MawlanaBhashani Scienceand Technology University

Lab-Report

Report No: 01

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Experiment No: 01

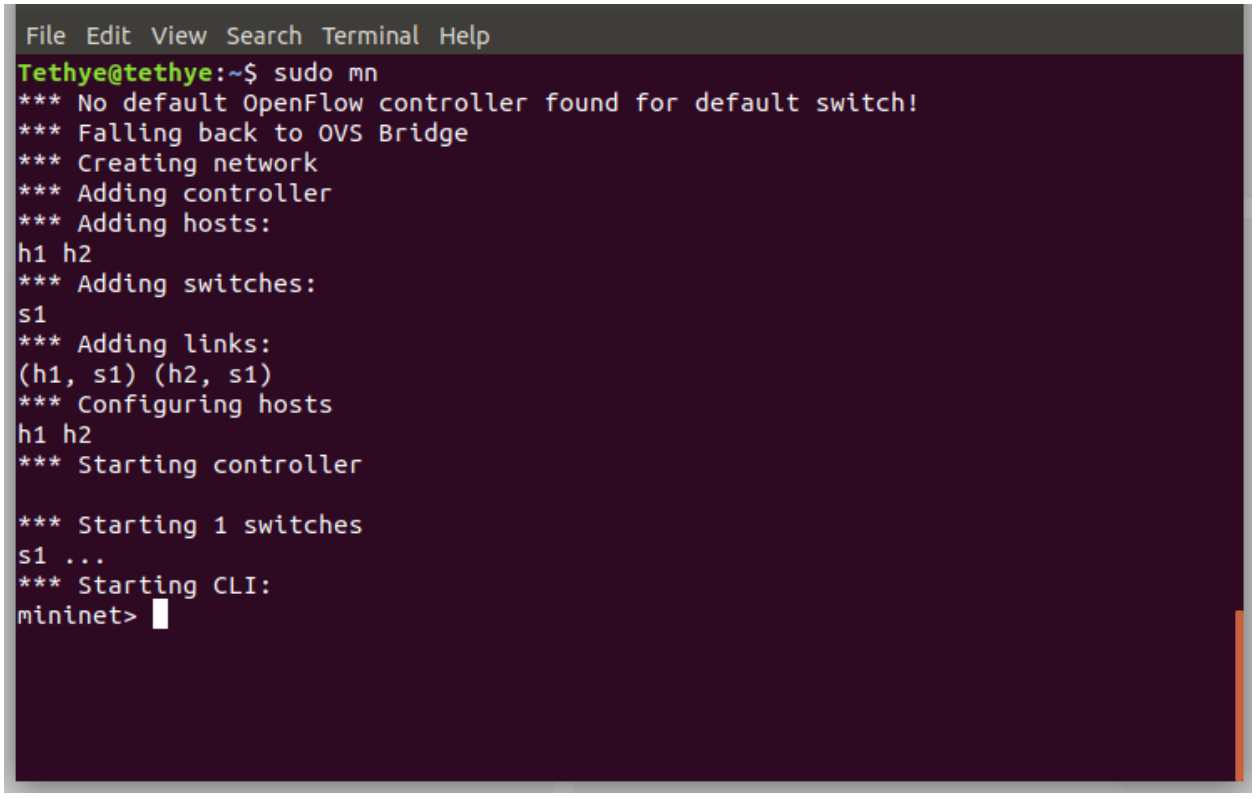
Experiment Name : Basic mininet commands

Create Virtual Network :

To manage our virtual network we will use CLI (sudom command) . Two hosts (h1, h2), openflow switch(s1) and openflow controller (c0) are includes in the default topology.

