



# Deploy Cisco Smart PHY

This guide provides information about the deployment of Cisco Smart PHY 3.1.3 in offline environments without Internet connectivity.

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## Overview

A Cisco Smart PHY software image is a compressed tarball file that contains all the scripts, helm charts, and container images required for installing the Deployer and the Cisco Smart PHY cluster. It also contains copy of these instructions and configuration examples.

Use the `deployer` script available in the software image to set up the Deployer and clusters.

The installation process creates the following components:

- **Deployer:** A controller used to configure and deploy the cluster.
- **Cluster:** The cluster on which the target product application runs.

The Deployer supports two types of cluster deployments:

- **Multinode cluster:** Runs on three UCS servers, each with a control-plane, etcd, Infra, and Operations VMs, which add up to 12 VMs.
- **All-in-one (AIO) cluster:** Runs on a single virtual machine (VM).



**Note** We recommend the multinode cluster for production deployments due to their increased resiliency.

The following table contains the minimum resources for each type of node:

Node Type	CPU Cores	RAM Size (GB)	SSD Storage Size (GB)
Deployer	4	16	110
All-in-one	18	96	700

Node Type	CPU Cores	RAM Size (GB)	SSD Storage Size (GB)
Multinode	34	160	1950

## Prerequisites for Cluster Deployment

The following prerequisite components are required to install, operate, and manage a Cisco Smart PHY cluster.

- Staging server: A physical or virtual machine to run the installation script
- Cisco Smart PHY servers: Three UCS servers are required to run a multinode cluster
- VMware deployment

## Prerequisites for Cisco Smart PHY Servers

Three Cisco UCS C220 M5 servers are required to run a Cisco Smart PHY multinode cluster. The supported Cisco UCS server is UCSC-C220-M5SX.

The minimum compute, storage, and networking requirements for the Cisco UCS server are listed in the following table.

Component	Specification
Chassis	UCSC-C220-M5SX
Processor	Intel 6248 2.5GHz/150W 20C/27.5MB DCP DDR4 2933 MHz
Memory	384 GB DDR4-2933-MHz RDIMM
Storage	4 x 800 GB SSD
NIC	Use one of the following: <ul style="list-style-type: none"> <li>• 2 x Intel XL710-QDA2 (40G)</li> <li>• 2x Intel X550-T2 (10G RJ-45 Copper)</li> <li>• 2x Intel X710-DA2 (10G SFP)</li> </ul>

## Prerequisites for VMware Deployment

VMware ESXi and VMware vCenter Server are mandatory components of the Cisco Smart PHY servers, and is necessary for cluster deployment.

- Hypervisor: VMware ESXi 6.5 Update 3 or VMware ESXi 6.7
- Host Management: VMware vCenter Server 6.5 or VMware vCenter Server 6.7

If the VMware ESXi 6.7 is installed on the host, ensure that the VMware vCenter Server version is 6.7.

# Deploy Cisco Smart PHY

Deploying Cisco Smart PHY in an offline environment involves the following process.

1. Configure UCS server.
2. Prepare a staging server.
3. Prepare a cluster configuration file.
4. Deploy the cluster.

If required, repeat the step 3 and 4 to deploy another cluster.

