HighPointIOP
macOS
Installation Guide

V1.03– Feb 2, 2024

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Contents

Overview

This guide includes important macOS related hardware & software requirements, installation, and upgrade procedures for the following products：

RR4520SGL / RR4522SGL
RS6628A

Prerequisites
This section describes the base hardware and software requirements for RAID controllers & enclosures.

Driver Installation
This section covers driver installation, driver upgrade and driver uninstallation procedures for RAID controllers & enclosures in a macOS environment.

RAID Management Software (WebGUI) Installation
This section covers WebGUI related installation, upgrade and uninstallation procedures for RAID controllers & enclosures in a macOS environment.

Troubleshooting
Please consult this section if you encounter any difficulties installing or using RAID controllers & enclosures. It includes descriptions and solutions for commonly reported technical issues.

Prerequisites

1) Operating System Support: macOS 10.13 and later.

2) Before installing the driver and RAID Management software, you should log into the system as a System Administrator.

3) Identify the system as either T2 or Non-T2 based – if the system has a **T2 chip**, make sure to follow section 1 before attempting to install any software for the device.

4) If you're using the **Apple M1** Platform, make sure to follow section 3 before attempting to install any software for the HighPointIOP device.

1. Disabling macOS Secure boot for T2 Systems

Customers working with Mac platforms manufactured in 2018 or later that feature a T2 security chip, will need to disable **Secure Boot** in order to load drivers for third party devices.

For a list of products with the T2 Security Chipset, please visit the following website:
[Mac computers that have the Apple T2 Security Chip](#)

Disabling Secure Boot

In order to use these products with T2 systems, Secure Boot must be disabled. To disable this feature, select "**No Security**" from the Startup Security Utility interface. You can access this menu by pressing the **Command (⌘)-R** keys after the Apple logo first appears during the boot-up process.
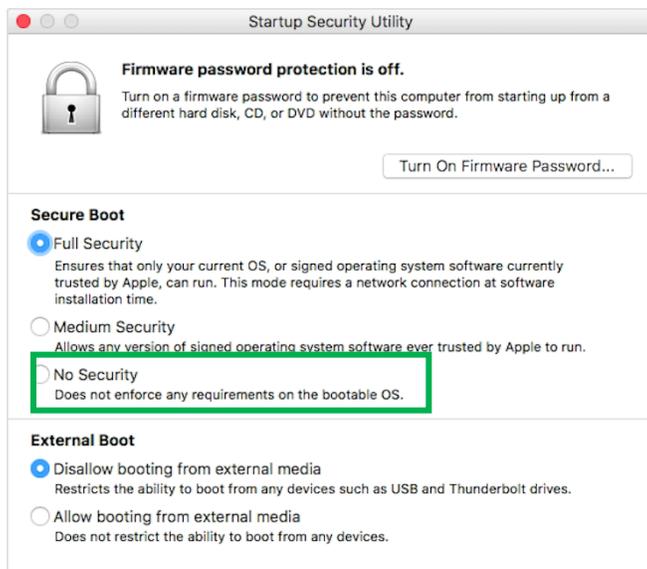
Instructions are available from Apple's website:
[About Secure Boot](#)

2. Disabling SIP (for macOS 10.13x and earlier)

MacOS 10.13x and earlier may require that **SIP** (System Integrity Protection) be disabled. If enabled, older versions of macOS may prevent the device drivers from loading.

While macOS is running, open a terminal window to confirm whether **System Integrity Protection** (SIP) status is **disabled**.

If enabled, you will need to manually disable the setting. Open a terminal, and then enter the following command:

csrutil status
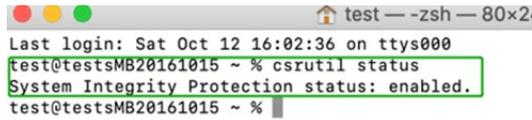
The example screenshot shown above indicates that SIP is enabled.

To disable SIP

1) Restart the computer and hold down the "**Command + R**" buttons. Continue to hold these keys until macOS enters System Recovery mode.


   Note: If you are unable to enter Recovery Mode to disable SIP:
   Make sure you are using a wired keyboard and mouse for this procedure. Wireless devices may not be recognized or function properly when booting into this mode.


2) Click on Utilities in the upper left corner and select Terminal:
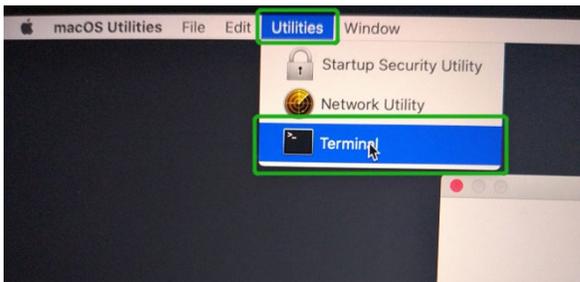
3) Set SIP to disabled in using Terminal. Enter the following command:

   csrutil disable
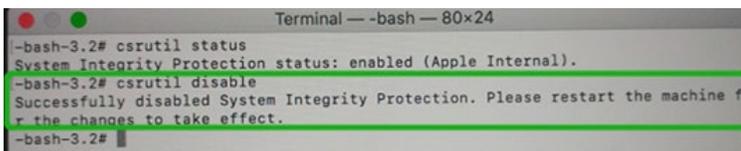
4) Click the **Apple** logo in the upper left-hand corner of the desktop, and select **Restart** to reboot the system.
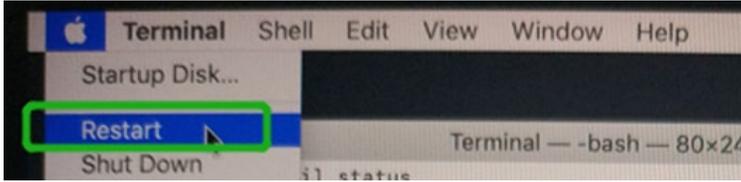
5) After rebooting, confirm that SIP is disabled. Open terminal and type the following command:

csrutil status
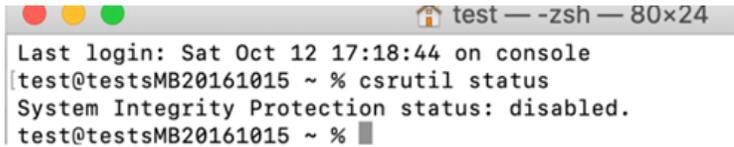
If the status is now reported as **disabled**, you can install the device driver.

3. Reduced Security Policy – For Apple M1 Platform

Customers working with Apple M1 Platforms will need to **reduce the Security Policy** in order to load drivers for third party devices.

