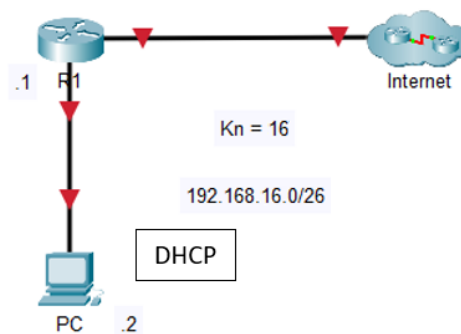


Labor – ACL



Show ip interface brief

```
Router#show ip interface brief
Interface IP-Address OK? Method Status Protocol
FastEthernet0/0 192.168.16.1 YES manual up up
FastEthernet0/1 192.168.55.220 YES DHCP up up
Serial0/0/0 unassigned YES NVRAM administratively down down
Serial0/2/0 unassigned YES NVRAM administratively down down
Serial0/2/1 unassigned YES NVRAM administratively down down
```

Access mit matches:

```
Router(config)#do show access-lists
Standard IP access list NAT_POELZL
 10 permit 192.168.16.0, wildcard bits 0.0.0.63 (423 matches)
Extended IP access list BROWSING_POELZL
 10 permit tcp any any established (3211 matches)
 20 permit icmp any any echo-reply (6 matches)
 30 permit udp any any eq bootpc
 40 permit udp any any eq bootps
Extended IP access list SURFING_POELZL
 10 permit tcp 192.168.16.0 0.0.0.63 any eq www (24 matches)
 20 permit tcp 192.168.16.0 0.0.0.63 any eq 443 (2965 matches)
 30 permit tcp 192.168.16.0 0.0.0.63 any eq ftp (15 matches)
 50 permit icmp 192.168.16.0 0.0.0.63 any echo (11 matches)
 60 permit udp any any eq bootpc
 70 permit udp any any eq bootps (24 matches)
```

Nat:

```
ip nat inside source list NAT_POELZL interface FastEthernet0/1 overload
ip access-list standard NAT_POELZL
 permit 192.168.16.0 0.0.0.63
```

Show ip nat translate:

```
Router#show ip nat translations
Pro Inside global Inside local Outside local Outside global
tcp 192.168.55.220:52721 192.168.16.2:52721 162.159.133.234:443 162.159.133.234:443
tcp 192.168.55.220:53144 192.168.16.2:53144 20.86.94.130:443 20.86.94.130:443
tcp 192.168.55.220:53151 192.168.16.2:53151 20.54.122.82:443 20.54.122.82:443
tcp 192.168.55.220:53160 192.168.16.2:53160 104.96.159.85:443 104.96.159.85:443
tcp 192.168.55.220:53182 192.168.16.2:53182 104.96.159.85:443 104.96.159.85:443
tcp 192.168.55.220:55654 192.168.16.2:55654 104.18.42.171:443 104.18.42.171:443
tcp 192.168.55.220:56994 192.168.16.2:56994 35.186.224.47:443 35.186.224.47:443
tcp 192.168.55.220:59513 192.168.16.2:59513 52.111.231.4:443 52.111.231.4:443
tcp 192.168.55.220:59517 192.168.16.2:59517 52.111.231.4:443 52.111.231.4:443
tcp 192.168.55.220:59560 192.168.16.2:59560 52.111.231.4:443 52.111.231.4:443
tcp 192.168.55.220:59704 192.168.16.2:59704 162.159.135.232:443 162.159.135.232:443
tcp 192.168.55.220:60477 192.168.16.2:60477 142.250.27.188:5228 142.250.27.188:5228
```

```
ip cef
ip dhcp excluded-address 192.168.236.1
!
ip dhcp pool DHCP_POELZL
    network 192.168.16.0 255.255.255.192
    default-router 192.168.16.1
    dns-server 8.8.8.8
!
interface FastEthernet0/0
    ip address 192.168.16.1 255.255.255.192
    ip access-group SURFING_POELZL in
    ip access-group BROWSING_POELZL out
    ip nat inside
    ip virtual-reassembly
    duplex auto
    speed auto
!
interface FastEthernet0/1
    ip address dhcp
    ip nat outside
    ip virtual-reassembly
    duplex auto
    speed auto
!
ip http server
no ip http secure-server
ip nat inside source list NAT_POELZL interface FastEthernet0/1 overload
!
ip access-list standard NAT_POELZL
    permit 192.168.16.0 0.0.0.63
```

!

```
ip access-list extended BROWSING_POELZL
```

```
permit tcp any any established
```

```
permit icmp any any echo-reply
```

```
permit udp any any eq bootpc
```

```
permit udp any any eq bootps
```

```
ip access-list extended SURFING_POELZL
```

```
permit tcp 192.168.16.0 0.0.0.63 any eq www
```

```
permit tcp 192.168.16.0 0.0.0.63 any eq 443
```

```
permit tcp 192.168.16.0 0.0.0.63 any eq ftp
```

```
permit icmp 192.168.16.0 0.0.0.63 any echo
```

```
permit udp any any eq bootpc
```

```
permit udp any any eq bootps
```

Tests:

Ping ins Internet:

```
C:\Users\jakob>ping 8.8.8.8

Ping wird ausgeführt für 8.8.8.8 mit 32 Bytes Daten:
Antwort von 8.8.8.8: Bytes=32 Zeit=14ms TTL=117
Antwort von 8.8.8.8: Bytes=32 Zeit=14ms TTL=117
Antwort von 8.8.8.8: Bytes=32 Zeit=14ms TTL=117
Antwort von 8.8.8.8: Bytes=32 Zeit=14ms TTL=117

Ping-Statistik für 8.8.8.8:
    Pakete: Gesendet = 4, Empfangen = 4, Verloren = 0
    (0% Verlust),
Ca. Zeitangaben in Millisek.:
    Minimum = 14ms, Maximum = 14ms, Mittelwert = 14ms
```

Debug ip nat:

```
Router#debug ip nat
IP NAT debugging is on
Router#
*Oct 13 14:07:40.887: NAT*: s=192.168.16.2->192.168.55.220, d=8.8.8.8 [22826]
*Oct 13 14:07:40.899: NAT: s=80.81.193.108, d=192.168.55.220->192.168.16.2 [0]
Router#
*Oct 13 14:07:44.875: NAT*: s=192.168.16.2->192.168.55.220, d=8.8.8.8 [22828]
*Oct 13 14:07:44.891: NAT: s=80.81.193.108, d=192.168.55.220->192.168.16.2 [0]
Router#
```