

NAMA : Adi Saepul Anwar
NPM : 43A87006200129
MATKUL : JARKOM 2

Jawaban Soal UTS Praktek

No 2.

A. Isi routing table Router 2

The screenshot displays the Cisco Packet Tracer interface. On the left, a network diagram shows three routers (Router0, Router1, Router2) connected in a line. Router0 is connected to Router1, which is connected to Router2. Each router has a PC connected to it. The IP addresses and interfaces are labeled: Router0 (Fa0/0: 172.16.3.0/24, Fa0/1: 172.16.2.0/24), Router1 (Fa0/0: 172.16.1.0/24, Fa0/1: 192.168.1.0/24), and Router2 (Fa0/0: 192.168.2.0/24, Fa0/1: 172.16.1.0/24). The right pane shows the CLI for Router2. The configuration includes setting the hostname to Router2, enabling IP routing, and configuring the interfaces. The routing table is displayed below the configuration.

```
Router2#show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
       O - OSPF, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       I - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route

Gateway of last resort is not set

172.16.0.0/24 is subnetted, 3 subnets
S    172.16.1.0 [1/0] via 192.168.1.2
S    172.16.2.0 [1/0] via 192.168.1.2
S    172.16.3.0 [1/0] via 192.168.1.2
C    192.168.1.0/24 is directly connected, Serial0/0/1
C    192.168.2.0/24 is directly connected, FastEthernet0/0
```

B. Table routing Router 1

The screenshot displays the Cisco Packet Tracer interface. On the left, the same network diagram as in the previous screenshot is shown. The right pane shows the CLI for Router1. The configuration includes setting the hostname to Router1, enabling IP routing, and configuring the interfaces. The routing table is displayed below the configuration.

```
Router1#show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
       O - OSPF, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       I - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route

Gateway of last resort is not set

172.16.0.0/24 is subnetted, 3 subnets
C    172.16.1.0 is directly connected, FastEthernet0/0
C    172.16.2.0 is directly connected, Serial0/0/0
C    172.16.3.0 [1/0] via 192.168.1.1
C    192.168.1.0/24 is directly connected, Serial0/0/1
S    192.168.2.0/24 [1/0] via 192.168.1.1
```

C. Table routing Router 0

The screenshot displays the Cisco Packet Tracer interface. On the left, a network topology is shown with three routers (R1, R2, R3) and three PCs (PC0, PC1, PC2). R1 is connected to PC0, R2 to PC1, and R3 to PC2. R1 and R2 are connected via their Serial0/0/0 interfaces, and R2 and R3 are connected via their Serial0/0/1 interfaces. The IP addresses for the interfaces are: R1 S0/0/0 (172.16.2.0/24), R2 S0/0/0 (172.16.1.0/24), R3 S0/0/1 (192.168.1.0/24), R1 Fa0/0 (172.16.3.0/24), R2 Fa0/0 (172.16.1.0/24), and R3 Fa0/0 (192.168.2.0/24). On the right, the CLI for Router0 is shown, displaying the configuration for the Serial0/0/0 interface and the routing table.

