TUGAS JARKOM 2

DOSEN PEMBIMBING

Mochamad Bilal, S.Kom., M.Sc

KELOMPOK 1 :

1. Moh. Askar Dipa p.   (17.1.03.02.0067)

2. Eko Nur Cahyono   (17.1.03.02.0027)

3. Dian Ade Setiawan.   (17.1.03.02.0126)

4. Moch. Deifa Satrio D.   (17.1.03.02.0045)

KELAS : 3 D

UNIVERSITAS NUSANTARA PGRI KEDIRI FAKULTAS TEKNIK

TEKNIK INFORMATIKA

2019

Lab 10.3.2: How Many Networks?

Learning Objectives

Upon completion of this lab, you will be able to:

- Determine the number of subnets.
- Design an appropriate addressing scheme.
- Assign addresses and subnet mask pairs to device interfaces.
- Examine the use of the available network address space.

Scenario

In this lab, you have been given the network address 192.168.26.0/24 to subnet and provide the IP addressing for the networks shown in the Topology Diagrams. You must determine the number of networks needed then design an appropriate addressing scheme. Place the correct address and mask in the Addressing Table. In this example, the number of hosts is not important. You are only required to determine the number of subnets per topology example.

Topology Diagram A
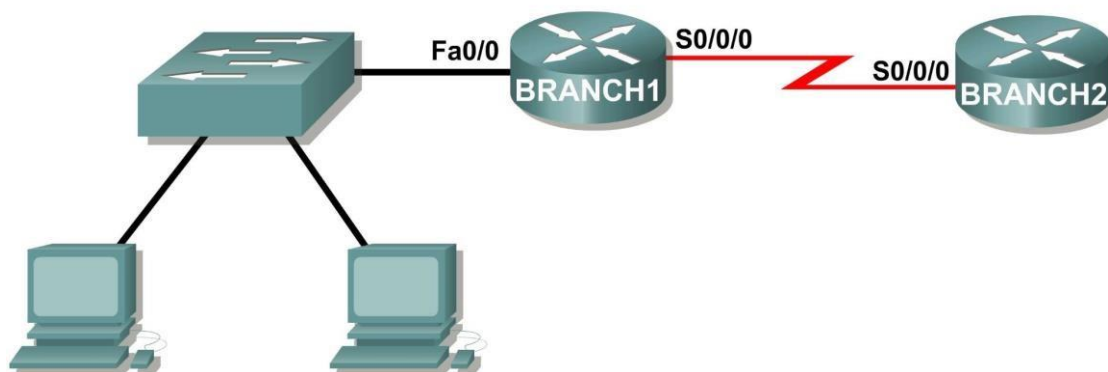
Task 1: Determine the Number of Subnets in the Topology Diagram.

Step 1: How many networks are there? (**2**)

Step 2: How many bits should you borrow to create the required number of subnets? (**2**)

Step 3: How many usable host addresses and usable subnets did this give you? (**62 / 4**)

