**SDNFV Lab1**

**Part 1**

1. When ONOS activate “org.onosproject.openflow,” what APPs does it activate?

Apps enabled:

* org.onosproject.hostprovider
* org.onosproject.lldpprovider
* org.onosproject.openflow-base
* org.onosproject.openflow
* org.onosproject.optical-model.

Before enable

一張含有 文字, 螢幕擷取畫面, 數字, 功能表 的圖片

自動產生的描述

After enable

一張含有 文字, 螢幕擷取畫面, 數字, 字型 的圖片

自動產生的描述

1. After we activate ONOS and run P.17 Mininetcommand, will H1 ping H2 successfully? Why or why not?

H1 can ping H2 successfully (as shown in graph). The ping succeeded because I have the network connected and have the org.onosproject.fwd enabled.

一張含有 文字, 螢幕擷取畫面 的圖片

自動產生的描述

1. Which TCP port does the controller listen to the OpenFlow connection request from the switch?

In the screenshot, you can see that the controller listens on port 6653 for the connection request from the switch.

一張含有 文字, 字型, 螢幕擷取畫面, 黑色 的圖片

自動產生的描述

After a connection request is accepted, the controller and the switch will connect with different ports (6654, 6655, 6656…)

一張含有 文字, 螢幕擷取畫面, 字型 的圖片

自動產生的描述

1. In question 3, which APP enables the controller to listen on the TCP port?

OpenFlow Base Provider (org.onosproject.openflow-base). After deleting the whole suite, I add the Optical Model first due to the requirement and add the OpenFlow Base Provider. After activating the base provider, the port 6653 is turned on.

一張含有 文字, 螢幕擷取畫面, 字型 的圖片

自動產生的描述

一張含有 文字, 字型, 數字, 螢幕擷取畫面 的圖片

自動產生的描述

**Part 2**

Steps:

1. Write the python script to create the topology

一張含有 文字, 螢幕擷取畫面, 陳列, 軟體 的圖片

自動產生的描述

1. Run sudo mn command
2. Run pingall to have the controller find all the hosts
3. Goto 127.0.0.1:8181/onos/ui and login
4. Goto menu bar -> Topology
5. Take a screenshot (Result as following)

一張含有 文字, 螢幕擷取畫面, 軟體, 電腦圖示 的圖片

自動產生的描述

**Part 3**

Modify the code in part 2. Specify the host with static IP like “ h1 = self.addHost( 'h1', ip='192.168.0.1/27') ”

一張含有 文字, 螢幕擷取畫面, 字型, 功能表 的圖片

自動產生的描述

一張含有 文字, 螢幕擷取畫面, 字型 的圖片

自動產生的描述

一張含有 文字, 螢幕擷取畫面, 字型 的圖片

自動產生的描述

**What I’ve learned or solved**

In this lab

1. I installed virtual box, built an Ubuntu VM, install ONOS, Bazelisk, Mininet, and OvS with the environment setup file provided by TAs.
2. I learned how to activate control plane apps via CLI and GUI, gained more detailed knowledge on the applications after answering the questions in part 1.
3. I learned how to create a network with a specific topology using mininet, either by default topology or custom topology using python script.
4. I learned how to assign static IPs to the hosts.