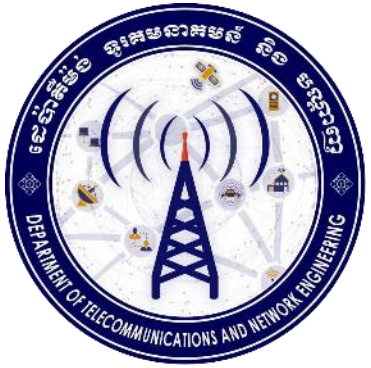
Institute of Technology

of Cambodia



Department of Telecommunication

and Network Engineering

Express Delivery

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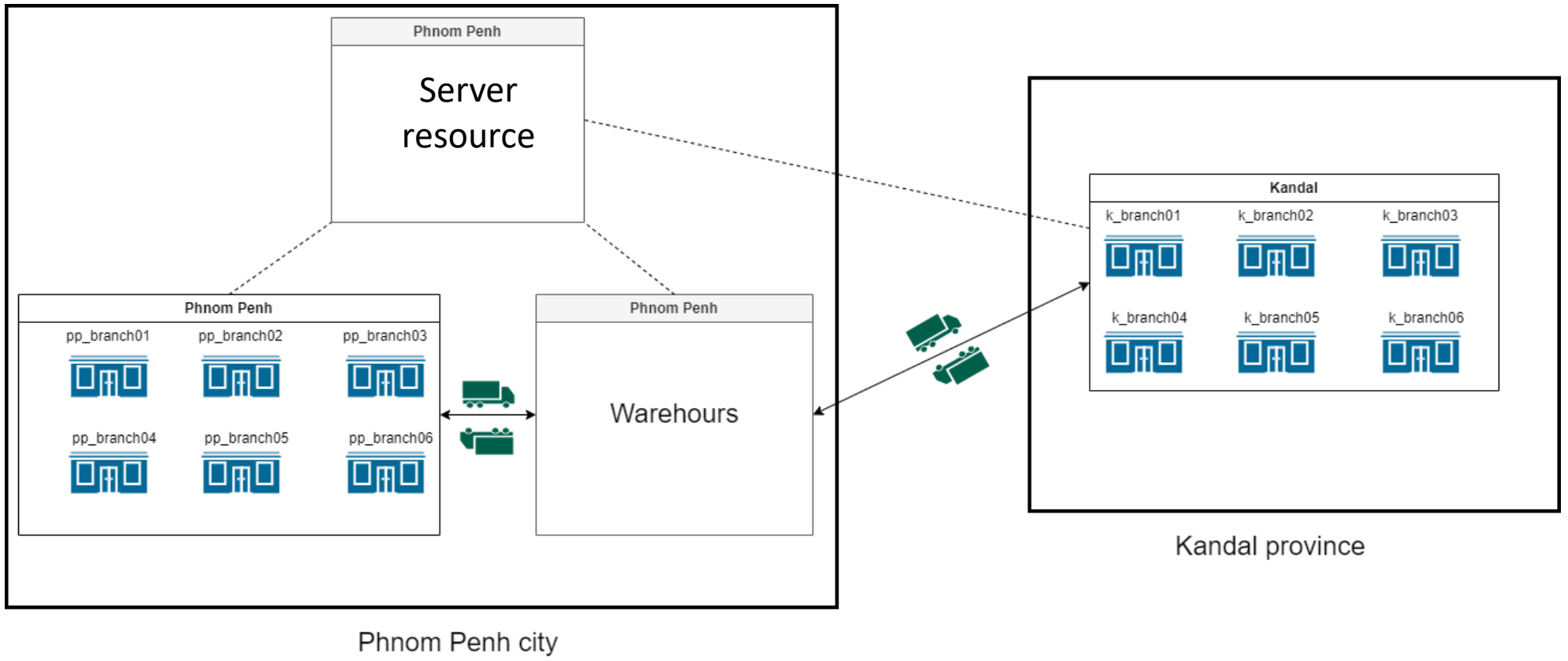
Outline

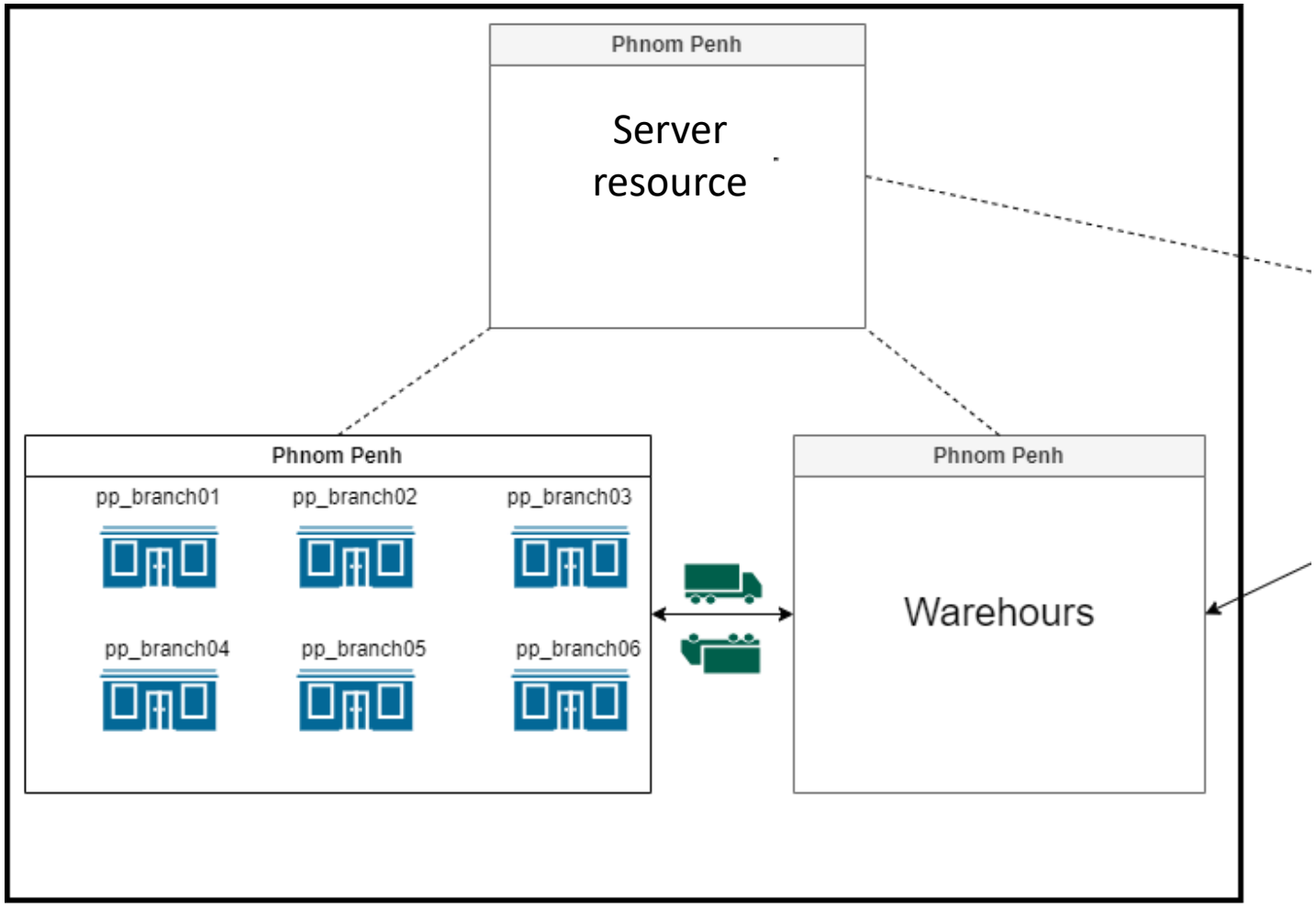
1. Introduction
2. List of components
3. IP Address
4. Logical network topology
5. Service of Server

