1) create from the web interface dashboard 3 M3 nodes, with their profiles (traffic and performances), and 1 A3 node
2) $ ssh bruzzese@saclay.iot-lab.info
3) `iotlab-auth -u bruzzese`
4) `iotlab-experiment submit -n riot_a8 -d 120 -l 3,archi=a8:at86rf231+site=saclay`
5)
6) $ `mkdir -p ~/A8/riot`
7) $ `cd ~/A8/riot`
8) ~~$ `git clone https://github.com/RIOT-OS/RIOT.git -b 2020.10-branch`~~
9) Rm -rf RIOT
10) `git clone https://github.com/RIOT-OS/RIOT.git`
11) $ `cd RIOT`
12) $ `source /opt/riot.source`
13) $ `make ETHOS_BAUDRATE=500000 DEFAULT_CHANNEL=19 BOARD=iotlab-m3 -C examples/gnrc_border_router clean all`
14) $ `iotlab-node --flash examples/gnrc_border_router/bin/iotlab-m3/gnrc_border_router.elf -l saclay,m3,12`
15) `$ sudo ethos_uhcpd.py m3-12 tap0 2001:660:3207:04c1::1/64`

In another terminal, in the front end

16) $ ssh bruzzese@saclay.iot-lab.info

17) `$ ip -6 route`

Open now another terminal and issue the following commands :

1) $ ssh bruzzese@saclay.iot-lab.info

```
2) $ cd A8/riot/RIOT
3) $ source /opt/riot.source
4) $ make DEFAULT_CHANNEL=19 BOARD=iotlab-m3 -C
   examples/gnrc_networking clean all
5) $ iotlab-node --flash examples/gnrc_networking/bin/iotlab-
   m3/gnrc_networking.elf -l saclay,m3,6
6)
```

Open now another terminal and issue the following commands :

1) $ ssh bruzzese@saclay.iot-lab.info

```
2) $ nc m3-6 20000
3) enter
4) > help
5) > ping6 2001:4860:4860::8888
6) > ifconfig
7) > udp server start 8888
8)
```

Open now another terminal and issue the following commands :

1) $ ssh bruzzese@saclay.iot-lab.info

2) `$ ping6 -c 3 2001:660:3207:4c1:1711:6b10:65fd:bd36`
3) `$ echo "hello" > /dev/udp/2001:660:3207:4c1:1711:6b10:65fd:bd36/8888`
4)

If everything works as described, the Border Router is correctly configured. **Congratulations !**

Open now another terminal and issue the following commands :

5) $ ssh bruzzese@saclay.iot-lab.info
6) $ `ssh root@node-a8-110`
7) $ vim config.conf
8) Type I to switch to insert mode
9) Paste the code (hold shift and right click)

```
# add some debug output
trace_output protocol

# listen for MQTT-SN traffic on UDP port 1885
listener 1885 INADDR_ANY mqtts
  ipv6 true

# listen to MQTT connections on tcp port 1886
listener 1886 INADDR_ANY
  ipv6 true
```

10) The ESC and :wq
11) `$ ip -6 -o addr show eth0`
12) `$ broker_mqtts config.conf`
13) (sudo service mosquitto stop) this is used if sopped

Open now another terminal and issue the following commands

1) $ ssh bruzzese@saclay.iot-lab.info
2) `$ source /opt/riot.source`
3) `$ cd ~/A8/riot/RIOT`
4) `$ make BOARD=iotlab-a8-m3 -C examples/emcute_mqttsn`
5) `flash_a8_m3 A8/riot/RIOT/examples/emcute_mqttsn/bin/iotlab-a8-m3/emcute_mqttsn.elf` (this does not work!! Use the following instead)
6) `$ iotlab-ssh flash A8/riot/RIOT/examples/emcute_mqttsn/bin/iotlab-a8-m3/emcute_mqttsn.elf -l saclay,a8,110`
7) `$ ssh root@node-a8-110`
8) `reset_a8_m3`
9) `$ miniterm.py /dev/ttyA8_M3 500000 -e`

There should appear the shell prompt but it does not work.