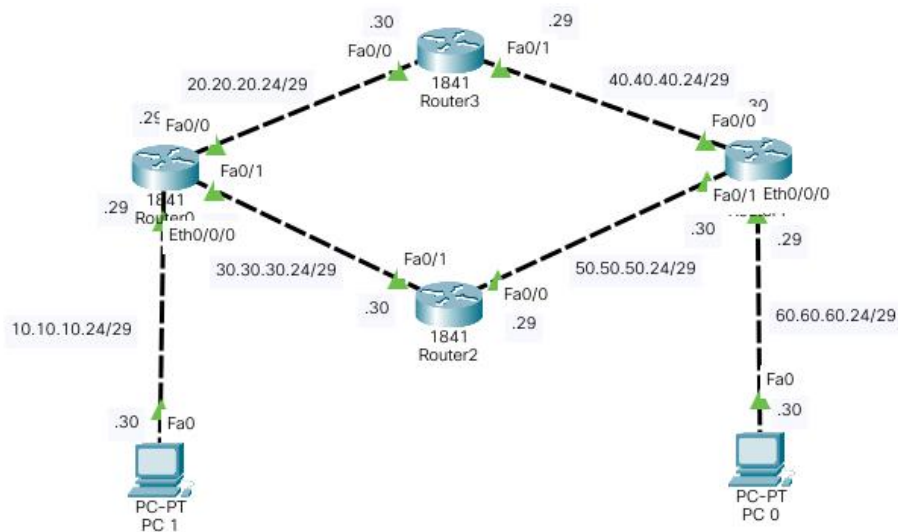
```

Router0
Physical Config CLI Attributes
IOS Command Line Interface
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/0, changed state to up
Router(config)#ifconfig
Router(config)#ip route 172.16.1.0 255.255.255.0 172.16.2.2
Router(config)#ip route 192.168.1.0 255.255.255.0 172.16.2.2
Router(config)#ip route 192.168.2.0 255.255.255.0 172.16.2.2
Router(config)#
Router(config)#show
Router(config)#show ip route
Router(config)#
% Invalid input detected at '^' marker.
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console
Router#show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
* - candidate default, U - per-user static route, o - ODR
P - periodic downloaded static route
Gateway of last resort is not set
172.16.0.0/24 is subnetted, 3 subnets
S 172.16.1.0 [1/0] via 172.16.2.2
C 172.16.2.0 is directly connected, Serial0/0/0
C 172.16.3.0 is directly connected, FastEthernet0/0
S 192.168.1.0/24 [1/0] via 172.16.2.2
S 192.168.2.0/24 [1/0] via 172.16.2.2
Router#
Ctrl+F6 to exit CLI focus
Copy Paste

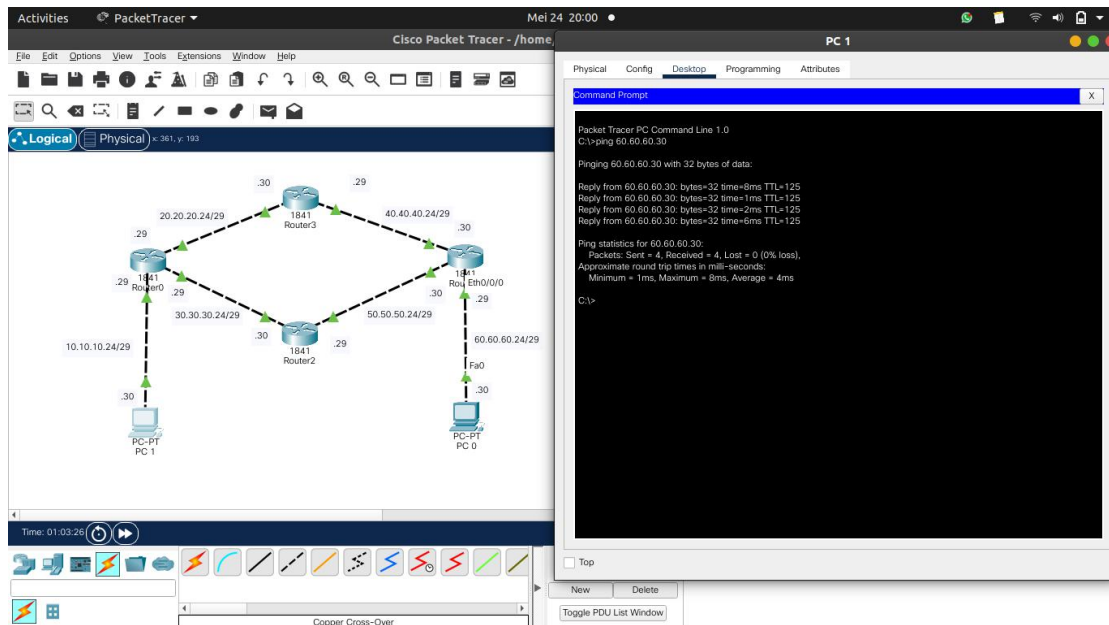
```

