

Final Assignment 22.2: Part 2: Streaming Data Using Web Sockets (45:00)

Start Assignment

Due Nov 13 by 11:29am **Points** 40 **Submitting** a file upload
Available after Nov 6 at 8am

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Learning Outcome Addressed:

6. *Stream* data through web sockets.

In this module, you learned about *streaming* data implementation strategies and how web sockets are beneficial in implementing live data connection applications.

In Part 2 of the final assignment, you will implement web socket communication by using the Python sockets *library*. Through the steps of this activity, you will execute *packet* transfer from *server* to *client* to help you better understand how *packets* can be created by putting the message length as a header.

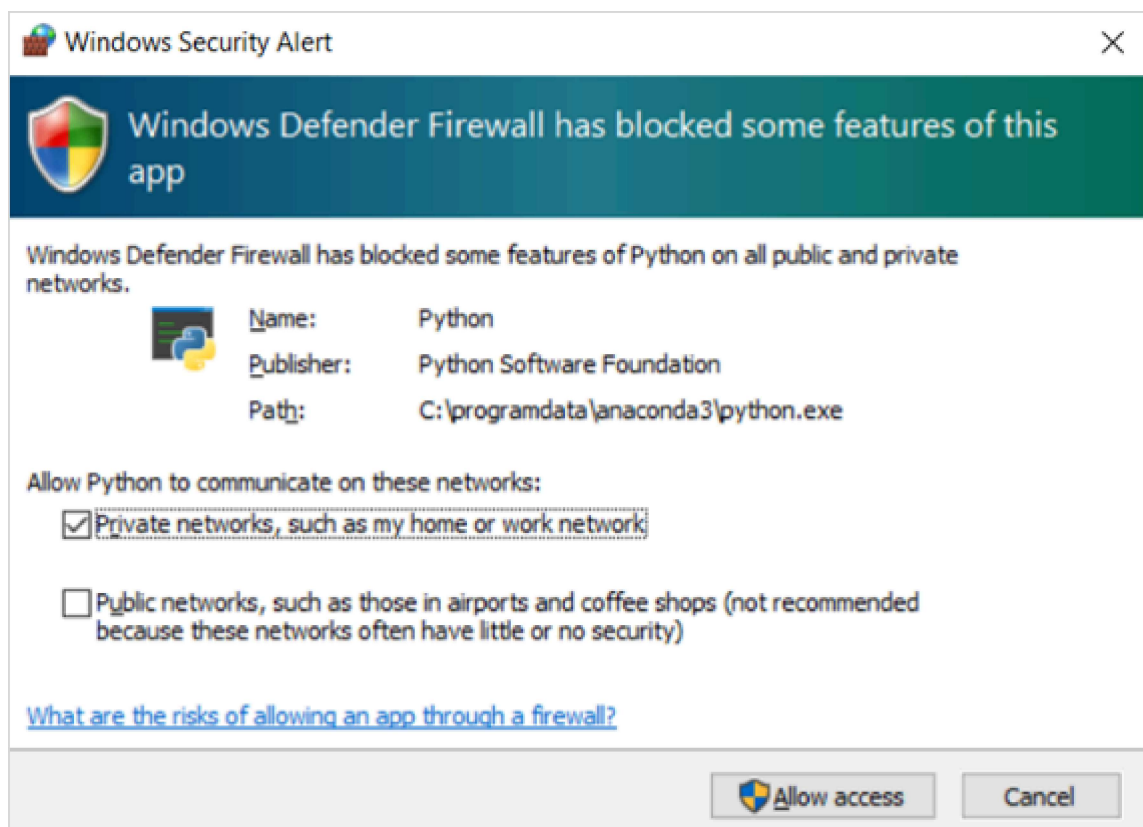
Part 2 of the final assignment is worth 40 points.

To complete this activity, follow these steps:

1. Download and extract the [Assignment22.2](https://classroom.emeritus.org/courses/9296/files/2494236/download) (<https://classroom.emeritus.org/courses/9296/files/2494236/download>) folder to your local machine. Provide a screenshot to show that you have successfully downloaded and extracted the Assignment22_2 folder on your local machine.
2. Open the `streamServer.py` file in VS Code. Change the port number to 7000. Provide a screenshot to show that you successfully opened the `streamServer.py` file in VS Code and changed the port number to 7000.
3. To start a web socket server, execute the `python streamServer.py` command from the Terminal window in VS Code. This will not *print* anything until the *client* connects to the *server*. Provide a screenshot to show that you successfully opened the command prompt in the `streamServer.py` folder and ran the `python streamServer.py` command without errors.

