

Running Python Dash application on Linux server

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Linux Server to publish Dash applications

- Hostname: cse5520.engr.uconn.edu
- Server OS: RedHat
- Your computer must be connected to UCONN VPN to connect to this server. Go to <https://vpn.uconn.edu>
- Any questions about issues with connecting to VPN or connecting to Linux server can be redirected to UITS help desk. <https://its.uconn.edu/>
- Every student is assigned a specific port number and they are required to use the assigned port only.

```
app.run_server(debug=True, host='0.0.0.0', port=80XX,  
                threaded=True)
```

Use FileZilla to copy your files to the server

Download FileZilla from <https://filezilla-project.org/download.php>

Download FileZilla Client for Windows (64bit x86)

The latest stable version of FileZilla Client is 3.56.0

Please select the file appropriate for your platform below.

Windows (64bit x86)

Download
FileZilla Client

This installer may include bundled offers. Check below for more options.

The 64bit versions of Windows 8.1 and 10 are supported.

More download options

Other platforms:

Not what you are looking for?

Show additional download options

Please select your edition of FileZilla Client

| | FileZilla | FileZilla with manual | FileZilla Pro | FileZilla Pro + CLI |
|-------------------------------------|-----------|--------------------------|---------------|------------------------|
| Standard FTP | Yes | Yes | Yes | Yes |
| FTP over TLS | Yes | Yes | Yes | Yes |
| SFTP | Yes | Yes | Yes | Yes |
| Comprehensive PDF manual | - | Yes | Yes | Yes |
| Amazon S3 | - | - | Yes | Yes |
| Backblaze B2 | - | - | Yes | Yes |
| Dropbox | - | - | Yes | Yes |
| Microsoft OneDrive | - | - | Yes | Yes |
| Google Drive | - | - | Yes | Yes |
| Google Cloud Storage | - | - | Yes | Yes |
| Microsoft Azure Blob + File Storage | - | - | Yes | Yes |
| WebDAV | - | - | Yes | Yes |
| OpenStack Swift | - | - | Yes | Yes |
| Box | - | - | Yes | Yes |
| Site Manager synchronization | - | - | Yes | Yes |
| Command-line interface | - | - | - | Yes |
| Batch transfers | - | - | - | Yes |

Download

Select

Select

Select

Go to Site File >> Site Manager

Protocol: SFTP – SSH File Transfer Protocol

Host: cse5520.engr.uconn.edu

Port: <leave blank>

Logon Type: Interactive

User: <your netid>

The screenshot shows the FileZilla application interface. On the left, the 'File' menu is open, showing options like 'Site Manager...', 'New tab', 'Close tab', 'Export...', 'Import...', 'Show files currently being edited...', and 'Exit'. The 'Site Manager' dialog box is open in the center, displaying a tree view of 'My Sites' with a 'New site' button. Below the tree view are buttons for 'New site', 'New folder', 'New Bookmark', 'Rename', 'Delete', and 'Duplicate'. On the right, the 'General' tab is selected, showing fields for 'Protocol' (SFTP - SSH File Transfer Protocol), 'Host' (cse5520.engr.uconn.edu), 'Port' (empty), 'Logon Type' (Interactive), and 'User' (puj07001). There are also fields for 'Background color' (None) and 'Comments'. At the bottom right, the 'Connect' button is highlighted with a red rectangle. The status bar at the bottom shows 'Queued files', 'Failed transfers', 'Successful transfers', and 'Queue: empty'.

FileZilla

File Edit View Transfer Server Bookmarks Help

Site Manager... Ctrl+S

Copy current connection to Site Manager...

New tab Ctrl+T

Close tab Ctrl+W

Export...

Import...

Show files currently being edited... Ctrl+E

Exit Ctrl+Q

Remote site

Filename Filesize Filetype

..

.config File folder

.idlerc File folder

.matplotlib File folder

.nbi File folder

.vscode File folder

8 files and 31 directories. Total size: 16,281,804 bytes

Server/Local file Direction Remote file

Not connect

Site Manager

Select entry:

My Sites

New site

New site

New folder

New Bookmark

Rename

Delete

Duplicate

General Advanced Transfer Settings Charset

Protocol: SFTP - SSH File Transfer Protocol

Host: cse5520.engr.uconn.edu Port:

Logon Type: Interactive

User: puj07001

Background color: None

Comments:

Connect OK Cancel

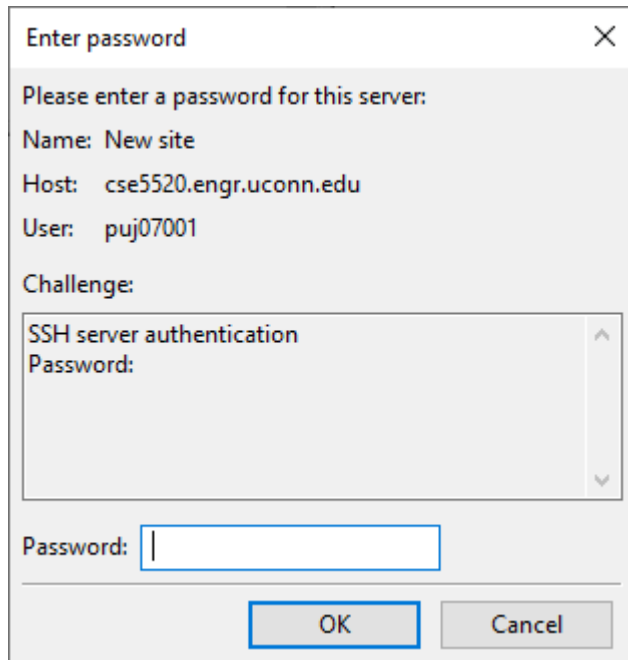
Queued files Failed transfers Successful transfers

Opens the Site Manager

Queue: empty

Hit "Connect" button

Enter your password



Enter password

Please enter a password for this server:

Name: New site

Host: cse5520.engr.uconn.edu

User: puj07001

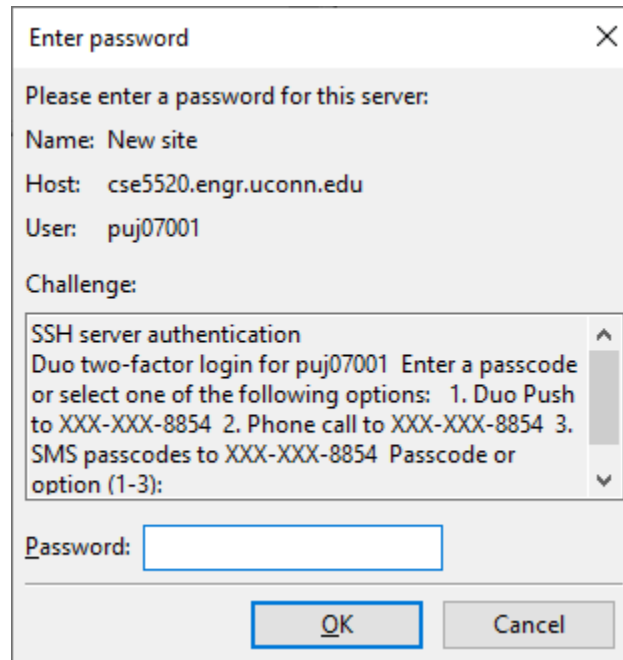
Challenge:

SSH server authentication

Password:

OK Cancel

Duo two-factor login option



Enter password

Please enter a password for this server:

Name: New site

Host: cse5520.engr.uconn.edu

User: puj07001

Challenge:

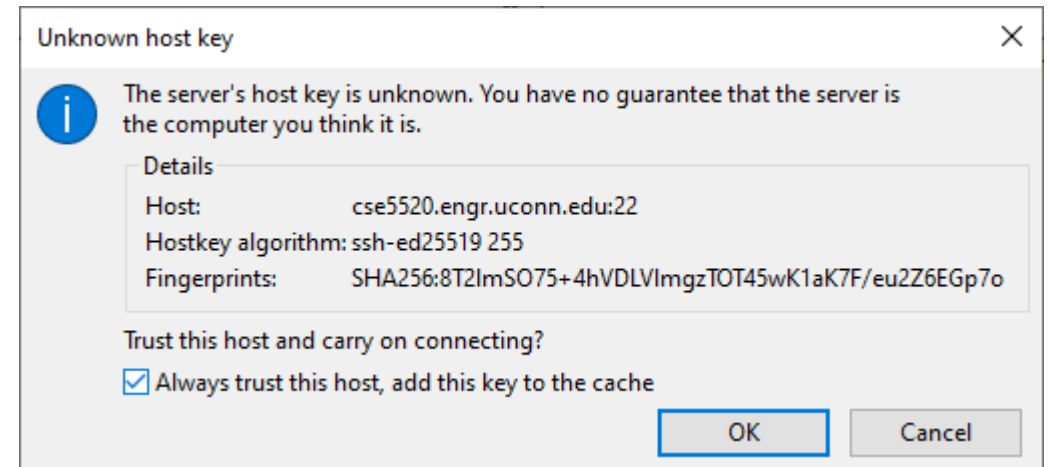
SSH server authentication

Duo two-factor login for puj07001 Enter a passcode or select one of the following options: 1. Duo Push to XXX-XXX-8854 2. Phone call to XXX-XXX-8854 3. SMS passcodes to XXX-XXX-8854 Passcode or option (1-3):

Password:

OK Cancel

Check “Always Trust” box and click “OK”



Unknown host key

The server's host key is unknown. You have no guarantee that the server is the computer you think it is.

Details

Host: cse5520.engr.uconn.edu:22

Hostkey algorithm: ssh-ed25519 255

Fingerprints: SHA256:8T2ImSO75+4hVDLVImgzTOT45wK1aK7F/eu2Z6EGp7o

Trust this host and carry on connecting?

☒ Always trust this host, add this key to the cache

OK Cancel

Any questions about issues with connecting to VPN or connecting to Linux server can be redirected to UITS help desk.
<https://its.uconn.edu/>

Local Site (Your local computer)

New site - sftp://puj07001@cse5520.engr.uconn.edu - FileZilla

File Edit View Transfer Server Bookmarks Help

Host: Username: Password: Port: Quickconnect

Status: Retrieving directory listing of "/home/puj07001/cse5520f21/map_demo"...

Status: Listing directory /home/puj07001/cse5520f21/map_demo

Status: Directory listing of "/home/puj07001/cse5520f21/map_demo" successful

Status: Retrieving directory listing of "/home/puj07001/cse5520f21/map_demo"...

Status: Listing directory /home/puj07001/cse5520f21/map_demo

Status: Directory listing of "/home/puj07001/cse5520f21/map_demo" successful

Local site: C:\Users\pujan\

Remote site: /home/puj07001/cse5520f21/map_demo

| Filename | Filesize | Filetype |
|-------------|----------|-------------|
| .. | | |
| .config | | File folder |
| .idlerc | | File folder |
| .matplotlib | | File folder |
| .nbi | | File folder |
| .vscode | | File folder |
| 3D Objects | | File folder |
| AppData | | File folder |

8 files and 31 directories. Total size: 14,848,204 bytes

| Filename | Filesize | Filetype | Last modified |
|-----------|----------|-------------|---------------|
| .. | | | |
| maps.py | 2,601 | Python File | 10/16/2021 |
| nohup.out | 1,350 | OUT File | 10/19/2021 |

2 files. Total size: 3,951 bytes

| Server/Local file | Direction | Remote file | Size | Priority | Status |
|-------------------|-----------|-------------|------|----------|--------|
|-------------------|-----------|-------------|------|----------|--------|

Queued files Failed transfers Successful transfers

Queue: empty

Remote Site
(Linux Server)

You can create
your own
directory structure
on the server
inside your home
directory.

Drag your local
python file (*.py)
to here. This will
copy your local file
to the server.

Use PuTTY to run commands in the server

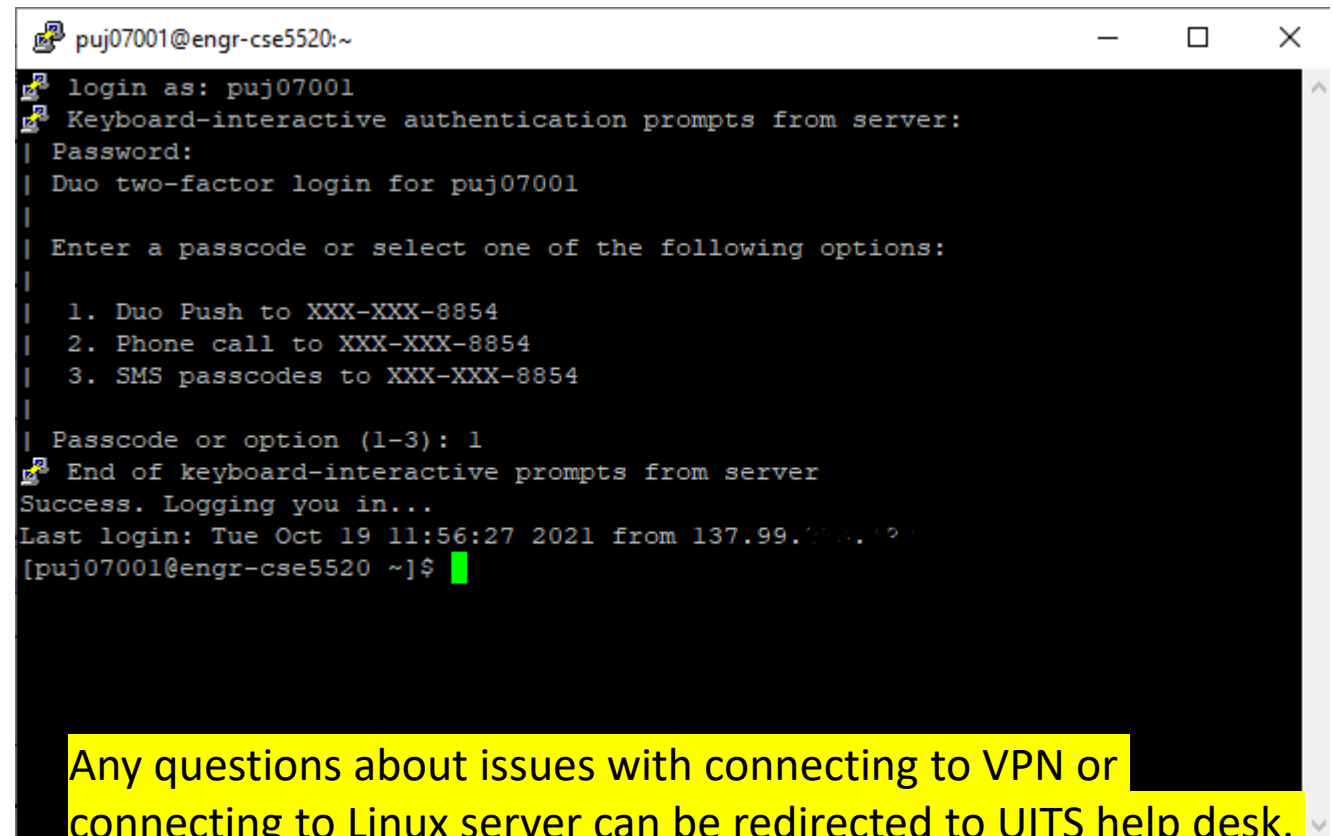
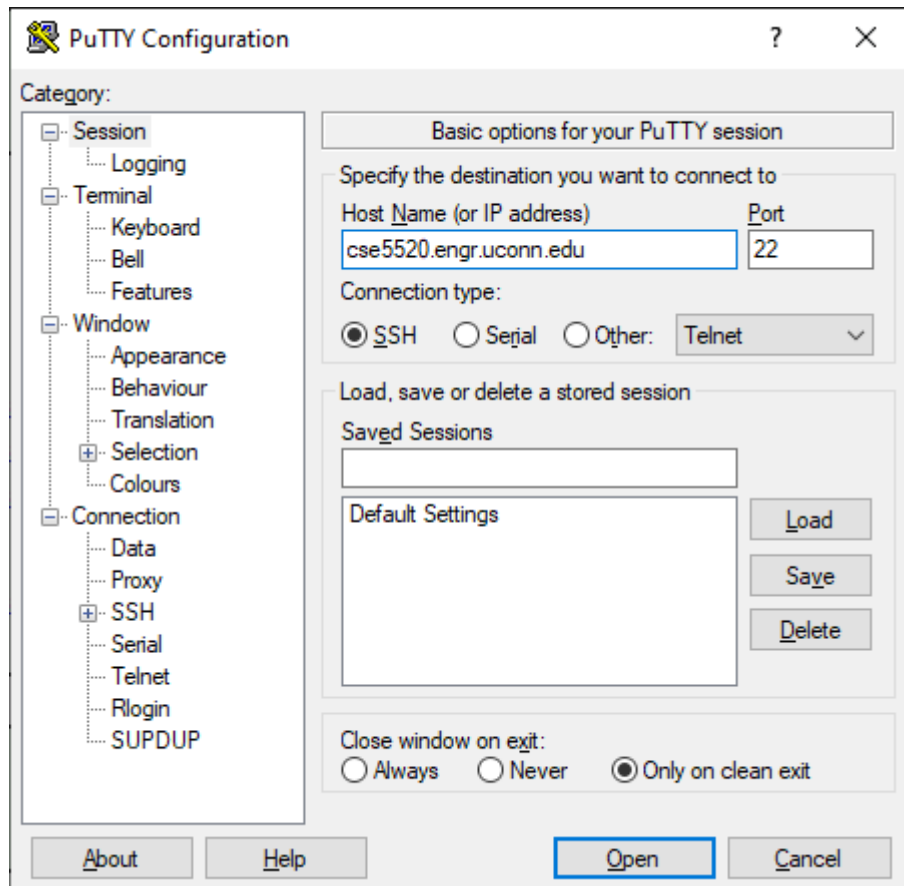
Secure Shell (SSH) client for windows – PuTTY <https://www.putty.org/>

