Logo

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รายงาน

เรื่อง Network Design

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อาจารย์จิระศักดิ์ สิทธิกร

รายงานเล่มนี้เป็นส่วนหนึ่งวิชา

Internetworking Standards and Technologies รหัสวิชา 01076040

ภาคเรียนที่ 1 ปีการศึกษา 2565

คณะวิศวกรรมศาสตร์ ภาควิชาวิศวกรรมคอมพิวเตอร์

สถาบันเทคโนโลยีพระจอมเกล้าเจ้าคุณทหารลาดกระบัง

# คำนำ

รายงานฉบับนี้เป็นส่วนหนึ่งของวิชา Internetworking Standards and Technologies

รหัสวิชา 01076040 โดยมีเนื้อหาเกี่ยวกับการกําหนดค่าการทํางานของระบบเครือข่ายด้วย Cisco Packet Tracer อันประกอบไปด้วยลักษณะการเชื่อมต่อในระบบเครือข่าย , จํานวน IP Address , Network ID , Broadcast , Subnet Maskการทํา Dynamic Routing , Static Routing การตั้งค่าการใช้งาน Switch การทํา Trunk Port และอื่นๆ

คณะผู้จัดทําหวังเป็นอย่างยิ่งว่ารายงานฉบับนี้จะมีประโยชน์ต่อผู้ที่สนใจหรือต้องการศึกษาและค้นคว้าเพิ่มเติมในหัวข้อที่เกี่ยวข้องนี้ไม่มากก็น้อย หากมีข้อผิดพลาดประการใดต้องขออภัยมา ณ ที่นี้

คณะผู้จัดทํา

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# **1.แนวคิดและการออกแบบ**

กลุ่มของเราจะออกแบบตัวเครือข่ายไว้สำหรับโรงพยาบาลเฉพาะทางโดยตัวโรงพยาบาลจะมีสาขาหลักอยู่ที่กรุงเทพและมีสาขาย่อยอยู่สองแห่งได้แก่สาขา ปัตตานี และ เชียงใหม่

เริ่มต้นที่ สาขา กรุงเทพ สาขากรุงเทพนี้จะเป็นสาขาหลัก มีอาคาร 4 ตึก เริ่มที่อาคารที่ 1 Building A มีการแบ่งชั้นเป็น 3 ชั้น Zone A (ชั้น1)จะมีห้องดังนี้ Counter-service,ห้องจ่ายยา,การเงิน,ห้องซักประวัติ,ห้องตรวจ แต่ละห้องจะมีการใช้ VLAN คนละ VLAN

Zone B (ชั้น2) จะมีห้องดังนี้ X-ray and Operation Room โซนนี้จะมี VLAN เดียว

Zone C (ชั้น3) จะเป็นห้องพักฟื้นสำหรับผู้ป่วย โซนนี้จะมี VLAN เดียว

อาคารที่ 2 Building B สำหรับอาคารนี้จะเป็นอาคารชั้นเดียวแบ่งเป็น4ห้อง ทั้ง4ห้องจะเป็นห้องสำหรับการประชุม ภายในอาคารนี้จะมีสอง VLAN

อาคารที่ 3 Building C อาคารนี้จะเป็นพื้นที่ใช้เป็นโรงหาร มีการแจกไวไฟภายในอาคาร

อาคารที่ 4 ICT จะเป็นอาคารที่ไว้เก็บ Web Server, DNS , Mail Sever

สาขา ปัตตานี จะมีอาคารอยู่สองตึกจะเป็นโรงพยาบาลที่เล็กกว่ากรุงเทพ

เริ้มต้นที่อาคารที่ 1 PTN Building A อาคารนี้จะมีการแบ่งเป็น3ห้อง Counter-Service,การเงิน,ห้องจ่ายยา ทั้ง3ห้องนี้จะใช้ VLAN คนละ VLAN กัน

อาคารที่ 2 PTN Building B อาคารนี้จะมีการแบ่งเป็น 3 ห้อง Screening Room, Examination, ICT จะเป็นการใช้ VLAN คนละ VLAN

สาขาที่ 3 เชียงใหม่ จะมีอาคารอยู่แค่หนึ่งอาคาร ภายในอาคารนี้จะมีการแบเป็น3ชั้น

เริ้มต้นที่ ชั้นที่ 1 ชั้นที่ 1 จะมีห้องอยู่ด้วยกัน3ห้อง Counter-Service,ห้องจ่ายา,การเงิน แต่ละห้องจะใช้ VLAN ที่แตกต่างกัน

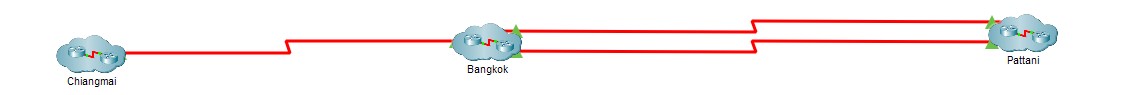
ชั้นที่ 2 จะมีการแบ่งห้องเป็น 2 ห้อง ห้องซักประวัติ,ห้องตรวจโรค แต่ละห้องจะมี VLAN ที่ต่างกัน

ชั้นที่ 3 จะมี 2 ห้อง X-ray Room, ICT จะมี VLAN แค่ห้อง X-ray Room

# **2.ลักษณะการเชื่อมต่อในระบบเครือข่าย**

การเชื่อมต่อในระบบเครือข่ายของโรงพยาบาลเฉพาะทาง(Rock clinic) มีภาพรวมเป็นดังนี้

# **Logical View**



## **Bangkok**

Chart, diagram

Description automatically generated

## **Pattani**

Chart, diagram, radar chart

Description automatically generated

## **Chiang Mai**

Diagram

Description automatically generated with medium confidence

IP Address เบอร์หลักที่ใช้ 192.168.1.0/23 เนื่องจากภายในเครือข่ายทั้งหมดใช้ 276 เครื่อง IP ที่นำมาใช้จึงเป็น /23 เพราะมีจำนวนที่ให้มา 512 เครื่อง

# **ส่วนที่1 Bangkok**

Diagram

Description automatically generated

|  |  |  |  |
| --- | --- | --- | --- |
| **Router Name** | **Interface** | **Network ID** | **IP address** |
| **BKK R1** | **S0/0/1** | **192.168.1.0/30** | **192.168.1.1** |
| **S0/0/0** | **192.168.1.4/30** | **192.168.1.5** |
| **Loopback 0** | **10.10.10.0/30** | **10.10.10.1** |
| **BKK R2** | **S0/0/0** | **192.168.1.0/30** | **192.168.1.2** |
| **S0/0/1** | **192.168.1.8/30** | **192.168.1.9** |
| **S0/1/0** | **192.168.1.12/30** | **192.168.1.13** |
| **S0/3/0** | **192.168.2.16/30** | **192.168.2.17** |
| **BKK R3** | **S0/0/0** | **192.168.1.4/30** | **192.168.1.6** |
| **S0/0/1** | **192.168.1.8/30** | **192.168.1.10** |
| **S0/1/0** | **192.168.1.192/30** | **192.168.1.194** |
| **S0/1/1** | **192.168.2.20/30** | **192.168.2.21** |
| **S0/2/0** | **192.168.1.196/30** | **192.168.1.197** |

**BKK-R1, BKK-R2, BKK-R3 (EIGRP, OSPF, RIP, STATIC(Loopback0))**

* Router 3 ตัวนี้ เป็น Router กลางที่เชื่อมต่อระหว่าง 3 จังหวัด โดยมี Bangkok, Pattani, Chiang Mai
* โดยตัว Router BKK R1 มี Interface loopback 0 (เป็นตัวจำลอง ISP) เป็นการ Routing แบบ Static
* Router ทั้ง 3 ตัวจะมี Routing Protocol อยู่ 3 Protocols โดยมี EIGRP, OSPF, RIPv2

**Router BKK R1 (Config)**

hostname BKK-R-1

ip domain-name BKK-R2

interface Loopback0

ip address 10.10.10.1 255.255.255.252

no shutdown

interface Serial0/0/0

ip address 192.168.1.5 255.255.255.252

no shutdown

interface Serial0/0/1

ip address 192.168.1.1 255.255.255.252

no shutdown

router eigrp 1

eigrp router-id 1.1.1.1

redistribute rip

redistribute ospf 10 metric 1 1 1 1 1

redistribute static

network 192.168.1.0

exit

router ospf 10

router-id 8.8.8.8

log-adjacency-changes

redistribute rip

redistribute eigrp 1 subnets

redistribute static

network 192.168.1.0 0.0.0.3 area 0

network 192.168.1.4 0.0.0.3 area 0

exit

router rip

version 2

redistribute eigrp 1

redistribute ospf 10

redistribute static

network 192.168.1.0

network 192.168.2.0

no auto-summary

exit

ip route 0.0.0.0 0.0.0.0 Loopback0

line con 0

password bangkok

login

exit

line vty 0 4

login local

transport input ssh

line vty 5 15

login local

transport input ssh

ip ssh version 2

username admin password 0 bangkok

**รูป IP route Router BKK R1**

Text

Description automatically generated

**Router BKK R2 (Config)**

hostname BKK-R-2

ip domain-name BKK-R2

interface Serial0/0/0

ip address 192.168.1.2 255.255.255.252

interface Serial0/0/1

ip address 192.168.1.9 255.255.255.252

interface Serial0/1/0

ip address 192.168.1.13 255.255.255.252

interface Serial0/3/0

ip address 192.168.2.17 255.255.255.252

router eigrp 1

eigrp router-id 3.3.3.3

redistribute rip

redistribute ospf 10 metric 1 1 1 1 1

network 192.168.1.0

network 192.168.2.0

router ospf 10

router-id 9.9.9.9

log-adjacency-changes

redistribute rip

redistribute eigrp 1 subnets

redistribute static

network 192.168.1.0 0.0.0.3 area 0

network 192.168.1.8 0.0.0.3 area 0

network 192.168.1.12 0.0.0.3 area 0

network 192.168.2.16 0.0.0.3 area 0

router rip

version 2

redistribute eigrp 1

redistribute ospf 10

network 192.168.1.0

network 192.168.2.0

no auto-summary

line con 0

password bangkok

login

line vty 0 4

login local

transport input ssh

enable secret bangkok

line vty 0 15

login local

transport input ssh

username admin password 0 bangkok

ip ssh version 2

**รูป IP route Router BKK R2**

Text, table

Description automatically generated

**Router BKK R3 (Config)**

hostname BKK-R-3

ip domain-name AR-1

interface Serial0/0/0

ip address 192.168.1.6 255.255.255.252

no shutdown

interface Serial0/0/1

ip address 192.168.1.10 255.255.255.252

no shutdown

interface Serial0/1/0

ip address 192.168.1.194 255.255.255.252

no shutdown

interface Serial0/1/1

ip address 192.168.2.21 255.255.255.252

no shutdown

interface Serial0/2/0

ip address 192.168.1.197 255.255.255.252

no shutdown

router eigrp 1

eigrp router-id 2.2.2.2

redistribute rip

redistribute ospf 10 metric 1 1 1 1 1

redistribute static

network 192.168.1.0

network 192.168.2.0

router ospf 10

router-id 5.5.5.5

redistribute rip

redistribute eigrp 1 subnets

redistribute static

network 192.168.1.4 0.0.0.3 area 0

network 192.168.1.8 0.0.0.3 area 0

network 192.168.1.192 0.0.0.3 area 0

network 192.168.2.20 0.0.0.3 area 0

network 192.168.1.196 0.0.0.3 area 0

default-information originate

router rip

version 2

redistribute eigrp 1

redistribute ospf 10

redistribute static

network 192.168.1.0

network 192.168.2.0

no auto-summary

line con 0

password bangkok

login

line vty 0 4

login local

transport input ssh

enable secret bangkok

ip ssh version 2

username admin password 0 bangkok

line vty 0 15

login local

transport input ssh

**รูป IP route Router BKK R3**

Text

Description automatically generated

## **Building A (Zone A)**

จะเป็นตึกหลักของโรงพยาบาลเฉพาะทางเกี่ยวกับการผ่าตัด(Rock Clinic)

**![Diagram, schematic, radar chart

Description automatically generated](data:image/jpeg;base64,/9j/4AAQSkZJRgABAQEAYABgAAD/4REORXhpZgAATU0AKgAAAAgABAE7AAIAAAAYAAAISodpAAQAAAABAAAIYpydAAEAAAAsAAAQ2uocAAcAAAgMAAAAPgAAAAAc6gAAAAgAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAENoaWRzYW51cG9uZyBCb29ubWEg4p2kAAAFkAMAAgAAABQAABCwkAQAAgAAABQAABDEkpEAAgAAAAMyMgAAkpIAAgAAAAMyMgAA6hwABwAACAwAAAikAAAAABzqAAAACAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA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4TyY/+ea/98ijyY/8Anmv/AHyKPqT/AJg+rPud350X/PRP++hR50X/AD0T/voVwnkx/wDPNf8AvkUeTH/zzX/vkUfUn/MH1Z9zu/Oi/wCeif8AfQo86L/non/fQrhPJj/55r/3yKPJj/55r/3yKPqT/mD6s+53fnRf89E/76FHnRf89E/76FcJ5Mf/ADzX/vkUeTH/AM81/wC+RR9Sf8wfVn3O786L/non/fQo86L/AJ6J/wB9CuE8mP8A55r/AN8ijyY/+ea/98ij6k/5g+rPud350X/PRP8AvoUedF/z0T/voVwnkx/881/75FHkx/8APNf++RR9Sf8AMH1Z9zu/Oi/56J/30KPOi/56J/30K4TyY/8Anmv/AHyKPJj/AOea/wDfIo+pP+YPqz7nd+dF/wA9E/76FHnRf89E/wC+hXCeTH/zzX/vkUeTH/zzX/vkUfUn/MH1Z9zu/Oi/56J/30Ky/EMqNpJCupPmJwD/ALQrmPJj/wCea/8AfIpRGinIRQfUCqjg3GSdxxw7TTuaOg/8jHZf7z/+i2ru64TQf+Rjsv8Aef8A9FtXd1x47+L8jHEfGFFFFcJzhRRRQBmeI/8AkXbz/c/qK4iu91m1lvdHube3AMkiYUMcAnNcp/wjur/8+0f/AH+FepgqsIRak7HZh5xindmbRWl/wjur/wDPtH/3+FH/AAjur/8APtH/AN/hXf8AWaP8x0+1h3M2itL/AIR3V/8An2j/AO/wo/4R3V/+faP/AL/Cj6zR/mD2sO5m0Vpf8I7q/wDz7R/9/hR/wjur/wDPtH/3+FH1mj/MHtYdzNorS/4R3V/+faP/AL/Cj/hHdX/59o/+/wAKPrNH+YPaw7mbRWl/wjur/wDPtH/3+FH/AAjur/8APtH/AN/hR9Zo/wAwe1h3M2itL/hHdX/59o/+/wAKP+Ed1f8A59o/+/wo+s0f5g9rDuZtFaX/AAjur/8APtH/AN/hR/wjur/8+0f/AH+FH1mj/MHtYdzNorS/4R3V/wDn2j/7/Cj/AIR3V/8An2j/AO/wo+s0f5g9rDuZtFaX/CO6v/z7R/8Af4Uf8I7q/wDz7R/9/hR9Zo/zB7WHczaK0v8AhHdX/wCfaP8A7/Cj/hHdX/59o/8Av8KPrNH+YPaw7mbRWl/wjur/APPtH/3+FH/CO6v/AM+0f/f4UfWaP8we1h3M2itL/hHdX/59o/8Av8KP+Ed1f/n2j/7/AAo+s0f5g9rDuZtFaX/CO6v/AM+0f/f4Uf8ACO6v/wA+0f8A3+FH1mj/ADB7WHczaK0v+Ed1f/n2j/7/AAo/4R3V/wDn2j/7/Cj6zR/mD2sO5m0Vpf8ACO6v/wA+0f8A3+FH/CO6v/z7R/8Af4UfWaP8we1h3M2itL/hHdX/AOfaP/v8KP8AhHdX/wCfaP8A7/Cj6zR/mD2sO5m0Vpf8I7q//PtH/wB/hR/wjur/APPtH/3+FH1mj/MHtYdzNorS/wCEd1f/AJ9o/wDv8KP+Ed1f/n2j/wC/wo+s0f5g9rDuZtFaX/CO6v8A8+0f/f4Uf8I7q/8Az7R/9/hR9Zo/zB7WHczaK0v+Ed1f/n2j/wC/wo/4R3V/+faP/v8ACj6zR/mD2sO5m0Vpf8I7q/8Az7R/9/hR/wAI7q//AD7R/wDf4UfWaP8AMHtYdxmg/wDIx2X+8/8A6Lau7rk9H0LUbbWbe4uYUSKIsWIkBPKkdPxrrK8jGTjOpeLucNeSlO6CiiiuMwCiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigD/9k=)**

**แบ่ง IP ให้ตามแต่ละโซน Building A**

* Counter-Service 4 เครื่อง
* ห้องจ่ายยา 4 เครื่อง
* ห้องการเงิน 4 เครื่อง
* ห้องคัดกรอง 4 เครื่อง
* ห้องตรวจโรคทั่วไป 4 เครื่อง
* ห้อง X-ray และ ผ่าตัด 6 เครื่อง
* ห้องพักฟื้น 9 เครื่อง

**โดยการแบ่งNetwork ID จะได้ตามตารางนี้**

|  |  |  |  |
| --- | --- | --- | --- |
| **Router Name** | **Interface** | **Network ID** | **IP address** |
| **AR 1**  **Password: bangkok** | **S0/0/0** | **192.168.1.12 /30** | **192.168.1.14** |
| **S0/0/1** | **192.168.1.96 /30** | **192.168.1.97** |
| **G0/0** | **192.168.1.16 /25** | **192.168.1.17** |
| **G0/0.10** | **192.168.1.16 /29** | **192.168.1.17** |
| **G0/0.20** | **192.168.1.24 /29** | **192.168.1.25** |
| **G0/0.30** | **192.168.1.32 /29** | **192.168.1.33** |
| **G0/0.40** | **192.168.1.40 /29** | **192.168.1.41** |
| **G0/0.50** | **192.168.1.48 /29** | **192.168.1.49** |
| **G0/0.60** | **192.168.1.64 /28** | **192.168.1.65** |
| **G0/0.70** | **192.168.1.80 /28** | **192.168.1.81** |

