

MTD VAT Return Software – User Guide

Dhryrock Technologies LTD

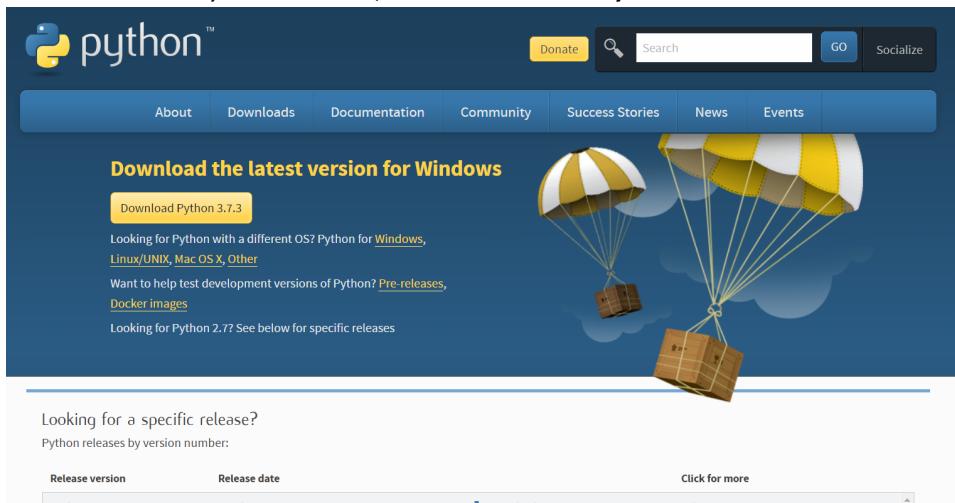
7-May-19

Prerequisites:

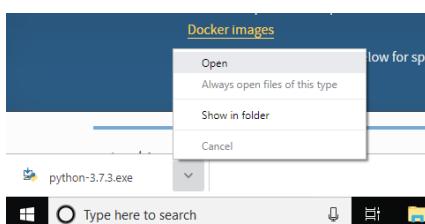
- Spreadsheet with VAT information
- HMRC VAT returns account (You'll need your User ID and Password)
- Google Chrome
- The MTD folder (this product) saved to your desktop

Installation:

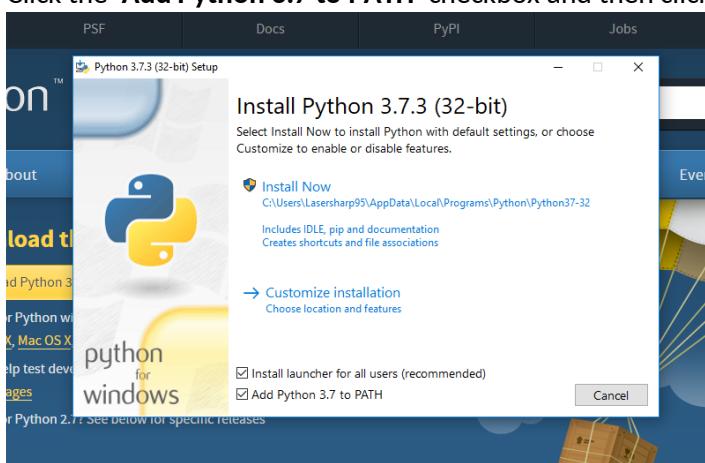
1. Download the latest Python 3 package from <https://www.python.org/downloads/> (At time of writing it is Python 3.7.3 so will be this version throughout the manual, although later versions will likely be the same). Click 'Download Python 3.7.3'



2. Save this to downloads, then click Run/Open to open the python-3.7.3.exe

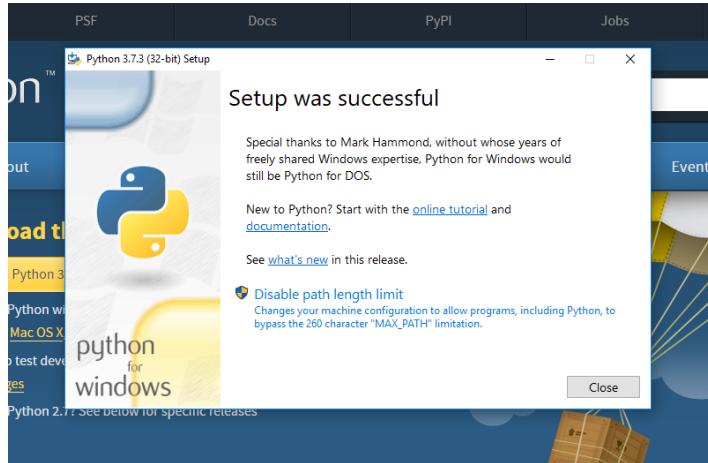


Click the 'Add Python 3.7 to PATH' checkbox and then click 'Install Now'



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Once this has installed, click the ‘Disable path length limit’ and close the installer by clicking ‘Close’. If there is no option to disable the path length limit, then it has likely been disabled prior to the installation, so just click ‘Close’.