Introduction

Express delivery is the company to serve delivery service to the customer. To achieve this requirement we are going to build network for Main office, warehouse and branch.

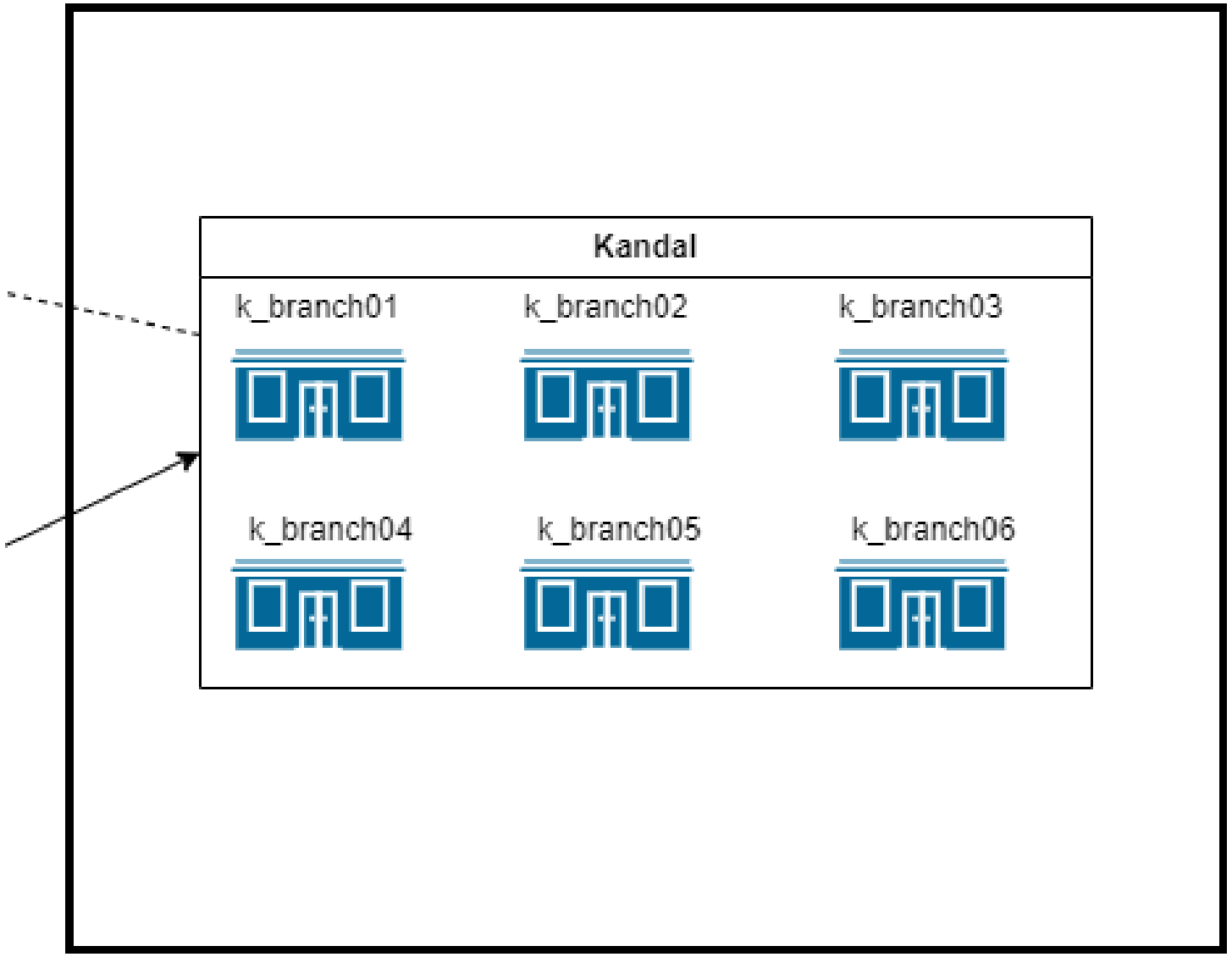


Introduction



Phnom Penh city

Introduction



Kandal province

List of components

Headquarter

Components	Quantity
End devices	
Personal computer (PC)	8
Laptop	2
Printer	1
Network devices	
Server	1
Switch	3
router	1

Branch office

Components	Quantity
End devices	
Personal computer (PC)	8
Laptop	2
Printer	3
Network devices	
Switch	3
router	1

Warehouse

Components	Quantity
End devices	
Personal computer (PC)	5
Laptop	2
Printer	2
Network devices	
Switch	3
router	1

IP Address

Branch office

192.168.10.0/24			
VLAN ID	IP Address	Subnet mask	Gateway
VLAN 10	192.168.10.0	255.255.255.224	192.168.10.1
VLAN 20	192.168.10.32	255.255.255.224	192.168.10.33
VLAN 30	192.168.10.64	255.255.255.224	192.168.10.65