**Router AR1 (DHCP, EIGRP, ACL)**

โดย Router ตัวนี้จะมีการแจก DHCP ให้กับแต่ละ VLAN โดย VLAN ที่มีอยู่ในตึกนี้จะมี VLAN 10, 20, 30, 40, 50, 60, 70

* ตั้งรหัสผ่านเพื่อความปลอดภัย
* เปิดการใช้งาน SSH
* Router ตัวนี้ใช้การ Routing แบบ EIGRP
* มีการตั้งค่า ACL ดังนี้
* Counter-Service(vlan10) อณุญาติให้Pingได้ดังนี้

- All in Building A

- All Counter-Service

- All in Build C

* Finance(vlan20) อณุญาติให้Pingได้ดังนี้

- Pharmacy(Vlan30)

- Counter-service(vlan10)

* Pharmacy(Vlan30) อณุญาติให้Pingได้ดังนี้

- Finance(vlan20)

- Examination(vlan50)

- Counter-service(vlan10)

* Screening Room(vlan40) อณุญาติให้Pingได้ดังนี้

- Examination(vlan50)

- Counter-service(vlan10)

* Examination(vlan50) อณุญาติให้Pingได้ดังนี้

- Screening Room(vlan40)

- Pharmacy(Vlan30)

- X-ray and Operation (vlan60)

- Counter-service(vlan10)

- Zone C

* X-ray and Operation (vlan60) อณุญาติให้Pingได้ดังนี้

- Counter-service(vlan10)

- Examination(vlan50 )

* PauseAwake Room(vlan70) อณุญาติให้Pingได้ดังนี้

- All in Building A

**Router AR1 (Config)**

hostname AR-1

ip dhcp excluded-address 192.168.1.17

ip dhcp excluded-address 192.168.1.25

ip dhcp excluded-address 192.168.1.33

ip dhcp excluded-address 192.168.1.41

ip dhcp excluded-address 192.168.1.49

ip dhcp excluded-address 192.168.1.65

ip dhcp excluded-address 192.168.1.81

ip dhcp pool LAN-VLAN-10

network 192.168.1.16 255.255.255.248

default-router 192.168.1.17

dns-server 192.168.1.106

ip dhcp pool LAN-VLAN-20

network 192.168.1.24 255.255.255.248

default-router 192.168.1.25

dns-server 192.168.1.106

ip dhcp pool LAN-VLAN-30

network 192.168.1.32 255.255.255.248

default-router 192.168.1.33

dns-server 192.168.1.106

ip dhcp pool LAN-VLAN-40

network 192.168.1.40 255.255.255.248

default-router 192.168.1.41

dns-server 192.168.1.106

ip dhcp pool LAN-VLAN-50

network 192.168.1.48 255.255.255.248

default-router 192.168.1.49

dns-server 192.168.1.106

ip dhcp pool LAN-VLAN-60

network 192.168.1.64 255.255.255.240

default-router 192.168.1.65

dns-server 192.168.1.106

ip dhcp pool LAN-VLAN-70

network 192.168.1.80 255.255.255.240

default-router 192.168.1.81

dns-server 192.168.1.106

ip domain-name AR-1

interface GigabitEthernet0/0.10

encapsulation dot1Q 10

ip address 192.168.1.17 255.255.255.248

ip access-group 1 out

interface GigabitEthernet0/0.20

encapsulation dot1Q 20

ip address 192.168.1.25 255.255.255.248

ip access-group 2 out

interface GigabitEthernet0/0.30

encapsulation dot1Q 30

ip address 192.168.1.33 255.255.255.248

ip access-group 3 out

interface GigabitEthernet0/0.40

encapsulation dot1Q 40

ip address 192.168.1.41 255.255.255.248

ip access-group 4 out

interface GigabitEthernet0/0.50

encapsulation dot1Q 50

ip address 192.168.1.49 255.255.255.248

ip access-group 5 out

interface GigabitEthernet0/0.60

encapsulation dot1Q 60

ip address 192.168.1.65 255.255.255.240

ip access-group 6 out

interface GigabitEthernet0/0.70

encapsulation dot1Q 70

ip address 192.168.1.81 255.255.255.240

interface Serial0/0/0

ip address 192.168.1.14 255.255.255.252

no shutdown

interface Serial0/0/1

ip address 192.168.1.97 255.255.255.252

no shutdown

int g 0/0

no shutdown

router eigrp 1

eigrp router-id 7.7.7.7

network 192.168.1.0

access-list 1 permit 10.10.10.0 0.0.0.3

access-list 1 permit 192.168.1.12 0.0.0.3

access-list 1 permit 192.168.1.96 0.0.0.3

access-list 1 permit 192.168.1.16 0.0.0.7

access-list 1 permit 192.168.1.24 0.0.0.7

access-list 1 permit 192.168.1.32 0.0.0.7

access-list 1 permit 192.168.1.40 0.0.0.7

access-list 1 permit 192.168.1.48 0.0.0.7

access-list 1 permit 192.168.1.64 0.0.0.15

access-list 1 permit 192.168.1.80 0.0.0.15

access-list 1 permit 192.168.1.160 0.0.0.15

access-list 1 permit 192.168.1.176 0.0.0.15

access-list 1 permit 192.168.1.128 0.0.0.15

access-list 1 permit 192.168.2.64 0.0.0.7

access-list 1 permit 192.168.1.224 0.0.0.7

access-list 1 permit 192.168.1.104 0.0.0.7

access-list 1 deny any

access-list 2 permit 10.10.10.0 0.0.0.3

access-list 2 permit 192.168.1.12 0.0.0.3

access-list 2 permit 192.168.1.96 0.0.0.3

access-list 2 permit 192.168.1.16 0.0.0.7

access-list 2 permit 192.168.1.24 0.0.0.7

access-list 2 permit 192.168.1.32 0.0.0.7

access-list 2 permit 192.168.1.80 0.0.0.15

access-list 2 permit 192.168.1.128 0.0.0.15

access-list 2 permit 192.168.1.104 0.0.0.7

access-list 2 deny any

access-list 3 permit 10.10.10.0 0.0.0.3

access-list 3 permit 192.168.1.12 0.0.0.3

access-list 3 permit 192.168.1.96 0.0.0.3

access-list 3 permit 192.168.1.16 0.0.0.7

access-list 3 permit 192.168.1.24 0.0.0.7

access-list 3 permit 192.168.1.32 0.0.0.7

access-list 3 permit 192.168.1.48 0.0.0.7

access-list 3 permit 192.168.1.80 0.0.0.15

access-list 3 permit 192.168.1.128 0.0.0.15

access-list 3 permit 192.168.1.104 0.0.0.7

access-list 3 deny any

access-list 4 permit 10.10.10.0 0.0.0.3

access-list 4 permit 192.168.1.12 0.0.0.3

access-list 4 permit 192.168.1.96 0.0.0.3

access-list 4 permit 192.168.1.16 0.0.0.7

access-list 4 permit 192.168.1.40 0.0.0.7

access-list 4 permit 192.168.1.48 0.0.0.7

access-list 4 permit 192.168.1.80 0.0.0.15

access-list 4 permit 192.168.1.128 0.0.0.15

access-list 4 permit 192.168.1.104 0.0.0.7

access-list 4 deny any

access-list 6 permit 10.10.10.0 0.0.0.3

access-list 6 permit 192.168.1.12 0.0.0.3

access-list 6 permit 192.168.1.96 0.0.0.3

access-list 6 permit 192.168.1.16 0.0.0.7

access-list 6 permit 192.168.1.48 0.0.0.7

access-list 6 permit 192.168.1.64 0.0.0.15

access-list 6 permit 192.168.1.80 0.0.0.15

access-list 6 permit 192.168.1.128 0.0.0.15

access-list 6 permit 192.168.1.104 0.0.0.7

access-list 6 deny any

access-list 5 permit 10.10.10.0 0.0.0.3

access-list 5 permit 192.168.1.12 0.0.0.3

access-list 5 permit 192.168.1.96 0.0.0.3

access-list 5 permit 192.168.1.16 0.0.0.7

access-list 5 permit 192.168.1.32 0.0.0.7

access-list 5 permit 192.168.1.40 0.0.0.7

access-list 5 permit 192.168.1.48 0.0.0.7

access-list 5 permit 192.168.1.80 0.0.0.15

access-list 5 permit 192.168.1.64 0.0.0.15

access-list 5 permit 192.168.1.128 0.0.0.15

access-list 5 permit 192.168.1.104 0.0.0.7

access-list 5 deny any

line con 0

password bangkok

login

line vty 0 4

login local

transport input ssh

ip ssh version 2

line vty 0 15

login local

transport input ssh

username admin password 0 bangkok

enable secret 5 bangkok

**รูป Ip route Router AR1**

A picture containing table

Description automatically generated

**AA-SW-1 (INTER-VLAN, VTP)**

* Switch ตัวนี้มีการทำ VTP บน Inter VLAN Switch ตัวนี้เป็น VTP mode server โดยการตั้งค่า VLAN ทั้งหมดจะถูกตั้งค่าใน AA-SW-1 และ ส่ง VLAN ไปยัง AB-SW-1, AC-SW-1