For Windows users:

If you are prompted, allow the private networks execution permissions to access web communication port, as shown in the image below:



4. Modify line 21 in the `streamServer.py` file to call the `thread_time()` function from the *time* library. This function returns the value of the sum of the system and user CPU time of the current *thread* in fractional seconds. Provide a screenshot to show that you correctly modified the code in the `streamServer.py` file to call the `thread_time()` function from the *time* library.

5. Open the `streamClient.py` file in VS Code Terminal and change the port to the correct one. Provide a screenshot to show that you successfully opened the `streamClient.py` file in VS Code and that you changed the port correctly.
6. Run the `python streamClient.py` command in a new Terminal window. This will establish another connection with the *server* and receive *packets* from the *server*. Note that you will need to change the port number to the same one that you used for the `streamServer.py` file. Provide two screenshots. The first screenshot should show that you successfully ran the `streamClient.py` file. The second screenshot should show that the *server* is receiving messages from the *client*.

You have now completed this activity and practiced implementing web sockets using the *socket library*.

Submission Instructions:

Your submission for this assignment should be a Word document that includes the following screenshots, each labeled for the step that the screenshot represents:

1. Provide a screenshot to show that you have successfully downloaded and extracted the Assignment22_2 folder on your local machine.
2. Provide a screenshot to show that you successfully opened the `streamServer.py` file in VS Code and changed the port number to 7000.
3. Provide a screenshot to show that you successfully opened the command prompt in the `streamServer.py` folder and ran the `python streamServer.py` command without errors.
4. Provide a screenshot to show that you correctly modified the code in the `streamServer.py` file to call the `thread_time()` *function* from the *time library*.
5. Provide a screenshot to show that you successfully opened the `streamClient.py` file in VS Code and that you changed the port correctly.
6. Provide two screenshots. The first screenshot should show that you successfully ran the `streamClient.py` file. The second screenshot should show that the *server* is receiving messages from the *client*.




Additional Details:

- **Estimated time:** 45 minutes
- *This is a required assignment and counts toward course completion.*

Criteria	Ratings		Pts
1. Provide a screenshot to show that you have successfully downloaded and extracted the Assignment22_2 folder on your local machine.	6 pts Complete The correct screenshot has been included in the submission.	0 pts Incomplete The screenshot has not been included in the submission or is the incorrect screenshot.	6 pts
2. Provide a screenshot to show that you successfully opened the streamServer.py file in VS Code and changed the port number to 7000.	6 pts Complete The correct screenshot has been included in the submission.	0 pts Incomplete The screenshot has not been included in the submission or is the incorrect screenshot.	6 pts
3. Provide a screenshot to show that you successfully opened the command prompt in the streamServer.py folder and ran the python streamServer.py command without errors.	7 pts Complete The correct screenshot has been included in the submission.	0 pts Incomplete The screenshot has not been included in the submission or is the incorrect screenshot.	7 pts
4. Provide a screenshot to show that you correctly modified the code in the streamServer.py file to call the thread_time() function from the time library.	7 pts Complete The correct screenshot has been included in the submission.	0 pts Incomplete The screenshot has not been included in the submission or is the incorrect screenshot.	7 pts
5. Provide a screenshot to show that you successfully opened the streamClient.py file in VS Code and that you changed the port correctly.	6 pts Complete The correct screenshot has been included in the submission.	0 pts Incomplete The screenshot has not been included in the submission or is the incorrect screenshot.	6 pts
6. Provide two screenshots. The first screenshot should show that you successfully ran the streamClient01.py file. The second screenshot	8 pts Complete	0 pts Incomplete	8 pts

Criteria	Ratings		Pts
should show that the server is receiving messages from the client.	Both correct screenshots have been included in the submission.	Both screenshots have not been included in the submission or are the incorrect screenshots.	
			Total Points: 40

Top Questions



It's all empty here!

If you have any questions ask one

