
*Municipal Treasurers
Association of Wisconsin*

Excel Pivot Tables

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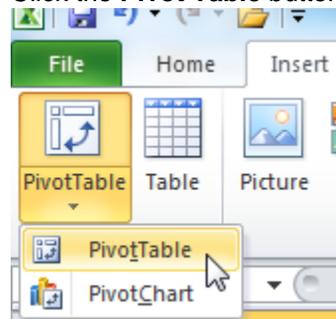
Pivot Table Basics

A Pivot Table is a tool in Excel that a person can use to query, organize and summarize large amounts of data.

Create a Pivot Table

To create a Pivot Table, do the following:

1. Select the data you wish to organize into a Pivot Table.
2. Click the **Pivot Table** button on the **Insert** ribbon.



3. To create your Pivot Table on a new worksheet, choose **New Worksheet**. To create your Pivot Table on an existing worksheet, select **Existing Worksheet** and specify the location.
4. Click **OK**.
5. Once your Pivot Table has been created, you can add whatever fields you want to appear in your Pivot Table. Simply click the fields under the **Choose fields to add to report** section.
6. The ability to add **Report Filter**, **Column Labels**, **Row Labels**, and **Values** exists. These options allow you to customize your Pivot Table.
 - **Report Filter** – Used to filter or limit what data the Pivot Table displays.
 - **Column Labels** – Used to create groups that are displayed in separate columns.
 - **Row Labels** – Used to break down the data into categories. Separate groups are created and the information for each group is placed into a single row.
 - **Values** – Fields that you want to subtotal and display in your Pivot Table. Usually this is the numeric information you use.

Formatting your Pivot Table

When you click inside of your Pivot Table, the **Design** ribbon appears. This ribbon provides you with the capability to change the **Layout** and **Style** of your Pivot Table.

Pivot Table Options

When you click inside of your Pivot Table, the **Options** ribbon appears. This ribbon provides you with the capability to do some common things like:

- **Field Settings** - Change the column title, summary type (i.e. Sum, Count, etc.), and the number format.
- **Sort** – Change the sort order of your Pivot Table.
- Add a **Calculated Field** – Under **Fields, Items, & Sets**, you have the ability to build a calculated field to be added on to you Pivot Table (e.g. Variance).

Slicers

Slicers are much like report filters without all the advanced capabilities. They provide you with the ability to filter with a single click. To add Slicers, do the following:

1. Click **Insert Slicer** on the **Options** ribbon. If you don't see the **Options** ribbon, you need to click inside your Pivot Table.
2. Select the field you would like to filter or "slice".
3. Click **OK**.

Now, you can click on any field within your slicer to filter your Pivot Table.

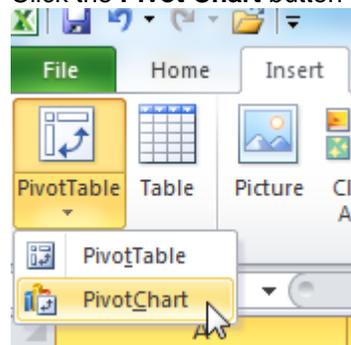
Pivot Chart Basics

A Pivot Chart are charts created from Pivot Tables. Much of the same functionality exists as a normal chart.

Create a Pivot Chart

To create a Pivot Table, do the following:

1. Select the data you wish to organize into a Pivot Table.
2. Click the **Pivot Chart** button on the **Insert** ribbon.



3. To create your Pivot Chart on a new worksheet, choose **New Worksheet**. To create your Pivot Chart on an existing worksheet, select **Existing Worksheet** and specify the location.
4. Click **OK**.
5. Click **Change Chart Type** on the **Design** ribbon.
6. Choose the chart type you would like to utilize.
7. Click **OK**.
8. Once your Pivot Chart has been created, you can add whatever fields you want to appear in your Pivot Table. Simply click the fields under the **Choose fields to add to report** section.

9. The ability to add **Report Filter**, **Column Labels**, **Row Labels**, and **Values** exists. These options allow you to customize your Pivot Table.
 - **Report Filter** – Used to filter or limit what data the Pivot Table displays.
 - **Column Labels** – Used to create groups that are displayed in separate columns.
 - **Row Labels** – Used to break down the data into categories. Separate groups are created and the information for each group is placed into a single row.
 - **Values** – Fields that you want to subtotal and display in your Pivot Table. Usually this is the numeric information you use.

Formatting your Pivot Chart

You can now format your chart to the way you like it by adding **Data Labels**, **Borders**, **3-D Effects**, etc. Simply, right-click within the chart and choose **Format Chart Area**, **Format Data Series**, or **Format Data Labels**.

Slicers

Slicers are much like report filters without all the advanced capabilities. They provide you with the ability to filter with a single click. To add Slicers, do the following:

1. Click **Insert Slicer** on the **Analyze** ribbon. If you don't see the **Analyze** ribbon, you need to click inside your Pivot Chart.
2. Select the field you would like to filter or "slice".
3. Click **OK**.

Now, you can click on any field within your slicer to filter your Pivot Chart.

