



## Xinnor xiRAID 4.0.4 Installation Guide

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# Xinnor xiRAID 4.0.4 Installation Guide

Information on installing Xinnor xiRAID 4.0.4 on a supported operating system.

## Overview

This document describes instructions on installation of the Xinnor xiRAID 4.0.4 software.

You can install your Xinnor xiRAID 4.0.4 using the “xiraid-repo” repository. For details, see the chapter “Installing Xinnor xiRAID 4.0.4” 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 Xinnor xiRAID 4.0.4

During the installation process, additional packages required by Xinnor xiRAID 4.0.4 are automatically installed on your system (see the list of additional packages in the document Xinnor xiRAID 4.0.4 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 Xinnor xiRAID 4.0.4

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 Xinnor xiRAID 4.0.4 Administrator’s Guide to update your Xinnor xiRAID to a new available version. The 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

Xinnor xiRAID releases. Detailed instructions on how to do this are listed in the Xinnor xiRAID 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 Xinnor xiRAID 4.0.4 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.

## RHEL-Based Systems

Information in this chapter is for the following systems:

- RHEL;
- CentOS Linux;
- Alma Linux;
- Rocky Linux.



When installing Xinnor 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 Xinnor xiRAID 4.0.4 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.

- 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-headers-$(uname -r) kernel-devel-$(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-1.0.1-376.kver.3.10.noarch.rpm
```

- RHEL 8:

```
# yum install https://pkg.xinnor.io/repository/Repository/xiraid/el/8/kver-4.18/xiraid-repo-1.0.1-376.kver.4.18.noarch.rpm
```

- RHEL 9:

```
# yum install https://pkg.xinnor.io/repository/Repository/xiraid/el/9/kver-5.14/xiraid-repo-1.0.1-376.kver.5.14.noarch.rpm
```

### 4. Install xiraid-release.

This command installs Xinnor xiRAID 4.0.4.

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

## RHEL-Based (CentOS Linux, Alma Linux, Rocky Linux)

To install Xinnor xiRAID 4.0.4 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-headers-$(uname -r) kernel-devel-$(uname -r)
```

#### 3. Install xiraid-repo for your OS:

- CentOS Linux 7, Rocky Linux 7 & Alma Linux 7:

```
# yum install https://pkg.xinnor.io/repository/Repository/xiraid/el/7/kver-3.10/xiraid-repo-1.0.1-376.kver.3.10.noarch.rpm
```

- CentOS Linux 8, Rocky Linux 8 & Alma Linux 8:

```
# yum install https://pkg.xinnor.io/repository/Repository/xiraid/el/8/kver-4.18/xiraid-repo-1.0.1-376.kver.4.18.noarch.rpm
```

- Rocky Linux 9 & Alma Linux 9:

```
# yum install https://pkg.xinnor.io/repository/Repository/xiraid/el/9/kver-5.14/xiraid-repo-1.0.1-376.kver.5.14.noarch.rpm
```

#### 4. Install xiraid-release.

This command installs Xinnor xiRAID 4.0.4.

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

## Oracle Linux UEK

If EPEL is installed on Oracle 9, it may prevent the python3-grpcio-tools package from being updated when you update your system to newer versions.



To resolve this issue, please run the following command to update your Oracle 9:

```
# dnf update --nobest
```

To install Xinnor xiRAID 4.0.4 on an Oracle Linux with UEK:

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

```
# yum 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-1.0.1-376.kver.5.4.noarch.rpm
```

- Oracle 9:

```
# dnf install https://pkg.xinnor.io/repository/  
Repository/xiraid/oracle/9/kver-5.15/xiraid-  
repo-1.0.1-376.kver.5.15.noarch.rpm
```

### 3. Install xiraid-release.

This command installs Xinnor xiRAID 4.0.4.

```
# 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 20.04 LTS

To install Xinnor xiRAID 4.0.4 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_1.0.1-376.kver.5.4_amd64.deb  
# apt install ./xiraid-repo_1.0.1-376.kver.5.4_amd64.deb
```

### 3. Install xiraid-release.

These commands install Xinnor xiRAID 4.0.4.

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





If you do not have the postfix package installed on your system, during the installation, you will be prompted to choose its configuration. Select "No configuration".

## Ubuntu 22.04 LTS

To install Xinnor xiRAID 4.0.4 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_1.0.1-376.kver.5.15_amd64.deb  
# apt install ./xiraid-repo_1.0.1-376.kver.5.15_amd64.deb
```

3. Install xiraid-release.

These commands install Xinnor xiRAID 4.0.4.

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



If you do not have the postfix package installed on your system, during the installation, you will be prompted to choose its configuration. Select "No configuration".

## Proxmox

To install Xinnor xiRAID 4.0.4 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_1.0.1-376.kver.5.15_amd64.deb  
# apt install ./xiraid-repo_1.0.1-376.kver.5.15_amd64.deb
```

### 3. Install xiraid-release.

These commands install Xinnor xiRAID 4.0.4.

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



If you do not have the postfix package installed on your system, during the installation, you will be prompted to choose its configuration. Select "No configuration".

## 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 Xinnor xiRAID version:

```
# xicli -v
```

The command shows the version of your Xinnor xiRAID. The version number must be 4.0.4. Otherwise, the installation was not successful.

#### 3. Check the Xinnor xiRAID operability:

```
# xicli raid show
```

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 Xinnor xiRAID has been installed on the latest kernel version available on your system.

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

- a. Boot into the desired kernel.
- b. Install the development kernel-headers package for the current kernel (see Installing Xinnor xiRAID 4.0.4 for the specific command for your distribution).

- c. 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 Xinnor xiRAID 4.0.4.


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

## Uninstalling Xinnor xiRAID 4.0.4

Stop using the xiRAID devices before uninstalling Xinnor xiRAID 4.0.4:

1. Disable all the applications that are using the xiRAID devices.
2. Unmount all file systems that use the xiRAID 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 Xinnor xiRAID 4.0.4:

### 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 Xinnor xiRAID using `apt` run:

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