MacOS users can open terminal window and connect to server directly using the following command:

```
$ ssh <netid>@cse5520.engr.uconn.edu
```

Login using NetId, password, Duo 2-factor authentication

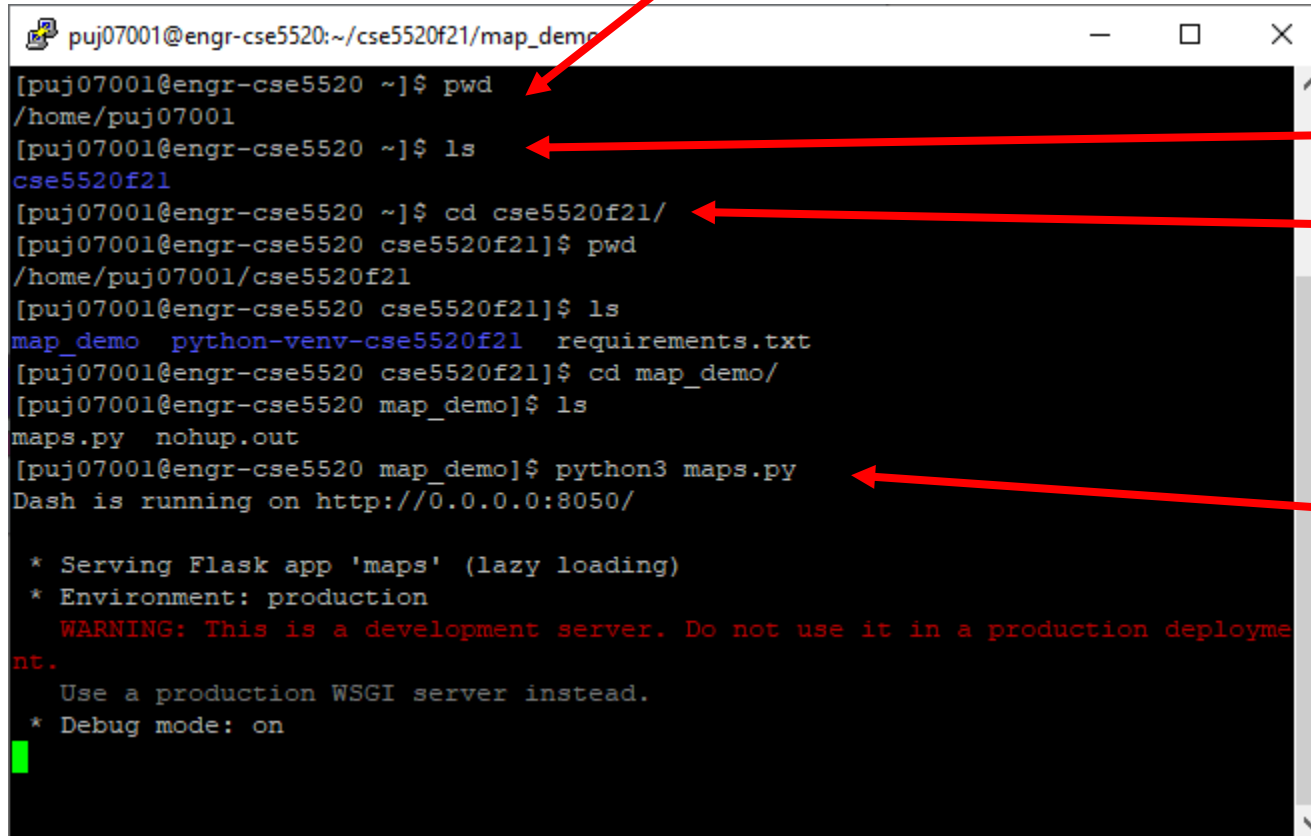
Host Name: cse5520.engr.uconn.edu



Any questions about issues with connecting to VPN or connecting to Linux server can be redirected to UITS help desk. <https://its.uconn.edu/>

