

Scripting Against the API for Windows

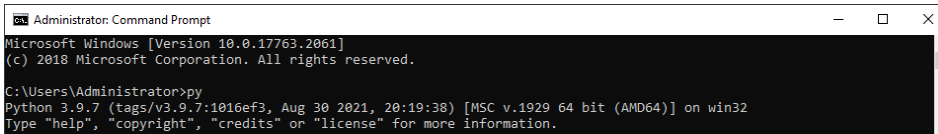
Thursday, September 9, 2021 1:29 PM

Overview

Scripting against the API using Python allows for advanced, customizable functions at the API level which are not currently available from the UI. To script against the ZWS API there are a few prerequisites that need to be configured ahead of time.

Python Installation - Windows

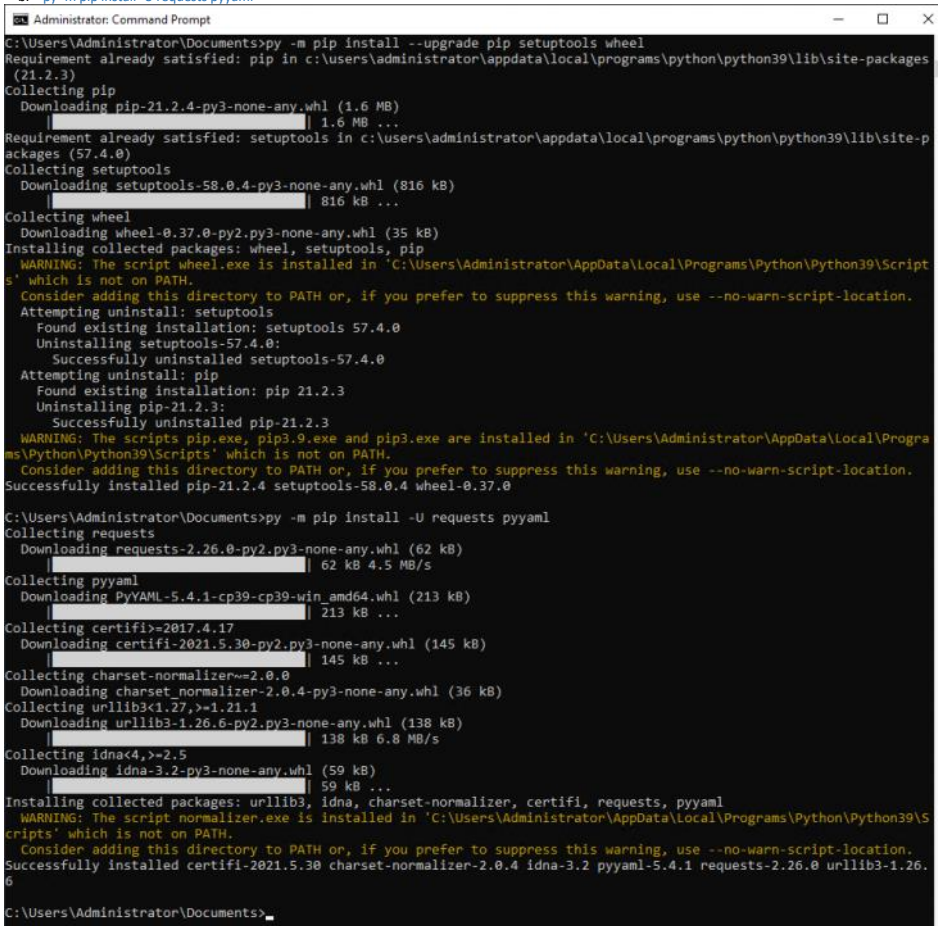
1. Download and install Python 3.x for Windows.
 - a. <https://www.python.org/downloads/windows/>
 - b. It is advisable to disable the PATH limit noted at the end of the installation wizard.



```
Administrator: Command Prompt
Microsoft Windows [Version 10.0.17763.2061]
(c) 2018 Microsoft Corporation. All rights reserved.

C:\Users\Administrator>py
Python 3.9.7 (tags/v3.9.7:1016ef3, Aug 30 2021, 20:19:38) [MSC v.1929 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
```

2. Install Pip and Requests.
 - a. `py -m pip install --upgrade pip setuptools wheel`
 - b. `py -m pip install -U requests pyyaml`

