



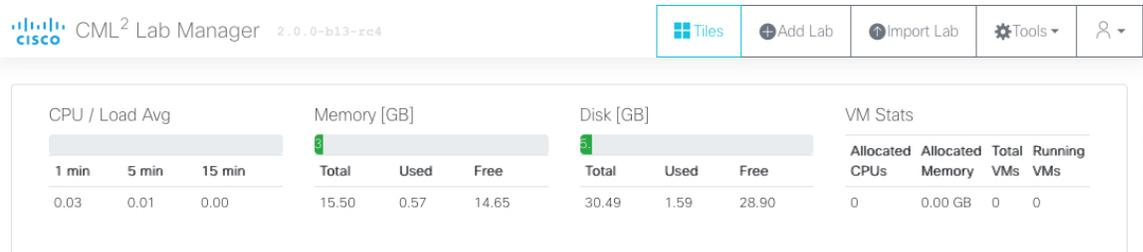
# Lab Manager

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## The Lab Manager Page

**Lab Manager** is the landing page that you see when you first log into the UI. At the top of the **Lab Manager** page, there is a summary of the CML server's system status.

*Figure 1: System Status*



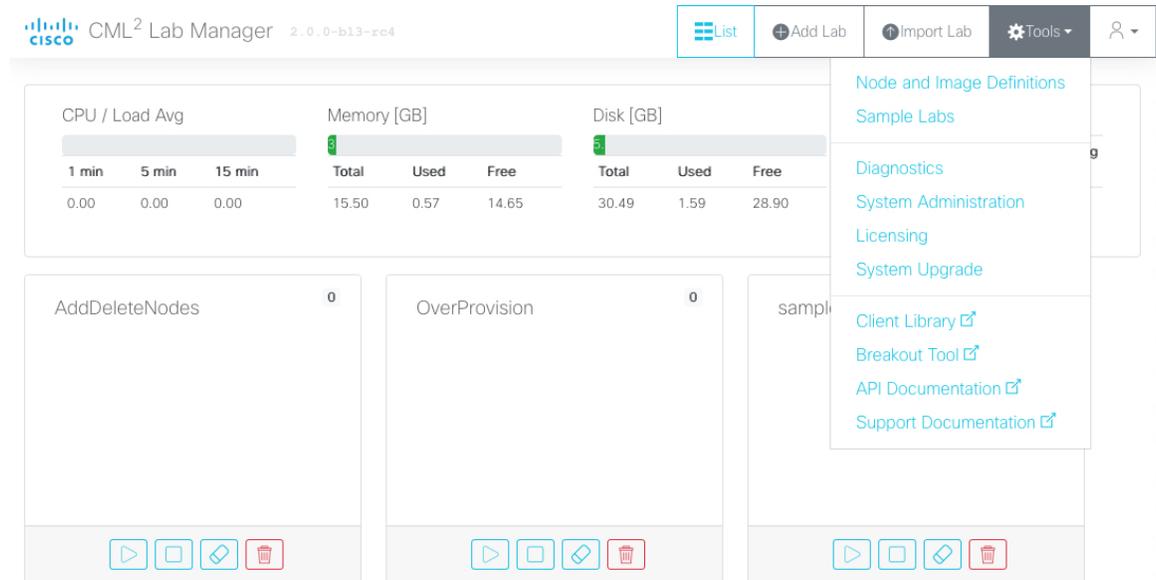
Below the system status elements, the **Lab Manager** shows a list of the labs that you have created. By default, the list of labs is displayed as a set of tiles. If you have not yet created a lab, no lab tiles will be displayed. Clicking on a lab tile opens that lab in the **Workbench**.

There is a menu bar at the top of the page with the following items:

Menu Item	Button Type	Tasks
<b>List</b> (default)	toggle	Changes the layout of the labs. You can toggle between <b>Tiles</b> and <b>List</b> view by pressing the button. See <a href="#">Changing the Lab List View and Multi-Selecting Labs, on page 4</a> .
<b>Add Lab</b>	action	Creates a new lab. See <a href="#">Creating a Lab, on page 3</a> .
<b>Import Lab</b>	action	Opens the <b>Import Lab</b> page. See <a href="#">Importing Labs, on page 3</a> .
<b>Tools</b>	menu	Opens the tools menu.

The **Tools** menu item opens the **Tools** menu.

