Getting Started with Extreme APIs

by Mike Rieben, SA & Tim Smith, SA – 10/25/2022 – v3

Overview:

Follow this guide to get started if you plan on writing Python scripts or running any located on our GitHub sites. We think this is the best setup to get started. This doesn't include any script writing, just setting up the environment. You will need to review any read-me/guides for a specific script you wish to use.

Target Audience: Technical

Prerequisites:

- Local computer administrator rights to download and install software
- MacOS computer (Monterey and BigSur covered)
- Windows 10 Pro computer (v11 should be the same)

How are you going to use scripts?

- Are you a developer and want an IDE?
  - Install Visual Studio Code IDE and setup a virtual environment for each script you work with

- Are you a user of the scripts and want an IDE to edit files that require editing before running?
  - Install Visual Studio Code IDE only and skip virtualization of projects

- Are you a user of the scripts and want to keep your installs to a minimum?
  - Skip sections that install Visual Studio Code IDE and Virtual Environment
  - This section is for Windows users. Mac users shouldn't mess with their Python system.
  - Skip to the section "Script Consumers" using the built-in tool PowerShell from start to finish

Table of Contents

Change Log

Date	Version	Notes
10/21/2022	1	First release
10/24/2022	2	Created a Getting Started Python script instead of using an existing project. Added two packages to requirements.txt. Added Windows PC setup instructions.
10/25/2022	3	Pg. 13 - Fixed a python script error for 'venv'

Resources

Github.com Repositories:

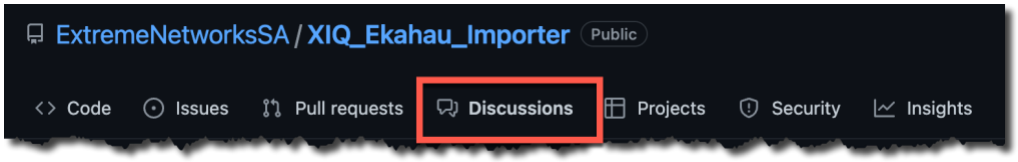
- Extreme Networks main: https://github.com/extremenetworks/ExtremeCloudIQ-APIs
- Solutions Architect Repository: https://github.com/ExtremeNetworksSA
- Tim Smith is our primary script developer on the Solutions Architect team: https://github.com/timjsmith24
  (Scripts from here will migrate to the ExtremeNetworksSA repository over time.)

Extreme Networks Sites:

- Developer portal: https://developer.extremecloudiq.com/
- Test APIs without software or programming, Swagger UI: https://api.extremecloudiq.com/

Support:

- ExtremeCloud IQ Developer Community: https://community.extremenetworks.com/t5/extremecloud-iq-developer/bd-p/ExtremeCloud_IQ_Developer_Community
- GitHub > Script > **Discussions** tab (posts are monitored)



- GTAC supports a number of our written scripts hosted on our GitHub repositories.

```
Global Technical Assistance Center
(GTAC) for Immediate Support
Phone: 1-800-998-2408 (toll-free in
U.S. and Canada) or +1 408-579-2826.
For the support phone number in your
country,
visit: www.extremenetworks.com/
support/contact
```

Install Python & Virtual Environment – Mac OS

Further reading: docs.python.org

MacOS comes with Python installed. Our scripts require Python version 3.6 or higher. You shouldn't mess with the system Python installation. You'll create a virtual environment for each script you create/run.

You'll install the *VirtualEnv* package onto your Mac system. MacOS BigSur needs "pip" installed as well.