For Mac computers with Apple M1 chip, please visit the following website:

Mac computers that have the Apple M1 Chip

Check the system's Security Policy settings to determine if they need to be changed. If Secure Boot is set to "**Full Security**", please change this to "**Reduced Security**":

System Information -> Hardware -> Controller -> Boot Policy
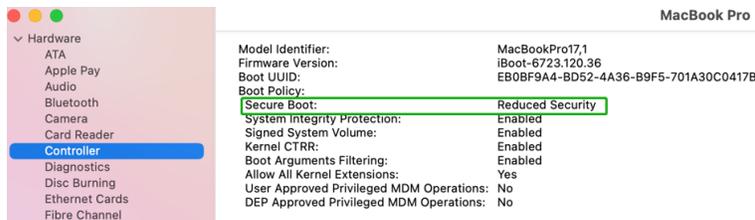
Reduced Security Policy

In order to use these products with Apple M1 platforms, the Secure Boot option must be set to "**Reduced Security**". In addition, the "*Allow user management of kernel extensions from Identified developers*" must be enabled via the **Startup Security Utility** menu.

You can access this menu by:

Shutdown the system, **pressing and holding the Power Button** until you see **Loading Startup Options**.

Instructions are available from Apple's website:

About Secure Boot for M1

4. Installing the Device Driver

Current drivers can be downloaded from each product's **Software Downloads** webpage.

Product	Download Page
RR4520SGL/4522SGL	https://www.highpoint-tech.com/rr4500-overview
RS6628A	https://www.highpoint-tech.com/rocketstor/rs6628a-overview

macOS High Sierra 10.13 and Mojave10.14 and Catalina10.15 and Big Sur 11.x and Monterey 12.x Driver Installation Procedure

1) Locate the download and double click the package to start the installer. Click the **Continue** button:
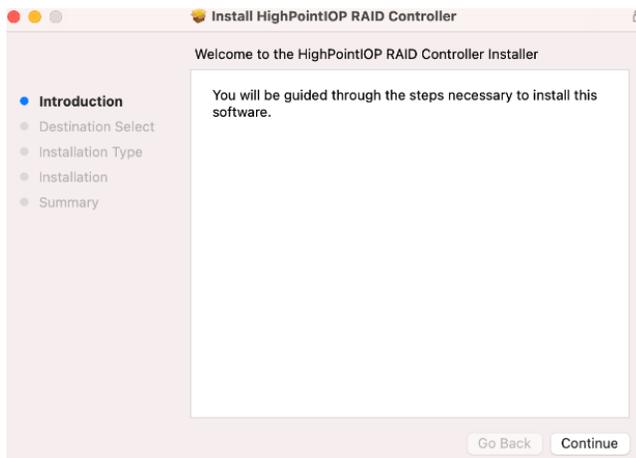
2) macOS will prompt you to install the driver. Click **Install** to proceed.
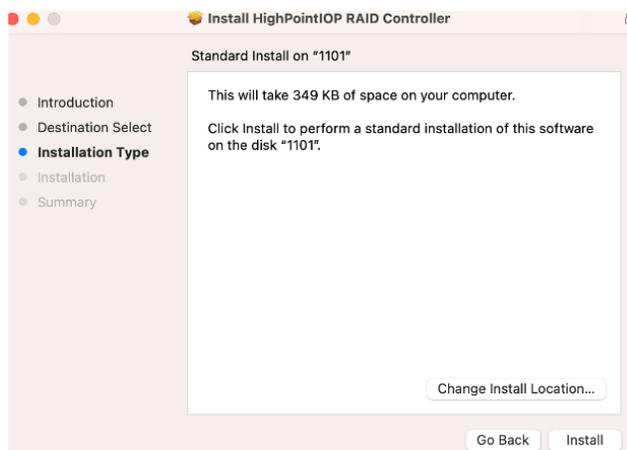

3) You will be prompted that installer is trying to install new software, enter the *Administrator* Username and Password. Once these have been entered, Click **Install Software**.
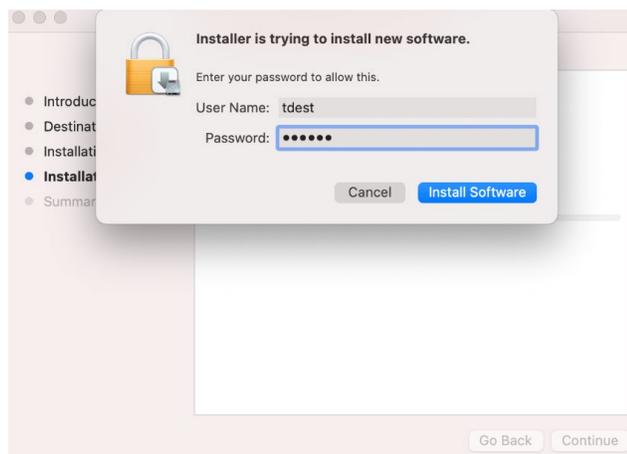

