Mininet Introduction and Installation

Understanding Mininet:

http://mininet.org/overview/

https://opennetworking.org/mininet/

https://www.youtube.com/watch?v=wIBSNvjll4Q

Installing Mininet:

1. Install Maven

   $ sudo apt update

   $ sudo apt install maven

   $ mvn -version

2. Install karaf

   $ cd ..

   $ mkdir Applications

   $ cd Downloads

   $ wget http://archive.apache.org/dist/karaf/3.0.5/apache-karaf-3.0.5.tar.gz

   $ tar -zxvf apache-karaf-3.0.5.tar.gz -C ../Applications/

3. Install git core

   $ sudo apt-get install git-core

4. Install net tools

   $ sudo apt-get install net-tools

5. Install mininet

   $ sudo apt-get update

   $ sudo apt-get upgrade

   $ sudo apt-get dist-upgrade

   $ sudo apt-get install git

   $ git clone git://github.com/mininet/mininet

```
$ cd mininet

$ git tag

$ git checkout -b 2.2.2

$ sudo ~/mininet/util/install.sh -a
```

6. install mininet command

   ```
   $sudo apt-get install mininet
   ```

7. to start CLI

   ```
   $sudo mn
   ```

8. to start GUI

   ```
   $sudo ~/mininet/examples/miniedit.py
   ```

Creating Custom Topology:

1. Create a python file names "myTopo.py" and save it in mininet/custom
2. Write the following:

```python
"""Custom topology example

Two directly connected switches plus a host for each switch:

   host --- switch --- switch --- host

Adding the 'topos' dict with a key/value pair to generate our newly defined
topology enables one to pass in '--topo=mytopo' from the command line.
"""

from mininet.topo import Topo

class MyTopo( Topo ):
    "Simple topology example."

    def build( self ):
        "Create custom topo."

        # Add hosts and switches
        leftHost = self.addHost( 'h1' )
        rightHost = self.addHost( 'h2' )
        leftSwitch = self.addSwitch( 's3' )
        rightSwitch = self.addSwitch( 's4' )

        # Add links
```

```
        self.addLink( leftHost, leftSwitch )
        self.addLink( leftSwitch, rightSwitch )
        self.addLink( rightSwitch, rightHost )


topos = { 'mytopo': ( lambda: MyTopo() ) }
```

3. Run using the following command:

```
$ sudo mn --custom ~/mininet/custom/topo-2sw-2host.py --topo mytopo --test pingall
```