



Custom VM Images

CML is bundled with a set of node definitions, such as ASAv and IOSv, and a single VM image for each node definition. CML permits you to upload additional VM images (as `qcow2` files) for use in your labs. After you upload a new `qcow2` file, you must create an image definition for the new VM image. For example, you could add an alternate version of ASAv to your CML server to match the ASAv version used in a real network that you are modeling in CML. The system would then have two image definitions associated with the ASAv node definition. When you use an ASAv node in your CML lab, you could then choose which of the ASAv image definitions to use for that node.

In addition to uploading alternate versions of existing VM images, the custom image feature permits you to upload third-party VM images, such as a Windows VM, that are not bundled by default. You are responsible for obtaining and properly licensing the third-party VM image. In addition to creating an image definition for the third-party VM image, you may also need to create a new node definition. While we do not provide support for VM images that are not included with the product, if the third-party VM runs on `qemu-kvm` on CentOS Linux, then CML can generally start the VM and link it to the other nodes in the lab topology. This chapter shows how to load a custom image into the CML server and use it in your labs.

- [Preparing Custom Images, on page 1](#)
- [Using Custom Images, on page 2](#)

Preparing Custom Images

Step 1 From the **Lab Manager**, select **Tools > Node and Image Definitions**.
The UI opens the **Node and Image Definitions** page.

Step 2 Click **Manage Uploaded Images**.

Step 3 Upload and select a VM image file.

Click **Browse** and locate a local VM image file to upload. Click the **Upload Image** button.

Alternatively, upload an image to the CML server via `scp`.

New images are displayed under the **Uploaded Images** section. Click **Refresh** to update the list.

Step 4 Click **Create New Image Definition**

Step 5 Enter values for the image definition's fields.

ID

Each image on the system must have a unique ID.

Label

The label appears in the node's image selection list in the **Workbench** and generally indicates the VM image's OS name and version, such as **IOSv 15.6 (3)**.

Description

This field can provide a longer description of the image.

Disk Image

Select the image that you uploaded from the list.

Node Definition

Select the appropriate node definition to be associated with selected image.

Step 6 Click **Create Image Definition**.

A new image is created with the image properties from the form. It is now available for use in your labs.

Using Custom Images

Once you have added the custom image to your system, you can use it with any node that uses the same node definition that is associated with the custom image definition. See also [Preparing Custom Images, on page 1](#).

Step 1 Drag-and-drop a node to the topology canvas in the **Workbench**. Use a node definition that has at least one custom image associated with it.

Step 2 Select the node.

Step 3 Click the **Simulate** tab in the bottom pane.

Step 4 Select the custom image from the **Image Definition** drop-down list in the **Simulate** pane.

When you start the lab simulation, this node will use the custom image instead of the default image for the associated node definition.
