Project: Configure Static IP in RHEL 9 VM (VMware Workstation)

🎯 Objective

Set a **persistent static IPv4 address** for a Red Hat Enterprise Linux (RHEL 9) server running inside **VMware Workstation**, so the server can be accessed consistently via SSH and for hosting services.

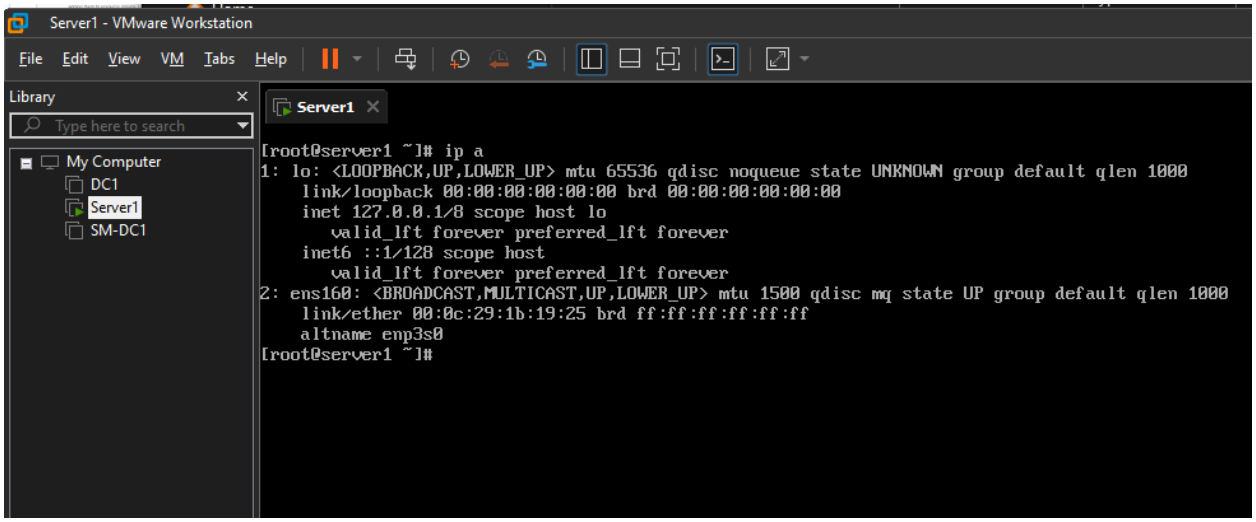
🖥️ Environment

- **Host Machine:** Windows 11
- **Hypervisor:** VMware Workstation Pro
- **Guest OS:** Red Hat Enterprise Linux 9.5 (Plow)
- **Network Mode:** NAT (VMware built-in DHCP, 192.168.147.0/24)
- **Interface:** `ens160`

