Ganpat University
॥ विद्यया समाजोत्कर्षः ॥
Institute of Computer Technology

Name: Tushar Panchal

En.No: 21162101014

Sub: CN (Computer Networks)

Branch: CBA

Batch:51

----------PRACTICAL 03----------

- **AIM :** To Design & Configure a network using Dynamic Host Configuration Protocol (DHCP).
- **Scenario :**

Mr. Jason have hired a new network admin and asked him to create network for his company, he has given him the liberty to erase all the previous network setup and create a new one as per his understanding and expertise. Below are the details provided by Mr. Jason to the network admin.

1) The company has 5 departments – admin, HR, support, construction, sales.
2) Each department have 20 users (add at least 5 devices in each network)
3) The networking device available in the organization is 5 servers, 3 routers and 5 switches.
4) All the devices should get the IP address dynamically.
5) The organization have their own inbuilt name server which will have the details of the website that user can access.
6) The users of the company are allowed to access only

five mentioned website in the office premises. The list of the website is mentioned below:

Admin – google, yahoo, amazon, cisco and Microsoft

HR – naukri.com, linkedin, twitter, google and Microsoft

Support – Cisco, amazon, google, icann, internetsociety

Construction – unbuntu, google, linux, amazon and sophos

Sales – any five websites related to sales that are not mentioned in the above department.

Help the admin to create the network and establish the connection between the devices.

