

# Configure UCS C-Series-Optimized M.2 RAID Controller

## Contents

---

### [Introduction](#)

### [Prerequisites](#)

#### [Requirements](#)

#### [Components Used](#)

### [Background Information](#)

### [Configure](#)

#### [Configuration through The CIMC](#)

#### [Configuration through the BIOS](#)

### [Verify](#)

### [Related Information](#)

---

## Introduction

This document describes the procedure to create a RAID configuration through the CIMC and the BIOS.

## Prerequisites

### Requirements

Cisco recommends that you have knowledge of these topics:

- Basic understanding on Cisco Integrated Management Controller (CIMC).
- Basic understanding of Disks.
- Basic understanding of RAID configuration.

### Components Used

- UCS C245 M8SX
- UCS-M2-HWRAID
- Server C series version 4.3(5.250001)
- Disk Model Micron\_5300\_MTFDDAV240TDS

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, ensure that you understand the potential impact of any command.

## Background Information

A RAID configuration organizes data across multiple physical disks, allows you to manage server storage using different RAID levels to improve performance and fault tolerance. In Cisco UCS, the terms JBOD state and Unconfigured Good state refer to specific configurations for physical drives in a storage

environment:

- JBOD stands for Just a Bunch of Disks. In this state, the drives are presented as individual disks without any RAID configuration.
- Unconfigured Good state, the drives are recognized by the system but are not part of any RAID configuration. They are available to be configured as part of a RAID array or used as standalone drives.

## Configure

### Configuration through The CIMC

Navigate to **Storage tab > Controllers**. Then select the desired **Controller** and click **Physical Drive Info**, confirming the status of the disks are in **JBOD**:

The screenshot shows the Cisco Integrated Management Controller (CIMC) interface. The top navigation bar has a 'Storage' tab highlighted. Below it, the 'Controllers' section is expanded, showing 'MSTOR-RAID' selected. The 'Physical Drive Info' tab is active, displaying a table of disks. The 'Status' column for both disks (Disk 253 and Disk 254) is highlighted with a red box and labeled 'JBOD'.

Slot ID	Disk Type	Status	Capacity (GB)	Model	Firmware
✓ Disk 253	SATA SSD	Jbod	240	ATA	D3MC000
✓ Disk 254	SATA SSD	Jbod	240	ATA	D3MC000

Once you confirmed the disks are in **JBOD** status, click **Actions > Storage** and select **Create Virtual Drive**:

The screenshot shows the same CIMC interface as before, but with the 'Actions' menu open. The 'Storage' option is highlighted, and the 'Create Virtual Drive' option is selected. The 'Physical Drive Info' tab is still active, showing the same disk status table.

Once a new screen appears, you must first select the **Controller** that you are using, then click **Next**:

## Create Virtual Drive

1

Select Controller

Select the Controller to create RAID Volume

2

3

4

5

Select Controller

Select the Controller to create a RAID volume

MSTOR-RAID

MRAID1

MRAID2

MSTOR-RAID

Cancel

Next

In step 2, you see 2 options to create the **Virtual Drive**. In this case, the option with **From Unused Physical Drives** was selected:

## Create Virtual Drive

✓

Select Controller

Select the Controller to create RAID Volume

2

3

4

5

Create / Carve VD

Create a Virtual Drive from Unused Physical Drives.

From Existing Drive Group

Create a Virtual Drive from Existing Drive Group.

Cancel

Back

Next

In Step 3, you need to select the **RAID Type**. In this case, **RAID 1** was selected:

## Create Virtual Drive

✓ Select Controller  
Select the Controller to create RAID Vo

✓ Create / Carve VD  
VD from PDs or Drive Groups

3 RAID Type & PDs  
Select the RAID Type and Drives

4 VD Properties  
Configure Read, Write Policies etc..

5 Summary  
VD Configuration summary

Configured RAID Type

RAID Type

RAID1

Physical Drives in this group

ID	Size (GB)	Model	Interface	Type
253	240	ATA	SATA	SSD
254	240	ATA	SATA	SSD

Size

240 GB

Cancel

Back

Next

Select the name of the **Virtual Drive** and the **Strip Size**:

## Create Virtual Drive

✓ Select Controller  
Select the Controller to create RAID Vo

✓ Create / Carve VD  
VD from PDs or Drive Groups

✓ RAID Type & PDs  
Select the RAID Type and Drives

4 VD Properties  
Configure Read, Write Policies etc..

5 Summary  
VD Configuration summary

VD Properties

Name \*

VD\_NEW

Disk Cache Policy ⓘ

Unchanged

Read Policy ⓘ

No Read Ahead

Write Policy ⓘ

Write Through

Cache Policy ⓘ

Direct IO

Access Policy ⓘ

Read Write

Strip Size ( KB )

32

Initialize

None

Security

Cancel

Back

Next

Verify that everything is properly configured, then click **Create**:

# Create Virtual Drive



Select Controller

Select the Controller to create RAID Vo



Create / Carve VD

VD from PDs or Drive Groups



RAID Type & PDs

Select the RAID Type and Drives



VD Properties

Configure Read, Write Policies etc..



Summary

VD Configuration summary



## Summary

RAID Type	RAID1
Name	VD_NEW
Access Policy	ReadWrite
Read Policy	NoReadAhead
Write Policy	WriteThrough
Disk Cache Policy	NoChange
Cache Policy	Direct IO
Strip Size	32 KB
Size	240 GB
Drives / Spans	253, 254

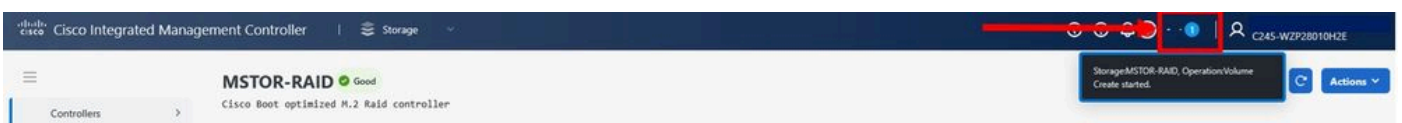
Cancel

Back

Create



**Note:** You can check the status of the **Virtual Drive creation** by clicking the **Task Collection** tab.



## Tasks Collection

Search Logs

ID	Name	Start Time	End Time	State	
1	Storage:MSTOR-RAID, Operation:Volume Create	2025-06-04 11:09:20+00:00	2025-06-04 11:09:41+00:00	Completed	

