Konfigurisanje DHCP servera

Ciljevi vježbe:

- Konfigurisanje DHCP servera na ruteru
- Konfigurisanje DHCP servera na generičkom serveru
- Konfigurisanje DHCP klijenta

Konfigurisanje DHCP servera na ruteru

Korak 1: Kreirati mrežnu topologiju sa slike:



Korak 2: Na ruteru konfigurisati IP adresu *interfejsa fa0/0* koji će biti default gateway za LAN mrežu:

```
Router>enable
Router#config terminal
Router(config)#int fa0/0
Router(config-if)#ip add 192.168.1.1 255.255.255.0
Router(config-if)#no shutdown
Router(config-if)#exit
```

Korak 3: Konfigurisati DHCP server na ruteru. Definisati DHCP pool IP adresa koje će server dodjeljivati hostovima, *default gateway* za LAN i DNS server.

```
Router(config)#
Router(config)#ip dhcp pool MY_LAN
Router(dhcp-config)#network 192.168.1.0 255.255.255.0
Router(dhcp-config)#default-router 192.168.1.1
Router(dhcp-config)#dns-server 192.168.1.10
```

Korak 4: Korišćenjem komande ip dhcp excluded-address komande onemogućiti dodjelu adresa iz opsega 192.168.1.1-192.168.1.10. Ova komanda se može se koristiti za rezervisanje adresa koje su statički dodjeljene važnim hostovima.

```
Router(config)#ip dhcp excluded-address 192.168.1.1 192.168.1.10
```

Korak 5: Na svakom računaru aktivirati DHCP klijent. Svaki računar bi trebalo da dobije IP adresu, adresu *default gateway*-a i DSN servera kao što definisano u koraku 2.

Na primjer, da bi aktivirali DHCP na PC1:

Kliknuti PC1->Desktop->IP configuration. Zatim omogućiti DHCP:

C1				-	>
vsical Config	Desktop	Programming	Attributes		
Configuration					х
Configuration					
DHCP			○ Static		
P Address			192.168.1.11		
ubnet Mask			255.255.255.0		
efault Gateway			192.168.1.1		
NS Server			192.168.1.10		
Pv6 Configuration		_			
) DHOP		Auto C	Config		4
Pv6 Address				1	_
ink Local Address			FE80::200:CFF:FE21:856		
Pv6 Gateway					

Korak 6: Testirati konfiguraciju pingovanjem PC2 sa PC1.

Konfigurisanje DHCP servisa na generičkom serveru u Packet Tracer-u.



Korak 1: Kreirati mrežnu topologiju sa slike:

Korak 2: Konfigurisati statičku IP adresu na serveru (192.168.1.2/24).

Korak 3: Konfigursati DHCP servis na generičkom serveru:

Kliknite na server, a zatim na **Services tab**. Odaberite **DHCP** iz menija. Zatim definišite sledeće DHCP mrežne parametre:

Pool name: MY_LAN

Default Gateway: 192.168.1.1

DNS Server: 192.168.1.2

Start IP Address: 192.168.1.0

Subnet Mask: 255.255.255.0

Maximum Number of users: 256

Kliknuti Add a zatim Save.

SERVICES HTTP DHCP DHCP06 Interface FastEthernetD Service () On Off DHCP06 Interface FastEthernetD Service () On Off DHCP06 DHCP06 Interface Mr_LAN Interface Off DHS DNS DNS Interface Mr_LAN Interface Interface AAA SYSLOG AAA Interface Interface </th <th></th> <th></th> <th>_</th> <th></th>			_														
HTTP Interface FastEthernet0 Service ● On Off DHCP Pool Name Mr_LAN Off Off DNS Default Gateway 192.168.1.1 0 Off SYSLOG AAA NTP Start IP Address : 192 168 1 0 0 SYSLOG AAA NTP Start IP Address : 192 168 1 0 0 Start IP Address : 192 168 1 0 0 0 0 FTP Subnet Mask: 255 255 255 0 0 0 IoT VM Management VILC Address: 0.0.0.0 0.0.0.0 0 0 0 Add Save Remove Remove 0 Address Matress Matress Madress Mane Gateway Server 192.168.1.1 255.255.0 296 0.0.0.0 0.0.0.0 serverPool 0.0.0.0 0.0.0.0 0.0.0.0 0.0.0.0 0.0.0.0 0.0.0.0	SER	VICES	^							DH	œ						
DHCP/6 Pastemenen Server © Ch Order DHCP/6 TFTP Default Gateway 192.168.1.1 0 DNS DNS Server 192.168.1.2 0 0 AAA NTP Start IP Address : 192 168 1 0 0 FTP Subnet Mask: 235 255 0 0 0 FTP Subnet Mask: 235 255 0 0 0 FTP Subnet Mask: 235 0 0 0 0 0 VM Management WLC Address: 0.0.0.0 0.0.0.0 0.0.0.0 0.0.0.0 0.0.0.0 0.0.0.0 0.0.0.0 Add Server Start Mask Mask TFTP VILC Address Mask Mask Mask Mask Address Mr_JAN 192.166.1.1 192.166.1.2 192.166.1.2 255.255.0 256 0.0.0.0 0.0.0.0 serverPool 0.0.0.0 0.0.0.0 0.0.0.0 0.0.0.0 0.0.0.0 0	H	TTP		Interest			F		10	-	Carolina	@ ~		0.0#			
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Konfiguracija servera bi trebalo da izgleda kao na slici:

Nakon unosa konfiguracije, odaberite opciju **ON** da aktivirate DHCP servis.