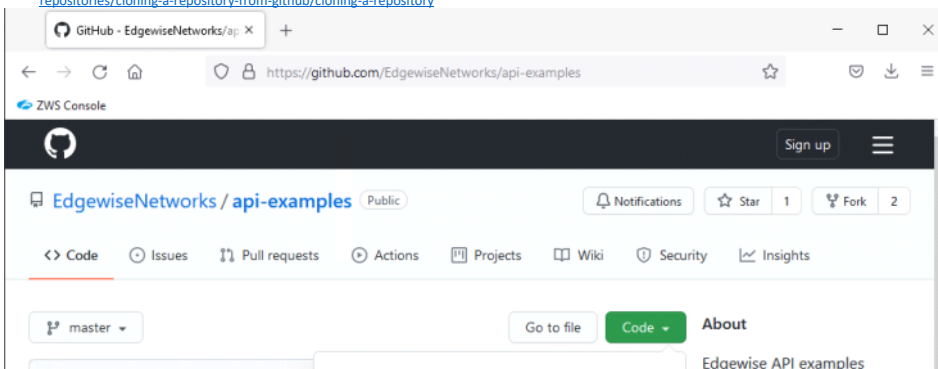


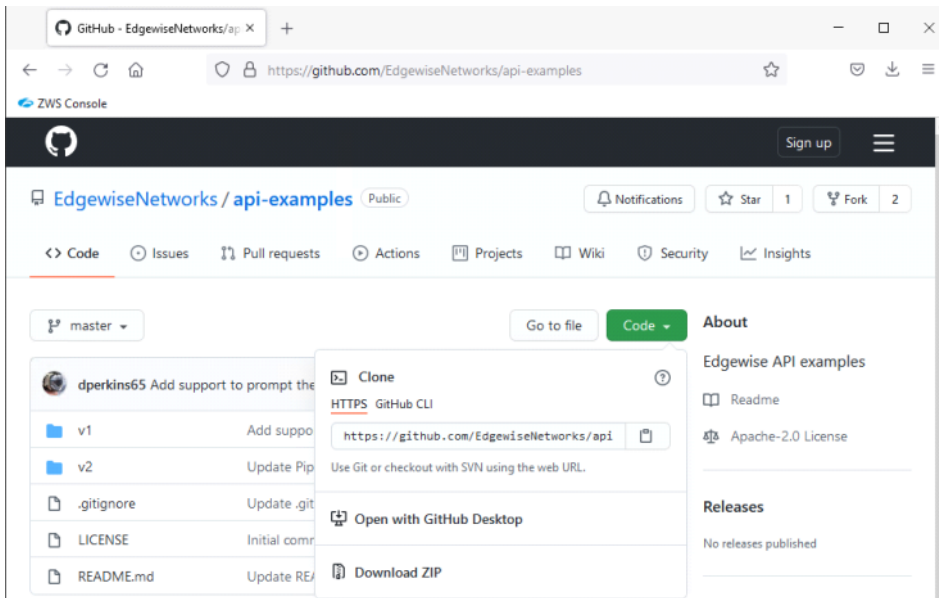
```
Administrator: Command Prompt
C:\Users\Administrator\Documents>py -m pip install --upgrade pip setuptools wheel
Requirement already satisfied: pip in c:\users\administrator\appdata\local\programs\python\python39\lib\site-packages
(21.2.3)
Collecting pip
  Downloading pip-21.2.4-py3-none-any.whl (1.6 MB)
    |#####| 1.6 MB ...
Requirement already satisfied: setuptools in c:\users\administrator\appdata\local\programs\python\python39\lib\site-packages
(57.4.0)
Collecting setuptools
  Downloading setuptools-58.0.4-py3-none-any.whl (816 kB)
    |#####| 816 kB ...
Collecting wheel
  Downloading wheel-0.37.0-py2.py3-none-any.whl (35 kB)
Installing collected packages: wheel, setuptools, pip
WARNING: The script wheel.exe is installed in 'C:\Users\Administrator\AppData\Local\Programs\Python\Python39\Scripts'
which is not on PATH.
Consider adding this directory to PATH or, if you prefer to suppress this warning, use --no-warn-script-location.
Attempting uninstall: setuptools
Found existing installation: setuptools 57.4.0
Uninstalling setuptools-57.4.0:
Successfully uninstalled setuptools-57.4.0
Attempting uninstall: pip
Found existing installation: pip 21.2.3
Uninstalling pip-21.2.3:
Successfully uninstalled pip-21.2.3
WARNING: The scripts pip.exe, pip3.9.exe and pip3.exe are installed in 'C:\Users\Administrator\AppData\Local\Programs\Python\Python39\Scripts'
which is not on PATH.
Consider adding this directory to PATH or, if you prefer to suppress this warning, use --no-warn-script-location.
Successfully installed pip-21.2.4 setuptools-58.0.4 wheel-0.37.0

C:\Users\Administrator\Documents>py -m pip install -U requests pyyaml
Collecting requests
  Downloading requests-2.26.0-py2.py3-none-any.whl (62 kB)
    |#####| 62 kB 4.5 MB/s
Collecting pyyaml
  Downloading PyYAML-5.4.1-cp39-cp39-win_amd64.whl (213 kB)
    |#####| 213 kB ...