4) If no pop-ups appear, please proceed to the next step of installation. Click **Restart**.
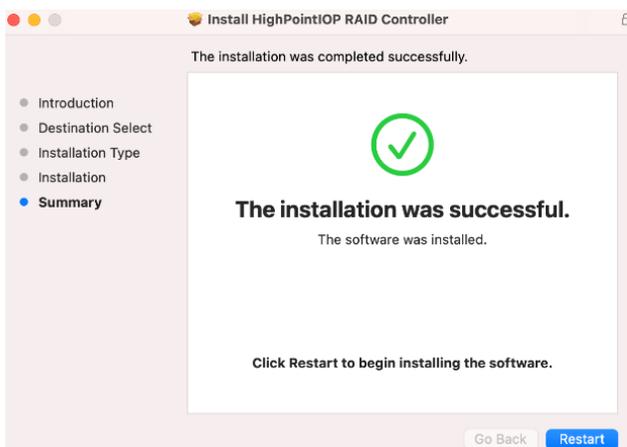
5) If you see a popup window prompting you for permission, click **Open Security Preferences**.
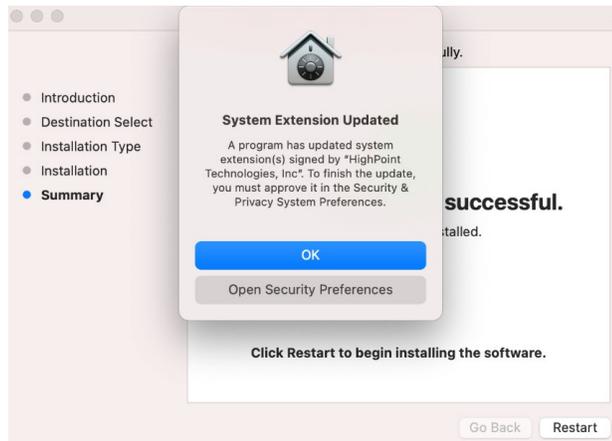
6) Make sure **App Store and identified developers** is checked, and then click **Allow**.
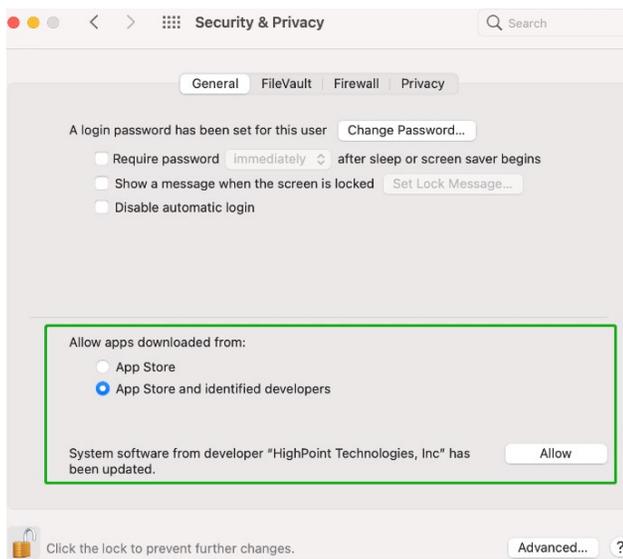
7) You will see a popup window, prompting you to restart. Click **Restart**.
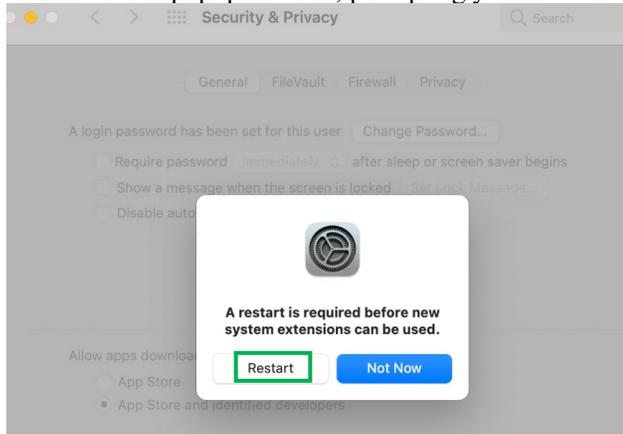
8) After clicking, the following page will appear，wait a moment.
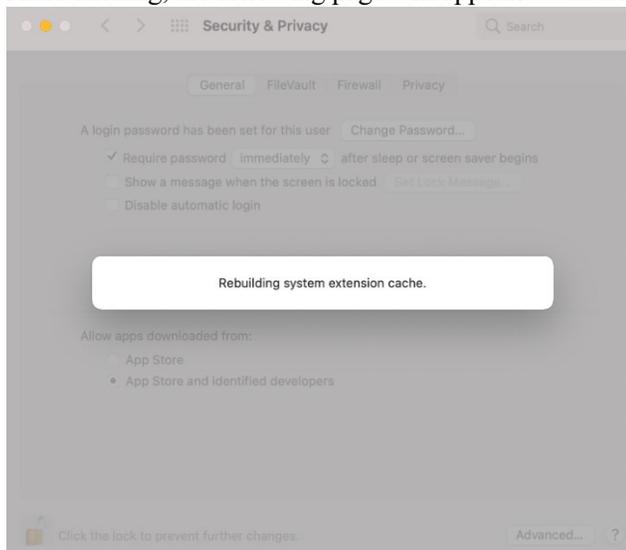
9) After the 'Rebuilding system extension cache' is completed, please click '**OK**' in the pop-up window.
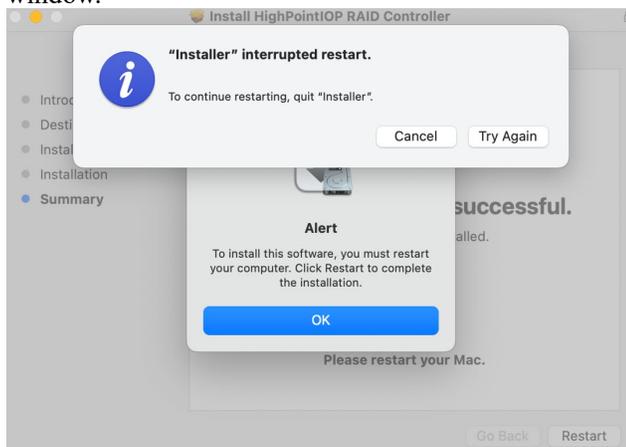
10) Return to the driver installation window. Click **Restart** to restart the system.
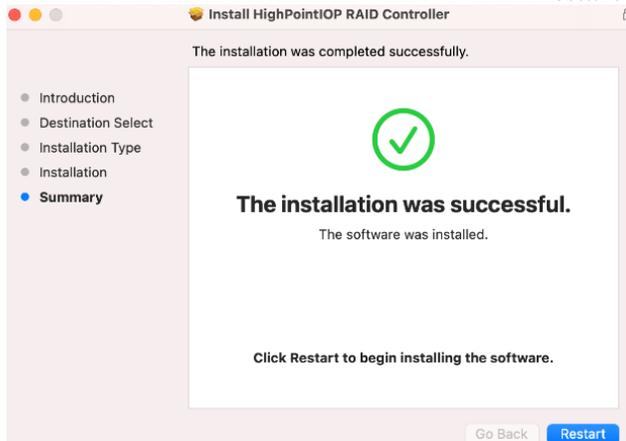
11) After the system restarts, the driver's status can be viewed under **System Information**; The following screenshot shows the driver has been loaded:
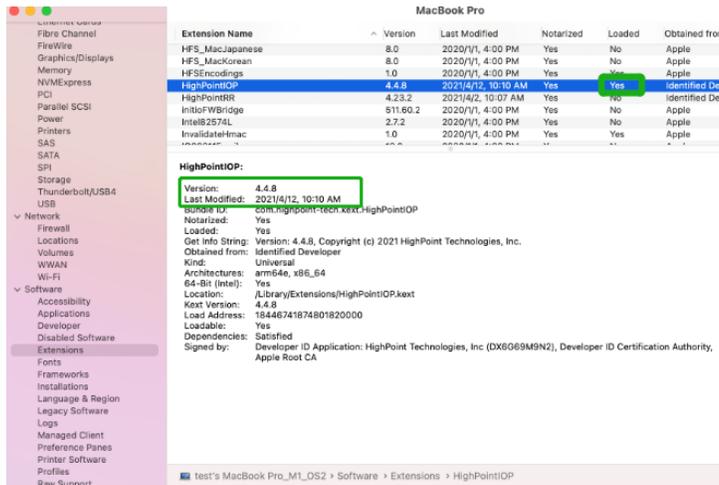
Note: The driver revision shown in the screenshots may not correspond with current software releases. Please make sure to download the latest driver updates from the product's Software Updates page.

5. Update the Device Driver

Current drivers can be downloaded from each product's **Software Downloads** webpage.