**Figure 2: Tools Menu**



**Lab Manager** and **Workbench** are the primary pages in the UI for working with labs. Other pages of the user interface are accessible via the **Tools** menu:

Menu Item / Page Name	Description
Node and Image Definitions	The <b>Node and Image Definitions</b> page shows the node definitions and images available on this CML server. You can create new node definitions and add VM images on this page. See <a href="#">Preparing Custom Images</a>
Sample Labs	The <b>Sample Labs</b> page lists preconfigured labs that are ready to use. Load a sample lab into the <b>Lab Manager</b> to get acquainted with the new CML interface.
Diagnostics*	The <b>Debug Diagnostics</b> page provides logging information that is useful for troubleshooting.
System Administration*	The <b>System Administration</b> page provides system information and links for accessing the CML system settings. The administrator adds new CML application users on this page.
Licensing*	Use the <b>Smart Software Licensing</b> page to apply a license or to view the license authorization status.
System Upgrade*	See <a href="#">Administering Cisco Modeling Labs 2.0</a> for more details on system upgrades.
Client Library	Opens the documentation page for the Python Client Library for CML.
Breakout Tool	Opens the documentation page for the Breakout Tool. Download the Breakout Tool from this page. See <a href="#">Breakout Tool</a> .
API Documentation	Opens the documentation for CML's web service APIs.

Menu Item / Page Name	Description
Support Documentation	Opens a page with information about getting support for CML.
* = These items are only available to users with application administrator privileges.	

## Creating a Lab

### Before you begin

Log into the CML web UI using an application user account. For example, you may use the *initial user* account created during the installation process. After logging in, you will see the **Lab Manager** page of the UI.

**Step 1** On the **Lab Manager**'s menu bar, click **Add Lab**.

A new lab is created, and the tile for the lab will appear in the **Lab Manager** with a *default* name, such as Lab at Tue 14:30 PM.

**Step 2** **Optional:** Hover over the lab tile and click the lab name to start editing.

**Step 3** **Optional:** Enter a new lab name and press **Enter** to rename the lab.

You may edit the lab name at any time from the **Lab Manager** tile or in the **Workbench**'s menu bar.

## Importing Labs

The **Import Lab** page supports the import of both CML 2.0 .yaml topology files and 1.x .virl topology files.

When importing a .virl topology from a 1.x system, be aware of the following limitations:

- Images being used in the imported topology may not be available on the CML 2.0 system.
- The network configuration for the imported lab may not match the CML 2.0 system and may require further editing.
- Some images are no longer supported in CML 2.0. For example, the Ostinato node type has been replaced by Cisco TRex.



**Tip** CML will attempt to map unsupported node types from a 1.x .virl file to the closest matching node definition. For example, Ostinato drone nodes will become TRex nodes in the imported topology. Note that the import only converts the node to the new node definition. It cannot convert the node's associated configuration. To ensure that the topology functions as expected, you must check the topology and especially the configuration associated with the nodes. Manually update the configuration of the converted nodes to implement the desired behavior.

**Step 1** From **Lab Manager**, select **Tools > Import Lab**.

**Step 2** Click **Browse** and use the file browser to select the topology file to import from your local system.

**Step 3** Click **Upload Topology**.

The topology is imported, and the page displays a message, such as `Uploaded as lab abc123`.

If you are importing a 1.x .virl file, you may also see warnings, such as

Warnings

```
Node /lxc-ostinato-drone-1: lxc-ostinato-drone node mapped to trex, manual adaption required!
```

```
Node /lxc-1: lxc node mapped to alpine, manual adaption required!
```

Pay attention to any warnings displayed during import. Warnings indicate that the topology contains features or node types that have changed since version 1.6. You should check the imported topology before running it and make necessary changes to the node configurations, especially for any nodes mentioned in the warnings.

**Step 4** Click **Go to Lab...** to open the newly imported lab in the **Workbench**, or click **Lab Manager** to return to that page and see the new lab in the list of labs.

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## Organizing Labs

### Changing the Lab List View and Multi-Selecting Labs

**Lab Manager** uses a tiles-based view to show the list of labs. You may change the **Lab Manager**'s layout from tiles view to list view. The list view permits the selection of multiple labs, but the tiles view does not. To apply an action to multiple labs at once, you must first switch to list view.

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**Step 1** Click the **List** button on the menu bar to change the **Lab Manager**'s layout to list view.

After the button is pressed, **Lab Manager** shows the labs in a list. The button's label changes to **Tiles**.

