



## Configure UCS Servers

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This section explains how to configure and prepare UCS servers for Cisco Smart PHY software installation.

- Configure the servers using the [Cisco Integrated Management Controller \(CIMC\)](#).
- Install the ESXi Hypervisor.
- Add the ESXi hosts to a vSphere cluster using VMware vCenter.

For more details, see the following sections.

- [Install and Configure Cisco Smart PHY Server, on page 1](#)
- [Add Smart PHY ESXi Hosts to vSphere Virtual Infrastructure, on page 3](#)

## Install and Configure Cisco Smart PHY Server

To install and configure the Cisco Smart PHY server, do the following:

1. Install UCS Server
2. Update Firmware
3. Configure Boot Drives
4. Configure Data Drives
5. Install VMWare ESXi Hypervisor
6. Reboot ESXi Host and Set Boot Device

## Install UCS Server

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**Step 1** Rack mount the servers.

For more details, refer the [Cisco UCS C220 M5 Server Installation and Service Guide](#).

**Step 2** Ensure both power supplies are connected on each server and power on the servers.

**Step 3** Connect the network cables.

- For CIMC, use the 1 Gb Ethernet dedicated management port.

- For ESXi Host Management, use the Ethernet Port 1 of the Dual 1Gb/10Gb Intel X550T onboard NIC.
- For Cisco Smart PHY application connectivity, connect port 1 on one of the PCIe NICs to the management network and connect port 1 on the other PCIe NIC to the CIN Network.

**Step 4** Connect the UCS KVM console adapter or connect a keyboard and a monitor directly to the server.

**Step 5** Configure the Cisco IMC through the KVM console and update the [Network Settings](#)

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## Update Firmware

Download the latest Hardware Update Utility for the UCS C220 M5 server from [Cisco's Software Download](#) site. The Utility helps you to update the CIMC, BIOS, and device firmware for storage controllers, network adapters, SSDs, and other components.

## Configure Boot Drives

**Step 1** Enable the Cisco MSTOR Boot Optimized M.2 RAID Controller.

**Step 2** Create RAID 1 virtual drive from 2 x M.2 SSD drives.

**Step 3** Set Stripe Size to 64 KB.

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## Configure Data Drives

**Step 1** Enable Cisco 12G SAS Modular RAID Controller.

**Step 2** Create RAID 5 enabled virtual drive using 4 x SSDs.

**Step 3** Set Stripe Size to 64 KB.

**Step 4** Set the Write Cache Policy to Write Back with Good BBU.

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## Install the VMware ESXi Hypervisor

**Step 1** Download the Cisco custom image for ESXi 6.5 U3 GA Install CD ISO from VMware.

**Step 2** Install VMware ESXi 6.5 Update 3 on the M.2 RAID 1 Virtual Drive (Boot Drive).

Use the Cisco Custom ISO: `VMware_ESXi_6.5.0_13932383_Custom_Cisco_6.5.3.1.iso`

**Step 3** Set a password for the root user per the installation process.

**Step 4** Reboot the VMware ESXi host according to the installation process.

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## Reboot ESXi Host and Set Boot Device

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- Step 1** Interrupt the boot process with F2 after the host resets and boot into the BIOS.
  - Step 2** Under the Boot Options tab set the Boot Option #1 to the UEFI target: `VMWARE ESXi`
  - Step 3** Disable all other boot options.
  - Step 4** Save changes and exit.
  - Step 5** Confirm whether the host boots directly into VMware ESXi.
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## Add Smart PHY ESXi Hosts to vSphere Virtual Infrastructure

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- Step 1** Configure ESXi host management networking.
    - a) Log in to the ESXi host through the DCUI with the root account.
    - b) Configure the Management Network: Update IP configuration, DNS configuration, custom DNS suffixes, and VLAN ID (if required.)
  - Step 2** Add ESXi hosts to VMWare vCenter server.
    - a) In vCenter, create a new, dedicated cluster for Smart PHY.
      - Do not enable DRS or any HA features.
    - b) Add each new Smart PHY ESXi host to the new Smart PHY cluster.
  - Step 3** Configure and enable required ESXi host features.
    - a) Configure time on the host: Enable NTP.
    - b) Apply ESXi host licenses.
    - c) Create a new datastore on the data drive storage device.
  - Step 4** Configure VM networking.
    - a) Ensure the VMWare vSwitch connectivity to the physical switch.
    - b) Create a PortGroup and vSwitch for K8s cluster node VM management network.
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