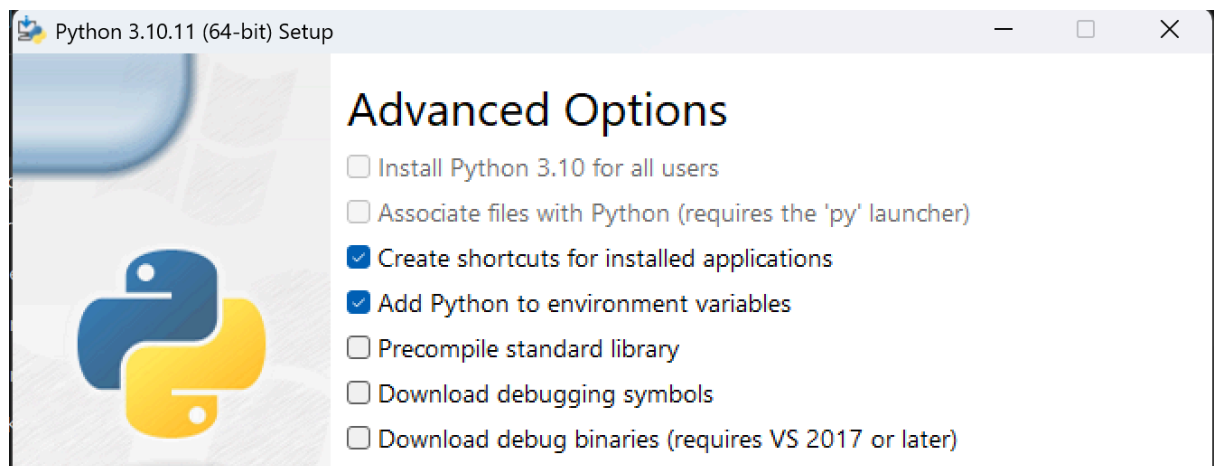


Using Bulk Registration on Windows 11

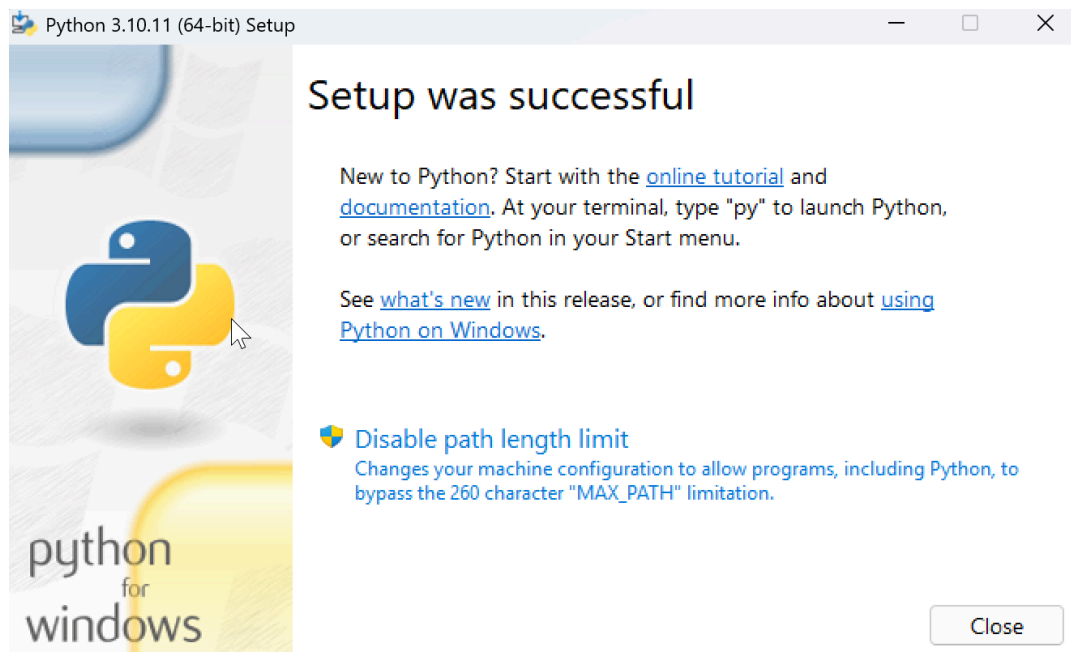
Procedure

1. Download and install Python 3.10 for Windows (later versions are likely to cause errors)
<https://www.python.org/ftp/python/3.10.11/python-3.10.11-amd64.exe>

