This file contains a simple tutorial that shows how to build a simple switch, and a basic network policy at Ryu SDN Controller.

We will use Mininet and Raspberry Pis for the experiments and demos, when possible.

A short SDN and Ryu 101

# Set the network environment

For this short, first tutorial, we will be using Mininet.

If you need further details about what [Mininet](http://mininet.org/walkthrough/) is, a [quick start-up guide](http://ax.luissanabria.me/2018/03/05/network-simulators-i-mininet/), or a set of [Mininet examples](https://github.com/SanabriaRusso/my_mininet_resources), just follow the links.

We will follow a simple single switch, [two host topology in Mininet](https://github.com/SanabriaRusso/my_mininet_resources/blob/master/myVerySimpleNet.py), and the Ryu Controller. Refer to the sample post for a [detailed introduction to Ryu](http://luissanabria.me/introduction-to-ryu-openflow-controller/).

# Attempt the experiment

1. [Download Mininet VM](https://github.com/mininet/mininet/wiki/Mininet-VM-Images) for VirtualBox on your system.
2. [Configure communication with your VM](http://ax.luissanabria.me/knowledge-base/network-connectivity-with-a-virtual-machine-in-virtualbox/).
3. [Download the myVerySimpleNet.py](https://github.com/SanabriaRusso/my_mininet_resources) file for creating the simple topology on Mininet.
4. On another system, like your host OS, [install Ryu SDN Controller](https://osrg.github.io/ryu/).
   1. git clone git://github.com/osrg/ryu.git
   2. sudo pip install -r tools/pip-requires
   3. cd ryu; sudo python ./setup.py install
5. Run the $RYU/ryu/app/simple\_switch.py example:
   1. ryu-manager --ofp-tcp-listen-port 6633 simple\_switch.py
6. Run the Mininet network example $MININET/mininet/examples/myVerySimpleNet.py:
   1. sudo python myVerySimpleNet.py