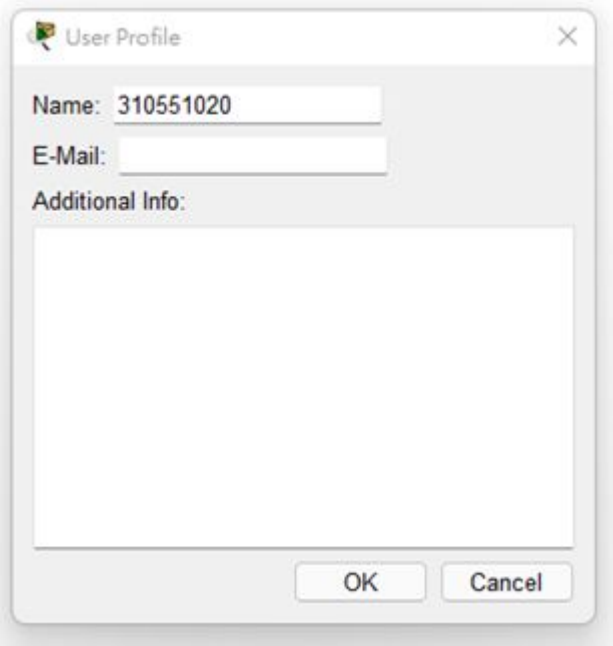
期末上機考

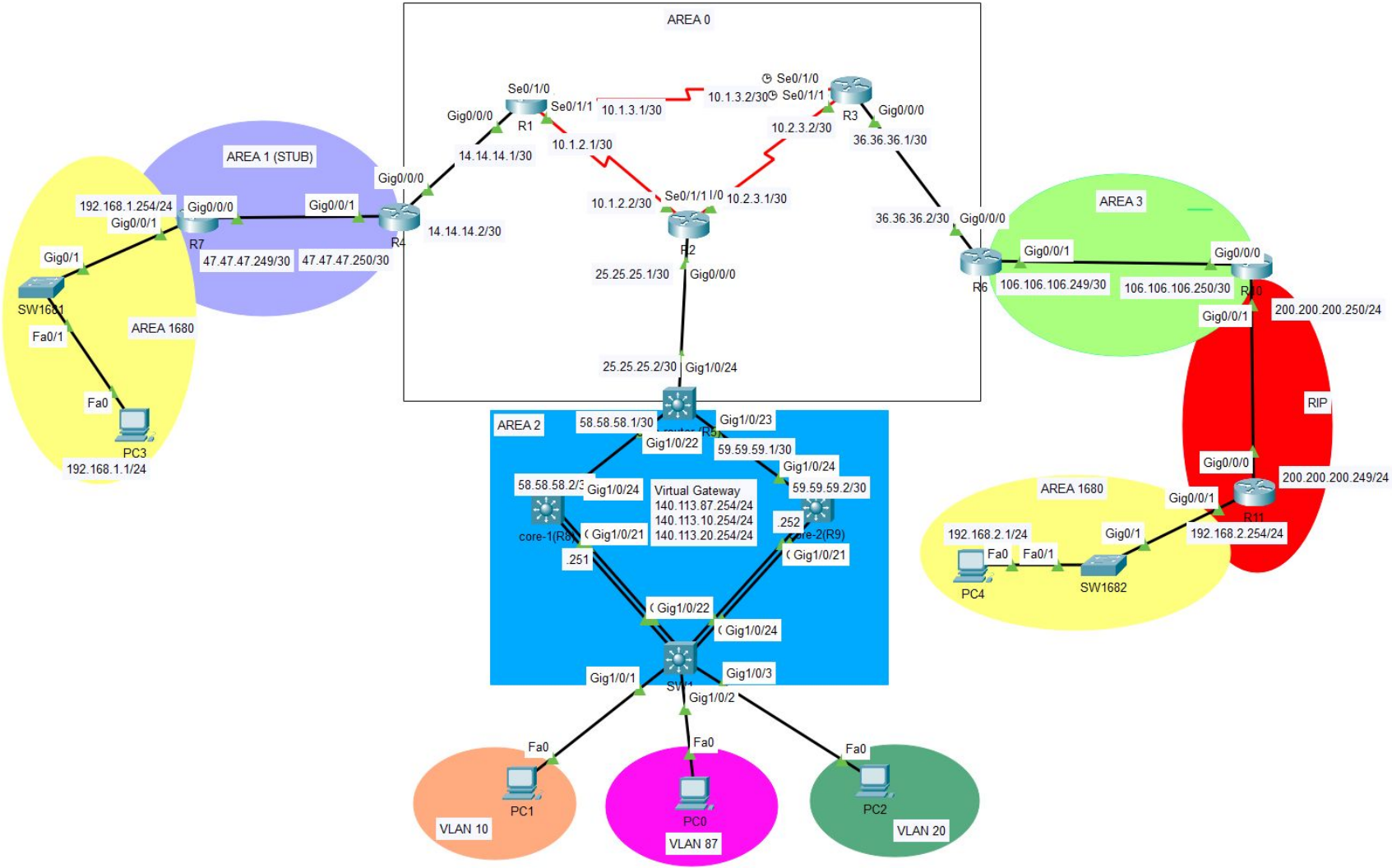
Requirement - Profile

- Fill your student ID to 「Name」 blank of prompt user profile.



Notice

- Configuration already set may wrong (troubleshooting)
  - Solve all problems and make this topology works properly
  - We turn off the logging function of routers/switches
    - Remember to check running-config when troubleshooting
- Do not forget to save what you have done at all times
  - Make sure you save your configuration to both switches and PacketTracer
  - Command : write 、copy run start
- Submit your answer (pka) to E3
  - Only one submission on E3 is allowed, please check carefully before you submit the file


AREA 0
AREA 1 (STUB)
AREA 1680
AREA 2
AREA 3
AREA 1680
RIP
Se0/1/0
Se0/1/1
Gig0/0/0
R1
10.1.3.1/30
10.1.3.2/30
R3
10.2.3.2/30
36.36.36.1/30
14.14.14.1/30
10.1.2.1/30
Gig0/0/0
192.168.1.254/24
Gig0/0/1
R7
47.47.47.249/30
47.47.47.250/30
R4
14.14.14.2/30
10.1.2.2/30
Se0/1/1
10.2.3.1/30
R2
25.25.25.1/30
Gig0/0/0
36.36.36.2/30
R6