warehouse

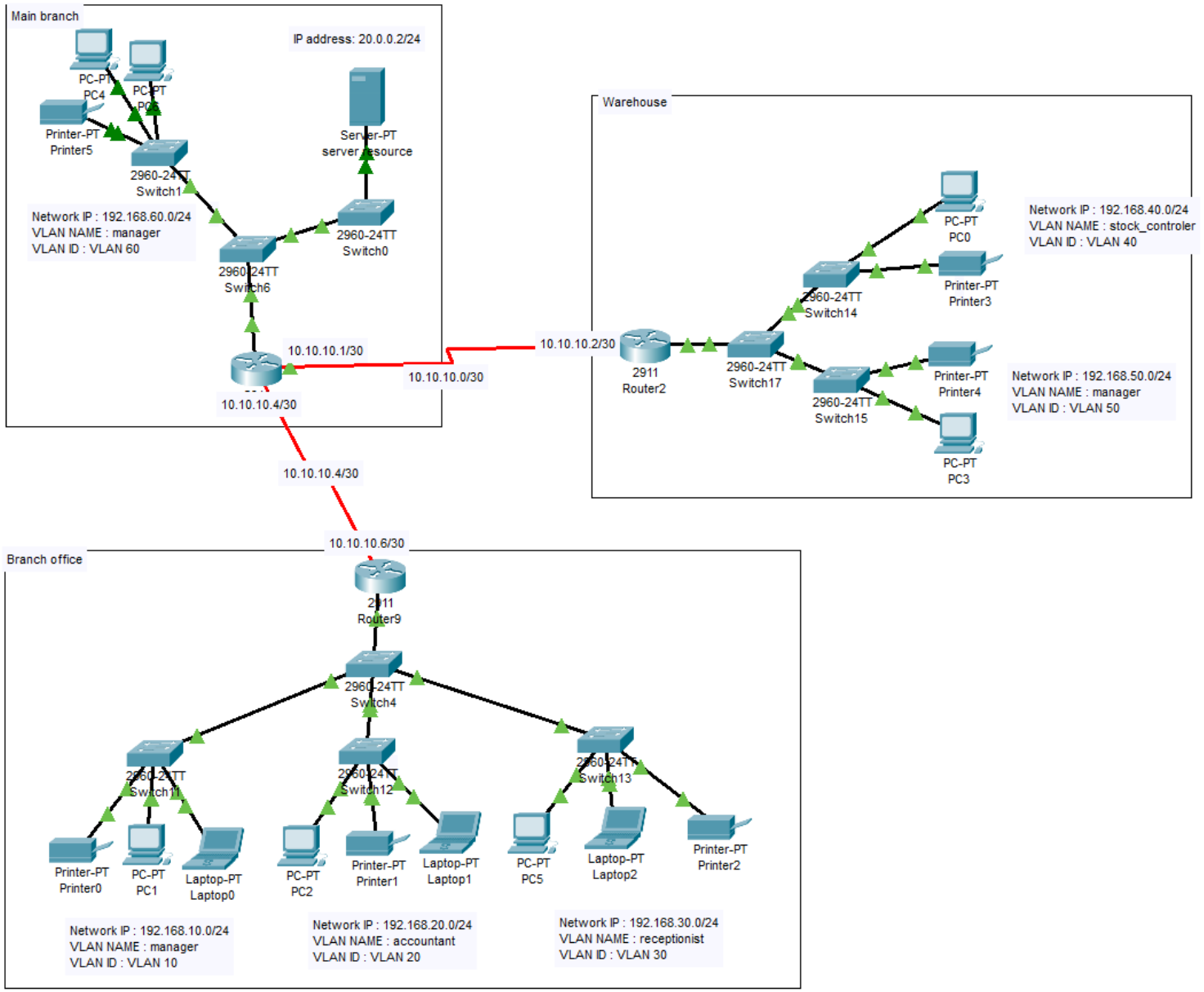
192.168.20.0/24			
VLAN ID	IP Address	Subnet mask	Gateway
VLAN 40	192.168.20.0	255.255.255.224	192.168.20.1
VLAN 50	192.168.20.32	255.255.255.224	192.168.20.33

Head office

192.168.30.0/24			
VLAN ID	IP Address	Subnet mask	Gateway
VLAN 60	192.168.30.0	255.255.255.224	192.168.30.1

Network logical topology

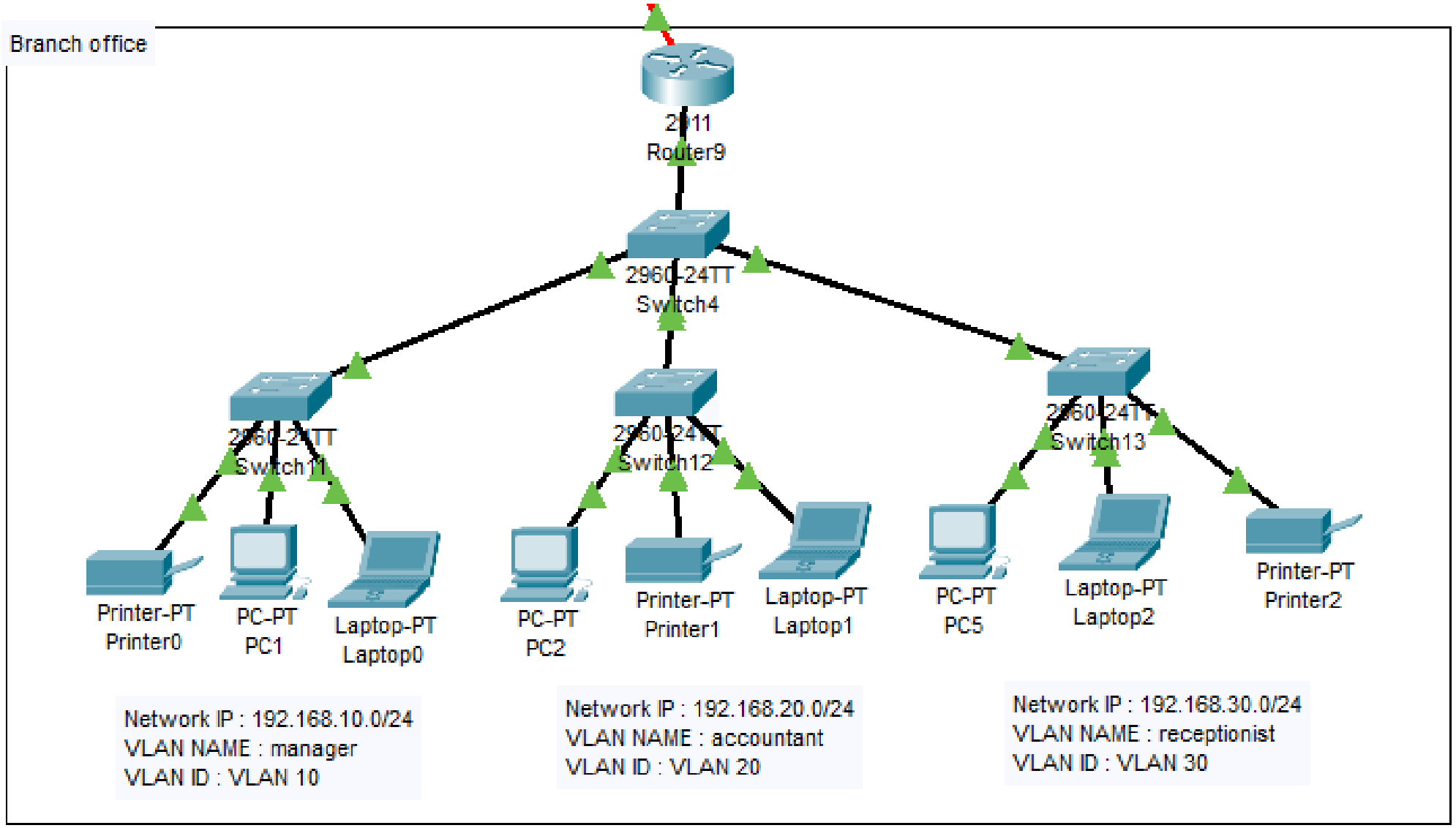
- Routing protocol : Routing Information Protocol (RIP)
- User serial port for direct connect from one router to another router.