⚙️ Steps

1. Verify Network Interface

```
ip a
```



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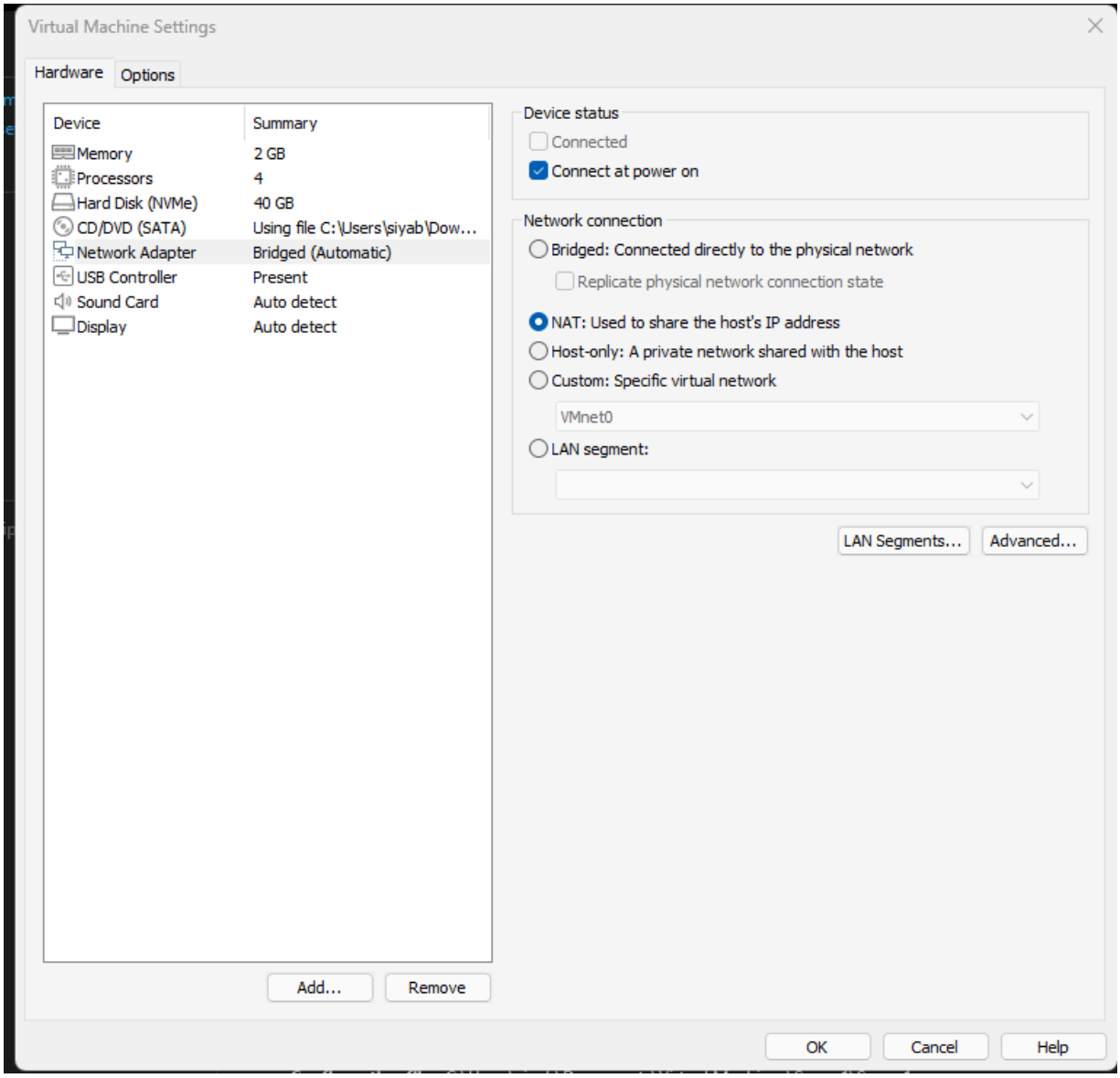
2. Switch VMware to NAT

- VM Settings → Network Adapter → Select **NAT**



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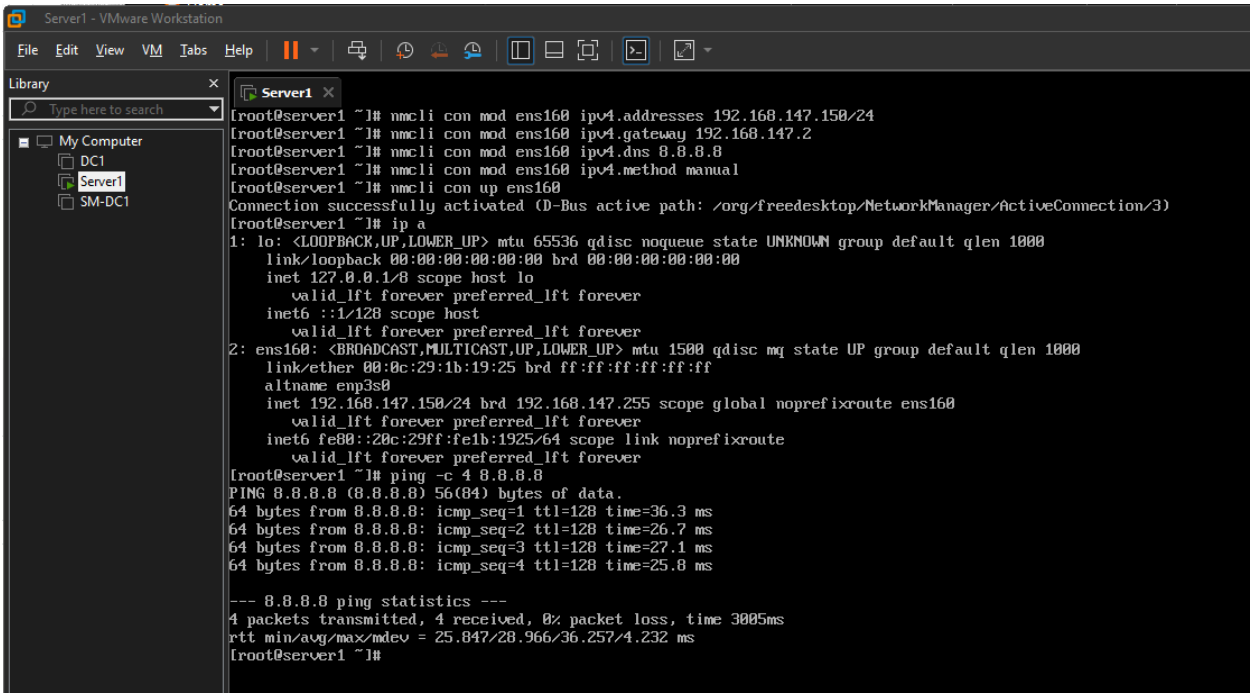
3. Configure Static IP using `nmcli`

```
nmcli con mod ens160 ipv4.addresses 192.168.147.150/24
nmcli con mod ens160 ipv4.gateway 192.168.147.2
nmcli con mod ens160 ipv4.dns 8.8.8.8
nmcli con mod ens160 ipv4.method manual
nmcli con up ens160
```

