Office Scripts Introduction

Sample manual - first two chapters



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CHAPTER 1 - GETTING STARTED

1.1 Introduction to Office Scripts

This chapter introduces you to *Office Scripts*, beginning with the answers to a few simple questions.

What are Office Scripts?

Office Scripts are small programs used to automate tasks in Microsoft Excel. You write code in the *TypeScript* language and you can either record the steps or write your program from scratch.

```
1
      function main(workbook: ExcelScript.Workbook) {
                                                                          A basic Office Script to add
 2
                                                                         a value to the end of a list
 3
          // Get a reference to the Input worksheet
                                                                         and apply some formatting.
 4
          let ws: ExcelScript.Worksheet = workbook
 5
              .getWorksheet("Input");
 6
          // Check that the worksheet exists
 7
 8
          if (!ws) {
 9
              console.log("Input sheet missing");
10
              return;
11
12
13
          // Get reference to next blank cell
14
          let rng: ExcelScript.Range = ws
15
              .getRange("A1")
16
              .getRangeEdge(ExcelScript.KeyboardDirection.down)
17
              .getOffsetRange(1, 0);
18
19
          // Enter value and format cell
20
          rng.setValue("Wise Owl");
21
          rng.getFormat().getFill().setColor("#f28400");
22
          rng.getFormat().getFont().setName("Arial");
23
```

What do I need to use Office Scripts?

According to Microsoft, these are the three requirements for using Office Scripts:

- 1) Excel for Windows, for Mac, or on the web.
- 2) OneDrive for Business.
- Any commercial or educational Microsoft 365 license with access to the Microsoft 365 Office desktop apps.

Can't I already Automate Excel?

If you're thinking that Office Scripts sound a lot like *VBA macros*, you're right! In fact, there are three main ways to automate Excel, summarised in the table below:

Method	What you can do
Office Scripts	Automate the desktop or online version of Excel.
VBA Macros	Automate any desktop Office application.
Office Add-Ins	Create an add-in to extend the features of any desktop or online Office application.

Why use Office Scripts and not VBA?

Office Scripts allow you to do some things you can't do with VBA macros, as described in the table below:

Feature	Description
Excel online	You can use Office Scripts to automate workbooks in the web version of Excel.
Power Automate	You can run Office Scripts from a Power Automate flow.
External APIs	Office Scripts support calls to external APIs which can provide data to your files.
Better security	An Office Script only has access to the workbook in which it is running, unlike VBA which has access to your entire computer.

What are the Limitations?

Office Scripts have several limitations compared to VBA and Office Add-Ins, as described in the table below:

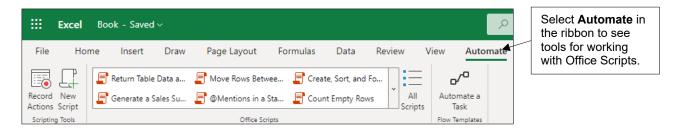
Feature	Description
Excel only	Currently, Office Scripts can only be used in Excel. Office Add-Ins can also work with Word, PowerPoint, Outlook, OneNote and Project. VBA can use OLE and COM libraries to control a variety of other applications, including the Microsoft Office apps.
No events	VBA and Office Add-Ins can respond to events to make code run automatically. Office Scripts must be run explicitly by the user.
Single workbook	An Office Script only has access to the workbook in which it is running. Even something as simple as copying a value from one workbook to another requires the use of a Power Automate flow.
User interface	Office Scripts don't have access to any of the user interface elements of Excel. This means that you can't display dialog boxes or similar UI elements. If you need to create a user-interface it would be better to use VBA or to create a full Office Add-In.

1.2 Preparing to Write Office Scripts

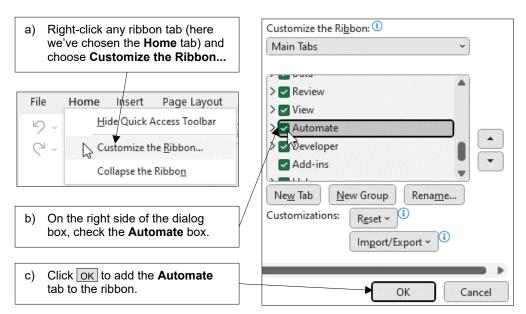
This section shows you the basic things you need to do before you can write your first script.

