Installing CML 2.0

Preparing for Installation

Before you can start the installation, first download the software.

- Download the **CML controller OVA** *and* the **refplat ISO** files.

- Verify Checksum (Optional).

- Before starting the installation, close all software VPN connections. Managed VPN solutions can block access to the virtual network.

System Requirements

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Important   The requirements listed below are the minimum recommended values for the CML 2.0 virtual machine. Using these values may restrict the number of nodes in a simulation and could impact system performance. It is important to plan ahead and allocate resources based on the expected number and types of nodes in the simulations that the system will run.

Virtual Machine Resource Allocation

System Resource	Minimum Requirements (*default configuration*)
Memory	8 GB

System Resource	Minimum Requirements (*default configuration*)
CPU*	4 (physical cores) *Must support VTx and EPT or AMDv and RVI. These CPU flags are required for nested virtualization.*
Network	1 Interface
Hard Disk	16 GB or more
Hardware Version	The OVA file's hardware version is 10. The **Supported Software** table lists the supported virtualization platforms.

Supported Software

Virtualization Platform	Version
VMware Workstation	14 or later
VMware Fusion Pro	10 or later
VMware Player	14 or later
VMware ESXi	6.5 or later
Browser	HTML5 capable browser (Chrome, Firefox, Safari)

Deploying the OVA File on VMware Workstation / Fusion

CML is deployed as a virtual machine (VM). CML VM deployments are only tested and supported on specific releases of VMware products. Before you deploy the CML OVA file to VMware, ensure that you have installed and are running a supported release of VMware Player, Workstation, Fusion, or ESXi.

Before you begin

You have a copy of the CML controller OVA and refplat ISO files on your local machine.

Step 1   Locate the CML OVA file.

Use your system's file browser, such as File Explorer (Windows) or Finder (Mac).

Step 2   Right-click on the file and select **Open With** > **VMware Workstation** (Windows) or **Open With** > **VMware Fusion** (Mac).
VMware Workstation (Windows) or VMware Fusion (Mac) will open the import wizard.

Step 3   Follow prompts in the VMware import wizard to complete the import.

Step 4   When the import completes, click **Customize** or **Finish**.

What to do next

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Attention   Do *not* start the virtual machine!

After you have imported the OVA to VMware, you must configure the VM's settings before you start it.

Configuring the Virtual Machine

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Note   The default hard disk capacity is set to 16GB to limit the size of the OVA file for easier downloads. You should increase the disk size during the initial deployment to allow for the expansion of files for simulations. Leaving the default size could cause your virtual machine to stop responding due to a full disk in certain conditions.

Before you begin

VMware has finished importing the .ova file, and the CML controller VM is available in VMware.

Step 1   Open the CML Virtual Machine Settings.

Step 2   Ensure the following options have been set:

Component	Windows	Mac
CPU	Virtualize Intel VT-x/EPT. See Figure 1: VMware Workstation CPU settings, on page 5.	Enable hypervisor applications. See Figure 3: Fusion CPU Settings, on page 6.
Memory	8GB or more (recommended) For ESXi deployments, you should configure the VM to reserve all of the allocated memory for the VM.	8GB or more (recommended)
Hard Disk	Increase disk size to 32GB or more (recommended)	Increase disk size to 32GB or more (recommended)
CD/DVD	Map to REFPLAT_image.iso Enable the **Connect at power on** option. See Figure 2: VMware Workstation CD/DVD settings, on page 6.	Map to REFPLAT_image.iso Enable the **Connect at power on** option. See Figure 4: VMware Fusion CD/DVD Settings, on page 7.