1. Open Terminal app

   MacOS Monterey v12.6: (Python 3.9.6 & PIP3 installed)
2. Install: `pip3 install virtualenv`
3. Verify package installed: `pip3 list`

   MacOS BigSur v11.7: (Python 3.8.2 installed, not PIP3)
2. Install PIP3: `curl https://bootstrap.pypa.io/get-pip.py -o get-pip.py && python3 get-pip.py`
3. Update PIP3 per the instructions on your Terminal:

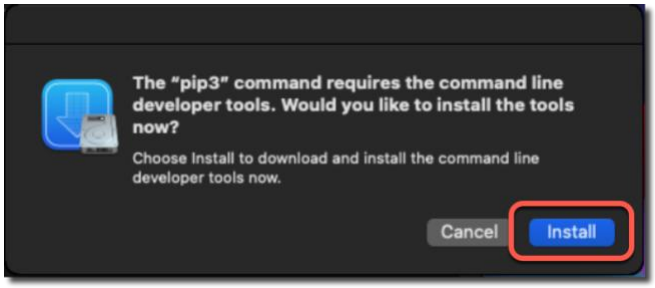
```
Successfully installed pip-22.3

[notice] A new release of pip available: 20.2.3 -> 22.3
[notice] To update, run: /Library/Developer/CommandLineTools/usr/bin/python3 -m
pip install --upgrade pip
```

4. Verify pip version: `pip3 -version`
   (ignore the warning while checking your version)
5. Install: `pip3 install virtualenv`
   (Get a popup? See install dev tools below)
6. Verify package installed: `pip3 list`
7. Close Terminal app

Install Mac Developer Tools

If you're prompted to install Developer Tools, press **Install**. This may take 15+ minutes to complete.



FYI: Uninstall VirtualEnv

If you find yourself wanting to uninstall *VirtualEnv* from your Mac system, run this:

- `pip3 uninstall virtualenv -y`

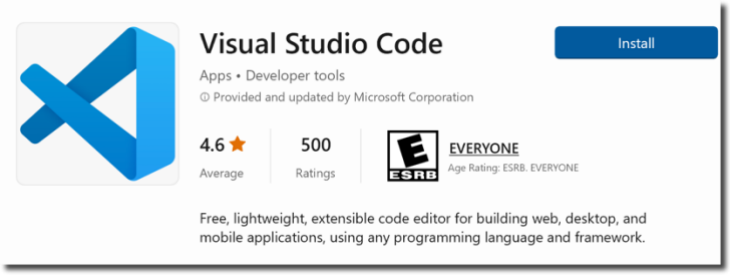
Install Visual Studio Code, Python, & Virtual Environment – Windows PC

Further reading: docs.python.org

Windows needs Python to be installed. Our scripts require Python version 3.6 or higher. You shouldn't mess with the system Python installation. You'll create a virtual environment for each script you create/run.

1. Search in the Windows Store for *Python 3.9* then press the **Get** button
   - 3.10+ is NOT supported for many of our scripts so choose v3.9
   - You may be prompted to log in with Microsoft credentials
   - It will begin the installation

2. Search in the Windows Store for *Visual Studio Code* then press **Install** button



3. Launch **Windows PowerShell,** Run as an Administrator
4. Check if your Execution Policy is Restricted: `Get-ExecutionPolicy`
   - Change policy: `Set-ExecutionPolicy -ExecutionPolicy RemoteSigned -Scope CurrentUser`
   - `[ A ]` Yes to All
5. Install Virtual Environment: `pip3 install virtualenv`
6. Verify package installed: `pip3 list`
7. Close PowerShell window

FYI: Uninstall VirtualEnv

If you find yourself wanting to uninstall *VirtualEnv* from your Windows PC system, run this:

- `pip3 uninstall virtualenv -y`

File Directory Setup & Download Scripts from GitHub – Mac OS & Windows PC

Create an APIs Folder for Scripts

You need a project file directory for your work:

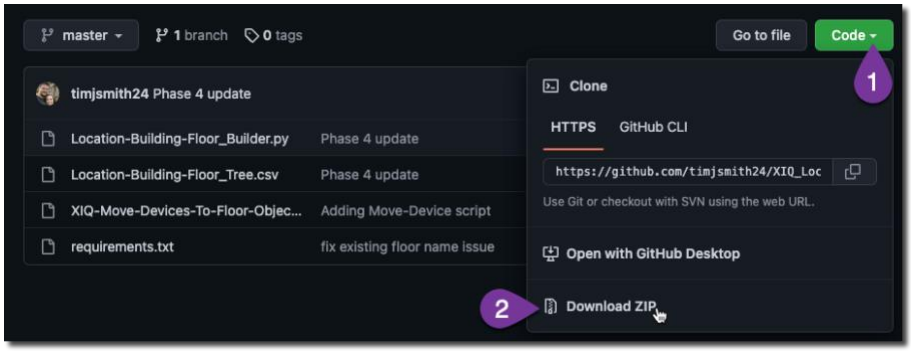
1. Determine where you're going to save/run/create your scripts. Create a folder if necessary.
   Mac: e.g. /Users/<username>/Library/CloudStorage/**APIs**
   Win: e.g. C:\Users\Mike\Documents\ **APIs**