The Automate Ribbon Tab

The Automate tab of the ribbon contains the tools you need to write Office Scripts.

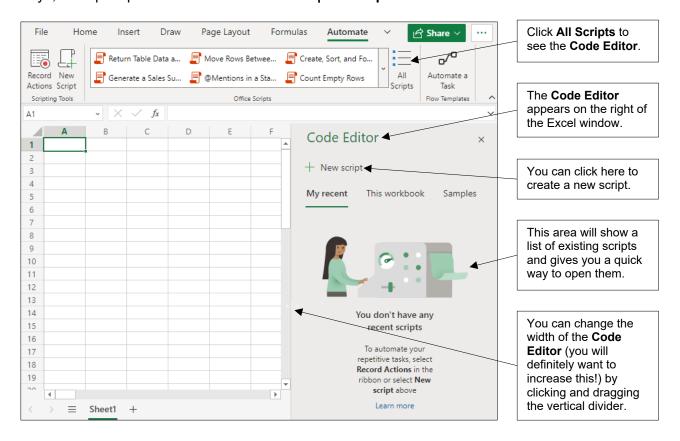


If you're using the desktop version of Excel, the **Automate** tab may not appear automatically. You can see how to display it in the diagram below:

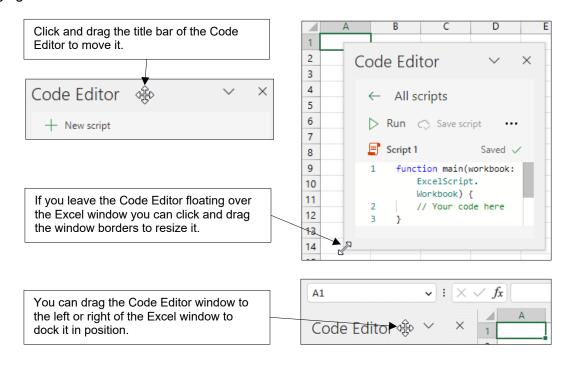


The Code Editor

You edit Office Scripts in the *Code Editor* window in Excel. You can open the **Code Editor** in several ways; a simple option is to choose **Automate | All Scripts** from the Excel ribbon.

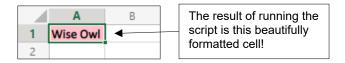


In the desktop version of Excel you can move and resize the Code Editor window by clicking and dragging its title bar.



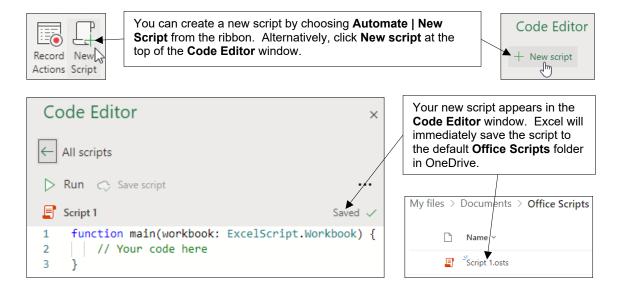
1.3 Writing Your First Script

This section shows you how to write a simple program to add text to a cell and apply some formatting to get used to the basics of writing code.



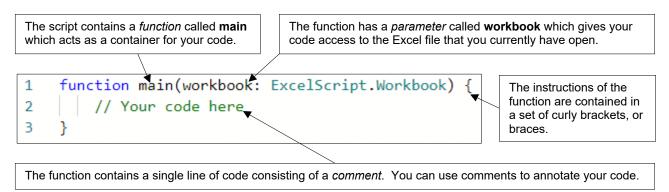
Creating a New Script

Start by creating a new workbook in either the desktop or online version of Excel and then choose to create a new Office Script.



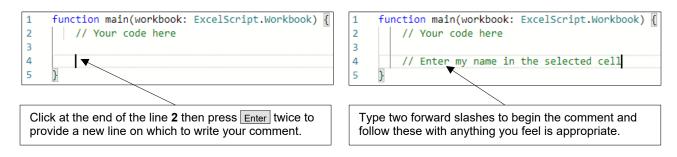
The Basic Structure of a Script

You can see the basic structure of your new script in the diagram below:



Adding a Comment

You can add your own comments to your code to provide helpful reminders of what it is meant to do.