Network logical topology

Branch office

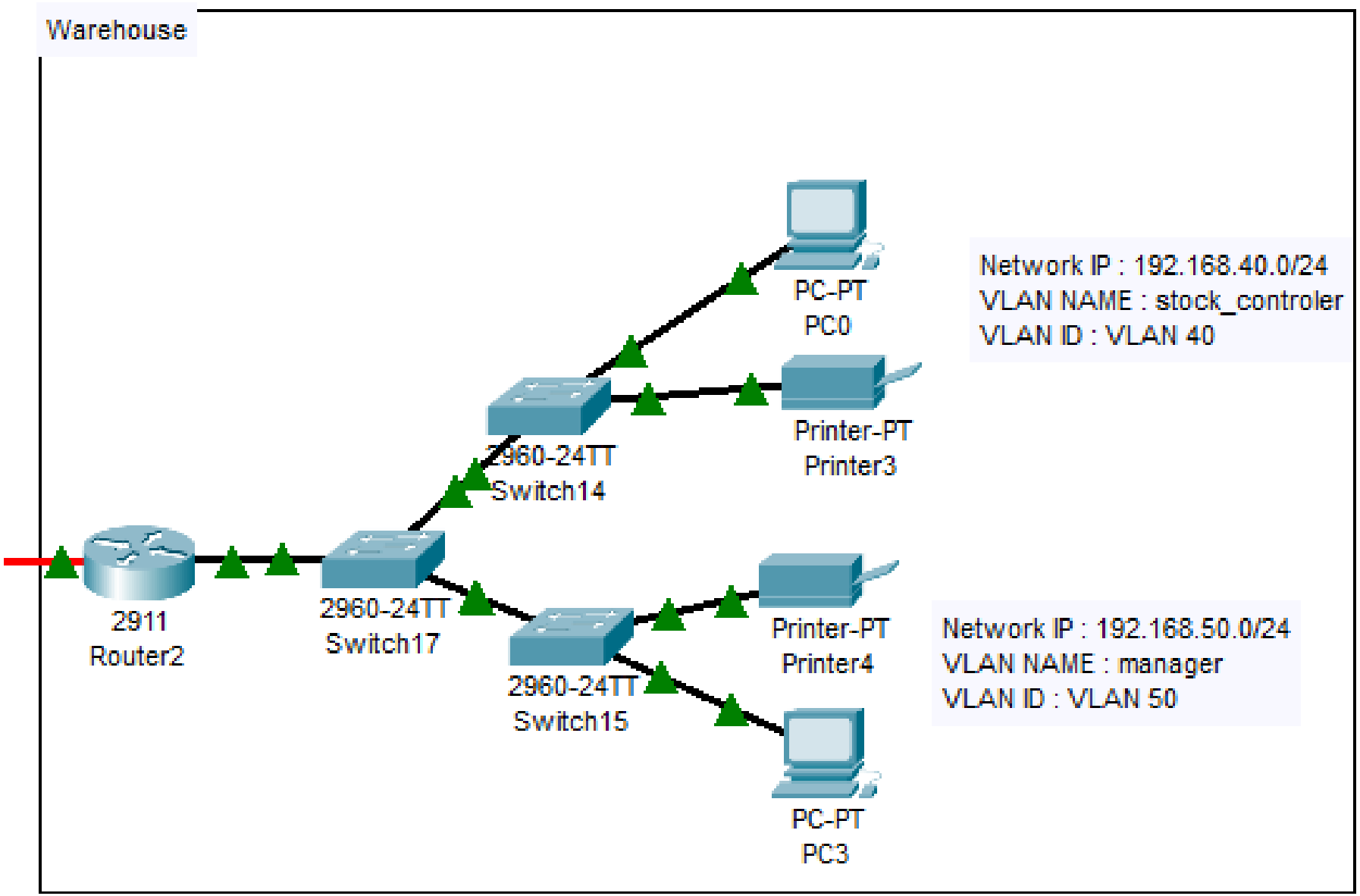
- Each VLAN dynamically assigned IP from router. Because router can work as DHCP server
- We use sub-interface in router to make a connection from VLAN to foreign network. For example when we need to access to the server at the Headquarter



