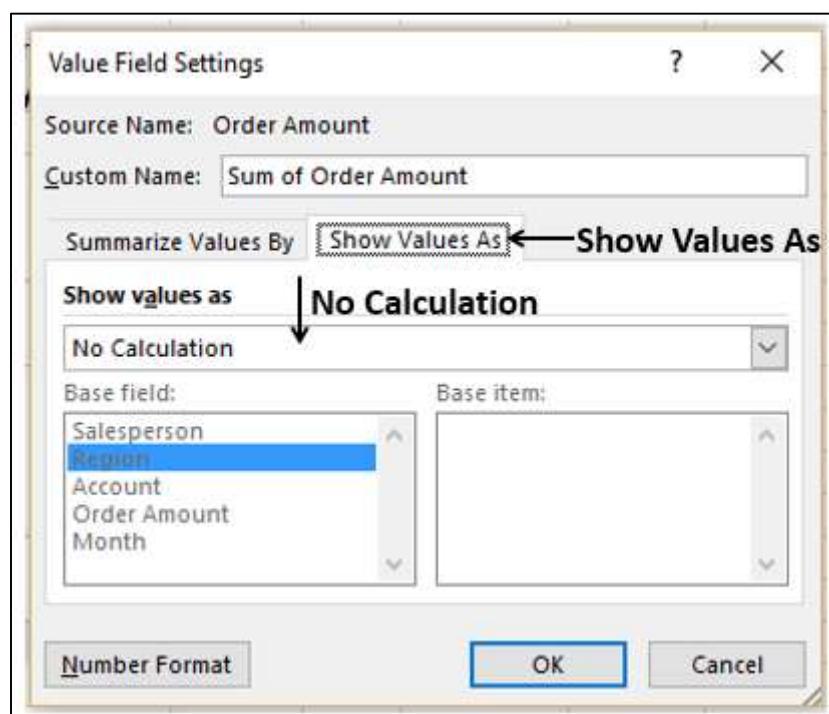
With Value Field Settings, you can set the calculation type in your PivotTable. You can also decide on how you want to display your values.

- Click on Sum of Order Amount in Σ VALUES area.
- Select Value Field Settings from the dropdown list.

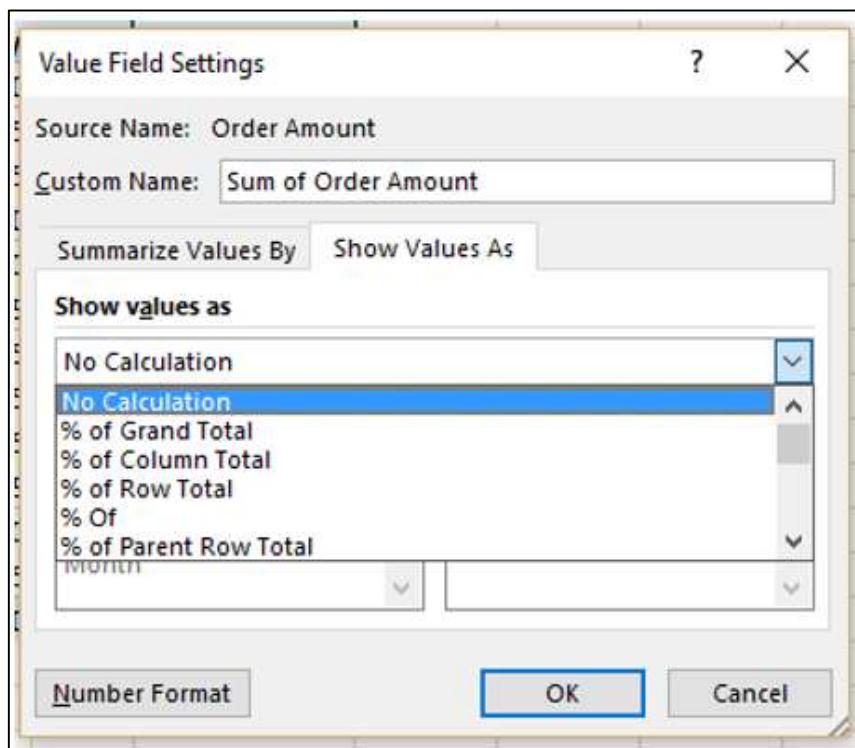
The Value Field Settings dialog box appears.



The Source Name is the field and Custom Name is Sum of field. Calculation Type is Sum. Click the **Show Values As** tab.



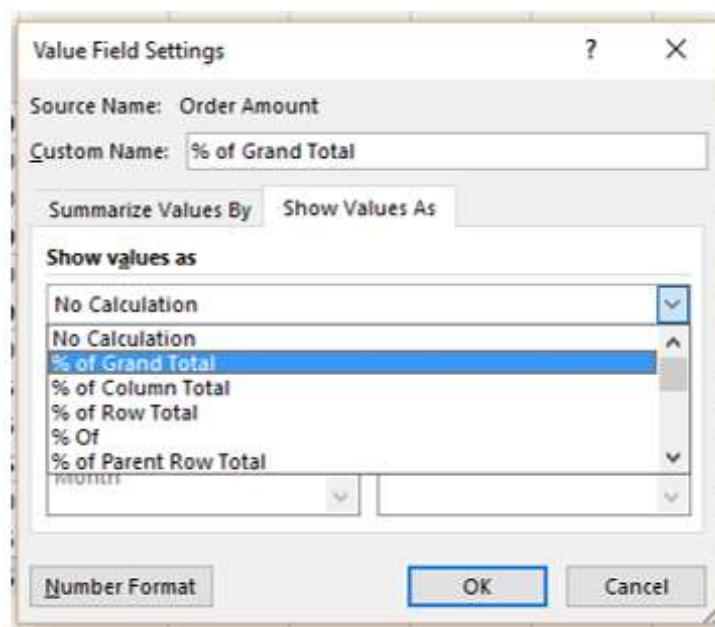
In the box Show Values As, **No Calculation** is displayed. Click the **Show Values As** box. You can find several ways of showing your total values.



% of Grand Total

You can show the values in the PivotTable as % of Grand Total.

- In the Custom Name box, type % of Grand Total.
- Click on the Show Values As box.
- Click on % of Grand Total in the dropdown list. Click OK.



The PivotTable summarizes the values as % of the Grand Total.

PivotTable Fields

Choose fields to add to report:

- Salesperson
- Region
- Account
- Order Amount
- Month

MORE TABLES...

Drag fields between areas below:

FILTERS

COLUMNS

Month	% of Grand Total
January	
February	
March	
Grand Total	38.57% 38.87% 22.55% 100.00%

ROWS

Σ VALUES

% of Grand T... ▾

Salesperson ▾

As you can observe, Sum of Order Amount in the top-left corner of the PivotTable and in the Σ VALUES area in the PivotTable Fields pane is changed to the new Custom Name - % of Grand Total.

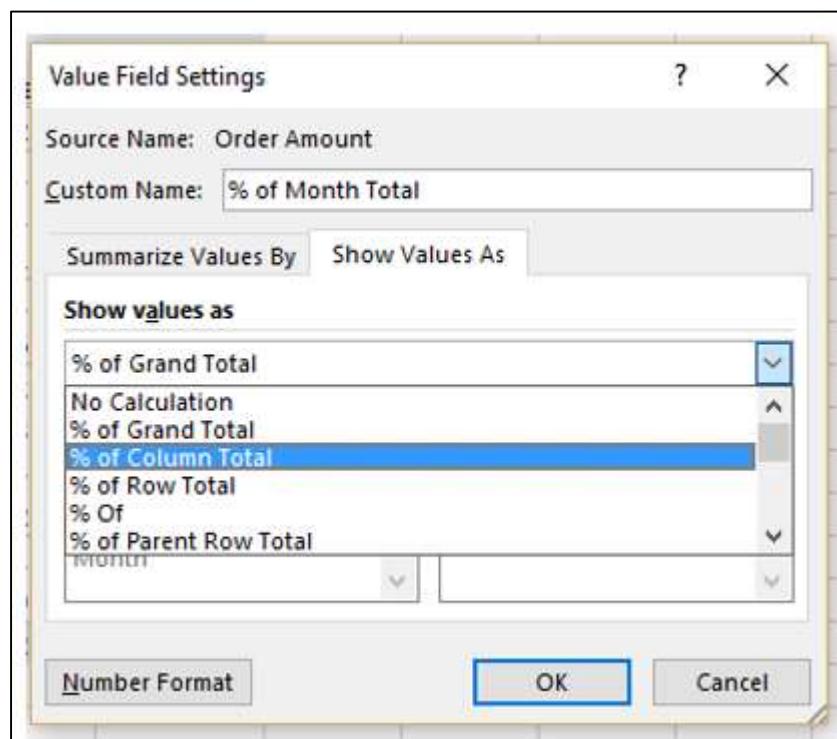
- Click on the header of the Grand Total column.
- Type % of Grand Total in the formula bar. Both the Column and Row headers will change to % of Grand Total.

A	B	C	D	E	
1					
2					
3	% of Grand Total	Column Labels ▾			
4	Row Labels	January	February	March	% of Grand Total
5	East	7.17%	8.27%	2.97%	18.42%
6	Albertson, Kathy	3.93%	5.83%	1.49%	11.25%
7	Post, Melissa	3.25%	2.44%	1.49%	7.17%
8	North	4.84%	7.30%	1.27%	13.41%
9	Thompson, Shannon	4.84%	7.30%	1.27%	13.41%
10	South	13.20%	16.87%	16.08%	46.15%
11	Davis, William	4.67%	1.00%	2.55%	8.21%
12	Flores, Tia	7.02%	4.18%	8.17%	19.37%
13	Walters, Chris	1.51%	11.69%	5.37%	18.57%
14	West	13.37%	6.43%	2.23%	22.02%
15	Brennan, Michael	11.67%	2.33%	1.70%	15.70%
16	Dumlao, Richard	1.70%	4.10%	0.53%	6.32%
17	Grand Total	38.57%	38.87%	22.55%	100.00%

% of Column Total

Suppose you want to summarize the values as % of each month total.

- Click on Sum of Order Amount in Σ VALUES area.
- Select Value Field Settings from the dropdown list. The Value Field Settings dialog box appears.
- In the Custom Name box, type % of Month Total.
- Click on the Show values as box.
- Select % of Column Total from the dropdown list.
- Click OK.



The PivotTable summarizes the values as % of the Column Total. In the Month columns, you will find the values as % of the specific month total.

- Click on the header of the Grand Total column.
- Type % of Column Total in the formula bar. Both the Column and Row headers will change to % of Column Total.