106.106.106.249/30
106.106.106.250/30
R10
200.200.200.250/24
Gig0/1
SW1681
Fa0/1
Fa0
PC3
192.168.1.1/24
25.25.25.2/30
Gig1/0/24
58.58.58.1/30
Gig1/0/23
Gig1/0/22
59.59.59.1/30
Gig1/0/24
58.58.58.2/3
Gig1/0/24
Virtual Gateway
140.113.87.254/24
140.113.10.254/24
140.113.20.254/24
59.59.59.2/30
core-1(R8)
Gig1/0/21
.251
.252
core-2(R9)
Gig1/0/21
Gig1/0/22
Gig1/0/24
Gig1/0/1
Gig1/0/3
Gig1/0/2
Fa0
PC1
VLAN 10
Fa0
PC0
VLAN 87
Fa0
PC2
VLAN 20
Gig0/0/0
R11
200.200.200.249/24
Gig0/0/1
192.168.2.1/24
Gig0/1
192.168.2.254/24
Fa0
Fa0/1
PC4
SW1682

Requirement - VLAN

IP address	VLAN ID
140.113.10.0/24	10
140.113.20.0/24	20
140.113.87.0/24	87

Requirement - IP (1/5)

Device	Interface	IP
R1	gi0/0/0	14.14.14.1/30
	s0/1/0	10.1.3.1/30
	s0/1/1	10.1.2.1/30
R2	gi0/0/0	25.25.25.1/30
	s0/1/0	10.1.2.2/30
	s0/1/1	10.2.3.1/30
R3	gi0/0/0	36.36.36.1/30
	s0/1/0	10.1.3.2/30
	s0/1/1	10.2.3.2/30

Requirement - IP (2/5)

Device	Interface	IP
R4	gi0/0/0	14.14.14.2/30
	gi0/0/1	47.47.47.250/30
R7	gi0/0/0	47.47.47.249/30
	gi0/0/1	192.168.1.254
	Tunnel0	10.0.0.1/30