| Component	Windows	Mac
Network Adapter	Depending on physical network security settings, it may be necessary to set Network Connection option to **NAT**. **NAT:** the virtual machine's network adapter will receive an IP address from VMware Workstation, and Workstation will provide address translation to the virtual machine. **Bridge:** VMware Workstation will bridge the configured physical adapter to the virtual machine's network adapter. Workstation will in effect provide a DHCP relay for the virtual machine. Note that the virtual machine may not receive an IP address, depending on the configuration of your network's DHCP server.	Depending on physical network security settings, it may be necessary to set Network Connection option to **Shared with my Mac**. **NAT:** the virtual machine's network adapter will receive an IP address from VMware Fusion, and Fusion will provide address translation to the virtual machine. **Bridge:** VMware Fusion will bridge the configured physical adapter to the virtual machine's network adapter. Fusion will in effect provide a DHCP relay for the virtual machine. Note that the virtual machine may not receive an IP address, depending on the configuration of your network's DHCP server.

Figure 1: VMware Workstation CPU settings
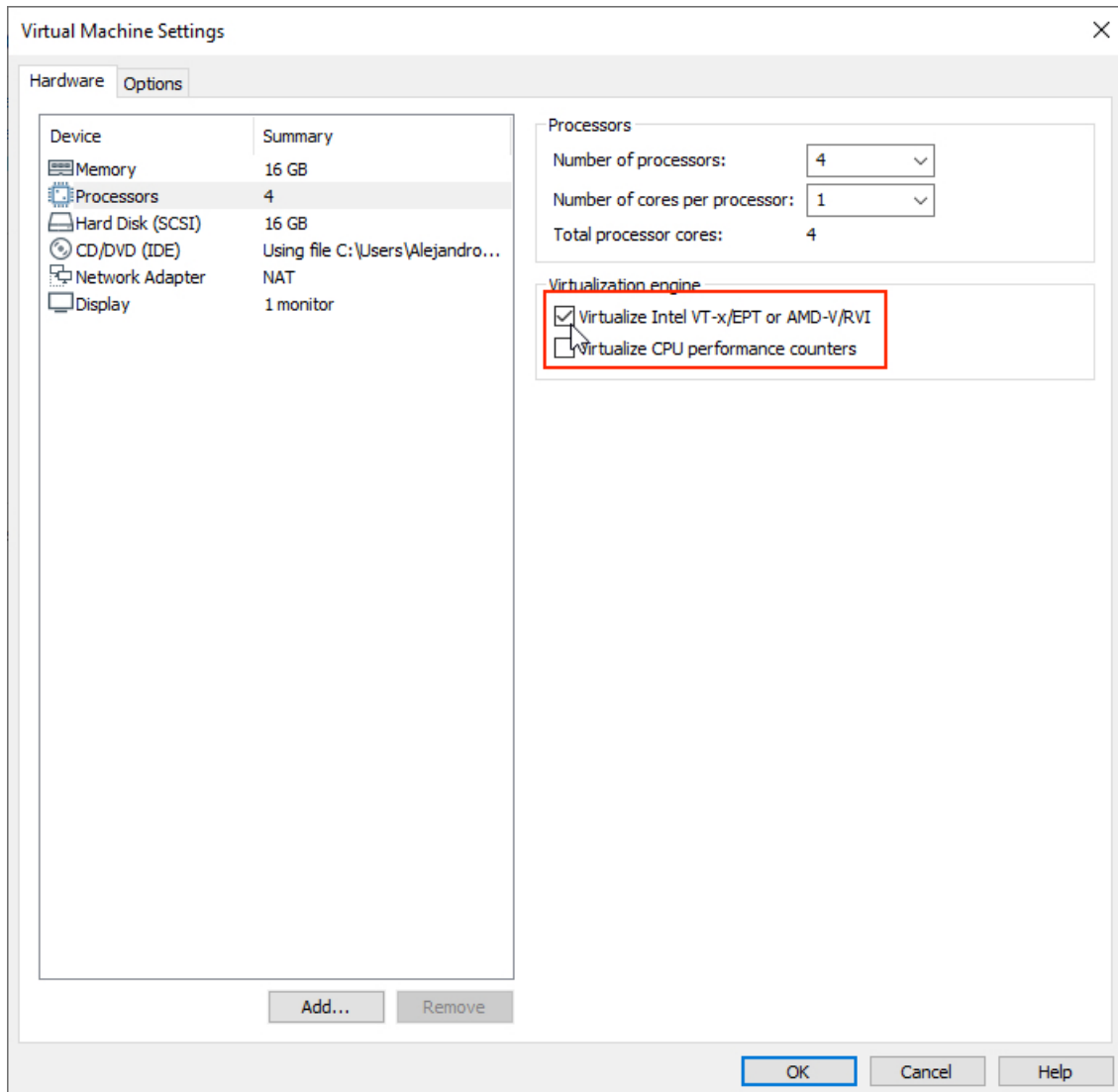