Step 4: What is the new subnet mask in decimal form? (**255.255.255.192**)
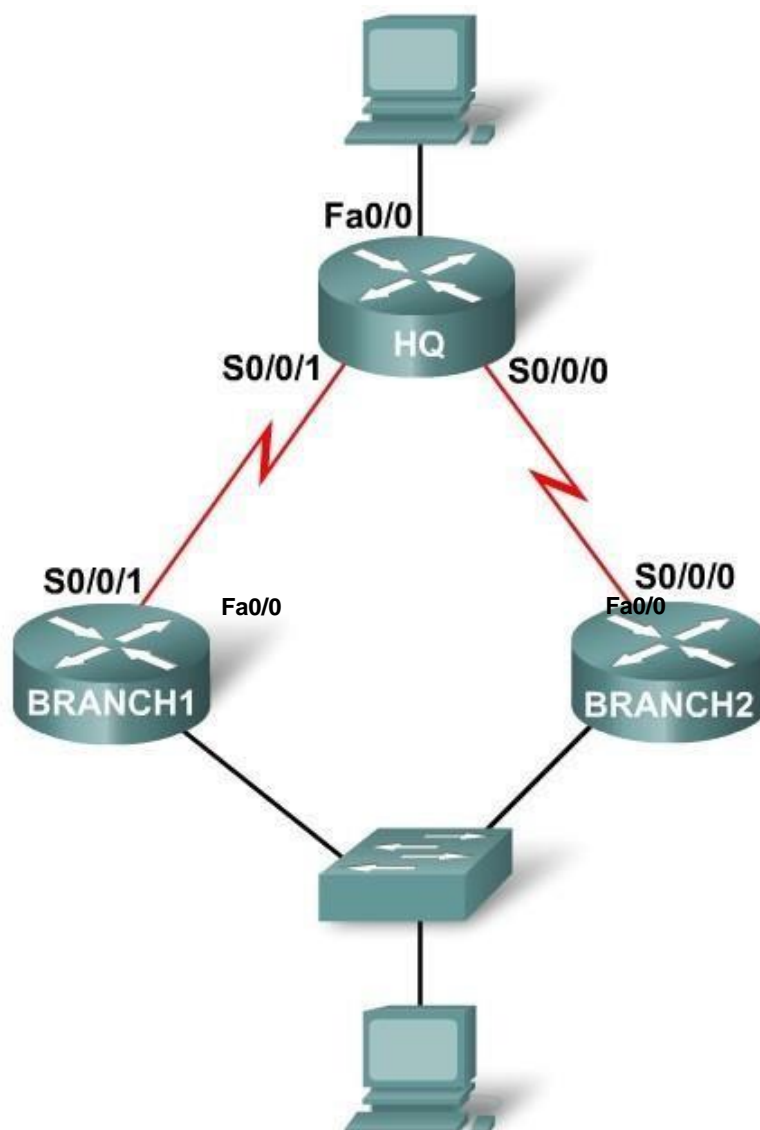
Step 5: How many subnets are available for future use? (**0**)

Task 2: Record Subnet Information.

Step 1: Fill in the following chart with the subnet information.

Subnet Number	Subnet Address	First Usable Host Address	Last Usable Host Address	Broadcast Address
0	192.168.26.0	192.168.26.1	192.168.26.62	192.168.26.63
1	192.168.26.64	192.168.26.65	192.168.26.126	192.168.26.127
2	192.168.26.128	192.168.26.129	192.168.26.190	192.168.26.191
3	192.168.26.192	192.168.26.193	192.168.26.254	192.168.26.255
4				
5				
6				
7				

Topology Diagram B

Task 1: Determine the Number of Subnets in the Topology Diagram.

Step 1: How many networks are there? (**4**)

Step 2: How many bits should you borrow to create the required number of subnets? (**3**)

Step 3: How many usable host addresses and usable subnets did this give you? (**30 / 8**)
Step 4: What is the new subnet mask in decimal form? (**255.255.255.224**)
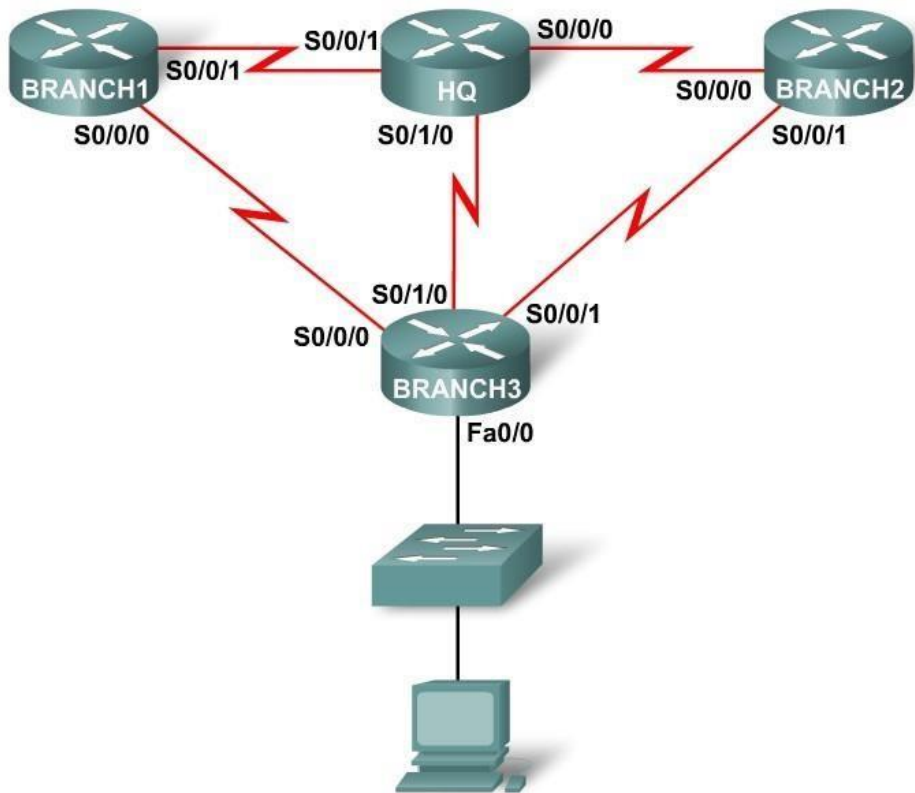
Step 5: How many subnets are available for future use? (**4**)

