XINNOR

xiRAID Classic 4.1.0 Installation Guide

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xiRAID Classic 4.1.0 Installation Guide

Information on installing xiRAID Classic 4.1.0 on a supported operating system.

Overview

This document describes instructions on installation of the xiRAID Classic 4.1.0 software.

You can install your xiRAID Classic 4.1.0 using the “xiraid-repo” repository. For details, see the chapter "Installing xiRAID Classic 4.1.0" for your system.

Most of the commands presented in this document are run only with superuser privileges. Please log in as an administrator or root to run these.

Installing xiRAID Classic 4.1.0

During the installation process, additional packages required by xiRAID Classic 4.1.0 are automatically installed on your system (see the list of additional packages in the document xiRAID Classic 4.1.0 System Requirements). To install additional packages correctly, make sure that the appropriate repositories are configured for them.

> Please ensure that the Protobuf library for Python is not already installed on your system via pip before installing xiRAID Classic 4.1.0

Version Lock plugin will be installed along with the other xiRAID packages. Once the installation is finished, this plugin will lock the current version of the packages, preventing it from being automatically updated on general system update commands (apt/yum/dnf update).

> The DNF package manager will be used for the Version Lock plugin on operating systems where the YUM package manager is not available. By default, the DNF package manager is used when both YUM and DNF managers are installed.

You can disable the Version Lock using the commands listed in xiRAID Classic 4.1.0 Administrator's Guide to update your xiRAID Classic to a new available version. The

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instructions on how to do that safely will be available at https://www.xinnor.io/. We recommend setting up email notifications to receive information about the latest xiRAID Classic releases. Detailed instructions on how to do this are listed in the xiRAID Classic Administrator's Guide. The notifications will be sent to you once every three days. The corresponding messages will be added to journalctl logs regardless of your notifications settings.

xiRAID is installed on the active kernel version of your OS and supports regular kernel updates by automatically rebuilding its kernel module. However, if your system has multiple kernel versions installed and xiRAID is not installed on the latest one, it will not function correctly when switching to the latest kernel version. Make sure you are booted into the correct kernel version if you want to install xiRAID on it.

To install xiRAID Classic 4.1.0 with DKMS, your OS must have one of the packages with the headers of your current Linux kernel version:

- kernel-devel (for RHEL and RHEL-based systems)
- kernel-uek-devel (for Oracle Linux)
- linux-headers (for Ubuntu)
- pve-headers (for Proxmox)

Note that some OS distributions do not have such pre-installed package (and some repositories may not have package versions for out-of-date kernel versions). In this case, you need to install the package yourself by specifying the repository containing the headers package for your kernel version.

Example commands to install header packages:

- The package kernel-devel on RHEL or RHEL-based OS (Rocky Linux, Alma Linux):

```
# yum install kernel-devel-$(uname -r)
```

- The package kernel-uek-devel on Oracle Linux:

```
# yum install kernel-uek-devel-$(uname -r)
```

- The package linux-headers on Ubuntu:

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```
# apt install linux-headers-$(uname -r)
```

- The package linux-headers on Proxmox:

```
# apt install pve-headers-$(uname -r)
```

RHEL-Based Systems

Information in this chapter is for the following systems:

- RHEL;
- Alma Linux;
- Rocky Linux.

When installing Xinnnor xiRAID on RHEL or RHEL-based 9*, the latest kernel version will be installed. To revert your system to the kernel version used prior to installation, you need to change the default kernel that is launched. Specify the kernel version you want to return to (`kernel_version`):

```
# grubby --set-default "/boot/vmlinuz-<kernel_version>"
```

RHEL

To install xiRAID Classic 4.1.0 on an RHEL system:

1. Install EPEL depending on your OS version:

   EPEL (Extra Packages for Enterprise Linux) is a repository containing additional software packages required for the xiRAID installation.

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- RHEL 7.9

```
# subscription-manager repos --enable rhel-*-optional-rpms \
                             --enable rhel-*-extras-rpms \
                             --enable rhel-ha-for-rhel-*-server-rpms
# yum install -y https://dl.fedoraproject.org/pub/epel/
epel-release-latest-7.noarch.rpm
```

- RHEL 8:

```
# subscription-manager repos --enable
 codeready-builder-for-rhel-8-$(arch)-rpms
# yum install -y https://dl.fedoraproject.org/pub/epel/
epel-release-latest-8.noarch.rpm
```

- RHEL 9:

```
# subscription-manager repos --enable
 codeready-builder-for-rhel-9-$(arch)-rpms
# yum install -y https://dl.fedoraproject.org/pub/epel/
epel-release-latest-9.noarch.rpm
```

2. Install kernel-headers for the currently loaded kernel:

```
# yum install kernel-devel-$(uname -r)
```

3. Install xiraid-repo for your OS:

- RHEL 7.9:

```
# yum install https://pkg.xinnor.io/repository/Repository/xiraid/el/7/
kver-3.10/xiraid-repo-1.1.0-446.kver.3.10.noarch.rpm
```

- RHEL 8:

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```
# yum install https://pkg.xinnor.io/repository/Repository/xiraid/el/8/kver-4.18/xiraid-repo-1.1.0-446.kver.4.18.noarch.rpm
```

- RHEL 9:

```
# yum install https://pkg.xinnor.io/repository/Repository/xiraid/el/9/kver-5.14/xiraid-repo-1.1.0-446.kver.5.14.noarch.rpm
```

4. Install xiraid-release.

   This command installs xiRAID Classic 4.1.0.

