Lab 7

Configure Routers Using DHCP and DNS Servers

What is DNS Server?

The **Domain Name System** (DNS) is a standard technology for managing public names of Web sites and other Internet domains. DNS technology allows you to type names into your Web browser like *compnetworking.about.com* and your computer automatically find that address on the Internet. A key element of the DNS is a worldwide collection of *DNS servers*.

What is DHCP Server?

Dynamic Host Configuration Protocol (DHCP) is a client/server protocol that automatically provides an Internet Protocol (IP) host with its IP address and other related configuration information such as the subnet mask and default gateway.

Aims of This Lab

- > The aim of this Lab is to show how to design WAN using Routers.
- The aim of this Lab is to show how to configure routers using EIGRP Protocol.
- The aim of this Lab is to show how to configure routers to be DHCP with addition to its function.
- The aim of this Lab is to show how to configure routers to be DNS Server with addition to its function.
- > After this Lab, the Student can know how to configure routers dynamically.

Experiment Procedure

1. Design Network

- Design two LANs; each one consists of two Computers and switch.
- Select one router type 1841.
- Connect both networks to the router.
- > Put note about the address you want to use for each LAN.



A. Configure router interface and IP

- 1. Enable
- 2. Config t
- 3. Interface <type>< number>
- 4. Ip address <address >< mask>
- 5. Clock rate 64000
- 6. No sh
- 7. Repeat all steps (1-6) for both interfaces.

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B. Configure Dynamic Routing

- 1. Enable
- 2. Config t
- 3. Router eigrp <any number must be used for all router in the networks>
- 4. Network <network IP><mask>

- 5. Repeat step 4 if there are another networks
- 6. exit

```
Router (config-if) #exit
Router (config) #router eigrp 1
Router (config-router) #network 10.0.0.0 255.0.0.0
Router (config-router) #network 192.168.0.0 255.255.255.0
Router (config-router) #exit
Copy Paste
```

C. Configure DHCP

- 1. Enable
- 2. Config t
- 3. Ip dhcp pool <network number>
- 4. Network <network IP><mask>
- 5. Default <gateway ip address>
- 6. Dns< dns ip address>
- 7. Exit
- 8. Repeat same steps for the second network as shown in figure below.

Router0					
Physical	Config	CLI			
			IOS Command Line Int	terface	
Router (config) #				*
Router (config) #				
Router (config) #				
Router (config) #				
Router (config) #				
Router (config) #				
Router (config) #				
Router (config) #				
Router (config) #				
Router (config) #				
Router (config) #				
Router (config) #:	ip dhe	p pool 10		
Router (dhcp-coni	fig) #n	et 10.0.0.0 255.0.0.0		
Router (dhcp-coni	tig)#d	efault 10.0.0.1		
Router (dhep-coni	fig)#d	ns 192.168.0.5		
Router (dhop-cont	fig)#e	xit		
Router (config) #:	ip dho	p pool 192		
Router (dhop-cont	fig) #n	et 192.168.0.0 255.255.25	5.0	
Router (dhop-con:	fig)#d	efault 192.168.0.1		
Router (dhop-coni	fig) #d	ns 192.168.0.5		8
Router (dhop-cont	(ig)#e	xit		U
Router(config) #				*
				Сору	Paste

lab seven

Give auto ip for all computers by going to desktop and ip



D. Configure DNS server

- 1. Click on the server.
- 2. Goto configure
- 3. Select from the left side menu the Fastethernet.
- 4. Enable the DHCP in order to get ip address.
- 5. From the menu (left side) select DNS as shown in next figure.
- 6. Give name to the server such as (<u>www.m.com</u>).
- 7. Put the address given to the server (192.168.0.5) in the address field.

Physical	Config	Desktop	Softwa	re/Services			
GLO	BAL				DNS		
Sett	ings				UNIU		
Algorithm	Settings	DNS Ser	rvice	On		0	Off
SERV	ICES	Resourc	e Record	6			
DH	CP	Name	w	ww.m.com		Туре	A Record
TF	TP	Address	192.168	1.0.5			
SYS	LOG		Add	3	Save		Remove
AA	A	No. N	lame	Ty	pe	D	etails
INT	P						
EM	AIL						
FT	p						
FIREV	VALL						
IPv6 FIF	EWALL						
INTER	FACE						
EastEth	ernet0	DNS Ca	che				

8. Press add as shown below

Physical Co	nfig	Desktop	Software/Se	rvices			
GLOBAL	*			DN	5		
Settings	and the second se			2.11			_
Algorithm Set	tings	DNS Ser	rvice	On	0	Off	
SERVICES	5	Recourse	e Records				
HTTP		Magna	e necorda		Time	A Record	-
DHCP		reame			type	A Record	
TETP		Address					7
DNS		Address		1			-
SYSLOG			Add	Sav	e	Remove	
AAA		No. M	Name	Type	D	etails	
NTP		1 W	www.m.com	A Record	1 15	2.168.0.5	
EMAIL	and the second se		UE .				
FTP							
FIREWALL	-						
IPv6 FIREW	ALL						
INTERFAC	E						
FastEtherne	tO	[mus. c.					_
	-	DNS Ca	iche				

- 9. Click on any computer.
- 10.Goto web browser.
- 11. You will see the below figure



12. Give address and press go you will see

Laptop1					
hysical	Config	Desktop	Software/Services		
			-		
Web B	rowser	r -			X
< 3	URL M	tp://www.m.co	m	Go	Stop
			Cisco Packet Tracer		
Copyrights Imege page Imege					

Questions (put the answer in your report)

- 1. What is the main function of router?
- 2. What is the DNS?
- 3. What is the meaning of DHCP?
- 4. How to configure servers?