Writing Basic Instructions

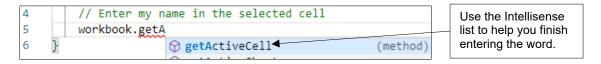
Our first instruction will write the name **Wise Owl** into the currently selected cell in the workbook. To do this:

1) On a new line in the script, begin typing the word **workbook** (take care when doing this – TypeScript is a case-sensitive language!).

```
✓ function main(workbook: ExcelScript.Workbook) {

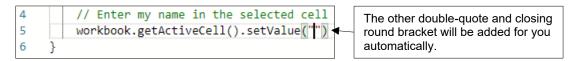
As you begin typing you'll see a list
                                       2
                                                 // Your code here
of options matching what you've
                                       3
typed so far. To select an item
                                                 // Enter my name in the selected cell
from this Intellisense list you can
                                       5
                                                work
press | Tab | or | Enter | or click on the
                                       6
word with the mouse.
                                                      (parameter)
                                                      [@] Worker
```

2) After the word workbook, enter a full stop and begin typing getActiveCell.



3) After **getActiveCell**, open and close some round brackets.

4) Enter another full stop followed by **setValue** then an open round bracket and double-quotes.



5) Between the double quotes, enter the name you want to write into the cell.

```
// Enter my name in the selected cell
workbook.getActiveCell().setValue("Wise Owl")

You can change the text in the double quotes to anything you like.
```

6) Complete the instruction by adding a semicolon to the end of the line.

```
4 // Enter my name in the selected cell
5 workbook.getActiveCell().setValue("Wise Owl");
6 }

Each TypeScript instruction ends with a semicolon.
```

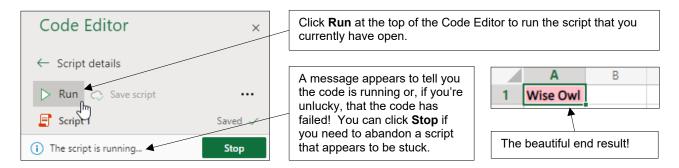
Adding More Instructions

You can continue adding as many instructions as you need to complete your program. The diagram below shows the complete script with two extra instructions and relevant comments:

```
function main(workbook: ExcelScript.Workbook) {
                                                                                    We've deleted the first
 2
                                                                                    comment to tidy up the
 3
          // Enter my name in the selected cell
                                                                                    code.
 4
          workbook.getActiveCell().setValue("Wise Owl");
 5
 6
          // Change the cell fill colour
7
          workbook.getActiveCell().getFormat().getFill().setColor("Pink");
8
                                                                                    The pattern of the new
          // Make the font bold
9
                                                                                    instructions is similar to
          workbook.getActiveCell().getFormat().getFont().setBold(true);
10
                                                                                    the first one we added.
11
```

Running the Script

You can see how to run your finished script in the diagram below:



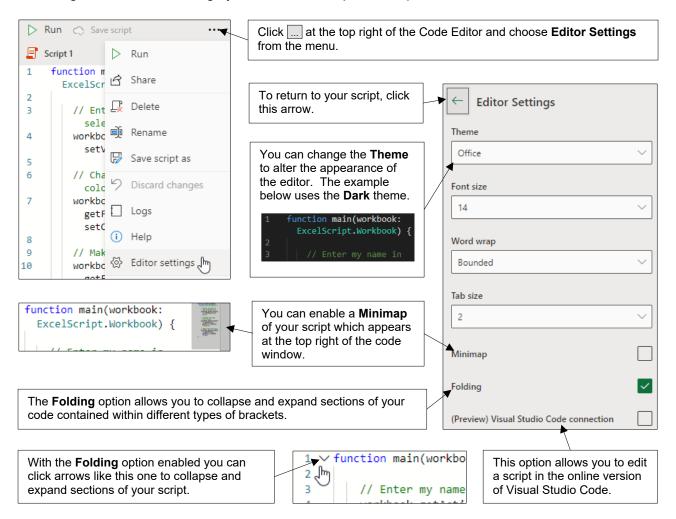


Experienced VBA programmers should be careful not to press F5 to run your code. In the online version of Excel this will refresh the page and close the Code Editor!