Soal B Praktek menyambungkan 2 PC

Topologi



Ping Ke PC 0



Ping Ke PC 1

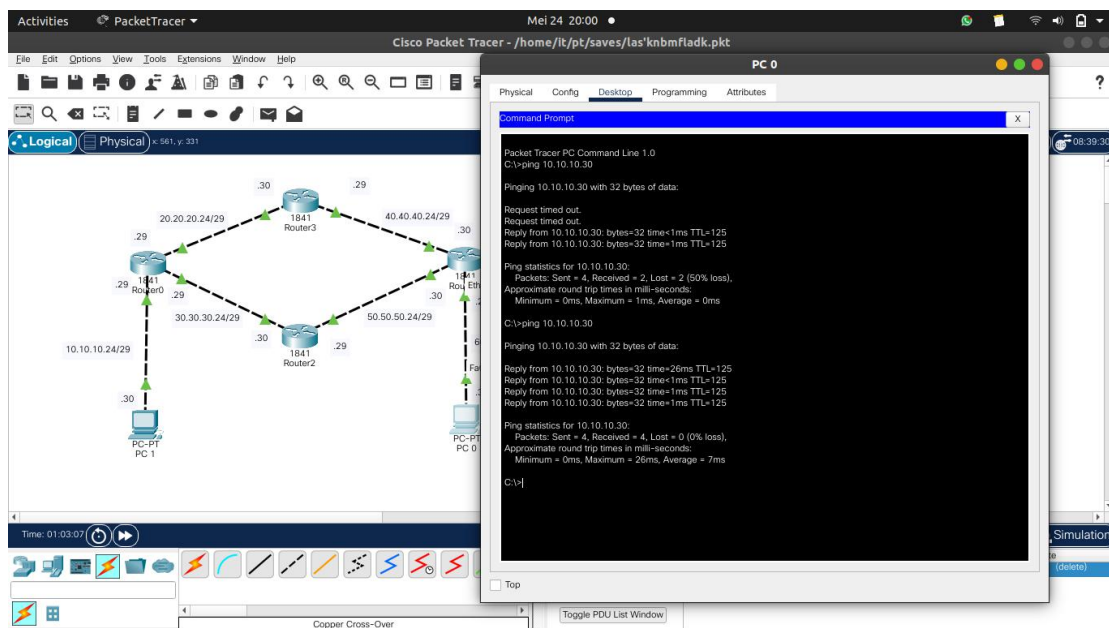


Table Routing

Router 0	Router 1	Router 2	Router 3
10.0.0.0/29 is subnetted, 1 subnets C 10.10.10.24 is directly connected, Ethernet0/0/0 20.0.0.0/29 is subnetted, 1 subnets C 20.20.20.24 is directly connected, FastEthernet0/0 30.0.0.0/29 is subnetted, 1 subnets C 30.30.30.24 is directly connected, FastEthernet0/1 40.0.0.0/29 is subnetted, 1 subnets S 40.40.40.24 [1/0] via 20.20.20.30 50.0.0.0/29 is subnetted, 1 subnets S 50.50.50.24 [1/0] via 30.30.30.30 60.0.0.0/29 is subnetted, 1 subnets S 60.60.60.24 [1/0] via 20.20.20.30 [1/0] via 30.30.30.30	10.0.0.0/29 is subnetted, 1 subnets S 10.10.10.24 [1/0] via 40.40.40.29 [1/0] via 50.50.50.29 20.0.0.0/29 is subnetted, 1 subnets S 20.20.20.24 [1/0] via 40.40.40.29 30.0.0.0/29 is subnetted, 1 subnets S 30.30.30.24 [1/0] via 50.50.50.29 40.0.0.0/29 is subnetted, 1 subnets C 40.40.40.24 is directly connected, FastEthernet0/0 50.0.0.0/29 is subnetted, 1 subnets C 50.50.50.24 is directly connected, FastEthernet0/1 60.0.0.0/29 is subnetted, 1 subnets C 60.60.60.24 is directly connected, Ethernet0/0/0	10.0.0.0/29 is subnetted, 1 subnets S 10.10.10.24 [1/0] via 30.30.30.29 20.0.0.0/29 is subnetted, 1 subnets S 20.20.20.24 [1/0] via 30.30.30.29 30.0.0.0/29 is subnetted, 1 subnets C 30.30.30.24 is directly connected, FastEthernet0/1 40.0.0.0/29 is subnetted, 1 subnets S 40.40.40.24 [1/0] via 50.50.50.30 50.0.0.0/29 is subnetted, 1 subnets C 50.50.50.24 is directly connected, FastEthernet0/0 60.0.0.0/29 is subnetted, 1 subnets S 60.60.60.24 [1/0] via 50.50.50.30	10.0.0.0/29 is subnetted, 1 subnets S 10.10.10.24 [1/0] via 20.20.20.29 20.0.0.0/29 is subnetted, 1 subnets C 20.20.20.24 is directly connected, FastEthernet0/0 30.0.0.0/29 is subnetted, 1 subnets S 30.30.30.24 [1/0] via 20.20.20.29 40.0.0.0/29 is subnetted, 1 subnets C 40.40.40.24 is directly connected, FastEthernet0/1 50.0.0.0/29 is subnetted, 1 subnets S 50.50.50.24 [1/0] via 40.40.40.30 60.0.0.0/29 is subnetted, 1 subnets S 60.60.60.24 [1/0] via 40.40.40.30

Penghitungan Subnet

Nama: Adi Saiful Anwar
Npm: 154 8700 6200 129

matkul: jarkom 2

Networ 10.10.10.24/29 40.40.40.24/29
20.20.20.24/29 50.50.50.24/29
30.30.30.24/29 60.60.60.24/29

IP yang bisa dipakai

A Subnet /29 = 255.255.255.248

$$\begin{array}{ccccccc} 11111111 & 11111111 & 11111111 & 11111000 \\ 8 & + & 8 & + & 8 & + & 5 \\ \hline & & & & & & 29 \end{array}$$

B Range IP = 24 (n banyaknya angka nol)

$$2^3 = 8$$

C. IP yang dipakai = $2^{11-2} = 2^{1-2} = 2^1 = 2 = 2$

IP network x . x . x . 24
IP Broadcast x . x . x . 31
Range IP x . x . x . 25 - 30

Diagram:

128 1 - 8
64 8 - 16
32 16 - 24
16 24 - 31
8 32 - 40
4 40 - 48
2 48 - 56
1 56 - 64
0 64 - 128

mulai dari 0

Konfigurasi

Router 0

```
Router#show running-config
Building configuration...
```

Current configuration : 877 bytes

!

version 12.4

no service timestamps log datetime msec

no service timestamps debug datetime msec

no service password-encryption

!

hostname Router

!

!

!

!

!

!

!

!

no ip cef

no ipv6 cef

!

!

!

!

```
!  
!  
!  
!  
!  
!  
!  
!  
spanning-tree mode pvst  
!  
!  
!  
!  
!  
!  
interface FastEthernet0/0  
  ip address 20.20.20.29 255.255.255.248  
  duplex auto  
  speed auto  
!  
interface FastEthernet0/1  
  ip address 30.30.30.29 255.255.255.248  
  duplex auto  
  speed auto  
!  
interface Ethernet0/0/0  
  ip address 10.10.10.29 255.255.255.248  
  duplex auto  
  speed auto  
!  
interface Vlan1  
  no ip address  
  shutdown  
!  
ip classless  
ip route 40.40.40.24 255.255.255.248 20.20.20.30  
ip route 50.50.50.24 255.255.255.248 30.30.30.30  
ip route 60.60.60.24 255.255.255.248 30.30.30.30  
ip route 60.60.60.24 255.255.255.248 20.20.20.30  
!  
ip flow-export version 9  
!  
!  
!  
!  
!  
!  
!  
!  
line con 0  
!  
line aux 0  
!  
line vty 0 4  
  login  
!  
!
```

!
end

Router 1

Router#show running-config
Building configuration...

Current configuration : 877 bytes

!
version 12.4
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname Router
!
!
!
!
!
!
!
no ip cef
no ipv6 cef
!
!
!
!
!
!
!
!
!
!
spanning-tree mode pvst
!
!
!
!
!
interface FastEthernet0/0
ip address 40.40.40.30 255.255.255.248
duplex auto
speed auto
!
interface FastEthernet0/1
ip address 50.50.50.30 255.255.255.248
duplex auto
speed auto
!
interface Ethernet0/0/0

```
ip address 60.60.60.29 255.255.255.248
duplex auto
speed auto
!
interface Vlan1
  no ip address
  shutdown
!
ip classless
ip route 10.10.10.24 255.255.255.248 50.50.50.29
ip route 10.10.10.24 255.255.255.248 40.40.40.29
ip route 20.20.20.24 255.255.255.248 40.40.40.29
ip route 30.30.30.24 255.255.255.248 50.50.50.29
!
ip flow-export version 9
!
!
!
!
!
!
!
!
line con 0
!
line aux 0
!
line vty 0 4
  login
!
!
!
end
```

Router 2

```
Router#show running-config
Building configuration...
```

```
Current configuration : 1249 bytes
!
version 12.4
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname Router
!
!
!
!
!
!
!
```



```
no ip cef
no ipv6 cef
!
!
!
!
!
!
!
!
!
!
!
spanning-tree mode pvst
!
!
!
!
!
interface FastEthernet0/0
 ip address 50.50.50.29 255.255.255.248
 duplex auto
 speed auto
!
interface FastEthernet0/1
 ip address 30.30.30.30 255.255.255.248
 duplex auto
 speed auto
!
interface FastEthernet0/0/0
 switchport mode access
 switchport nonegotiate
!
interface FastEthernet0/0/1
 switchport mode access
 switchport nonegotiate
!
interface FastEthernet0/0/2
 switchport mode access
 switchport nonegotiate
!
interface FastEthernet0/0/3
 switchport mode access
 switchport nonegotiate
!
interface Serial0/1/0
 no ip address
 clock rate 2000000
 shutdown
!
interface Serial0/1/1
 no ip address
 clock rate 2000000
 shutdown
!
```

```

interface Vlan1
  no ip address
  shutdown
!
ip classless
ip route 40.40.40.24 255.255.255.248 50.50.50.30
ip route 60.60.60.24 255.255.255.248 50.50.50.30
ip route 20.20.20.24 255.255.255.248 30.30.30.29
ip route 10.10.10.24 255.255.255.248 30.30.30.29
!
ip flow-export version 9
!
!
!
no cdp run
!
!
!
!
!
!
line con 0
!
line aux 0
!
line vty 0 4
  login
!
!
!
end

```

Router 3

```

Router#show running-config
Building configuration...

```

```

Current configuration : 1249 bytes
!
version 12.4
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname Router
!
!
!
!
!
!
!
no ip cef
no ipv6 cef
!

```

```
!  
!  
!  
!  
!  
!  
!  
!  
!  
!  
!  
spanning-tree mode pvst  
!  
!  
!  
!  
!  
interface FastEthernet0/0  
  ip address 20.20.20.30 255.255.255.248  
  duplex auto  
  speed auto  
!  
interface FastEthernet0/1  
  ip address 40.40.40.29 255.255.255.248  
  duplex auto  
  speed auto  
!  
interface FastEthernet0/0/0  
  switchport mode access  
  switchport nonegotiate  
!  
interface FastEthernet0/0/1  
  switchport mode access  
  switchport nonegotiate  
!  
interface FastEthernet0/0/2  
  switchport mode access  
  switchport nonegotiate  
!  
interface FastEthernet0/0/3  
  switchport mode access  
  switchport nonegotiate  
!  
interface Serial0/1/0  
  no ip address  
  clock rate 2000000  
  shutdown  
!  
interface Serial0/1/1  
  no ip address  
  clock rate 2000000  
  shutdown  
!  
interface Vlan1  
  no ip address  
  shutdown
```

```
!  
ip classless  
ip route 10.10.10.24 255.255.255.248 20.20.20.29  
ip route 30.30.30.24 255.255.255.248 20.20.20.29  
ip route 50.50.50.24 255.255.255.248 40.40.40.30  
ip route 60.60.60.24 255.255.255.248 40.40.40.30  
!  
ip flow-export version 9  
!  
!  
!  
no cdp run  
!  
!  
!  
!  
!  
!  
line con 0  
!  
line aux 0  
!  
line vty 0 4  
  login  
!  
!  
!  
end
```