Network logical topology

Warehouse office

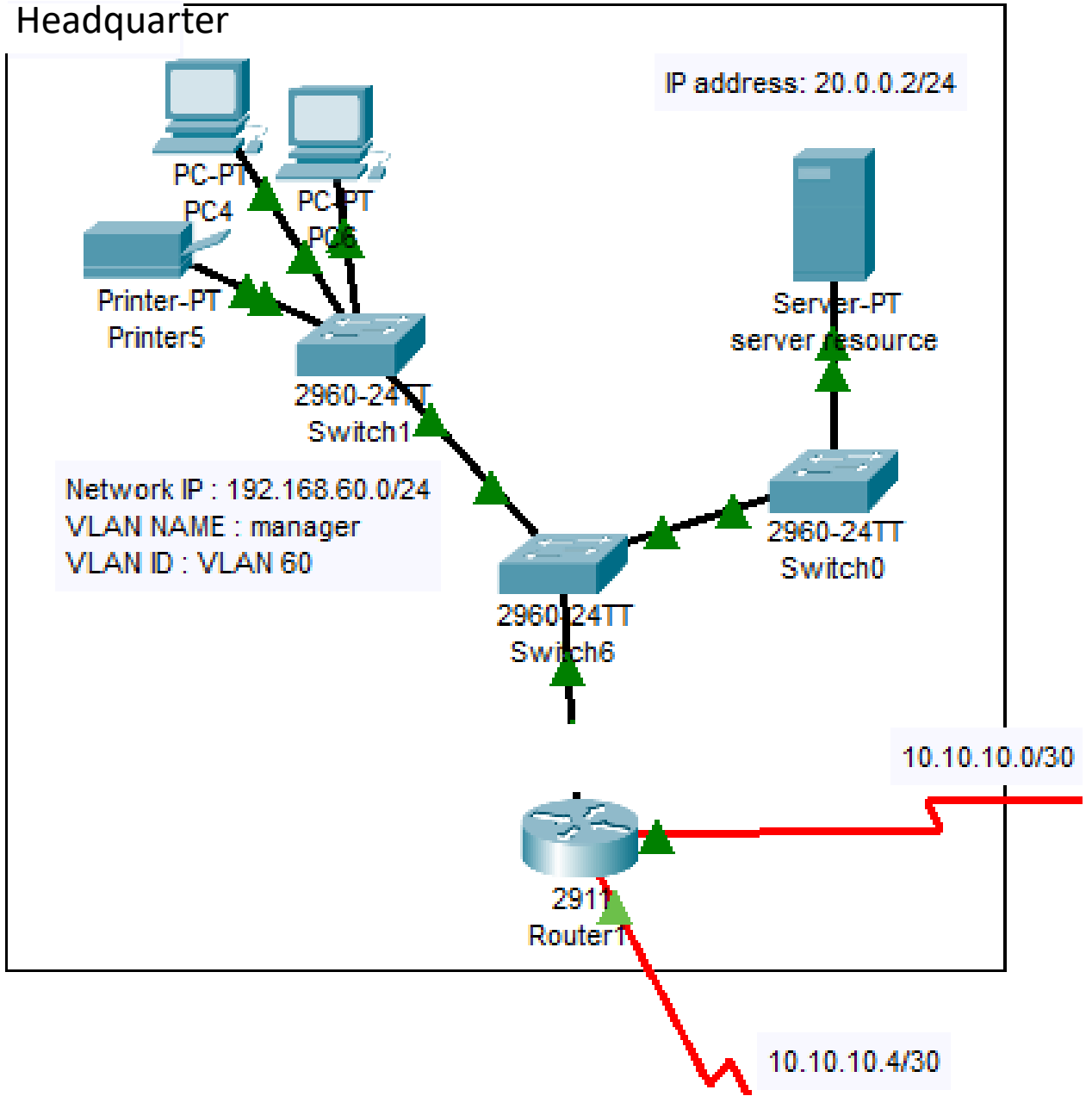
- Each VLAN dynamically assigned IP from router. Because router can work as DHCP server
- We use sub-interface in router to make a connection from VLAN to foreign network. For example when we need to access to the server at the Headquarter



Network logical topology

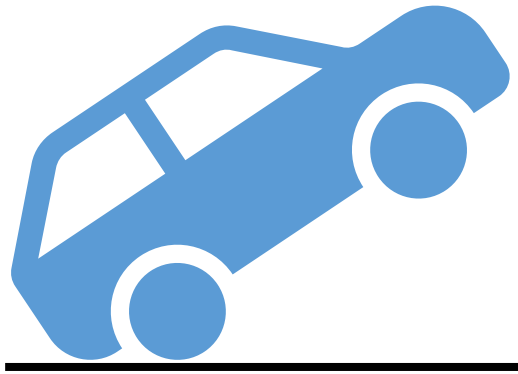
Headquarter

- For the VLAN 60 we create it by central switch and user router as DHCP for dynamically assigned IP to the end devices
- We use sub-interface in router to make a connection from VLAN 60 to foreign network. For example when we need to access to the server at the Headquarter



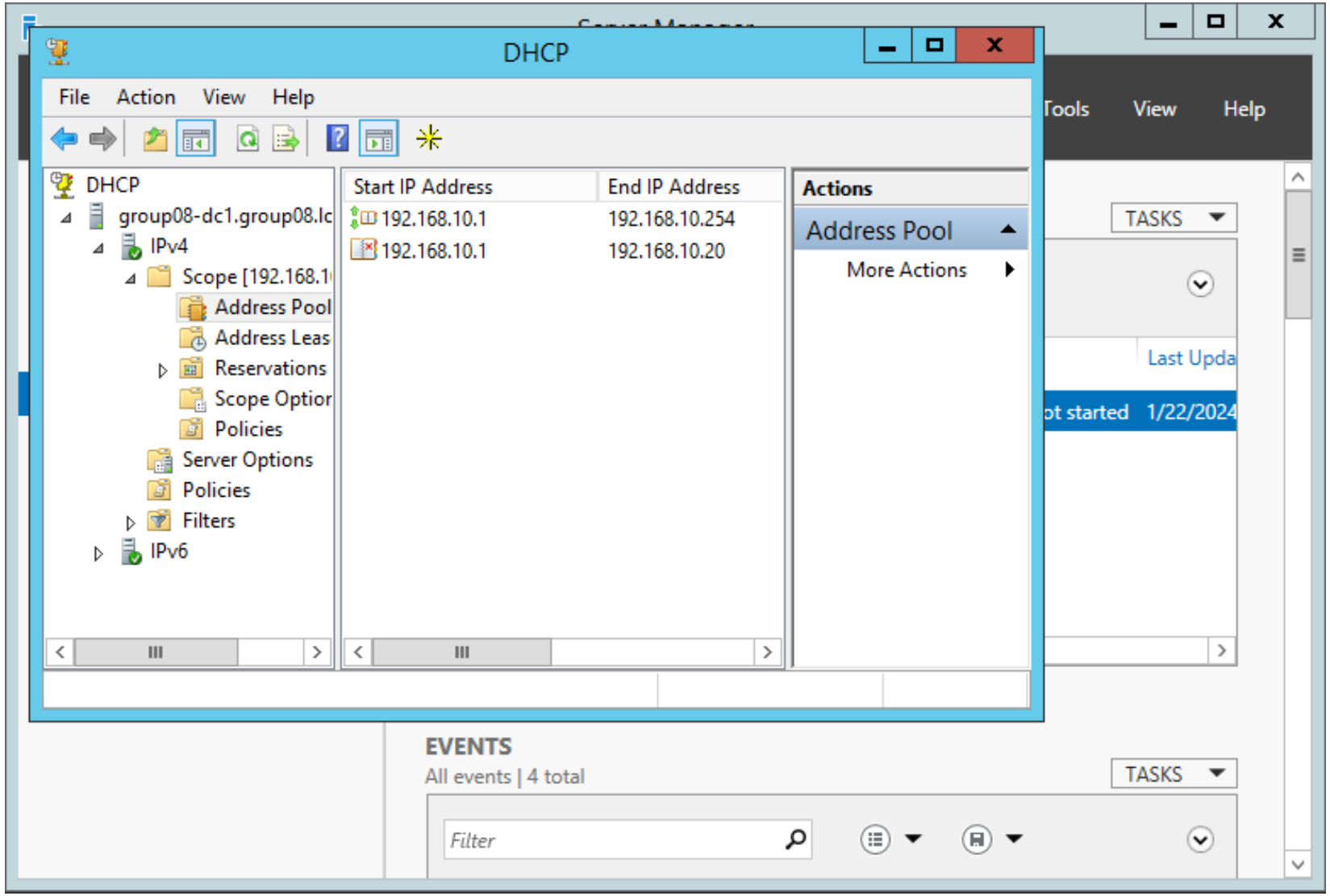
Demo (1)

Let’s go into our virtual environment



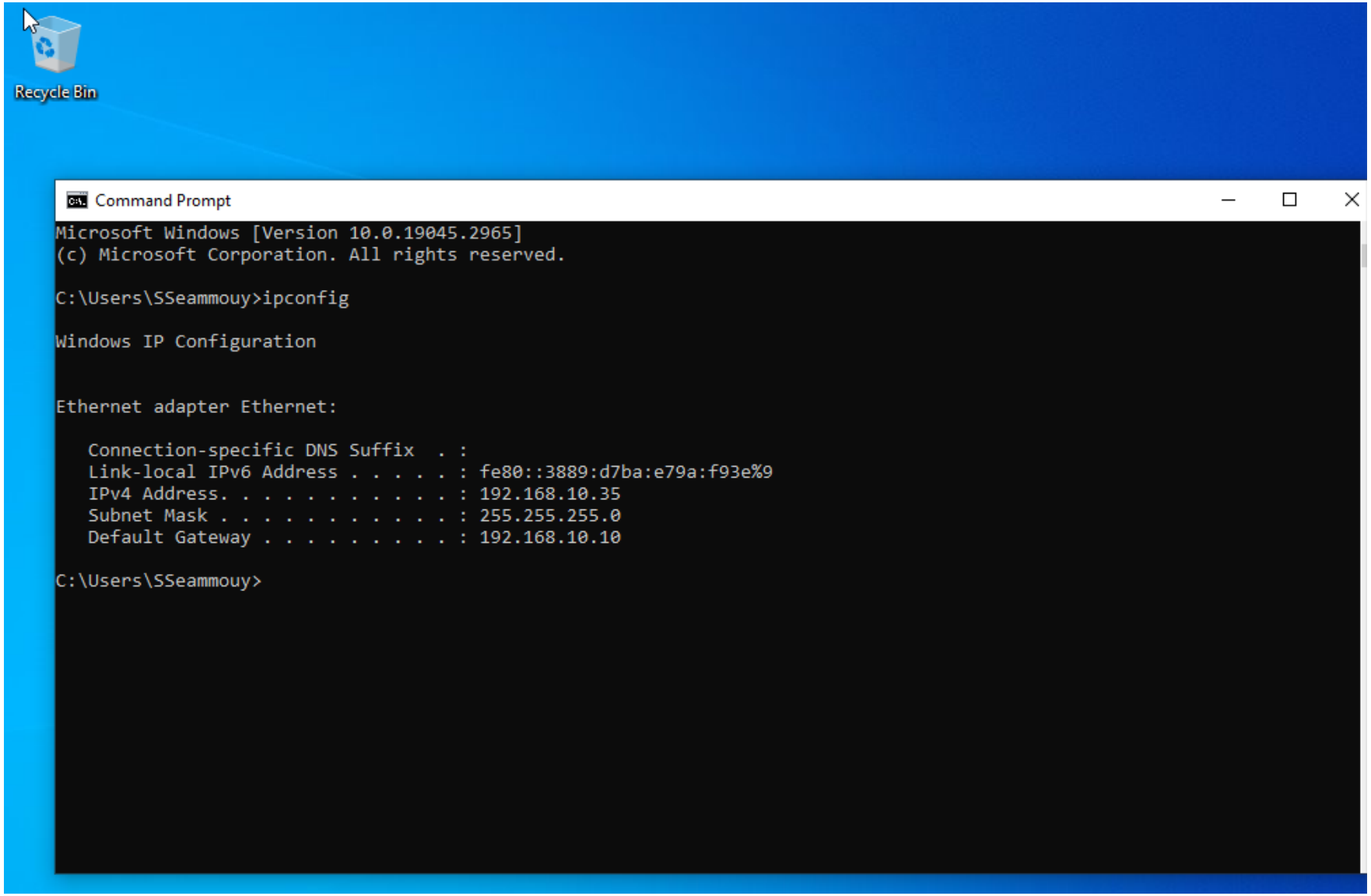
Service of server

DHCP : Dynamic Host Configuration protocol in window server



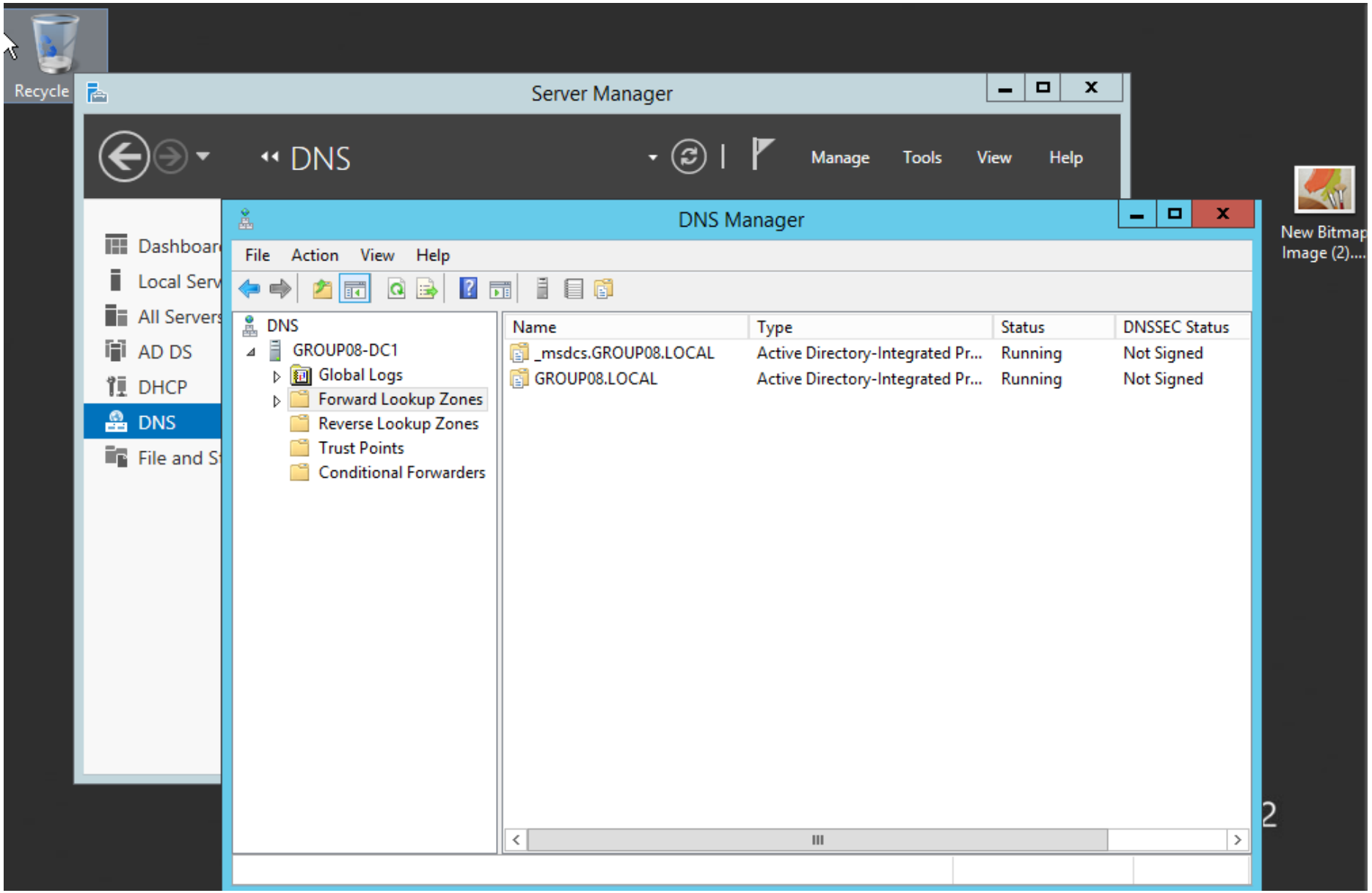
Service of server

Testing DHCP with computer client



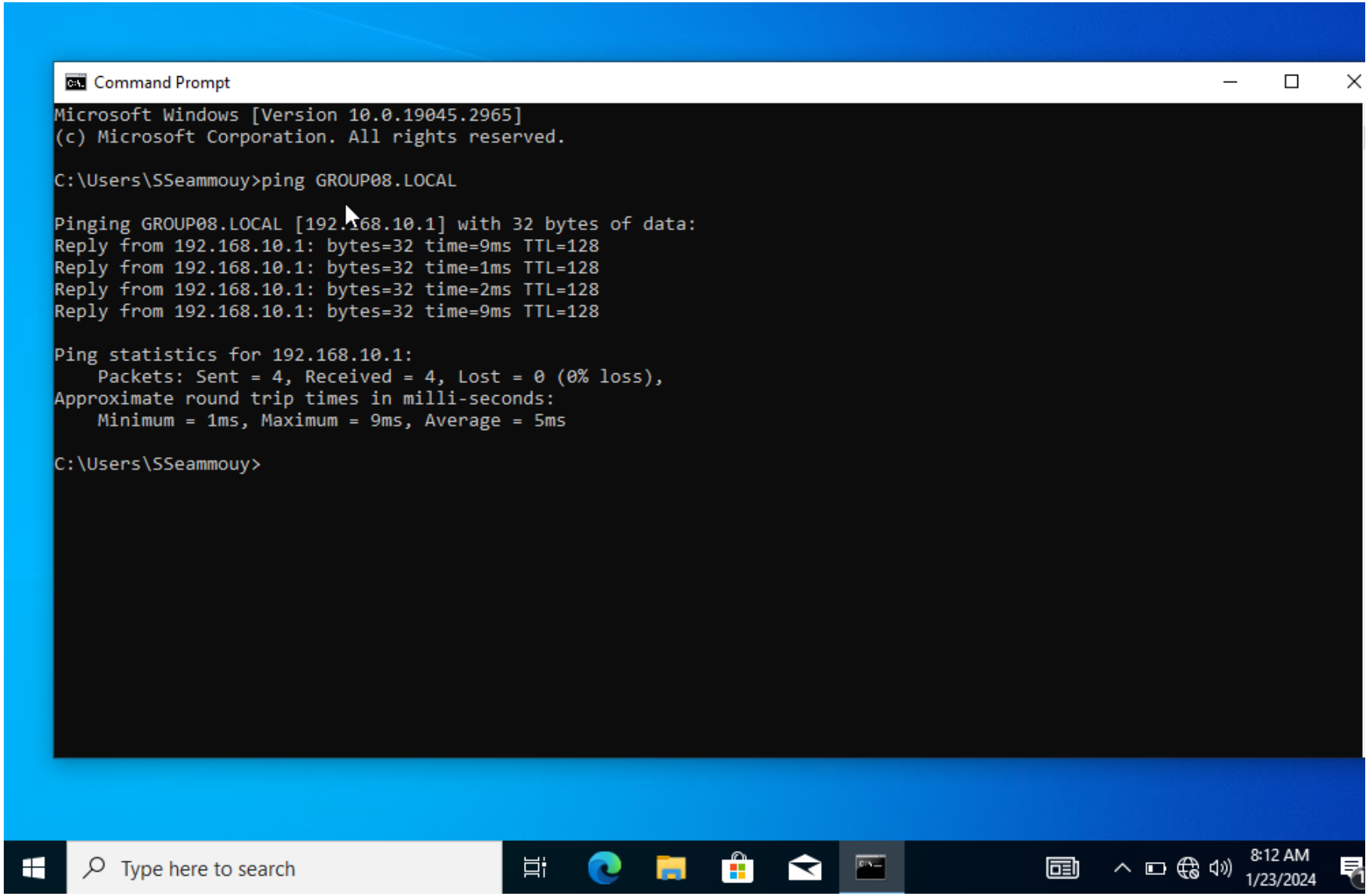
Service of server

DNS Server



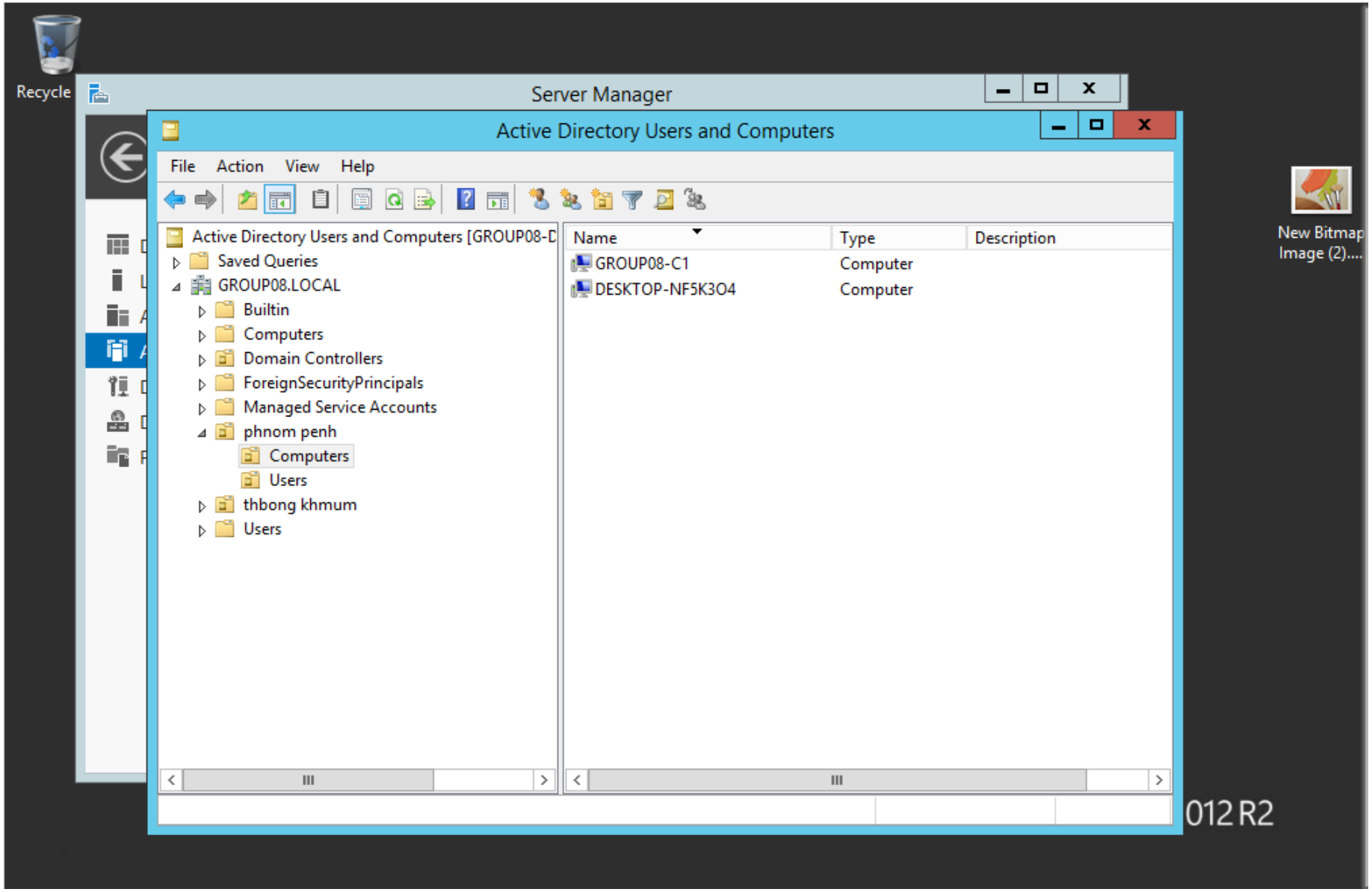
Service of server

Testing DNS Server with client