Download the API Getting Started script

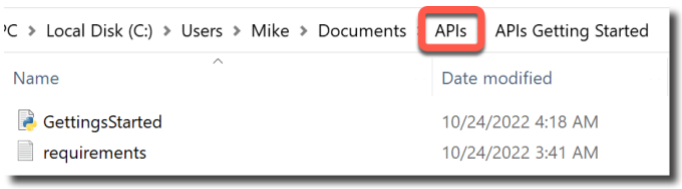
1. Navigate here to download the example script. You can download any script you like:
   * https://github.com/ExtremeNetworksSA/API_Getting_Started

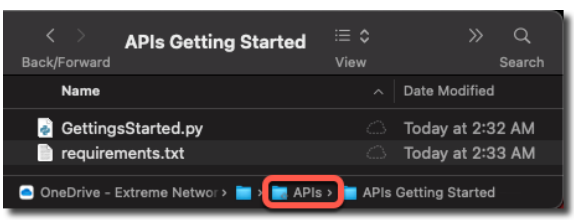
   *: Please note that many scripts require values to be edited before running which is provided in the *readme* file. The above script will run without editing so use that for testing your setup.

2. Download all files via ZIP: Press the Code button > Download ZIP



3. Download your ZIP into your project directory (APIs) and extract it.



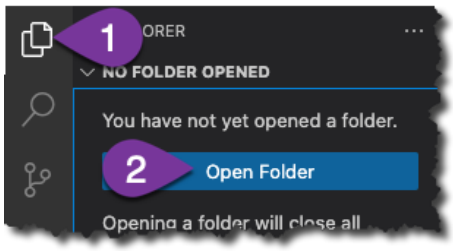


Download, Install, & Setup Visual Studio Code IDE – Mac OS

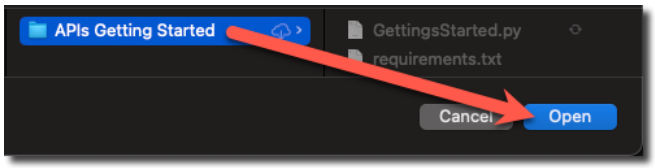
"Free. Built on open source. Runs everywhere."

Navigate to download VSCode: https://code.visualstudio.com/Download

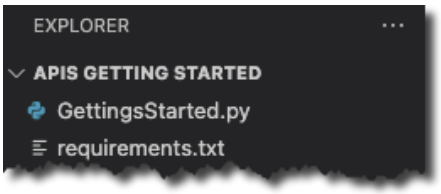
1. Install VSCode and launch the application
2. Click the pages icon > press the **Open Folder** button
3. VSCode: Open the "APIs > APIs Getting Started" folder



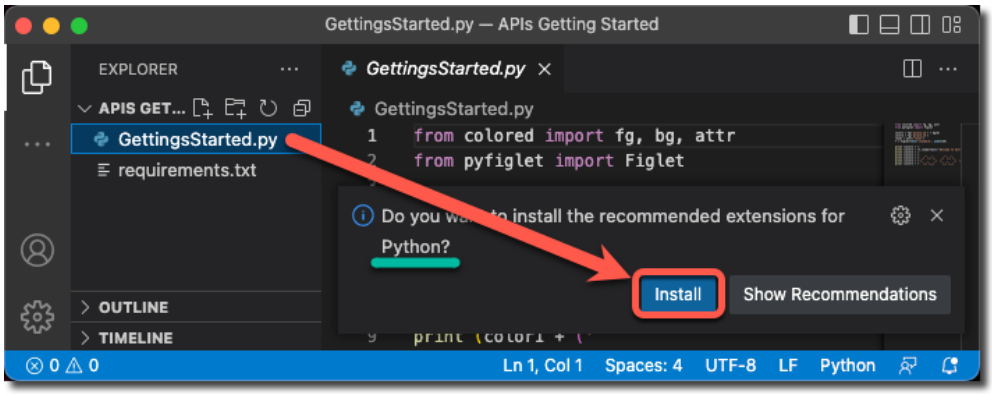
4. Select your project folder, not a file:



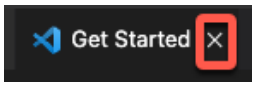
5. Explorer Results:



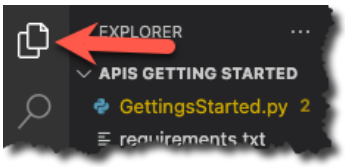
6. Click on *GettingsStarted.py* Python file to open > Press **Install** button



7. After Python installs, press X to close the *Get Started* tab:



8. Click the Explorer icon to return to the project folder:



FYI: Uninstall VSCode App Entirely

- Trash the Application – typical uninstall process for Mac
- Delete folder: `~/Library/Application Support/Code`
- Delete folder contents: `~/.vscode`
- Source: https://code.visualstudio.com/docs/setup/uninstall

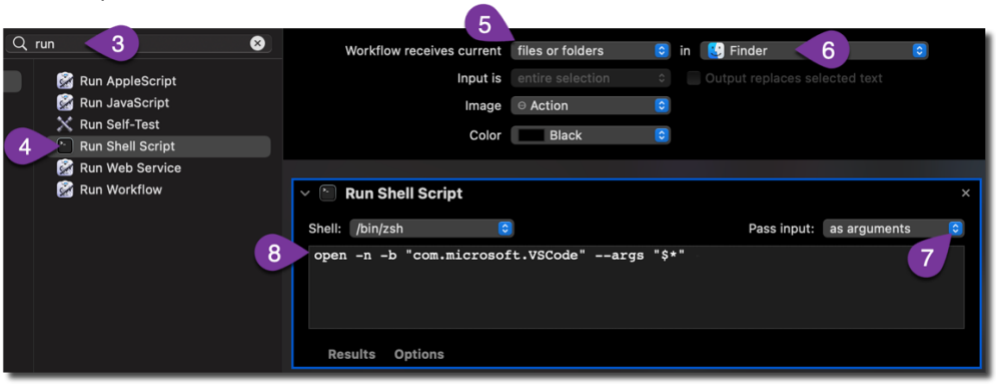
Optional: Add right-click action to open the file in VSCode

Source: https://stackoverflow.com/questions/64040393/open-a-folder-in-vscode-through-finder-in-macos

