**CS550 - Advanced OS**

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# README

The server and client program are implemented using default modules from python3.8.3. No additional requirements need to be downloaded. No separate scripts for deployment need to be executed to start the program. Only execution of the python server and client will do the work.

Executing the program in any python3.6+ shall work. Although a virtual environment 'venv' used for development has been included in the code directory.  To activate the environment execute the following command in terminal from the 'code' directory.

`$source ./venv/bin/activate`

(venv) Before the user is an indicator of active environment.

To deactivate after the execution is over, simply enter: $deactivate

## Server

To start the server, server.py python script needs to be executed:

`$python server.py`

If required, arguments can be passed to the Server during the time of execution as follows.

`$python server.py --port <PORT> --dir <Host File Location>`

**--port** is used to pass port number as argument. (default:9000)

**--dir** is used to declare the host file directory. (default: ./host_dir)

**--ip** is used to pass IP Address manually (default: Self Host)

It is advised to not use --ip if running the server on same host machine.

After the server starts, events are logged to server.log in the code directory. If it doesn't exist, it will be created upon execution.

To shutdown an active server, Keyboard Interrupt the server by pressing 'ctrl' + 'F' keys.

NOTE: IF ANY ACTIVE CLIENTS ARE CONNECTED, THE SERVER WILL PRINT THE SAME IN CONSOLE. IT IS ADVISED TO CLOSE THE CLIENTS BEFORE CLOSING THE SERVER TO AVOID PORT BLOCKING.

## Client

To start the client, client.py python script needs to be executed:

**$python client.py**

If required, arguments can be passed to the Client during the time of execution as follows.

**$python client.py --ip <IP Address> --port <PORT> --dir <File Location>**

**--port** is used to pass port number as argument. (default:9000)
**--dir** is used to declare the download file directory. (default: ./downloads)
**--ip** is used to pass IP Address manually (default: Self Host)

It is advised to not use --ip if running the client on same machine as the server.

After the Client starts, events are printed into the console. Client will need user interaction from time to time. Instructions for interaction are mentioned in the program.

To shutdown the client, Keyboard Interrupt the client by pressing 'ctrl' + 'F' keys.