Collecting certifi>=2017.4.17
  Downloading certifi-2021.5.30-py2.py3-none-any.whl (145 kB)
    |#####| 145 kB ...
Collecting charset-normalizer~>2.0.0
  Downloading charset-normalizer-2.0.4-py3-none-any.whl (36 kB)
Collecting urllib3<1.27,>=1.21.1
  Downloading urllib3-1.26.6-py2.py3-none-any.whl (138 kB)
    |#####| 138 kB 6.8 MB/s
Collecting idna<4,>=2.5
  Downloading idna-3.2-py3-none-any.whl (59 kB)
    |#####| 59 kB ...
Installing collected packages: urllib3, idna, charset-normalizer, certifi, requests, pyyaml
WARNING: The script normalizer.exe is installed in 'C:\Users\Administrator\AppData\Local\Programs\Python\Python39\Scripts'
which is not on PATH.
Consider adding this directory to PATH or, if you prefer to suppress this warning, use --no-warn-script-location.
Successfully installed certifi-2021.5.30 charset-normalizer-2.0.4 idna-3.2 pyyaml-5.4.1 requests-2.26.0 urllib3-1.26.6

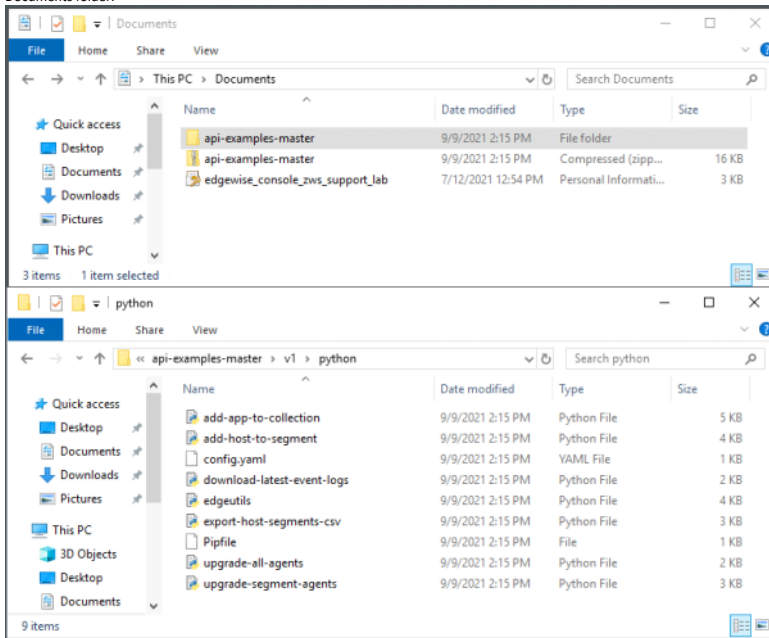
C:\Users\Administrator\Documents>
```

3. Navigate to the ZWS - EdgewiseNetworks GitHub repo.
 - a. <https://github.com/EdgewiseNetworks/api-examples>
4. Clone the repo and cd to ./python.
 - a. <https://docs.github.com/en/enterprise-server@2.22/github/creating-cloning-and-archiving-repositories/cloning-a-repository-from-github/cloning-a-repository>





5. In this example, we have downloaded the repo as a ZIP file and unzipped it within our local user's Documents folder.



6. Next you will need to convert the mTLS .pfx file into cert/key PEM format. This can be performed using OpenSSL or by leveraging a reputable service online.
7. In this example, we will be downloading and installing OpenSSL for Windows using the installation files provided below.
- a. <https://slproweb.com/products/Win32OpenSSL.html>
8. Select the most recent version of OpenSSL Light.
- a. In this example, we used the Win63 OpenSSL v1.1.1L Light .EXE package.
- Download Win32/Win64 OpenSSL today using the links below!