1. Launch Automator app

2. Click **Quick Action** > press **Choose**

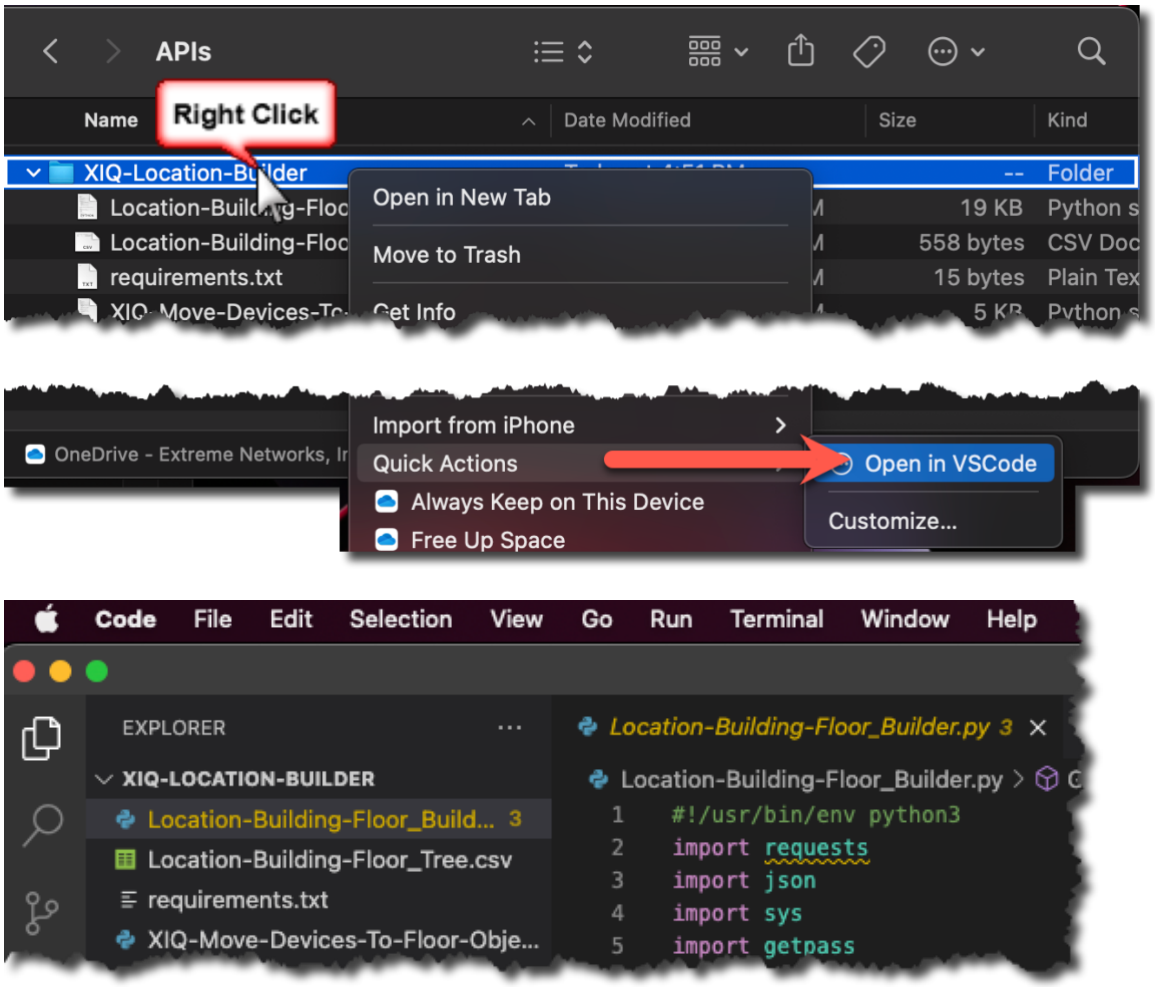
3. Search for 'run'
4. Double click > Run Shell Script
5. Choose: **files or folder**
6. Choose: **Finder**
7. Choose: Pass input: **as arguments**
8. Add Script: `open -n -b "com.microsoft.VSCode" --args "$*"`



9. Menu: File > Save > Name: **Open in VSCode**
10. Close Automator app

Optional: Test Finder - Quick Actions

1. Close VSCode app
2. Open Finder > navigate to your project folder > right click > Quick Actions > **Open in VSCode**

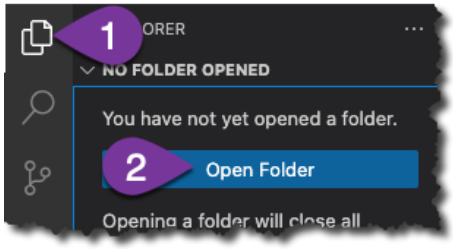


Now that's saving time if you always have Finder open in your project directory. #TimeSaver

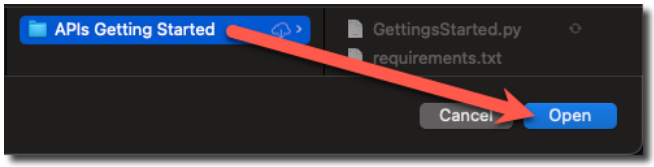
Setup Visual Studio Code IDE – Windows PC