1.4 Code Editor Settings

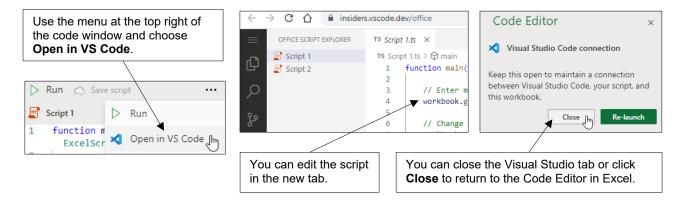
Changing Code Editor Settings

To change Code Editor settings you first need to open a script file.



A Note on Visual Studio Code

If you're working in the online version of Excel, you can enable the **Visual Studio Code connection** option. You can then open a script in the Visual Studio Code web application, as shown below:



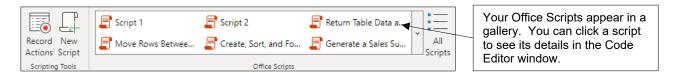
CHAPTER 2 - WORKING WITH SCRIPT FILES

2.1 Office Script Files

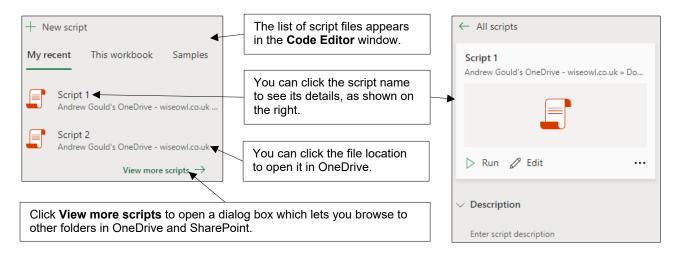
This section explains the basics of working with Office Script files.

Viewing Existing Script Files

You can see your recently used and sample scripts in the Automate tab in the Excel ribbon.

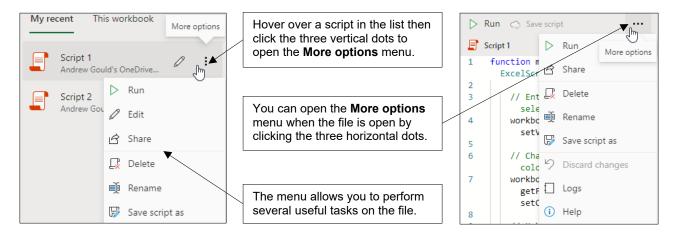


To see all your scripts, choose **Automate | All Scripts** from the Excel ribbon.



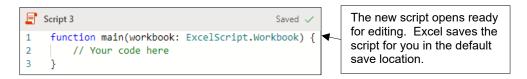
The More Options Menu

You can use a script's More options menu to perform several useful tasks on it.



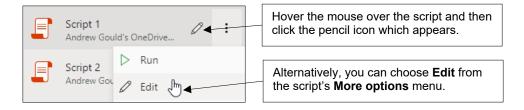
Creating a New Script File

The simplest way to create a new script is to choose **Automate | New Script** from the Excel ribbon.



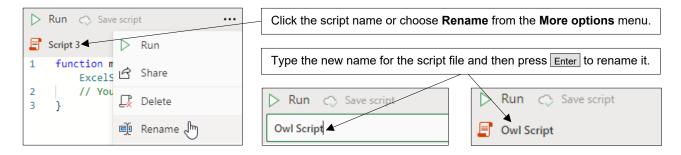
Opening an Existing Script

You can open an existing script to edit its code as shown in the diagram below:



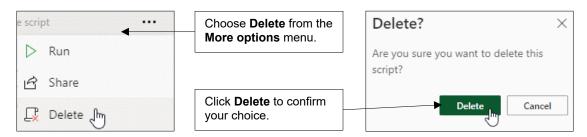
Renaming an Open Script

You can rename a script file, even if you're currently editing it.



