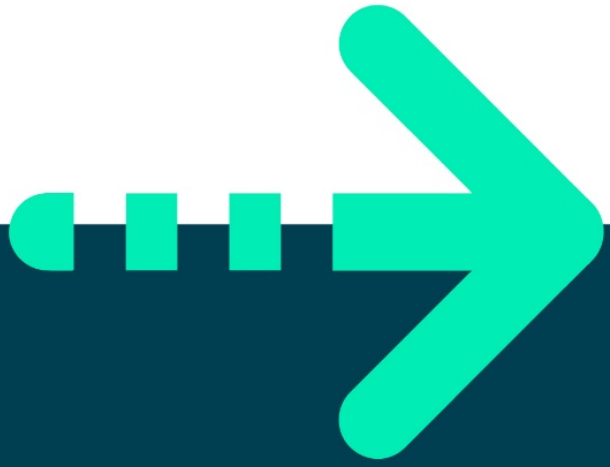
Activity 4: Matrix visualisation

Learner Guide



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How to use this workbook

Activity

Alongside this icon you'll find details of the group/individual activity or a point for everyone to discuss.

Useful tool

This icon indicates a technique that will help you put what you learn into practice.

Important idea or concept

Generally, this icon is used to draw your attention to ideas that you need to understand by this point in the course. Let your trainer know if you do not understand or see the relevance of this idea or concept.

Helpful hint

This icon guides you to tips or hints that will help you avoid the common pitfalls or to show you how to increase your effectiveness or efficiency in practising what you have learnt.

Key point

This icon is used to indicate something that practitioners in this field should know. It's likely to be one of the major things to remember from the course, so check you do understand these key points.

Reference material

When we have only touched briefly on a topic, this icon highlights where to look for additional information on the subject. It may also be used to draw your attention to International or National Standards or Web addresses that have interesting collections of information.

Definition

Where a word with a very specific definition (or one that could be described as jargon) is introduced, this will highlight that a definition is provided.

Warning

This icon is used to point out important information that may affect you and your use of the product or service in question.

Creating a matrix visualisation

Matrix visualisations use the structure similar to a classic PivotTable. Fields are arranged in a combination of rows and columns.

These are typically text data types. Data fields to summarise are added to the Values element as shown in Figure 1 below. Power BI Desktop uses the Query Editor to check each data field to see if it contains a combination of the entries in the rows and columns. If such a combination exists, the field is summarised into a single aggregated value.

Once a matrix has been created in the Report Canvas, working with its contents and formats is very similar to working with a table, replacing table style presets with Matrix Style presets as an entry under the Formatting icon.

What Power BI Desktop will not do automatically is create a matrix for you. You will need to select the matrix by clicking its icon in the Visualisations task pane (see Figure 1). The blank matrix will be created with the structural elements displayed in the task pane.

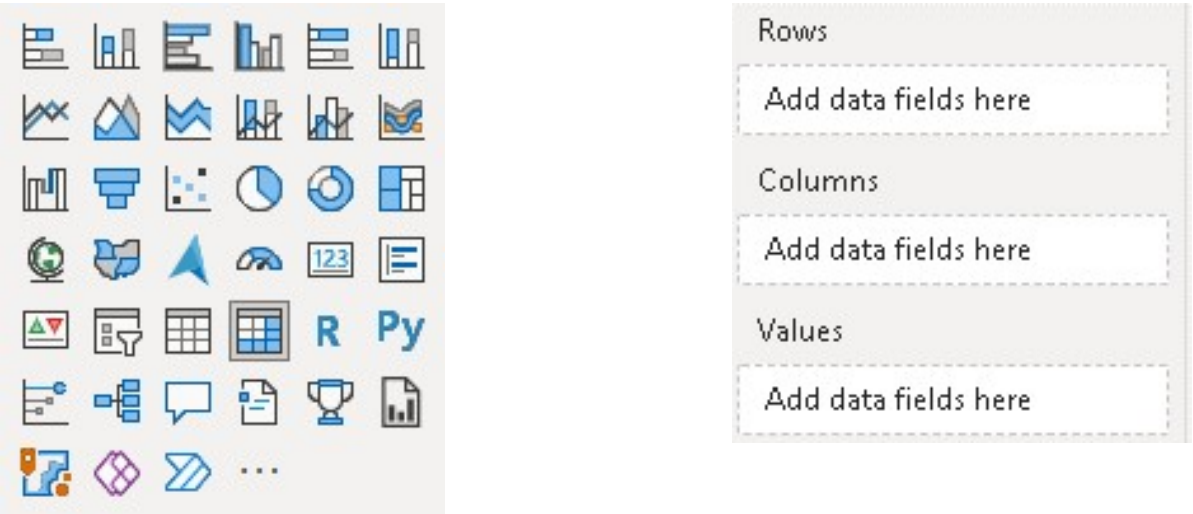


Figure 1: Matrix visualisation in the Visualisation task pane and data fields

Objective

In this activity, you'll create a table and matrix visualisations with Data Bars.

Scenario

Shipments to cities across the UK have been tracked over a number of years to record the kilometres covered by our fleet of lorries. An overview summarising the total distance per city is initially required in a table. Data Bars will be added to show each value in proportion to the largest.

Task

Guided / independent activity:

Create table and matrix visualisations with Data Bars

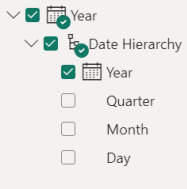
Guided activity

1. Start a new pbix file.
2. Get the data from **ShipmentsByCity.xlsx** workbook and select the **AnnualKM** sheet. Choose **Transform data** to open the Query Editor.
3. The **Year** field needs to have the data type changed to **Date**. **Add New Step**.
4. **Region** and **Post Code** are not required.
5. **Round** the **KM** values to the nearest 10 (Hint: Transform, Rounding, Round, -1).
6. **Close & Apply** to return to Power BI Desktop.
7. Add a **table** to Page 1 with **City** and **KM**.

Independent activity

1. Copy the table and change it to be a matrix.

2. Keep **City** in Rows and add **Year** to Columns – format the **Year** column in the data panel to just show the year. Ensure that **KM** is added to values.



3. Sort the matrix by KM in Descending order.
4. Remove all totals by selecting the **format visual** icon and turn off column subtotals and row subtotals.
5. Expand the matrix so it fills the page (adjust text size to suit).
6. Use Conditional Formatting Controls for the Data Bars to turn off the values. Show Data Bars for all entries in the matrix.
7. Filter so that only the **2023** data is displayed. Which city has the longest Bar?
8. Show Data Bars to only show for values over 1,000.
9. Sort by City ascending.
10. Add a single icon to the KM field where the value for 2023 is less than 700.
11. Save the pbix file as **City Shipments.pbix** and close it.