

## Adding a DHCP Server to the WAN

1. Begin by setting all your DHCP Scopes on the DHCP Server. Name each one according to your VLAN. The starting address will be 192.168.x.100/24

Server0

Physical Config **Services** Desktop Programming Attributes

**SERVICES**

- HTTP
- DHCP**
- DHCPv6
- TFTP
- DNS
- SYSLOG
- AAA
- NTP
- EMAIL
- FTP
- IoT
- VM Management
- Radius EAP

DHCP

Interface: FastEthernet0 Service: ☒ On ☐ Off

Pool Name: VLAN 10

Default Gateway: 192.168.10.1

DNS Server: 0.0.0.0

Start IP Address : 192 168 10 100

Subnet Mask: 255 255 255 0

Maximum Number of Users : 100

TFTP Server: 0.0.0.0

WLC Address: 0.0.0.0

Add Save Remove

Pool Name	Default Gateway	DNS Server	Start IP Address	Subnet Mask	Max User	TFTP Server	WLC Address
VLAN 10	192.168.10.1	0.0.0.0	192.168.10.100	255.255.255.0	100	0.0.0.0	0.0.0.0
VLAN 40	192.168.40.1	0.0.0.0	192.168.40.100	255.255.255.0	100	0.0.0.0	0.0.0.0
VLAN 30	192.168.30.1	0.0.0.0	192.168.30.100	255.255.255.0	100	0.0.0.0	0.0.0.0
VLAN 20	192.168.20.1	0.0.0.0	192.168.20.100	255.255.255.0	100	0.0.0.0	0.0.0.0
serverPool	192.168.10.1	0.0.0.0	192.168.10.100	255.255.255.0	100	0.0.0.0	0.0.0.0

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2. Assign your server an IP address on VLAN 10 we will use 192.168.10.5.

IP Configuration

IP Configuration

☐ DHCP ☒ Static

IPv4 Address: 192.168.10.5

Subnet Mask: 255.255.255.0

Default Gateway: 192.168.10.1

DNS Server: 0.0.0.0

3. Connect your server to the switch on Interface 23. Set this Interface to be an access port and have it access VLAN 10.

```
!  
interface FastEthernet0/24  
  switchport access vlan 10  
  switchport mode access  
!
```

4. The final set is to set up IP Helper-Address on the Routers that will all point to the DHCP Server 192.168.10.5. You will set this up on each of the sub-interfaces for each VLAN. This way, when the Broadcast traffic comes to the Default gateway looking for an IP Address from a DHCP Server, it will know where to get an assigned address.

```
!  
interface GigabitEthernet0/0.10  
  encapsulation dot1Q 10  
  ip address 192.168.10.1 255.255.255.0  
  ip helper-address 192.168.10.5  
!  
interface GigabitEthernet0/0.20  
  encapsulation dot1Q 20  
  ip address 192.168.20.1 255.255.255.0  
  ip helper-address 192.168.10.5  
!
```

5. Go to each of your computers on both sides of the WAN. Open the IP Settings and set it from Static to DHCP. Ensure you are receiving the correct VLAN Address. Ping each machine and ensure the connections are working.