CYBERTRAINING RESOURCES

Installing Mininet

Document Version: 06-20-2021

Award 1829698
“CyberTraining CIP: Cyberinfrastructure Expertise on High-throughput Networks for Big Science Data Transfers”
## Contents

1. Installing Mininet from packages ................................................................. 3  
2. Using Miniedit .................................................................................................. 5  

References ............................................................................................................. 8
This short guide describes the steps required to install Mininet on a Linux. The guide assumes that you are running a recent version of Ubuntu. The version of Linux used in this guide is Ubuntu 20.04.2 LTS.

1 Installing Mininet from packages

**Step 1.** Launch a Linux terminal by holding the Ctrl+Alt+T keys or by clicking on the Linux terminal icon.

**Step 2.** Make sure that the list of packages from all repositories is up to date by running the following command. When prompted to enter a password, please enter the password of the account you are currently logged into.

```
sudo apt-get update
```

**Step 3.** Install the mininet package by entering the following command.

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

Press enter key on your keyboard to proceed with the installation.
**Step 4.** At this point, if there was no error during the installation process, you should have *mininet* installed on your machine. Issue the following command to start *mininet’s* Command Line Interface (CLI). This command creates a simple topology consisting of one switch (s1) and two hosts (h1, h2).

```plaintext
sudo mn
```

**Step 5.** By default, the Open vSwitch (OVS) package is installed when installing *mininet*. OVS is the virtual switch that will be used to connect devices in *mininet*. To test if mininet is working properly, issue the following command in mininet’s CLI.

```plaintext
mininet> pingall
```
The figures above shows that h1 was able to reach h2 and h2 was able to reach h1. It also shows that 0% packets were dropped. This confirms that mininet and the virtual switch are properly installed.

2 Using Miniedit

Mininet has a Graphical User Interface (GUI) known as Miniedit. Miniedit is a simple python program that provides a GUI which allows creating and managing topologies.

Step 1. Install git in case it is not installed on your machine by using the following command.

```bash
sudo apt-get install git
```

Step 2. Clone the mininet repository from GitHub by using the following command on a Linux terminal.

```bash
git clone https://github.com/mininet/mininet
```

Step 3. Install python-pip3 package in case it is not installed on your system.

```bash
sudo apt install python3-pip
```
Step 4. Install *mininet* using pip3 by entering the following command.

```
sudo pip3 install mininet
```

Step 5. Install tkinter by entering the following command

```
sudo apt-get install python3-tk
```
Step 6. Install `xterm` package by entering the following command.

```bash
sudo apt-get install xterm
```

Step 7. Check if Miniedit is ready to be started. Start Miniedit by entering the following command.

```bash
sudo python3 mininet/examples/miniedit.py
```
If the output is similar to the figure above, then Miniedit is ready.

References