Basic Linux commands

Print Working Directory (pwd) – Prints your current working directory



```
puj07001@engr-cse5520:~/cse5520f21/map_demo
[puj07001@engr-cse5520 ~]$ pwd
/home/puj07001
[puj07001@engr-cse5520 ~]$ ls
cse5520f21
[puj07001@engr-cse5520 ~]$ cd cse5520f21/
[puj07001@engr-cse5520 cse5520f21]$ pwd
/home/puj07001/cse5520f21
[puj07001@engr-cse5520 cse5520f21]$ ls
map_demo  python-venv-cse5520f21  requirements.txt
[puj07001@engr-cse5520 cse5520f21]$ cd map_demo/
[puj07001@engr-cse5520 map_demo]$ ls
maps.py  nohup.out
[puj07001@engr-cse5520 map_demo]$ python3 maps.py
Dash is running on http://0.0.0.0:8050/

* Serving Flask app 'maps' (lazy loading)
* Environment: production
  WARNING: This is a development server. Do not use it in a production deployment.
  Use a production WSGI server instead.
* Debug mode: on
```

ls – lists contents of current working directory

cd <directory path> – change working directory

Run python programs (your dash program)
Make sure you setup your host and port properly
in your python code file.

```
app.run_server(debug=True, host='0.0.0.0',
               port=8050,
               threaded=True)
```

Once you run this program, you can browse your dashboard at
<http://cse5520.engr.uconn.edu:80xx>

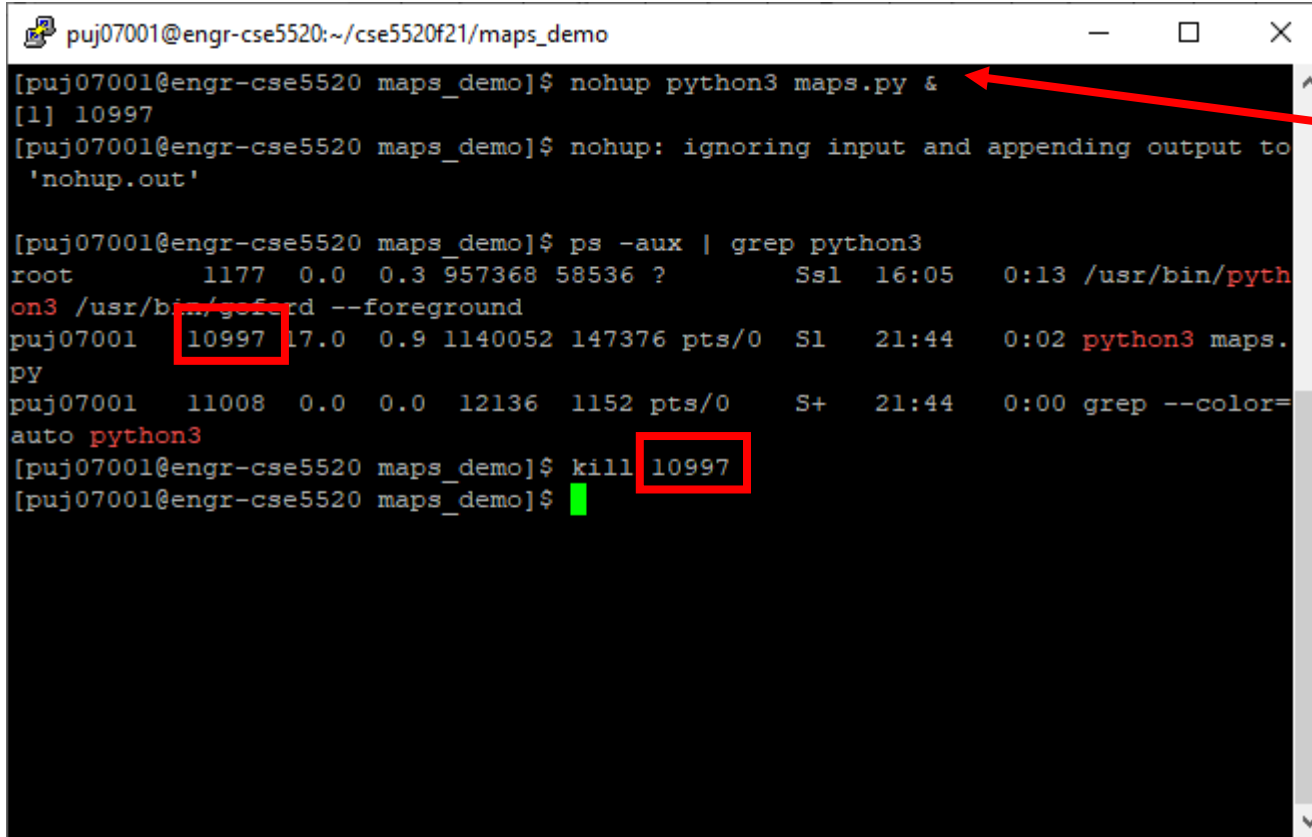
When you run python programs this way, it will stop when you
disconnect the session (close PuTTY window)