Choose “Advanced Options/Advanced Install” and ensure Add Python to environment variables is checked



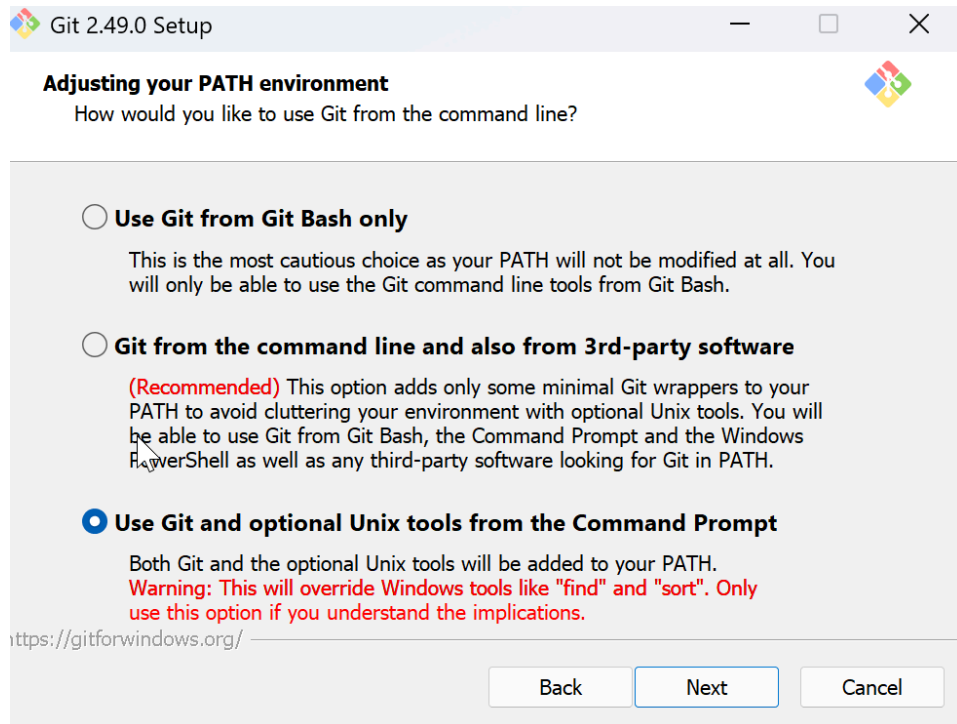
During Install (on the final page) click the option to disable the path length limit



2. If you do not already have git installed, do so now. You can obtain it here:

<https://git-scm.com/downloads/win>

Install it on your system, ensuring the option to **Use Git and optional Unix tools from the Command Prompt** is selected. If you already have it installed, you may need to reinstall and choose this option. Choosing the defaults on all other setup pages is likely sufficient unless you have a specific requirement outside of using the bulk registration script.



3. Open a command window (not Powershell) as an administrator and run python to confirm it launches without issues and is the correct version (3.10.11)

```
Command Prompt
Microsoft Windows [Version 10.0.26100.4351]
(c) Microsoft Corporation. All rights reserved.

C:\Users\bob>python
Python 3.10.11 (tags/v3.10.11:7d4cc5a, Apr 5 2023, 00:38:17) [MSC v.1929 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>> exit()

C:\Users\bob>
```

When confirmed, type `exit()` to go back to the command prompt.