Working with Tables

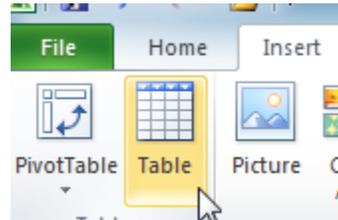
Tables provide you with the ability to work with data that is organized like a database with columns as fields and rows as records of related information. Once the data is in a Table, you can take advantage of the sorting, filtering, formatting, and analysis tools for working with tabular data in Excel.

Below are some best practices for working with Tables.

- Position the column heading labels in the first row of the table.
- Format the column labels differently than the data in the table.
- Do not use a blank row to separate the column labels from the data.
- Organize table data so that the columns consist of similar items.
- Remove any extra spaces at the beginning and end of a cell. The spaces will affect sorting and searching.
- Use the same format for every data cell in a column.

Creating a Table

1. Highlight the data you would like to create table.
2. Click on **Table** from the **Insert** ribbon.



3. Since you already highlighted the data in Step 1., you can click **OK**.

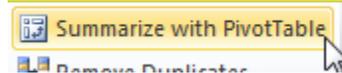
Formatting your Table

When you click inside of your Table, the **Design** ribbon appears. This ribbon provides you with the capability to **Insert Slicer**, change the **Style** of your Table, and more.

Create a Pivot Table from a Table

You can quickly create a Pivot Table using the data found within your Table. Do the following:

1. Click somewhere within your Table.
2. Click **Summarize with Pivot Table** on the **Design** menu.

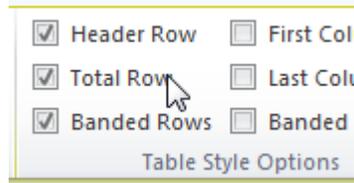


3. To create your Pivot Table on a new worksheet, choose **New Worksheet**. To create your Pivot Table on an existing worksheet, select **Existing Worksheet** and specify the location.
4. Click **OK**.

Add a Total Row to the Table

You can add a total row to any column within your Table. Do the following:

1. Click somewhere within your Table.
2. Click **Total Row** on the **Design** menu.



3. To change the type of total, go to the last row in your Table and click on the cell that contains the total.
4. A drop-down will appear. Change to any of the functions listed.

Create a Calculated Column

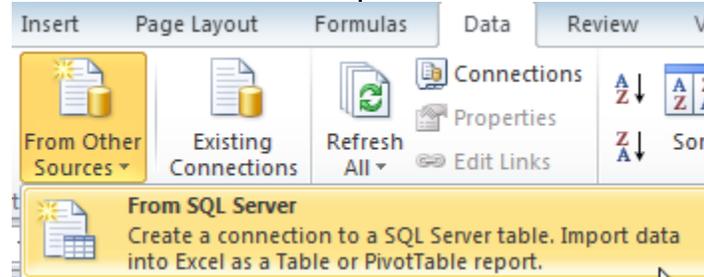
You can add a new column to your Table. Do the following:

1. Click in the cell where you want to create a calculation.
2. Type a formula. Note that the formula uses the column heading rather than cell references.
3. Press **Enter**. The formula will automatically be filled down your column within your Table.

Working with External Data

You can import data from external sources. This includes sources such as the web, Access, SQL, etc. The example below walks you through importing data from a Microsoft SQL database.

1. Go to a blank worksheet within your spreadsheet.
2. Select **From Other Sources | From SQL Server** from the **Data** ribbon.



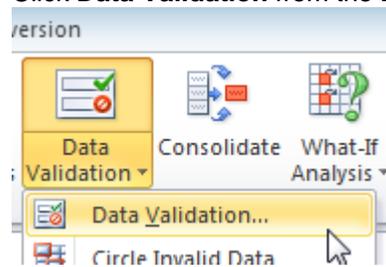
3. Enter the **Server name** and whether you logging in by using **Windows Authentication** or **User Name and Password**.
4. Click **Next**.
5. Choose the database you are looking to link.
6. Click on the table, query, or view you looking to import.
7. Click **Next**.
8. Click **Finish**.
9. Choose **Table**.
10. Click **OK**.

Note: You can refresh this data at any time by simply clicking **Refresh All** from the **Data** ribbon.

Data Validation

You can validate or control what data is typed into a cell. The data can be limited a list of values, whole number, decimal, data, etc. The following example will show you how to apply validation to a group of cells by limiting them to a custom list created.

1. Enter a list of valid entries you would like to use in a group of cells within your spreadsheet.
2. Select a cell or cells where you want the validation to occur.
3. Click **Data Validation** from the **Data** ribbon.



4. Select **List** from the **Allow:** drop-down.
5. Select the cells where you entered the valid entries in Step 1. above in the **Source:** field.
6. Enter a **Title:** and a **Input message:** on the **Input Message** tab. This is the message that will appear when a cell in the validation area is active.
7. Leave **Stop** as the **Style:** on the **Error Alert** tab.
8. Enter a **Title:** and **Error message:** on the **Error Alert** tab. This is the message that will appear when an invalid entry is entered.
9. Click **OK**.

A drop-down will now appear in those cells constraining you to enter only a valid entry.