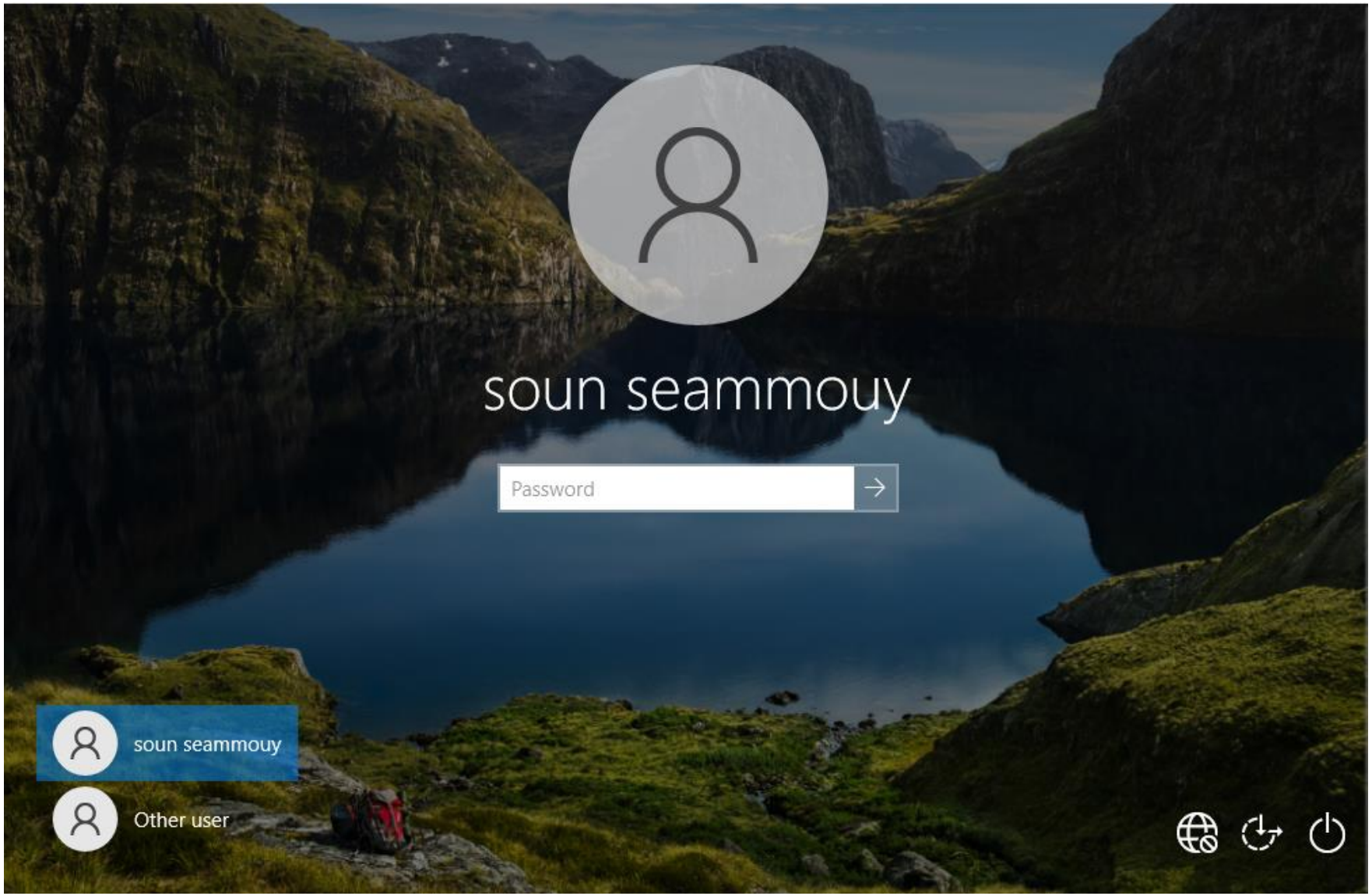
Service of server

Active Directory Users and Computers (AD UC)



Service of server

Testing AD UC with client computer



Thank you for your listening !!