Cisco-Router als DHCP-Server

DHCPv4

Router als DHCPv4-Server

```
Router(config)# ip dhcp pool POOLNAME                    es können mehrere Pools erstellt werden
Router(dhcp-config)# network 192.168.1.0 255.255.255.0
Router(dhcp-config)# default-router 192.168.1.254        Gateway
Router(dhcp-config)# dns-server 8.8.8.8
Router(dhcp-config)# domain-name kohnlehome.de


Router(config)# ip dhcp excluded-address 192.168.1.100   einzelne Adresse nicht vergeben
```

DHCPv4-Server deaktivieren

```
Router(config)# no service dhcp
```

Diagnose

```
Router# show ip dhcp binding    zeigt Leases
Router# show ip dhcp pool       zeigt Einstellungen
```

DHCPv4-Relay-Agent

```
Router(config-if)# ip helper-address 1.2.3.4    UDP-Broadcasts werden an 1.2.3.4 weitergeleitet
```

Weitergeleitete UDP-Ports

37	Time
49	TACACS
53	DNS
67	DHCP server
68	DHCP client
69	TFTP
137	NetBIOS name service
138	NetBIOS datagram service

DHCPv4-Client

```
Router(config-if)# ip address dhcp
```

DHCPv6

SLAAC (Stateless Address Autoconfiguration)

```
Router(config)# ipv6 unicast-routing
```
Router sendet RAs (Router Advertisements)

```
Router(config-if)# no ipv6 nd managed-config-flag
```
M-Flag deaktivieren (Default)
```
Router(config-if)# no ipv6 nd other-config-flag
```
O-Flag deaktivieren (Default)

Stateless DHCPv6 Option (Router Advertisement and DHCPv6)

```
Router(config)# ipv6 unicast-routing
```
Router sendet RAs (Router Advertisements)

```
Router(config-if)# ipv6 nd other-config-flag
```
O-Flag aktivieren

Stateful DHCPv6 (DHCPv6 only)

```
Router(config)# ipv6 unicast-routing
```
Router sendet RAs (Router Advertisements)

```
Router(config-if)# ipv6 nd managed-config-flag
```
M-Flag aktivieren

Router als Stateless DHCPv6-Server

```
Router(config)# ipv6 dhcp pool POOLNAME
Router(config-dhcpv6)# dns-server 2001:4860:4860::8888
Router(config-dhcpv6)# domain-name kohnlehome.de

Router(config-if)# ipv6 dhcp server POOLNAME
Router(config-if)# ipv6 nd other-config-flag
```

Router als DHCPv6-Relay-Agent

```
Router(config-if)# ipv6 dhcp relay destination 2001::1 G0/0/0
```
DHCPv6-Server hängt an G0/0/0

Router als Stateless DHCPv6-Client

```
Router(config-if)# ipv6 enable
Router(config-if)# ipv6 address autoconfig
```

Diagnose

```
Router# show ipv6 dhcp binding
Router# show ipv6 dhcp pool
Router# show ipv6 interface g0/1
Router# debug ipv6 dhcp detail
```