Korak 4: Aktivirati DHCP klijent na svakom PC-u. Na primjer, konfiguracija za PC1 bi trebalo da izgleda kao na slici:

P Configuration		
	O Statio	
10 Address	0.5442	
IP Address	192.168.1.1	
Subnet Mask	255,255,255,0	
Default Gateway	0.0.0.0	
DNS Server	192.168.1.2	
IPv6 Configuration		
O DHCP	 Auto Config Static 	
IPv6 Address		1
Link Local Address	FE80::202:16FF:FE0C:5580	
IPv6 Gateway		
IDu6 DNE Easter		
TLAC THE DELACI		

Prosleđivanje DHCP zahtjeva udaljenim DHCP serverima



Zadaci za samostalni rad:

Zadatak 1: Konfigurisati hostname na R1, R2 i Sw1 kao što je ilustrovano na slici.

Zadatak 2: Konfigurisati R1 da generiše clock informacije za R2 brzinom 256Kbps. Konfigurisati IP adrese na R1 i R2 S0/0 interfejsima kao što je ilustrovano na slici. Konfigurisati statičku rutu na R2 za mrežu 10.1.1.0/24.

Zadatak 3: Konfigurisati VLAN 3000 naziva DHCP_VLAN na SW1. Dodjeliti FastEthernet0/2 i FastEthernet0/3 interfejse na Sw1 ovom VLAN-u. Interfejsi bi trebalo da rade Spanning Tree Forwarding modu.

Sw1#config t Sw1(config)#vtp mode transparent Sw1(config)#vlan 3000 Sw1(config-vlan)#name DHCP_VLAN Sw1(config-vlan)#exit Sw1(config)#interface range fastethernet0/2 -- 3 Sw1(config-if-range)#switchport mode access Sw1(config-if-range)#switchport access vlan 3000 Sw1(config-if-range)#spanning-tree portfast Sw1(config-if-range)#spanning-tree portfast Sw1(config-if-range)#no shutdown Sw1(config-if-range)#end

Zadatak 4: Konfigurisati R2 kao Cisco IOS DHCP server sa sledećim podešavanjima:

DHCP Pool Name: REMOTE-DHCP-POOL DHCP Network: 10.1.1.0/24 DNS Server: 192.168.1.254 Default Gateway: 10.1.1.1 R2#config term

Enter configuration commands, one per line. End with CNTL/Z. R2(config)#**ip dhcp pool REMOTE-DHCP-POOL** R2(dhcp-config)#**network 10.1.1.0 255.255.255.0** R2(dhcp-config)#**dns-server 192.168.1.254** R2(dhcp-config)#**default-router 10.1.1.1** R2(dhcp-config)#**default-router 10.1.1.1** R2(dhcp-config)#**end** R2#

Zadatak 5: Konfigurisati R1 da prosleđuje DHCP zahtjeve of DHCP klijenata povezanih na F0/0 prema R2 (IOS DHCP serveru).

R1#conf t R1(config)#int fastethernet0/0 R1(config-if)#ip helper-address 172.16.1.2 R1(config-if)#end R1#

Napomena: The *ip helper-address* komanda se koristi da ukaže na udaljeni DHCP server. Moguće je specificirati više od jednog DHCP servera sa ovom komandom, ali ruter će uvijek najprije pokušati da uspostavi komunikaciju sa DHCP serverom koji je prvi konfigurisan.

Zadatak 6: Verifikovati DHCP konfiguraciju na povezanim računarima. Takođe, provjeriti "iznajemljene" adrese na DHCP serveru.

R2#show ip dhcp pool **REMOTE-DHCP-POOL** R2#show ip dhcp binding

Konfigurisanje DHCP klijenta

Zadatak 1: Kreirati sledeću mrežnu topologiju:



Zadatak 2: Konfigurisati DHCP servis na mrežnom serveru.

Napomena: Bez ovog koraka nije moguće testirati DHCP funkcionalnost u nastavku vježbe.

Zadatak 3: Konfigurisati VLAN 100 na Sw1 i dodijeliti mu naziv DHCP_VLAN. Dodjeliti portove Fa0/2 and Fa0/3 ovom VLAN-u. Kako bi spriječili isticanja *timeout*-a za zahtjeve, konfigurisati portove da se automatski prebacaju u *Spanning Tree Forwarding* stanje.

Sw1#config t

Enter configuration commands, one per line. End with CNTL/Z. Sw1(config)#vlan 100 Sw1(config-vlan)#name DHCP_VLAN Sw1(config-vlan)#exit Sw1(config)#interface range fastethernet 0/2 -3 Sw1(config-if-range)#switchport mode access Sw1(config-if-range)#switchport access vlan 100 Sw1(config-if-range)#spanning-tree portfast Sw1(config-if-range)#no shutdown Sw1(config-if-range)#end Sw1#

Zadatak 4: Konfigurisati F0/0 interfjes rutera R1 da prihvata IP adresiranje od DHCP servera. Provjeriti da li je R1 automatski primio konfiguraciju od DHCP-a.

R1(config)**#int fa0/0** R1(config-if)**#ip address dhcp** R1(config-if)**#no shutdown** R1(config-if)**#end** R1**#show ip interface fastethernet 0/0** R1**#show dhcp server**