A guide to Installing python programs locally

We don't always have a lot of user base for software, so we don't install it system wide. However, users can install it through a virtual environment on any of our systems. Here is a very quick guide on how to do this (see https://virtualenv.pypa.io/en/stable/userguide/ for further details or google around for more on virtual environments).

For Mason and Karst:

```
#First load the python version you'd like to use (I pick default)
module load python

#Confirm virtual environment is installed (it is!)
pip list #see virtualenv?

#Create a new virtual environment called test (could be anything) and then
#include all the system installed packages to prevent dependency issues
#later!
virtualenv --system-site-packages test

#Start the virtual environment
source test/bin/activate

#Confirm all the packages loaded
pip list #should see everything from before

#Now you can install whatever you'd like!
pip install <program>

#Confirm it installed
pip list #should see <program> now

#Run the program from the environment's bin
python venv/bin/<program.py>

#To leave VE
deactivate

#To delete VE
rm -r test
```

You can make numerous virtual environments, which is helpful if you want to use different versions of python. I have a folder called pythonVE in my home to store them.

There are many other utilities to use in virtualenv, but this should get you started.

For BigRed2:

If you'd like to use virtualenv on bigred2, you will have to do the following additional steps FIRST:

```
nano ~/.pip/.pipconf

Add the following to the file:
[global]
cert = /etc/ssl/certs/DigiCert_High_Assurance_EV_Root_CA.pem
```

Then you can do exactly as listed before! This will allow you to be able to download packages via pip. Please see https://kb.iu.edu/d/acey for more information.