   ```
   # yum install xiraid-release
   ```

RHEL-Based (Alma Linux, Rocky Linux)

To install xiRAID Classic 4.1.0 on an RHEL-based system:

1. Install EPEL depending on your OS version:

   EPEL (Extra Packages for Enterprise Linux) is a repository containing additional software packages required for the xiRAID installation.

   ```
   # yum install -y epel-release
   ```

2. Install kernel-headers for the currently loaded kernel:

   ```
   # yum install kernel-devel-$(uname -r)
   ```

3. Install xiraid-repo for your OS:

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a. Rocky Linux 8 & Alma Linux 8:

```
# yum install https://pkg.xinnor.io/
repository/Repository/xiraid/el/8/kver-4.18/
xiraid-repo-1.1.0-446.kver.4.18.noarch.rpm
```

b. Rocky Linux 9 & Alma Linux 9:

```
# yum install https://pkg.xinnor.io/repository/Repository/xiraid/el/9/
kver-5.14/xiraid-repo-1.1.0-446.kver.5.14.noarch.rpm
```

4. Install xiraid-release.

   This command installs xiRAID Classic 4.1.0.

   ```
   # yum install xiraid-release
   ```

Oracle Linux UEK

To install xiRAID Classic 4.1.0 on an Oracle Linux with UEK:

1. Install kernel-headers for the currently loaded kernel:

   ```
   # dnf install kernel-uek-devel-$(uname -r)
   ```

2. Install xiraid-repo for your OS:

   - Oracle 8.4 and Oracle 8.6:

     ```
     # dnf install https://pkg.xinnor.io/
     repository/Repository/xiraid/oracle/8/kver-5.4/
     xiraid-repo-1.1.0-446.kver.5.4.noarch.rpm
     ```

   - Oracle 9:

     ```
     # dnf install https://pkg.xinnor.io/repository/
     Repository/xiraid/oracle/9/kver-5.15/
     xiraid-repo-1.1.0-446.kver.5.15.noarch.rpm
     ```

3. Install xiraid-release.

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This command installs xiRAID Classic 4.1.0.

```
# dnf install xiraid-release
```

Ubuntu Linux

Information in this chapter is for following systems:

- Ubuntu 20.04 LTS with 5.4 kernel;
- Ubuntu 22.04 LTS with 5.15 kernel;
- Ubuntu 23.04 with 6.2 kernel.

Ubuntu 20.04 LTS

To install xiRAID Classic 4.1.0 on an Ubuntu 20.04 LTS with kernel 5.4:

1. Install linux-headers for the currently loaded kernel:

   ```
   # apt update && apt install linux-headers-$(uname -r)
   ```

2. Install xiraid-repo for your OS:

   ```
   # cd /tmp/
   # curl -O https://pkg.xinnor.io/repository/Repository/xiraid/
   ubuntu/20.04/kver-5.4/xiraid-repo_1.1.0-446.kver.5.4_amd64.deb
   # apt install ./xiraid-repo_1.1.0-446.kver.5.4_amd64.deb
   ```

3. Install xiraid-release.

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These commands install xiRAID Classic 4.1.0.

```
# apt update && apt install xiraid-release
```

Ubuntu 22.04 LTS

To install xiRAID Classic 4.1.0 on an Ubuntu 22.04 LTS with kernel 5.15:

1. Install linux-headers for the currently loaded kernel:

   ```
   # apt update && apt install linux-headers-$(uname -r)
   ```

2. Install xiraid-repo for your OS:

   ```
   # cd /tmp/
   # curl -O https://pkg.xinnor.io/repository/Repository/xiraid/
   ubuntu/22.04/kver-5.15/xiraid-repo_1.1.0-446.kver.5.15_amd64.deb
   # apt install ./xiraid-repo_1.1.0-446.kver.5.15_amd64.deb
   ```

3. Install xiraid-release.

   These commands install xiRAID Classic 4.1.0.

