SSD6202 Windows server 2019 Installation Guide

Version 1.00

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1. Overview

This guide explains how to install Windows Server 2019 to an NVMe SSD or array hosted by the SSD6202 controller.

Windows Server 2019
Mirror link:
https://azure.microsoft.com/en-us/search/marketplace/?q=Windows+server+2019&products=

2. Installing Windows server 2019 to the SSD6202 controller

Step 1 Prepare Your Hardware for Installation

After installing the NVMe SSDs into the SSD6202 controller, you can configure the SSD's as a RAID array, or use them as separate, single disks.
Before installation, you must temporarily remove all the NVMe SSD, which are not physically attached to SSD6202 controller, from your system. These can be reinstalled after Windows server 2019 is up and running.

Note: Windows Server 2019 requires UEFI Boot support when used with the SSD6202. If you have other SCSI-class adapters installed, you must make sure the SSD6202 controller UEFI support is loaded first; otherwise the system may be unable to boot. If the SSD6202 is not loading first, try moving it to another PCIe slot.

Step 2 Create an Array

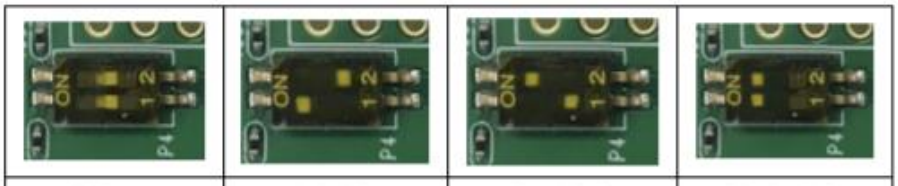
If you would like to configure a RAID array using NVMe SSD's hosted by the SSD6202, please select 1 of the following 5 Methods.

Method 1：Create a RAID array via RAID Switch settings

1. Connect two NVMe SSD's to the SSD6202.

   Note: make sure that there is no RAID or residual partitions in the two NVMe SSD's.

2. Create RAID arrays via RAID Switch settings.

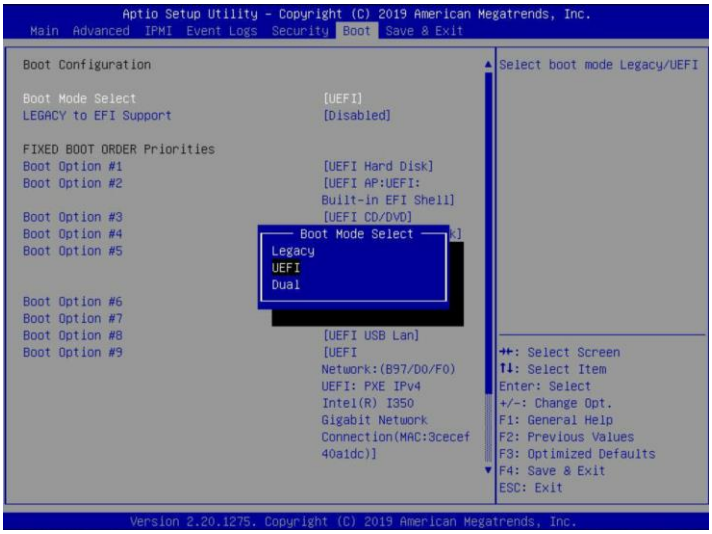


Note: If you don't want to use RAID Switch to create RAID, please make sure the switch setting is None.

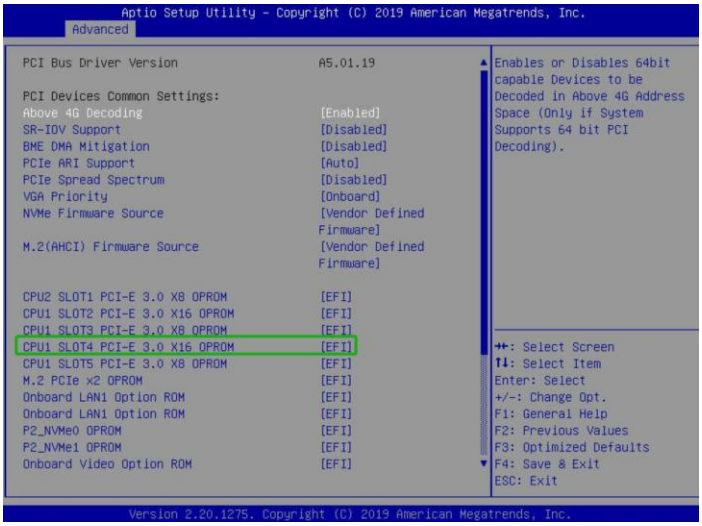
Method 2：Create a RAID array using the Motherboard BIOS

Using the SuperMicro H11DSi motherboard as an example:

1. Set '**Boot mode select**' to '**UEFI**'.

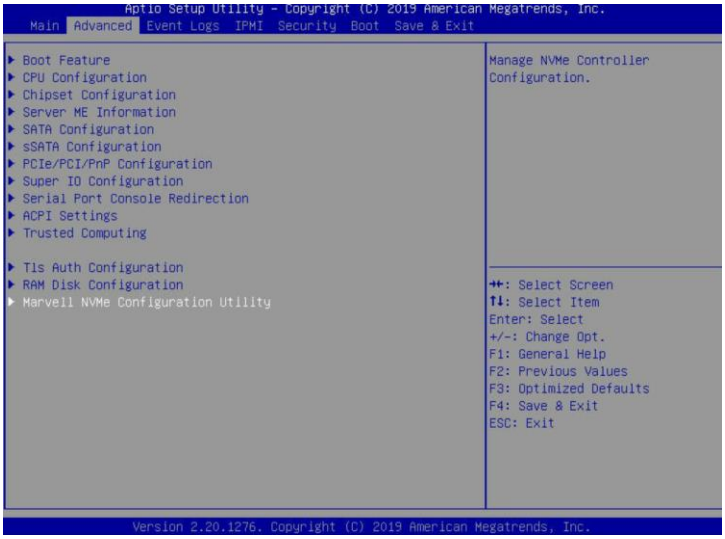


2. Next, under "**Advanced->PCIe/PCI/PnP Configuration**, change **"CPU Slot x PCI-E OPROM**" to "**EFI**". "**x**" refers to the slot number (slot 2 was used when the screenshot was taken). Please consult the motherboard manual for more information.



