To create VM templates for Rocky 8.6, Rocky 9.4, and Red Hat 9 that can be cloned, you'll want to follow these steps:

1. Install the Base VMs

You’ll first create the base VMs for each OS version, which will serve as your templates.

Rocky 8.6

bash

sudo virt-install \

--name rocky8.6-template \

--ram 2048 \

--vcpus 2 \

--disk path=/sto/KVM/rocky8.6-template.qcow2,size=20 \

--os-variant rocky8.6 \

--graphics none \

--cdrom /path/to/rocky8.6.iso \

--network network=default \

--console pty,target\_type=serial

Rocky 9.4

bash

sudo virt-install \

--name rocky9.4-template \

--ram 2048 \

--vcpus 2 \

--disk path=/sto/KVM/rocky9.4-template.qcow2,size=20 \

--os-variant rocky9.0 \

--graphics none \

--cdrom /path/to/rocky9.4.iso \

--network network=default \

--console pty,target\_type=serial

Red Hat 9

bash

sudo virt-install \

--name rhel9-template \

--ram 2048 \

--vcpus 2 \

--disk path=/sto/KVM/rhel9-template.qcow2,size=20 \

--os-variant rhel9.0 \

--graphics none \

--cdrom /path/to/rhel9.iso \

--network network=default \

--console pty,target\_type=serial

2. Configure Each VM as a Template

After the installation is complete for each VM:

Update the system: Ensure each template is fully updated.

bash

sudo dnf update -y

Install cloud-init or other necessary tools for VM initialization, depending on your environment.

bash

sudo dnf install -y cloud-init

Clear machine-specific settings: Before converting to a template, clean up the system to remove any machine-specific information.

bash

sudo cloud-init clean

sudo rm -f /etc/udev/rules.d/70-persistent-net.rules

sudo rm -rf /var/lib/cloud/\*

sudo truncate -s 0 /etc/machine-id

sudo rm -f /var/lib/dbus/machine-id

Shutdown the VM:

bash

sudo shutdown now

3. Convert the VM to a Template

Convert the VM disk image into a template by making it read-only or simply using it as a base image:

bash

sudo chmod 444 /sto/KVM/rocky8.6-template.qcow2

sudo chmod 444 /sto/KVM/rocky9.4-template.qcow2

sudo chmod 444 /sto/KVM/rhel9-template.qcow2

4. Cloning the VMs

When you need to create a new VM from a template, use the following virt-clone command:

Cloning Rocky 8.6

bash

sudo virt-clone --original rocky8.6-template --name rocky8.6-clone1 --file /sto/KVM/rocky8.6-clone1.qcow2

Cloning Rocky 9.4

bash

sudo virt-clone --original rocky9.4-template --name rocky9.4-clone1 --file /sto/KVM/rocky9.4-clone1.qcow2

Cloning Red Hat 9

bash

sudo virt-clone --original rhel9-template --name rhel9-clone1 --file /sto/KVM/rhel9-clone1.qcow2

5. Start and Customize the Cloned VMs

After cloning, start the VM and customize it according to your needs:

bash

sudo virsh start rocky8.6-clone1

sudo virsh start rocky9.4-clone1

sudo virsh start rhel9-clone1

You can then access and further configure these cloned VMs using virt-manager or virsh as needed.

6. Ongoing Management

Keep the templates updated periodically, and create new clones as required.

This setup will streamline the deployment of new virtual machines using your templates, ensuring consistency across your environment.