	% of Month Total	Column Labels			
Row Labels		January	February	March	% of Column Total
5 East		18.59%	21.29%	13.17%	18.42%
6 Albertson, Kathy		10.18%	15.01%	6.59%	11.25%
7 Post, Melissa		8.42%	6.28%	6.59%	7.17%
8 North		12.54%	18.78%	5.64%	13.41%
9 Thompson, Shannon		12.54%	18.78%	5.64%	13.41%
10 South		34.21%	43.40%	71.31%	46.15%
11 Davis, William		12.10%	2.57%	11.29%	8.21%
12 Flores, Tia		18.21%	10.75%	36.22%	19.37%
13 Walters, Chris		3.91%	30.08%	23.80%	18.57%
14 West		34.65%	16.54%	9.88%	22.02%
15 Brennan, Michael		30.25%	6.00%	7.53%	15.70%
16 Dumlao, Richard		4.40%	10.53%	2.35%	6.32%
17 % of Column Total		100.00%	100.00%	100.00%	100.00%

% of Row Total

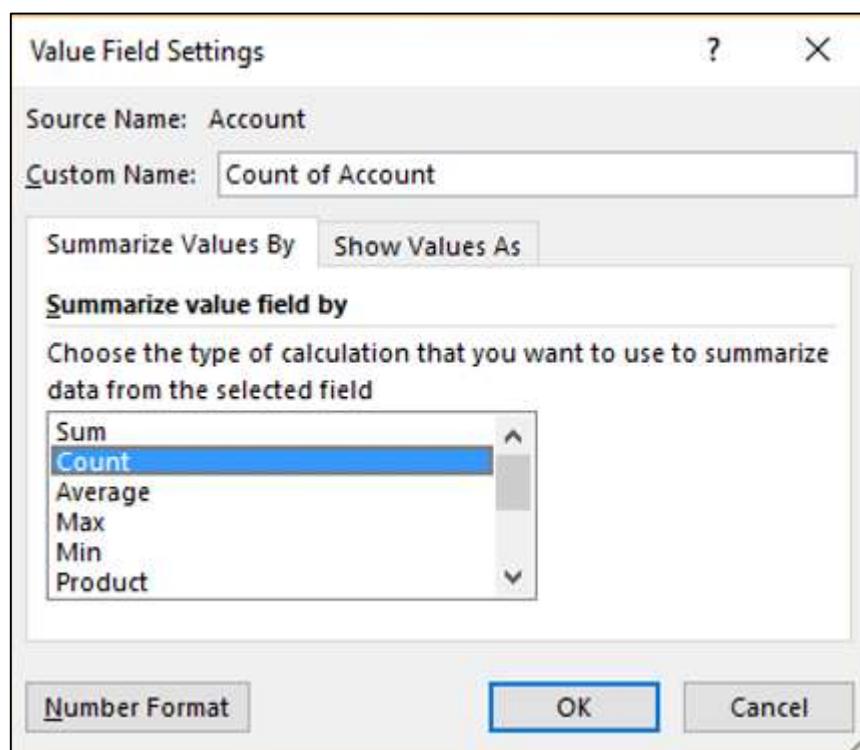
You can summarize the values as % of region totals and % of salesperson totals, by selecting % of Row Total in Show Values As box in the Value Field Settings dialog box.

	A	B	C	D	E
	% of Row Total	Column Labels			
Row Labels		January	February	March	% of Row Total
5 East		38.94%	44.93%	16.13%	100.00%
6 Albertson, Kathy		34.91%	51.89%	13.21%	100.00%
7 Post, Melissa		45.27%	34.02%	20.71%	100.00%
8 North		36.08%	54.43%	9.49%	100.00%
9 Thompson, Shannon		36.08%	54.43%	9.49%	100.00%
10 South		28.60%	36.55%	34.85%	100.00%
11 Davis, William		56.85%	12.14%	31.01%	100.00%
12 Flores, Tia		36.25%	21.58%	42.17%	100.00%
13 Walters, Chris		8.11%	62.97%	28.91%	100.00%
14 West		60.69%	29.19%	10.12%	100.00%
15 Brennan, Michael		74.32%	14.86%	10.81%	100.00%
16 Dumlao, Richard		26.85%	64.77%	8.39%	100.00%
17 % of Row Total		38.57%	38.87%	22.55%	100.00%

Count

Suppose you want to summarize the values by the number of Accounts region wise, salesperson wise and month wise.

- Deselect Order Amount.
- Drag Account to Σ VALUES area. The Sum of Account will be displayed in the Σ VALUES area.
- Click on Sum of Account.
- Select Value Field Settings from the dropdown list. The Value Field Settings dialog box appears.
- In the Summarize value field by box, select Count. The Custom Name changes to Count of Account.
- Click OK.



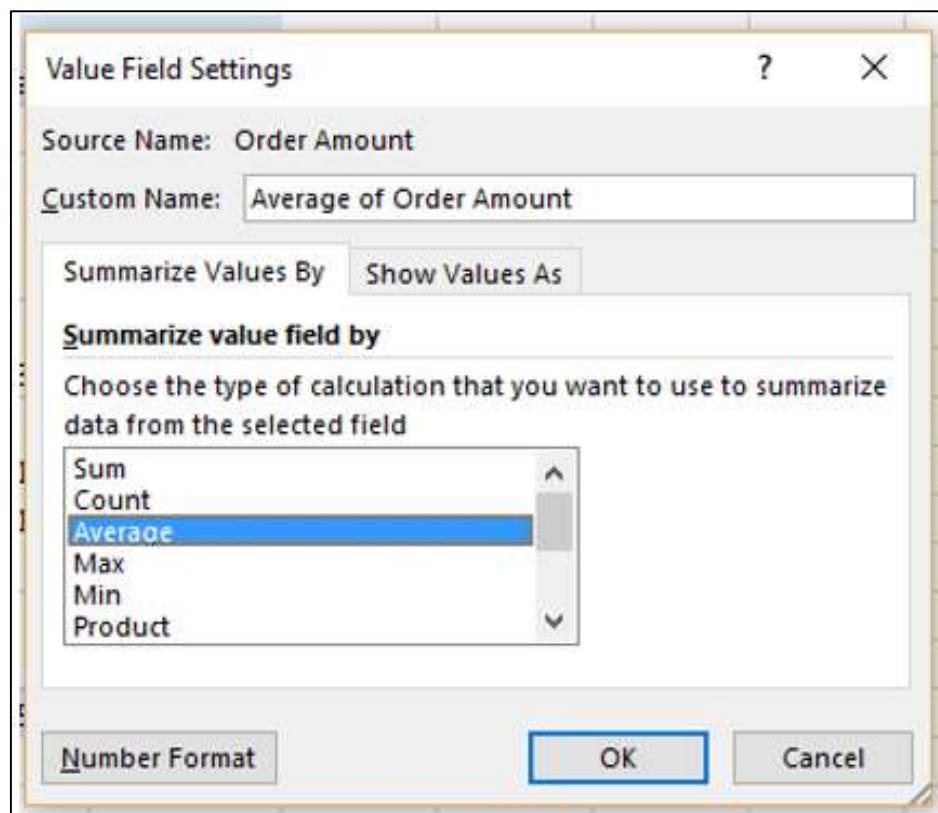
The Count of Account will be displayed as shown below-

	A	B	C	D	E
1					
2					
3	Count of Account	Column Labels			
4	Row Labels	January	February	March	Grand Total
5	East	2	4	2	8
6	Albertson, Kathy	1	2	1	4
7	Post, Melissa	1	2	1	4
8	North	2	2	1	5
9	Thompson, Shannon	2	2	1	5
10	South	7	5	6	18
11	Davis, William	2	1	1	4
12	Flores, Tia	2	2	2	6
13	Walters, Chris	3	2	3	8
14	West	4	2	2	8
15	Brennan, Michael	3	1	1	5
16	Dumlao, Richard	1	1	1	3
17	Grand Total	15	13	11	39

Average

Suppose you want to summarize the PivotTable by average values of Order Amount region wise, salesperson wise and month wise.

- Deselect Account.
- Drag Order Amount to Σ VALUES area. The Sum of Order Amount will be displayed in the Σ VALUES area.
- Click on Sum of Order Amount.
- Click on Value Field Settings in the dropdown list. The Value Field Settings dialog box appears.
- In the Summarize value field by box, click on Average. The Custom Name changes to Average of Order Amount.
- Click OK.

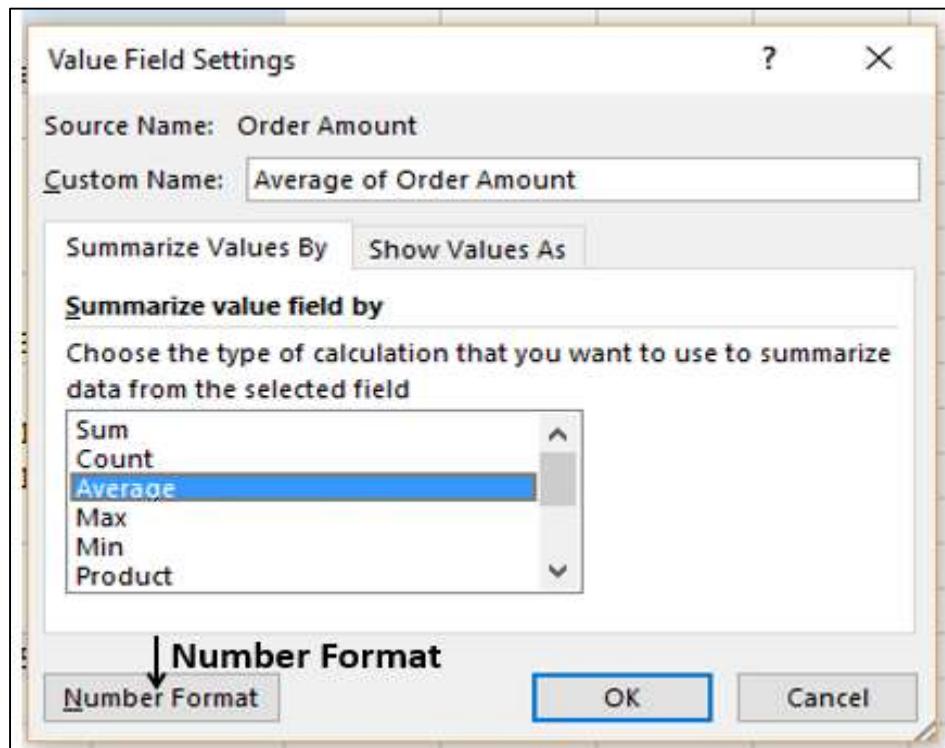


The average will be displayed as shown below-

	A	B	C	D	E
1					
2					
3	Average of Order Amount	Column Labels			
4	Row Labels	January	February	March	Grand Total
5	East	845	487.5	350	542.5
6	Albertson, Kathy	925	687.5	350	662.5
7	Post, Melissa	765	287.5	350	422.5
8	North	570	860	300	632
9	Thompson, Shannon	570	860	300	632
10	South	444.2857143	795	631.66666667	604.16666667
11	Davis, William	550	235	600	483.75
12	Flores, Tia	827.5	492.5	962.5	760.83333333
13	Walters, Chris	118.33333333	1377.5	421.66666667	546.875
14	West	787.5	757.5	262.5	648.75
15	Brennan, Michael	916.66666667	550	400	740
16	Dumlao, Richard	400	965	125	496.66666667
17	Grand Total	606	704.6153846	483.1818182	604.2307692

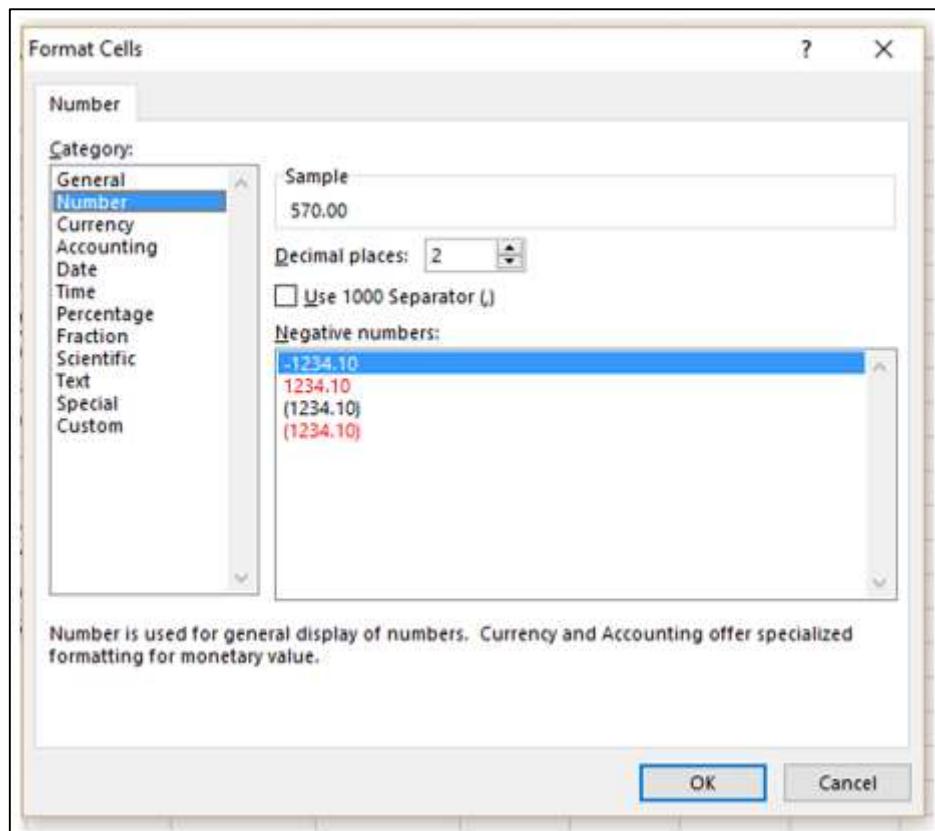
You have to set the number format of the values in the PivotTable to make it more presentable.

- Click on Average of Order Amount in Σ VALUES area.
- Click on Value Field Settings in the dropdown list. The Value Field Settings dialog box appears.
- Click on the Number Format button.



The Format Cells dialog box appears.

- Click on Number under Category.
- Type 2 in the Decimal places box and click OK.



The PivotTable values will be formatted to numbers with two decimal places.

	A	B	C	D	E
1					
2					
3	Average of Order Amount	Column Labels			
4	Row Labels	January	February	March	Grand Total
5	East	845.00	487.50	350.00	542.50
6	Albertson, Kathy	925.00	687.50	350.00	662.50
7	Post, Melissa	765.00	287.50	350.00	422.50
8	North	570.00	860.00	300.00	632.00
9	Thompson, Shannon	570.00	860.00	300.00	632.00
10	South	444.29	795.00	631.67	604.17
11	Davis, William	550.00	235.00	600.00	483.75
12	Flores, Tia	827.50	492.50	962.50	760.83
13	Walters, Chris	118.33	1377.50	421.67	546.88
14	West	787.50	757.50	262.50	648.75
15	Brennan, Michael	916.67	550.00	400.00	740.00
16	Dumlao, Richard	400.00	965.00	125.00	496.67
17	Grand Total	606.00	704.62	483.18	604.23

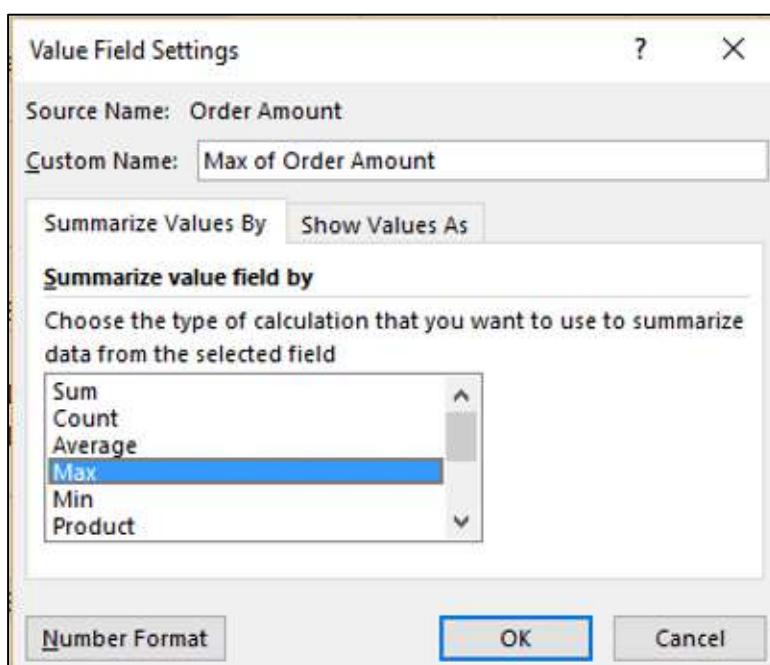
- Click on the header of the Grand Total column.
- Type Average Order Amount in the formula bar. Both the Column and Row headers will change to Average Order Amount.

	A	B	C	D	E
1					
2					
3	Average of Order Amount	Column Labels			
4	Row Labels	January	February	March	Average Order Amount
5	East	845.00	487.50	350.00	542.50
6	Albertson, Kathy	925.00	687.50	350.00	662.50
7	Post, Melissa	765.00	287.50	350.00	422.50
8	North	570.00	860.00	300.00	632.00
9	Thompson, Shannon	570.00	860.00	300.00	632.00
10	South	444.29	795.00	631.67	604.17
11	Davis, William	550.00	235.00	600.00	483.75
12	Flores, Tia	827.50	492.50	962.50	760.83
13	Walters, Chris	118.33	1377.50	421.67	546.88
14	West	787.50	757.50	262.50	648.75
15	Brennan, Michael	916.67	550.00	400.00	740.00
16	Dumlao, Richard	400.00	965.00	125.00	496.67
17	Average Order Amount	606.00	704.62	483.18	604.23

Max

Suppose you want to summarize the PivotTable by the maximum values of Order Amount region-wise, salesperson-wise and month-wise.

- Click on Sum of Order Amount.
- Select Value Field Settings from the dropdown list. The Value Field Settings dialog box appears.
- In the Summarize value field by box, click Max. The Custom Name changes to Max of Order Amount.



The PivotTable will display the maximum values region wise, salesperson wise and month wise.

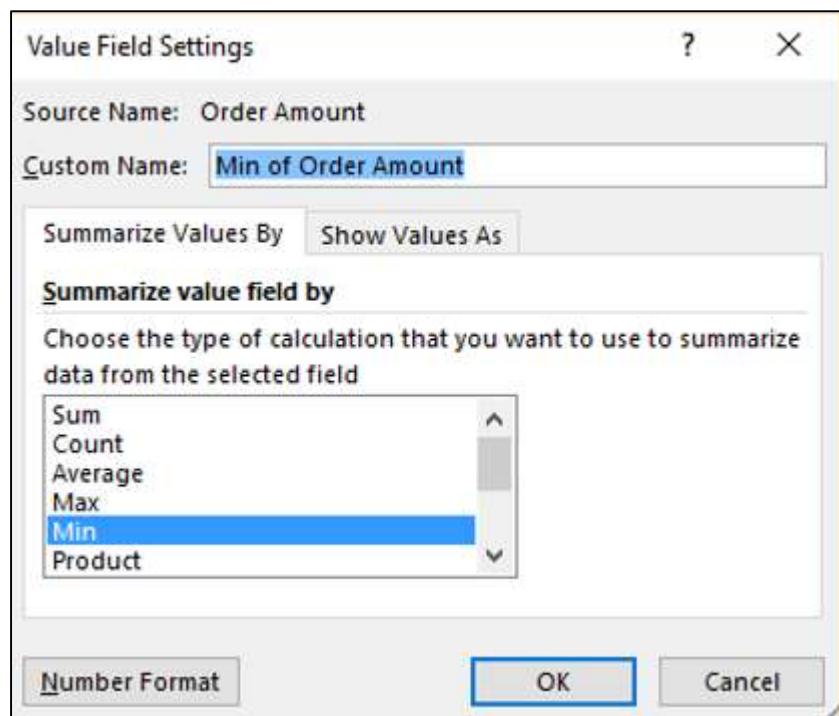
- Click on the header the Grand Total column.
- Type Max Order Amount in the formula bar. Both the Column and Row headers will change to Max Order Amount.

	A	B	C	D	E
1					
2					
3	Max of Order Amount	Column Labels			
4	Row Labels	January	February	March	Max Order Amount
5	East	925	875	350	925
6	Albertson, Kathy	925	875	350	925
7	Post, Melissa	765	425	350	765
8	North	875	1345	300	1345
9	Thompson, Shannon	875	1345	300	1345
10	South	1350	2600	1500	2600
11	Davis, William	850	235	600	850
12	Flores, Tia	1350	550	1500	1500
13	Walters, Chris	225	2600	785	2600
14	West	1500	965	400	1500
15	Brennan, Michael	1500	550	400	1500
16	Dumlao, Richard	400	965	125	965
17	Max Order Amount	1500	2600	1500	2600

Min

Suppose you want to summarize the PivotTable by the minimum values of Order Amount region wise, salesperson wise and month wise.

- Click on Sum of Order Amount.
- Click on Value Field Settings in the dropdown list. The Value Field Settings dialog box appears.
- In the Summarize value field by box, click **Min**. The Custom Name changes to Min of Order Amount.



The PivotTable will display the minimum values region wise, salesperson wise and month wise.

- Click on the header of the Grand Total column.
- Type Min Order Amount in the formula bar. Both the Column and Row headers will change to Min Order Amount.

	A	B	C	D	E
1					
2					
3	Min of Order Amount	Column Labels			
4	Row Labels	January	February	March	Min Order Amount
5	East	765	150	350	150
6	Albertson, Kathy	925	500	350	350
7	Post, Melissa	765	150	350	150
8	North	265	375	300	265
9	Thompson, Shannon	265	375	300	265
10	South	25	155	225	25
11	Davis, William	250	235	600	235
12	Flores, Tia	305	435	425	305
13	Walters, Chris	25	155	225	25
14	West	400	550	125	125
15	Brennan, Michael	400	550	400	400
16	Dumlao, Richard	400	965	125	125
17	Min Order Amount	25	150	125	25

12. PivotTable – Updating Data

You have learnt how to summarize data with a PivotTable. The data on which the PivotTable is based might be updated either periodically or on occurrence of an event. Further, you also might require to change the PivotTable Layout for different reports.

In this chapter, you will learn the different ways of updating the Layout and / or refreshing the data in a PivotTable.

Updating PivotTable Layout

You can decide whether your PivotTable is to be updated whenever you make changes to the layout or it is to be updated by a separate trigger.

As you have learnt earlier, in the PivotTable Fields task pane, on the bottom side, you will find a check box for Defer Layout Update. By default, it is unchecked, which means the PivotTable Layout gets updated as soon as you make changes in the PivotTable areas.

The screenshot shows a Microsoft Excel spreadsheet titled "Excel PivotTables 3.xlsx". A PivotTable is displayed in the range A3:E13, showing sales data for February. The PivotTable Fields task pane is open on the right, under the "PIVOTTABLE TOOLS" tab, specifically the "ANALYZE" tab. In the "ROWS" section, "Salesperson" is selected. In the "VALUES" section, "Sum of Order ... Region" is selected. A red arrow points to the "Defer Layout Update" checkbox in the task pane, which is currently unchecked. Other visible checkboxes include "Sales", "Region", "Month", "Order Amount", and "Salesperson" under the "Choose fields to add to report" section.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
3	Sum of Order Amount	Column Labels														
4	Row Labels	- February	January	March	Grand Total											
5	Albertson, Kathy		1375	925	350	2650										
6	East		1375	925	350	2650										
7	Brennan, Michael		550	2750	400	3700										
8	West		550	2750	400	3700										
9	Davis, William		235	1100	600	1935										
10	South		235	1100	600	1935										
11	Thompson, Shannon		1720	1140	300	3160										
12	North		1720	1140	300	3160										
13	Grand Total		3880	5915	1650	11445										

Check the option – **Defer Layout Update**.

The UPDATE button next to it will be enabled. If you make any changes to the PivotTable areas, the changes will be reflected only after you click on the UPDATE button.

The screenshot shows a Microsoft Excel window with a PivotTable named "Active Field". The PivotTable Fields pane on the right lists fields from the "Sales" table: Sales, Region, Month, Order Amount, Salesperson, and Region. The "VALUES" section has "Sum of Order Amount" selected. A red arrow points to the "UPDATE" button at the bottom right of the pane.

Refreshing PivotTable Data

When the data of a PivotTable is changed in its source, the same can be reflected in the PivotTable by refreshing it.

- Click on the PivotTable.
- Click the ANALYZE tab on the Ribbon.
- Click Refresh in the Data group.

The screenshot shows a Microsoft Excel window with the ANALYZE tab selected in the ribbon. The Data group is open, showing options like Refresh, Refresh All, and Connection Properties. Arrows point from the text labels to each of these options.

There are different options to refresh the data in the dropdown list-

- **Refresh** – To get the latest data from the source connected to the active cell.
- **Refresh All** – To get the latest data by refreshing all sources in the workbook.
- **Connection Properties** – To set the refresh properties for the workbook connections.

Changing the Source Data of a PivotTable

You can change the range of the source data of a PivotTable. For e.g., you can expand the source data to include more number of rows of data.

However, if the source data has been changed substantially, such as having more or fewer columns, consider creating a new PivotTable.

- Click on the PivotTable. **PIVOTTABLE TOOLS** appear on the Ribbon.
- Click the ANALYZE tab.
- Click Change Data Source in the Data group.

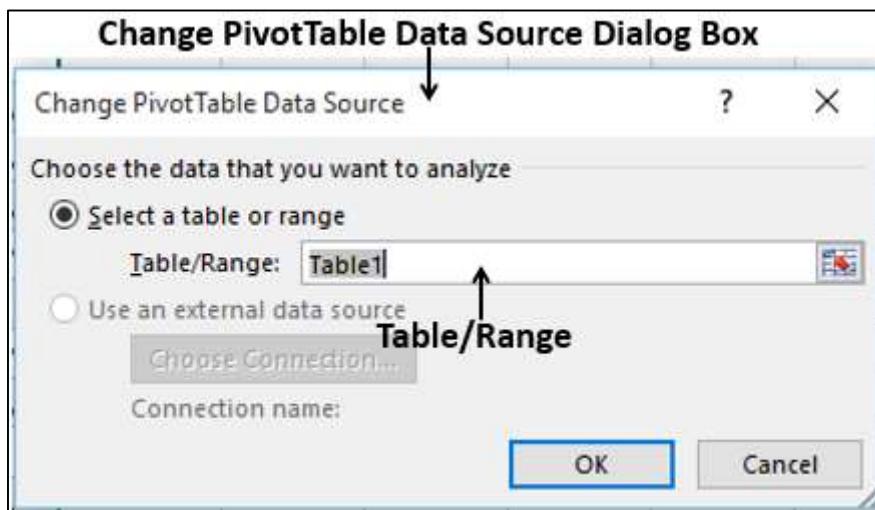
The screenshot shows a Microsoft Excel spreadsheet titled "Excel2013_Pivot_Practice.xlsx". A PivotTable is selected, and the "PIVOTTABLE TOOLS" ribbon is open with the "ANALYZE" tab selected. In the Data group, the "Change Data Source" button is highlighted with a black arrow. The PivotTable Fields pane on the right lists fields: Salesperson, Region, Account, Order Amount, and Month, all checked. Below it, the "ROWS" section shows "Region" and "Salesperson", and the "VALUES" section shows "Sum of Order".

Select Change Data Source from the dropdown list.

Change PivotTable Data Source dialog box appears and the current Data Source will be highlighted.

The screenshot shows the "Change PivotTable Data Source" dialog box in the foreground, with the "Select a table or range" option selected and "Table/Range: Table1" entered. Behind it, the main Excel window shows a table named "Table1" with data for various salespeople across different regions and months. A list of tables is visible in the "PivotTable Data Source" dropdown, including "Table1", "Table2", and "Table3".

Select the Table or the Range you want to include in the Table/Range Box under Select a Table or Range. Click OK.

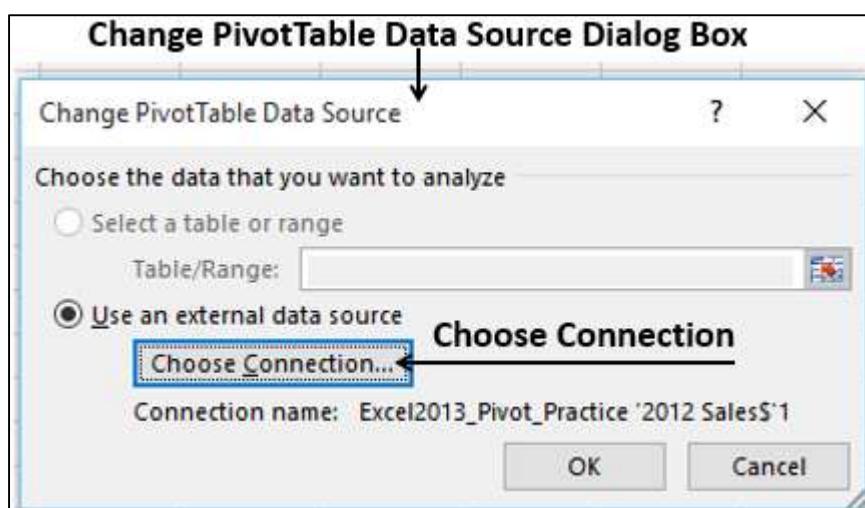


The data source for the PivotTable will be changed to the selected Table/Range of data.

Changing to External Data Source

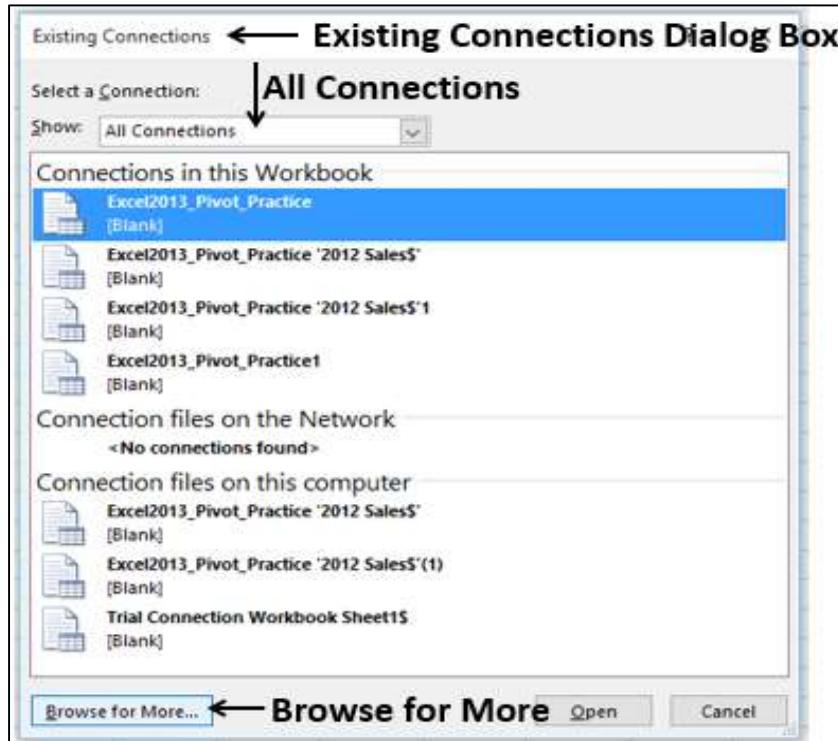
If you want to change the data source for your PivotTable that is an external one, it might be best to create a new PivotTable. However, if the location of your external data source is changed, for example, your SQL Server database name is the same, but it has been moved to a different server, or your Access database has been moved to another network share, you can change your current data connection to reflect the same.

- Click on the PivotTable.
- Click the ANALYZE tab on the Ribbon.
- Click **Change Data Source** in the Data group. The **Change PivotTable Data Source** dialog box appears.
- Click the **Choose Connection** button.



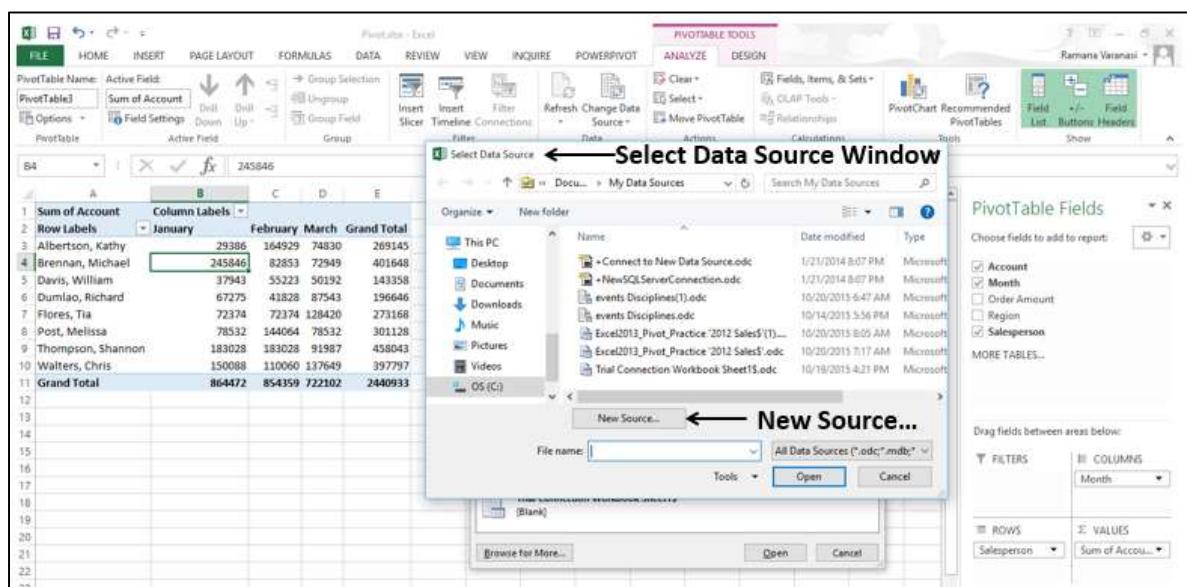
The **Existing Connections** dialog box appears.

- Select All Connections in the Show box. All the Connections in your Workbook will be displayed.
- Click the **Browse for More** button.



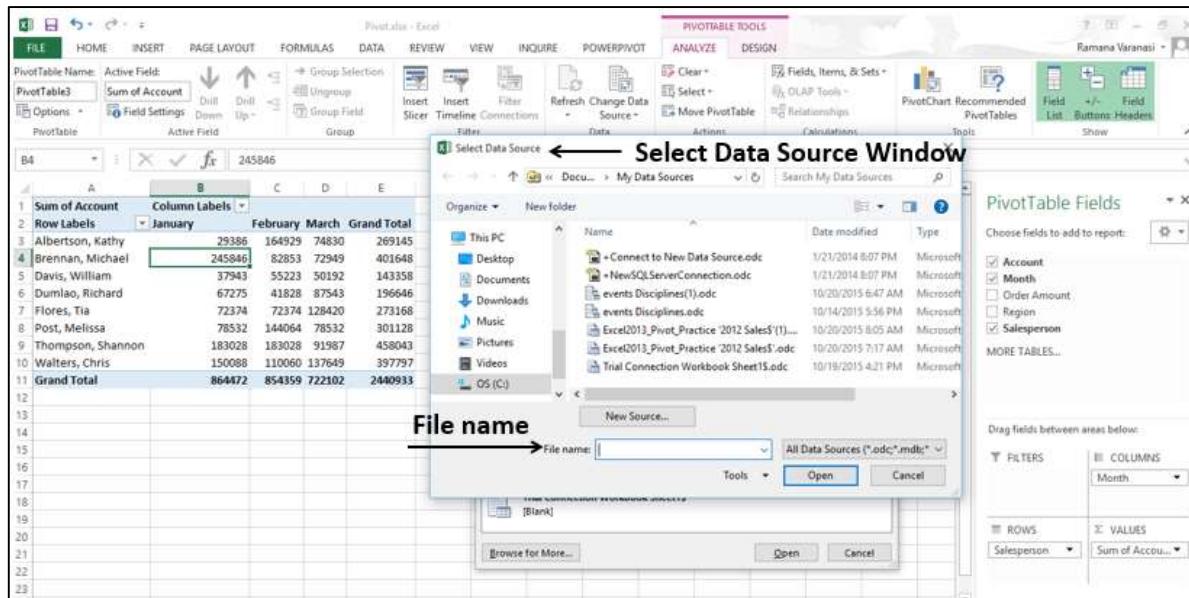
The **Select Data Source** window appears.

- Click on the New Source button.
- Go through the Data Connection Wizard Steps.



If your data source is in another Excel workbook, do the following –

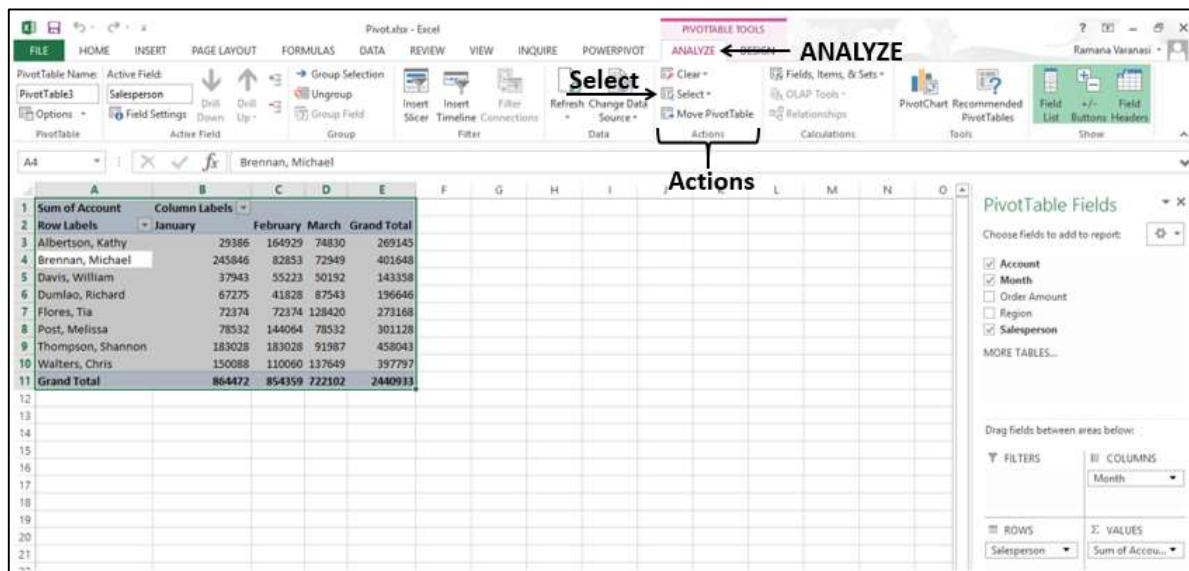
- Click on the File name box.
- Select the workbook file name.



Deleting a PivotTable

You can delete a PivotTable as follows –

- Click on the PivotTable.
- Click the ANALYZE tab on the Ribbon.
- Click Select in the Actions group.



Select **Entire PivotTable** from the dropdown list. The entire PivotTable will be selected.

A screenshot of the Microsoft Excel ribbon. The 'PivotTable' tab is selected. In the 'ANALYZE' tab, the 'Select' button is highlighted with a green border. A callout arrow points to the 'Entire PivotTable' option in the dropdown menu, which is also highlighted with a green border. The PivotTable Fields pane on the right shows fields like Account, Month, Order Amount, Region, and Salesperson.

Press the Delete Key. The PivotTable will be deleted.

A screenshot of the Microsoft Excel ribbon. The 'HOME' tab is selected. A callout arrow points to the 'Entire PivotTable' area, which is highlighted with a green border. The PivotTable has been deleted, leaving a blank rectangular area on the worksheet.

If the PivotTable is on a separate worksheet, you can also delete the PivotTable by deleting the entire worksheet.

Right-click on the worksheet tab and select **Delete** from the dropdown list.

Excel PivotTables

The screenshot shows a Microsoft Excel window with the ribbon menu open. A PivotTable is displayed in the main workspace, showing data for Salespeople across different Regions and months. The PivotTable Fields pane on the right lists fields like Salesperson, Region, Account, Order Amount, and Month. A context menu is open over a cell in the PivotTable, with the 'Delete' option highlighted. An arrow points from the text 'Delete' to this option. In the bottom left corner of the Excel window, there is a label 'Worksheet tab' with an arrow pointing towards the 'Sheet1' tab at the bottom.

	January	February	March	Grand Total
Region				
East	1690	1950	700	4340
Albertson, Kathy	925	1375	350	2650
Post, Melissa	765	575	350	1690
North	1140	1720	300	3160
Thompson, Shannon	1140	1720	300	3160
South	3110	3975	3790	10875
Davis, Will	1100	235	600	1935
Flores, Tia		985	1925	4565
Walters, Ch	355	2755	1265	4375
West	3150	1515	525	5190
Brennan, M	2750	550	400	3700
Dumiao, Rick	400	965	125	1490
Grand Total	9090	9160	5315	23565

The entire worksheet along with the PivotTable is deleted.

13. PivotTable – Reports

Major use of PivotTable is reporting. Once you have created a PivotTable, explored the data by arranging and rearranging the fields in its rows and columns, you will be ready to present the data to a wide range of audience. With filters, different summarizations, focusing on specific data, you will be able to generate several required reports based on a single PivotTable.

As a PivotTable report is interactive, you can quickly make the necessary changes to highlight the specific results, such as data trends, data summarizations, etc. while presenting it. You can also provide visual cues such as report filters, slicers, timeline, PivotCharts, etc. to the recipients so that they can visualize the details they want.

In this chapter, you will learn the different ways of making your PivotTable reports appealing with visual cues that enable quick exploration of the data.

Hierarchies

You have learnt how to nest fields to form a hierarchy, in the Chapter – Nesting in a PivotTable in this tutorial. You have also learnt how to group / ungroup data in a PivotTable in the Chapter – Using PivotTable Tools. We will take few examples to show you how to produce interactive PivotTable reports with hierarchies.

If you have an in-built structure for the fields in your data, such as, Year-Quarter-Month, nesting the fields to form a hierarchy will enable you to quickly expand/collapse fields to view the summarized values at the required level.

For example, suppose you have the sales data for the fiscal year 2015-16 for the regions – East, North, South and West, as given below.

A	B	C	D	E	F	G
1	Salesperson	Region	Year	Quarter	Month	Order Amount
2	Albertson, Kathy	East	2016	Quarter 4	January	925.00
3	Albertson, Kathy	East	2016	Quarter 4	February	875.00
4	Albertson, Kathy	East	2016	Quarter 4	February	500.00
5	Albertson, Kathy	East	2016	Quarter 4	March	350.00
6	Brennan, Michael	West	2016	Quarter 4	January	400.00
7	Brennan, Michael	West	2016	Quarter 4	January	850.00
8	Brennan, Michael	West	2016	Quarter 4	January	1500.00
9	Brennan, Michael	West	2016	Quarter 4	February	550.00
10	Brennan, Michael	West	2016	Quarter 4	March	400.00
11	Davis, William	South	2015	Quarter 1	April	235.00
12	Davis, William	South	2015	Quarter 1	April	850.00
13	Davis, William	South	2015	Quarter 1	June	600.00
14	Davis, William	South	2015	Quarter 1	June	250.00
15	Dumlao, Richard	West	2015	Quarter 2	August	400.00
16	Dumlao, Richard	West	2015	Quarter 2	September	965.00
17	Dumlao, Richard	West	2015	Quarter 3	October	125.00
18	Flores, Tia	South	2015	Quarter 3	November	1500.00
19	Flores, Tia	South	2015	Quarter 1	May	305.00
20	Flores, Tia	South	2015	Quarter 2	July	1350.00
21	Flores, Tia	South	2016	Quarter 4	February	435.00
22	Flores, Tia	South	2016	Quarter 4	February	550.00
23	Flores, Tia	South	2015	Quarter 2	October	425.00

Create a PivotTable as shown below.

A	B	C	D	E	F
1	2 Sum of Order Amount	Column Labels			
3	Row Labels	East	North	South	West
4	2015	1690	2785	8625	1490
5	Quarter 1		2240		2240
6	April		1085		1085
7	May		305		305
8	June		850		850
9	Quarter 2	150	2785	1680	1365
10	July	150		1350	1500
11	August		1645	330	400
12	September		1140		965
13	Quarter 3	1540		4705	125
14	October		765		425
15	November		425		125
16	December		350		2105
17	2016	2650	375	2250	3700
18	Quarter 4	2650	375	2250	3700
19	January		925		2750
20	February		1375	375	985
21	March		350		550
22	Grand Total	4340	3160	10875	5190
23					23565

As you can observe, this is a comprehensive way of reporting the data using the nested fields as a hierarchy. If you want to display the results only at the level of Quarters, you can quickly collapse the Quarter field.

	A	B	C	D	E	F
1						
2	Sum of Order Amount	Column Labels				
3	Row Labels	East	North	South	West	Grand Total
4	2015	1690	2785	8625	1490	14590
5	+ Quarter 1			2240		2240
6	+ Quarter 2	150	2785	1680	1365	5980
7	+ Quarter 3	1540		4705	125	6370
8	2016	2650	375	2250	3700	8975
9	+ Quarter 4	2650	375	2250	3700	8975
10	Grand Total	4340	3160	10875	5190	23565
11						

Suppose you have a Date field in your data as shown below.

A	B	C	D	E
2	Salesperson	Region	Order Date	Order Amount
3	Albertson, Kathy	East	1/14/2016	925.00
4	Albertson, Kathy	East	2/22/2016	875.00
5	Albertson, Kathy	East	2/11/2016	500.00
6	Albertson, Kathy	East	3/7/2016	350.00
7	Brennan, Michael	West	1/20/2016	400.00
8	Brennan, Michael	West	1/30/2016	850.00
9	Brennan, Michael	West	1/9/2016	1500.00
10	Brennan, Michael	West	2/6/2016	550.00
11	Brennan, Michael	West	3/30/2016	400.00
12	Davis, William	South	4/21/2015	235.00
13	Davis, William	South	4/9/2015	850.00
14	Davis, William	South	6/26/2015	600.00
15	Davis, William	South	6/24/2015	250.00
16	Dumlao, Richard	West	8/18/2015	400.00
17	Dumlao, Richard	West	9/9/2015	965.00
18	Dumlao, Richard	West	10/21/2015	125.00
19	Flores, Tia	South	11/22/2015	1500.00
20	Flores, Tia	South	5/20/2015	305.00
21	Flores, Tia	South	7/17/2015	1350.00
22	Flores, Tia	South	2/19/2016	435.00
23	Flores, Tia	South	2/3/2016	550.00
24	Flores, Tia	South	10/6/2015	425.00
n.r.				

In such a case, you can group the data by the Date field as follows –

Create a PivotTable.

	A	B	C	D	E	F
1						
2						
3	Sum of Order Amount	Column Labels				
4	Row Labels	East	North	South	West	Grand Total
5	Albertson, Kathy	2650				2650
6	1/14/2016	925				925
7	2/11/2016	500				500
8	2/22/2016	875				875
9	3/7/2016	350				350
10	Brennan, Michael		3700			3700
11	1/9/2016		1500			1500
12	1/20/2016		400			400
13	1/30/2016		850			850
14	2/6/2016		550			550
15	3/30/2016		400			400
16	Davis, William	1935				1935
17	4/9/2015	850				850
18	4/21/2015	235				235
19	6/24/2015	250				250
20	6/26/2015	600				600
21	Dumlao, Richard		1490			1490
22	8/18/2015		400			400
23	9/9/2015		965			965
24	10/1/2015		105			105

As you can observe, this PivotTable is not convenient to highlight significant data.

- Group the PivotTable by Date field. (You have learnt grouping in the Chapter – Exploring Data with PivotTable Tools in this tutorial).
- Place the Salesperson field in Filters area.
- Filter the Column labels to East Region.

A	B	C
1 Salesperson	(All)	
4 Row Labels	Column Labels	
5 2015		
6 Qtr3		
7 Jul	150	150
8 Qtr4		
9 Oct	765	765
10 Nov	425	425
11 Dec	350	350
12 2016		
13 Qtr1		
14 Jan	925	925
15 Feb	1375	1375
16 Mar	350	350
17 Grand Total	4340	4340
18		

Report Filter

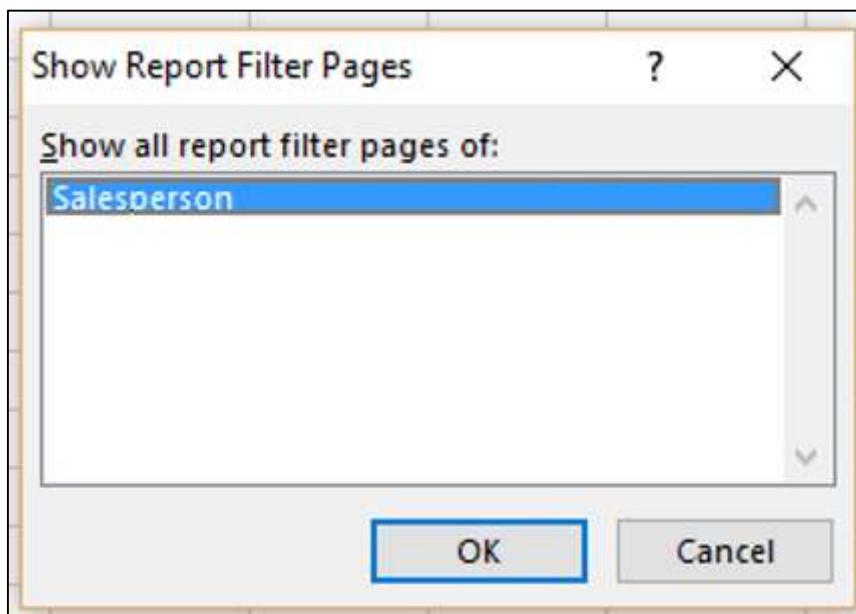
Suppose you want a report for each Salesperson separately. You can do it as follows-

- Ensure that you have Salesperson field in Filters area.
- Click on the PivotTable.
- Click the ANALYZE tab on the Ribbon.
- Click the arrow next to Options in the PivotTable group.
- Select Show Report Filter Pages from the dropdown list.

The screenshot shows the Microsoft Excel ribbon with the 'ANALYZE' tab selected. Under the 'PIVOTABLE TOOLS' section, the 'OPTIONS' button is highlighted with a red arrow. Another red arrow points to the 'Show Report Filter Pages...' option in the list below.

Salesperson	(All)				
Sum of Order Amount	Column Labels				
Row Labels	East	North	South	West	Grand Total
2015					
Qtr2					
Apr			1085		1085
May			305		305
Jun			850		850
Qtr3					
Jul	150		1350		1500
Aug		1645	330	400	2375
Sep		1140		965	2105
Qtr4					
Oct	765		425	125	1315
Nov	425		1680		2105
Dec	350		2600		2950
2016					
Qtr1					
Jan	925		2750		3675
Feb	1375	375	985	550	3285
Mar	350		1265	400	2015
Grand Total	4340	3160	10875	5190	23565

The **Show Report Filter Pages** dialog box appears. Select the field Salesperson and click OK.



A separate worksheet for each of the values of the Salesperson field is created, with the PivotTable filtered to that value.

A	B	C
1	Salesperson	Albertson, Kathy
3	Sum of Order Amount	Column Labels
4	Row Labels	East Grand Total
5	2016	
6	Qtr1	
7	Jan	925 925
8	Feb	1375 1375
9	Mar	350 350
10	Grand Total	2650 2650
11		

The worksheet will be named by the value of the field, which is visible on the tab of the worksheet.

Slicers

Another sophisticated feature that you have in PivotTables is Slicer that can be used to filter the fields visually.

- Click on the PivotTable.
- Click the ANALYZE tab.
- Click Insert Slicer in the Filter group.
- Click **Order Date, Quarters and Years** in the Insert Slicers dialog box. Three Slicers –Order Date, Quarters and Year will get created.
- Adjust the sizes of the slicers, adding more columns for the buttons on the slicers.
- Create Slicers for Salesperson and Region fields also.
- Choose the Slicer Styles so that date fields are grouped to one color and the other two fields get different colors.
- Deselect Gridlines.

The screenshot shows a PivotTable in Excel with the following data structure:

	East	North	South	West	Grand Total
Row Labels	East	North	South	West	Grand Total
2015					
Qtr2		1085	1085		
Apr		305	305		
May		850	850		
Jun					
Qtr3	150	1350	1500		
Jul		1645	330	400	2375
Aug			1140	965	2105
Sep					
Qtr4	765	425	125		1315
Oct		425	1680		2105
Nov		350	2600		2950
Dec					
2016					
Qtr1	525	2750	3675		
Jan	1375	375	985	550	3285
Feb		350	1265	400	2015
Mar					
Grand Total	4340	3160	10875	5190	23565

Filter panes are visible on the right side of the screen, allowing users to filter by Years (2015, 2016), Quarters (Qtr1-Qtr4), Month (Jan-Dec), Salesperson (Albertson, Kathy; Brennan, Michael; Davis, William; Flores, Tia; Post, Melissa; Thompson, Shannon), and Region (East, North, South, West).

As you can see, you have not only an interactive report, but also an appealing one, that can be understood easily.

Timeline in PivotTable

When you have a Date field in your PivotTable, inserting a Timeline also is an option to produce an aesthetic report.

- Create a PivotTable with Salesperson in ROWS area and Region in COLUMNS area.
- Insert a Timeline for the field Order Date.
- Filter the Timeline to show 5 months data, from November 2015 to March 2016.

The screenshot shows a PivotTable in Excel with the following data structure:

	East	North	South	West	Grand Total
Row Labels	East	North	South	West	Grand Total
Albertson, Kathy		2650			2650
Brennan, Michael			3700	3700	
Flores, Tia			2485	2485	
Post, Melissa	775				775
Thompson, Shannon		375			375
Walters, Chris			4045	4045	
Grand Total	3425	375	6530	3700	14030

A Timeline filter is applied to the Order Date field, showing a range from Nov 2015 - Mar 2016. The timeline is set to show "MONTHS" and includes filters for 2015 (OCT, NOV, DEC) and 2016 (JAN, FEB, MAR, APR). The timeline bar is highlighted in blue.

DESIGN Commands

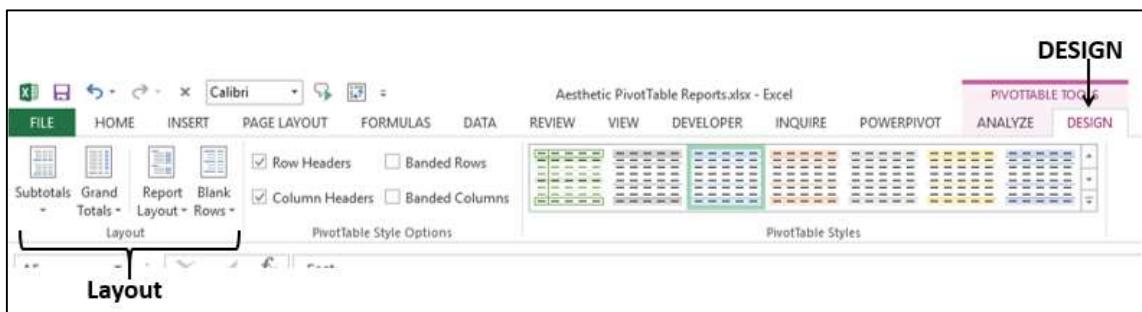
The **PIVOTTABLE TOOLS - DESIGN** commands on the Ribbon provide you with the options to format a PivotTable, including the following –

- Layout
- PivotTable Style Options
- PivotTable Styles

Layout

You can have PivotTable Layout based on your preferences for the following –

- Subtotals
- Grand Totals
- Report Layout
- Blank Rows



PivotTable Layout – Subtotals

You have an option whether to display **Subtotals** or not. By default, Subtotals are displayed, at the top of the group.

A	B	C	D	E
1				
2				
3	Sum of Order Amount	Column Labels		
4	Row Labels	January	February	March
5	East	1690	1950	700
6	Albertson, Kathy	925	1375	350
7	Post, Melissa	765	575	350
8	North	1140	1720	300
9	Thompson, Shannon	1140	1720	300
10	South	3110	3975	3790
11	Davis, William	1100	235	600
12	Flores, Tia	1655	985	1925
13	Walters, Chris	355	2755	1265
14	West	3150	1515	525
15	Brennan, Michael	2750	550	400
16	Dumiao, Richard	400	965	125
17	Grand Total	9090	9160	5315
18				

As you can observe the highlighted group – East, the subtotals are at the top of the group. You can change the position of subtotals as follows–

- Click on the PivotTable.
- Click the DESIGN tab on the Ribbon.
- Click Subtotals in the Layout Options group.
- Click Show all Subtotals at Bottom of Group.

Subtotals

Row Headers Banded Rows
 Column Headers Banded Columns

Do Not Show Subtotals
 Show all Subtotals at Bottom of Group ← **Show all Subtotals at Bottom of Group**
 Show all Subtotals at Top of Group
 Include Filtered Items in Totals

	February	March	Grand Total		
	0	1950	700	4340	
6	Albertson, Kathy	925	1375	350	2650
7	Post, Melissa	765	575	350	1690
8	North	1140	1720	300	3160
9	Thompson, Shannon	1140	1720	300	3160
10	South	3110	3975	3790	10875
11	Davis, William	1100	235	600	1935
12	Flores, Tia	1655	985	1925	4565
13	Walters, Chris	355	2755	1265	4375
14	West	3150	1515	525	5190
15	Brennan, Michael	2750	550	400	3700
16	Dumlao, Richard	400	965	125	1490
17	Grand Total	9090	9160	5315	23565

The Subtotals will now appear at the bottom of each group.

A	B	C	D	E
1				
2				
3	Sum of Order Amount	Column Labels ▾		
4	Row Labels ▾	January	February	March
5	East			Grand Total
6	Albertson, Kathy	925	1375	350
7	Post, Melissa	765	575	350
8	East Total	1690	1950	700
9	North			4340
10	Thompson, Shannon	1140	1720	300
11	North Total	1140	1720	300
12	South			3160
13	Davis, William	1100	235	600
14	Flores, Tia	1655	985	1925
15	Walters, Chris	355	2755	1265
16	South Total	3110	3975	3790
17	West			10875
18	Brennan, Michael	2750	550	400
19	Dumlao, Richard	400	965	125
20	West Total	3150	1515	525
21	Grand Total	9090	9160	5315
22				23565

If you do not have to report the Subtotals, you can select - Do Not Show Subtotals.

A	B	C	D	E	
1					
2					
3	Sum of Order Amount	Column Labels			
4	Row Labels	January	February	March	Grand Total
5	East				
6	Albertson, Kathy	925	1375	350	2650
7	Post, Melissa	765	575	350	1690
8	North				
9	Thompson, Shannon	1140	1720	300	3160
10	South				
11	Davis, William	1100	235	600	1935
12	Flores, Tia	1655	985	1925	4565
13	Walters, Chris	355	2755	1265	4375
14	West				
15	Brennan, Michael	2750	550	400	3700
16	Dumlao, Richard	400	965	125	1490
17	Grand Total	9090	9160	5315	23565
18					

Grand Totals

You can choose to either display Grand Totals or not. You have four possible combinations–

- Off for Rows and Columns
- On for Rows and Columns
- On for Rows Only
- On for Columns Only

By default, it is the second combination – On for Rows and Columns.

Report Layout

You can choose from the several Report Layouts, the one that best suits your data.

- Compact Form.
- Outline Form.
- Tabular Form.

You can also choose whether to repeat all the item labels or not, in case of multiple occurrences.

The screenshot shows the Microsoft Excel ribbon with the 'Report Layout' dropdown menu open. The 'Compact Form' option is selected. The main table area displays a pivot table with the following structure:

		January	February	March	Grand Total
Sum of Order Amount	Row Labels				
	East	1690	1950	700	4340
	Albertson, Kathy	925	1375	350	2650
	Post, Melissa	765	575	350	1690
	North	1140	1720	300	3160
	Thompson, Shannon	1140	1720	300	3160
	South	3110	3975	3790	10875
	Davis, William	1100	235	600	1935
	Flores, Tia	1655	985	1925	4565
	Walters, Chris	355	2755	1265	4375
	West	3150	1515	525	5190
	Brennan, Michael	2750	550	400	3700
	Dumlao, Richard	400	965	125	1490
Grand Total		9090	9160	5315	23565

The default Report Layout is the Compact form that you are familiar with.

Compact Form

The screenshot shows the same pivot table data as the previous image, but displayed in Compact Form. The row labels are collapsed under category names like East, North, South, and West. The column labels are also collapsed. The table structure is identical to the one above.

		January	February	March	Grand Total
Sum of Order Amount	Row Labels				
	East	1690	1950	700	4340
	Albertson, Kathy	925	1375	350	2650
	Post, Melissa	765	575	350	1690
	North	1140	1720	300	3160
	Thompson, Shannon	1140	1720	300	3160
	South	3110	3975	3790	10875
	Davis, William	1100	235	600	1935
	Flores, Tia	1655	985	1925	4565
	Walters, Chris	355	2755	1265	4375
	West	3150	1515	525	5190
Grand Total		9090	9160	5315	23565

The Compact form optimizes the PivotTable for readability. The other two forms display the field headers also.

Click on **Show** in Outline Form.

	A	B	C	D	E	F
1						
2						
3	Sum of Order Amount		Month			
4	Region	Salesperson	January	February	March	Grand Total
5	East		1690	1950	700	4340
6		Albertson, Kathy	925	1375	350	2650
7		Post, Melissa	765	575	350	1690
8	North		1140	1720	300	3160
9		Thompson, Shannon	1140	1720	300	3160
10	South		3110	3975	3790	10875
11		Davis, William	1100	235	600	1935
12		Flores, Tia	1655	985	1925	4565
13		Walters, Chris	355	2755	1265	4375
14	West		3150	1515	525	5190
15		Brennan, Michael	2750	550	400	3700
16		Dumlao, Richard	400	965	125	1490
17	Grand Total		9090	9160	5315	23565
18						

Click **Show** in Tabular Form.

	A	B	C	D	E	F
1						
2						
3	Sum of Order Amount		Month			
4	Region	Salesperson	January	February	March	Grand Total
5	East	Albertson, Kathy	925	1375	350	2650
6		Post, Melissa	765	575	350	1690
7	East Total		1690	1950	700	4340
8	North	Thompson, Shannon	1140	1720	300	3160
9	North Total		1140	1720	300	3160
10	South	Davis, William	1100	235	600	1935
11		Flores, Tia	1655	985	1925	4565
12		Walters, Chris	355	2755	1265	4375
13	South Total		3110	3975	3790	10875
14	West	Brennan, Michael	2750	550	400	3700
15		Dumlao, Richard	400	965	125	1490
16	West Total		3150	1515	525	5190
17	Grand Total		9090	9160	5315	23565
18						

Consider the following PivotTable Layout, wherein the field Month is nested under the field Region-

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1	Sum of Order Amount	Column Labels															
2		January	January	January	January Total	February	February	February	February Total	March	March	March	March	March Total	Grand Total		
3	Row Labels	East	North	South	West	East	North	South	West	East	North	South	West	East	Grand Total		
6	Albertson, Kathy	925			925	1375			1375	350				350	2650		
7	Brennan, Michael		2750		2750			550	550		400		400	400	3700		
8	Davis, William		1100		1100		235		235		600		600	600	1935		
9	Dumlaø, Richard		400		400			965	965		125		125	125	1490		
10	Flores, Tia		1655		1655		985		985		1925		1925	1925	4565		
11	Post, Melissa	765		765	575			575	575	350			350	350	1690		
12	Thompson, Shannon	1140		1140	1720			1720		300			300	300	3160		
13	Walters, Chris	355		355	2755			2755		1265			1265	1265	4375		
14	Grand Total	1690	1140	3110	3150	9090	1950	1720	3975	1515	9160	700	300	3790	525	5315	
15																23565	

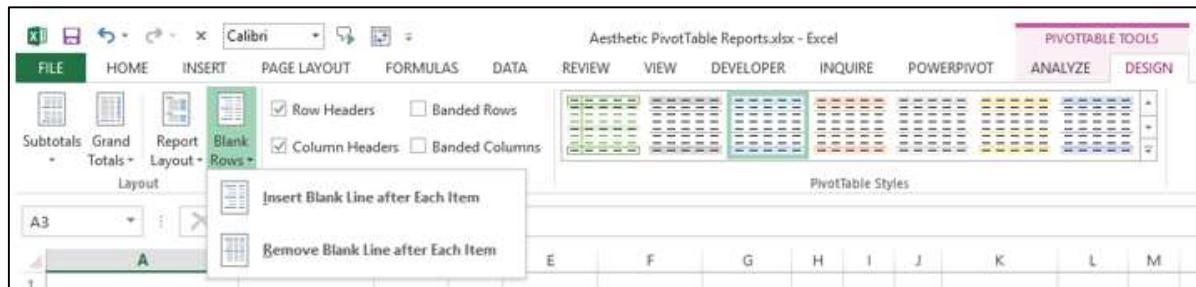
As you can observe, the Month labels are repeated and this is the default.

Click Do Not Repeat Item Labels. The Month labels will be displayed only once and the PivotTable looks clear.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1	Sum of Order Amount	Column Labels															
2		January				January Total	February			February Total	March			March Total	Grand Total		
3	Row Labels	East	North	South	West	East	North	South	West	East	North	South	West	East	Grand Total		
6	Albertson, Kathy	925			925	1375			1375	350			350	2650			
7	Brennan, Michael		2750		2750		550		550		400		400	400	3700		
8	Davis, William		1100		1100		235		235		600		600	600	1935		
9	Dumlaø, Richard		400		400		965		965		125		125	125	1490		
10	Flores, Tia		1655		1655		985		985		1925		1925	1925	4565		
11	Post, Melissa	765		765	575			575	575	350			350	350	1690		
12	Thompson, Shannon	1140		1140	1720			1720		300			300	300	3160		
13	Walters, Chris	355		355	2755			2755		1265			1265	1265	4375		
14	Grand Total	1690	1140	3110	3150	9090	1950	1720	3975	1515	9160	700	300	3790	525	5315	
15																23565	

Blank Rows

To make your PivotTable Report more distinct, you can insert a blank line after each item. You can remove these Blank Lines anytime later.



Click **Insert Blank Line after Each Item.**

A	B	C	D	E	
1					
2					
3	Sum of Order Amount	Column Labels			
4	Row Labels	January	February	March	Grand Total
5	East	1690	1950	700	4340
6	Albertson, Kathy	925	1375	350	2650
7	Post, Melissa	765	575	350	1690
8					
9	North	1140	1720	300	3160
10	Thompson, Shannon	1140	1720	300	3160
11					
12	South	3110	3975	3790	10875
13	Davis, William	1100	235	600	1935
14	Flores, Tia	1655	985	1925	4565
15	Walters, Chris	355	2755	1265	4375
16					
17	West	3150	1515	525	5190
18	Brennan, Michael	2750	550	400	3700
19	Dumiao, Richard	400	965	125	1490
20					
21	Grand Total	9090	9160	5315	23565

PivotTable Style Options

You have the following PivotTable Style Options –

- Row Headers
- Column Headers
- Banded Rows
- Banded Columns

A3 Sum of Order Amount

	A	B	C	D	E	F	G	H	I	J	K	L	M
1													
2													
3	Sum of Order Amount	Column Labels											
4	Row Labels	January	February	March	Grand Total								
5	East	1690	1950	700	4340								
6	Albertson, Kathy	925	1375	350	2650								
7	Post, Melissa	765	575	350	1690								
8	North	1140	1720	300	3160								
9	Thompson, Shannon	1140	1720	300	3160								
10	South	3110	3975	3790	10875								
11	Davis, William	1100	235	600	1935								
12	Flores, Tia	1655	985	1925	4565								
13	Walters, Chris	355	2755	1265	4375								
14	West	3150	1515	525	5190								
15	Brennan, Michael	2750	550	400	3700								
16	Dumlao, Richard	400	965	125	1490								
17	Grand Total	9090	9160	5315	23565								

By default, the boxes for Row Headers and Column Headers are checked. These options are for displaying special formatting for the first row and the first column respectively. Check the box **Banded Rows**.

A B C D E

1					
2					
3	Sum of Order Amount	Column Labels			
4	Row Labels	January	February	March	Grand Total
5	East	1690	1950	700	4340
6	Albertson, Kathy	925	1375	350	2650
7	Post, Melissa	765	575	350	1690
8	North	1140	1720	300	3160
9	Thompson, Shannon	1140	1720	300	3160
10	South	3110	3975	3790	10875
11	Davis, William	1100	235	600	1935
12	Flores, Tia	1655	985	1925	4565
13	Walters, Chris	355	2755	1265	4375
14	West	3150	1515	525	5190
15	Brennan, Michael	2750	550	400	3700
16	Dumlao, Richard	400	965	125	1490
17	Grand Total	9090	9160	5315	23565

Check the box Banded Columns.