**AA-SW-1 (Config)**

hostname AA-SW-1

vtp version 2

vtp mode server

vtp domain Bangkok

vtp password 123456789

interface FastEthernet0/1

switchport mode trunk

interface FastEthernet0/2

switchport access vlan 10

switchport mode access

interface FastEthernet0/3

switchport access vlan 10

switchport mode access

interface FastEthernet0/4

switchport access vlan 10

switchport mode access

interface FastEthernet0/5

switchport access vlan 20

switchport mode access

interface FastEthernet0/6

switchport access vlan 20

switchport mode access

interface FastEthernet0/7

switchport access vlan 20

switchport mode access

interface FastEthernet0/8

switchport access vlan 30

switchport mode access

interface FastEthernet0/9

switchport access vlan 30

switchport mode access

interface FastEthernet0/10

switchport access vlan 30

switchport mode access

interface FastEthernet0/11

switchport access vlan 40

switchport mode access

interface FastEthernet0/12

switchport access vlan 40

switchport mode access

interface FastEthernet0/13

switchport access vlan 40

switchport mode access

interface FastEthernet0/14

switchport access vlan 50

switchport mode access

interface FastEthernet0/15

switchport access vlan 50

switchport mode access

interface FastEthernet0/16

switchport access vlan 50

switchport mode access

**AB-SW-1, AC-SW-1 (INTER-VLAN, VTP)**

* Switch 2 ตัวนี้เป็น VTP mode client

**AB-SW-1(config)**

hostname AB-SW-1

vtp version 2

vtp mode Client

vtp domain Bangkok

vtp password 123456789

interface FastEthernet0/1

switchport mode trunk

interface FastEthernet0/2

switchport access vlan 60

switchport mode access

interface FastEthernet0/3

switchport access vlan 60

switchport mode access

interface FastEthernet0/4

switchport access vlan 60

switchport mode access

interface FastEthernet0/5

switchport access vlan 60

switchport mode access

interface FastEthernet0/6

switchport access vlan 60

switchport mode access

interface FastEthernet0/7

switchport access vlan 60

switchport mode access

interface FastEthernet0/8

switchport access vlan 60

switchport mode access

interface FastEthernet0/9

switchport access vlan 60

switchport mode access

interface FastEthernet0/10switchport access vlan 60

switchport mode access

interface FastEthernet0/24

switchport mode trunk

**AC-SW-1(config)**

hostname AC-SW-1

vtp version 2

vtp mode Client

vtp domain Bangkok

vtp password 123456789

interface FastEthernet0/1

switchport mode trunk

interface FastEthernet0/2

switchport access vlan 70

switchport mode access

interface FastEthernet0/3

switchport access vlan 70

switchport mode access

interface FastEthernet0/4

switchport access vlan 70

switchport mode access

interface FastEthernet0/5

switchport access vlan 70

switchport mode access

interface FastEthernet0/6

switchport access vlan 70

switchport mode access

interface FastEthernet0/7

switchport access vlan 70

switchport mode access

interface FastEthernet0/8

switchport access vlan 70

switchport mode access

interface FastEthernet0/9

switchport access vlan 70

switchport mode access

interface FastEthernet0/10

switchport access vlan 70

switchport mode access

interface FastEthernet0/11

switchport access vlan 70

switchport mode access

interface FastEthernet0/12

switchport access vlan 70

switchport mode access

interface FastEthernet0/13

switchport access vlan 5

switchport mode access

interface FastEthernet0/14

switchport access vlan 5

switchport mode access

interface FastEthernet0/15

switchport access vlan 5

switchport mode access

interface FastEthernet0/16

switchport access vlan 5

switchport mode access

interface FastEthernet0/17

switchport access vlan 5

switchport mode access

interface FastEthernet0/18

switchport access vlan 5

switchport mode access

interface FastEthernet0/19

switchport access vlan 5

switchport mode access

interface FastEthernet0/20

switchport access vlan 5

switchport mode access

## **Building B**

ตึกนี้เป็นตึกสำหรับการประชุมคณะกรรมการ ของโรงพยาบาล

Diagram

Description automatically generated

**แบ่ง IP ให้ตามแต่ละโซน Building B**

* ห้องที่ 1 VLAN 110 6 เครื่อง
* ห้องที่ 2 VLAN 110 6 เครื่อง
* ห้องที่ 1 VLAN 120 6 เครื่อง
* ห้องที่ 2 VLAN 120 6 เครื่อง

**โดยการแบ่งNetwork ID จะได้ตามตารางนี้**

|  |  |  |  |
| --- | --- | --- | --- |
| **Router Name** | **Interface** | **Network ID** | **IP address** |
| **BR 1** | **S0/0/0** | **192.168.1.192 /30** | **192.168.1.193** |
| **S0/0/1** | **192.168.1.144 /30** | **192.168.1.146** |
| **G0/0** | **192.168.1.160 /26** | **192.168.1.161** |
| **G0/0.110** | **192.168.1.160 /28** | **192.168.1.161** |
| **G0/0.120** | **192.168.1.176 /28** | **192.168.1.177** |

**Router BR 1 (EIGRP, DHCP, ACL)**

* จะมีการแจก DHCP ตามแต่ละ VLAN ให้กับ PC ภายในตึก VLAN ในตึก จะมี VLAN 110, 120
* Routerตัวนี้ใช้ Routing แบบ EIGRP
* ตั้งรหัสผ่านเพื่อความปลอดภัย
* เปิดการใช้งาน SSH
* มีการตั้งค่า ACL อณุญาติให้Pingได้ดังนี้
* All in Build B
* Counter-Service(vlan10) in Build A

**Router BR 1 (config)**

hostname BR-1

enable secret bangkok

ip dhcp excluded-address 192.168.1.161

ip dhcp excluded-address 192.168.1.177

ip dhcp pool POOL-VLAN-110

network 192.168.1.160 255.255.255.240

default-router 192.168.1.161

dns-server 192.168.1.106

ip dhcp pool LAN-VLAN-120

network 192.168.1.176 255.255.255.240

default-router 192.168.1.177

dns-server 192.168.1.106

username admin password bangkok

ip ssh version 2

ip domain-name BR-1

interface GigabitEthernet0/0

ip address 1.1.1.1 255.255.255.0

no sh

interface GigabitEthernet0/0.110

encapsulation dot1Q 110

ip address 192.168.1.161 255.255.255.240

ip access-group 1 out

interface GigabitEthernet0/1

ip address 1.1.2.1 255.255.255.0

no sh

interface GigabitEthernet0/1.120

encapsulation dot1Q 120

ip address 192.168.1.177 255.255.255.240

ip access-group 2 out

interface Serial0/0/0

ip address 192.168.1.193 255.255.255.252

interface Serial0/0/1

ip address 192.168.1.146 255.255.255.252

router eigrp 1

eigrp router-id 4.4.4.4

network 192.168.1.0

access-list 1 permit 10.10.10.0 0.0.0.3

access-list 1 permit 192.168.1.192 0.0.0.3

access-list 1 permit 192.168.1.144 0.0.0.3

access-list 1 permit 192.168.1.160 0.0.0.15

access-list 1 permit 192.168.1.176 0.0.0.15

access-list 1 permit 192.168.1.16 0.0.0.7

access-list 1 permit 192.168.1.128 0.0.0.15

access-list 1 permit 192.168.1.104 0.0.0.7

access-list 1 deny any

access-list 2 permit 10.10.10.0 0.0.0.3

access-list 2 permit 192.168.1.192 0.0.0.3

access-list 2 permit 192.168.1.144 0.0.0.3

access-list 2 permit 192.168.1.160 0.0.0.15

access-list 2 permit 192.168.1.176 0.0.0.15

access-list 2 permit 192.168.1.16 0.0.0.7

access-list 2 permit 192.168.1.128 0.0.0.15

access-list 2 permit 192.168.1.104 0.0.0.7

access-list 2 deny any

line con 0

password bangkok

login

line vty 0 4

login local

transport input ssh

line vty 5 15

login local

transport input ssh

**รูป Ip Route Router BR 1**

A picture containing table

Description automatically generated

**B-SW-1(VLAN)**

* ภายใน Switch นี้ มีVLAN 2 VLANคือ 110, 120 เพื่อแจก DHCP ให้แต่ละ VLAN

**B-SW-1(config)**

hostname B-SW-1

vlan 110

name VLAN-110

vlan 120

name VLAN-120

interface FastEthernet0/1

switchport trunk allowed vlan 110

switchport mode trunk

interface FastEthernet0/2

switchport access vlan 110

switchport mode access

interface FastEthernet0/3

switchport access vlan 120

switchport mode access

interface FastEthernet0/4

switchport access vlan 120

switchport mode access

interface FastEthernet0/5

switchport access vlan 110

switchport mode access

interface FastEthernet0/10

switchport trunk allowed vlan 120

switchport mode trunk

**SW-1VLAN110, SW-2-VLAN110 (VLAN)**

* ภายใน switch สองตัวนี้ได้ทำ access เฉพาะ vlan110 เพื่อที่จะแจก DHCP ให้กับ PC, Printer ในแผนก