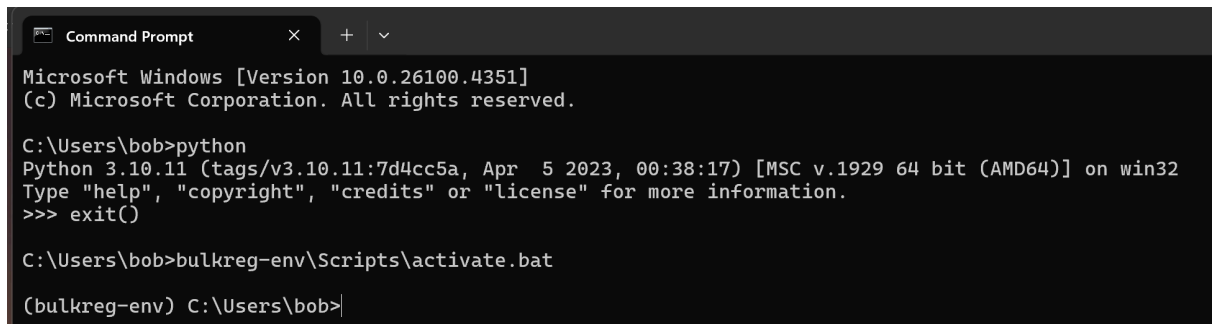
4. Create a virtual environment by typing:

python -m venv bulkreg-env

This will take a few seconds to complete. After it has, type the following

bulkreg-env\Scripts\activate.bat

This should now put you on a prompt prefixed with bulkreg-env. Whenever you wish to run the script in the future, you need to run that activate command first.



```
Microsoft Windows [Version 10.0.26100.4351]
(c) Microsoft Corporation. All rights reserved.

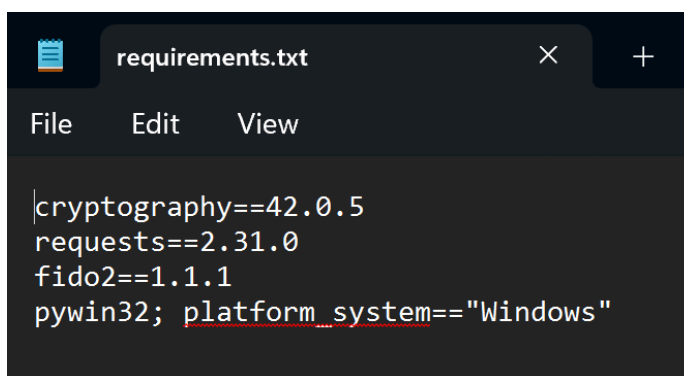
C:\Users\bob>python
Python 3.10.11 (tags/v3.10.11:7d4cc5a, Apr  5 2023, 00:38:17) [MSC v.1929 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>> exit()

C:\Users\bob>bulkreg-env\Scripts\activate.bat

(bulkreg-env) C:\Users\bob>
```

5. Add the following to a new notepad text file called requirements.txt in the bulkreg-env folder (run **notepad bulkreg-env\requirements.txt** from the command line) and then save it

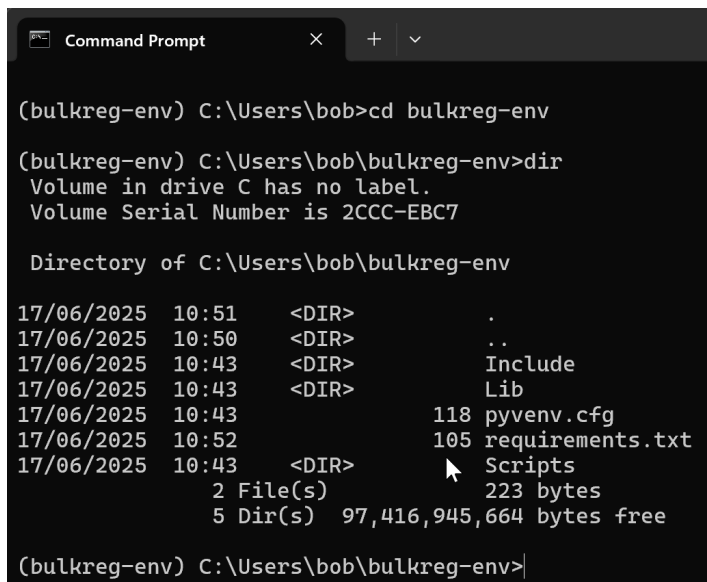
```
cryptography==42.0.5
requests==2.31.0
fido2==1.1.1
pywin32; platform_system=="Windows"
```



```
File Edit View

| cryptography==42.0.5
| requests==2.31.0
| fido2==1.1.1
| pywin32; platform_system=="Windows"
```