File	Type	Description
Win64 OpenSSL v3.0.0 Light EXE MSI	5MB Installer	Installs the most commonly used essentials of Win64 OpenSSL v3.0.0 (Recommended for users by the creators of OpenSSL). Only installs on 64-bit versions of Windows. Note that this is a default build of OpenSSL and is subject to local and state laws. More information can be found in the legal agreement of the installation.
Win64 OpenSSL v3.0.0 EXE MSI	140MB Installer	Installs Win64 OpenSSL v3.0.0 (Recommended for software developers by the creators of OpenSSL). Only installs on 64-bit versions of Windows. Note that this is a default build of OpenSSL and is subject to local and state laws. More information can be found in the legal agreement of the installation.
Win32 OpenSSL v3.0.0 Light EXE MSI	4MB Installer	Installs the most commonly used essentials of Win32 OpenSSL v3.0.0 (Only install this if you need 32-bit OpenSSL for Windows. Note that this is a default build of OpenSSL and is subject to local and state laws. More information can be found in the legal agreement of the installation.
Win32 OpenSSL v3.0.0 EXE MSI	116MB Installer	Installs Win32 OpenSSL v3.0.0 (Only install this if you need 32-bit OpenSSL for Windows. Note that this is a default build of OpenSSL and is subject to local and state laws. More information can be found in the legal agreement of the installation.
Win64 OpenSSL v3.0.0 Light for ARM (EXPERIMENTAL) EXE MSI	5MB Installer	Installs the most commonly used essentials of Win64 OpenSSL v3.0.0 for ARM64 devices (Only install this VERY EXPERIMENTAL build if you want to try 64-bit OpenSSL for Windows on ARM processors. Note that this is a default build of OpenSSL and is subject to local and state laws. More information can be found in the legal agreement of the installation.
Win64 OpenSSL v3.0.0 for ARM (EXPERIMENTAL) EXE MSI	113MB Installer	Installs Win64 OpenSSL v3.0.0 for ARM64 devices (Only install this VERY EXPERIMENTAL build if you want to try 64-bit OpenSSL for Windows on ARM processors. Note that this is a default build of OpenSSL and is subject to local and state laws. More information can be found in the legal agreement of the installation.
Win64 OpenSSL v1.1.1L Light EXE MSI	3MB Installer	Installs the most commonly used essentials of Win64 OpenSSL v1.1.1L (Recommended for users by the creators of OpenSSL). Only installs on 64-bit versions of Windows. Note that this is a default build of OpenSSL and is subject to local and state laws. More information can be found in the legal agreement of the installation.
Win64 OpenSSL v1.1.1L EXE MSI	63MB Installer	Installs Win64 OpenSSL v1.1.1L (Recommended for software developers by the creators of OpenSSL). Only installs on 64-bit versions of Windows. Note that this is a default build of OpenSSL and is subject to local and state laws. More information can be found in the legal agreement of the installation.
Win32 OpenSSL v1.1.1L Light EXE MSI	3MB Installer	Installs the most commonly used essentials of Win32 OpenSSL v1.1.1L (Only install this if you need 32-bit OpenSSL for Windows. Note that this is a default build of OpenSSL and is subject to local and state laws. More information can be found in the legal agreement of the installation.
Win32 OpenSSL v1.1.1L EXE MSI	54MB Installer	Installs Win32 OpenSSL v1.1.1L (Only install this if you need 32-bit OpenSSL for Windows. Note that this is a default build of OpenSSL and is subject to local and state laws. More information can be found in the legal agreement of the installation.

