



# **Set Up the Deployment Jump VM and the Kubernetes Master Node VMs (Manual Deployment)**

**NetApp Solutions**

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# Set Up the Deployment Jump VM and the Kubernetes Master Node VMs (Manual Deployment)

A Deployment Jump VM running a Linux distribution is used for the following purposes:

- Deploying ONTAP Select using an Ansible playbook
- Deploying the Kubernetes infrastructure with NVIDIA DeepOps and GPU Operator
- Installing and configuring NetApp Trident

Three more VMs running Linux are set up; these VMs are configured as Kubernetes Master Nodes in this solution.

Ubuntu 18.04.4 LTS was used in this solution deployment.

## 1. Deploy the Ubuntu 18.04.4 LTS VM with VMware tools

You can refer to the high-level steps described in section [Install Ubuntu 18.04.4 LTS](#).

## 2. Configure the in-band management network for the VM. See the following sample netplan template:

```
# This file describes the network interfaces available on your system
# For more information, see netplan(5).
network:
  version: 2
  renderer: networkd
  ethernets:
    ens160:
      dhcp4: false
      addresses: [ipv4_address/subnet]
      routes:
        - to: 0.0.0.0/0
          via: 172.21.232.111
          metric: 100
          table: 3488
      routing-policy:
        - from: 0.0.0.0/0
          priority: 32768
          table: 3488
      nameservers:
        addresses: [nameserver_ip]
        search: [ search_domain ]
      mtu: 1500
```

This template is not the only way to setup the network. You can use any other approach that you prefer.

3. Apply the netplan.

```
sudo netplan --debug apply
```

4. Stop and disable Network Manager if it is running.

```
systemctl stop NetworkManager  
systemctl disable NetworkManager
```

5. Open a VI editor to `/etc/iproute2/rt_tables` and add a table entry.

```
#  
# reserved values  
#  
255     local  
254     main  
253     default  
0       unspec  
#  
# local  
#  
#1      inr.ruhep  
101     3488
```

6. Add a host record for the VM in DNS.

7. Verify outbound internet access.

8. Update the system.

```
sudo apt-get update && sudo apt-get upgrade
```

9. Reboot the system.

10. Repeat steps 1 through 9 to set up the other three VMs.

[Next: Deploy a Kubernetes Cluster with NVIDIA DeepOps \(Automated Deployment\)](#)

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