

Excel Tables & Pivot Tables

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What we will look at

- What a table is
- Why use them
- Tables and data Validation
- Creating relationships between tables
- What is a Pivottable
- Why use them
- Pivotcharts and dashboards

What we will look at

- Most of the Webinar will be demonstrations.
- A few slides to set the scene
- Lots of Demonstrations

What is a table in Excel?

- Isn't an Excel worksheet a table by default?
 - They all have rows
 - They all have columns
- No, although all worksheets are Tabular in their looks, they are just a collection of individual cells.

How to create a table

- Start with some data!
- There are three ways.
 - Use the Insert Table option from the Insert ribbon
 - Use Ctrl + t from the keyboard
 - Use Format as Table from the Home ribbon

About Tables

- When creating a table, Excel thinks it ends with a blank row or blank column
- Blank Rows can be a problem for large datasets
- Tables have names
 - You can and generally should choose your own
- Tables can be treated as single entities, in formulas for example

About Tables

- Tables have their own Ribbon
- You can format tables using Themes
- You can include a totals row
- Tables automatically expand
- New columns to the right are included automatically
- New columns to the left are not

Demo – Creating Tables

Demo 1	Basic Tables
Using files	Start from URL https://www.metoffice.gov.uk/pub/data/weather/uk/climate/stationdata/stornowaydata.txt
Demonstrating	<ol style="list-style-type: none">1. Use Text to Columns (spaces)2. How to create tables 3 ways (Insert, Ctrl+ T, Format as)3. Selecting whole table4. Table design ribbon5. Table names6. Column headers7. Adding rows8. Adding columns9. Adding Totals (and removing them)10. Extending a table

Some Advantages of Tables

- Formatting
- Automatic filters
- Keep columns names when scrolling
- Adding columns
- Adding Rows
- Adding Totals row

Create Tables the fourth way

- Importing a csv (or tab) file using Get Data from the Data Tab.
- Unless you are creating your own data, this will be the most common way
- Simply double-clicking a csv file can give you problems!

Demo

- Import Twitter data from CSV
 - By doubleclick – not recommended
 - Via the data tab – more involved but far better control

Tables and Data Validation

- Excel has quite powerful data validation options on data input
- But you need to set it up

Demo

- Create a table for input with data validation
- Using a Table column as a lookup list

Data validation for bulk input

- Can it be done?
- Yes
- No
- Yes
- No
- Yes

Demo

- Data validation for existing data
 - Using Data validation
 - Using conditional formatting can be better than data validation

Table Relationships

- Connecting tables that have something in common
- Append
 - Tables have a common set of columns
 - Concatenation of rows
- Merge (see later)
 - Table have at least one column with common values
 - Combine the tables by rows

Demo

- Appending Tables
- For Appending (and merging) the tables have to be in the Data Model
- For Appending we need to do this manually
- (For merging, it can happen automatically)

What is a Pivottable?

- Used to summarise data
- Used to convert from Long format to Wide format

Demo

- Simple example
 - Store_Pivot

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- Census Training data
- 0.5m records
- 18 variables described in the associated data dictionary
- All data is numeric
- Mainly representations of categorical data

Demo

- Show the data dictionary
- Create a pivotable
 - Make it more readable by using merged tables