6. Change to the bulkreg-env folder and run **dir** to confirm the requirements.txt is in the correct location



```
(bulkreg-env) C:\Users\bob>cd bulkreg-env

(bulkreg-env) C:\Users\bob\bulkreg-env>dir
Volume in drive C has no label.
Volume Serial Number is 2CCC-EBC7

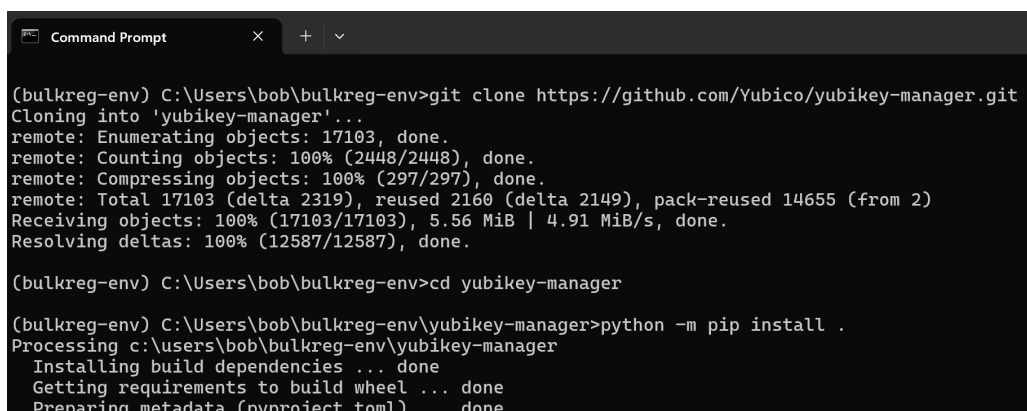
Directory of C:\Users\bob\bulkreg-env

17/06/2025  10:51    <DIR>          .
17/06/2025  10:50    <DIR>          ..
17/06/2025  10:43    <DIR>          Include
17/06/2025  10:43    <DIR>          Lib
17/06/2025  10:43                118 pyvenv.cfg
17/06/2025  10:52                105 requirements.txt
17/06/2025  10:43    <DIR>          Scripts
                   2 File(s)                223 bytes
                   5 Dir(s)  97,416,945,664 bytes free

(bulkreg-env) C:\Users\bob\bulkreg-env>
```

7. Install YubiKey manager via git. Note the “.” at the end of the last line is required.

```
git clone https://github.com/Yubico/yubikey-manager.git
cd yubikey-manager
python -m pip install .
```



```
(bulkreg-env) C:\Users\bob\bulkreg-env>git clone https://github.com/Yubico/yubikey-manager.git
Cloning into 'yubikey-manager'...
remote: Enumerating objects: 17103, done.
remote: Counting objects: 100% (2448/2448), done.
remote: Compressing objects: 100% (297/297), done.
remote: Total 17103 (delta 2319), reused 2160 (delta 2149), pack-reused 14655 (from 2)
Receiving objects: 100% (17103/17103), 5.56 MiB | 4.91 MiB/s, done.
Resolving deltas: 100% (12587/12587), done.

(bulkreg-env) C:\Users\bob\bulkreg-env>cd yubikey-manager

(bulkreg-env) C:\Users\bob\bulkreg-env\yubikey-manager>python -m pip install .
Processing c:\users\bob\bulkreg-env\yubikey-manager
Installing build dependencies ... done
Getting requirements to build wheel ... done
Preparing metadata (pyproject.toml) ... done
```