**SW-1VLAN110, SW-2VLAN110(config)**

vlan 110

name VLAN-110

interface FastEthernet0/1

switchport access vlan 110

switchport mode access

interface FastEthernet0/2

switchport access vlan 110

switchport mode access

interface FastEthernet0/3

switchport access vlan 110

switchport mode access

interface FastEthernet0/4

switchport access vlan 110

switchport mode access

interface FastEthernet0/5

switchport access vlan 110

switchport mode access

interface FastEthernet0/6

switchport access vlan 110

switchport mode access

**SW-1VLAN120, SW-2-VLAN120 (VLAN)**

* ภายใน switch สองตัวนี้ได้ทำ access เฉพาะ vlan120 เพื่อที่จะแจก DHCP ให้กับ PC, Printer ในแผนก

**SW-1VLAN120, SW-2-VLAN120 (config)**

vlan 120

name VLAN-120

interface FastEthernet0/1

switchport access vlan 120

switchport mode access

interface FastEthernet0/2

switchport access vlan 120

switchport mode access

interface FastEthernet0/3

switchport access vlan 120

switchport mode access

interface FastEthernet0/4

switchport access vlan 120

switchport mode access

interface FastEthernet0/5

switchport access vlan 120

switchport mode access

interface FastEthernet0/6

switchport access vlan 120

switchport mode access

## **Build C**

ตึกนี้เป็นโรงอาหารสวัสดีการของทางโรงพยาบาล โซนนี้จะเป็นการเชื่อมต่อแบบ Wireless

Chart, radar chart

Description automatically generated

**แบ่ง IP ให้ตามแต่ละโซน Building C**

* **โรงอาหาร 12 เครื่อง**

**โดยการแบ่งNetwork ID จะได้ตามตารางนี้**

|  |  |  |  |
| --- | --- | --- | --- |
| **Router Name** | **Interface** | **Network ID** | **IP address** |
| **CR 1** | **S0/1/0** | **192.168.1.144 /30** | **192.168.1.145** |
| **S0/1/1** | **192.168.1.112 /30** | **192.168.1.114** |
| **G0/0/0** | **192.168.1.128 /28** | **192.168.1.129** |

**Router CR 1 (EIGRP, ACL)**

* มีการแจก DHCP ให้กับ PC และมีการทำ Wireless
* Router ตัวนี้ใช้ Routing แบบ EIGRP
* Routerตัวนี้ใช้ Routing แบบ EIGRP
* ตั้งรหัสผ่านเพื่อความปลอดภัย
* เปิดการใช้งาน SSH
* มีการตั้งค่า ACL อณุญาติให้Pingได้ดังนี้

- All in Build C

**Router CR 1(config)**

hostname CR-1

enable secret bangkok

ip dhcp excluded-address 192.168.1.129

ip dhcp pool LAN-POOL-1

network 192.168.1.128 255.255.255.240

default-router 192.168.1.129

dns-server 192.168.1.106

username admin password 0 bangkok

ip ssh version 2

ip domain-name CR-1

interface GigabitEthernet0/0/0

ip address 192.168.1.129 255.255.255.240

ip access-group 1 out

interface Serial0/1/0

ip address 192.168.1.145 255.255.255.252

no sh

interface Serial0/1/1

ip address 192.168.1.114 255.255.255.252

**รูป Ip Route Router CR 1**

Text

Description automatically generated

## **ICT Room**

เป็นห้องไว้สำหรับ Manage ระบบทุกอย่างในองค์กร เอาไว้จัดการปัญหาต่างๆ ของNetwork และเป็นที่เก็บ Web-Server, DNS-Server, Mail-Server

Chart, diagram

Description automatically generated

**แบ่ง IP ให้ตามแต่ละโซน ICT**

* **โรงอาหาร 4 เครื่อง**

**โดยการแบ่งNetwork ID จะได้ตามตารางนี้**

|  |  |  |  |
| --- | --- | --- | --- |
| **Router Name** | **Interface** | **Network ID** | **IP address** |
| **ICR R1** | **S0/1/0** | **192.168.1.112 /30** | **192.168.1.113** |
| **S0/1/1** | **192.168.1.96 /30** | **192.168.1.98** |
| **G0/0/0** | **192.168.1.104 /29** | **192.168.1.105** |

**Router ICR R1 (EIGRP, ACL)**

* Router ตัวนี้ใช้ Routing แบบ EIGRP
* ตั้งรหัสผ่านเพื่อความปลอดภัย
* เปิดการใช้งาน SSH
* มีการตั้งค่า ACL อณุญาติให้Pingได้ดังนี้
* All

**Router ICR R1(config)**

hostname ICT-R-1

enable secret bangkok

ip dhcp excluded-address 192.168.1.105

ip dhcp pool ICT

username admin password bangkok

ip ssh version 2

ip domain-name ICT-R1

interface GigabitEthernet0/0/0

ip address 192.168.1.105 255.255.255.248

no sh

interface Serial0/1/0

ip address 192.168.1.113 255.255.255.252

no sh

interface Serial0/1/1

ip address 192.168.1.98 255.255.255.252

no sh

router eigrp 1

eigrp router-id 6.6.6.6

network 192.168.1.0

line con 0

password bangkok

login

line vty 0 4

login local

transport input ssh

line vty 5 15

login local

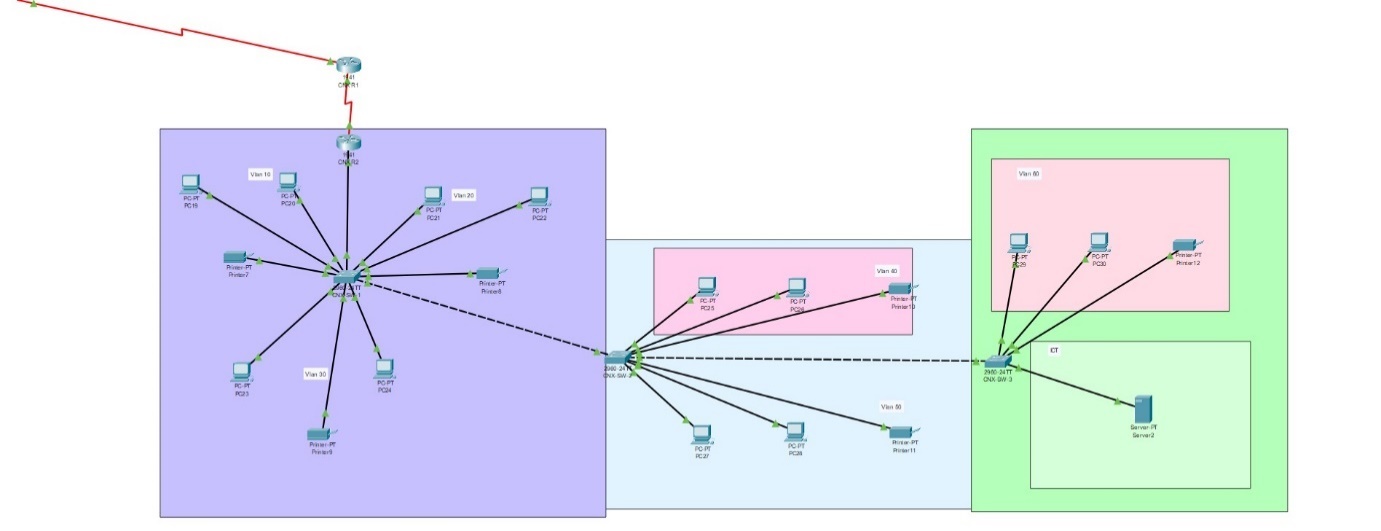
transport input ssh

**รูป Ip Route Router ICR R1**

Text

Description automatically generated

# **ส่วนที่ 2 Chiang Mai**



**แบ่ง IP ให้ตามแต่ละโซน CNX Building A**

* Counter-Service 4 เครื่อง
* ห้องจ่ายยา 4 เครื่อง
* ห้องการเงิน 4 เครื่อง
* ห้องคัดกรอง 4 เครื่อง
* ห้องตรวจโรคทั่วไป 4 เครื่อง
* ห้อง X-ray 4 เครื่อง

**โดยการแบ่งNetwork ID จะได้ตามตารางนี้**

|  |  |  |  |
| --- | --- | --- | --- |
| **Router Name** | **Interface** | **Network ID** | **IP address** |
|  |
| **CNX R1** | **s0/0/0** | **192.168.1.196 /30** | **192.168.1.198** |  |
| **S0/0/1** | **192.168.1.200 /30** | **192.168.1.201** |  |
| **CNX R2** | **S0/0/0** | **192.168.1.200 /30** | **192.168.1.202** |  |
| **G0/0** | **192.168.1.224 /26** | **192.168.1.225** |  |
| **G0/0.10** | **192.168.1.224 /29** | **192.168.1.225** |  |
| **G0/0.20** | **192.168.1.232 /29** | **192.168.1.233** |  |
| **G0/0.30** | **192.168.1.240 /29** | **192.168.1.241** |  |
| **G0/0.40** | **192.168.1.248 /29** | **192.168.1.249** |  |
| **G0/0.50** | **192.168.2.0 /29** | **192.168.2.1** |  |
| **G0/0.60** | **192.168.2.8 /29** | **192.168.2.9** |  |

