Assignment-3

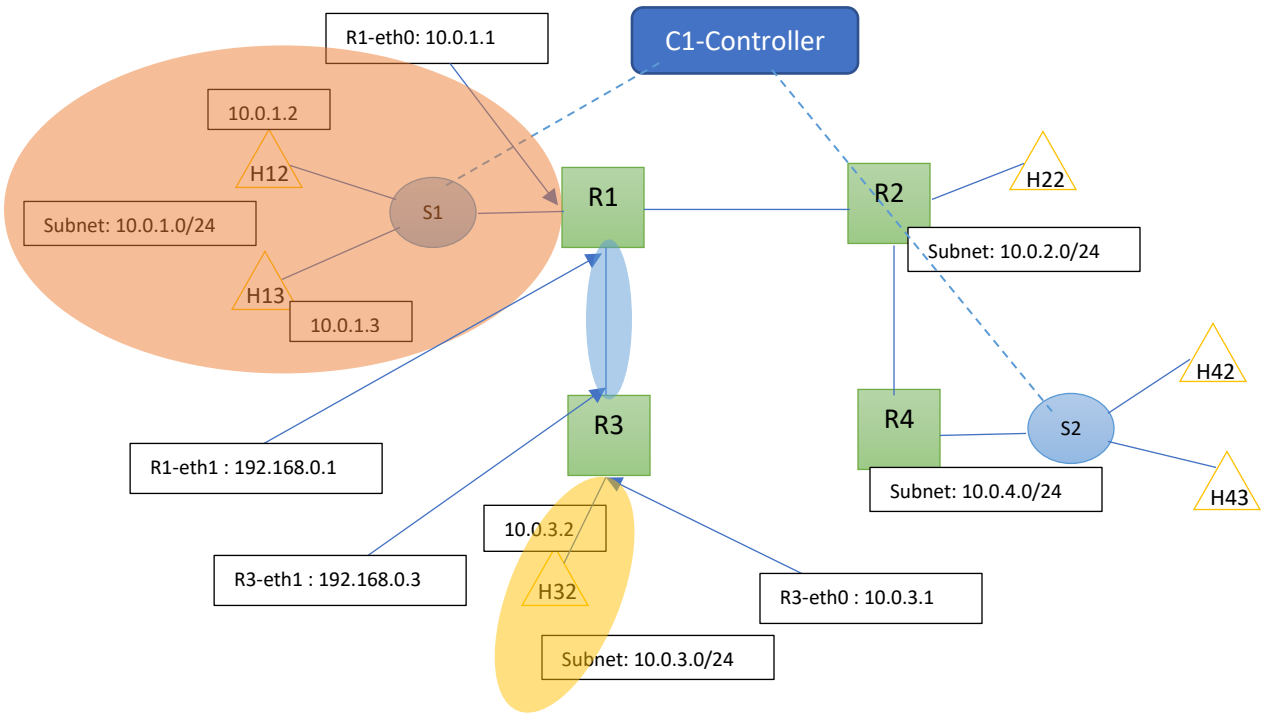
Problem Objective

Implement routing logic (IP Forwarding mechanism) in an OpenFlow controller over Mininet.
Implement supporting protocols at controller –

–ARP (Explore why we require ARP support)
–ICMP (Explore why we require ICMP)

Create a topology as shown in Fig below**.** This is the same topology as being used in Assignment-2 expect we will be using the SDN approach here i.e. each Router and Switch is being treated as an SDN Device (OVS). **All the hosts must be able to ping each other**. *If you have done everything right, all flow rules are automatically created.*

1. Submit the solution as **Assignment3.zip**.
2. The zip must contain the topology file (**Assignment3_topo.py**).
3. The zip must contain another file (**Assignment3_output.pdf**) must contain the dump of all flow rules from the switch. Your output should contain:
    a. The snapshot of the topology from ODL.
    b. Output of pingall from the mininet.
    c. Dump of flow entries using dptcl.
    d. Describe what is the purpose of each flow entry and use of each fields of that flow entry.
    (e.g. one of the flow entries could be corresponding to ARP request Packet, another can be for user data packet processing etc.)



Note that: *Since, in this case, there is no device between R1 and R3, you can also connect them using a L2 interface as well.*

Learn and improve by Collaboration: *If you find anything missing or causing trouble, share and validate it on the WhatsApp group so that everyone knows about it and recommend appropriately!*