Computer Networks

2021/22

Lab: Routing

Milestone Document

Name

NIU

# Instructions

This document includes all the information you will to need to hand in to verify the different milestones in the router configuration laboratory. Remember that you ONLY HAVE TO INCLUDE THE MILESTONES THAT **YOU WERE NOT ABLE** TO VERIFY WITH A LAB INSTRUCTOR IN THE LABORATORY SESSION.

# Milestone: Simple network interconnection

Include **screen captures** with configuration in the end hosts:

* + PCA: Execute the following commands

ip route -n

ip address show

* + PCB: Execute the following commands

ip route -n

ip address show

For the router configurations, execute the commands in the router’s terminal window, **copy** the output to the clipboard **and paste** into this document.

* + RA

show running-configuration

show ip route

* + RB

show running-configuration

show ip route

Include a **screen capture** of the following commands:

* a ping between the end hosts: execute the following command in PCA

ping -c3 <IP ADDRESS OF PCB>

* a traceroute between the end hosts: execute the following command

traceroute -n <IP ADDRESS OF PCA>

# MILESTONE 2 – IP Network configuration - static routing

Include **screen captures** with configuration in the end hosts:

* + hstOfi1: Execute the following commands

ip route -n

ip address show

* + hstOfi2: Execute the following commands

ip route -n

ip address show

For the router configurations, execute the commands in the router’s terminal window, **copy** the output to the clipboard **and paste** into this document.

* + R1

show running-configuration

show ip route

* + R2

show running-configuration

show ip route

* + R3

show running-configuration

show ip route

* + R4

show running-configuration

show ip route

Include a **screen capture** of the following commands: in hstOfi1

ping -c3 <DIRECCIÓN DE hstOfi2>

ping -c3 <DIRECCIÓN DE eth0.1 de R3>

ping -c3 <DIRECCIÓN DE eth0.2 de R4>

**Alternative paths**. Shut down interfaces eth0.3 of R1 and eth0.2 of R2 and execute the following command in hstOfi2 (include a **screen capture**):

traceroute -n <DIRECCIÓN DE hstOfi1>

**Alternative paths-II.** Activate interfaces eth0.3 of R1 and eth0.2 of R2 again, shut down interfaces eth0.2 of R1 and eth0.3 of R3 and execute the following command in hstOfi1 (include a **screen capture**):

traceroute -n <DIRECCIÓN DE eth0.1 de R3>

**Alternative paths-III**. Keeping the previous configuration, execute the following command in hstOfi2 (include a **screen capture**):

traceroute -n <DIRECCIÓN DE eth0.2 de R4>

# MILESTONES 3 and 4 – IP Network configuration - dynamic routing

For the router configurations, execute the commands in the router’s terminal window, **copy** the output to the clipboard **and paste** into this document.

* + R1

show running-configuration

show ip route

show ip route rip

* + R2

show running-configuration

show ip route

show ip route rip

* + R3

show running-configuration

show ip route

show ip route rip

* + R4

show running-configuration

show ip route

show ip route rip

**Routing**. In R100, find out the IP address of the interface that is assigned to prefix 10.0.100.0/24. Execute the following command in hstOfi2 (include a **screen capture**),

traceroute -n <IP ADDRESS IN PREFIX 10.0.110.0/24>

**Routing using alternative paths**. Shout down interfaces eth0.2 of R2 and eth0.4 of R3 and repeat the command you executed previously in hstOfi2 (include a **screen capture**),

traceroute -n <IP ADDRESS IN PREFIX 10.0.110.0/24