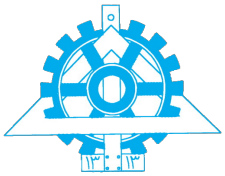
In the name of Allah

الله

Network management and security Laboratory Manual



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1 SDN Introduction

1.1 Excercise One

Remember previouse lab [1] where you are using host rather than router to emulate some routing functionality. In this experiment we want to implement same functionality with SDN switches. To warm up our hands we will start by simple scenario:

- Open switch.py and read it's codes carfully.
- Run this code with **sudo python switch.py**
- Ping h2 from h1.
- Capture OpenFlow hello packet on **lo** interface. (Filter wireshark output with **of** filter)

Lab Report

- Expain line 21 to 26 of switch.py.
- Read this link and explain switch handshak with controller. What is xid of your packets. Justify your answer with captured packets. **Don't copy and paste text from refrence in your lab report**.

1.2 Excercise Two

Use what you learned in previouse exercise and create figure 1.1 topology. Configure switches in this topology where ??? we can ping each host from each host. Show your final result to instructors.

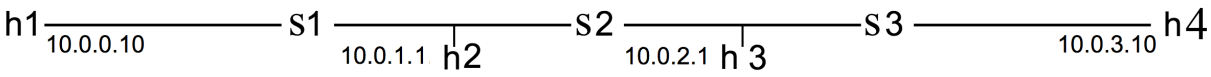

Figure 1.1: Mininet Topology

2 Exercises with multitables flows

Excercise Three

In this section we are loading switch flows from another files and axamining it's functionality.

- Execute **sudo python topo.py**
- Execute **sh ovs-ofctl add-flows s1 tables.txt** on mininet console.
- Ping each host from other hosts.
- Capture ICMP packets on each host and observe network behavior.

Lab Report

- Can you explain switch behavior? Justify your answer with wireshark output and tables.txt file.

[1] Lab 4 routing