**QUIZ 1 – Computer Network**

**10 November 2021**

**Daniel Chandra – 2301888631**

1. Kabel yang digunakan adalah: **Rollover Cable**

**Ujung 1 Standard (Kiri)**

Pin 1 Putih-Orange

Pin 2 Orange

Pin 3 Putih-Hijau

Pin 4 Biru

Pin 5 Biru-putih

Pin 6 Hijau

Pin 7 Putih-Cokelat

Pin 8 Cokelat

**Ujung 2 Rollover (Kanan)**

Pin 1 Cokelat

Pin 2 Putih-Cokelat

Pin 3 Hijau

Pin 4 Biru-putih

Pin 5 Biru

Pin 6 Putih-Hijau

Pin 7 Orange

Pin 8 Putih-Orange

1. FLSM
2. network address 172.1.0.0/16
   * **Developer Division – 600 computers**
   * **Network Division – 560 computers**
   * **Marketing Division – 400 computers**
   * **Finance Division – 350 computers**

**Step 1 FLSM**, diambil yang terbesar

Developer Division – 600 computers

**Step 2 cari subnet mask**

Developer Division 600 computers

2^n – 2 >= 600

2^n >= 602

n = 10 (1.024 available host)

subnet mask = 32 – 10 = 22

11111111.11111111.11111100.00000000 = 255.255.252.0

**Step 3** mencari ba, na, useable ip dan subnet mask setiap divisi

**Developer Division – 600 computers (1.024 available host)**

1024/255 = 4

na = 172.1.0.0

ba = 172.1.3.255

useable ip = 172.1.0.1 – 172.1.3.254

subnet mask = 255.255.252.0

**Network Division – 560 computers (1.024 available host)**

na = 172.1.4.0

ba = 172.1.7.255

useable ip = 172.1.4.1 – 172.1.7.254

subnet mask = 255.255.252.0

**Marketing Division – 400 computers (1.024 available host)**

na = 172.1.8.0

ba = 172.1.11.255

useable ip = 172.1.8.1 – 172.1.11.254

subnet mask = 255.255.252.0

**Finance Division – 350 computers**

na = 172.1.12.0

ba = 172.1.15.255

useable ip = 172.1.12.1 – 172.1.15.254

subnet mask = 255.255.252.0

1. Masukkan ke dalam Case 02

**3. VLSM**

network address 172.1.0.0 with network mask 255.255.0.0

• Developer Division – 200 computers

• Network Division – 120 computers

• Marketing Division – 40 computers

• Finance Division – 30 computers

**Step 1 VLSM Sorting**

• Developer Division – 200 computers

• Network Division – 120 computers

• Marketing Division – 40 computers

• Finance Division – 30 computers

**Step 2 Cari subnetmask masing masing**

**Developer Divison 200 computers**

2^n – 2 >= 200

2^n >= 202

n = 8 (256 available host)

subnet mask = 32 – 8 = 24

255.255.255.0

**Network Division 120 computers**

2^n >= 122

n = 7 (128 available host)

subnet mask = 32 – 7 = 25

255.255.255.128

**Marketing Division – 40 computers**

2^n >= 42

n = 6 (64 available host)

subnet mask = 32-6 = 26

255.255.255.192

**Finance Division – 30 computers**

2^n >= 32

n = 5 (32 available host)

subnet mask = 32-5 = 27

255.255.255.224

**Step 3 mencari na, ba, useable ip dan subnet mask masing masing per divisi**

**Developer Divison 200 computers (256 available host) -> 256/255 = 1**

Network address = 172.1.0.0

Broadcast address = 172.1.0.255

Useable ip = 172.1.0.1 – 172.1.0.254

Subnet mask = 255.255.255.0

**Network Division 120 computers (128 available host)**

Network address = 172.1.1.0

Broadcast address = 172.1.1.127

Useable ip = 172.1.1.1 – 172.1.1.126

Subnet mask = 255.255.255.128

**Marketing Division – 40 computers (64 available host)**

Network address = 172.1.1.128

Broadcast address = 172.1.1.191

Useable ip = 172.1.1.129 – 172.1.1.190

Subnet mask = 255.255.255.192

**Finance Division – 30 computers (32 available host)**

Network address = 172.1.1.192

Broadcast address = 172.1.1.223

Useable ip = 172.1.1.193 – 172.1.1.222

Subnet mask = 255.255.255.224

4. Buat Case 4 PKA