Figure 3: List view for Lab Manager

The screenshot shows the Cisco CML<sup>2</sup> Lab Manager interface. At the top, there is a navigation bar with the Cisco logo, version '2.0.0-b13-rc4', a 'System Health Issue' indicator, and buttons for 'Tiles', 'Add Lab', 'Import Lab', 'Tools', and a user profile icon. Below the navigation bar, there are four summary cards: 'CPU / Load Avg' (with 1, 5, and 15 min load averages of 0.00), 'Memory [GB]' (Total: 15.50, Used: 0.57, Free: 14.65), 'Disk [GB]' (Total: 30.49, Used: 1.59, Free: 28.90), and 'VM Stats' (Allocated CPUs: 0, Allocated Memory: 0.00 GB, Total VMs: 0, Running VMs: 0). Below these cards are four action buttons: 'Start Selected', 'Stop Selected', 'Wipe Selected', and 'Delete Selected'. The main area contains a table of labs:

<input type="checkbox"/>	Title	State	Created	Queued	Started	Booted	Stopped	Description	Edit
<input type="checkbox"/>	AddDeleteNodes	Defined_on_core	0	0	0	0	0	Workbench	<a href="#">Workbench</a>
<input type="checkbox"/>	OverProvision	Defined_on_core	0	0	0	0	0	Workbench	<a href="#">Workbench</a>
<input type="checkbox"/>	sample_asav.virt	Defined_on_core	0	0	0	0	0	Workbench	<a href="#">Workbench</a>
<input type="checkbox"/>	Delete_Lab	Defined_on_core	0	0	0	0	0	Workbench	<a href="#">Workbench</a>

**Step 2** Select one or more labs by checking the check box in that lab's row.

With multiple labs selected, you can perform an action (start, stop, wipe, or delete) on all of the selected labs.

**Example:**

Figure 4: Selecting multiple labs in the Lab Manager

This screenshot is similar to Figure 3 but shows two labs selected in the list view. The 'AddDeleteNodes' and 'sample\_asav.virt' rows now have their checkboxes checked. The rest of the interface, including the system health cards and action buttons, remains the same.

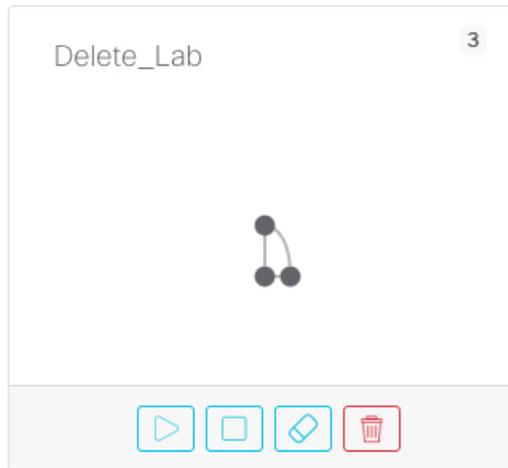
<input checked="" type="checkbox"/>	Title	State	Created	Queued	Started	Booted	Stopped	Description	Edit
<input checked="" type="checkbox"/>	AddDeleteNodes	Defined_on_core	0	0	0	0	0	Workbench	<a href="#">Workbench</a>
<input type="checkbox"/>	OverProvision	Defined_on_core	0	0	0	0	0	Workbench	<a href="#">Workbench</a>
<input checked="" type="checkbox"/>	sample_asav.virt	Defined_on_core	0	0	0	0	0	Workbench	<a href="#">Workbench</a>
<input type="checkbox"/>	Delete_Lab	Defined_on_core	0	0	0	0	0	Workbench	<a href="#">Workbench</a>

## Deleting Labs

Labs in CML are persistent. After a lab has been stopped, CML will maintain the state for all nodes in the lab. Any setting that you modify during the simulation is automatically saved by the system. The next time you start the lab, all nodes will be using the same running configurations from the last time the lab was stopped.

To delete a lab, you must first stop the lab simulation and remove (wipe) its persistent state.

**Figure 5: Start Lab / Stop Lab / Wipe Lab / Delete Lab**



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- Step 1** In the **Lab Manager** page, locate the lab that you want to delete. If the lab is running, the **Wipe Lab** button will be disabled and grayed out. Click the **Stop Lab** button first to stop the running lab.
- Step 2** With the lab stopped, click the **Wipe Lab** button.  
A confirmation dialog is shown.
- Step 3** Click **OK** in the dialog to confirm that you want to wipe the lab.  
By wiping the lab, all data associated with the lab will be permanently deleted.
- Step 4** Click the **Delete Lab** button to remove the lab.  
A confirmation dialog is shown.
- Step 5** Click **OK** in the dialog to confirm that you want to permanently delete the lab.  
The lab is deleted, and it is no longer shown in the list on the **Lab Manager** page.
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