**Router CNX R1 (RIPv2, Static)**

* CNX R1 Router ตัวนี้ เป็น Router ที่เชื่อมต่อระหว่าง Bangkok เพื่อให้ฝั่ง Bangkok คุยกับฝั่ง Chiang Mai ได้
* Router CNX R1 จะมี Routing Protocol อยู่ 2 Protocols เป็น RIPv2 และ Static Route
* ตั้งรหัสผ่านเพื่อความปลอดภัย
* เปิดการใช้งาน SSH

**Router CNX R1(config)**

hostname CNX-R-1

enable secret CNX

username admin password CNX

ip ssh version 2

ip domain-name BKK-R2

interface Serial0/0/0

ip address 192.168.1.198 255.255.255.252

no sh

interface Serial0/0/1

ip address 192.168.1.201 255.255.255.252

no sh

router rip

version 2

redistribute eigrp 1

redistribute ospf 10

redistribute static

network 192.168.1.0

network 192.168.2.0

no auto-summary

ip classless

ip route 192.168.1.224 255.255.255.248 192.168.1.202

ip route 192.168.1.232 255.255.255.248 192.168.1.202

ip route 192.168.1.240 255.255.255.248 192.168.1.202

ip route 192.168.1.248 255.255.255.248 192.168.1.202

ip route 192.168.2.0 255.255.255.248 192.168.1.202

ip route 192.168.2.8 255.255.255.248 192.168.1.202

ip route 192.168.2.112 255.255.255.252 192.168.1.202

line con 0

password CNX

login

line vty 0 4

login local

transport input ssh

line vty 5 15

login local

transport input ssh

**รูป Ip Route Router CNX R1**

Text

Description automatically generated

**Router CNX R2 (Static, DHCP)**

* Router CNX R2 จะมี Routing เป็นแบบ Static Route
* โดย Router ตัวนี้จะมีการแจก IP DHCP ให้แต่ละ VLAN โดย VLAN ที่มีอยู่ในตึกนี้จะมี VLAN 10, 20, 30, 40, 50, 60
* ตั้งรหัสผ่านเพื่อความปลอดภัย
* เปิดการใช้งาน SSH

**Router CNX R2 (config)**

hostname CNX-R-2

enable secret CNX

ip dhcp excluded-address 192.168.1.225

ip dhcp excluded-address 192.168.1.233

ip dhcp excluded-address 192.168.1.241

ip dhcp excluded-address 192.168.1.249

ip dhcp excluded-address 192.168.2.1

ip dhcp excluded-address 192.168.2.9

ip dhcp pool LAN-VLAN-1

network 192.168.1.224 255.255.255.248

default-router 192.168.1.225

dns-server 192.168.1.106

ip dhcp pool LAN-VLAN-2

network 192.168.1.232 255.255.255.248

default-router 192.168.1.233

dns-server 192.168.1.106

ip dhcp pool LAN-VLAN-3

network 192.168.1.240 255.255.255.248

default-router 192.168.1.241

dns-server 192.168.1.106

ip dhcp pool LAN-VLAN-4

network 192.168.1.248 255.255.255.248

default-router 192.168.1.249

dns-server 192.168.1.106

ip dhcp pool LAN-VLAN-5

network 192.168.2.0 255.255.255.248

default-router 192.168.2.1

dns-server 192.168.1.106

ip dhcp pool LAN-VLAN-6

network 192.168.2.8 255.255.255.248

default-router 192.168.2.9

dns-server 192.168.1.106

username admin password 0 CNX

ip ssh version 2

ip domain-name BKK-R2

interface GigabitEthernet0/0

ip address 192.168.2.113 255.255.255.252

interface GigabitEthernet0/0.10

encapsulation dot1Q 10

ip address 192.168.1.225 255.255.255.248

interface GigabitEthernet0/0.20

encapsulation dot1Q 20

ip address 192.168.1.233 255.255.255.248

interface GigabitEthernet0/0.30

encapsulation dot1Q 30

ip address 192.168.1.241 255.255.255.248

interface GigabitEthernet0/0.40

encapsulation dot1Q 40

ip address 192.168.1.249 255.255.255.248

interface GigabitEthernet0/0.50

encapsulation dot1Q 50

ip address 192.168.2.1 255.255.255.248

interface GigabitEthernet0/0.60

encapsulation dot1Q 60

ip address 192.168.2.9 255.255.255.248

no sh

interface Serial0/0/0

ip address 192.168.1.202 255.255.255.252

no sh

ip classless

ip route 192.168.1.196 255.255.255.252 192.168.1.201

ip route 0.0.0.0 0.0.0.0 Serial0/0/0

ip route 0.0.0.0 0.0.0.0 Serial0/0/1

line con 0

password CNX

login

line vty 0 4

login local

transport input ssh

line vty 5 15

login local

transport input ssh

**รูป Ip Route Router CNX R2**

Text, table

Description automatically generated

**CNX-SW-1 (INTER-VLAN, VTP)**

* Switch ตัวนี้มีการทำ VTP บน Inter VLAN Switch ตัวนี้เป็น VTP mode server โดยการตั้งค่า VLAN ทั้งหมดจะถูกตั้งค่าใน CNX-SW-1 และ ส่ง VLAN ไปยัง CNX-SW-2, CNX-SW-3

**CNX-SW-1(config)**

hostname CNX-SW-1

vtp version 2

vtp mode server

vtp domain CNX

vtp password 123456789

interface FastEthernet0/1

switchport mode trunk

interface FastEthernet0/2

switchport access vlan 10

switchport mode access

interface FastEthernet0/3

switchport access vlan 10

switchport mode access

interface FastEthernet0/4

switchport access vlan 10

switchport mode access

interface FastEthernet0/5

switchport access vlan 20

switchport mode access

interface FastEthernet0/6

switchport access vlan 20

switchport mode access

interface FastEthernet0/7

switchport access vlan 20

switchport mode access

interface FastEthernet0/8

switchport access vlan 30

switchport mode access

interface FastEthernet0/9

switchport access vlan 30

switchport mode access

interface FastEthernet0/10

switchport access vlan 30

switchport mode access

**CNX-SW-2, CNX-SW-3**

* Switch 2 ตัวนี้เป็น VTP mode client

**CNX-SW-2**

hostname CNX-SW-2

vtp version 2

vtp mode client

vtp domain CNX

vtp password 123456789

interface FastEthernet0/1

switchport mode trunk

interface FastEthernet0/2

switchport access vlan 40

switchport mode access

interface FastEthernet0/3

switchport access vlan 40

switchport mode access

interface FastEthernet0/4

switchport access vlan 40

switchport mode access

interface FastEthernet0/5

switchport access vlan 50

switchport mode access

interface FastEthernet0/6

switchport access vlan 50

switchport mode access

interface FastEthernet0/7

switchport access vlan 50

switchport mode access

**CNX-SW-2**

vtp version 2

vtp mode client

vtp domain CNX

vtp password 123456789

hostname CNX-SW-3

interface FastEthernet0/1

switchport mode trunk

interface FastEthernet0/2

switchport access vlan 60

switchport mode access

interface FastEthernet0/3

switchport access vlan 60

switchport mode access

interface FastEthernet0/4

switchport access vlan 60

switchport mode access

# **ส่วนที่ 3 Pattani**

Diagram

Description automatically generated

|  |  |  |  |
| --- | --- | --- | --- |
| **Router Name** | **Interface** | **Network ID** | **IP address** |
|  |
| **PTN R1** | **S0/0/0** | **192.168.2.16 /30** | **192.168.2.18** |  |
| **S0/0/1** | **192.168.2.28 /30** | **192.168.2.29** |  |
| **PTN R2** | **S0/0/0** | **192.168.2.20 /30** | **192.168.2.22** |  |
| **S0/0/1** | **192.168.2.24 /30** | **192.168.2.25** |  |

**PTN R1 (OSPF, EIGRP, RIPv2)**

* Router ตัวนี้ เป็น Router ที่เชื่อมต่อกับ Bangkok เพื่อให้ฝั่ง Pattani คุยกับฝั่ง Bangkok ได้
* Router PTN R1 จะมี Routing Protocol อยู่ 3 Protocols โดยมี EIGRP, OSPF และ RIPv2

