Bachelor Cycle – Network Architecture Cisco

Rush #4 (session 2)

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 ;
- 3 PCs.

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 » et « 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

EIGRP – 192.168.gn.0

- Connect your router « R3 » to your router « R5 » with a Serial cable ;
- Connect your router « R4 » to your router « R5 » with a Serial cable.
- Connect your « PC2 » to your router « R5 » with an Ethernet cable ;
- Configure the EIGRP protocol on « R3 », « R4 » and « R5.

Validation: All routers set up and the PC must be able to communicate together thanks to the configuration of EIGRP.

Make validate step by an assistant

Step 4

OSPF Area gn – 192.168.gn.0

- Configure the loopback « Lo1 » on your router « R1 » – « Lo1 » includes 4 hosts ;
- Configure loopback « Lo2 » on your router « R1 » – « Lo2 » includes 47 hosts ;
- Connect your « PC1 » to your router « R1 » ;
- Configure the OSPF protocol on « R1 » with Area gn.

OSPF Area 0 – 192.168.gn.0

- Connect your router « R1 » to your router « R2 » with a Serial cable ;
- Configure loopback « Lo4 » on your router « R2 » – « Lo4 » includes 6 hosts ;
- Configure the OSPF protocol on « R1 » and « R2 » with Area 0.

Validation: Routers, PCs and loopbacks should be able communicate with each other in their routing area.

Make validate step by an assistant

Step 5

Static route: 192.168.gn.0

- Connect your router « R2 » to you router « R3 » with an Ethernet cable ;
- Configure a static route between « R2 » and « R3 ».

Validation: All routers, PCs and loopbacks should be able to communicate.

Make validate step by an assistant

Step 6

- Implement an OSPF authentication with encryption (MD5) between the routers « R1 » and « R2 ».

Validation: The routing tables update between routers « R1 » *and* « R2 » *must be secure by authentication.*

Make validate step by an assistant

Step 7

- Set up a TFTP server on your « PC1 », where you will host the router configuration.

Validation: The servers will have to be functional and accessible from all routers.

Make validate step by an assistant

Step 8

- Copy the configuration file for each router on the TFTP server ;
- Change the enable password of each configuration file by « rush4s2 » ;
- Change the motd of each configuration file by « I love configure Cisco routers » ;
- Copy each new configuration on routers.

Validation: Changes must be made from the TFTP server configuration file.

Make validate step by an assistant