Bachelor Cycle – Network

Rush #3 (session 1)

Read ALL the topic before asking questions.

Most of the time, the answers are in the subject

Preliminaries

Each group will have:

- 4 routers Cisco 1841 ;
- 1 router Cisco 28(x)1 ;
- 1 PC.

In the subject, **gn** corresponds to your group number.

The rush is divided in several steps; you step must be validated by a teaching assistant before you could move to the next one. Any breach of this rule will result in a penalty.

If you are asked to make a diagram, it must be neat and in digital format. No paper diagram will be accepted (Software: Visio or Dia)

Any departure of a group needs to be reported to one of the assistants. Any breach of this rule will result in a -21 to members of the group.

If several groups had to work together, work should be done by the partner group (bonus will be assigned to them).

The last 10 minutes of the rush will be devoted to the cleaning of the room and the bay:

- ✓ Erase the configurations ;
- ✓ Unplug the equipment ;
- ✓ Storage the cables
- ✓ …etc.

If a group left without respecting this rule, a penalty will be given.

All claims must be addressed to the ASR laboratory at the following address: asr_paris@epitech.eu within 10 days of the publication of grades.

Step 1

Realize the assembly diagram of the entire rush. Your drawing must include:

- The equipment used ;
- Broadcast & Network addresses ;
- Subnets masks ;
- The name and the IP addresses of each interface used.

Warning: if your diagram is not validated after an hour, the assistants will provide you one. Your step will not be validated but your rush continue to be noted.

Make validate step by an assistant.

Step 2

- Named your 5 routers « R1 », « R2 », « R3 », « R4 » and « R5 » ;
- Add the password "cisco" for enable mode of your routers;
- Add the motd « Be happy ! The Cisco rush is easy ! » on your 5 routers.

Make validate step by an assistant.

Step 3

RIPv1 – 192.168.gn+20.0

- Connect the routers « R1 » and « R2 » using a serial cable ;
- Configure the RIPv1 protocol between « R1 » and « R2 ».

RIPv2 – 192.168.gn.0

- Connect the routers « R3 » and « R4 » using a serial cable ;
- Connect the routers « R1 » and « R3 » using a serial cable ;
- Connect the routers « R2 » and « R4 » using a serial cable ;
- Configure the RIPv2 protocol between « R3 » and « R4 », « R1 » and « R3 » and between « R2 » and « R4 ».

Validation: All routers in place (« R1 » to « R4 ») should be able to communicate with each other after the RIP configuration.

Make validate step by an assistant

Step 4

Static Routes – 192.168.gn.0

- Connect the router « R5 » and « R2 » using an Ethernet cable ;
- Connect the router « R5 » and « R3 » using an Ethernet cable ;
- Configure static routes between « R5 » and « R2 » and between « R5 » and « R3 ».

Validation: « R5 » must communicate with all routers.

Make validate step by an assistant

Step 5

RIPv2 – 192.168.gn.0

- Configure a TFTP server on a PC, where you will host the router configuration ;
- Connect your TFTP server to the router « R4 » using an Ethernet cable ;
- Configure the RIPv2 protocol between TFTP server and « R4 ».

Validation: *The TFTP server must be accessible from all routers including the R5.*

Make validate step by an assistant

Step 6

- Edit the configuration file on the « R5 » to implement RIPv2 protocol ;
- Change the hostname of « R5 » to « Router5 » ;
- Configure the motd « Are you radis?? » on « Router5 »;
- Copy the new configuration file on « Router5 ».

Validation: *You have to change the file on the TFTP server and retrieve this configuration on the router.*

Make validate step by an assistant

Step 7

RIPv1 – 192.168.gn+30.0

- Create one loopback, named « Lo1 », and composed of 20 hosts on « R1 » ;
- Configure the RIPv1 protocol between « R1 » and « Lo1 ».

RIPv2 – 192.168.gn.0

- Create one loopback, named « Lo2 », and composed of 40 hosts on « R2 » ;
- Create one loopback, named « Lo3 » and composed of 30 hosts on « R2 » ;
- Create one loopback, named « Lo4 » and composed of 10 hosts on « R5 ».

Validation: *The loopbacks must be reachable from any router.*

Make validate step by an assistant

Step 8

- Establish an RIPv2 authentication between « R3 » and « R4 » and between « R4 » and « R2 » ;
- Each link will have a different key ;
- Put the interface between « R5 » and « R3 » in passive mode.

Validation: *Authentication and passive interfaces must be functional.*

Make validate step by an assistant