Requirement - IP (3/5)

Device	Interface	IP
R6	gi0/0/0	36.36.36.2/30
	gi0/0/1	106.106.106.249/30
R10	gi0/0/0	106.106.106.250/30
	gi0/0/1	200.200.200.250/24
R11	gi0/0/0	200.200.200.249/24
	gi0/0/1	192.168.2.254/24
	Tunnel0	10.0.0.2/30

Requirement - IP (4/5)

Device	Interface	IP
core-router(R5)	gi1/0/24	25.25.25.2/30
	gi1/0/22	58.58.58.1/30
	gi1/0/23	59.59.59.1/30
core-1(R8)	gi1/0/24	58.58.58.2/30
	vlan 87	140.113.87.251/24
	vlan 10	140.113.10.251/24
	vlan 20	140.113.20.251/24
core-2(R9)	gi1/0/24	59.59.59.2/30
	vlan 87	140.113.87.252/24
	vlan 10	140.113.10.252/24
	vlan 20	140.113.20.252/24

Requirement - IP (5/5)

Device	IP	Gateway
PC0	140.113.87.87/24	The last available IP in the subnet
PC1	140.113.10.10/24	
PC2	140.113.20.20/24	
PC3	192.168.1.1/24	
PC4	192.168.2.1/24	

Requirement - EtherChannel

- Set EtherChannel core-1 to SW1 and core-2 to SW1
  - All the links between the devices must be in used
  - Use LACP active mode
  - Set group number to
    - 1 on core-1 and core-2
    - 1 on SW for the links to core-1
    - 2 on SW for the links to core-2
- Make sure the connection works properly between the devices

Requirement - HSRP

- Set HSRP in 140.113.x.y subnet on core-1 and core-2
  - Group number :
    - VLAN87 : 0
    - VLAN10 : 1
    - VLAN20 : 2
  - Virtual IP is the last available IP (exclude broadcast and subnet ID) in the subnet
  - Set both routers preempt
  - Set core-1 priority to 200

Requirement - OSPF area 0

- Advertise correct networks on itself in area 0
  - Process ID and router-id is the same as number of Router
    - e.g. R1 use process 1, router-id 1.1.1.1
  - core-router is No.5 (R5)
  - Only use “network” command to advertise subnets
- Set below routers to primary DR by using priority 100
  - R1 (between R1 and R4)
  - R2 (between R2 and core-router)
  - R3 (between R3 and R6)
- Make all routers could ping each other successfully

Requirement - OSPF area 1

- Advertise correct networks on itself in area 1
  - Process ID and router-id is the same as number of Router
  - Only use “network” command to advertise subnets
- Set R4 become primary DR by using priority 100
- Set network type to **stub**

Requirement - OSPF area 2

- Advertise correct networks on itself in area 2
  - Only use “network” command to advertise subnets
- Set core-router become primary DR by using priority 100
- Make all PCs in area 2 could ping all routers successfully

Requirement - OSPF area 3

- Advertise correct networks on itself in area 3
  - Process ID and router-id is the same as number of Router
  - Only use “network” command to advertise subnets
- Set R6 become primary DR by using priority 100

Requirement - OSPF area 1680

- Advertise 192.168.x.y network on itself in area 1680
  - Process ID is 168x and router-id is 1.6.8.x
  - Only use “network” command to advertise subnets
- **This OSPF must run on tunnel interface**

Requirement - Tunnel

- Set tunnel on R7 and R11 to connect two 192.168.x.y subnets
- Use “interface Tunnel <number>” to establish a tunnel
  - R7 10.0.0.1/30、R11 10.0.0.2/30
  - Configure the right **destination** and **source** IP / interface.

- Use “tunnel source” to configure source interface.
- Use “tunnel destination” to configure destination IP.
- Use “ip address” to configure tunnel IP.

Requirement - Connectivity

- Devices in subnet 192.168.x.y should ping to all other devices in subnet 192.168.x.y
  - e.g. 192.168.1.1 should ping to 192.168.2.1
- Devices in subnet 140.113.x.y should ping all routers successfully
- All routers should ping to each other