A	B	C	D	E	
3	Sum of Order Amount	Column Labels ▾			
4	Row Labels ▾	January	February	March	
5	East	1690	1950	700	4340
6	Albertson, Kathy	925	1375	350	2650
7	Post, Melissa	765	575	350	1690
8	North	1140	1720	300	3160
9	Thompson, Shannon	1140	1720	300	3160
10	South	3110	3975	3790	10875
11	Davis, William	1100	235	600	1935
12	Flores, Tia	1655	985	1925	4565
13	Walters, Chris	355	2755	1265	4375
14	West	3150	1515	525	5190
15	Brennan, Michael	2750	550	400	3700
16	Dumlao, Richard	400	965	125	1490
17	Grand Total	9090	9160	5315	23565
18					

PivotTable Styles

You can choose several PivotTable Styles. Select the one that suits your report. For example, if you choose Pivot Style Dark 5, you will get the following style for the PivotTable.

A	B	C	D	E	
3	Sum of Order Amount	Column Labels ▾			
4	Row Labels ▾	January	February	March	
5	East	1690	1950	700	4340
6	Albertson, Kathy	925	1375	350	2650
7	Post, Melissa	765	575	350	1690
8	North	1140	1720	300	3160
9	Thompson, Shannon	1140	1720	300	3160
10	South	3110	3975	3790	10875
11	Davis, William	1100	235	600	1935
12	Flores, Tia	1655	985	1925	4565
13	Walters, Chris	355	2755	1265	4375
14	West	3150	1515	525	5190
15	Brennan, Michael	2750	550	400	3700
16	Dumlao, Richard	400	965	125	1490
17	Grand Total	9090	9160	5315	23565
18					

Conditional Formatting in PivotTable

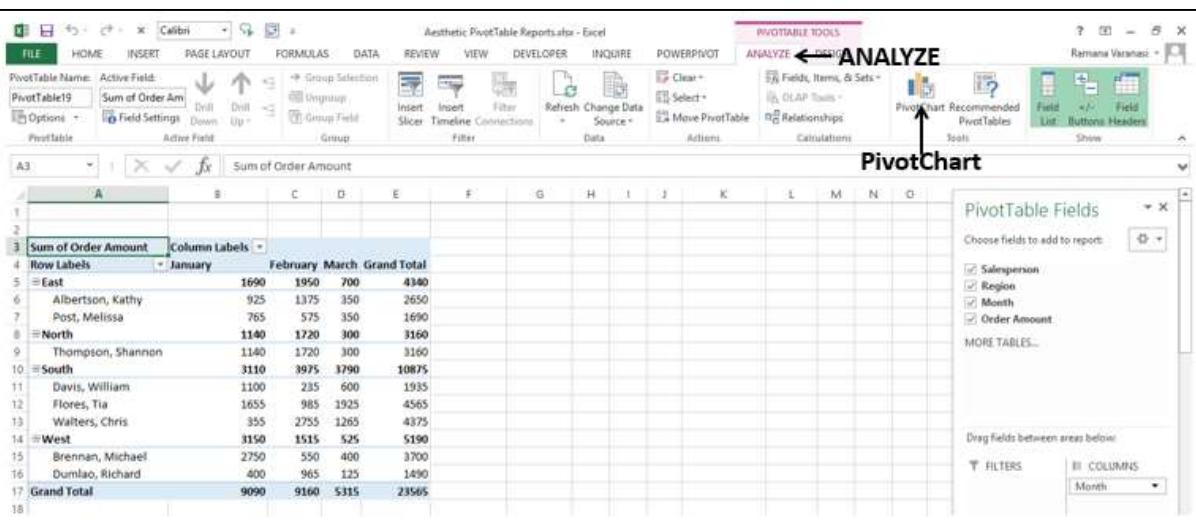
You can set Conditional Formatting on the PivotTable cells by the values.

A	B	C	D	E
1				
2				
3 Sum of Order Amount	Column Labels			
4 Row Labels	January	February	March	Grand Total
5 East	1690	1950	700	4340
Albertson, Kathy	925	1375	350	2650
Post, Melissa	765	575	350	1690
8 North	1140	1720	300	3160
Thompson, Shannon	1140	1720	300	3160
10 South	3110	3975	3790	10875
Davis, William	1100	235	600	1935
Flores, Tia	1655	985	1925	4565
Walters, Chris	355	2755	1265	4375
14 West	3150	1515	525	5190
Brennan, Michael	2750	550	400	3700
Dumlao, Richard	400	965	125	1490
17 Grand Total	9090	9160	5315	23565

PivotCharts

PivotCharts add a visual emphasis on your PivotTable reports. You can insert a PivotChart tied to the data of a PivotTable as follows-

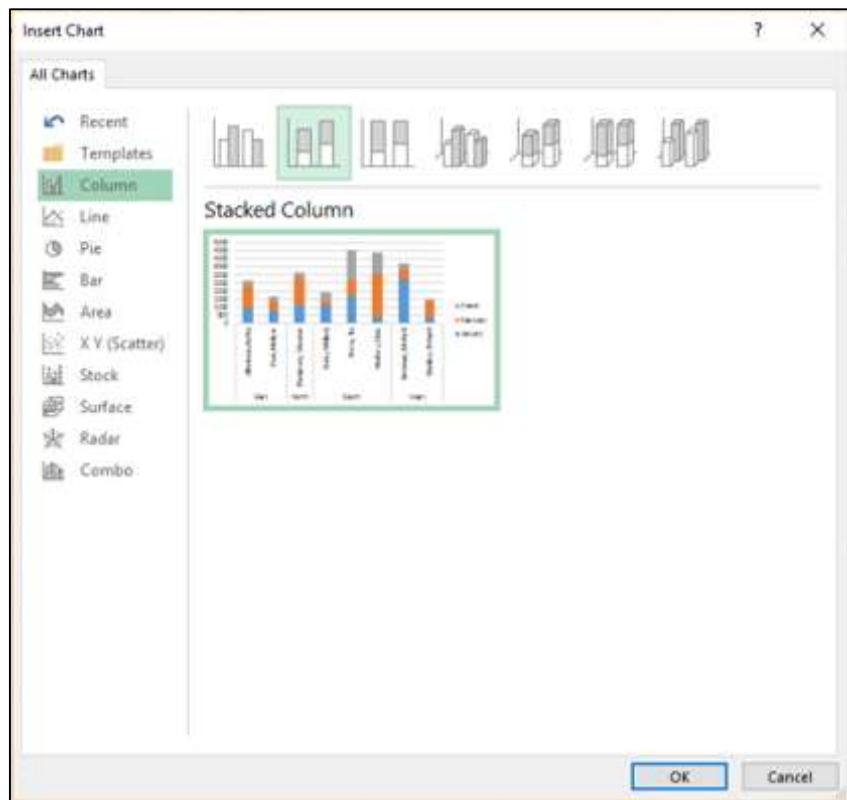
- Click on the PivotTable.
- Click the ANALYZE tab on the Ribbon.
- Click PivotChart.



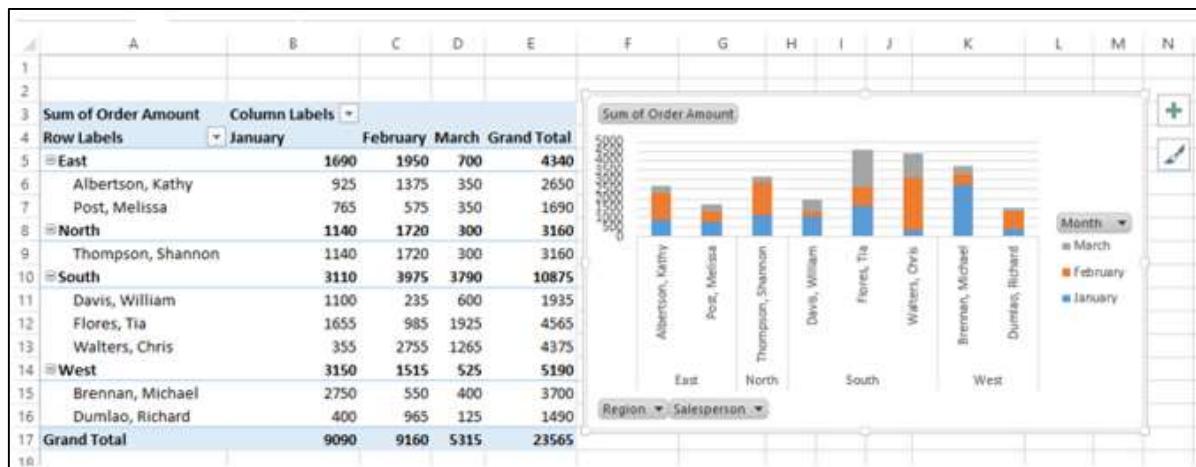
The screenshot shows the Microsoft Excel ribbon with the ANALYZE tab selected. In the ANALYZE group, the 'PivotChart' button is highlighted with a red arrow. The main area of the screen displays a PivotTable with data from rows 3 to 17 and columns A to E. The PivotTable has 'Sum of Order Amount' as the value field, 'Region' as the row label, and 'Month' as the column label. The data includes sales figures for various regions and months, with a grand total of 23,565.

The Insert Chart dialog box appears.

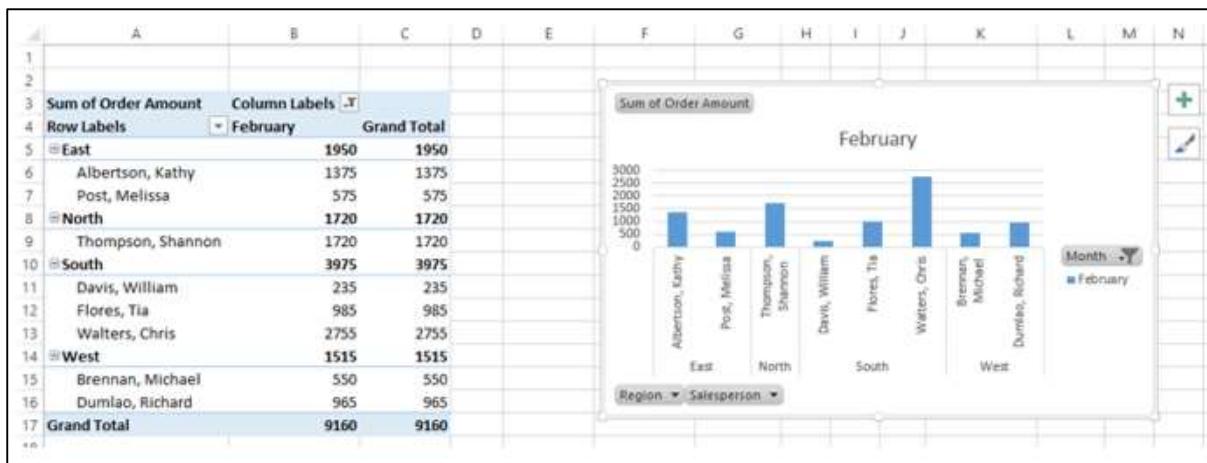
Click Column in the left pane and select Stacked Column. Click OK.



The stacked column chart is displayed.



- Click on Month on the PivotChart.
- Filter to February and click OK.



As you can observe, the PivotTable is also filtered as per the PivotChart.