If you need to install python libraries, you can
install them using the following command.

```
$ python3 -m pip install dash
```

Same way as we install library in our local machine

To run python program in the background, use “nohup” which stands for “No hangup”. Program keeps running when you disconnect from the session.



```
puj07001@engr-cse5520:~/cse5520f21/maps_demo
[puj07001@engr-cse5520 maps_demo]$ nohup python3 maps.py &
[1] 10997
[puj07001@engr-cse5520 maps_demo]$ nohup: ignoring input and appending output to
'nohup.out'

[puj07001@engr-cse5520 maps_demo]$ ps -aux | grep python3
root      1177   0.0  0.3 957368 58536 ?        Ssl  16:05   0:13 /usr/bin/python3 /usr/bin/goford --foreground
puj07001  10997  17.0  0.9 1140052 147376 pts/0    Sl   21:44   0:02 python3 maps.py
puj07001  11008  0.0  0.0  12136  1152 pts/0    S+   21:44   0:00 grep --color=auto python3
[puj07001@engr-cse5520 maps_demo]$ kill 10997
[puj07001@engr-cse5520 maps_demo]$
```

Output from the program is redirected to nohup.out file in the working directory. Output log from your python program can be monitored by opening nohup.out file (from FileZilla).

Press CTRL + C to cancel current program and get to command prompt

Run python program with “nohup”.
\$ nohup python3 maps.py &

Python program now runs in the background. You can see the list of python programs running in the background by running ps command.
\$ ps -aux | grep python3

You can disconnect the session by closing puTTY screen, but your python program will keep running in the background.

To kill the process, find pid of the process using “ps” command and kill the process using “kill” command.

\$ ps -aux | grep python3
\$ kill <Pid>

Port Assignments to students

| First Name | Last Name | Port |
|------------|-------------|------|
| Anthony | Lorenzetti | 8060 |
| Alexander | Zevin | 8061 |
| Allison | Gagliano | 8062 |
| Ankit | Bhardwaj | 8063 |
| Bala | Swaminathan | 8064 |
| Chenyu | Zhang | 8065 |
| Devin | McConnell | 8066 |
| Dongping | Zhu | 8067 |
| Frank | Zappulla | 8068 |
| Graham | Roberts | 8069 |
| Honglin | Wang | 8070 |
| Huiqun | Huang | 8071 |
| Jackie | Ramirez | 8072 |
| Jack | Grossman | 8073 |
| Kaustubh | Prabhu | 8074 |
| Lenny | Adams | 8075 |

| First Name | Last Name | Port |
|------------|------------|------|
| Majid | Feiz | 8076 |
| Michael | McDermott | 8077 |
| Nidhibahen | Shah | 8078 |
| Peter | Zaffetti | 8079 |
| Peng | Chen | 8080 |
| Piyush | Shrivastav | 8081 |
| Sanjiv | Dinakar | 8082 |
| Shariq | Khan | 8083 |
| Seth | Fortin | 8084 |
| Shubhangi | Shubhangi | 8085 |
| Sybille | Legitime | 8086 |
| Lynn | Pepin | 8087 |
| Vandana | Gupta | 8088 |
| Vidyalaxmi | Kandarpa | 8089 |
| William | Manka | 8090 |
| Zhixia | Ding | 8091 |