sudo apt update  
sudo apt-get install curl  
sudo apt install default-jre  
sudo apt install default-jdk  
  
sudo apt-get install -y openvswitch-switch  
sudo apt-get install -y mininet  
sudo apt-get install -y libxml2-utils  
wget <https://nexus.opendaylight.org/content/repositories/opendaylight.release/org/opendaylight/integration/opendaylight/15.3.0/opendaylight-15.3.0.tar.gz>  
tar xvzf opendaylight-15.3.0.tar.gz  
cd opendaylight-15.3.0/  
./bin/karaf  
  
feature:install odl-mdsal-apidocs  
feature:install odl-restconf  
feature:install odl-openflowplugin-flow-services-rest  
feature:install odl-openflowplugin-app-table-miss-enforcer  
feature:install odl-openflowplugin-app-topology  
feature:install odl-openflowplugin-app-topology-manager  
feature:install odl-openflowplugin-app-lldp-speaker  
feature:install odl-openflowplugin-app-topology-lldp-discovery

sudo apt-get install ansible git aptitude  
git clone <https://github.com/containernet/containernet.git>  
cd containernet/ansible/  
sudo ansible-playbook -i "localhost," -c local install.yml  
sudo apt-get install openvswitch-switch

@ หากติดปัญหา  
sudo docker ps -a  
sudo docker stop mn.r1  
sudo docker rm mn.r1  
sudo service bird restart

**Create the ODL BGL Instance**

curl -v --user "admin": "admin" -H "Accept: application/xml" -H "Content-Type: application/xml" -X POST http://localhost:8181/restconf/config/openconfignetwork-instance:network-instances/network-instance/global-bgp/openconfignetwork-instance:protocols/-d @bgp\_router.xml

**Create bgp neighbor**

curl -v --user "admin": "admin" -H "Accept: application/xml" -H "Content-Type: application/xml" -X POST http://localhost:8181/restconf/config/openconfignetwork-instance:network-instances/network-instance/global-bgp/openconfignetwork-instance:protocols/protocol/openconfig-policy-types:BGP/bgp-odlrouter/bgp/neighbors/-d @bgp\_neighbor.xml

A diagram of a computer network

Description automatically generated

A screenshot of a computer program

Description automatically generatedtopo1.py

A screenshot of a computer program

Description automatically generated

r1.conf

A screen shot of a computer code

Description automatically generatedA screenshot of a computer program

Description automatically generated

r2.conf

A screenshot of a computer program

Description automatically generated

r3.conf

A screenshot of a computer program

Description automatically generated

r4.conf

A screenshot of a computer program

Description automatically generated

**bgp\_router.xml**

A screenshot of a computer

Description automatically generated

**bgp\_neighbor.xml**

A screenshot of a computer code

Description automatically generated

**RED BLUE GREEN**

#สร้าง host ชื่อ red

sudo ip netns add red

sudo ip link add red-veth0 type veth peer name red-veth1

sudo ip link set red-veth1 netns red

sudo ip netns exec red ip addr add 10.10.20.1/24 dev red-veth1

sudo ip netns exec red ip link set red-veth1 up

#สร้าง host ชื่อ blue

sudo ip netns add blue

sudo ip link add blue-veth0 type veth peer name blue-veth1

sudo ip link set blue-veth1 netns blue

sudo ip netns exec blue ip addr add 10.10.20.2/24 dev blue-veth1

sudo ip netns exec blue ip link set blue-veth1 up

#สร้าง host ชื่อ green

sudo ip netns add green

sudo ip link add green-veth0 type veth peer name green-veth1

sudo ip link set green-veth1 netns green

sudo ip netns exec green ip addr add 10.10.20.3/24 dev green-veth1

sudo ip netns exec green ip link set green-veth1 up

#open port

sudo ifconfig red-veth0 up

sudo ifconfig blue-veth0 up

sudo ifconfig green-veth0 up

sudo ovs-vsctl add-br s1

# เพิ่ม port red-vethe ลงใน bridge s1

sudo ovs-vsctl add-port s1 red-veth0

# เพิ่ม port blue-vethe ลงใน bridge s1

sudo ovs-vsctl add-port s1 blue-veth0

# เพิ่ม port green-vethe ลงใน bridge s1

sudo ovs-vsctl add-port s1 green-veth0

sudo ovs-ofctl -O OpenFlow13 add-flow s1 actions=normal

# chack ping with ip port-name

sudo ip netns exec blue ping 10.10.20.3

DETORIC setup

sudo ip netns delete red

sudo ip netns delete blue

sudo ip netns delete green

sudo ovs-vsctl del-br s1