"Free. Built on open source. Runs everywhere." This app was installed from the MS Store:

1. Launch the application
2. Click the pages icon > press the **Open Folder** button
3. VSCode: Open the "APIs > APIs Getting Started" folder



4. Select your project folder, not a file:



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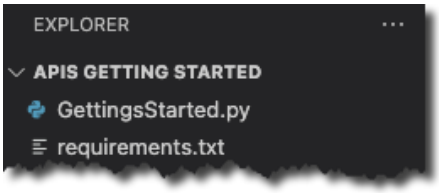
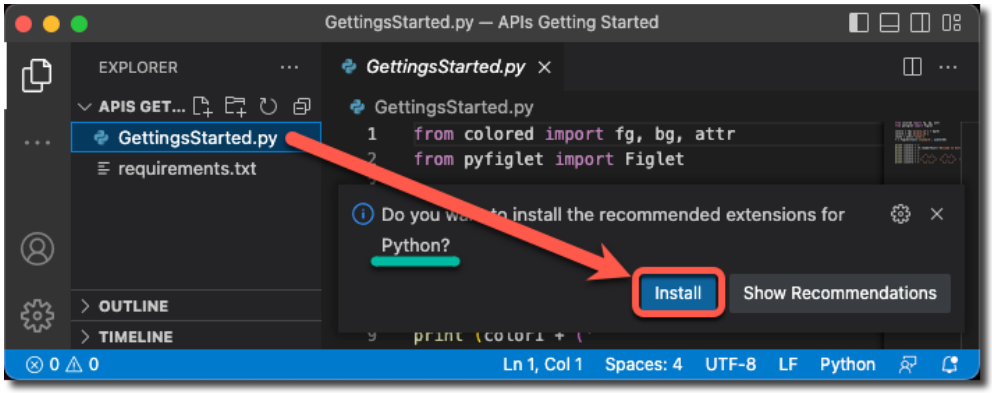
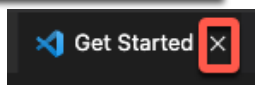


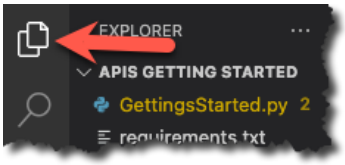
6. Click on *GettingsStarted.py* Python file to open > Press **Install** button



7. After Python installs, press X to close the *Get Started* tab:



8. Click the Explorer icon to return to the project folder:



Requirements.txt File – Mac OS & Windows PC

Every script project will have a *requirements.txt* file. This getting started guide will contain all packages used by all our scripts. Any additional packages required for a script will be noted within the "readme" file for that specific project.

1. VSCode > Open **requirements.txt** file

2. Delete all contents

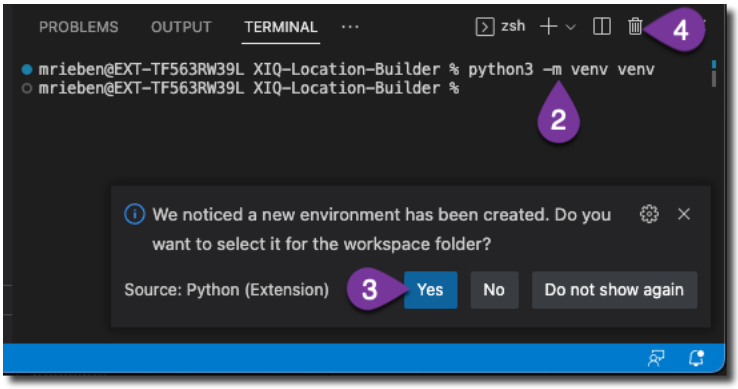
3. These should match your downloaded requirements.txt file within the APIs Getting Started ZIP:

```
requests
pandas
textfsm
ldap3
xlsxwriter
google-api-python-client
google-auth-httplib2
google-auth-oauthlib
paramiko
flask
netmiko
pyfiglet
colored
```

4. Close and save the file

Build a Virtual Environment for a Single Project – Mac OS & Windows PC

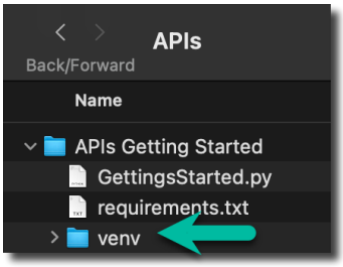
1. VSCode Menu: Terminal > New Terminal
2. `python3 -m venv venv`
3. Press the **Yes** button to switch the Python environment to 'venv'
4. Click Trashcan to close the Terminal



Using Cloud Hosted File Storage?

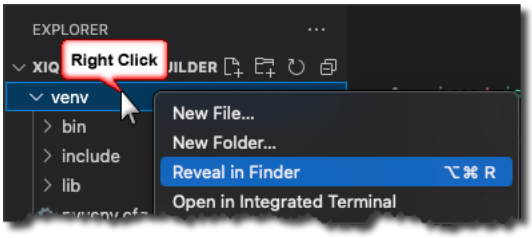
If you're using a service like OneDrive, you must store the files on your computer.

1. Open Finder/Explorer > navigate to your project directory
2. A new folder has been added to your project: **venv**

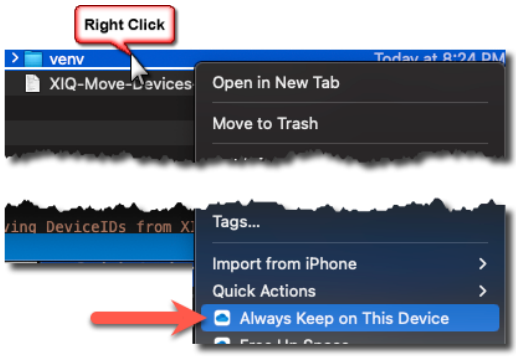


ProTip:
You can use VSCode to open Finder by right-clicking the "venv" folder then:

Mac: Reveal in Finder
Win: Reveal in Explorer



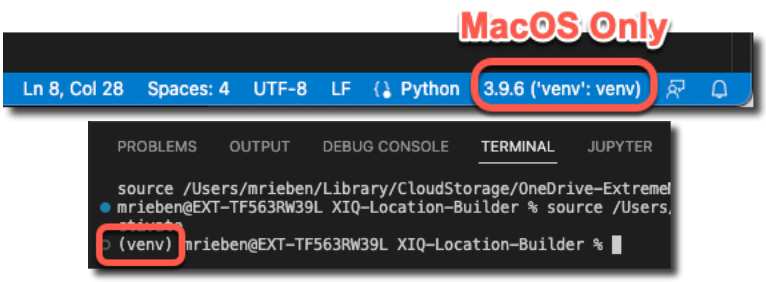
3. OneDrive in Finder app: Right-click your *venv* folder > Always Keep on This Device



Test Script Using Virtual Environment in VSCode – Mac OS & Windows PC

1. Menu: Terminal > New Terminal

2. IMPORTANT: Verify VSCode is using your 'venv' environment to execute scripts:



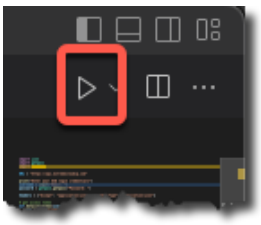
3. Terminal tab: `pip install -r requirements.txt`

   - Every package listed in the *requirements.txt* file should install without any errors
   - Ignore the upgrade pip warning
   - Verify packages: `pip list`

4. Wait until `(venv) … APIs Getting Started %` then click the trashcan icon to close the Terminal

5. Click to open on *GettingStarted.py*

6. Press the play icon to run: (Remember that many of our scripts require values to be edited before they will run. This script will run without user intervention)



SUCCESS! If you see this in the Terminal window, then you're ready to take on the world.

FYI: Uninstall All Packages

- Terminal tab: `pip uninstall -r requirements.txt -y`

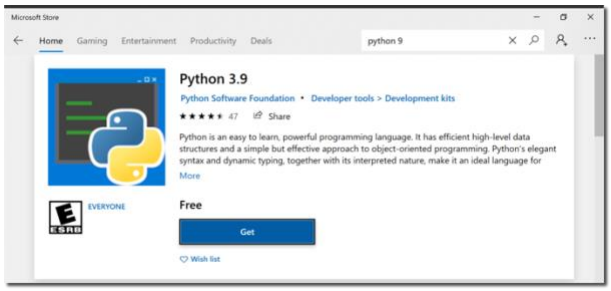
Script Consumer – Windows PC

Install Python

Further reading: docs.python.org

Windows needs Python to be installed. Our scripts require Python version 3.6 or higher.

1. Search in the Windows Store for *Python 3.9* then press the **Get** button
   - 3.10+ is NOT supported for many of our scripts so choose v3.9
   - You may be prompted to log in with Microsoft credentials
   - It will begin the installation



2. Launch **Windows PowerShell,** Run as an Administrator

3. Check if your Execution Policy is Restricted: `Get-ExecutionPolicy`

   - Change policy: `Set-ExecutionPolicy -ExecutionPolicy RemoteSigned -Scope CurrentUser`
   - `[ A ]` Yes to All

4. Verify Python is working: `python3 --version`

Create an APIs Folder for Scripts

You need a project file directory for your work:

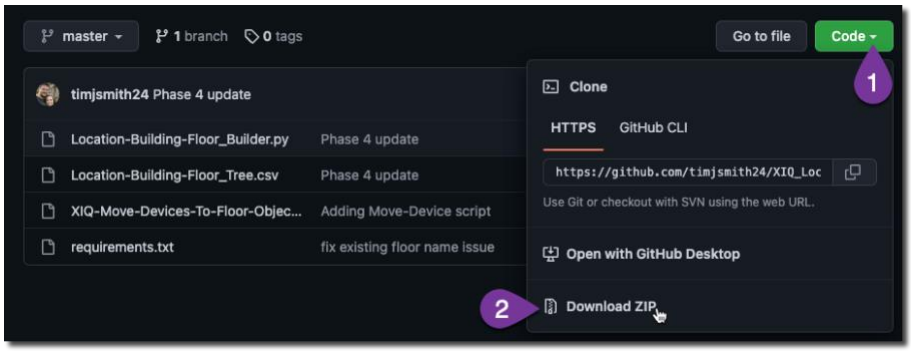
1. Determine where you're going to save/run/create your scripts. Create a folder if necessary.
   Win: e.g. C:\Users\Mike\Documents\ **APIs**

Download the API Getting Started script

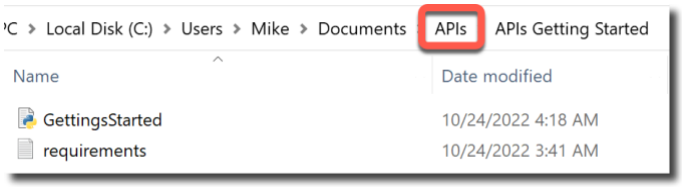
2. Navigate here to download the example script:
   * https://github.com/ExtremeNetworksSA/API_Getting_Started

   *: Please note that many scripts require values to be edited before running which is provided in the *readme* file. The above script will run without editing so use that for testing your setup.

3. Download all files via ZIP: Press the Code button > Download ZIP



4. Download your ZIP into your project directory (APIs) and extract it.



Run the GettingStarted.py Script in Windows PowerShell

- Change directory: `cd "C:\Users\Mike\Documents\APIs\APIs Getting Started"`
- Install packages: `pip3 install -r requirements.txt`
- Run script: `python3 .\GettingStarted.py`

If you use a script that requires edits to the Python file, you may use a plain text editor.

- Notepad++ is a great editor with Python code highlighter and line numbers which is referenced in the readme files. https://notepad-plus-plus.org/downloads/

End Guide

You're ready to explore our resources section for more scripts to run: Resources

Shout-outs go out to the Solutions Architect team for embracing the art of API/Python scripting.

Good luck and be safe out there.

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