**Cisco: LAB – 6.5.1.2 – Building a Switch and Router Network.**

**Step 1: Assign static IP information tot he PC interfaces.**

1. Configure the IP address, subnet mask, and default gateway settings on PC-A.
2. Configure the IP adress, subnet mask, and default gateway setting on PC-B.
3. Ping PC-B from a command prompt windows on PC-A.

**Why were the pings not succesful?**

* *De interfaces, default gateways zijn nog niet geconfigureerd dus laag 3 is nog niet verbonden tussen de subnets.*

**Step 2: Configure the router.**

1. Console into the router and enable privileged EXEC mode.
2. Enter configuration mode.
3. Assign a device name to the router.
4. Disable DNS lookup to prevent the router from attempting to translate incorrectly entered commands as though they were host names.
5. Assign class as the privileged EXEC encrypted password.
6. Assign cisco as the console password and enable login.
7. Assign cisco as the VTY password and enable login.
8. Encrypt the clear text passwords. Lab - Building a Switch and Router Network
9. Create a banner that warns anyone accessing the device that unauthorized access is prohibited.
10. Configure and activate both interfaces on the router.
11. Configure an interface description for each interface indicating which device is connected to it.
12. Save the running configuration to the startup configuration file.
13. Set the clock on the router. Note: Use the question mark (?) to help with the correct sequence of parameters needed to execute this command.
14. **Ping PC-B from a command prompt window on PC-A. Were the pings successful? Why?**

* *De router pingt het verkeer over twee subnets. De standaardinstellingen voor de 2960-switch schakelen automatisch naar de interfaces die op de switches zijn aangesloten.*

**Part 3. Step 1:**

Retrieve hardware and software information from the network devices.

1. Use the show version command to answer the following questions about the router.
   1. **What is the name of the IOS image that the router is running?**

* *“flash:0c1900-universalk9-mz.Spa.151-1.M4.bin”*
  1. **How much DRAM memory does the router have?**
* *Op een 1941 router is het 512MB of 524,288 bytes. Het totale kan uitgerekend worden door het toevoegen van twee DRAM nummers samen vanuit de output of show version command.*
  1. **How much NVRAM memory does the router have?**
* *255k bytes.*
  1. **How much flash memory does the router have?**
* *249856k bytes.*

1. Use the show version command to answer the following questions about the switch.
   1. **What is the name of the IOS image that the switch is running?**

* *C2960-lanbase-nr.122-25.FX.bin*
  1. **How much dynamic random access memory (DRAM) does the switch have?**
* *Op een 2960-24TT-L switch is dit 65536K memory.*
  1. **How much nonvolatile random-access memory (NVRAM) does the switch have?**
* *Op een 2960-24TT-L switch 64K bytes.*
  1. **What is the model number of the switch?**
* *WS-C2960-24TT.*

**Step 2: Display the routing table on the router.**

Use the show ip route command on the router to answer the following questions.

1. **What code is used in the routing tablet o indicate a directly connected network?**

* *C – connected subnet -> L- Local interface.*

1. **How many route entries are coded with a C code in the routing table?**

* *2 paar.*

1. **What interface types are associated to the C coded routes?**

* *GigabitEthernet 0/0 0/1 0/2*

**Step 3: Display interface information on the router.**

Use the Show interface g0/1 to answer the following questions.

1. **What is the operational status of the G0/1 interface?**

* *GigabitEthernet 0/1 + line protocol is up en connected.*

1. **What is the media Access Control (MAC) address of the G0/1 interface?**

* *00.60.7013.d502*

1. **How is the Internet address displayed in this command?**

* *192.168.1.1/24*

**Reflection.**

1. **If the G0/1 interface showed administratively down, what interface configuration command would you use to turn the interface up?**

* *No shutdown.*

1. **What would happen if you had incorrectly configured interface G0/1 on the router with an IP address of 192.168.1.2?**

* *De PCs kunnen elkaar niet een ping geven. Dit komt omdat PC-B dan op een andere netwerk is. Pc-A heeft als ip-adres 192.168.1.1 voor de standaard gateway router, maar dit adres heeft geen LAN verbinding dan.*