9. Open a Windows OpenSSL Command Prompt and navigate to the folder that contains the mTLS .pfx file and issue the following commands to convert to cert/key PEM format.
 - a. `openssl pkcs12 -in <mtls_cert_file>.pfx -nokeys -out cert.pem -nodes`
 - b. `openssl pkcs12 -in <mtls_cert_file>.pfx -nocerts -out key.pem -nodes`
 - c. You will be prompted for a password (your site ID).

```

Win64 OpenSSL Command Prompt
Win64 OpenSSL Command Prompt

OpenSSL 1.1.1k  25 Mar 2021
built on: Fri Mar 26 01:21:29 2021 UTC
platform: VC-WIN64A
options: bn(64,64) rc4(16x,int) des(long) idea(int) blowfish(ptr)
compiler: cl /Z7 /Fdoss1_static.pdb /Gs0 /GF /Gy /MD /W3 /wd4090 /nologo /O2 -DL_ENDIAN -DOPENSSL_PIC -DOPENSSL_CPUID
  _OBJ -DOPENSSL_IA32_SSE2 -DOPENSSL_BN_ASM_MONT -DOPENSSL_BN_ASM_MONT5 -DOPENSSL_BN_ASM_GF2m -DSHA1_ASM -DSHA256_ASM -
DSHA512_ASM -DKECCAK1600_ASM -DRC4_ASM -DMD5_ASM -DAESNI_ASM -DVPAES_ASM -DGHASH_ASM -DECP_NISTZ256_ASM -DX25519_ASM
-DPOLY1305_ASM -D_USING_V110_SDK71_ -D_WINSOCK_DEPRECATED_NO_WARNINGS -D_WIN32_WINNT=0x0502
OPENSSLDIR: "C:\Program Files\Common Files\SSL"
ENGINESDIR: "C:\Program Files\OpenSSL\lib\engines-1_1"
Seeding source: os-specific

C:\Users\Dave Muhlbradt>cd Documents

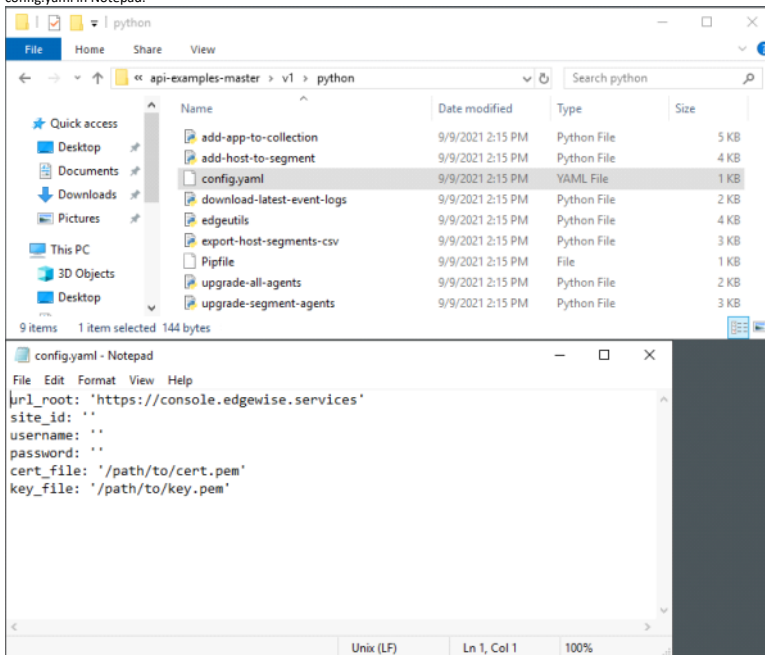
C:\Users\Dave Muhlbradt\Documents>openssl pkcs12 -in edgewise_console_zws_support_lab.pfx -nokeys -out cert.pem -node
s
Enter Import Password:

C:\Users\Dave Muhlbradt\Documents>openssl pkcs12 -in edgewise_console_zws_support_lab.pfx -nocerts -out key.pem -node
s
Enter Import Password:

C:\Users\Dave Muhlbradt\Documents>

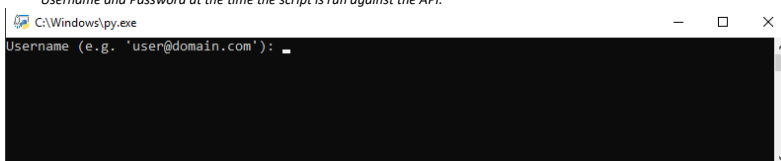
```

10. OpenSSL will then create two files entitled cert and key.
11. Navigate into the Python folder: `api-examples-master\api-examples-master\v1\python` and open `config.yaml` in Notepad.



13. Here you will need to enter your console's URL, the site ID, and the full path to the cert and key files.

Note: Username and Password are optional fields. You will be prompted to enter the the Username and Password at the time the script is run against the API.



14. Once the `config.yaml` file is configured with the appropriate settings you can simply launch any of the Python scripts by double-clicking the script in Windows or launch one from the Command Prompt.

