

Lab - Installing SUSE Manager 5.0

Option 1 - Install from SUSE Manager Server 5.0 image

This lab allows you to install SUSE Manager from an image instead of installing SLE Micro first. Please have the **services** VM running prior to this lab. Documentation is here:

<https://documentation.suse.com/suma/5.0/>

1. Copy the image file to KVM storage:

- a.

```
cp \
/home/tux/Downloads/SUSE-Manager-Server.x86_64-Qcow.qcow2 \
/home/tux/kvm/pool/suma-50-image.qcow2
```

2. Create a new VM in 'virt-manager' to use the image

- a. In 'virt-manager', start the vm installation wizard
 - b. Select 'Import existing disk image', and click 'Forward'
 - c. Browse to the 'pool' storage, and use the refresh button to update the list. Choose the `suma-50-image.qcow2` file. Use 'SUSE Linux Enterprise Micro 5.5' as the operating system virt-manager thinks you are installing.
 - d. Give it 8GB RAM and 2 CPU's
 - e. Name it 'suma-50-image'. Choose the 'Virtual network 'Corp-Net' as the network, and tick the box next to 'Customize configuration before install, then 'Finish'
 - f. Click on 'Add hardware', then 'Select or create custom storage'. Click on manage, and navigate to 'pool', then choose 'suma-50-storage.qcow2'
 - g. Click on Begin Installation, and your system should boot into a minimal 'firstboot' environment after it times out looking for ignition and cloud-init devices. Set the timezone appropriately, and use the same default root password used in the lab.
 - h. SSH in as root using the password you created and the IP address that appears in the console. Add a line to `/etc/hosts` that reflects your hostname:

```
172.17.20.50 suma-50.example.com suma-50
```

- i. Change the hostname with this command:

```
hostnamectl set-hostname suma-50.example.com
```

- j. Give it the IP address of 172.17.20.50/24, then reboot:

```
nmcli connection modify 'Wired connection 1' \
  ipv4.method manual \
  ipv4.addresses 172.17.20.50/24 \
  ipv4.gateway 172.17.20.1 \
  ipv4.dns 172.17.20.35,8.8.8.8
```

- k. Mount your partition to the default storage location:

- i. View your disks with: `'parted -l'`
 - ii. Use the device name of the large storage device to provision it, for example:

```
mgr-storage-server /dev/vdb
```

- iii. If there is already a partition, it will error out - requiring you to manually mount it and add it to `/etc/fstab`
- l. Reboot the system, then ssh in to the new IP, and check that our storage is visible:
 - i. `df -Th`
 - ii. There should be a line that looks like this:


```
/dev/vdb1      xfs      200G  237M  200G   1%
/var/lib/containers/storage/volumes
```
- m. Install SUSE Manager 5.0 with `mgradm`, using the default lab password when prompted:

```
mgradm install podman suma-50.example.com
```

Note that it will use the container image already present in the SUSE Manager VM image. Setup should complete unattended in about 10 minutes.

- n. Log in to your new server with the web browser pointing to <https://suma-50.example.com>, using 'admin' as the default user, and the password you supplied. From here you can explore, add credentials, sync channels, or whatever SUSE Manager function you desire.

Option 2 - Install from SUSE Manager Server 5.0 without image

Prerequisites: Ensure the **services** and **suma-p1** virtual machines are running. Turn off all others. Documentation is available here: <https://documentation.suse.com/suma/5.0/>

1. Clone the **slmicro55** VM from virt-manager.
 - a. Name it by the FQDN you wish to use for the new server - 'suma-50.example.com'
 - b. Give it 8192MB of memory
 - c. Assign the NIC to the 'Corp-Net' network
 - d. Add the 'suma-50-storage.qcow2' disk to this system from the 'Pool' virtual storage
 - e. SSH into your new VM using the IP address shown on the console and change the hostname:

```
hostnamectl set-hostname suma-50.example.com
```

- f. Add a line to `/etc/hosts` that reflects your hostname:


```
172.17.20.50 suma-50.example.com suma-50
```
 - g. Give it the IP address of 172.17.20.50/24, then reboot:

```
nmcli connection modify 'eth0' \
  ipv4.method manual \
```

```
ipv4.addresses 172.17.20.50/24 \  
ipv4.gateway 172.17.20.1 \  
ipv4.dns 172.17.20.35,8.8.8.8
```

2. Reset the machine ID since this system has been cloned. There is a script to do this included in the image;

```
machine-id-refresh.sh
```

3. Register this client with the 'suma-p1' server using a bootstrap script:

```
curl -Sks \  
https://suma-p1/pub/bootstrap/bootstrap-slemicro55.sh \  
| /bin/bash
```

