How to Configure a Static IP Address on a Linux System

In a Linux environment, configuring a static IP address is essential for servers and devices that require a consistent network identity. Unlike dynamic IP addresses, which can change over time, a static IP address remains constant, ensuring reliable communication and accessibility. This article will guide you through the process of setting up a static IP address on various Linux distributions, highlighting its importance in network management and server configuration.

Examples:

Configuring a Static IP on Ubuntu/Debian

1. **Edit the network configuration file**: Open the /etc/netplan/01-netcfg.yaml file using a text editor like nano or vim.

   ```
   sudo nano /etc/netplan/01-netcfg.yaml
   ```

2. **Modify the configuration**: Update the file with your network details. Here is an example configuration:

   ```
   network:
    version: 2
    ethernets:
      eth0:
        dhcp4: no
        addresses:
          - 192.168.1.100/24
        gateway4: 192.168.1.1
        nameservers:
          addresses:
            - 8.8.8.8
            - 8.8.4.4
   ```

3. **Apply the changes**: Save the file and apply the configuration using the netplan command.

   ```
   sudo netplan apply
   ```

Configuring a Static IP on CentOS/RHEL

1. **Edit the network configuration file**: Open the appropriate configuration file for your network interface, typically found in /etc/sysconfig/network-scripts/ifcfg-eth0.

   ```
   sudo nano /etc/sysconfig/network-scripts/ifcfg-eth0
   ```

2. **Modify the configuration**: Update the file with your network details. Here is an example configuration:

```
TYPE=Ethernet
BOOTPROTO=none
NAME=eth0
DEVICE=eth0
ONBOOT=yes
IPADDR=192.168.1.100
PREFIX=24
GATEWAY=192.168.1.1
DNS1=8.8.8.8
DNS2=8.8.4.4
```

3. **Restart the network service**: Save the file and restart the network service to apply the changes.

```
sudo systemctl restart network
```

Configuring a Static IP on Fedora

1. **Edit the network configuration file**: Open the appropriate configuration file for your network interface, typically found in /etc/sysconfig/network-scripts/ifcfg-eth0.

```
sudo nano /etc/sysconfig/network-scripts/ifcfg-eth0
```

2. **Modify the configuration**: Update the file with your network details. Here is an example configuration:

```
TYPE=Ethernet
BOOTPROTO=none
NAME=eth0
DEVICE=eth0
ONBOOT=yes
IPADDR=192.168.1.100
PREFIX=24
GATEWAY=192.168.1.1
DNS1=8.8.8.8
DNS2=8.8.4.4
```

3. **Restart the network service**: Save the file and restart the network service to apply the changes.

```
sudo systemctl restart network
```