Nextstrain installation

Yale SCHOOL OF PUBLIC HEALTH
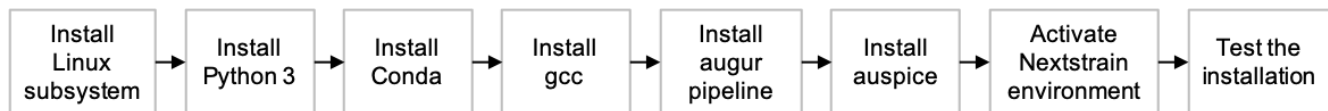
This tutorial is designed to assist you to install nextstrain, and the workflow below explains the main steps to accomplish that. Windows users must install a Linux subsystem first (see step 1).

(1) Nexstrain only operates on UNIX systems (MacOS or Linux). As a workaround, Windows users can install Linux (version Ubuntu) as a subsystem. Access the link below to install and set up Linux on Windows:

```
https://nextstrain.org/docs/getting-started/windows-help
```

(2) Access the Terminal in your system, and run the commands below to check if Python 3 is installed (see box):

```
python --version
```

> If no version information is shown, it means the software is not installed. Please **access** the sites below to install it:
>
> Python3 → https://www.python.org/downloads/

(3) While it may be available on MacOS, Linux subsystems may not come with a gcc compiler. Test if gcc is available by typing:

```
gcc --version
```

(4) If this command does not tell you which gcc version is installed, Linux users can install it by typing the commands below, one line at a time (MacOS users, please see note):

```
sudo apt-get update
sudo apt install gcc
gcc --version
```

> Note: `apt` (Advanced Package Tool) is a software used for installing and removing other software in Linux only. MacOS users should use `brew` instead (type `brew -h` to check if it's installed. If not installed, access https://brew.sh/)
>
> ```
> brew update
> brew upgrade
> brew install gcc
> ```

(5) If Python 3 and gcc are now installed, run the commands below, one line at a time, to install augur:

```
python3 -m pip install nextstrain-cli
curl http://data.nextstrain.org/nextstrain.yml --compressed -o nextstrain.yml
conda env create -f nextstrain.yml
```

(6) Activate the nextstrain environment using the command below. It will change the prefix of the command prompt (please see the 'nextstrain' prefix):

```
conda activate nextstrain
```

(7) Now let's install auspice. First, check if npm is available (see box):

```
npm --version
```

If npm is not installed, use the command below to install it:
```
sudo apt install nodejs
```

(8) With npm installed, you are good to go. Run the following command to install auspice, the software used to visualize the results generated by augur:

```
npm install --global auspice
```

(9) That's it. Now run the commands below to test the software installation. These commands will print information about how to use each software:

```
augur -h
auspice -h
nextstrain -h
conda deactivate
```

All set! 🎉