- ✓ **Procedure :**

1. Create Five networks using 5 switches, 5 servers, 3 routers:

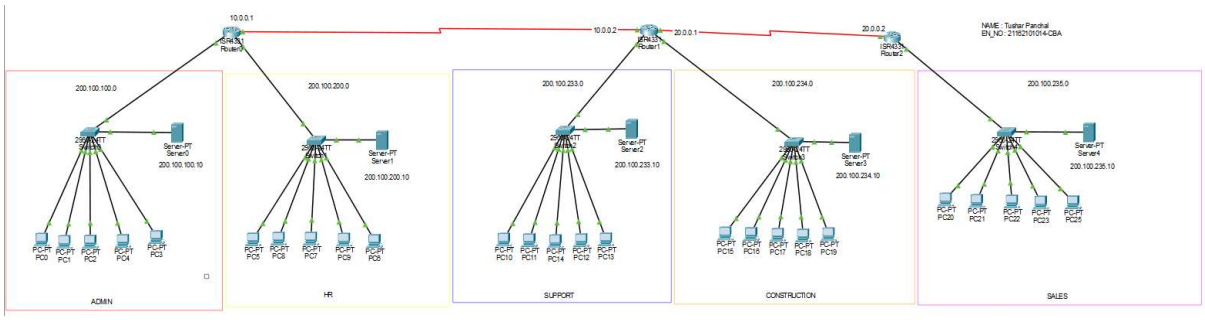
ADMIN DEPARTMENT – 200.100.100.0

HR DEPARTMENT – 200.100.200.0

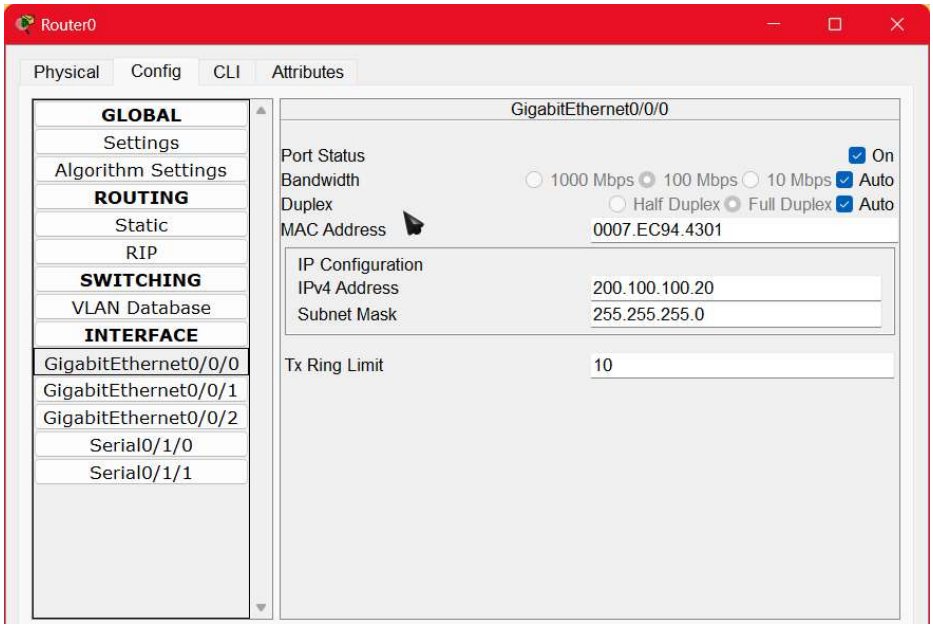
