

Report : Small Network of a University

DHCP:

```
R1>enable
R1#conf t
Enter configuration commands, one per line. End with CNTL/Z.
R1(config)#ip dhcp R1G0/0
      ^
% Invalid input detected at '^' marker.

R1(config)#ip dhcp pool R1G0/0
R1(dhcp-config)#network 10.40.7.0 255.255.255.0
R1(dhcp-config)#de
R1(dhcp-config)#default-router 10.40.7.1
R1(dhcp-config)#dns
R1(dhcp-config)#dns-server 8.8.8.8
R1(dhcp-config)#exit
R1(config)#ip dhcp e
R1(config)#ip dhcp excluded-address 10.40.7.1 10.40.7.10
R1(config)#exit
```

```
R2>enable
R2#conf t
Enter configuration commands, one per line. End with CNTL/Z.
R2(config)#ip dhcp pool R2G0/0
R2(dhcp-config)#de
R2(dhcp-config)#network 10.40.8.0 255.255.255.0
R2(dhcp-config)#de
R2(dhcp-config)#default-router 10.40.8.1
R2(dhcp-config)#dns
R2(dhcp-config)#dns-server 8.8.8.8
R2(dhcp-config)#exit
R2(config)#ip dhcp e
R2(config)#ip dhcp excluded-address 10.40.8.1 10.40.8.10
R2(config)#exit
```

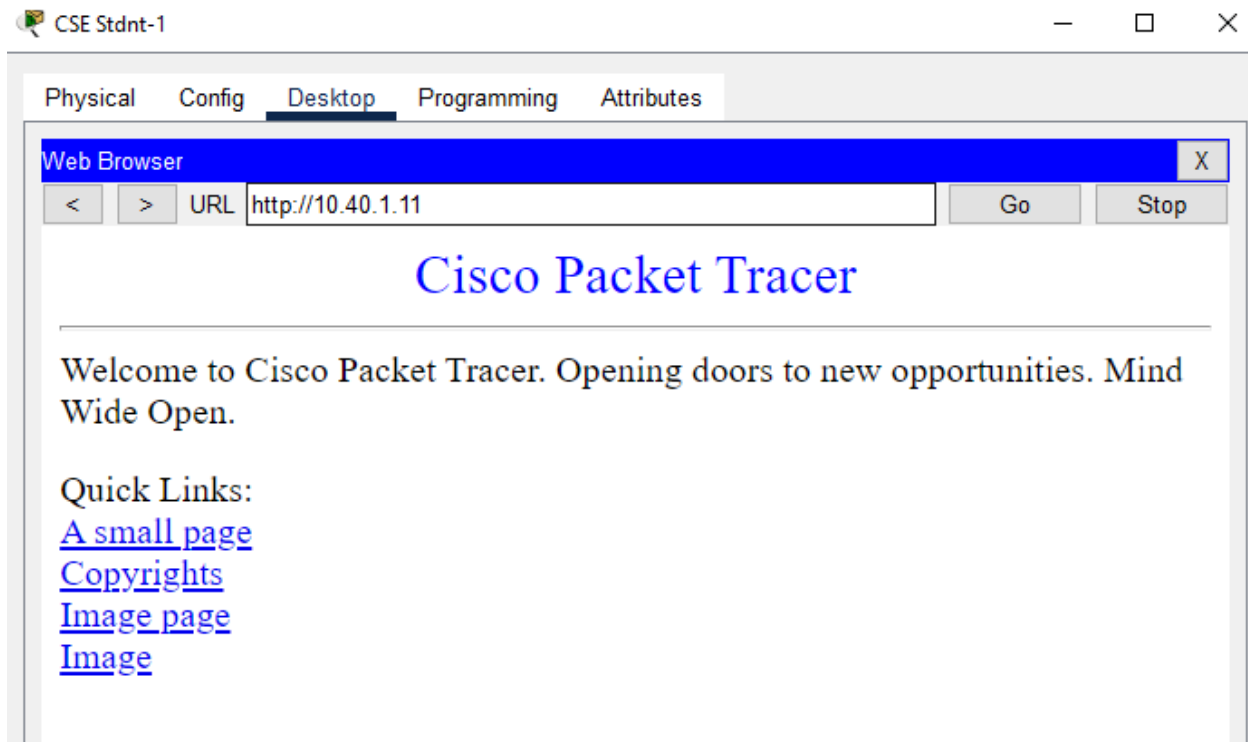
```
R3>enable
R3#conf t
Enter configuration commands, one per line. End with CNTL/Z.
R3(config)#ip dhcp pool R3G0/0
R3(dhcp-config)#network 10.40.9.0 255.255.255.0
R3(dhcp-config)#de
R3(dhcp-config)#default-router 10.40.9.1
R3(dhcp-config)#dns
R3(dhcp-config)#dns-server 8.8.8.8
R3(dhcp-config)#exit
R3(config)#ip dhcp e
R3(config)#ip dhcp excluded-address 10.40.9.1 10.40.9.10
R3(config)#exit
```

```
R0>enable
R0#conf t
Enter configuration commands, one per line. End with CNTL/Z.
R0(config)#ip dhcp pool R0G0/0
R0(dhcp-config)#network 10.40.10.0 255.255.255.0
R0(dhcp-config)#de
R0(dhcp-config)#default-router 10.40.10.1
R0(dhcp-config)#dns
R0(dhcp-config)#dns-server 8.8.8.8
R0(dhcp-config)#exit
R0(config)#ip dhcp e
R0(config)#ip dhcp excluded-address 10.40.10.1 10.40.10.10
R0(config)#exit
```