4. Your system will reboot, and following that will show up in the list of systems on 'suma-p1'. Allow all jobs to complete in System Details > Event > History.
5. Boot your system once from the Virt-manager Console - and from then on the reboots can be managed by SUSE Manager.
6. Add the SUSE-Manager-Server-5.0-Pool and SUSE-Manager-Server-5.0-Updates channels to this system from the SUSE Manager webUI. Watch Events > History to ensure it is subscribed.
7. Install the two SUSE Manager 5.0 management packages: `mgradm` and `mgrctl` from SUSE Manager. Schedule it using an Action Chain calling it 'suma50'. Add a Reboot action to the 'suma50' action chain using System Details > Schedule System Reboot. Run the 'suma50' Action Chain now.
8. SSH into **suma-50**, and provision your additional storage:
 - a. Use `parted -l` to determine the device for storage (should be `/dev/vdb`)
 - b. This image includes a script you can run to provision/mount it:
9. Installation requires a container image from `registry.suse.com`. Log in to it ahead of the install with your email as the user name, and credentials from the file provided. This lab has them in:

```
/home/tux/Documents/suma50/suma50-server-extension-internal-credentials
```

- a. `podman login registry.suse.com`

10. View the options for the `mgradm` tool:

- a. `mgradm -h`
- b. `mgradm install podman -h`

Notice that you can specify options directly in the command, create a configuration file, or accept the defaults

11. Install the server using `mgradm`, using the default lab password when prompted to supply one.

```
mgradm install podman suma-50.example.com
```

12. Log in to your new server with the web browser pointing to <https://suma-50.example.com>, using 'admin' as the default user, and the password you

supplied. From here you can explore, and set things up as you might with any SUSE Manager server

Exploring SUSE Manager 5.0 from the Container Host CLI

mgradm

1. View the `mgradm` tool options to administer the system:

```
mgradm -h
```

2. Use `mgradm` to manage the SUSE Manager services:

```
mgradm status
```

```
mgradm stop
```

```
mgradm start
```

3. Use `mgradm` to perform support functions

```
mgradm support config
```

- Creates the supportconfig tarball in `/root/`

```
mgradm support ptf podman -h
```

- Allows you to install PTF's into the container

mgrctl

1. View the `mgrctl` tool options to administer the system:

```
mgrctl -h
```

2. Open a terminal session inside the container

```
mgrctl term
```

3. Execute any valid CLI commands in the container interactively, for example:

```
mgrctl exec -ti 'spacewalk-remove-channel -l'
```

Additional container host command line exercises

1. Register the image with SCC using credentials for SLE Micro 5.5:

```
transactional update register -r <<slemicro55_key>>
```

2. View the mapped persistent volumes created during installation:

```
ls -l /var/lib/containers/storage/volumes
```

Uninstalling and clearing server data (optional)

1. When you have completed this lab, you can test uninstalling the SUSE Manager server
`mgradm uninstall --purge-volumes`
2. You can run this command again with an `--force` option to create a 'clean' host for new installs

Optional lab - Migrate from 4.3 to 5.0

Documentation for Migration from 4.3 is available here:

<https://documentation.suse.com/suma/5.0/en/suse-manager/installation-and-upgrade/container-deployment/suma/migrate-suma-to-a-container.html>

1. Start with a "cleaned" SUSE Manager 5.0 setup from the exercises above
2. Start the **suma-p2**
3. Create and copy an SSH key from your container host to suma-p2.example.com:
 - a. `ssh-keygen`
Press 'Enter' at each prompt to accept the defaults
 - b. `ssh-copy-id suma-p2.example.com`
Type 'yes' if prompted to continue:
`Are you sure you want to continue connecting (yes/no/[fingerprint])?`
Use the default lab root password when prompted.
 - c. Test passwordless login to suma-p2.example.com: `ssh root@suma-p2.example.com`
 - i. Shut down the services on **suma-p2.example.com**
 - ii. `spacewalk-service stop`
 - iii. `systemctl stop postgresql`
 - iv. Exit the ssh session with **suma-p2.example.com**
 - d. Start the ssh agent on suma-50 with this command: `eval $(ssh-agent)`
 - e. Add the key you created to the agent:
 - i. `ssh-add ~/.ssh/id_rsa`
 - f. Run the migration:
 - i. `mgradm migrate podman suma-p2.example.com \`
`--logLevel debug \`
`--image "localhost/suse/manager/5.0/x86_64/server"`
 - g. Ensure your SUSE Manager services are started:
`mgradm restart`
`mgradm status`
 - h. Test logging in to the IP address of your migrated server. If this were a real migration, you would ensure DNS is pointing to the original FQDN (suma-p2.example.com), and change the IP of this new server to match the

original. Then client systems would not need cleared caches and work without re-registration.