To **add a static IP address in a RHEL VM on OpenShift Virtualization** using a **YAML manifest with cloud-init**, you must:

1. Define the VM manifest in YAML.
2. Include a cloudInitNoCloud section under the volume (cloud-init disk).
3. Provide the network configuration in the userData field using cloud-init syntax (YAML or INI format).

**✅ Example: RHEL OpenShift VM with Static IP via cloud-init YAML**

yaml

CopyEdit

apiVersion: kubevirt.io/v1

kind: VirtualMachine

metadata:

name: rhel-vm-static-ip

namespace: rhel-vms

spec:

running: false

template:

metadata:

labels:

kubevirt.io/domain: rhel-vm-static-ip

spec:

domain:

devices:

disks:

- name: rootdisk

disk:

bus: virtio

- name: cloudinitdisk

disk:

bus: virtio

resources:

requests:

memory: 4Gi

cpu: "2"

networks:

- name: default

pod: {}

volumes:

- name: rootdisk

dataVolume:

name: rhel-image

- name: cloudinitdisk

cloudInitNoCloud:

userData: |

#cloud-config

hostname: rhel-vm-static

ssh\_pwauth: True

users:

- name: cloud-user

passwd: $6$rounds=4096$xyzxyzxyz$abcdefghij1234567890abcdefghijabcdefghijabcdefghij/

sudo: ALL=(ALL) NOPASSWD:ALL

shell: /bin/bash

write\_files:

- path: /etc/sysconfig/network-scripts/ifcfg-eth0

content: |

DEVICE=eth0

BOOTPROTO=none

ONBOOT=yes

IPADDR=192.168.122.100

NETMASK=255.255.255.0

GATEWAY=192.168.122.1

DNS1=8.8.8.8

runcmd:

- systemctl restart network

**🔍 Key Points:**

* cloudInitNoCloud.userData: Contains the cloud-init config in YAML.
* We manually write the ifcfg-eth0 config file to assign a static IP.
* The passwd value should be a hashed password (use openssl passwd -6 to generate).
* Make sure eth0 matches the actual interface name in your VM image (ip a will confirm).
* systemctl restart network helps apply the IP config after boot.