

CIS3534C Lab 10: APIs

In this lab we will create a virtual Python environment in Windows to run a Python client program which uses APIs to access and manipulate the devices in a simulated network environment.

Assignment Prerequisites:

- A Windows system with a recent version of Python 3 installed (the Horizon system can be used here)
- Internet access to github.com

Instructions:

1. Open a command tool window and navigate to your Documents folder (or any other folder where you have write permissions).
2. Use the GitHub repos provided by your instructor to clone the FishNet server and sample client applications to your folder.

The FishNet server is a proxy Flask-based server which provides access to two simulated network devices: a router named router1 and a switch named switch1. Each device has the following attributes: a hostname, an IP address, a MAC address, and an nports attribute which indicates the number of ports available on the device. The sample client manipulates the router1 device.

3. Use Python to create a virtual environment.
4. Activate the environment.
5. Use pip to install the necessary packages in the venv:
 - a. Use the requirements.txt file to install the correct versions of the packages:
 - b. `pip install -r CIS3534CMod10/requirements.txt`
6. Navigate to the CIS3534CMod10 folder and start the FishNet server from the command line by running `"python FishNetServer.py"`.
7. Open a second command tool window and activate the venv created in step 3, above.
8. Navigate to the CIS3534CMod10-Client folder. Open the client source code file with IDLE and examine the code. You will be modifying this code for the graded programming assignment in this module. Note the formatting of the API requests and the use of GET and POST for different requests.
9. Run the FishNet client from the second command tool's command line by running `"python FishNet-SampleClient.py"`.
10. Observer the output of the client and server. As you execute your client, be sure to monitor the output of the FishNet server; if it crashes, you will need to restart it. Please report crash information (including stack trace(s) and the version number, displayed in the banner at the top of the application with it starts) to your instructor.