SUPPORT DEPARTMENT - 200.100.233.0

CONSTRUCTION DEPARTMENT - 200.100.234.0

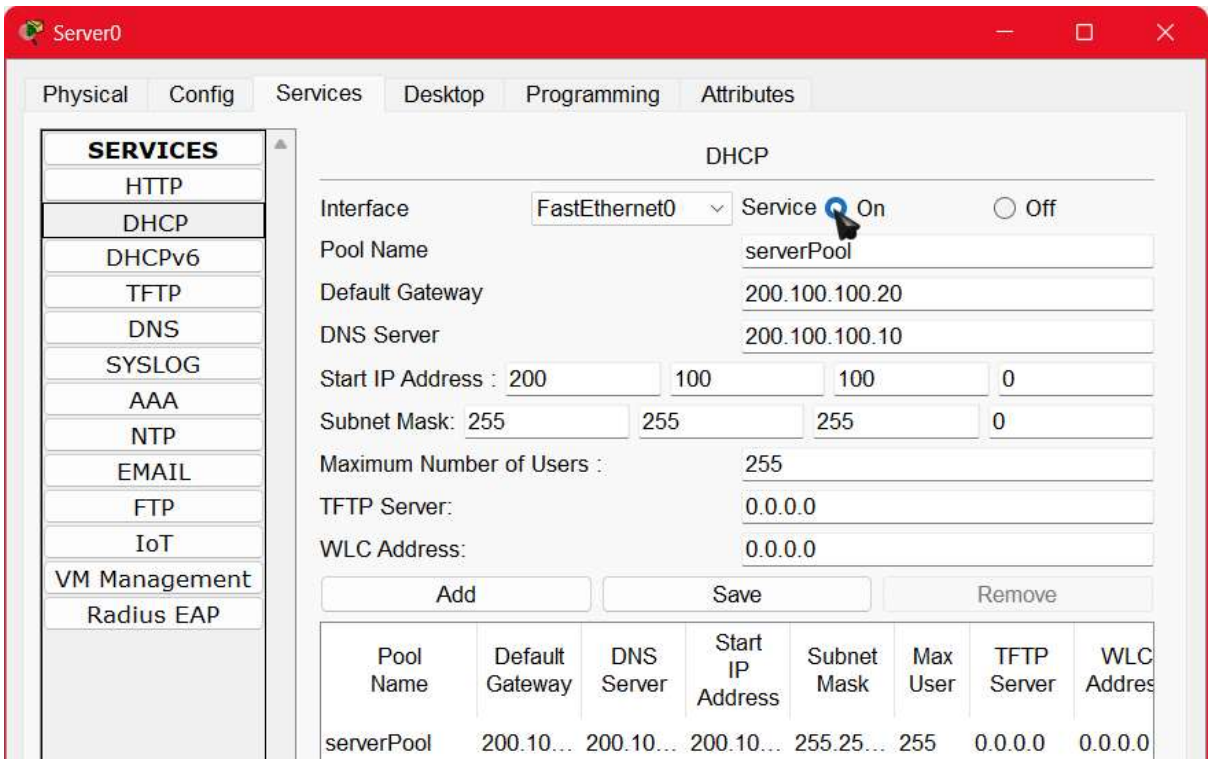
SALES DEPARTMENT – 200.100.235.0



2. Setup the Router Configuration among the networks:

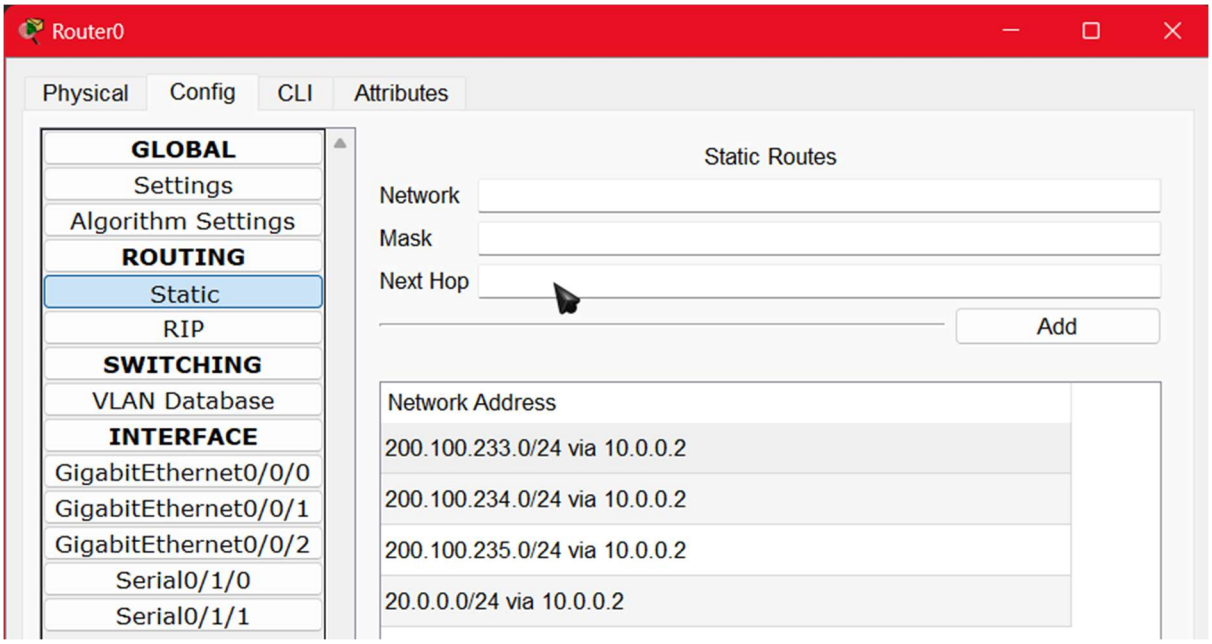


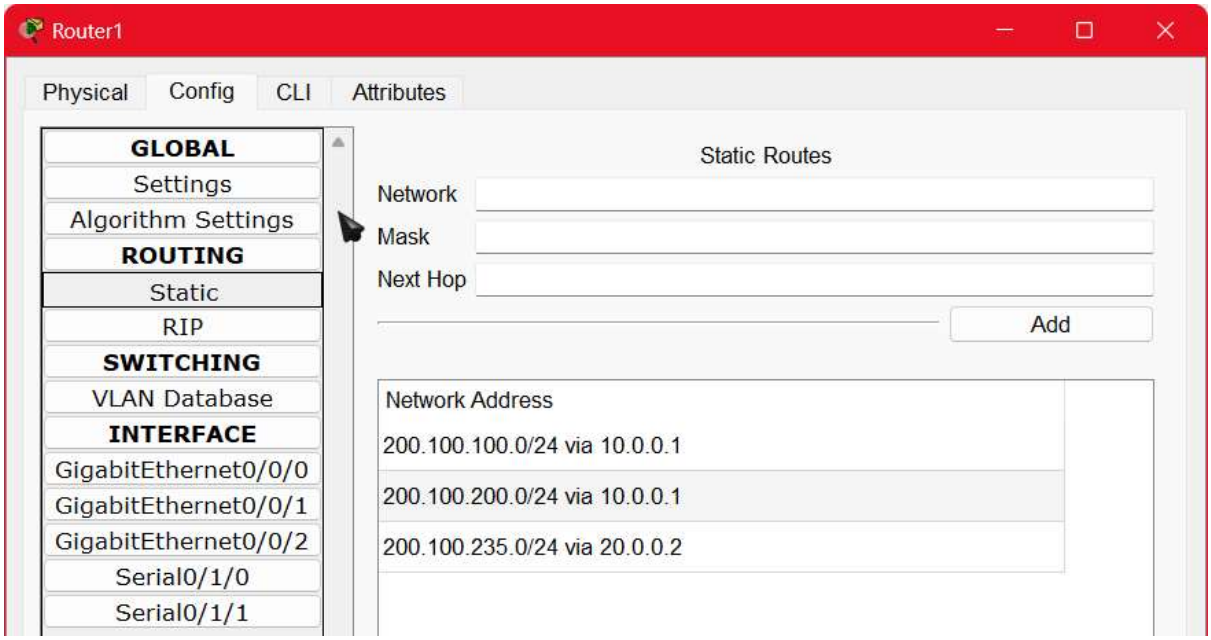
3. Setup DHCP in the server:

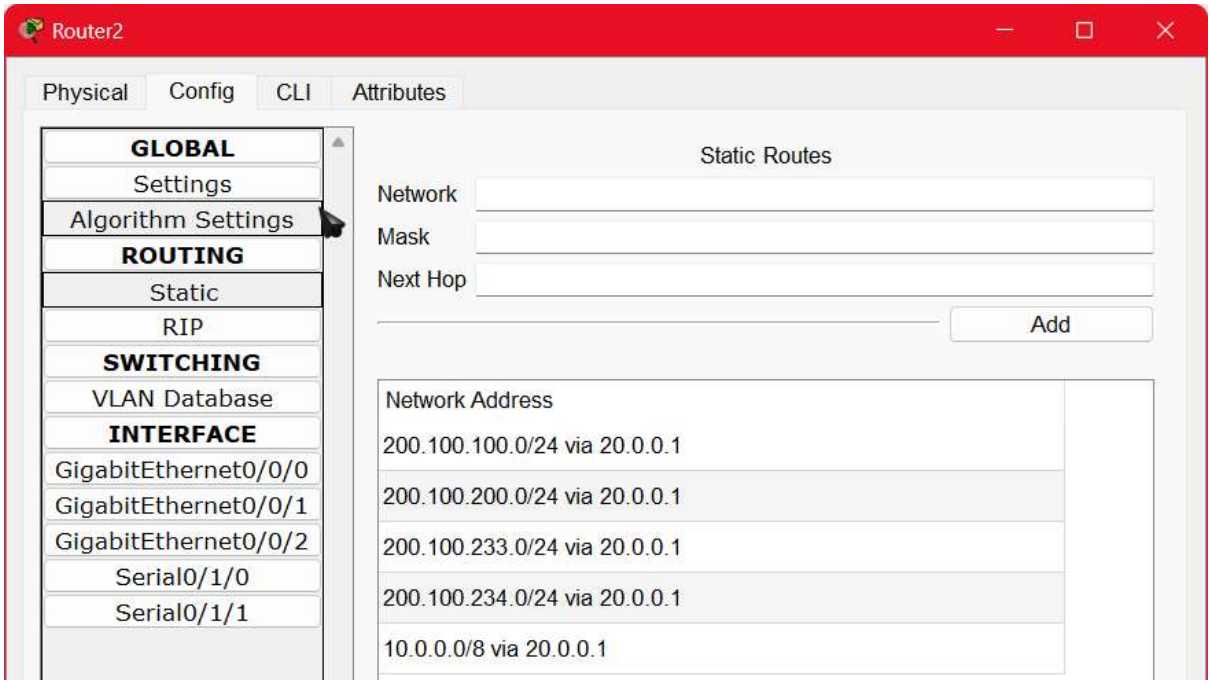


Similarly , setup DHCP servers of other networks and give the IP to the PC's through DHCP.