- Download Chrome Driver from <https://www.python.org/downloads/>, clicking the latest stable release link.

CHROMEDRIVER

- [CAPABILITIES & CHROMEOPTIONS](#)
- [CHROME EXTENSIONS](#)
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- [VERSION SELECTION](#)
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ChromeDriver

WebDriver is an open source tool for automated testing of webapps across many browsers. It provides capabilities for navigating to web pages, user input, JavaScript execution, and more. ChromeDriver is a standalone server which implements WebDriver's wire protocol for Chromium. We are in the process of implementing and moving to the W3C standard. ChromeDriver is available for Chrome on Android and Chrome on Desktop (Mac, Linux, Windows and ChromeOS).

You can view the current implementation status of the WebDriver standard [here](#).

All versions available in Downloads

- Latest stable release: ChromeDriver 73.0.3683.68
- Latest beta release: ChromeDriver 74.0.3729.6

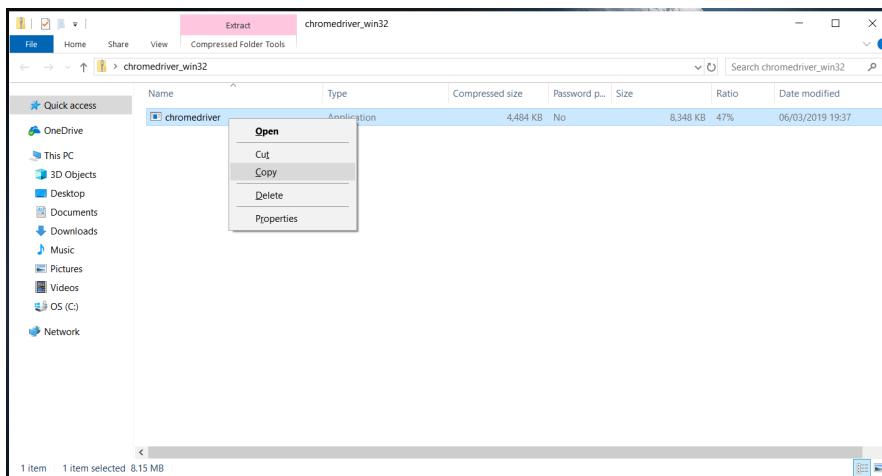
This will take you to a list of links to download different versions, click on the ‘chromedriver_win32.zip’ and save it to the desktop