**PTN R1(config)**

hostname PTN-R-1

enable secret pattani

username admin password 0 pattani

ip ssh version 2

ip domain-name BKK-R2

crypto key generate

interface Serial0/0/0

ip address 192.168.2.18 255.255.255.252

no shutdown

interface Serial0/0/1

ip address 192.168.2.29 255.255.255.252

no shutdown

router eigrp 1

redistribute rip

router ospf 10

router-id 1.1.1.1

log-adjacency-changes

redistribute rip

network 192.168.2.16 0.0.0.3 area 0

network 192.168.2.28 0.0.0.3 area 0

router rip

version 2

redistribute eigrp 1

redistribute ospf 10

network 192.168.2.0

line con 0

password pattani

login

line vty 0 4

login local

transport input ssh

line vty 5 15

login local

transport input ssh

**รูป Ip Route PTN R1**

Text

Description automatically generated

**PTN R2 (OSPF)**

* Router PTN R2 จะมี Routing Protocol อยู่ 1 Protocols เป็น OSPF
* Router ตัวนี้ เป็น Router ที่เชื่อมต่อกับ Bangkok เพื่อให้ฝั่ง Pattani คุยกับฝั่ง Bangkok ได้

**PTN R2(config)**

hostname PTN-R-2

crypto key generate 1024

enable secret pattani

username admin password pattani

ip ssh version 2

ip domain-name BKK-R2

interface Serial0/0/0

ip address 192.168.2.22 255.255.255.252

no shutdown

interface Serial0/0/1

ip address 192.168.2.25 255.255.255.252

no shutdown

router ospf 10

router-id 2.2.2.2

log-adjacency-changes

network 192.168.2.20 0.0.0.3 area 0

network 192.168.2.24 0.0.0.3 area 0

line con 0

password pattani

login

line vty 0 4

login local

transport input ssh

line vty 5 15

login local

transport input ssh

**รูป Ip Route PTN R2**

Text

Description automatically generated

## **Building A PTN**

Diagram

Description automatically generated

**แบ่ง IP ให้ตามแต่ละโซน Pattani Building A**

* Counter-Service 4 เครื่อง
* ห้องจ่ายยา 4 เครื่อง
* ห้องการเงิน 4 เครื่อง

**โดยการแบ่งNetwork ID จะได้ตามตารางนี้**

|  |  |  |  |
| --- | --- | --- | --- |
| **Router Name** | **Interface** | **Network ID** | **IP address** |
| **PTN R3** | **S0/0/0** | **192.168.2.28 /30** | **192.168.2.30** |
| **S0/0/1** | **192.168.2.32 /30** | **192.168.2.33** |
| **G0/0** | **192.168.2.64 /27** | **192.168.2.65** |
| **G0/0.10** | **192.168.2.64 /29** | **192.168.2.65** |
| **G0/0.20** | **192.168.2.72 /29** | **192.168.2.73** |
| **G0/0.30** | **192.168.2.80 /29** | **192.168.2.81** |

**Router PTN R3 (OSPF, ACL, DHCP)**

-จะมีการแจก DHCP ให้แต่ละ VLAN

-Router ตัวนี้ใช้ Routing Protocols เป็น OSPF

-มีการตั้งค่า ACL ดังนี้

**Counter-Service(vlan10)**

-All in Building

-All Counter-Service

**Finance(vlan20)**

-Pharmacy(Vlan30)

-Counter-service(vlan10)

**Pharmacy(Vlan30)**

-Finance(vlan20)

-Examination(vlan50)

-Counter-service(vlan10)

**Router PTN R3 (config)**

hostname PTN-R-3

enable secret pattani

ip dhcp excluded-address 192.168.2.65

ip dhcp excluded-address 192.168.2.72

ip dhcp excluded-address 192.168.2.81

ip dhcp pool VLAN-1

network 192.168.2.64 255.255.255.248

default-router 192.168.2.65

dns-server 192.168.1.106

ip dhcp pool VLAN-2

network 192.168.2.72 255.255.255.248

default-router 192.168.2.73

dns-server 192.168.1.106

ip dhcp pool VLAN-3

network 192.168.2.80 255.255.255.248

default-router 192.168.2.81

dns-server 192.168.1.106

username admin password pattani

ip ssh version 2

ip domain-name BKK-R2

interface GigabitEthernet0/0.10

encapsulation dot1Q 10

ip address 192.168.2.65 255.255.255.248

ip access-group 1 out

interface GigabitEthernet0/0.20

encapsulation dot1Q 20

ip address 192.168.2.73 255.255.255.248

ip access-group 2 out

interface GigabitEthernet0/0.30

encapsulation dot1Q 30

ip address 192.168.2.81 255.255.255.248

ip access-group 3 out

interface Serial0/0/0

ip address 192.168.2.30 255.255.255.252

interface Serial0/0/1

ip address 192.168.2.33 255.255.255.252

no shutdown

router ospf 10

router-id 3.3.3.3

log-adjacency-changes

network 192.168.2.28 0.0.0.3 area 0

network 192.168.2.32 0.0.0.3 area 0

network 192.168.2.64 0.0.0.7 area 0

network 192.168.2.72 0.0.0.7 area 0

network 192.168.2.80 0.0.0.7 area 0

access-list 2 permit 10.10.10.0 0.0.0.3

access-list 2 permit 192.168.2.16 0.0.0.3

access-list 2 permit 192.168.2.28 0.0.0.3

access-list 2 permit 192.168.2.20 0.0.0.3

access-list 2 permit 192.168.2.24 0.0.0.3

access-list 2 permit 192.168.2.32 0.0.0.3

access-list 2 permit 192.168.2.64 0.0.0.7

access-list 2 permit 192.168.2.72 0.0.0.7

access-list 2 permit 192.168.2.80 0.0.0.7

access-list 2 permit 192.168.1.104 0.0.0.7

access-list 2 permit 192.168.2.116 0.0.0.3

access-list 2 deny any

access-list 1 permit 10.10.10.0 0.0.0.3

access-list 1 permit 192.168.2.16 0.0.0.3

access-list 1 permit 192.168.2.28 0.0.0.3

access-list 1 permit 192.168.2.20 0.0.0.3

access-list 1 permit 192.168.2.24 0.0.0.3

access-list 1 permit 192.168.2.32 0.0.0.3

access-list 1 permit 192.168.2.64 0.0.0.7

access-list 1 permit 192.168.2.72 0.0.0.7

access-list 1 permit 192.168.2.80 0.0.0.7

access-list 1 permit 192.168.2.96 0.0.0.7

access-list 1 permit 192.168.1.104 0.0.0.7

access-list 1 permit 192.168.1.16 0.0.0.7

access-list 1 permit 192.168.2.116 0.0.0.3

access-list 1 permit 192.168.2.104 0.0.0.7

access-list 1 deny any

access-list 3 permit 10.10.10.0 0.0.0.3

access-list 3 permit 192.168.2.16 0.0.0.3

access-list 3 permit 192.168.2.28 0.0.0.3

access-list 3 permit 192.168.2.20 0.0.0.3

access-list 3 permit 192.168.2.24 0.0.0.3

access-list 3 permit 192.168.2.32 0.0.0.3

access-list 3 permit 192.168.2.64 0.0.0.7

access-list 3 permit 192.168.2.72 0.0.0.7

access-list 3 permit 192.168.2.96 0.0.0.7

access-list 3 permit 192.168.1.104 0.0.0.7

access-list 3 permit 192.168.2.104 0.0.0.7

access-list 3 permit 192.168.2.116 0.0.0.3

access-list 3 deny any

line con 0

password pattani

login

line vty 0 4

login local

transport input ssh

line vty 5 15

login local

transport input ssh

**รูป Ip Route PNN R3**

Text

Description automatically generated

## **Building B**

A picture containing text, accessory, umbrella

Description automatically generated

**แบ่ง IP ให้ตามแต่ละโซน Pattani Building B**

* ห้องซักประวัติ 4 เครื่อง
* ห้องตรวจโรค 4 เครื่อง

**โดยการแบ่งNetwork ID จะได้ตามตารางนี้**

|  |  |  |  |
| --- | --- | --- | --- |
| **Router Name** | **Interface** | **Network ID** | **IP address** |
| **PTN R4** | **S0/0/0** | **192.168.2.24 /30** | **192.168.2.26** |
| **S0/0/1** | **192.168.2.32/30** | **192.168.2.34** |
| **G0/0** | **192.168.2.96 /28** | **192.168.2.97** |
| **G0/0.40** | **192.168.2.96 /29** | **192.168.2.97** |
| **G0/0.50** | **192.168.2.104 /29** | **192.168.2.105** |
| **G0/0** | **192.168.2.116 /30** | **192.168.2.117** |

**Router PTN R4 (OSPF, ACL, DHCP)**

-จะมีการแจก DHCP ให้แต่ละ VLAN

-Router ตัวนี้ใช้ Routing Protocols เป็น OSPF

-มีการตั้งค่า ACL ดังนี้

**Screening Room(vlan40)**

-Examination(vlan50)

-Counter-service(vlan10)

**Examination(vlan50)**

-Screening Room(vlan40)

-Pharmacy(Vlan30)

-Counter-service(vlan10)