Product	Download Page
RR4520SGL/4522SGL	https://www.highpoint-tech.com/rr4500-overview
RS6628A	https://www.highpoint-tech.com/rocketstor/rs6628a-overview

1) Locate the download and double click the package to start the installer. Click the **Continue** button:
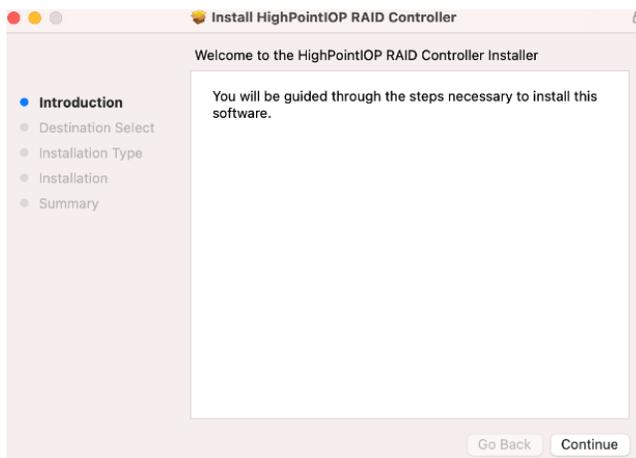
2) macOS will prompt you to install the driver. Click **Install** to proceed.
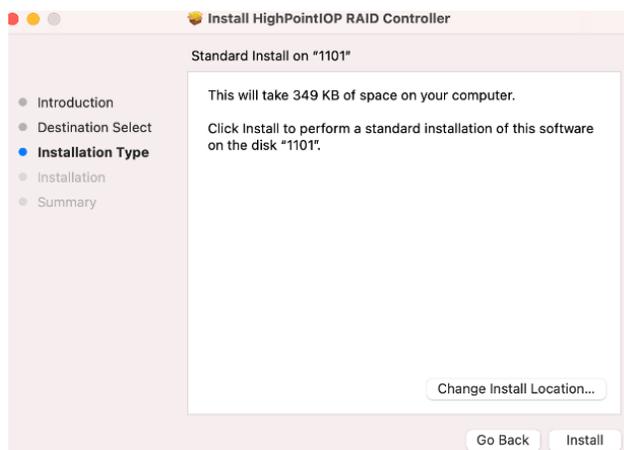
3) If no pop-ups appear, please proceed to the next step of installation. Click **Restart**.
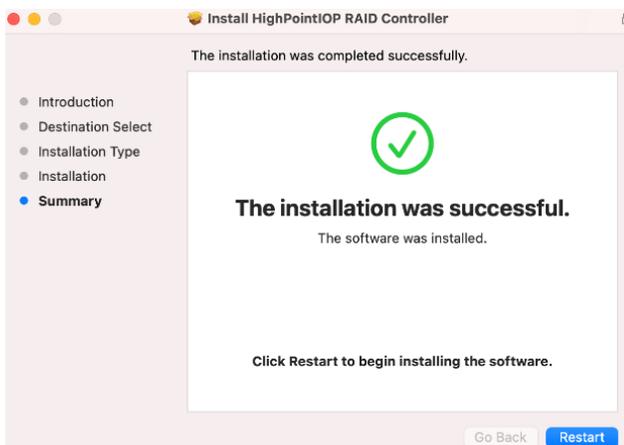
4) If you receive a popup window prompting you for permission, click **Open Security Preferences**.
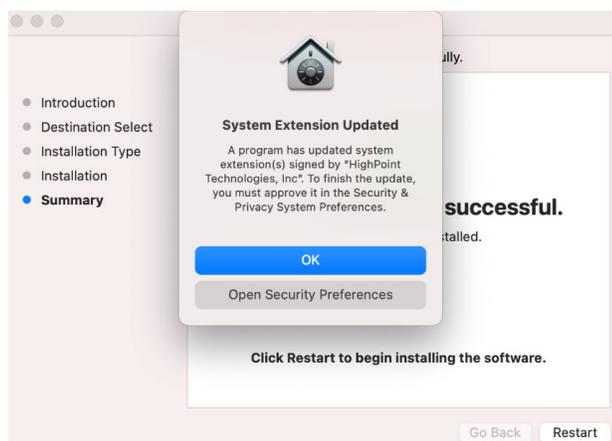
5) Make sure **App Store and identified developers** is checked, and then click **Allow**.
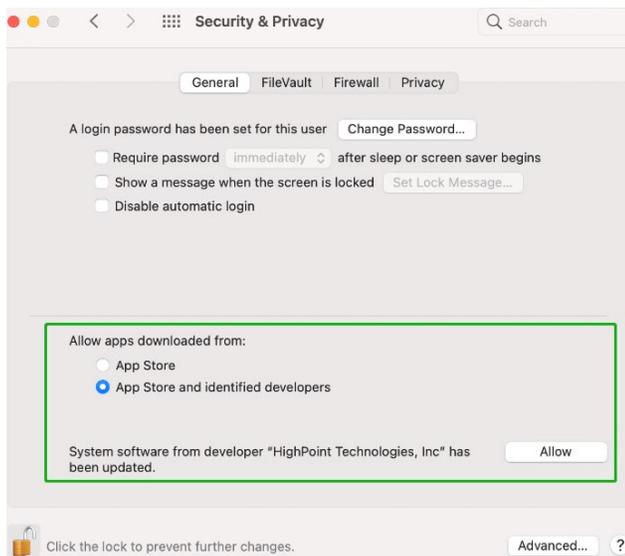
6) You will receive a popup window, prompting you to restart. Click **Restart**.
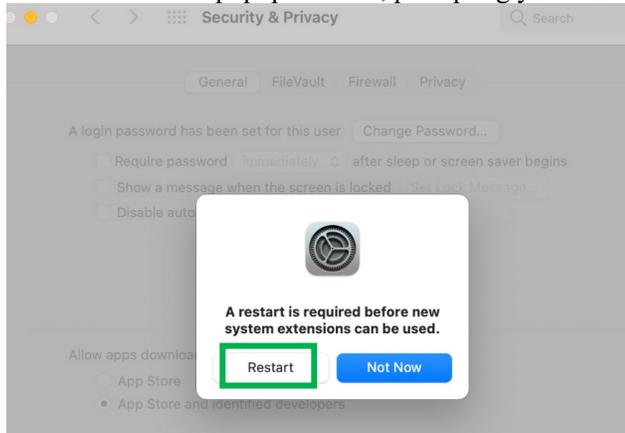
7) After clicking, the following page will appear，wait a moment.
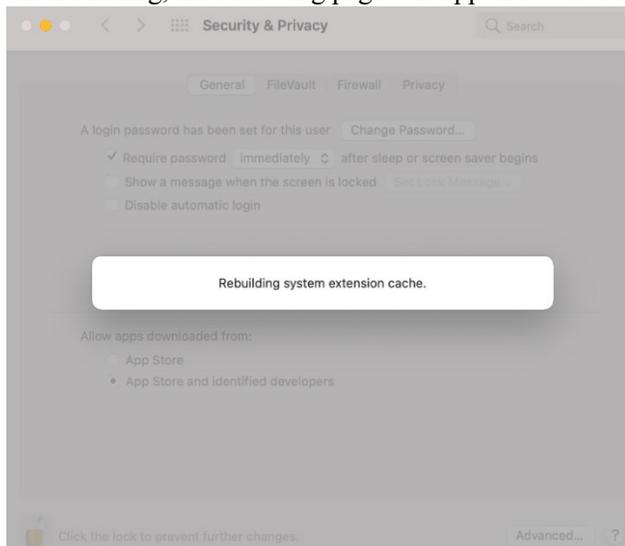
8) After the 'Rebuilding system extension cache' is completed, please click '**OK**' in the pop-up window.
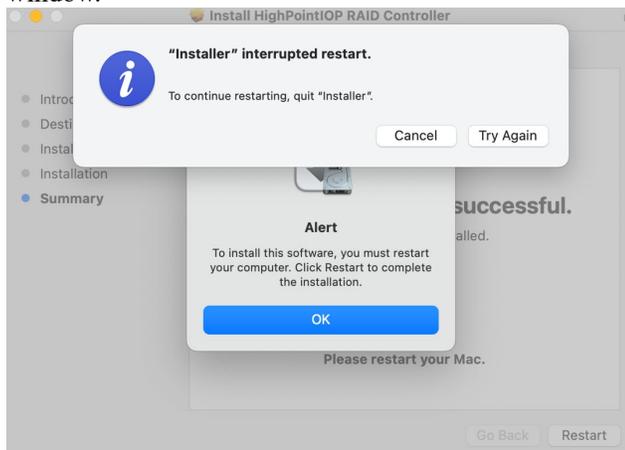
9) Return to the driver installation window. Click **Restart** to restart the system.
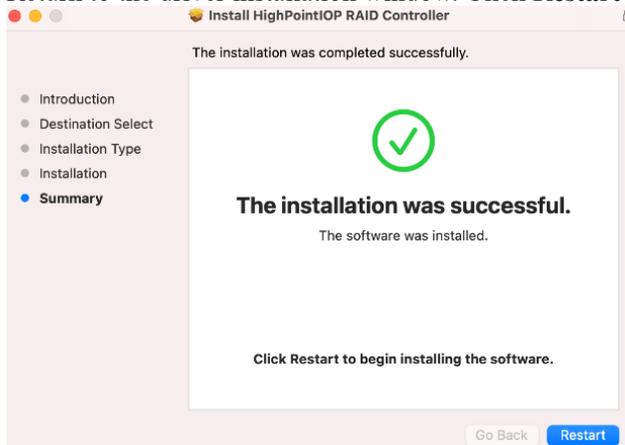
10) After the system restarts, the driver's status can be viewed under **System Information**; The following screenshot shows the driver has been loaded:
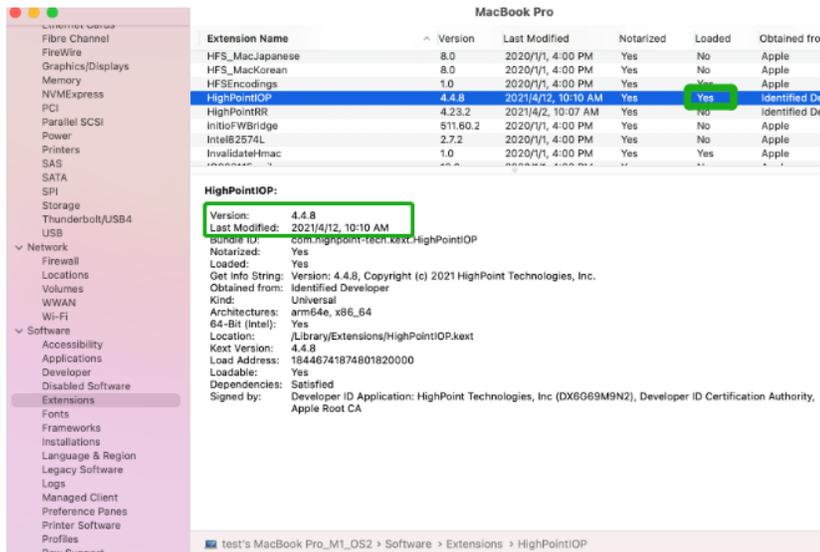
Note: The driver revision shown in the screenshots may not correspond with current software releases. Please make sure to download the latest driver updates from the product's Software Updates page.

6. Uninstalling the Device Driver

Uninstalling the Device driver for macOS 10.13/10.14

To uninstall the HighPointIOP driver, you will need to open a Terminal window and enter the following command:

sudo rm -rf /Library/Extensions/HighPointIOP.kext
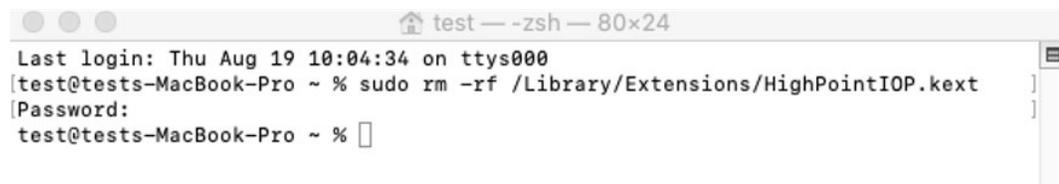
```
Last login: Thu Aug 19 10:04:34 on ttys000
[test@tests-MacBook-Pro ~ % sudo rm -rf /Library/Extensions/HighPointIOP.kext
[Password:
test@tests-MacBook-Pro ~ %
```

Uninstalling the Device driver for macOS 10.15/11.x/12.x

To uninstall the HighPointIOP driver, you will need to open a Terminal window and enter the following command:

sudo rm -rf /Library/Extensions/HighPointIOP.kext

sudo kextcache –i /
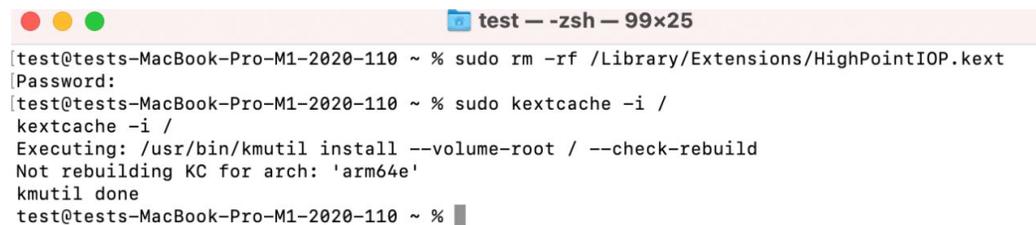
```
[test@tests-MacBook-Pro-M1-2020-110 ~ % sudo rm -rf /Library/Extensions/HighPointIOP.kext
[Password:
[test@tests-MacBook-Pro-M1-2020-110 ~ % sudo kextcache -i /
kextcache -i /
Executing: /usr/bin/kmutil install --volume-root / --check-rebuild
Not rebuilding KC for arch: 'arm64e'
kmutil done
test@tests-MacBook-Pro-M1-2020-110 ~ %
```

7. Installing the RAID Management Software (WebGUI)

1) Double click the package named **HighPointWebGUI.pkg** to start the installer. When the window appears, click the **Continue** button.
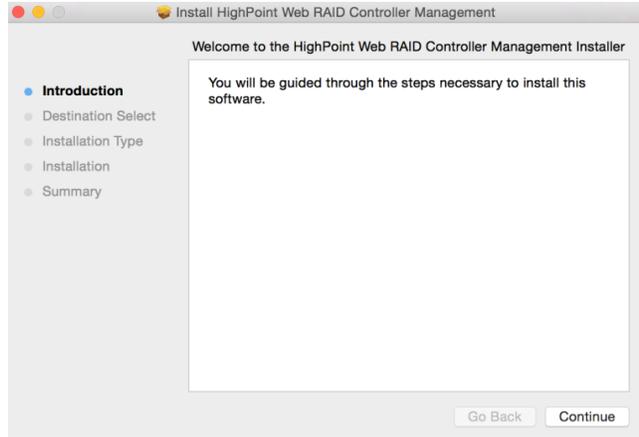
2) You will be promoted to click the **Install** button. Click **Install** to continue.
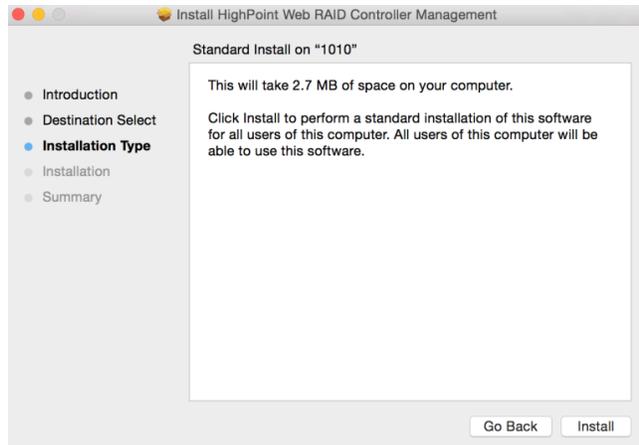
3) You will then be promoted to enter the *Administrator* Username and Password. Once these have been entered, click **Install Software** to continue.

4) The WebGUI Management software has been installed. Click **Close** to complete the procedure.
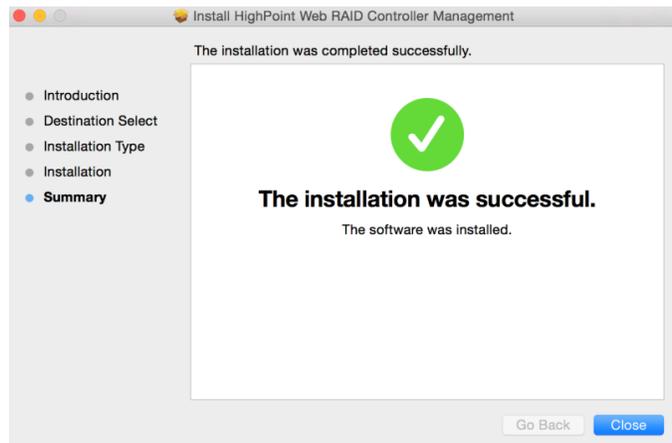
8. Updating the WebGUI

1) First, uninstall the current WebGUI. Please refer to item 8 below (Uninstalling the WebGUI).
2) Download the latest version of the WebGUI from the appropriate Software Downloads webpage.
3) Locate the download and double click the package named **HighPointWebGUI.pkg** to start the installer. Please refer to Installing the WebGUI for more information.

9. Uninstalling the WebGUI

To uninstall the WebGUI, access Applications, click on HPTWEBGUI, select uninstall, and double-click the **uninstall-WEBGUI. command**. The uninstall command will automatically open a terminal
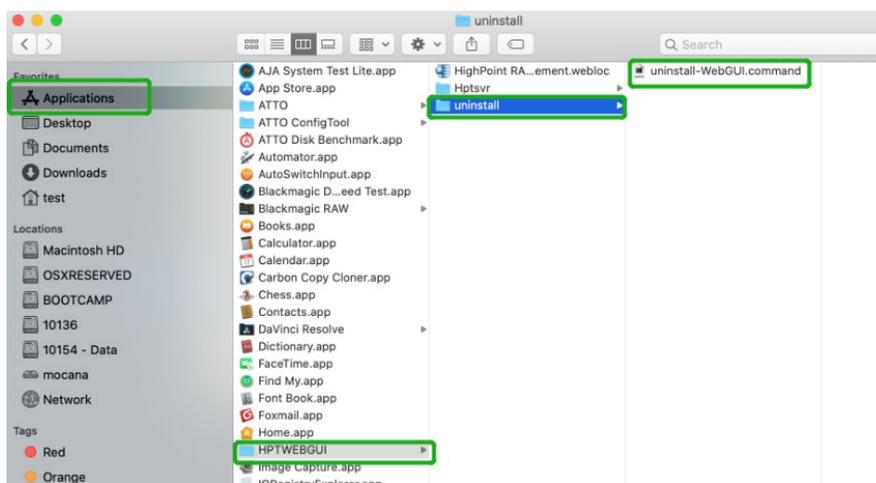
Enter the macOS password, uninstall the software:

10. Trouble shooting

Unable to connect to the WebGUI

After the driver and management software are installed, the management software displays a "Connection Failure" warning when attempting to start the interface:

This error can be triggered by one of the following issues:

1. The hardware is not recognized by macOS
2. The device driver is not installed or is not loading properly.
3. WEBGUI service is not running.
4. The system's SIP status is incorrect.
5. If you are using a T2 system, Secure Boot may not be disabled.
6. If you are using Apple M1 system, Security Policy may not be 'Reduced'.

Verifying the hardware

1) The device is connected to the host through the Thunderbolt

01. If you are using the controller via our RocketStor 6661A adapter and a Thunderbolt™ 3 connection, please make sure the RocketStor 6661A device is properly recognized by macOS.
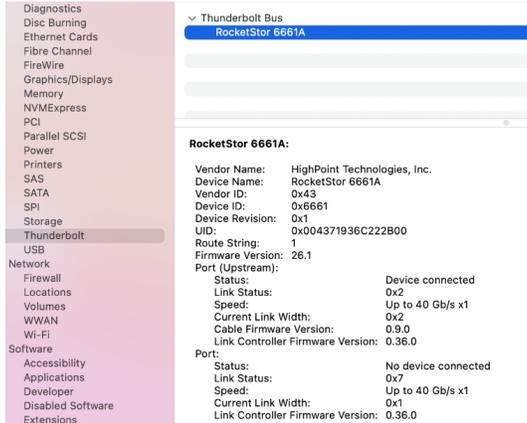
If the RocketStor 6661A entry is not displayed, this may be related to a connection problem – move the RS6661A to another Thunderbolt™ 3 port or replace the cable and recheck the entry.

02. If RocketStor 6661A is correctly connected, make sure the **System Information→PCI** controller is recognized by macOS (see example below):
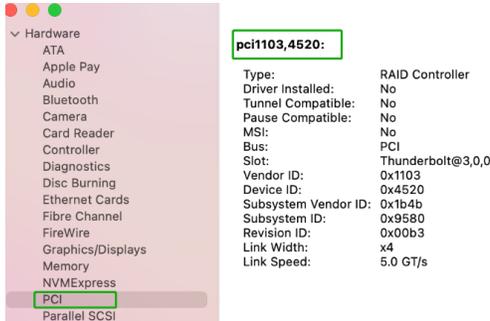
2) The device is directly connected to the host through the PCIE SLOT

Make sure the **System Information→PCI** controller is recognized by macOS (see example below):
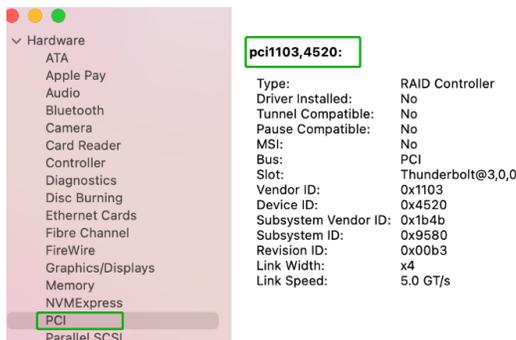
3) **The device is RAID enclosures**

Make sure the **System Information→Thunderbolt** controller is recognized by macOS (see example below):
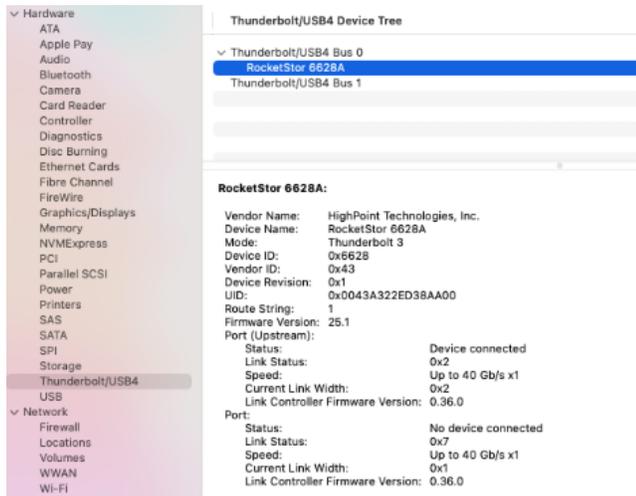
Make sure the HighPointIOP Driver is loaded

Please refer to the **Appendix - Checking the Driver status and Version** to make sure the HighPointIOP driver is installed properly.

1) If the HighPointIOP driver is not loading, proceed to – **Check the security & privacy status**. If HighPoint software is blocked in the permission, you need to click Allow.

2) If the driver is loading properly, but the WebGUI is still unable to start, please try to restart the WebGUI service. Please refer to **Appendix - WebGUI service restart** make settings.

If WebGUI is still not connected, please contact our Support Department to open a support ticket. Please make sure to include any screenshots and system information you are able to collect (see the Appendix for more information).

Check the SIP status

1) Please refer to the **Appendix - Checking the SIP Status**.
2) If the settings are not correct for your system, please refer to the driver installation manual for each system to reset the SIP status.

For T2 Systems: Make sure Secure Boot is disabled

Please refer to the **Systems with T2 chipsets** – Secure Boot status. If the setting is incorrect, you will need to reboot the system to change the setting.

For Apple M1 Platform: Make sure Security Policy is reduced

Please refer to the **Apple M1 Platform-Reduced Security Policy** If the setting is incorrect, you will need to shutdown the system to change the setting.

If you encounter any problems while checking items 1-5, please refer to the Appendix to collect information about your system and configuration, and submit a support ticket to our Customer Support department using our Online Support Portal

The WebGUI can't connect to a remote system

If you can't connect to a remote system, make sure **raidman-httpsd** is running on the target system, and confirm that you can access the remote system via a TCP/IP connection. If you have a firewall configured, make sure TCP port 7402 is not blocked.

Appendix

When submitting s support ticket via our Online Support Portal, the following information will help our Support Department diagnose and resolve your issue as quickly and efficiently as possible.

Collecting the macOS version

1) Click on the Apple logo located near the upper left-hand portion of the Desktop, and click "Version". Then the version number of the system will all be displayed.

Check the security & privacy

1) Check if there is HighPoint software blocked in the permission, if it is blocked, you need to click "**Allow**".
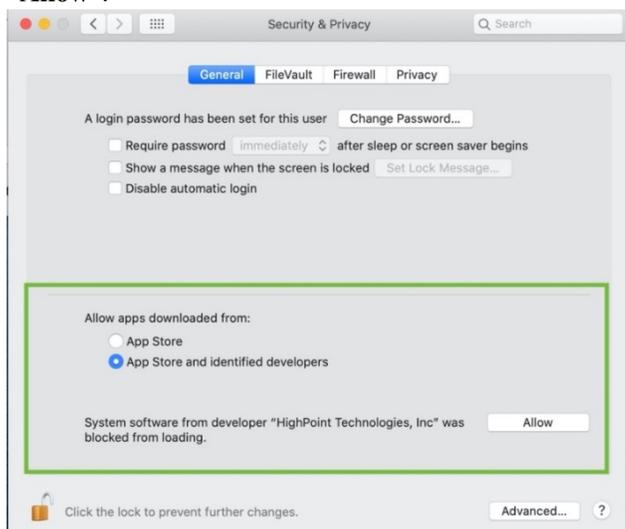
2) If 'System software from developer 'HighPoint Technologies, Inc' was blocked from loading' is
not displayed, please do the following:
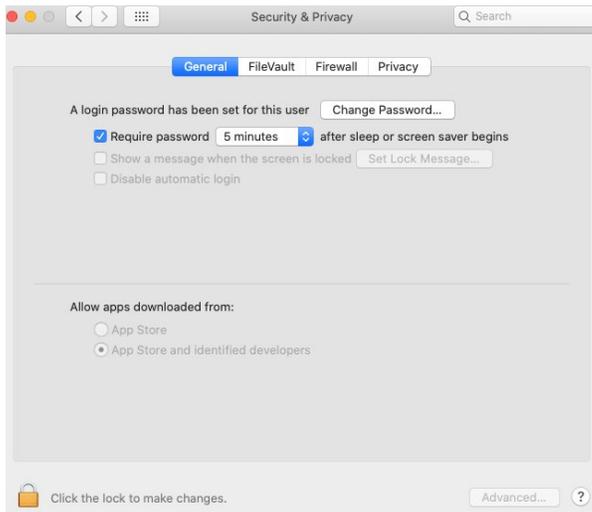
    i)   First, uninstall the driver, please refer to the **Uninstalling the Device Driver**

    ii)   Install the driver again, please refer to the **Installing the Device Driver**, The **System Extensions Updated** window that pops up when installing the driver, please click **Open Security Preferences**, **Allow** the permission.
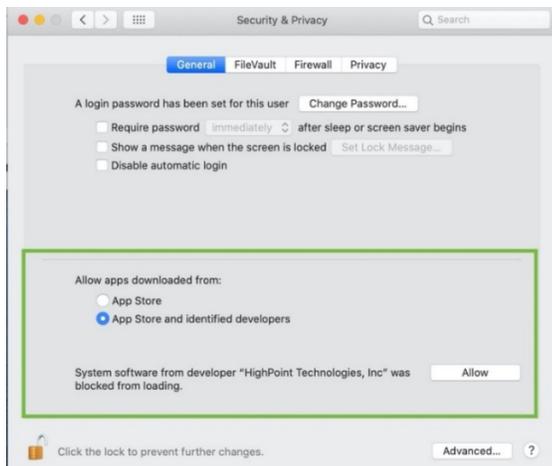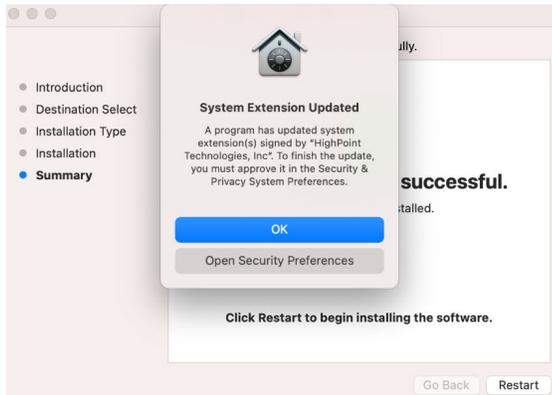
Checking the SIP Status