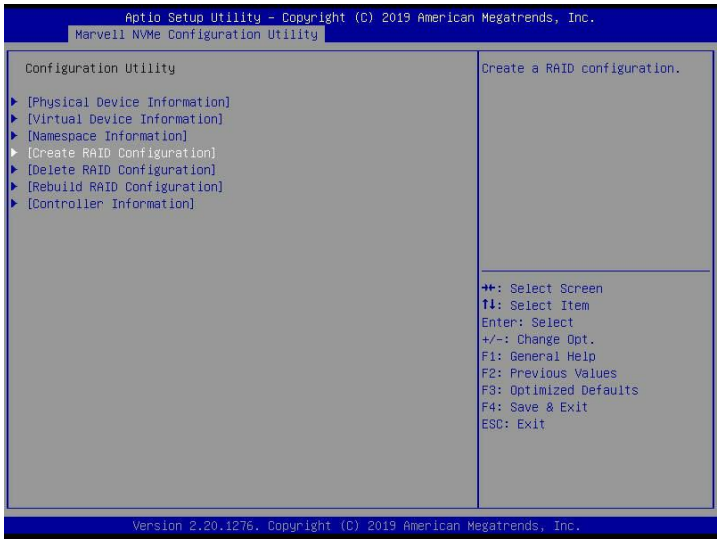
3. Creating the RAID array:

a. Select "**Advanced→Marvell NVMe Configuration Utility**" ;

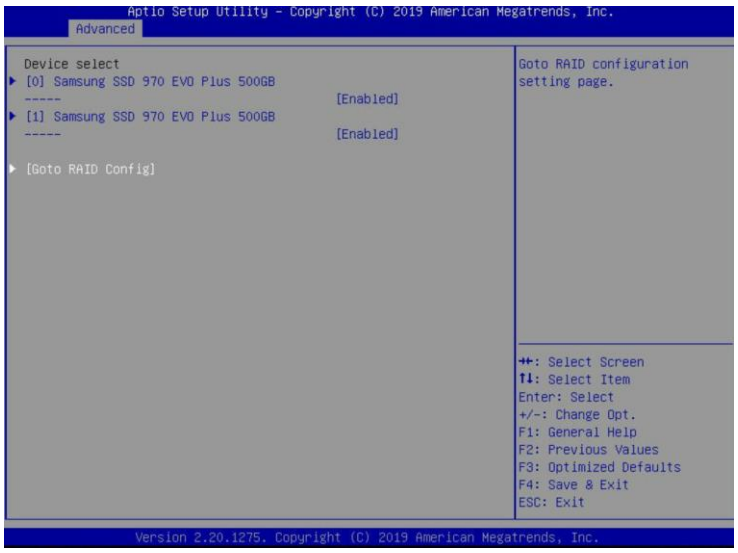


Note: If you cannot find "**Marvell NVMe Configuration Utility**" in the motherboard BIOS under "**advanced**" interface, you will need to create the array using one of the other four methods.

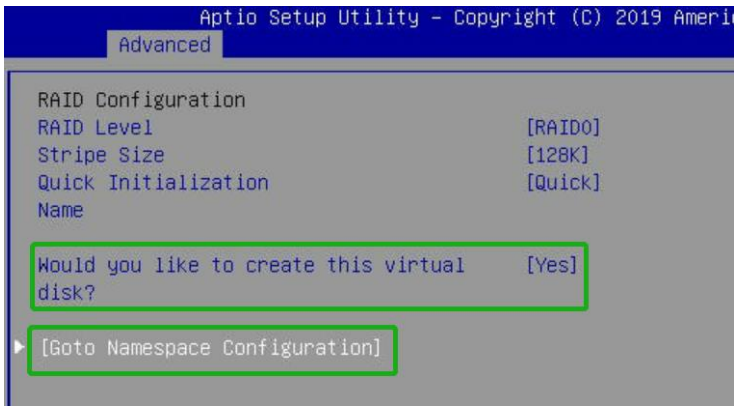
b. Next, select "Create RAID Configuration". Press"Enter"to open the Configuration Utility.