**Router PTN R4(config)**

hostname PTN-R-4

enable secret 5 pattani

ip dhcp excluded-address 192.168.2.105

ip dhcp excluded-address 192.168.2.97

ip dhcp pool LAN-2

network 192.168.2.104 255.255.255.248

default-router 192.168.2.105

dns-server 192.168.1.106

ip dhcp pool LAN-1

network 192.168.2.96 255.255.255.248

default-router 192.168.2.97

dns-server 192.168.1.106

username admin password 0 pattani

ip ssh version 2

ip domain-name BKK-R2

interface GigabitEthernet0/0

ip address 192.168.2.117 255.255.255.252

no sh

interface GigabitEthernet0/0.40

encapsulation dot1Q 40

ip address 192.168.2.97 255.255.255.248

ip access-group 4 out

interface GigabitEthernet0/0.50

encapsulation dot1Q 50

ip address 192.168.2.105 255.255.255.248

ip access-group 5 out

interface Serial0/0/0

ip address 192.168.2.26 255.255.255.252

interface Serial0/0/1

ip address 192.168.2.34 255.255.255.252

router ospf 10

router-id 4.4.4.4

log-adjacency-changes

network 192.168.2.24 0.0.0.3 area 0

network 192.168.2.32 0.0.0.3 area 0

network 192.168.2.96 0.0.0.7 area 0

network 192.168.2.104 0.0.0.7 area 0

network 192.168.2.116 0.0.0.3 area 0

access-list 5 permit 10.10.10.0 0.0.0.3

access-list 5 permit 192.168.2.16 0.0.0.3

access-list 5 permit 192.168.2.28 0.0.0.3

access-list 5 permit 192.168.2.20 0.0.0.3

access-list 5 permit 192.168.2.24 0.0.0.3

access-list 5 permit 192.168.2.32 0.0.0.3

access-list 5 permit 192.168.2.64 0.0.0.7

access-list 5 permit 192.168.2.80 0.0.0.7

access-list 5 permit 192.168.2.96 0.0.0.7

access-list 5 permit 192.168.1.104 0.0.0.7

access-list 5 permit 192.168.2.116 0.0.0.3

access-list 5 deny any

access-list 4 permit 10.10.10.0 0.0.0.3

access-list 4 permit 192.168.2.16 0.0.0.3

access-list 4 permit 192.168.2.28 0.0.0.3

access-list 4 permit 192.168.2.20 0.0.0.3

access-list 4 permit 192.168.2.24 0.0.0.3

access-list 4 permit 192.168.2.32 0.0.0.3

access-list 4 permit 192.168.2.64 0.0.0.7

access-list 4 permit 192.168.2.96 0.0.0.7

access-list 4 permit 192.168.1.104 0.0.0.7

access-list 4 permit 192.168.2.104 0.0.0.7

access-list 4 permit 192.168.2.116 0.0.0.3

access-list 4 deny any

line con 0

password pattani

login

line vty 0 4

login local

transport input ssh

line vty 5 15

login local

transport input ssh

**รูป Ip Route PTN R4**

Text

Description automatically generated



**PTN-SW-1 (INTER VLAN)**

Switch ตัวนี้จะทำการกระจาย DHCP ให้กับ Device ต่างๆในตึก

**PTN-SW-1 (config)**

hostname PTN-SW-1

interface FastEthernet0/1

switchport mode trunk

interface FastEthernet0/2

switchport access vlan 10

switchport mode access

interface FastEthernet0/3

switchport access vlan 10

switchport mode access

interface FastEthernet0/4

switchport access vlan 10

switchport mode access

interface FastEthernet0/5

switchport access vlan 20

switchport mode access

interface FastEthernet0/6

switchport access vlan 20

switchport mode access

interface FastEthernet0/7

switchport access vlan 20

switchport mode access

interface FastEthernet0/8

switchport access vlan 30

switchport mode access

interface FastEthernet0/9

switchport access vlan 30

switchport mode access

interface FastEthernet0/10

switchport access vlan 30

switchport mode access

**PTN-SW-2 (INTER VLAN)**

Switch ตัวนี้จะทำการกระจาย DHCP ให้กับ Device ต่างๆในตึก

**PTN-SW-2 (config)**

hostname PTN-SW-2

interface FastEthernet0/1

switchport mode trunk

interface FastEthernet0/2

switchport access vlan 40

switchport mode access

interface FastEthernet0/3

switchport access vlan 40

switchport mode access

interface FastEthernet0/4

switchport access vlan 50

switchport mode access

interface FastEthernet0/5

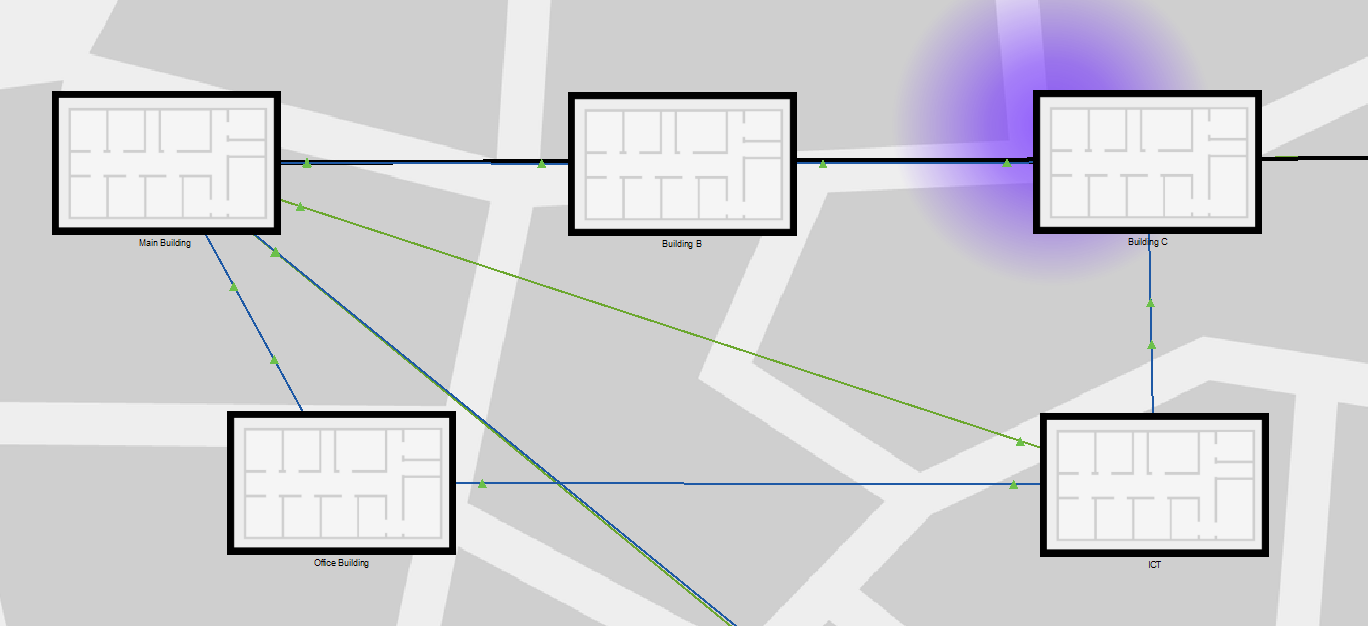
switchport access vlan 50

switchport mode access

# **Physical View**

A picture containing timeline

Description automatically generated

**Bangkok**

**Pattani**

Diagram

Description automatically generated with medium confidence

**Chiang Mai**

Shape, rectangle

Description automatically generated

# **3.เนื้อหาส่วนที่เพิ่มเติม**

กลุ่มผมได้ทำการเพิ่มในส่วนที่เพิ่มเติมอยู่ 4 อย่าง

* DNS
* Web-Server
* Email
* Wireless

## **3.1 DNS (Domain Name Server)**

DNS คือการนำ ชื่อเว็ปไปเป็น Ip เช่น [www.Rockclinic.com](http://www.Rockclinic.com) แปลงเป็น 192.168.1.107

**วิธีการสร้าง**

1.เลือกตัว service ของ server คลิกไปที่ DNS

Graphical user interface, application

Description automatically generated

2.กรอกชื่อเว็ปลงไป และ กรอก ip ที่ต้องการแปลงจากชื่อไปเป็น ip แล้วกด add

Graphical user interface, application

Description automatically generated

แค่นี้ก็เสร็จแล้วครับ

มาเทสกัน!!!!

Graphical user interface, application

Description automatically generated

## **3.2 Web-Server**

Web-server จะเป็นเว็บไซต์ของโรงพยาบาล

วิธีการสร้าง

1.คลิกที่ service แล้วเปิด HTTPและHTTPS เป็น on

Graphical user interface

Description automatically generated

## **3.3 Email**

วิธีสร้าง

1.คลิกที่ service และเลือก Email เปิด On SMTP และ เปิด On POP3 Service

โดย SMTP จะเป็นserviceฝั่งรับข้อความ POP 3 จะเป็นฝั่งส่ง

Graphical user interface, application

Description automatically generated

## **3.4 Wireless**

วิธีสร้าง

1.คลิก Ap ออกมา เลือก Port1 ตั้งชื่อ SSID ตั้งรหัสผ่าน

Graphical user interface, application

Description automatically generated

ทดลองเชื่อมต่อ

Graphical user interface, text, application

Description automatically generated

Diagram

Description automatically generated-

สำเร็จครับ