Deleting a Script

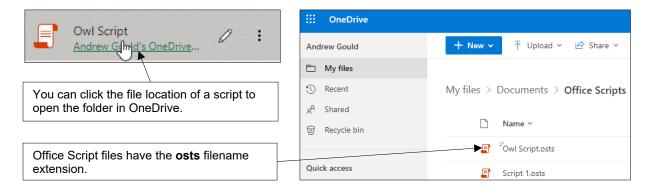
You can delete a script from the **More options** menu, even if you are currently editing it.



2.2 Saving Script Files

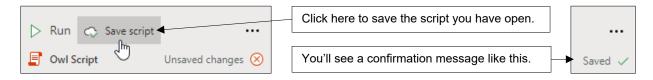
Where Office Scripts are Saved

By default, Office Script files are saved in the **Documents/Office Scripts** folder in OneDrive.



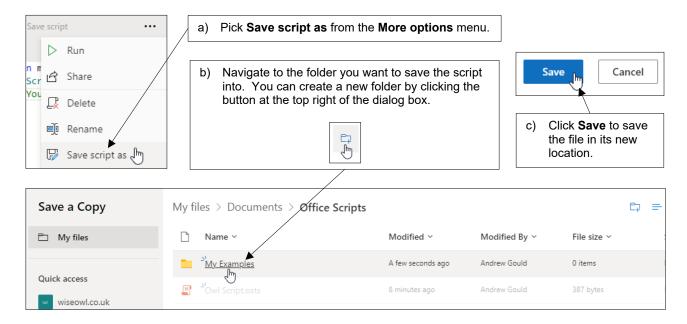
Saving an Open Script

You can save the script that you're currently working on in the default folder as shown below:



The Save As Option

You can choose to save your script in a different location as shown below:

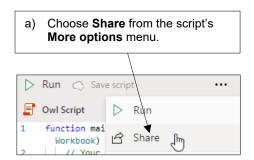


2.3 Sharing Scripts

Scripts saved to your OneDrive are accessible only to you. If you'd like others to use your scripts, you'll need to share them in some way.

Sharing a Script

The first step in sharing a script is to share it in a workbook. To do this, first open the workbook you want to share the script in.

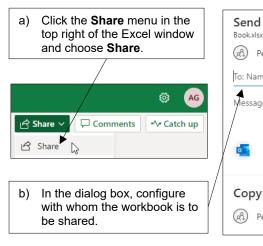


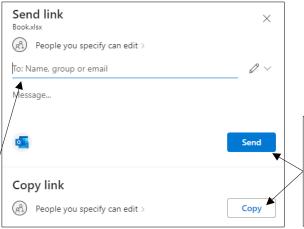


b) Click **Share** to confirm that you want to share the script. The script's icon changes to show that it is being shared:



You'll also need to give other people access to the workbook, as shown in the diagram below:

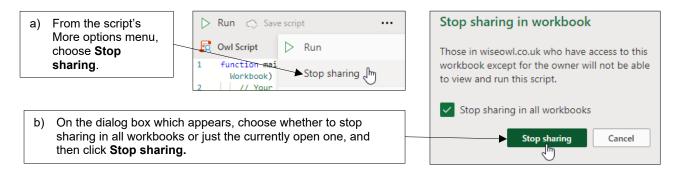




s) Share the file by sending a link in an email, or by copying the link and distributing it another way.

Stopping Sharing a Script

The diagram below shows how you can reverse the process of sharing an Office Script:



WHAT WE DO

		ONLINE TRAINING	MANCHESTER OR LONDON	AT YOUR OFFICE	BESPOKE CONSULTANCY
	Microsoft Excel	✓	✓	✓	✓
OFFICE 365	VBA macros	✓	✓	✓	✓
	Office Scripts	✓		✓	
	Microsoft Access				✓
POWER PLATFORM	Power BI and DAX	✓	✓	✓	✓
	Power Apps	✓		✓	
	Power Automate	✓	✓	✓	✓
SQL SERVER	Reporting Services	✓	✓	✓	✓
	Report Builder	✓		✓	✓
	Integration Services	✓	✓	✓	✓
	Analysis Services	✓		✓	
CODING	SQL	✓	✓	✓	✓
	Visual C#	✓	✓	✓	✓
	Python	✓	✓	✓	✓