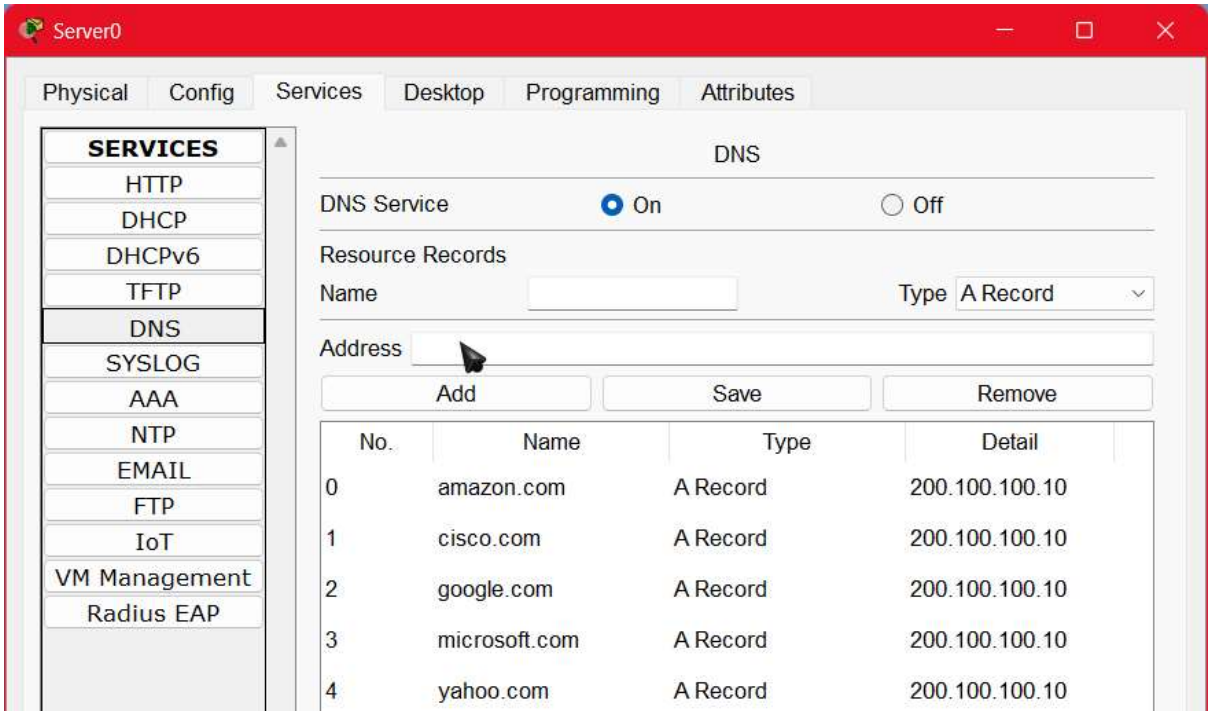
4. Set the routing in the router to give access to other networks:

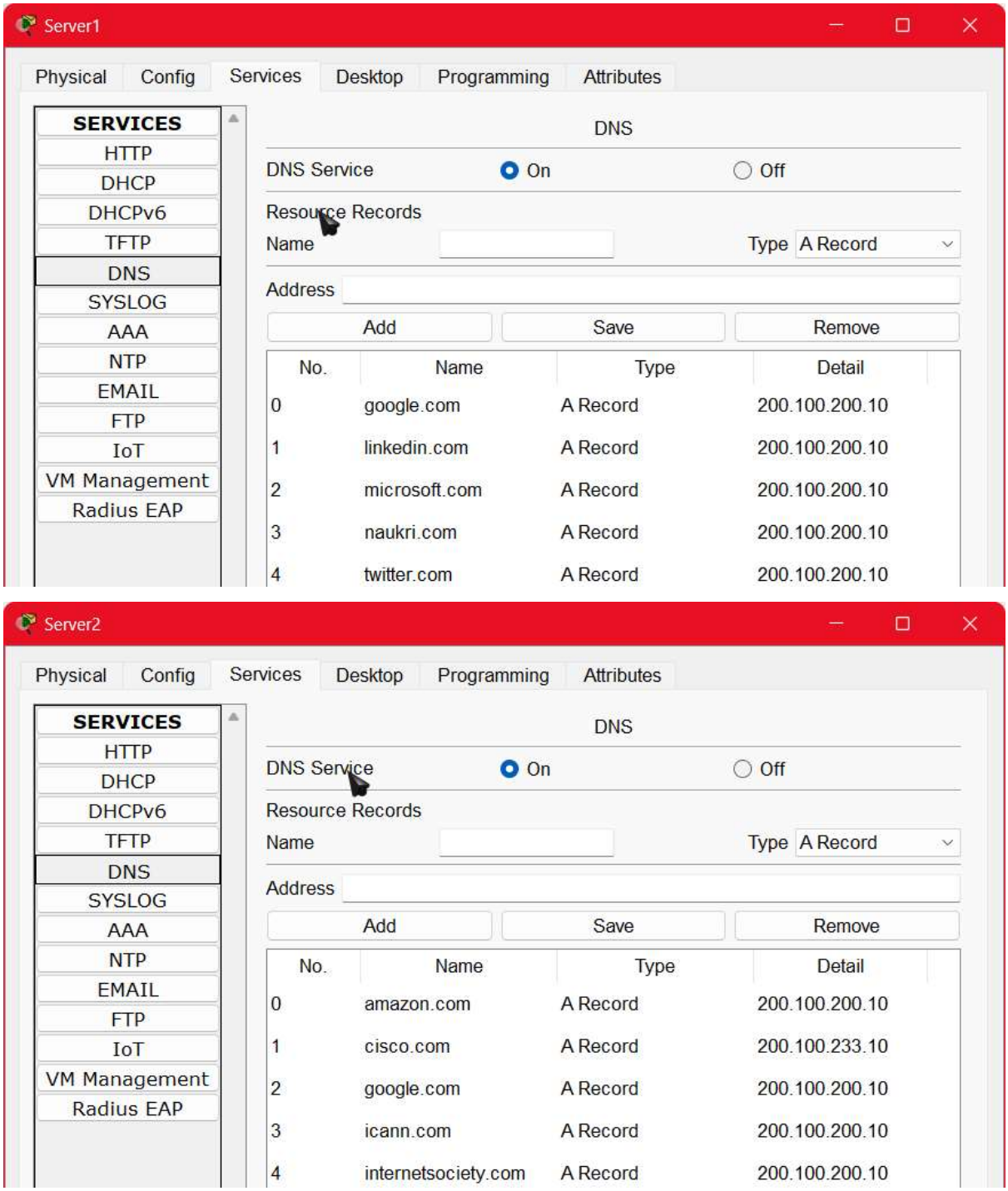




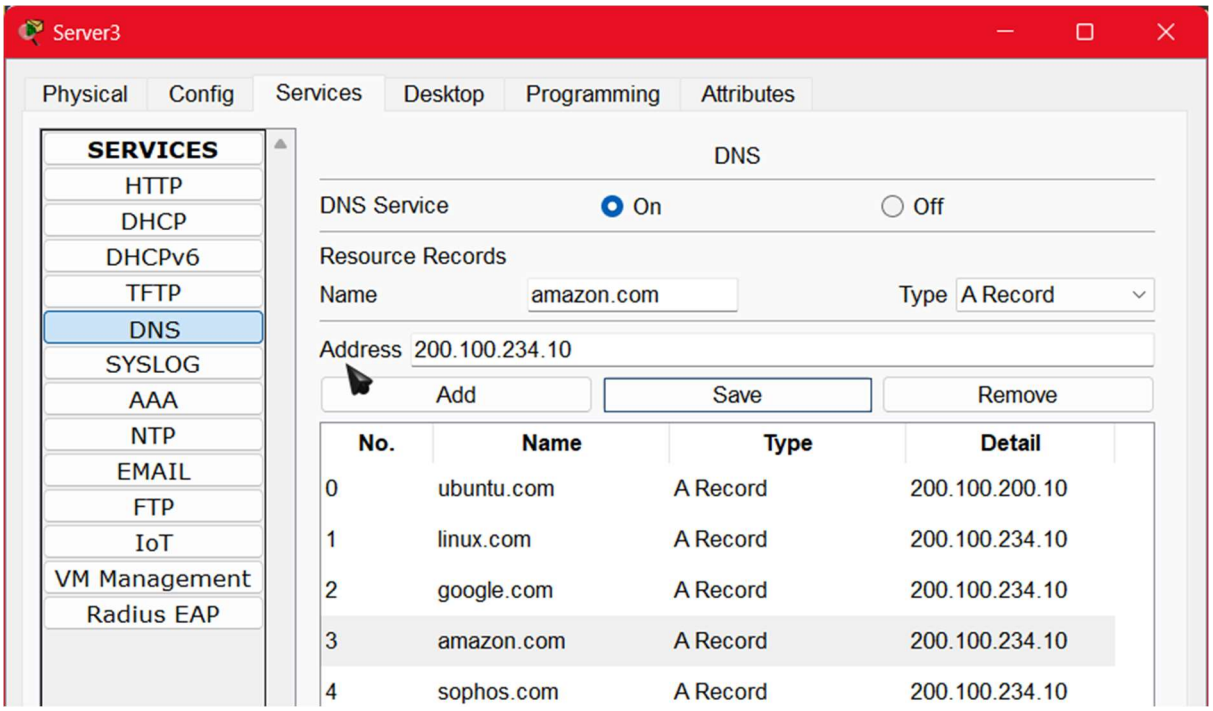


