

Scripting Against the API for Linux

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 - Linux

1. Download and install Python 3.x for Linux.
 - a. `sudo yum install python3`
 - b. In this example we are installing on CentOS.

```
root@localhost:~  
File Edit View Search Terminal Help  
[root@localhost ~]# sudo yum install python3  
CentOS Linux 8 - AppStream          803 kB/s | 8.8 MB    00:11  
CentOS Linux 8 - BaseOS             1.1 MB/s | 6.5 MB    00:05  
CentOS Linux 8 - Extras             13 kB/s | 10 kB     00:00  
Package python36-3.6.8-2.module_el8.4.0+790+083e3d81.x86_64 is already installed  
.  
Dependencies resolved.  
Nothing to do.  
Complete!  
[root@localhost ~]# which python3  
/usr/bin/python3  
[root@localhost ~]#
```

3) Install Pip.

- a. `sudo yum install python3-pip python3-wheel`

```
root@localhost:~  
File Edit View Search Terminal Help  
[root@localhost ~]# sudo yum install python3-pip python3-wheel  
Last metadata expiration check: 0:04:51 ago on Wed 15 Sep 2021 08:03:43 AM EDT.  
Package python3-pip-9.0.3-19.el8.noarch is already installed.  
Dependencies resolved.  
=====
```

Package	Arch	Version	Repo	Size
python3-wheel	noarch	1:0.31.1-2.module_el8.4.0+666+456f5f48	appstream	68 k

```
=====
```

```
root@localhost:~  
File Edit View Search Terminal Help  
Transaction Summary  
=====
```

Install 1 Package			
Total download size: 68 k			
Installed size: 179 k			
Is this ok [y/N]: y			
Downloading Packages:			
python3-wheel-1:0.31.1-2.module_el8.4.0+666+456f5f48	208 kB/s	68 kB	00:00

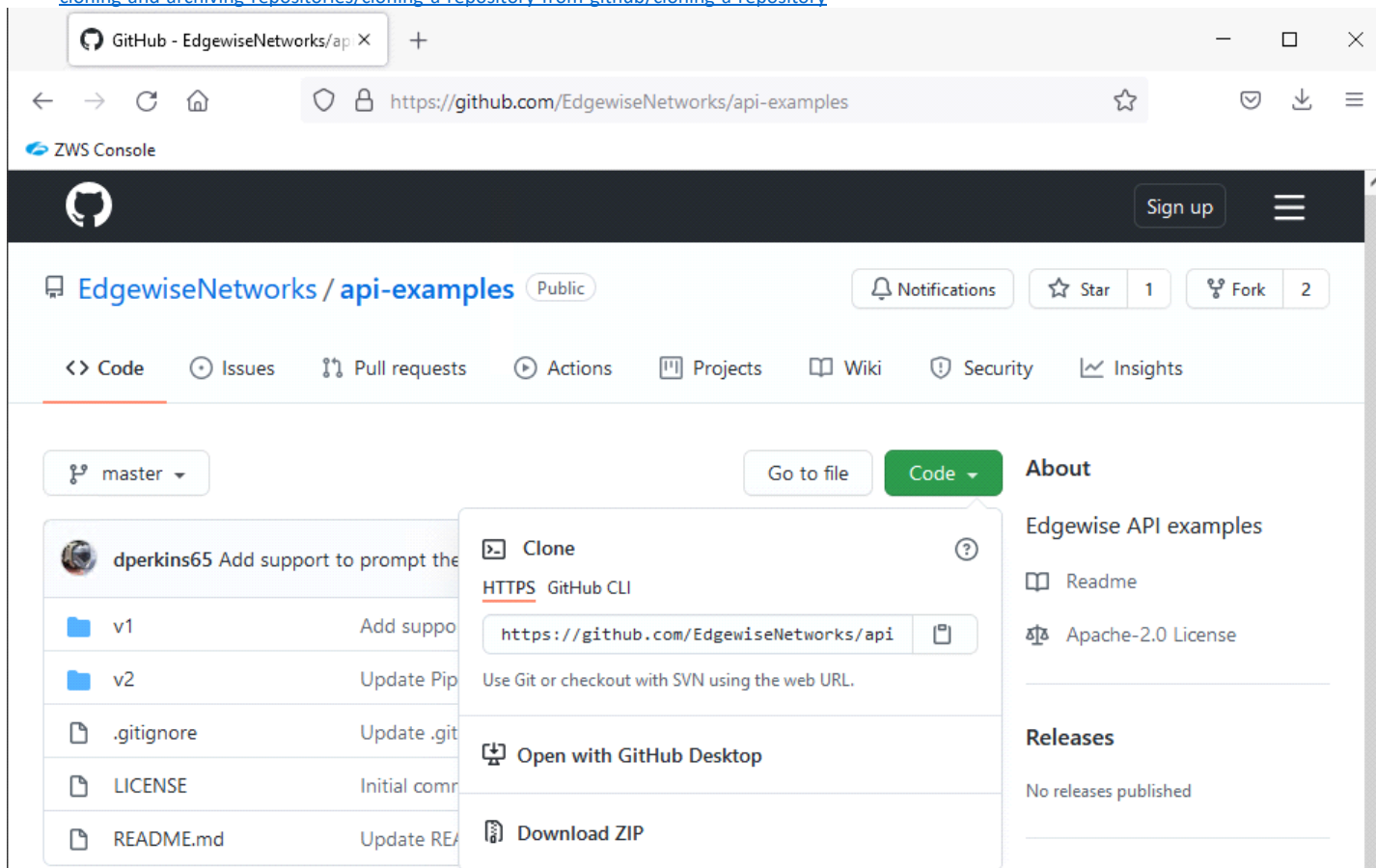
Total	85 kB/s	68 kB	00:00
warning: /var/cache/dnf/appstream-a520ed22b0a8a736/packages/python3-wheel-0.31.1-2.module_el8.4.0+666+456f5f48.n			
oarch.rpm: Header V3 RSA/SHA256 Signature, key ID 8483c65d: NOKEY			
CentOS Linux 8 - AppStream	214 kB/s	1.6 kB	00:00
Importing GPG key 0x8483c65d:			
Userid : "CentOS (CentOS Official Signing Key) <security@centos.org>"			
Fingerprint: 99DB 70FA E1D7 CE22 7FB6 4882 05B5 55B3 8483 C65D			
From : /etc/pki/rpm-gpg/RPM-GPG-KEY-centosofficial			
Is this ok [y/N]: y			
Key imported successfully			
Running transaction check			
Transaction check succeeded.			
Running transaction test			
Transaction test succeeded.			
Running transaction			
Preparing	:	python3-wheel-1:0.31.1-2.module_el8.4.0+666+456f5f48	1/1
Installing	:	python3-wheel-1:0.31.1-2.module_el8.4.0+666+456f5f48	1/1
Running scriptlet:	:	python3-wheel-1:0.31.1-2.module_el8.4.0+666+456f5f48	1/1
Verifying	:	python3-wheel-1:0.31.1-2.module_el8.4.0+666+456f5f48	1/1
Installed products updated.			
Installed:			
python3-wheel-1:0.31.1-2.module_el8.4.0+666+456f5f48.noarch			
Complete!			
[root@localhost ~]#			