   ```
   # apt update && apt install xiraid-release
   ```

Ubuntu 23.04

To install xiRAID Classic 4.1.0 on an Ubuntu 23.04 with kernel 6.2:

1. Install linux-headers for the currently loaded kernel:

   ```
   # apt update && apt install linux-headers-$(uname -r)
   ```

2. Install xiraid-repo for your OS:

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```
# cd /tmp/
# curl -O https://pkg.xinnor.io/repository/Repository/xiraid/
ubuntu/23.04/kver-6.2/xiraid-repo_1.1.0-446.kver.6.2_amd64.deb
# apt install ./xiraid-repo_1.1.0-446.kver.6.2_amd64.deb
```

3. Install xiraid-release.

   These commands install xiRAID Classic 4.1.0.

   ```
   # apt update && apt install xiraid-release
   ```

Proxmox 7

To installxiRAID Classic 4.1.0 on a Proxmox 7.2 and 7.4:

1. Install linux-headers for the currently loaded kernel:

   ```
   # apt update && apt install pve-headers-$(uname -r)
   ```

2. Install xiraid-repo for your OS:

   ```
   # cd /tmp/
   # curl -O https://pkg.xinnor.io/repository/Repository/xiraid/
   proxmox/7.2/kver-5.15/xiraid-repo_1.1.0-446.kver.5.15_amd64.deb
   # apt install ./xiraid-repo_1.1.0-446.kver.5.15_amd64.deb
   ```

3. Install xiraid-release.

   These commands install xiRAID Classic 4.1.0.

   ```
   # apt update && apt install xiraid-release
   ```

Proxmox 8

Before installing xiRAID Classic 4.1.0 on a Proxmox 8.0 and 8.1, make sure you have a subscription for its package repositories.

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To install xiRAID Classic 4.1.0 on a Proxmox 8.0 and 8.1:

1. Install linux-headers for the currently loaded kernel:

   ```
   # apt update && apt install pve-headers-$(uname -r)
   ```

2. Install xiraid-repo for your OS:

   ```
   # cd /tmp/
   # curl -O https://pkg.xinnor.io/repository/Repository/xiraid/
   proxmox/8/kver-6.2/xiraid-repo_1.1.0-446.kver.6.2_amd64.deb
   # apt install ./xiraid-repo_1.1.0-446.kver.6.2_amd64.deb
   ```

3. Install xiraid-release.

   These commands install xiRAID Classic 4.1.0.

   ```
   # apt update && apt install xiraid-release
   ```

Testing the Installation

To ensure that the installation was successful:

1. Check the xiraid module:

   ```
   # lsmod | grep xiraid
   ```

   The command shows if the xiraid module is loaded. Empty output indicates that the installation has not completed successfully.

2. Check the xiRAID Classic version:

   ```
   # xicli -v
   ```

   The command shows the version of your xiRAID Classic. The version number must be 4.1.0. Otherwise, the installation was not successful.

3. Check the xiRAID Classic operability:

   ```
   # xicli raid show
   ```

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The command shows a table with RAIDs. The first time you call the command after the installation, the system prompts you to accept the EULA conditions. If you accept the conditions, the command outputs a list of created RAIDs in the form of a table. After the installation, the table is empty. If the output is not in the form of a table or if there is no output at all, it indicates that the installation was not successful.

4. Make sure that xiRAID Classic has been installed on the latest kernel version available on your system.

   Otherwise, follow these steps to use xiRAID Classic after switching to the latest kernel version:

   a. Stop the xiraid target service:

      ```
      # systemctl stop xiraid.target
      ```

   b. Boot into the desired kernel.

   c. Install the development kernel-headers package for the current kernel (see Installing xiRAID Classic 4.1.0 for the specific command for your distribution).

   d. Run:

      ```
      # dkms autoinstall

      # systemctl restart xiraid.target
      ```

After the installation, you can find the installation logs at `/var/log/xraid/`.

If installation was not successful:

- check the kernel version;
- try to reinstall xiRAID Classic 4.1.0.

If this does not help, please contact Xinnor Support team at support@xinnor.io with attached logs from `/var/log/xraid/`.

Uninstalling xiRAID Classic 4.1.0

Stop using the xiRAID Classic devices before uninstalling xiRAID Classic 4.1.0:

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1. Disable all the applications that are using the xiRAID Classic devices.
2. Unmount all file systems that use the xiRAID Classic devices (using umount, systemd or other suitable tool) and disable automatic mounting of file systems at system startup.
3. Make sure all file systems that use the xiRAID devices are unmounted:

```
# df -h
```

Ignoring these steps may result in data loss.

These commands uninstall xiRAID Classic 4.1.0:

1. On an RHEL-based system

```
# yum remove xiraid-release && yum autoremove
# yum remove xiraid-repo
```

2. On an Oracle Linux with UEK

```
# yum remove xiraid-release && yum autoremove
# yum remove xiraid-repo
```

3. On DEB systems (Ubuntu and Proxmox)

   It is best to use the 'aptitude' plugin to correctly remove all of the unused dependencies.

```
# aptitude remove xiraid-release
# aptitude remove xiraid-repo
```

   To remove xiRAID Classic using `apt` run:

```
# apt
 remove xiraid-release xiraid-core xiraid-kmod xiraid-install
# apt remove xiraid-repo
# apt autoremove
```

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