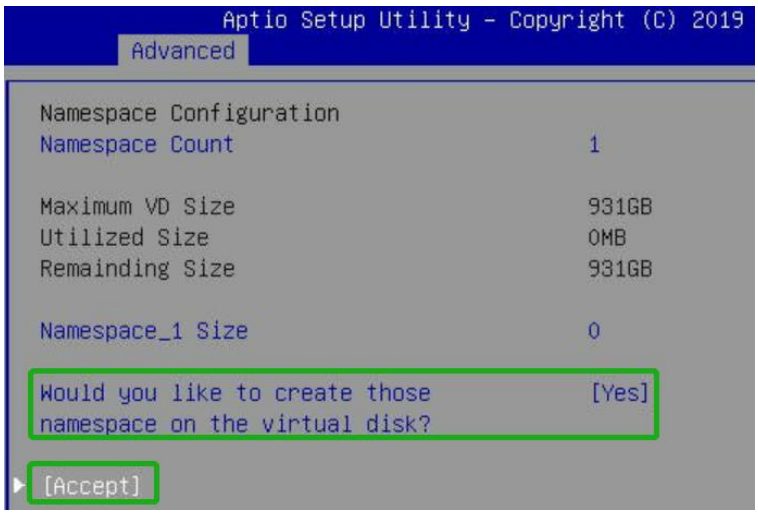
c. Set "**RAID Configuration Menu**" to "**Enabled**", and then select "**Goto RAID Config**".



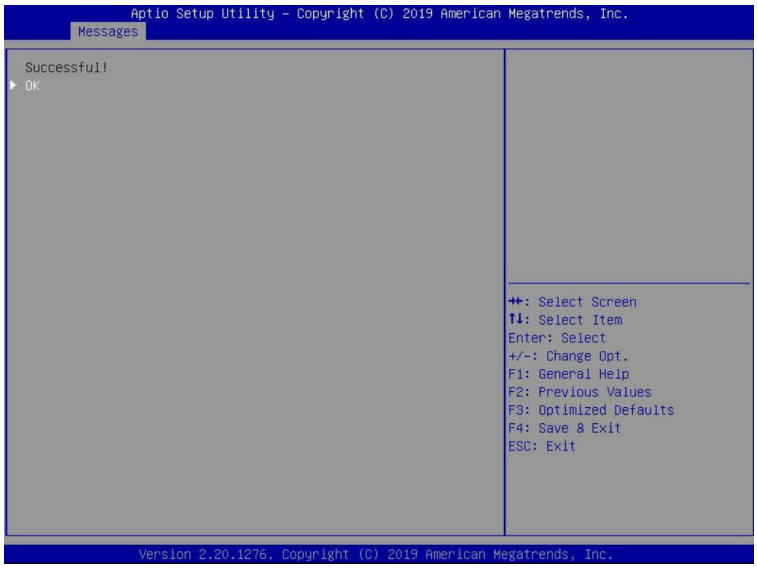
d. For "**Would you like to create this virtual disk？** " select "**Yes**", then select "**Goto Namespace Configuration**".



e. For "**Would you like to create those namespace on the virtual disk？** " select "**Yes**", then select "**Accept**" to create the RAID0 array.



f. When the page displays "**Successful!**" select **OK**, to exit the menu;

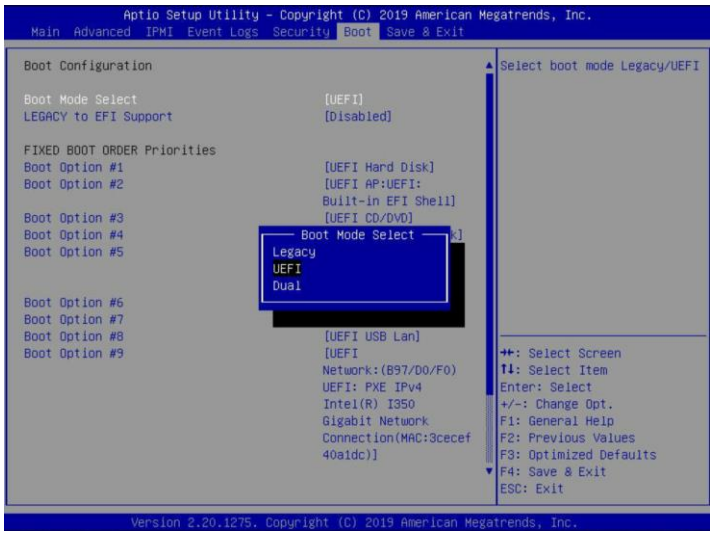


Method 3：Create RAID in UEFI

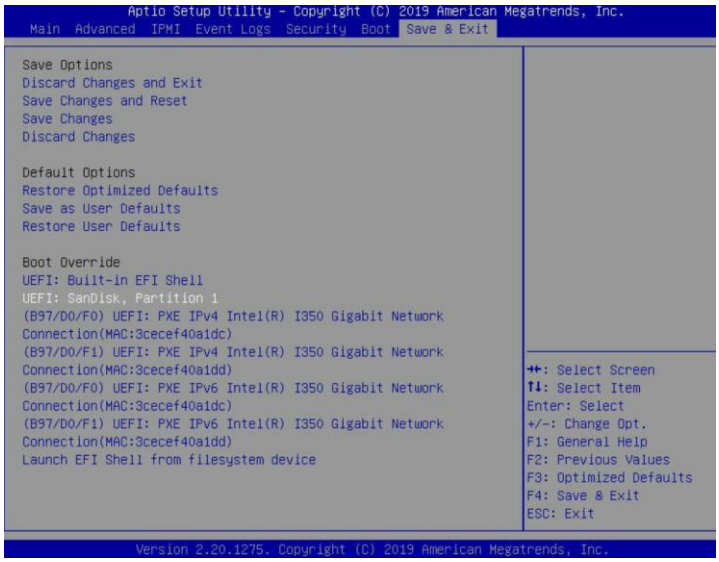
1. First, prepare the UEFI Tool. This file should be copied to the root of a bootable USB flash drive.

   Using the SuperMicro H11DSi motherboard as an example:

2. Set '**Boot mode select**' to '**UEFI**';

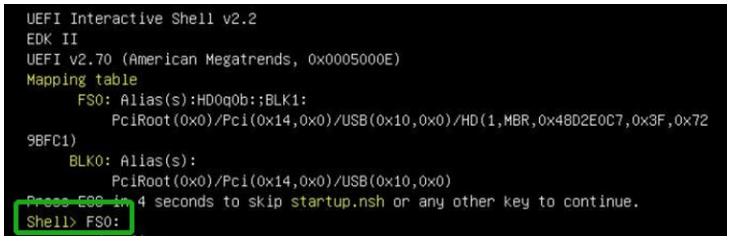


3. Choose to boot from the USB flash drive (shown as "**UEFI：SanDisk，Partition 1**" for the example below):



4. After entering the UEFI Shell, select "**FS0**:" to access the USB flash drive:.

   Note: "FS0" is the name of the USB flash drive used for this example



5. Next, locate the "**mnv_cli.efi**" program and run it:

   ***Note**: if the CLI reports that "No NVMe Controller is found", please see Appendix – Troubleshooting.*

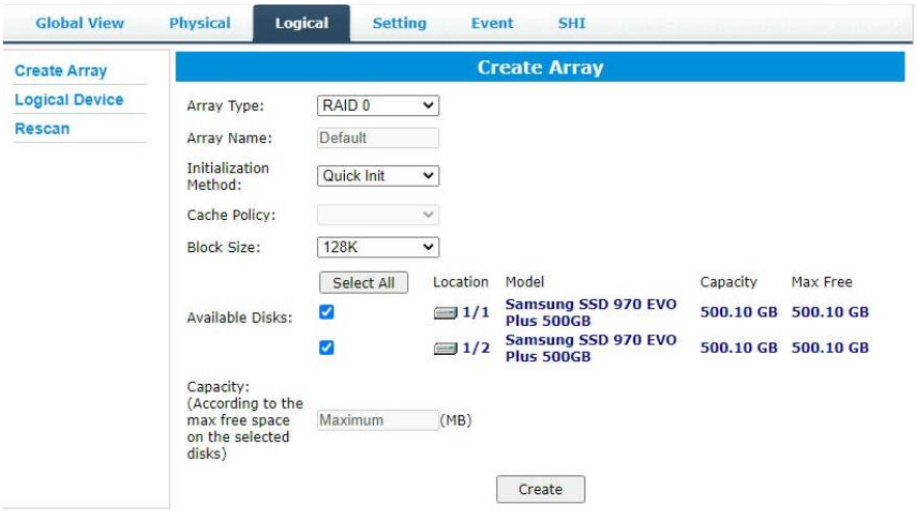
6. To create a RAID0 array using two NVMe SSD's, enter the following command:

   create -r 0 -d 0,1

   For more CLI commands, please download the CLI manual from the product page of the official website.

Method 4：Create the RAID array using a Windows operating System, and the WebGUI management software:

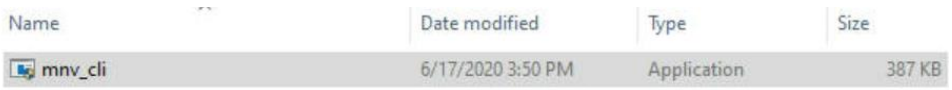
1. This method assumes you have access to a Windows Server 2019 system and have installed the WebGUI software.
2. Open the WebGUI, select the Logical tab. Click “Create Array”, and configure the array as desired using the drop-down menus and selection boxes. Once configured, click the “Create”button to create the array (the exampe below shows 2 NVMe SSD’s configured as a RAID 0 array).



3. Once the array has been created, it will be displayed under **Logical Device Information**.

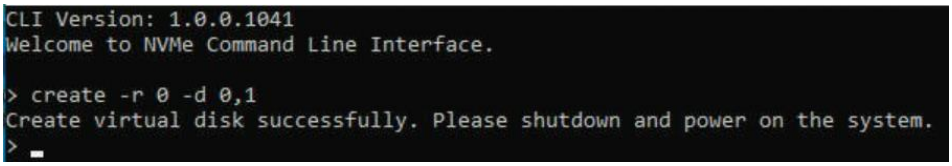
Method 5：Create a RAID array using Windows server 2019 via the CLI

1. This method assumes that you have already prepared a Windows server 2019 system.
2. Boot the system, and enter the password to start Windows server 2019.
3. Double click “mnv-cli” to start the CLI tool:



4. To create a RAID0 array using two NVMe SSD's, enter the following command.

   create -r 0 -d 0,1

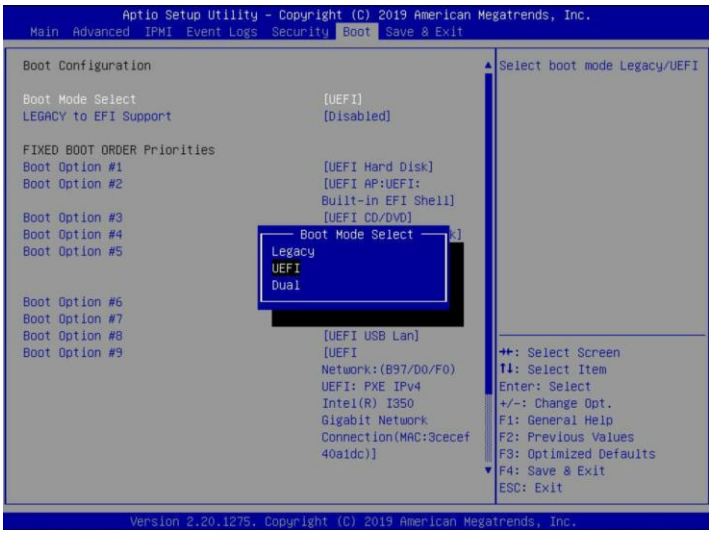


   Note: For more CLI commands, please download the CLI manual from the product page of the official website.

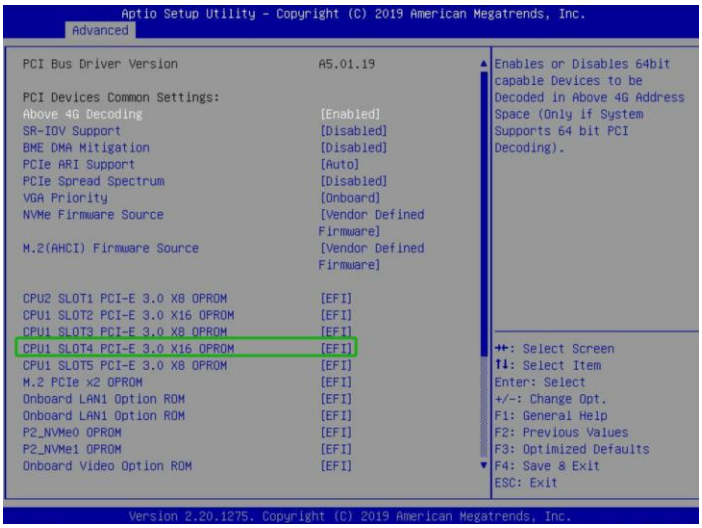
Step 3 Adjust the Motherboard BIOS Settings

Using the Super Micro H11DSi motherboard as an example:

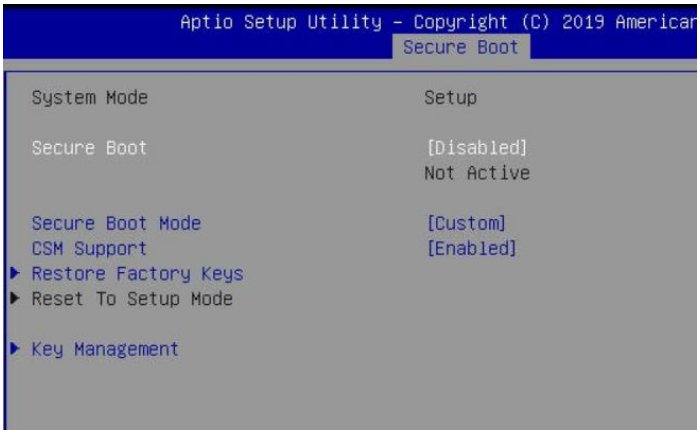
1. In the system BIOS SETUP menu, change '**Boot mode select'** to '**UEFI**;



2. Under "**Advanced→PCIe/PCI/PnP Configuration,** change the setting for **"CPU Slot x PCI-E OPROM**" to "**EFI**". "x" refers to the slot number (slot 4 was used when the screenshot was taken). Please consult the motherboard manual for more information.



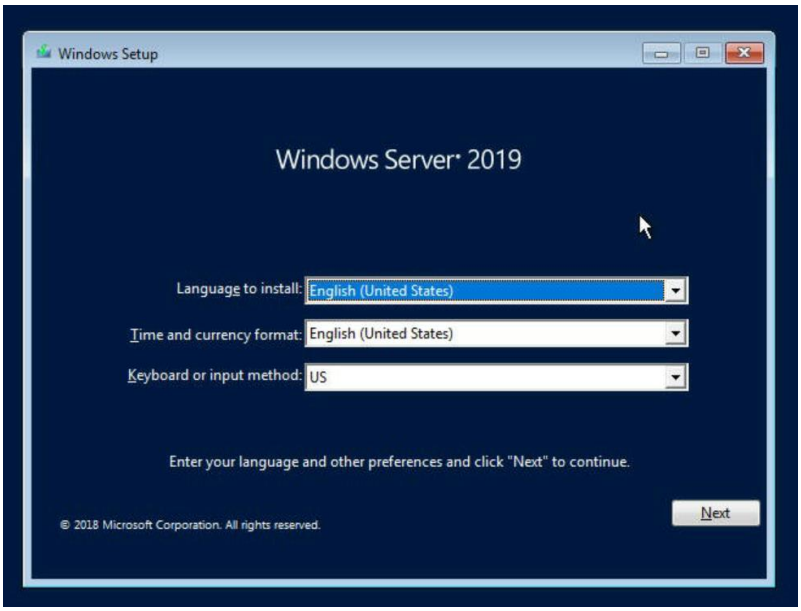
3. Set "**Secure Boot** " to "**Disabled**".



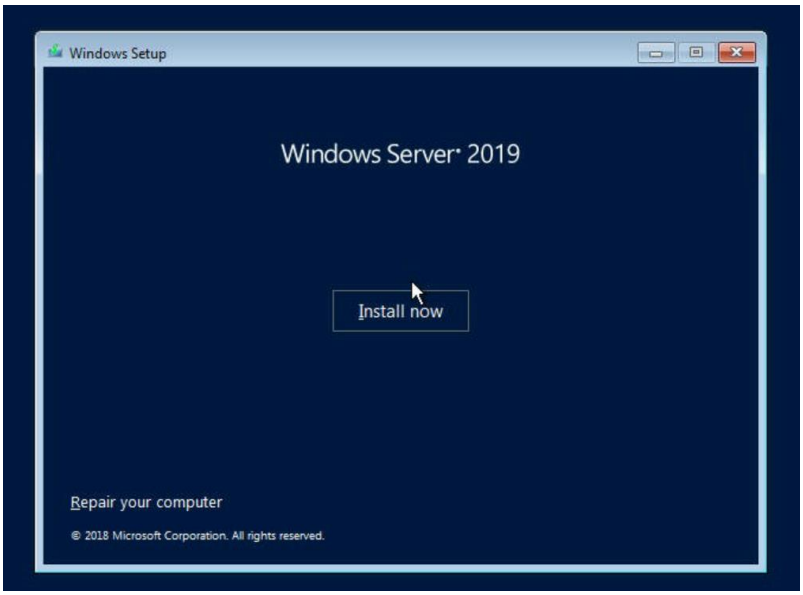
Step 4 Install Windows Server 2019 to the SSD6202

a. Boot from the installation DVD (UEFI mode).

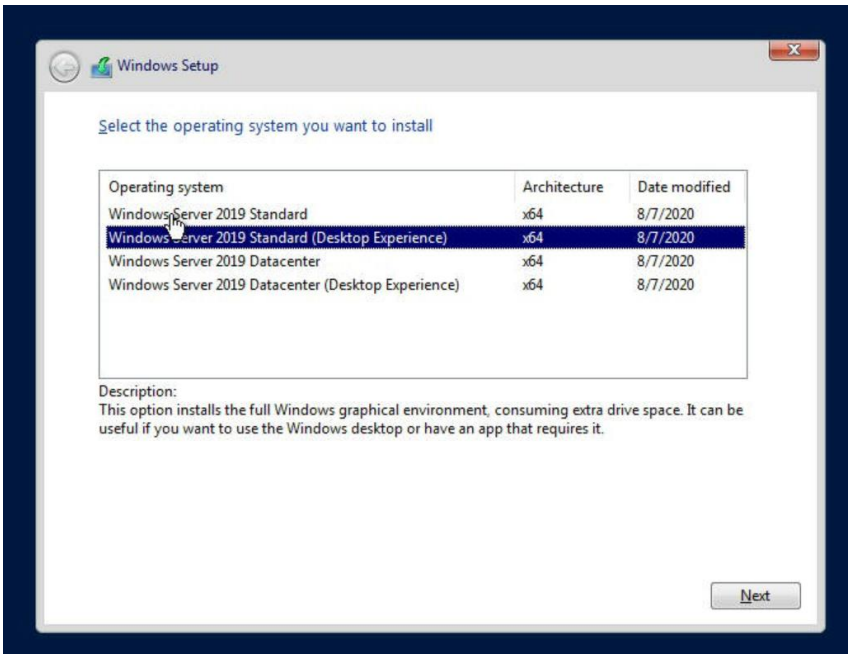
b. When the Installation screen appears, make your selections from the drop-down menus and press "**Next**" to start installation:



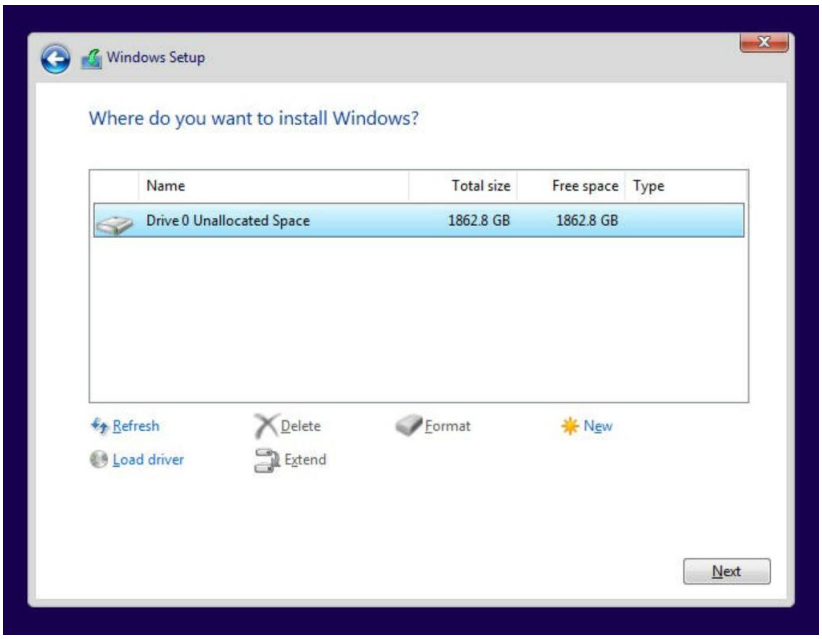
c. Click "**Install now**" to proceed:


Windows Setup
Windows Server 2019
Install now
Repair your computer
© 2018 Microsoft Corporation. All rights reserved.

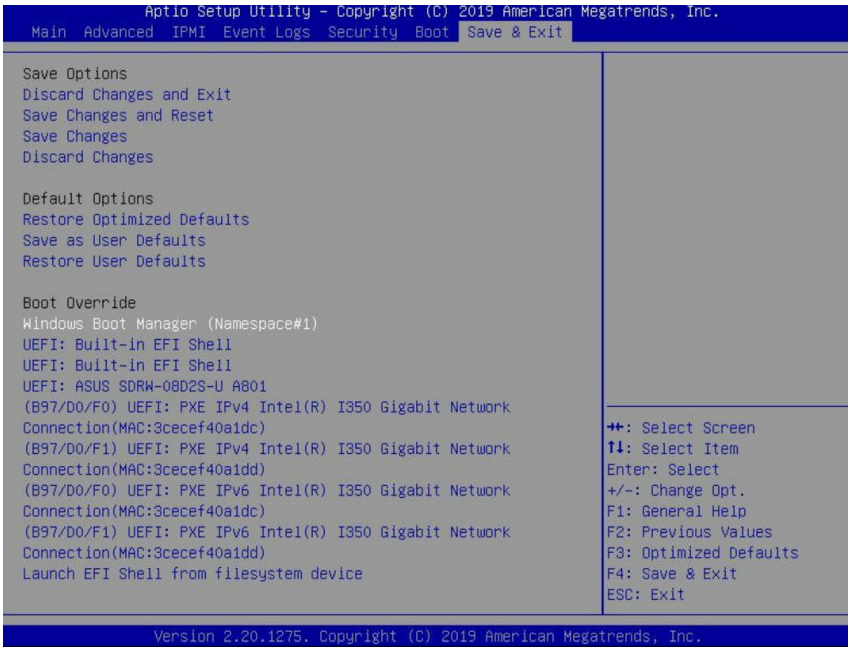
d. Select the version of Windows 2019 Server you want to install, then click "**Next**" to continue:



e. During installation, you will be asked to select the target disk. Select the RAID array you created previously as the target disk to install the Windows server 2019. You can then proceed normally - follow the onscreen prompts to install Windows server 2019 to the array.



f. After installation is complete, select the appropriate startup item to boot the system:



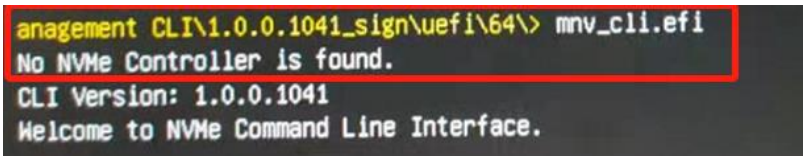
g. Enter the username and password to log into Windows server 2019.

Appendix

Troubleshooting

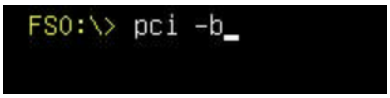
1. The CLI reports that "No NVMe Controller is found"

1) After starting "**mnv-cli.efi**" , the utility reports "**No NVME Controller is found**" (as shown below):



2) You will need check and make sure the system recognizes the SSD6202. First, enter the following command using the UEFI tool:

pci -b



3) If the interface reports "**Vendor 1B4B Device 2241 Prog Interface 2**", the SSD6202 is recognized by the motherboard, but cannot support the UEFI tool. In this case, you will need to create the array using one of the other methods described in this manual (BIOS, CLI or WebGUI).

4) If the interface does not display "**Vendor 1B4B Device 2241 Prog Interface 2**", then the motherboard does not recognize the SSD6202.

   a. Power down the system, and make sure the SSD6202 is securely installed into the PCIe slot

   b. Boot the system and enter the motherboard BIOS utility. Make sure the required BIOS settings are still enabled (refer to page 1)

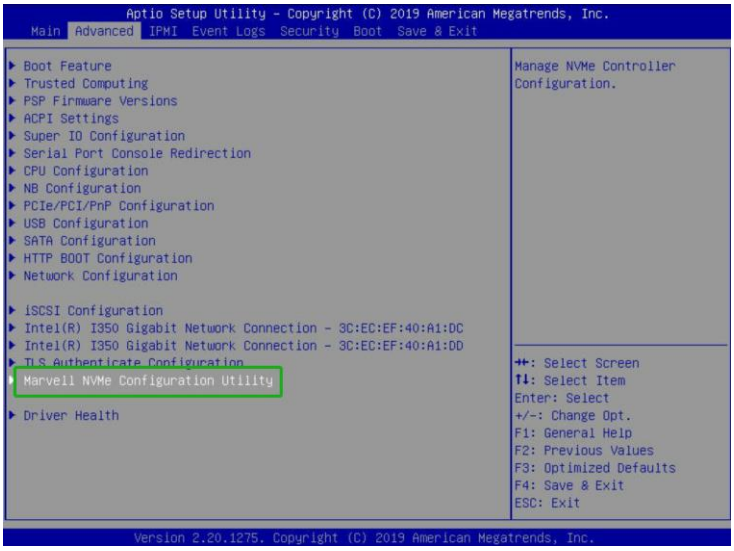
2. Check the RAID create via RAID Switch settings is created or not

Method 1：Check in BIOS Utility

1) Set the Slot Storage OPROM of SSD6202 in the motherboard BIOS to **UEFI.**

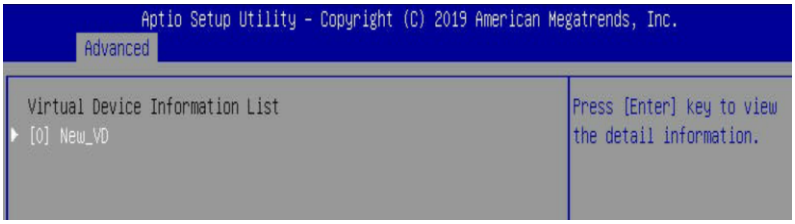
2) Set '**Boot mode select**' to '**UEFI**'.

3) From the motherboard BIOS menu, select "**Marvell NVME Configuration Utility**":

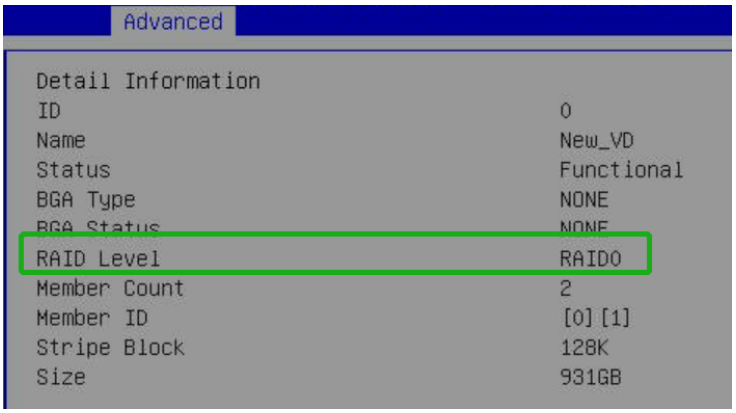


4) Select the "**Virtual device information"**

5) Select the "[0] **New_VD**"



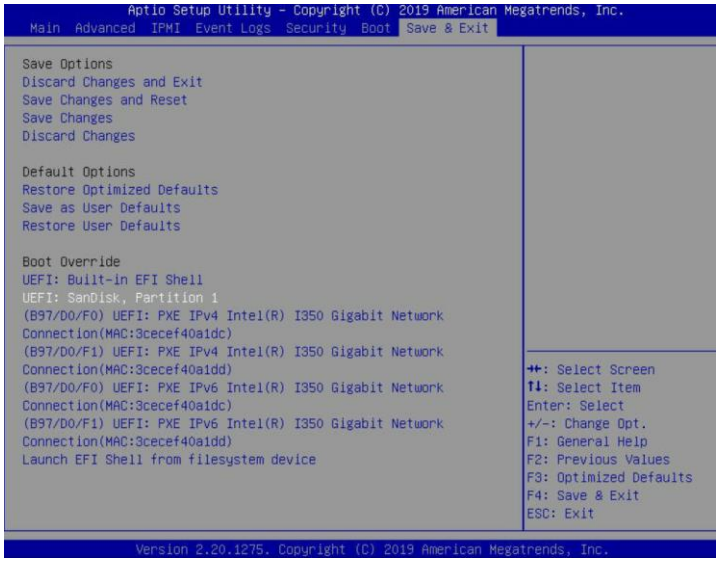
6) As shown in the figure below, you can see the RAID0 information:



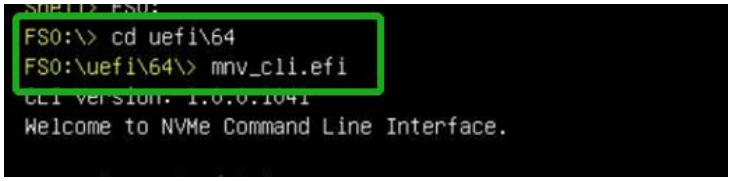
Method 2：check in UEFI

1. Choose to boot from the USB flash drive (shown as "**UEFI：SanDisk，Partition 1**" for the

example below):

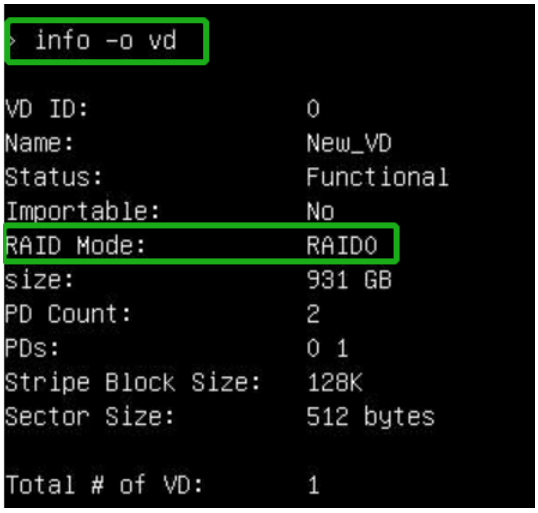


2. Next, locate the "**mnv_cli.efi**" program and run it:



3. you can recognized the RAID0 by entering the following command:

info -o vd



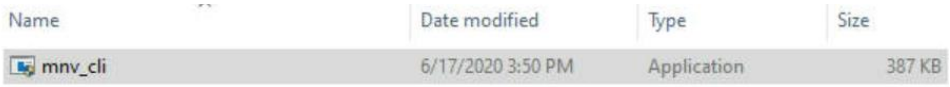
Method 3：check in a windows operating System

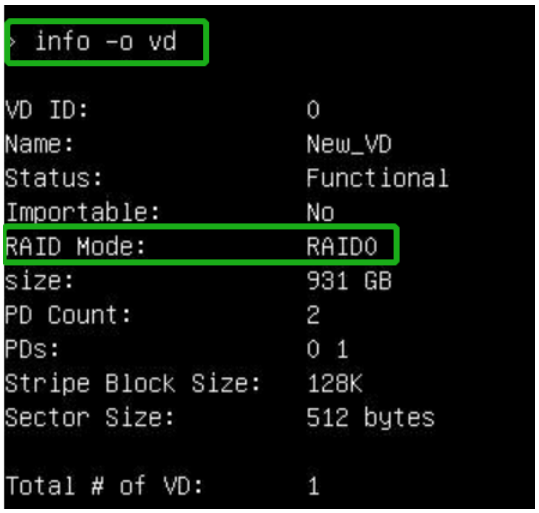
1. This method assumes you have access to a Windows Server 2019 system and have installed the WebGUI software.

2. Open the WebGUI software, it will be displayed under **Logical Device Information**.

Method 4：check in a CLI

1. This method assumes that you have already prepared a Windows server 2019 system.
2. Double click “mnv_cli” to start the CLI tool:



3. you can recognized the RAID0 by entering the following command:

info -o vd