8. Change back to bulkreg-env (**cd ..**) and run the command **pip install -r requirements.txt**

```
(bulkreg-env) C:\Users\bob\bulkreg-env>pip install -r requirements.txt
Collecting cryptography==42.0.5
  Downloading cryptography-42.0.5-cp39-abi3-win_amd64.whl (2.9 MB)
    2.9/2.9 MB 5.1 MB/s eta 0:00:00
Collecting requests==2.31.0
  Downloading requests-2.31.0-py3-none-any.whl (62 kB)
    62.6/62.6 kB ? eta 0:00:00
Collecting fido2==1.1.1
  Downloading fido2-1.1.1-py3-none-any.whl (203 kB)
    203.7/203.7 kB 4.1 MB/s eta 0:00:00
```

9. Install the bulk registration script. This is necessary even if you have installed and used it before.

git clone <https://github.com/neilfx1/EntraID-EOBO.git>

cd EntraID-EOBO

```
Command Prompt
(bulkreg-env) C:\Users\bob\bulkreg-env>git clone https://github.com/YubicoLabs/entraId-register-passkeys-on-behalf-of-users.git
Cloning into 'entraId-register-passkeys-on-behalf-of-users'...
remote: Enumerating objects: 69, done.
remote: Counting objects: 100% (69/69), done.
remote: Compressing objects: 100% (46/46), done.
remote: Total 69 (delta 39), reused 42 (delta 22), pack-reused 0 (from 0)
Receiving objects: 100% (69/69), 2.52 MiB | 4.75 MiB/s, done.
Resolving deltas: 100% (39/39), done.

(bulkreg-env) C:\Users\bob\bulkreg-env>cd entraId-register-passkeys-on-behalf-of-users\bulkRegistration
(bulkreg-env) C:\Users\bob\bulkreg-env\entraId-register-passkeys-on-behalf-of-users\bulkRegistration>
```

10. Run notepad configs.json and match the fields to your requirements and environment. You will need to obtain the tenant, client_id and client_secret from Entra. To complete that setup,

please follow steps 1 and 2 here
<https://github.com/neilfx1/EntraID-EOBO/blob/main/bulkRegistration/BulkRegistration.md#setup>

Do not run the python commands (steps 3 onwards).

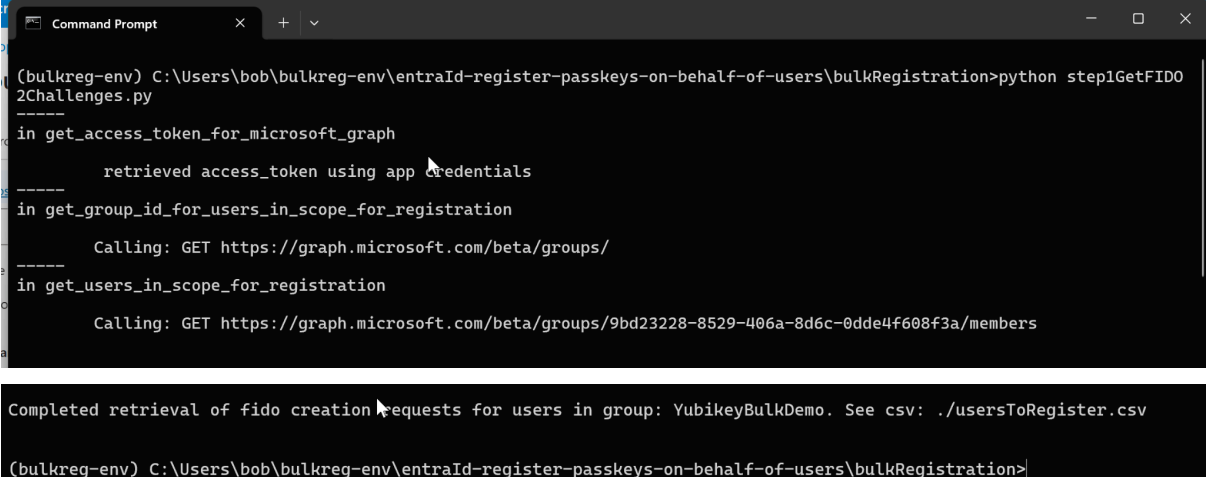
An example completed config,json is shown below:

```
{
  "tenantName": "3565ab6c-a3ff-4ef4-b720-f0c48a43sved",
  "client_id": "01061633-cafa-4aef-96d2-06e88d8df5c2",
  "client_secret": "aoH8Q~XZAahEDC.R_QXfC1u1juU6i2prDlUTFE-",
  "usersInScopeGroup": "YubikeyBulkDemo",
  "challengeTimeoutInMinutes": 60,
  "deleteExistingUserFIDOCredentials": false,
  "useRandomPIN": true,
  "useCTAP21Features": false
}
```

