Configuring Multiple IP Pools on a Linux DHCP Server

In a network environment, a DHCP (Dynamic Host Configuration Protocol) server is responsible for assigning IP addresses and other network configuration parameters to devices on the network. In some cases, you may need to configure multiple IP pools on a single interface of a Linux DHCP server. This allows you to assign different ranges of IP addresses to different groups of devices or subnets.

To configure multiple IP pools on a Linux DHCP server, follow these instructions:

Step 1: Install DHCP Server

First, ensure the DHCP server software is installed on your Linux system. The most commonly used DHCP server software for Linux is `isc-dhcp-server`. You can install it using the package manager for your Linux distribution. For example, on Ubuntu, you can use the following command:

```
sudo apt-get install isc-dhcp-server
```

Step 2: Configure DHCP Server

Next, you need to configure the DHCP server to define the IP pools for different subnets or groups of devices. The configuration file for the DHCP server is usually located at `/etc/dhcp/dhcpd.conf`. Open this file in a text editor with root privileges.

Step 3: Define IP Pools

You can define multiple IP pools inside the DHCP server configuration file using the `subnet` and `pool` directives. Each `subnet` directive represents a different subnet or group of devices, and the `pool` directive defines the range of IP addresses to be assigned to that subnet.

Here's an example configuration that defines two IP pools on the same interface:

```
subnet 192.168.1.0 netmask 255.255.255.0 {
   range 192.168.1.100 192.168.1.200;
```

```
    option routers 192.168.1.1;
    option domain-name-servers 8.8.8.8;
}

subnet 192.168.2.0 netmask 255.255.255.0 {
    range 192.168.2.100 192.168.2.200;
    option routers 192.168.2.1;
    option domain-name-servers 8.8.8.8;
}
```

In this example, the first `subnet` directive defines a subnet with the IP range from `192.168.1.100` to `192.168.1.200`, and the second `subnet` directive defines a subnet with the IP range from `192.168.2.100` to `192.168.2.200`. The `option routers` directive specifies the default gateway for each subnet, and the `option domain-name-servers` directive specifies the DNS server(s) used by the devices in each subnet.

You can add more `subnet` and `pool` directives to define additional IP pools.

Step 4: Save and Exit

After configuring the IP pools, save the DHCP server configuration file changes and exit the text editor.

Step 5: Restart DHCP Server

Finally, restart the DHCP server to apply the new configuration. The command to restart the DHCP server may vary depending on your Linux distribution. On Ubuntu, you can use the following command:

```
sudo systemctl restart isc-dhcp-server
```

Conclusion

Following these steps, you can configure multiple IP pools on a Linux DHCP server. This allows you to assign different ranges of IP addresses to different subnets or groups of devices on your network. Remember to save the configuration changes and restart the DHCP server for the changes to take effect.