Index of /73.0.3683.68/

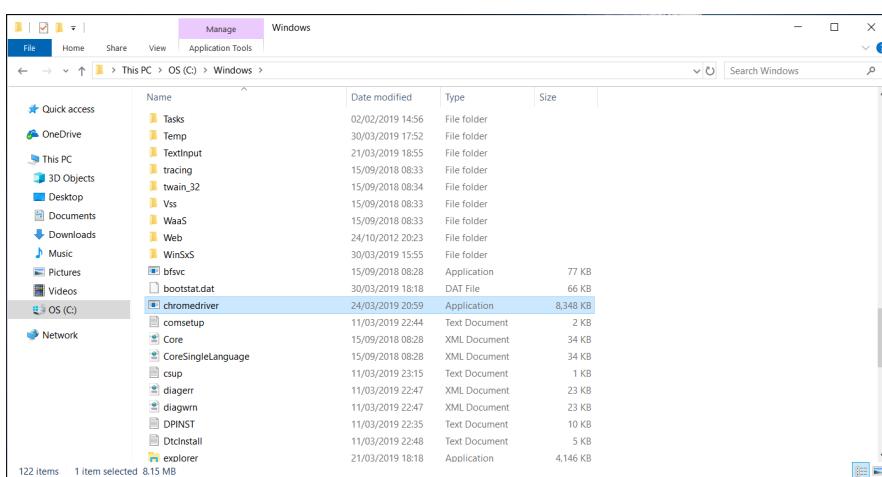
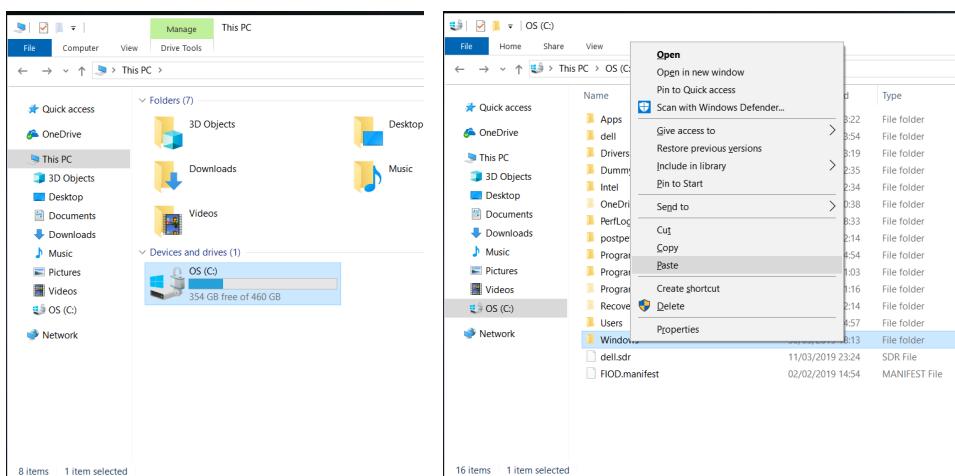
Name	Last modified	Size	ETag
Parent Directory		-	
chromedriver_linux64.zip	2019-03-07 22:34:54	4.78MB	16d6ef61ff19649df9251d742ed85c62
chromedriver_mac64.zip	2019-03-07 22:34:56	6.67MB	9af243f31d0e7e0444bdcc11ec35aa5d
chromedriver_win32.zip	2019-03-07 22:34:58	4.38MB	47bf69232c8b62139e642927ccfe2e4
notes.txt	2019-03-07 22:41:43	0.00MB	6899c47dec5549c1145f209a409c19a1

Open the compressed folder and copy the ‘chromedriver’ application by right clicking on it.

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Click on 'This PC' and go into the 'C:' drive. Paste the application into the 'Windows' folder. (This puts it in your PATH). Go into the folder and check it is there



4. You will need to install these Python Modules:

- o Requests
- o Requests_Oauthlib
- o Selenium
- o Psutil

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This is easiest when done in command prompt. Open a command prompt window and paste this into it and press enter: `python -m pip install requests`

Wait for this to install which shouldn't take too long. You will know when it is done when you see '`C:\Users\Your Username>_`'.

Repeat this process for each of these commands:

`python -m pip install requests_oauthlib`

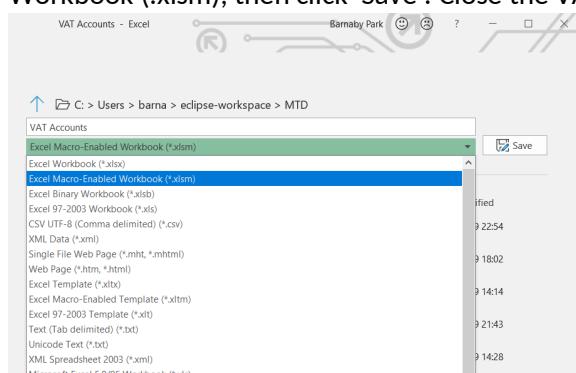
`python -m pip install selenium`

`python -m pip install psutil`

The modules should all now be installed, so you can close the command window.

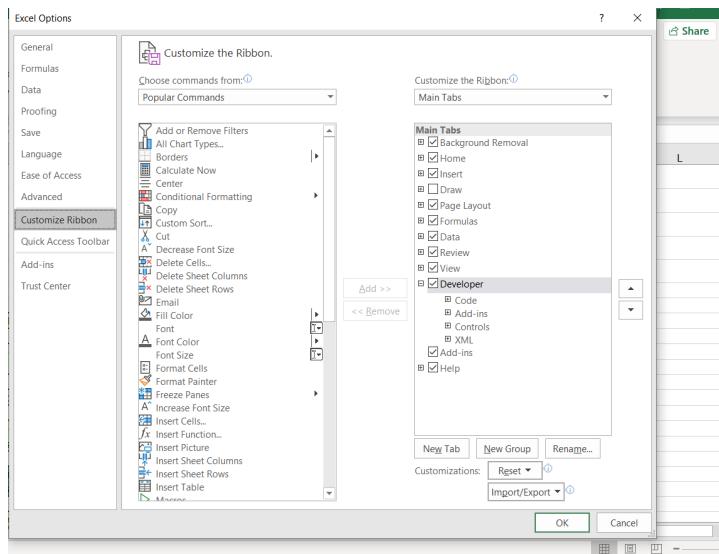
Combining Sheets and Getting Macro Working:

- You will need to convert your VAT spreadsheet to a .xlsm file, if it is not already. Go to step 2 if it is already a .xlsm file.
1. To create a copy of your VAT spreadsheet as a .xlsm, click 'Save As'. Add 'MTD' to the name to differentiate it from your original copy. Change the file type to 'Excel Macro Enabled Workbook'(.xlsm), then click 'Save'. Close the VAT sheet.

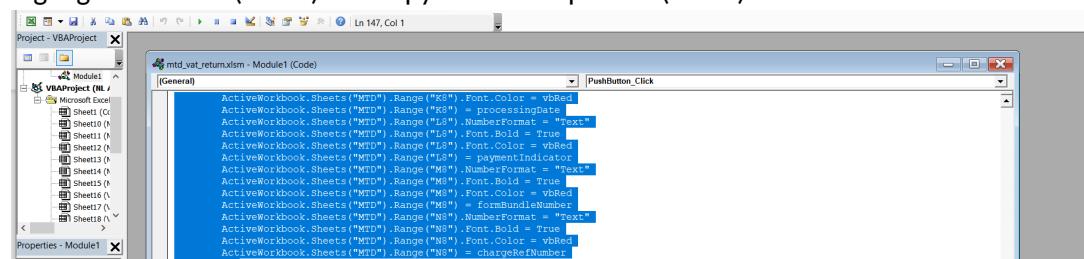


2. Open the new VAT MTD sheet and the MTD standalone sheet, then click 'Enable Macros' in the yellow bar.
3. Go to the VAT sheet, click 'File', select 'Options' and click 'Customize Ribbon'. On the right-hand side, tick the 'Developer' checkbox, and click OK.

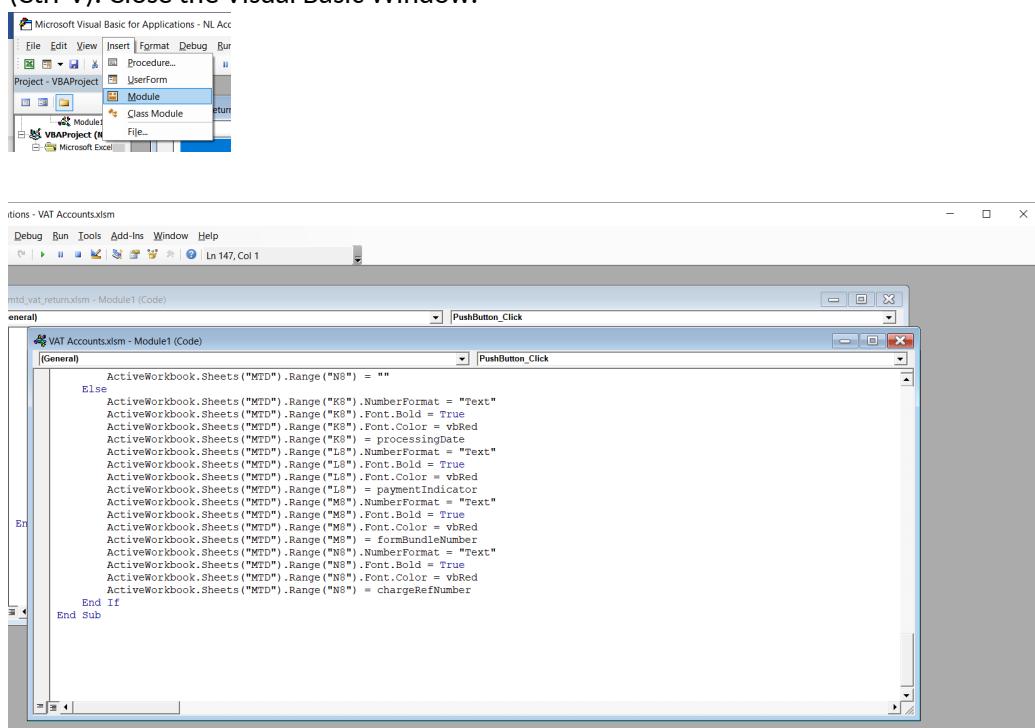
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4. Go to the 'Developer' tab and click 'visual basic'. This should open the code for the macro. Highlight the code (Ctrl-A) and copy it to the clipboard (Ctrl-C).