3. Clone the to the ZWS - EdgewiseNetworks GitHub repo onto the Linux machine.

- a. `git clone https://github.com/EdgewiseNetworks/api-examples`

```
user@localhost:~/Downloads
File Edit View Search Terminal Help
[user@localhost Downloads]$ git clone https://github.com/EdgewiseNetworks/api-examples.git
Cloning into 'api-examples'...
remote: Enumerating objects: 169, done.
remote: Counting objects: 100% (43/43), done.
remote: Compressing objects: 100% (40/40), done.
remote: Total 169 (delta 14), reused 6 (delta 3), pack-reused 126
Receiving objects: 100% (169/169), 37.22 KiB | 4.13 MiB/s, done.
Resolving deltas: 100% (73/73), done.
[user@localhost Downloads]$ ls
api-examples
[user@localhost Downloads]$
```

- b. Github reference doc: <https://docs.github.com/en/enterprise-server@2.22/github/creating-cloning-and-archiving-repositories/cloning-a-repository-from-github/cloning-a-repository>



4. 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.
5. If using OpenSSL, then navigate to the directory 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).
6. OpenSSL will then create two files entitled cert and key.
7. Navigate to the directory where the repository is cloned, and edit the config.yaml file with the required fields.

```
user@localhost:~/Downloads/api-examples/v1/python
File Edit View Search Terminal Help
[user@localhost ~]$ cd Downloads/api-examples/v1/python
[user@localhost python]$ ls -ltrh
total 40K
-rwxrwxr-x. 1 user user 2.5K Sep 15 08:23 upgrade-segment-agents.py
-rwxrwxr-x. 1 user user 1.4K Sep 15 08:23 upgrade-all-agents.py
-rw-rw-r--. 1 user user 131 Sep 15 08:23 Pipfile
-rw-rw-r--. 1 user user 2.3K Sep 15 08:23 export-host-segments-csv.py
-rw-rw-r--. 1 user user 3.1K Sep 15 08:23 edgeutils.py
-rw-rw-r--. 1 user user 1.1K Sep 15 08:23 download-latest-event-logs.py
-rw-rw-r--. 1 user user 144 Sep 15 08:23 config.yaml
-rw-rw-r--. 1 user user 3.3K Sep 15 08:23 add-host-to-segment.py
-rw-rw-r--. 1 user user 4.6K Sep 15 08:23 add-app-to-collection.py
[user@localhost python]$
```

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

```
user@localhost:~/Downloads/api-examples/v1/python
File Edit View Search Terminal Help
url_root: 'https://console.edgewise.services'
site_id: 'Enter your site ID'
username: 'Enter username for ZWS console'
password: 'Enter password for ZWS console'
cert_file: '/path/to/cert.pem'
key_file: '/path/to/key.pem'
~
~
~
```

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. As a best practice, it is advised that you create a service user in the ZWS Management Console for this purpose.

9. Once the config.yaml file is configured with the appropriate settings you can launch any of the Python scripts.

a. [python3 download-latest-event-log.py](#)

```
user@localhost:~/Downloads/api-examples/v1/python
File Edit View Search Terminal Help
[user@localhost python]$ python3 download-latest-event-logs.py
Downloading 5 latest logs.
Wrote log 'audit_events.2021-09-15T12.22.34.300394Z.json'
Wrote log 'audit_events.2021-09-15T13.23.54.590639Z.json'
Wrote log 'audit_events.2021-09-15T14.24.47.415179Z.json'
Wrote log 'audit_events.2021-09-15T15.24.47.944448Z.json'
Wrote log 'audit_events.2021-09-15T16.25.42.850432Z.json'
[user@localhost python]$
```