*Note: Ensure the **usersInScopeGroup** exists on Entra ID*

11. Run python step1GetFIDO2Challenges.py

This will iterate through all users you added to your usersInScopeGroup and add this to usersToRegister.csv



```
(bulkreg-env) C:\Users\bob\bulkreg-env\entraId-register-passkeys-on-behalf-of-users\bulkRegistration>python step1GetFIDO2Challenges.py
-----
in get_access_token_for_microsoft_graph
    retrieved access_token using app credentials
-----
in get_group_id_for_users_in_scope_for_registration
    Calling: GET https://graph.microsoft.com/beta/groups/
-----
in get_users_in_scope_for_registration
    Calling: GET https://graph.microsoft.com/beta/groups/9bd23228-8529-406a-8d6c-0dde4f608f3a/members

Completed retrieval of fido creation requests for users in group: YubikeyBulkDemo. See csv: ./usersToRegister.csv
(bulkreg-env) C:\Users\bob\bulkreg-env\entraId-register-passkeys-on-behalf-of-users\bulkRegistration>
```

Check usersToRegister.csv if required.

12. Delete **step2CreateAndActivateCredential.py** from the folder and save the one attached with this set of instructions in its place. This resolves a bug with the script where it cannot access the YubiKey due to a missing function.

Run python step2CreateAndActivateCredential.py (the replacement file)

```
Administrator: Command Prompt
(bulkreg-env) C:\Users\bob\bulkreg-env\entraId-register-passkeys-on-behalf-of-users\bulkRegistration>python step2CreateAndActivateCredential.py

    If PIN is already set on security key(s) then script will prompt for existing PIN and change to new random PIN.

    Press Enter key to continue...
-----
in get_access_token_for_microsoft_graph
    retrieved access token using app credentials
    Skip csv header row
-----
    processing user: DiegoS@authmeuk.onmicrosoft.com
-----
    userDisplayName: Diego Siciliani
    userId: T0Y6bKtldT869E63IPDEikPaPSIjc5SVJh9NSRJHKFC_qGt2HnuB8_n-vQRWBsrQoU3K
    challengeExpiryTime: 2025-06-17T11:30:51Z
    rpID: login.microsoft.com
```

This will iterate through your usersToRegister and create credentials based upon your settings within configs.json.

```
-----
in create_credentials_on_security_key
    Prepare for FIDO2 Registration Ceremony and follow the prompts

    Press Enter when security key is ready

    Found YubiKey with serial number: 10648768
-----
in generate_and_set_pin
    We will now set the PIN to: 674912

    PIN set to 674912

    Touch your security key now...
    New FIDO credential created on YubiKey
```

Follow all prompts and change keys when prompted.