Task 2: Record Subnet Information.

Step 1: Fill in the following chart with the subnet information.

Subnet Number	Subnet Address	First Usable Host Address	Last Usable Host Address	Broadcast Address
0	192.168.26.0	192.168.26.1	192.168.26.30	192.168.26.31
1	192.168.26.32	192.168.26.33	192.168.26.62	192.168.26.63
2	192.168.26.64	192.168.26.65	192.168.26.94	192.168.26.95
3	192.168.26.96	192.168.26.97	192.168.26.126	192.168.26.127
4	192.168.26.128	192.168.26.129	192.168.26.158	192.168.26.159
5	192.168.26.160	192.168.26.161	192.168.26.190	192.168.26.191
6	192.168.26.192	192.168.26.193	192.168.26.222	192.168.26.223
7	192.168.26.224	192.168.26.225	192.168.26.254	192.168.26.255

Topology Diagram C

Task 1: Determine the Number of Subnets in the Topology Diagram.

Step 1: How many networks are there? (**6**)
Step 2: How many bits should you borrow to create the required number of subnets? (**3**)
Step 3: How many usable host addresses and usable subnets did this give you? (**30 / 8**)

Step 4: What is the new subnet mask in decimal form? (**255.255.255.224**) **Step**
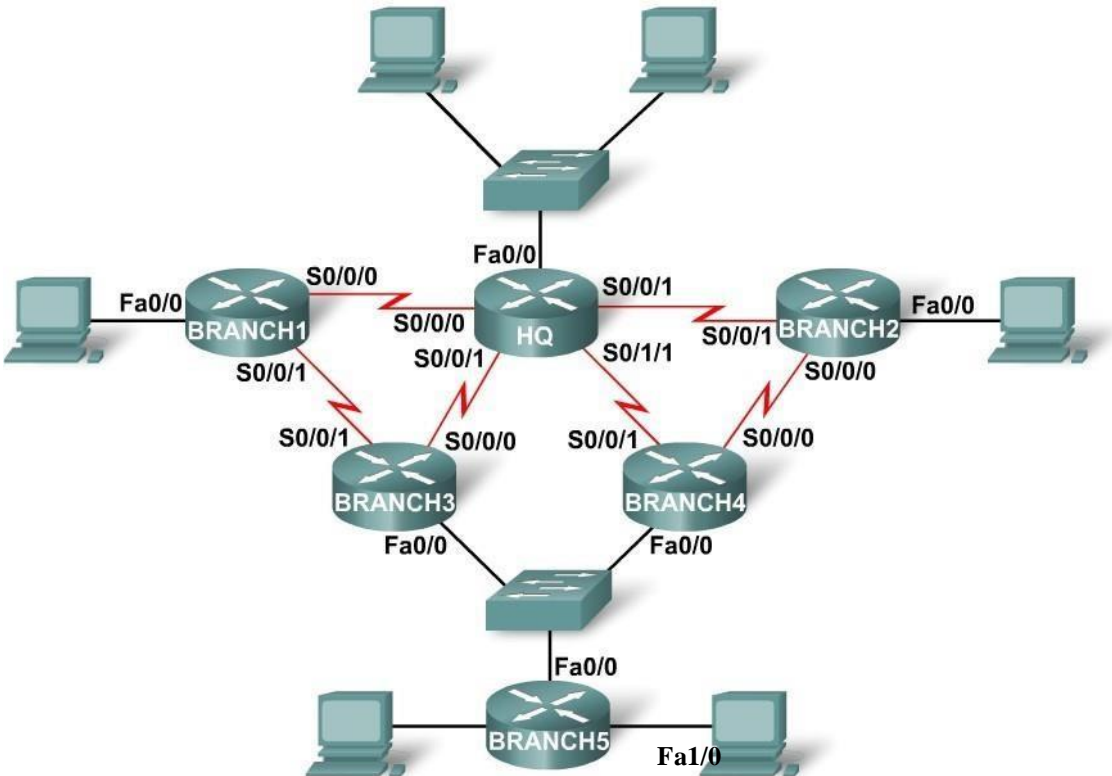
5: How many subnets are available for future use? (**2**)