Open a Terminal window and enter the following command: **csrutil status**

Please take a screenshot of the output, and attach it to a support case (see example below):
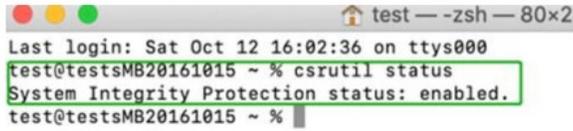
The status will vary depending on which version of macOS you are using:

macOS Version	SIP Status	Driver Status
10.13.x	Disable	Loaded
10.14.x	Enable	Loaded
10.15.x	Enable	Loaded
11.x	Enable	Loaded
12.x	Enable	Loaded

Disable SIP please refer to **Disabling SIP (for macOS13x and earlier)**

Systems with T2 chipsets – Secure Boot status

You will need reboot the system and enter Recovery Mode to check the Secure Boot status. This setting should remain **disabled**.

Please refer to **Disabling Secure Boot**

Checking the Driver status and Version

1) Click on **System Information→ Extensions**, and then click on **HighPointIOP** entry – please take a screenshot and attach it this support case (see the example below):
   Make sure **System Information→ Extensions→HighPointIOP 'Loaded'** is **Yes**
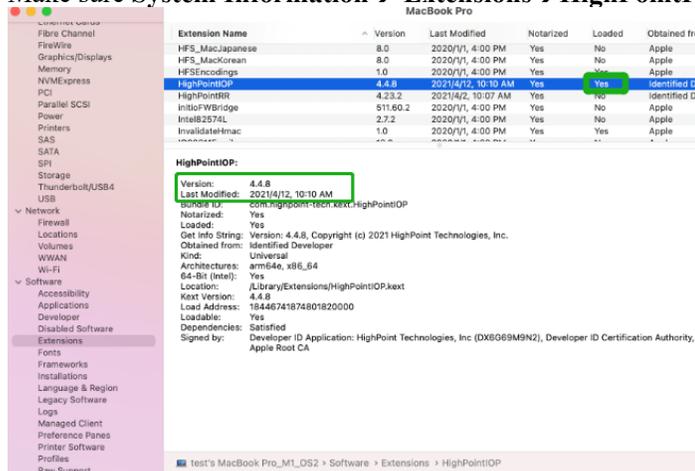
Note: The driver revision shown in the screenshots may not correspond with current software releases. Please make sure to download the latest driver updates from the product's Software Updates page.

WebGUI service restart

If you can't connect to the WebGUI, please check if a process named raidman-httpsd is running on the system. If it is not running, you can start it manually by opening a terminal window and running the command: "**sudo hptdaemonctl restart**".

How to Collect Diagnostic Logs

We have provided a detailed video on log collection methods: link

1) **1-Click Self-Diagnostic Solution**: Diagnostic View provides a "1-click" information collection system for troubleshooting. It will gather all necessary hardware, software and storage configuration data and compile it into a single file, which can be transmitted directly to our FAE Team via our Online Support Portal.

System	**Product**
OS: macOS 11.6.3 20G415	Controller: RocketRAID 4520 SAS Controller
Kernel: xnu-7195.141.19~2	Driver Name: No driver detected!
CPU: Apple M1	Driver Version: /
MotherBoard: MacBookPro17,1	
T2: /	
Disk: APPLE SSD AP0256Q	
Thunderbolt: RocketStor 6628A	
Secure Boot: Permissive Security	
SIP: Disabled	

Logs Location: /Users/Shared/HighPoint_2022.06.07_16.49.38.zip   Save Logs

2) You can also click **'Help'→'Diagnostic'** to enter the diagnostic view.

HBA Properties	**Storage Properties**
Host Adapter model: RocketRAID 4520 SAS Controller	Total Capacity: 24002 GB
Enclosure count: 0	Configured Capacity: 18001 GB
Physical Drive: 3	Free Capacity: 6001 GB
Legacy Disk: 1	
RAID Count: 1	Configured 74.9%

3) Click the "**Save Logs**" button to create the diagnostic file.
Note, this process may take several minutes to complete.
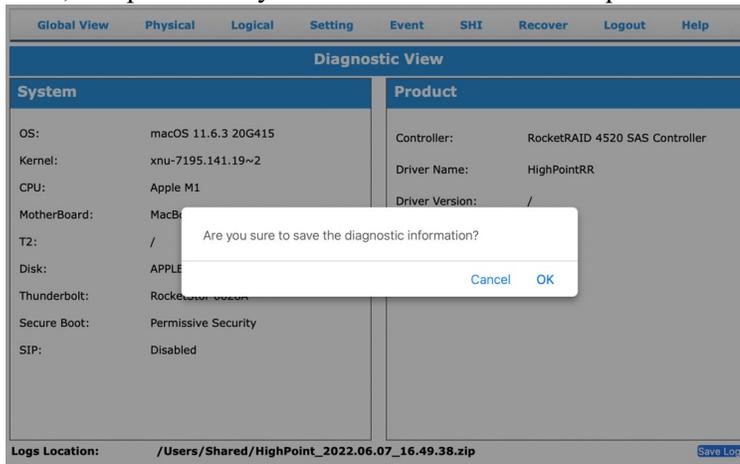
4) **'Logs Location'** will display the location of the saving path.
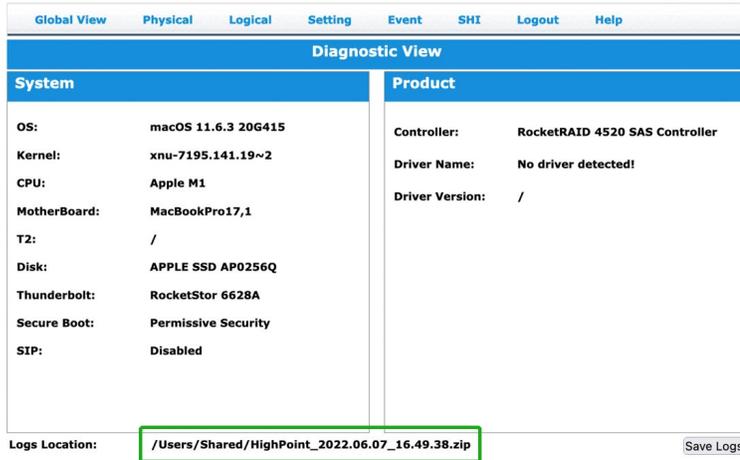
Please submit the log file to our Support Department using our online services:
(https://www.highpoint-tech.com/support-and-services).