4. Verify Configuration

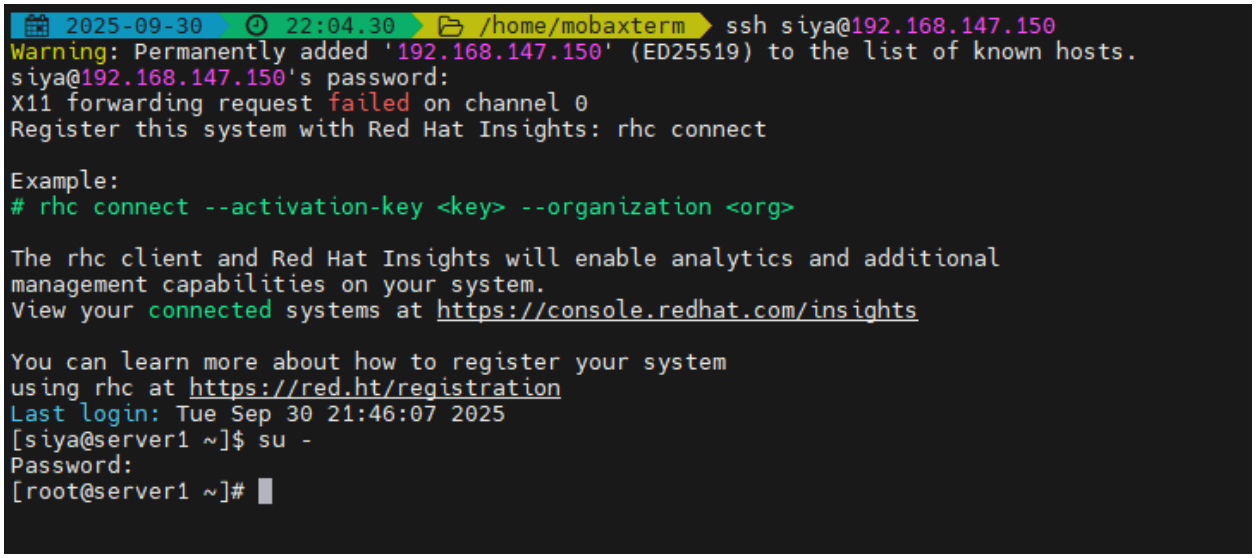
```
ip a
ping -c 4 8.8.8.8
ping -c 4 google.com
```



5. Test SSH from Host

From **MobaXterm**:

```
ssh root@192.168.147.150
```



✅ Results

- The VM now has a **fixed IP: 192.168.147.150**
- SSH works reliably without needing to check `ip a` each reboot
- The server is ready for hosting web, DNS, or other Linux projects

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📝 Reflection

This project taught me:

- How VMware NAT networking works
- Difference between DHCP and static configuration in RHEL
- Practical use of `nmcli` to manage persistent network settings
- Importance of having a stable IP for server administration and future labs