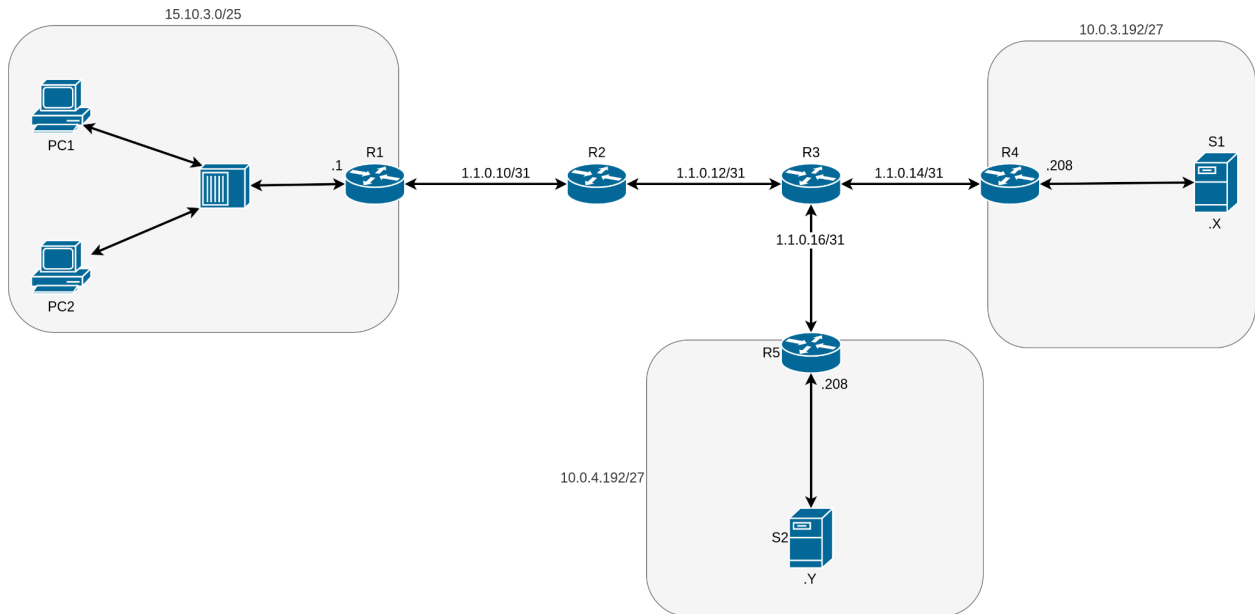# Network Infrastructures – First Midterm – C

Given the topology in figure, reproduce it in Kathara. You must use container names and addresses specified in the figure above. Container names should be all in lowercase.

For /31 subnets, the addresses are assigned with the following rule: the lower router number takes the even address.

The maximum points are **8** and are assigned as follows:

- +1 point: lab created with correct lab.conf
- +2 point: configure S1 and S2 ip and routes with iproute2 using startup scripts.
    - Give to S1 the highest address assignable of the subnet.
    - Give to S2 the lowest address assignable of the subnet.
- +2 point: configure PCs in the subnet 15.10.3.0/25 with DHCP. Use R1 as DHCP server. Make it assign IP addresses in the range from .20 to .40.
- +1 point: configure IP addresses of R1, R2, R3 and R4 via static /etc/network/interfaces
- +1 point: configure static routes (if any) of R1, R2, R3 and R4 with iproute2 using startup scripts.
- +0.5 point: Using netcat and tcpdump, send "hi_udp" string on UDP port 9000 from PC1 to S1 and capture the communication on a file. The file must be placed inside the "shared" folder and named as "udp.pcap"
- +0.5 point: Using netcat and tcpdump, send "hi_tcp" string on TCP port 8080 from PC2 to S2 and capture the communication on a file. The file must be placed inside the "shared" folder and named as "tcp.pcap"

Every node should be able to ping all the other nodes in the network