FOSS Python tools for geospatial analysis
Speaker: Nishadh.K.A.
Research Associate
www.urbanemissions.info

Basic workshop requirement

1. Hardware with 64 bit OS, windows 10 and Mac latest updated version to run docker software,
2. workshop is heavily dependent on docker and please ensure it is working in your computer, test docker by downloading and running the images `helloworld` and `ubuntu`
3. Google earth desktop version software
4. Quantum GIS software
5. Latest workshop Github repo folder in local- https://github.com/nishadhka/FOSS-Python-GeospatialAnalysis/archive/master.zip

The workshop image set up with docker

- Download the workshop image tar file from google drive with this link, do visit the workshop repository to get the latest/updated version of the docker image. The tar file is 4.6 GB in size, please cheksum the downloaded tar to ensure its hash as 57e05b908790697e07f553d684bf5607
- use docker as follows, to load the tar into docker as an image

  `docker load -i foss_pt_gsa_ubuntu_v1.tar`

- To check the docker is loaded with images, ensure the image

  `foss-pt-gsa/foss-pt-gsa:version1` is listed `docker ps`

- To run the image

  `docker run -dit foss-pt-gsa/foss-pt-gsa:version1 bash`

- To enter into the image bash

  ```
  docker exec -it 9270ee5fdfe1 bash
  ```

- After enter into the image's bash terminal, enter following commands. the commands download the workshop github repo zip file into a working directory, then unzip it and get into the repo folder to start a Jupter notebook server

  ```
  cd /home/ubuntu/
  wget https://github.com/nishadhka/FOSS-Python-GeospatialAnalysis/archive/master.zip
  unzip master.zip
  cd FOSS-Python-GeospatialAnalysis
  jupyter notebook --ip 0.0.0.0 --no-browser --allow-root
  ```

Note down the link provided by the jupyter notebook such as example
http://0.0.0.0:8889/?token=c8e944b8397b0bde97b4d9284e5e3ffc0136658fcca3ea1e

- Logout from the docker image bash and in the host computer note down the image_ID of the workshop image running inside the docker by

  ```
  docker ps
  ```

- Then inspect about the docker image to get to know the image's IP address. Note down the ipaddress

  ```
  docker inspect image_ID
  ```

- Edit the jupter server given link as into
  http://ipaddress:8889/?token=c8e944b8397b0bde97b4d9284e5e3ffc0136658fcca3ea1e
- Open the link in host computer browser, it shows the Jupyternotebooks in the workshop repo and click on the file docker_test.ipynb, to run the notebook and execute its first cell to ensure all the libraries for the workshop is working properly