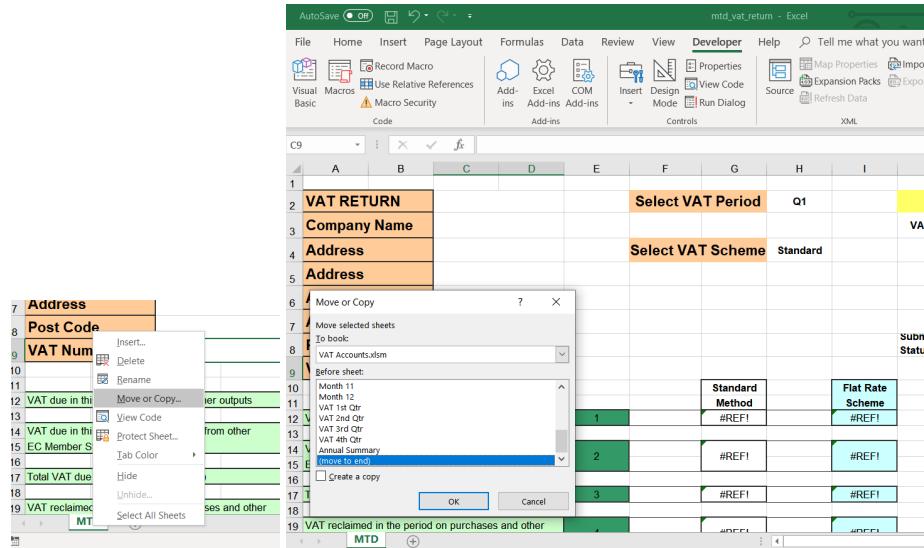


5. Click on the Insert tab and select 'Module'. In the new blank Module, paste the copied code (Ctrl-V). Close the Visual Basic Window.



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6. Go to the MTD single sheet, right-click bottom tab (MTD) and click ‘Move or Copy’. In the first dropdown box, click the name of your .xlsm VAT sheet, and in the second dropdown box, click ‘Move to End’, or wherever you would like to put the MTD sheet in your VAT worksheet, then click OK. There should now be only one spreadsheet open; your VAT sheet with the with MTD page integrated. Click Save.



Mapping MTD cells to VAT sheet cells:

1. Go to the MTD page, click on box G12 (this should be the VAT due on sales box), and click on the formula bar at the top. Be careful where you click as the formula will change depending on what you click. Highlight the first "#REF!" and delete it, this is where you will put the location of the data box that has your "VAT due on sales" data.

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2. Navigate to the page with your data. You will notice that the Formula Bar will have this page name in the area where the "#REF!" was. Click on the box with the data in and hit enter. The MTD box should now say the data from the first quarter.

