13.2 Virtual Machines

As you study this section, answer the following questions:

- What is a virtual machine template?
- What types of templates are used for virtual machine?
- What is bootstrapping?
- How is Cloud-init used in bootstrapping?
- How are Anaconda and Kickstart used in bootstrapping?
- What is the difference between thick and thin virtual disk provisioning?

In this lesson, you will learn to:

- Create a virtual machine.

Key terms for this section include the following:

Term	Definition
Virtual machine (VM) template	A set of files that make up a virtual machine that can be copied to create a new virtual machine.
Container template	A set of files that make up a container that can be copied to create a new container.
VM template format	The template format used by a vendor's hypervisor, including VM, VMware, OVF, and OVA.
Container template format	The template format used by a vendor's container engine, including OCI, Docker, and JSON.
Bootstrapping	The automated process of provisioning a virtual machine with unique settings and configurations.
Thick provisioning	The method of pre-allocating the full amount of storage for a virtual machine disk.
Thin provisioning	The method of allocating only the space needed for a virtual machine disk and allowing the disk to grow as more storage is needed.
Persistent disk volume	A method for preserving the changes to a VM disk volume between VM reboots.
Non-persistent disk volume	A method for discarding changes to a VM disk volume so that it reverts to a known state when a VM shuts down.

This section helps you prepare for the following certification exam objectives:

Exam	Objective

CompTIA Linux+	1.5 Compare and contrast cloud and virtualization concepts and technologies.
	• Templates
	  ◦ VM
	  ◦ OVA
	  ◦ OVF
	  ◦ JSON
	  ◦ YAML
	  ◦ Container images
	• Bootstrapping
	  ◦ Cloud-init
	  ◦ Anaconda
	  ◦ Kickstart
	• Storage
	  ◦ Thin vs. thick provisioning
	  ◦ Persistent volumes
	• Tools
	  ◦ libvirt
	  ◦ virsh
	  ◦ vmm