Instructions

1. The zip file contains 3 folders named:
    a. Static
    b. ECMP
    c. LUP
2. For running the ECMP routing algorithm, open two terminals inside the ECMP folder and run the following commands:
    a. On one terminal run the controller as
    sudo sh controller_ecmp.sh
    b. On another terminal run the fat tree topology as
    sudo sh run_ecmp.sh
    c. Open hosts h1, h2 and h6 like
    0_0_2 xterm&
    0_0_3 xterm&
    1_0_3 xterm&

    Where, 0_0_2 is the name for host 1, 0_0_3 is the name for host 2 and 1_0_3 is for host 6.
    d. To run the parallel flows make h6 as a server and h1,h2 as clients by executing the following command in h6 xterm window
    h6: iperf -s -p 12345 -u
    h1: iperf -c 10.1.0.3 -p 12345 -b 10M -t 10 -u
    h2: iperf -c 10.1.0.3 -p 12345 -b 10M -t 10 -u

    e. Similarly to run long and short flows make h6 as a server and h1,h2 as clients by executing the following command in h6 xterm window
    h6: iperf -s -p 12345 -u
    h1: iperf -c 10.1.0.3 -p 12345 -b 10M -t 100 -u
    h2: iperf -c 10.1.0.3 -p 12345 -b 10M -t 10 -u

3. For running the Least utilized path algorithm, open two terminals inside the LUP folder and run the following commands:
    a. On one terminal run the controller as
    sudo sh controller_ecmp.sh
    b. On another terminal run the fat tree topology as
    sudo sh run_ecmp.sh
    c. Open hosts h1, h2 and h6 like
    0_0_2 xterm&
    0_0_3 xterm&
    1_0_3 xterm&

Where, 0_0_2 is the name for host 1, 0_0_3 is the name for host 2 and 1_0_3 is for host 6.

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   h2: iperf -c 10.1.0.3 -p 12345 -b 10M -t 10 -u

4. For running the static algorithm
   a. Place the file ft.py inside the directory mininet/custom/
   b. Place the file contola.py inside the directory pox
   c. Run the controller file by opening the terminal in pox/ directory and execute the following command
      sudo ./pox.py contola

   d. Run the topology file by opening the terminal in mininet/custom/ directory and execute the following command
      sudo python ft.py

Note : For static algorithm, pingall takes around 1 hour to fully function. It requires 2-3 pingall for 0% packet drop.