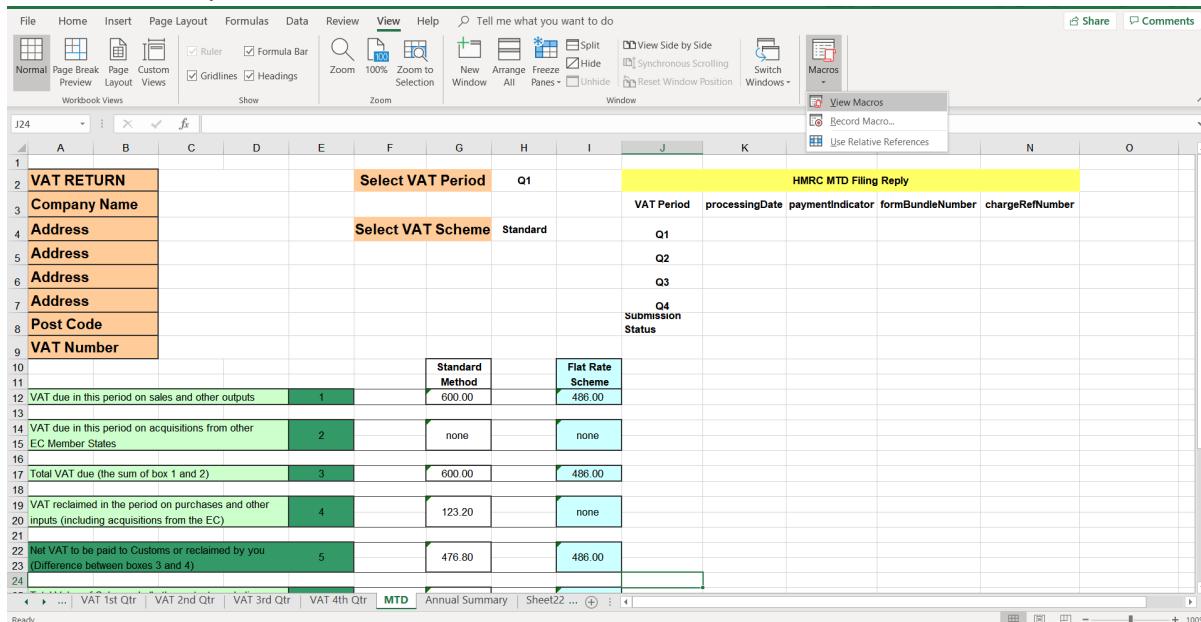
3. Repeat this process for the other 3 "#REF!" for Q2, Q3 and Q4. This box should now show data for all quarters when the 'Select VAT Period' dropdown box is changed.

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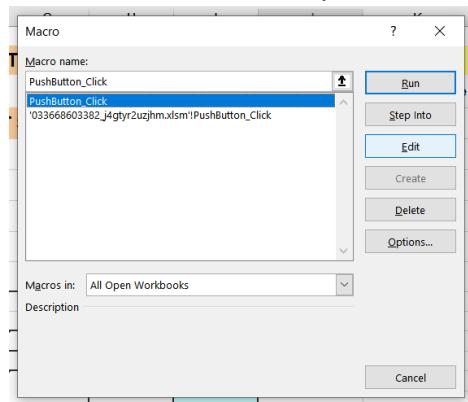
4. Repeat Steps 1-4 for data points 2 to 9. You should then repeat this process for the 'Flat Rate Scheme' area next to it if needed.

Setup:

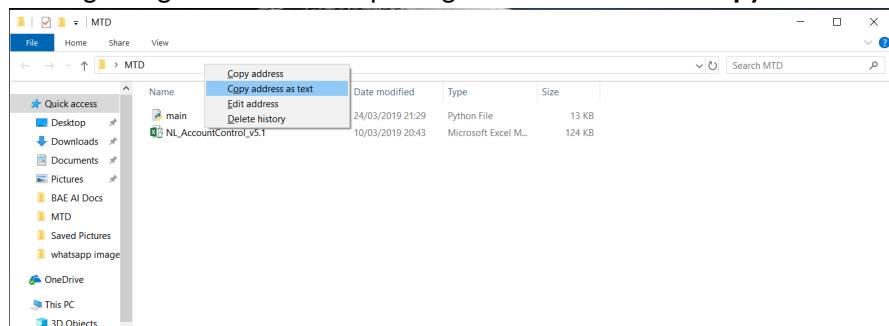
1. Open your VAT Accounts Excel File and go to the MTD page. In the 'View' tab, click the 'Macros' dropdown button and click 'View Macros'.



A Macro window should open. Select 'PushButton_Click' and click 'Edit'.



2. A Visual Basic programming window will appear. In the window with the code, scroll down to where it says 'launch python script passing in VAT return data' in green. You will need to edit the line under this by removing the placeholder location of the MTD program and replacing it with the location on your computer. If you have followed the instructions the location will be on your desktop, so go to your desktop and open the 'MTD' file by double clicking it. Right click on the top navigation bar and select 'copy address as text'.



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3. Now go back to the 'Microsoft Visual Basic' window and paste it over the **C:\Users\Steve\Documents\docs\MTD** by highlighting this exact part of the code, right clicking and selecting 'paste', ensuring to leave the **\main.py** part intact. Double check below for before and after comparison, yours should look the same but with your user profile instead of 'barna'.

(WARNING: If any other text is edited or this part is performed incorrectly, this will cause the program to not work properly. If this has occurred; close **both** the Visual Basic window and the Excel window **without** saving and return to Step 1 of this section.)

Before:

```

totalValuePurchasesExVAT = ActiveWorkbook.Sheets("MTD").Range("I28").Value
totalValueGoodsSuppliedExVAT = ActiveWorkbook.Sheets("MTD").Range("I31").Value
totalAcquisitionsExVAT = ActiveWorkbook.Sheets("MTD").Range("I34").Value
End If
'get VAT period
periodKey = ActiveWorkbook.Sheets("MTD").Range("H2").Value
'get company data
VATReg = ActiveWorkbook.Sheets("MTD").Range("C9").Value
'get current filename/path
sURL = ThisWorkbook.FullName
params = periodKey & " " & vatDueSales & " " & vatDueAcquisitions & " " & totalVatDue & " " & vatReclaimedCurrPeriod & " " & netVatDue
'MsgBox (params)
'launch python script passing in VAT return data
ret = Shell("python C:\Users\Steve\Documents\docs\MTD\main.py " & params, 1)
' use shell command below to debug, i.e. leave DOS cmd window open
' ret = Shell(Environ("COMSPEC") & " /k " & "python C:\Users\Steve\Documents\docs\MTD\main.py " & params, 1)
' wait until results file has been created, i.e. until pythonscript has completed
Do While Dir(resultFilePath) = ""
' wait a second before testing again
Application.Wait (Now + TimeValue("0:00:01"))
Loop
' wait 1 sec to ensure resultsfile contents has been written and file closed

```

After:

```

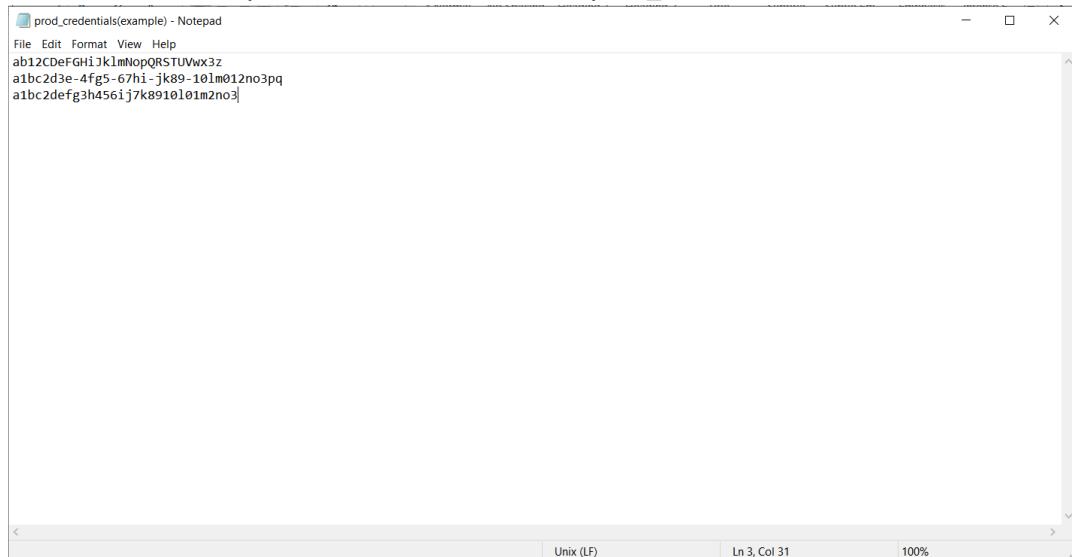
totalValuePurchasesExVAT = ActiveWorkbook.Sheets("MTD").Range("I28").Value
totalValueGoodsSuppliedExVAT = ActiveWorkbook.Sheets("MTD").Range("I31").Value
totalAcquisitionsExVAT = ActiveWorkbook.Sheets("MTD").Range("I34").Value
End If
'get VAT period
periodKey = ActiveWorkbook.Sheets("MTD").Range("H2").Value
'get company data
VATReg = ActiveWorkbook.Sheets("MTD").Range("C9").Value
'get current filename/path
sURL = ThisWorkbook.FullName
params = periodKey & " " & vatDueSales & " " & vatDueAcquisitions & " " & totalVatDue & " " & vatReclaimedCurrPeriod & " " & netVatDue
'MsgBox (params)
'launch python script passing in VAT return data
ret = Shell("python C:\Users\barna\Desktop\MTD\main.py " & params, 1)
' use shell command below to debug, i.e. leave DOS cmd window open
' ret = Shell(Environ("COMSPEC") & " /k " & "python C:\Users\Steve\Documents\docs\MTD\main.py " & params, 1)
' wait until results file has been created, i.e. until pythonscript has completed
Do While Dir(resultFilePath) = ""
' wait a second before testing again
Application.Wait (Now + TimeValue("0:00:01"))
Loop
' wait 1 sec to ensure resultsfile contents has been written and file closed

```

If your code looks the same as the after picture above, then click the save button in the top left corner and close the 'Microsoft Visual Basic' window. You should now be ready to submit VAT returns.

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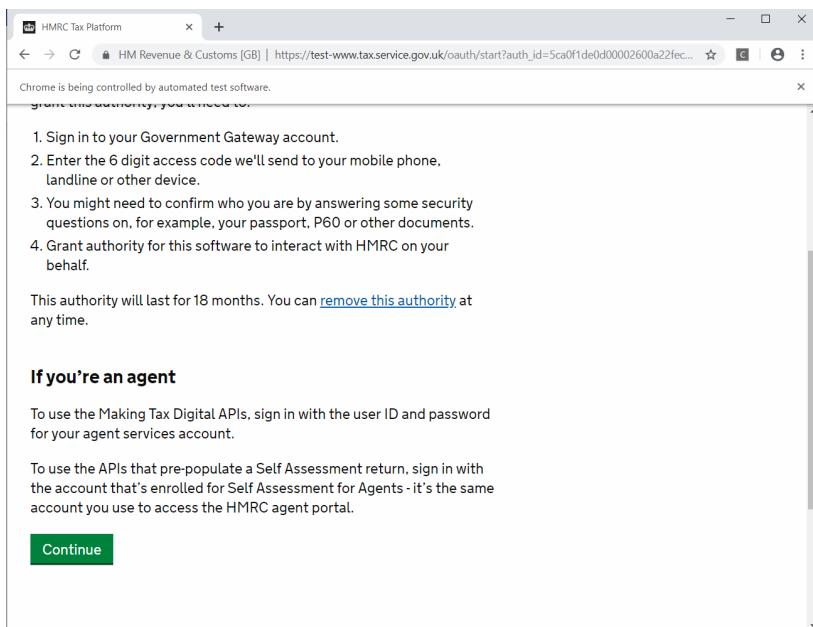
4. Before you can file VAT returns, you need to create a text file with 3 of your VAT account credentials. These are your **Client ID**, **Client Secret** and **Server Token**, which you can find on your HMRC VAT account. Open a blank notepad document and copy your credentials to it, each on a new line (picture below). Save this as “prod_credentials.txt” in the MTD folder.



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Filing returns:

1. In the VAT excel sheet, ensure that MTD information cells in columns G and I link to the cells in your VAT spreadsheet and contain the correct data, so that the MTD program will correctly submit your VAT return to the HMRC servers.
2. Input your Company Name, Address, Post Code and VAT Number into the relevant boxes in the top left corner of the MTD page.
3. Select which Quarter you would like to submit in in the 'Select VAT Period' dropdown box, and then select which VAT scheme it should submit in the 'Select VAT Scheme' dropdown box below.
4. Ensure that the data in fields 1 to 9 are correct and click the 'File Return' Button.
IMPORTANT: Ensure the information is 100% correct before filing the return. You cannot change the information once it has been submitted. Submitting incorrect VAT amounts is FRAUD.
5. A Google Chrome window should open. You need to agree to the use of your information and then you will have to log in to your VAT account, so click '**Continue**' and ensure that you have your login information to hand. The window has a 2-minute timeout, so if you are longer than this, the window will close, and you will have to start again.



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The screenshot shows a standard sign-in form for HM Revenue & Customs. It includes fields for 'User ID' and 'Password', a 'Sign in' button, and links for troubleshooting.

6. Once logged in you will have to grant access, so click 'Grant Authority'.

The screenshot shows a page asking for permission to interact with HMRC. It lists actions like changing VAT information and viewing VAT information, states a 18-month validity period, and features a 'Grant authority' button.

- 7. The window should close, and you will have a receipt printed in the top right of the MTD page on the MTD spreadsheet. The submission status should say 'Success' and you can use the receipt data to document the VAT return. You have now submitted the VAT return.**
- Note:** You can only do this once per Quarter, if you try to file it again, you will get a '**'BUSINESS_ERROR'** Failed Submission Status.

IMPORTANT: Dhryrock Technologies LTD will not be held accountable for filing falsified VAT information. The User is responsible for all data submitted to the HMRC servers. Ensure the amounts are correct BEFORE uploading the information.