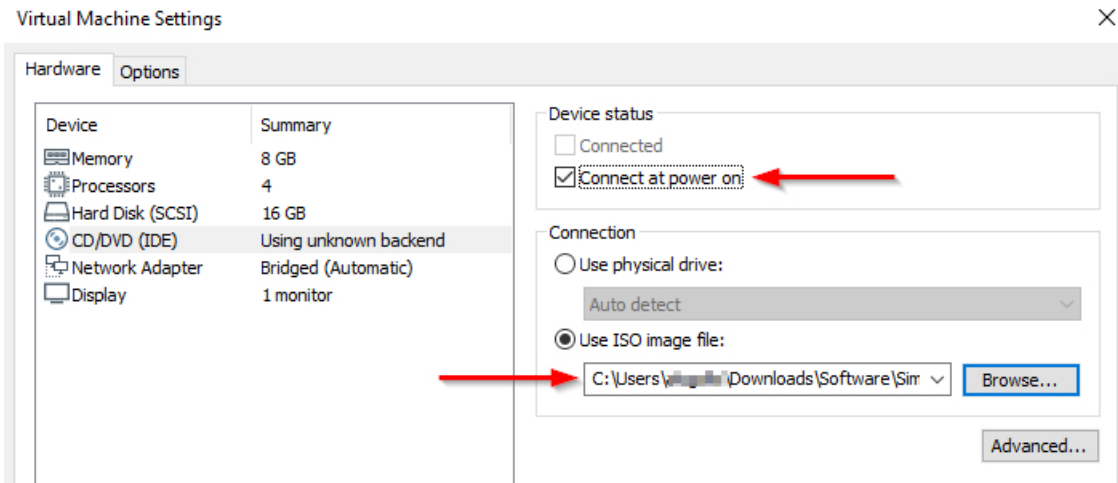*Figure 2: VMware Workstation CD/DVD settings*
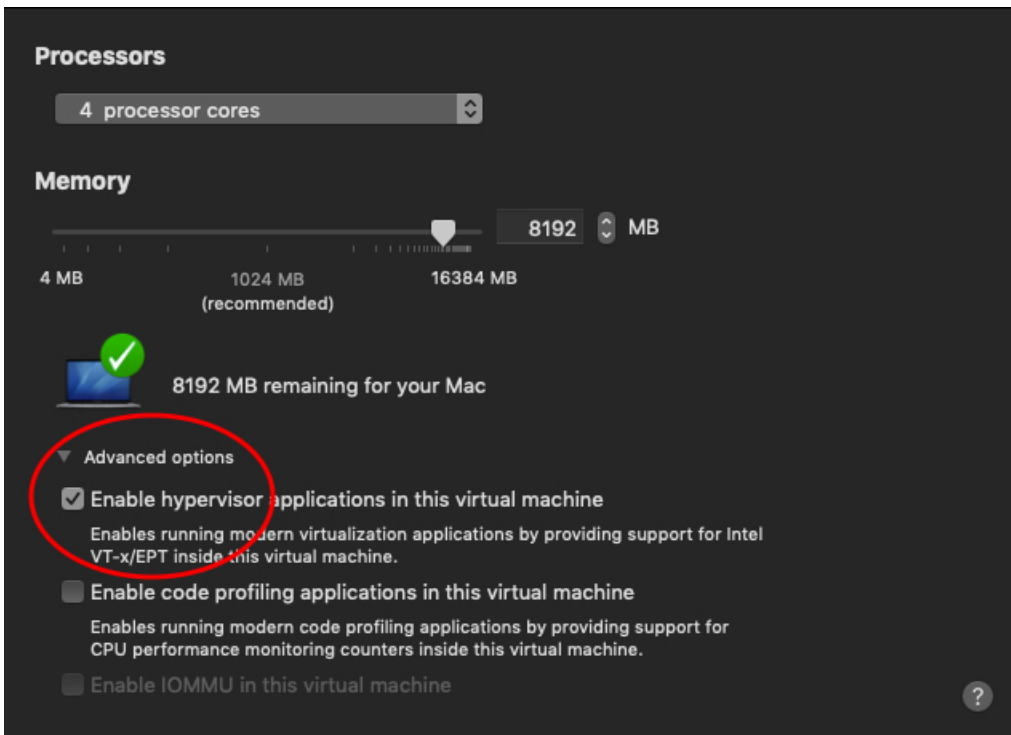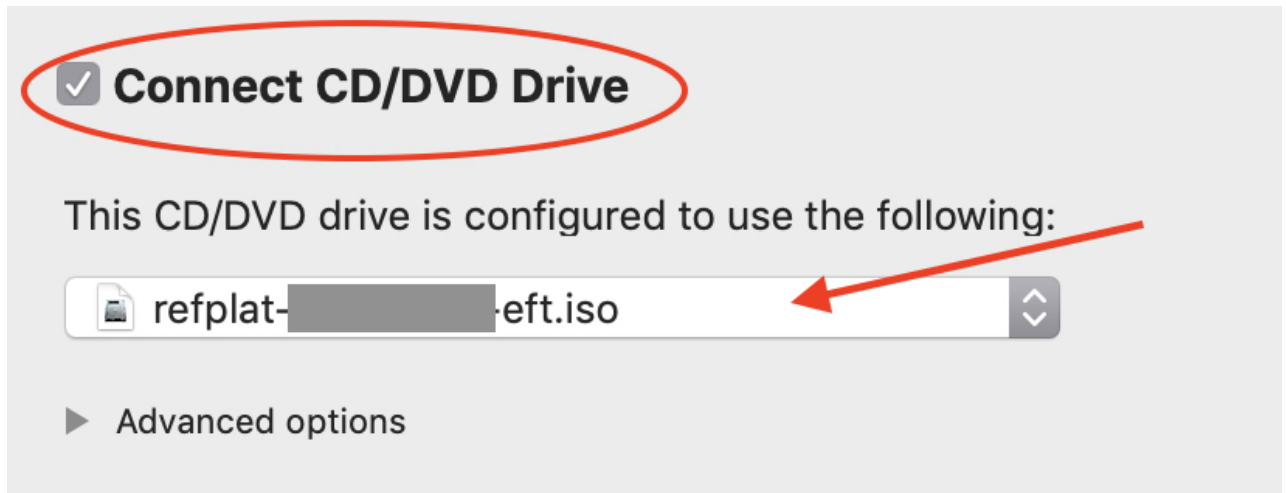

Figure 3: Fusion CPU Settings

Figure 4: VMware Fusion CD/DVD Settings

Step 3 Start the Virtual Machine.

You now have a virtual machine that is defined and configured in VMware.

What to do next

Once you have configured the VM settings and started the VM, you are ready to complete the initial application set-up within the running VM.

Deploying the OVA on ESXi Server

Please refer to VMware documentation for best practices and for procedures to deploy an .ova file on VMware ESXi Server.