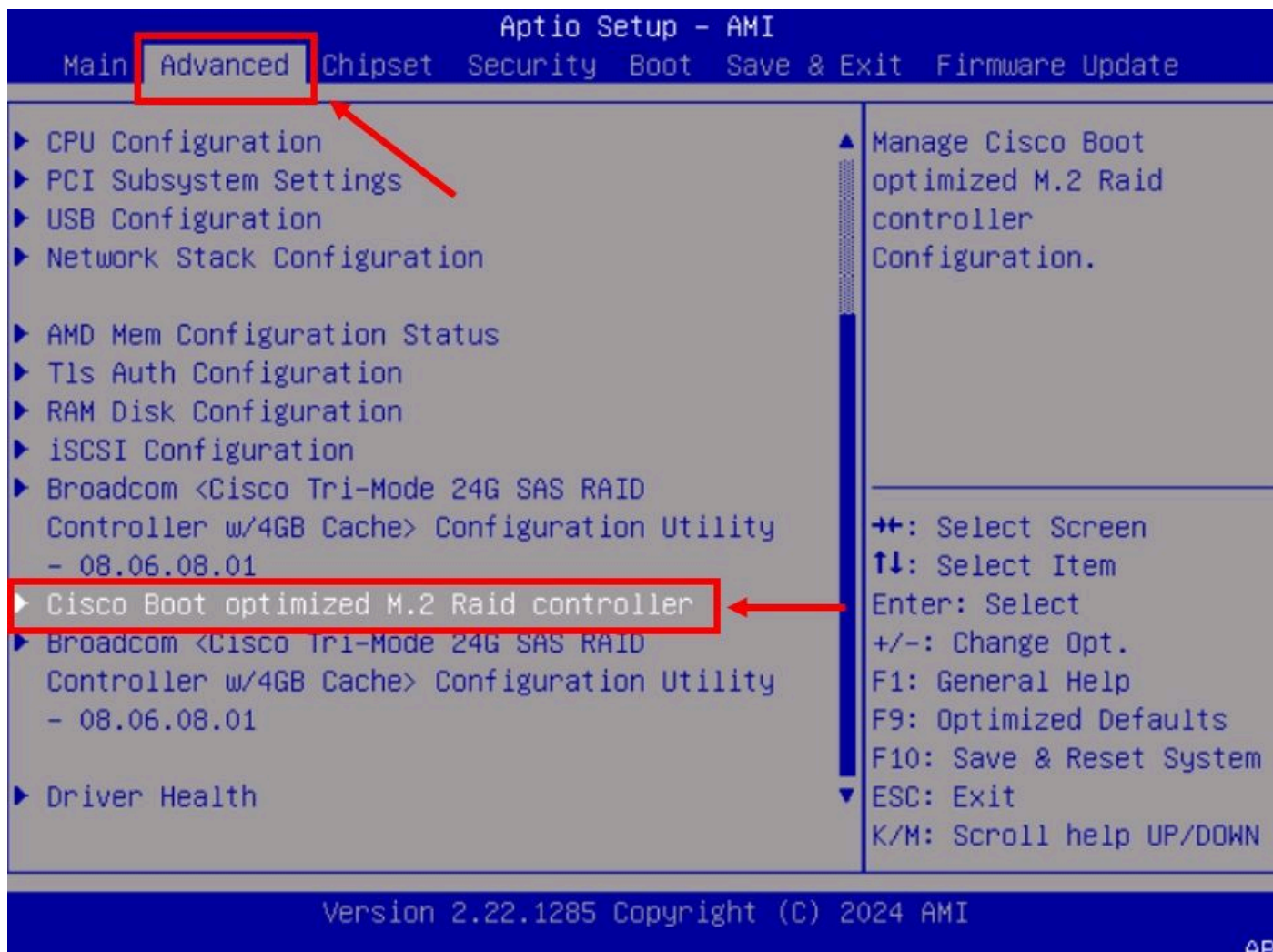
## Configuration through the BIOS

Reboot the server and press **F2** to access the **BIOS** settings:

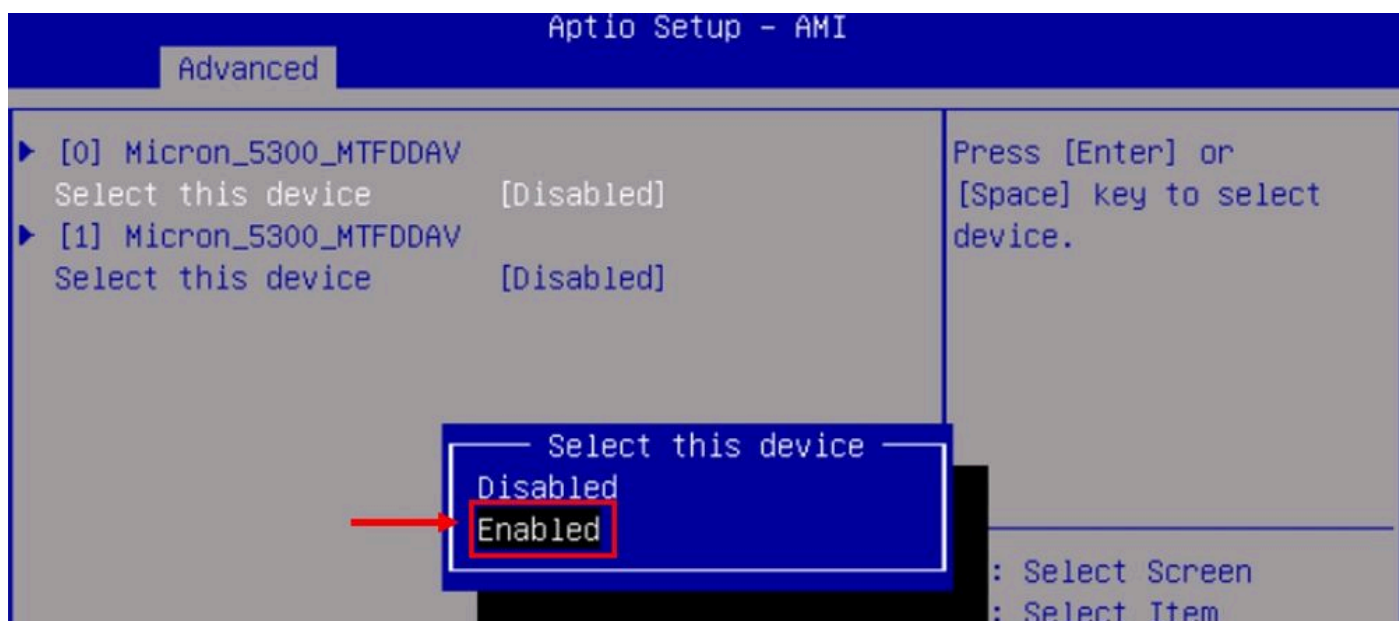


Once you are in the **BIOS** settings, navigate to the **Advanced** tab, then select the desired **Controller**:

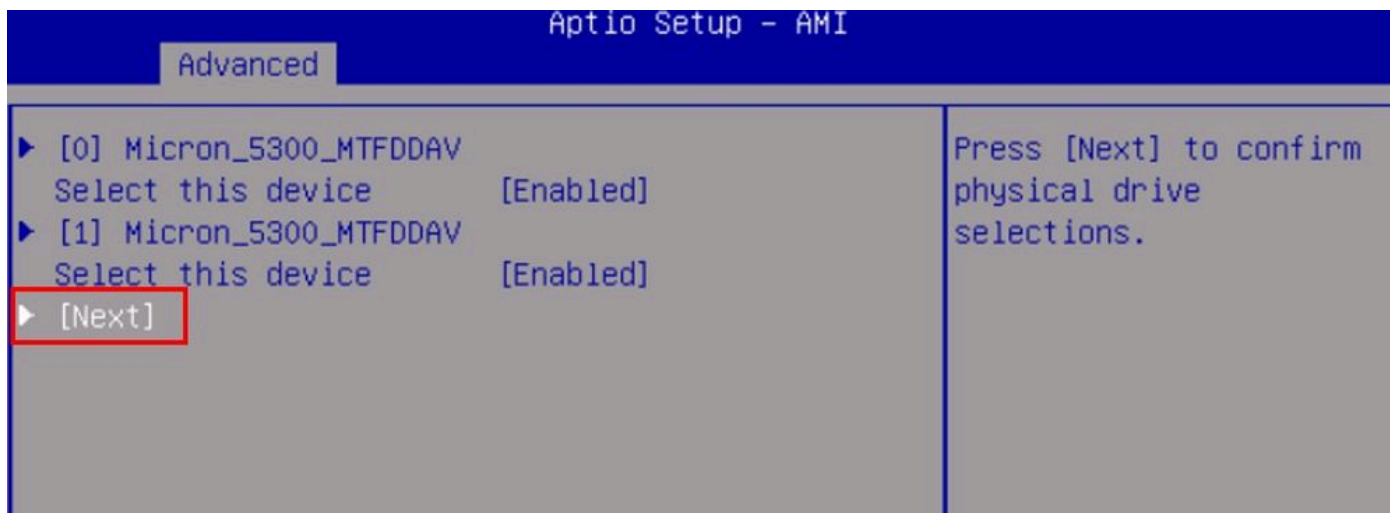




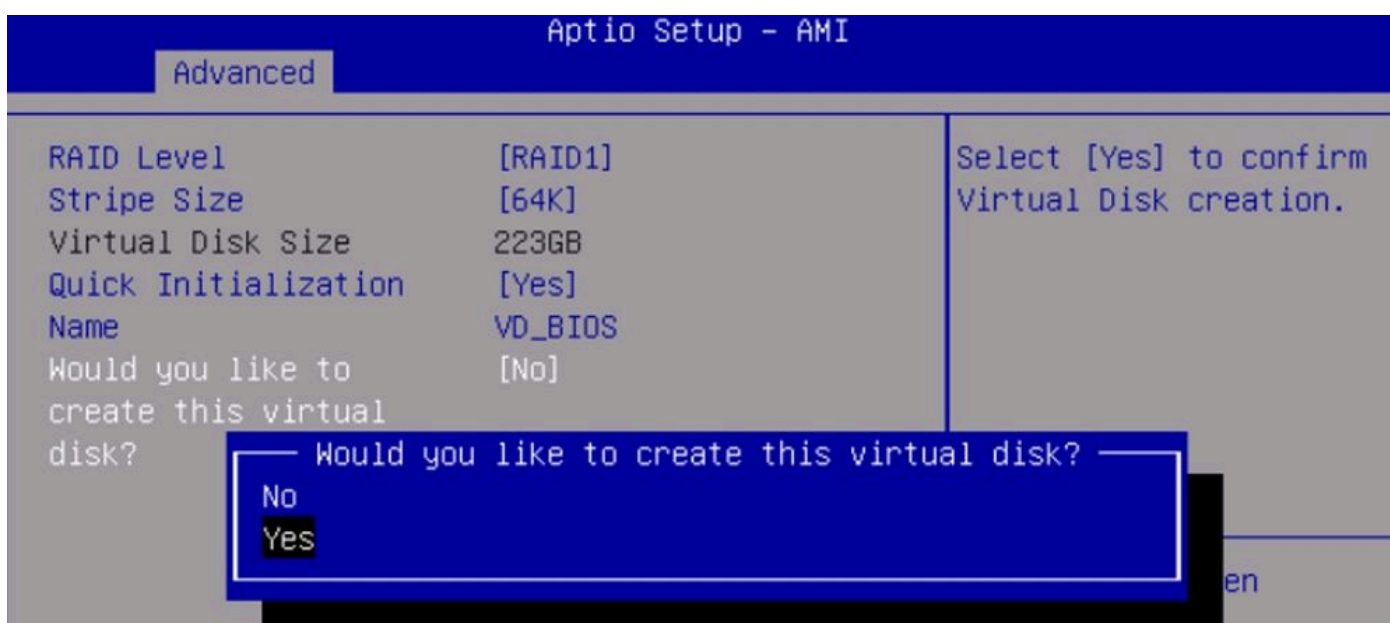
Click **Create RAID Configuration** and enable the **Disks**, then click **Next**:







Select the **RAID Level**, **Size** and name the **Virtual Drive**, before you create it:



## Verify

You can verify that the Virtual Drive has been created successfully through the GUI. Navigate to **Storage tab > Controllers**. Select the desired **controller** and click **Virtual Drive Info**:



Another way to verify the Virtual Drive is through the BIOS. Navigate to **Physical/Virtual Disk Information > Virtual Disk Info** and select the **Virtual Drive**:

Aptio Setup - AMI		
Advanced		
VD ID	0	
NAME	VD_BIOS	
Status	Functional	
Stripe Size	64K	
RAID Mode	RAID1	
Size	223GB	
BGA Status	Not running	
Members	0 1	

Finally, there is also a way to verify the Virtual Drive via CLI, using these commands:

```
C245-WZP28010H2E#
C245-WZP28010H2E# scope chassis
C245-WZP28010H2E /chassis # scope storageadapter MSTOR-RAID
C245-WZP28010H2E /chassis/storageadapter # show virtual-drive
```

Virtual Drive Health	Status	Name	Size	Physical Drives	RAID	
0	Good	Optimal	VD_NEW	228872 MB	253, 254	RAID

## Related Information

- [Cisco UCS Servers RAID Guide](#)
- [Cisco UCS C-Series Integrated Management Controller GUI Configuration](#)