Task 2: Record Subnet Information.

Step 1: Fill in the following chart with the subnet information.

Subnet Number	Address	First Usable Host Address	Last Usable Host Address	Broadcast Subnet Address
0	192.168.26.0	192.168.26.1	192.168.26.30	192.168.26.31
1	192.168.26.32	192.168.26.33	192.168.26.62	192.168.26.63
2	192.168.26.64	192.168.26.65	192.168.26.94	192.168.26.95
3	192.168.26.96	192.168.26.97	192.168.26.126	192.168.26.127
4	192.168.26.128	192.168.26.129	192.168.26.158	192.168.26.159
5	192.168.26.160	192.168.26.161	192.168.26.190	192.168.26.191
6	192.168.26.192	192.168.26.193	192.168.26.222	192.168.26.223
7	192.168.26.224	192.168.26.225	192.168.26.254	192.168.26.255

Topology Diagram D

Task 1: Determine the Number of Subnets in the Topology Diagram.

Step 1: How many networks are there? (**12**)
Step 2: How many bits should you borrow to create the required number of subnets? (**4**)
Step 3: How many usable host addresses and usable subnets did this give you? (**14 / 16**)
Step 4: What is the new subnet mask in decimal form? (**255.255.255.240**)

Step 5: How many subnets are available for future use? (**4**)

Task 2: Record Subnet Information.

Step 1: Fill in the following chart with the subnet information.

Subnet Number	Subnet Address	First Usable Host Address	Last Usable Host Address	Broadcast Address
0	192.168.26.0	192.168.26.1	192.168.26.14	192.168.26.15
1	192.168.26.16	192.168.26.17	192.168.26.30	192.168.26.31
2	192.168.26.32	192.168.26.33	192.168.26.46	192.168.26.47
3	192.168.26.48	192.168.26.49	192.168.26.62	192.168.26.63
4	192.168.26.64	192.168.26.65	192.168.26.78	192.168.26.79
5	192.168.26.80	192.168.26.81	192.168.26.94	192.168.26.95
6	192.168.26.96	192.168.26.97	192.168.26.110	192.168.26.111
7	192.168.26.112	192.168.26.113	192.168.26.126	192.168.26.127
8	192.168.26.128	192.168.26.129	192.168.26.142	192.168.26.143
9	192.168.26.144	192.168.26.145	192.168.26.158	192.168.26.159
10	192.168.26.160	192.168.26.161	192.168.26.174	192.168.26.175
11	192.168.26.176	192.168.26.177	192.168.26.190	192.168.26.191
12	192.168.26.192	192.168.26.193	192.168.26.206	192.168.26.207
13	192.168.26.208	192.168.26.209	192.168.26.222	192.168.26.223
14	192.168.26.224	192.168.26.225	192.168.26.238	192.168.26.239
15	192.168.26.240	192.168.26.241	192.168.26.254	192.168.26.255

Reflection

What information is needed when determining an appropriate addressing scheme for a network?
Jumlah jaringan (Network ID) dan jumlah host (Host ID).