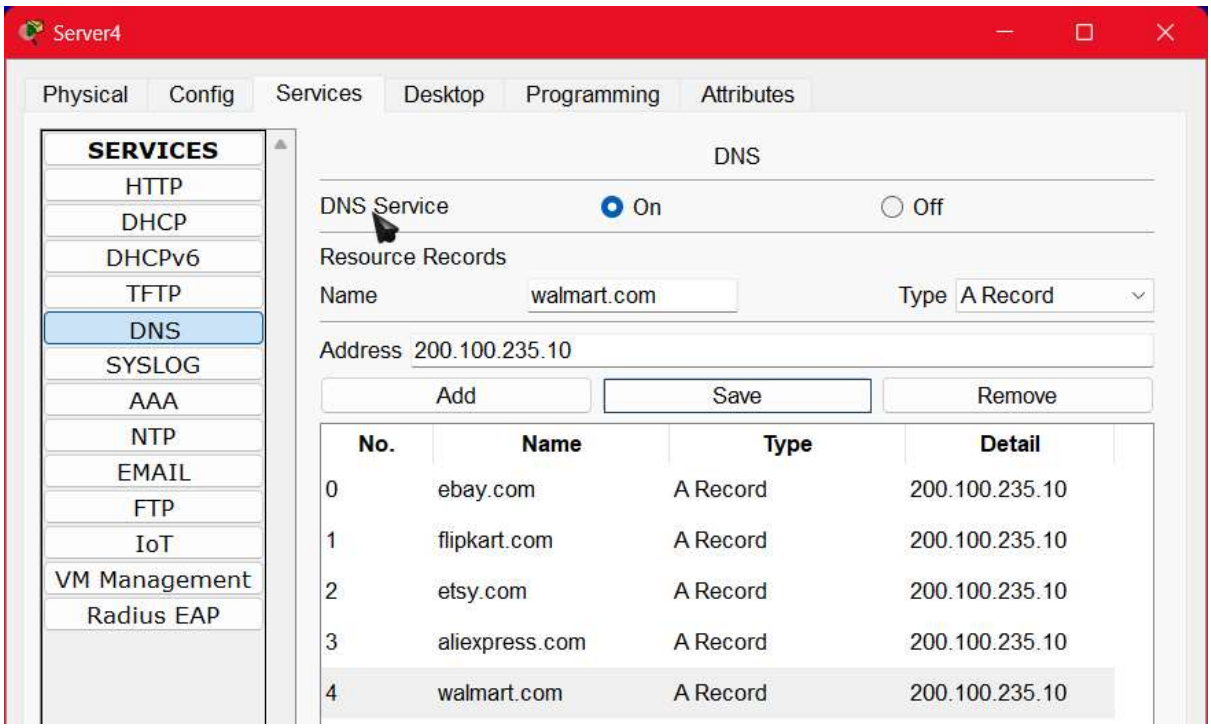
5. Setting up Domains in DNS of each network:




Server1
Physical
Config
Services
Desktop
Programming
Attributes
SERVICES
HTTP
DHCP
DHCPv6
TFTP
DNS
SYSLOG
AAA
NTP
EMAIL
FTP
IoT
VM Management
Radius EAP
DNS
DNS Service
On
Off
Resource Records
Name
Type
A Record
Address
Add
Save
Remove
No.
Name
Type
Detail
0 google.com A Record 200.100.200.10
1 linkedin.com A Record 200.100.200.10
2 microsoft.com A Record 200.100.200.10
3 naukri.com A Record 200.100.200.10
4 twitter.com A Record 200.100.200.10

Server2
Physical
Config
Services
Desktop
Programming
Attributes
SERVICES
HTTP
DHCP
DHCPv6
TFTP
DNS
SYSLOG
AAA
NTP
EMAIL
FTP
IoT
VM Management
Radius EAP
DNS
DNS Service
On
Off
Resource Records
Name
Type
A Record
Address
Add
Save
Remove
No.
Name
Type
Detail
0 amazon.com A Record 200.100.200.10
1 cisco.com A Record 200.100.233.10
2 google.com A Record 200.100.200.10
3 icann.com A Record 200.100.200.10
4 internetsociety.com A Record 200.100.200.10


Server3
Physical
Config
Services
Desktop
Programming
Attributes
SERVICES
HTTP
DHCP
DHCPv6
TFTP
DNS
SYSLOG
AAA
NTP
EMAIL
FTP
IoT
VM Management
Radius EAP
DNS
DNS Service
On
Off
Resource Records
Name
amazon.com
Type
A Record
Address
200.100.234.10
Add
Save
Remove
No.
Name
Type
Detail
0
ubuntu.com
A Record
200.100.200.10
1
linux.com
A Record
200.100.234.10
2
google.com
A Record
200.100.234.10
3
amazon.com
A Record
200.100.234.10
4
sophos.com
A Record
200.100.234.10


Server4
Physical
Config
Services
Desktop
Programming
Attributes
SERVICES
HTTP
DHCP
DHCPv6
TFTP
DNS
SYSLOG
AAA
NTP
EMAIL
FTP
IoT
VM Management
Radius EAP
DNS
DNS Service
On
Off
Resource Records
Name
walmart.com
Type
A Record
Address
200.100.235.10
Add
Save
Remove
No.
Name
Type
Detail
0
ebay.com
A Record
200.100.235.10
1
flipkart.com
A Record
200.100.235.10
2
etsy.com
A Record
200.100.235.10
3
aliexpress.com
A Record
200.100.235.10
4
walmart.com
A Record
200.100.235.10

6. Sending Packet to check and accessing website:

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delet
	Successful	PC7	PC17	ICMP		0.000	N	0	(edit)	(del.