Interact with Hosts and Switches :

Start a minimal topology and enter the CLI :

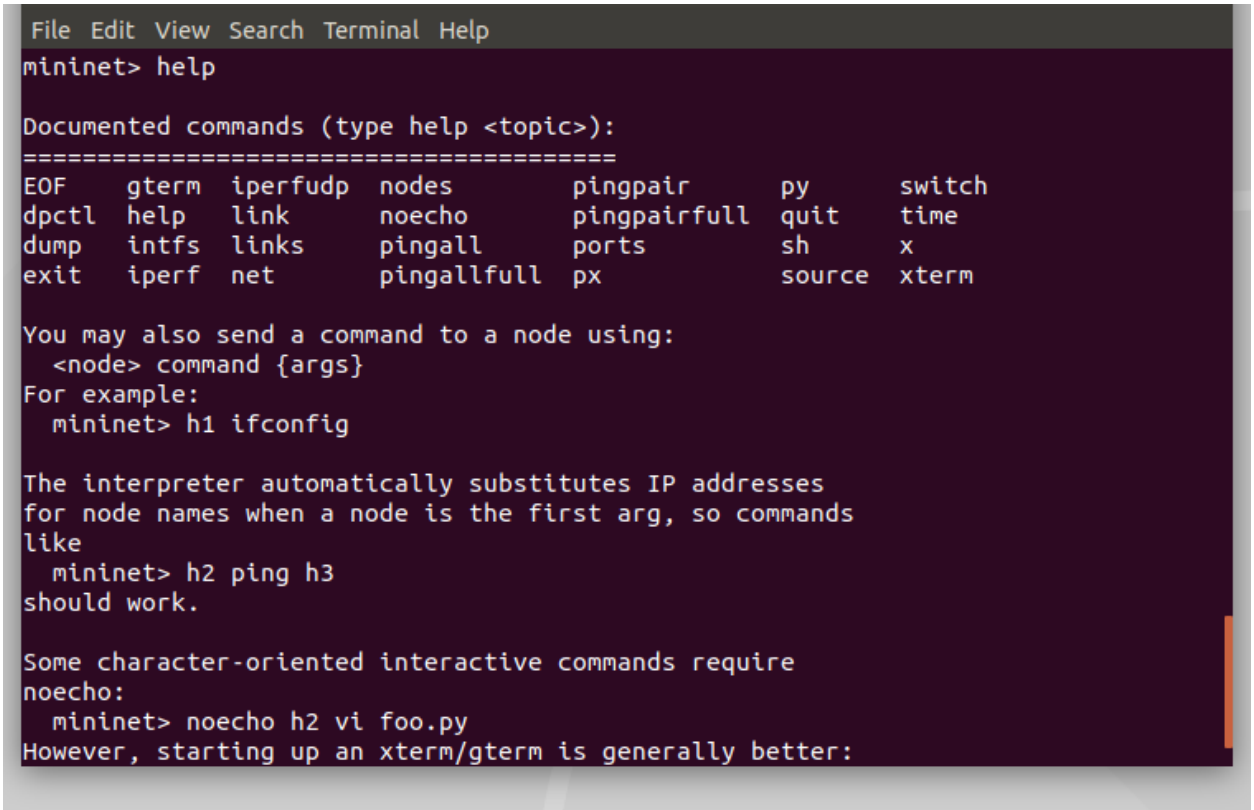


When issuing the sudomn command, Mininet initializes the topology and launches its command line interface which looks like this:

mininet>

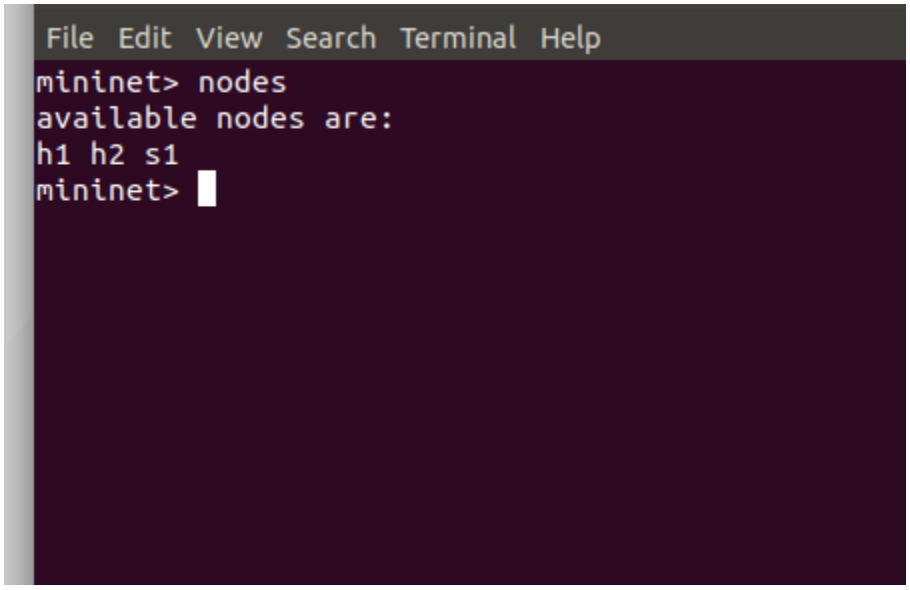
AgainDisplay Mininet CLI commands:

mininet> help



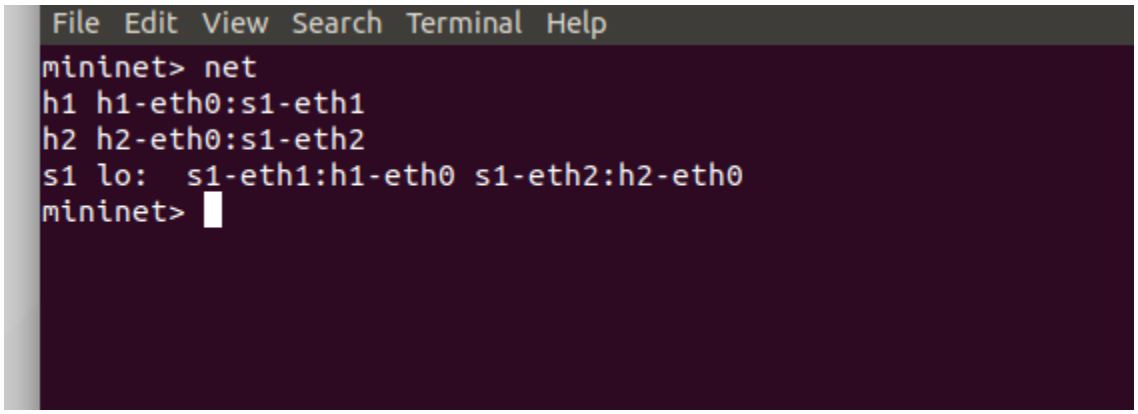
To display the available nodes, type the following command:

mininet> nodes



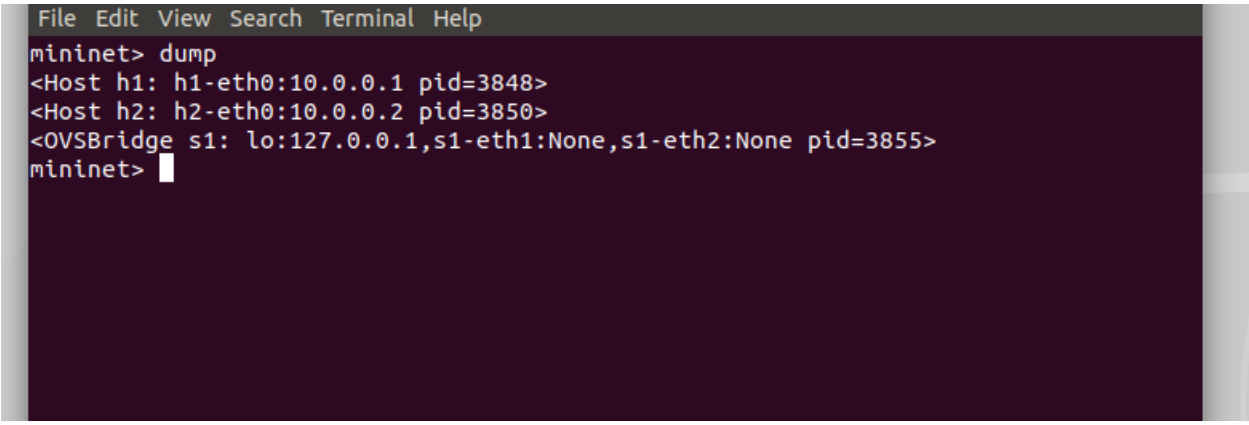
Display links:

mininet> net



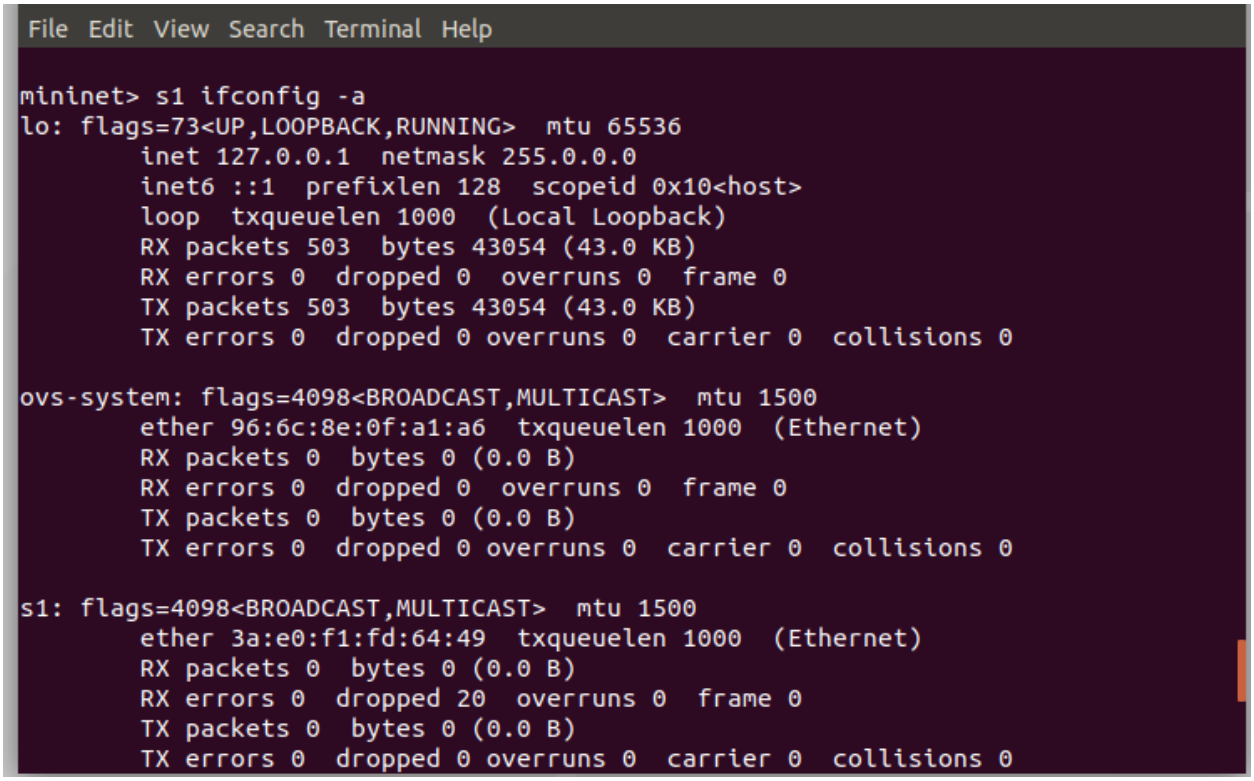
Dump information about all nodes:

mininet> dump



If the first string typed into the Mininet CLI is a host, switch or controller name, the command is executed on that node. Run a command on a host process:

mininet> h1 ifconfig -a



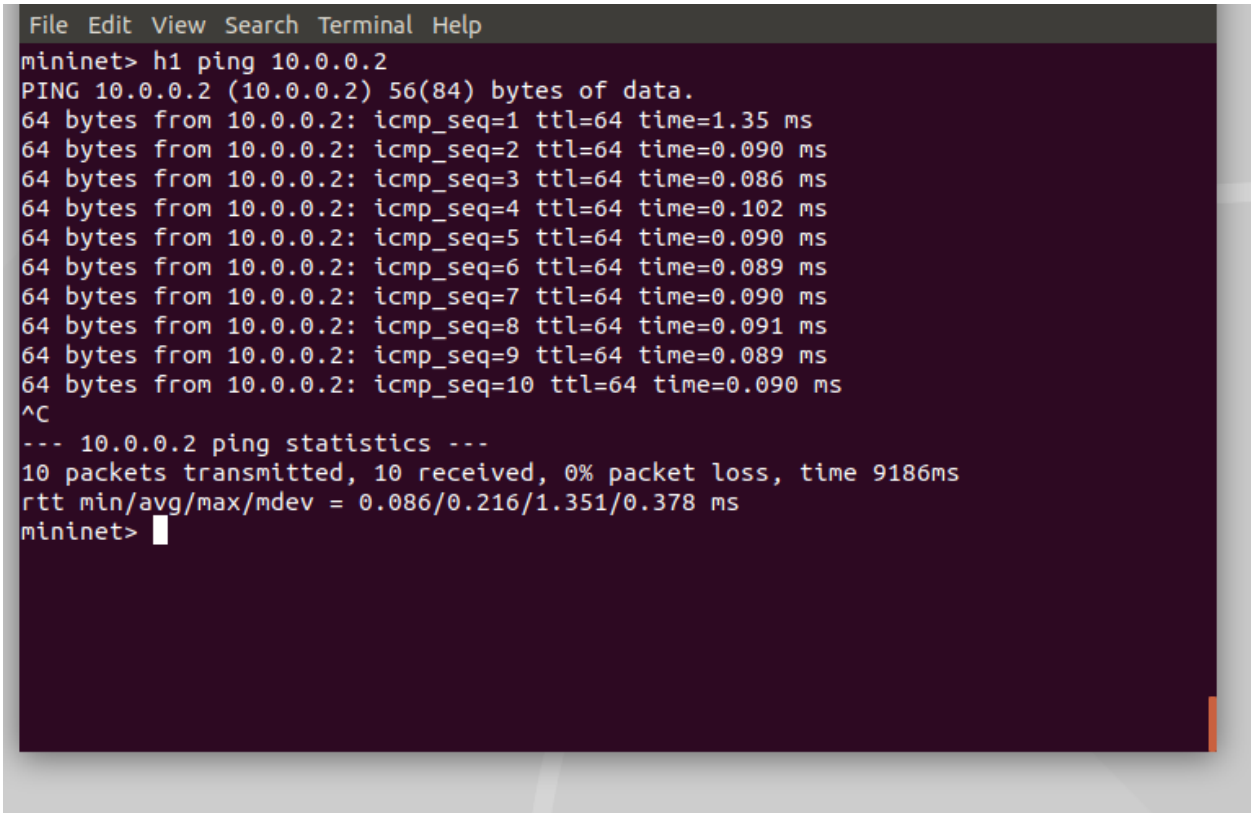
This command executes the ifconfig Linux command on host h1. The command shows host h1's interfaces. The display indicates that host h1 has an interface h1-eth0 configured with IP address 10.0.0.1, and another interface lo configured with IP address 127.0.0.1

Test connectivity :

Mininet's default topology assigns the IP addresses 10.0.0.1/8 and 10.0.0.2/8 to host h1 and host h2 respectively. To test connectivity between them, you can use the command ping.

The command shown below.

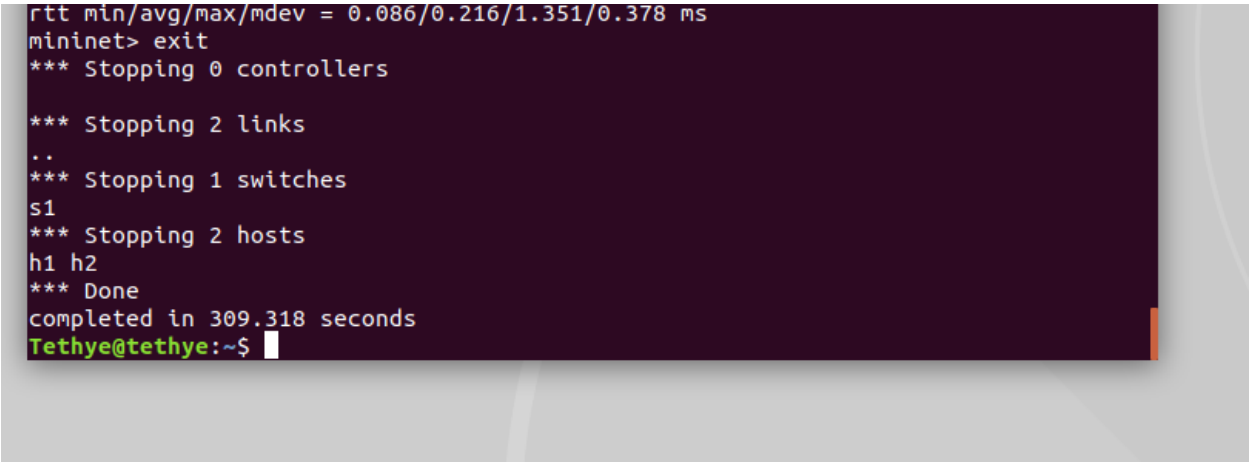
mininet> h1 ping 10.0.0.2



This command tests the connectivity between host h1 and host h2. To stop the test, press Ctrl+c .

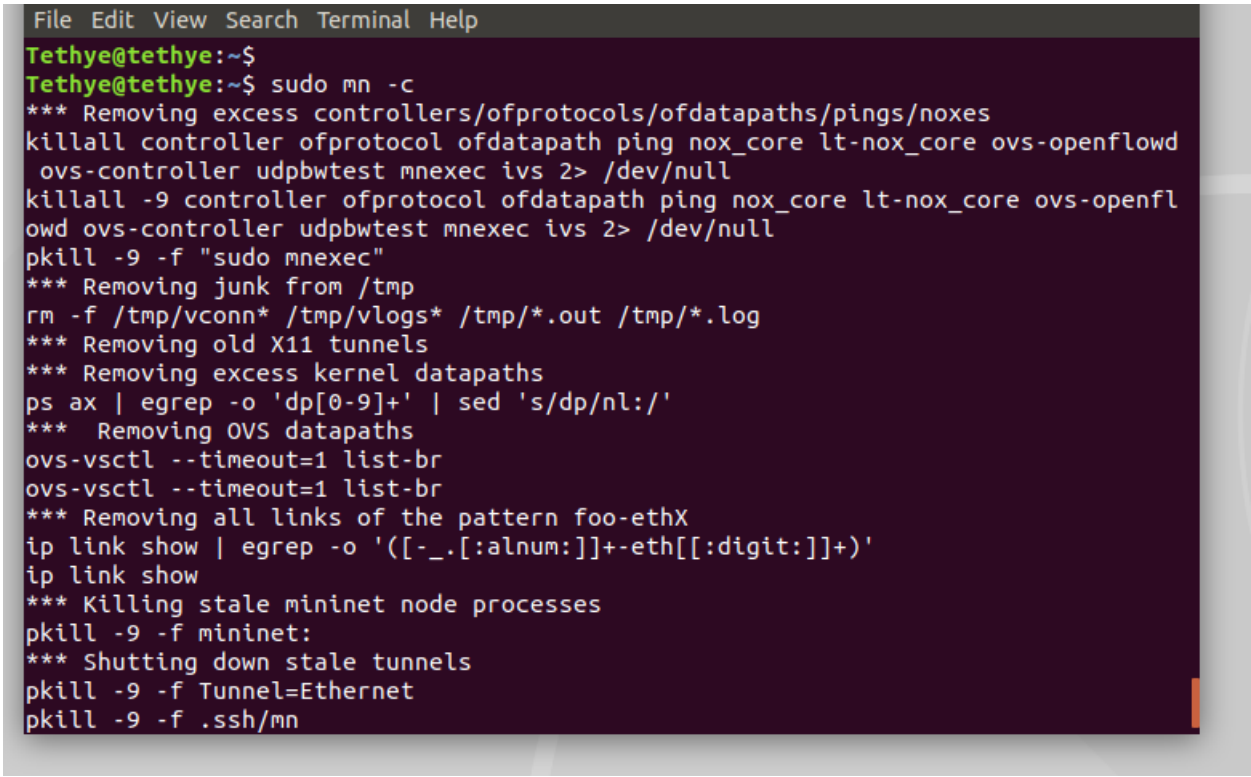
Stop the emulation by typing the following command:

mininet> exit



Mininet crashes for some reason, clean it up by the following command:

$ sudomn -c



Discussion :

Mininet hosts run standard Linux network software, and its switches support OpenFlow for highly flexible custom routing and Software-Defined Networking. A network emulator which creates a network of virtual hosts, switches, controllers, and links is known as Mininet.