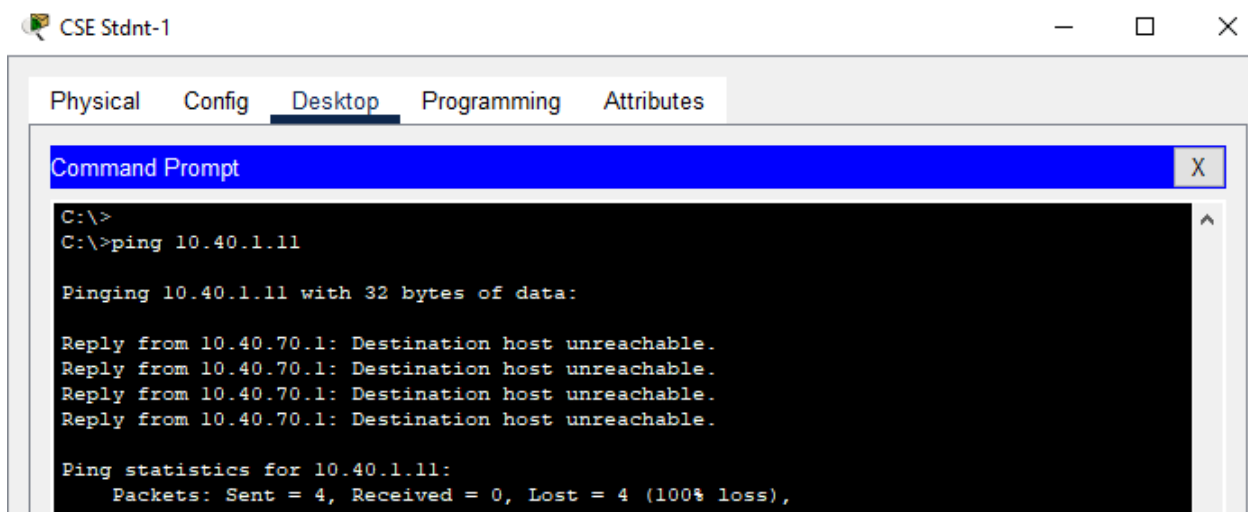
ACL: Only admin can access the MAIN server.

```
UIU>en
UIU#conf t
Enter configuration commands, one per line. End with CNTL/Z.
UIU(config)#access-list 101 permit ip 10.40.10.0 0.0.0.255 host 10.40.1.11
UIU(config)#access-list 101 deny ip any host 10.40.1.11
UIU(config)#int g
UIU(config)#int gigabitEthernet 0/0
UIU(config-if)#ip acc
UIU(config-if)#ip access-group 101 out
UIU(config-if)#exit
UIU(config)#
```

Before ACL implementation



After ACL implementation



NAT:

Pre setup:

```
UIU>
UIU>
UIU>en
UIU#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
UIU(config)#ip route 0.0.0.0 0.0.0.0 10.40.0.2
UIU(config)#router rip
UIU(config-router)#de
UIU(config-router)#default-information o
UIU(config-router)#default-information originate
UIU(config-router)#exit
UIU(config)#
```

i) Static NAT:

ii) Dynamic Nat: