

Programming Assignment 3
CS550 - Advanced OS
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README

The server and client program are implemented using default modules from python3.8.3. There are no additional requirements. No separate scripts for deployment need to be executed to start the program, executing the python Nodes 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 the 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

NODE

To start the Node, simply node.py python script needs to be executed:

```
$python3 node.py --port <Between 9000-9099>
```

Node needs to be between 9000 and 9099 as the Node scans for other nodes in this range.

You can manually pass arguments to the Node during the time of initialization to specify Host IP Address, Port Number, hosted file directory and test flag. As follows:

```
$python3 node.py --ip <IP Address> --port <PORT> --dir <Directory> --T  
<bool>
```

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

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

--dir is used to declare the hosted files directory. (default: ./hosted_files)

--T is a boolean flag used for testing and is not to be used otherwise.

--help this to check the flags.

It is advised to not use --ip since the Node scans for other Nodes on the same machine in the port Range 9000-9099.

After the Node starts, events are logged at “./logs/<port>.log” in code directory. This is done to keep the user interface clean to interact with. Node will need user interaction from time to time. Instructions for interaction are mentioned in the program and printed in console.

To shutdown the Node, Keyboard Interrupt the Node by pressing ‘ctrl’ + ‘c’ keys.