

Before upgrading

- پشتیبان‌گیری کامل: از فایل‌های مهم یا حتی یک snapshot سیستم تهیه کنید. اگر کرنل جدید ناسازگار بود، بتوانید برگردید.
- بررسی نسخه فعلی: با دستور `uname -r` ببینید الان چه کرنلی دارید. این کمک می‌کند تغییرات را بعداً مقایسه کنید.
- سازگاری سخت‌افزار: مطمئن شوید درایورهای کارت گرافیک، وای‌فای یا ابزارهای خاص با نسخه‌ی جدید کرنل سازگار هستند.
- انتخاب روش ارتقاء: تصمیم بگیرید از مخازن رسمی (پایدارتر) یا کرنل `mainline` (جدیدتر ولی آزمایشی‌تر) استفاده کنید.

After upgrade

- بررسی نسخه جدید: دوباره `uname -r` بزنید تا مطمئن شوید کرنل جدید فعال شده.
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- نگه داشتن کرنل قبلی: کرنل قدیمی را پاک نکنید تا اگر مشکلی پیش آمد، از منوی GRUB بتوانید به آن برگردید.
- به‌روزرسانی GRUB: اگر چند کرنل دارید، با `sudo update-grub` مطمئن شوید همه در لیست بوت هستند.
- مانیتور کردن لاگ‌ها: با دستور `dmesg` یا بررسی `var/log/syslog` خطاهای احتمالی را ببینید.

Upgrading Linux Kernel in Ubuntu

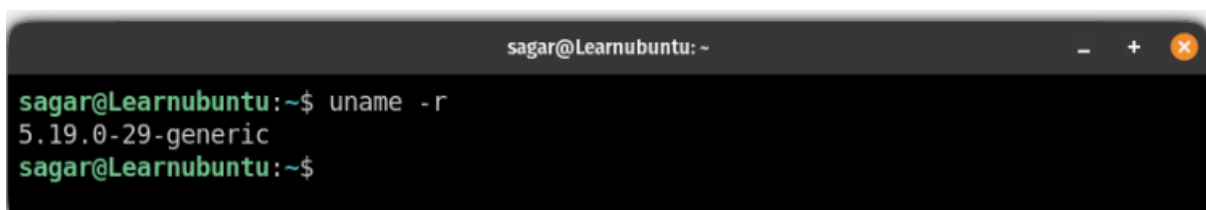
Want to upgrade your kernel on Ubuntu? Well, in this guide, I will be sharing two ways to do so:

- Upgrade to a newer kernel provided by Ubuntu's repository
- Installing the latest mainline kernel (unofficial)

Upgrade the Ubuntu kernel from the default repository

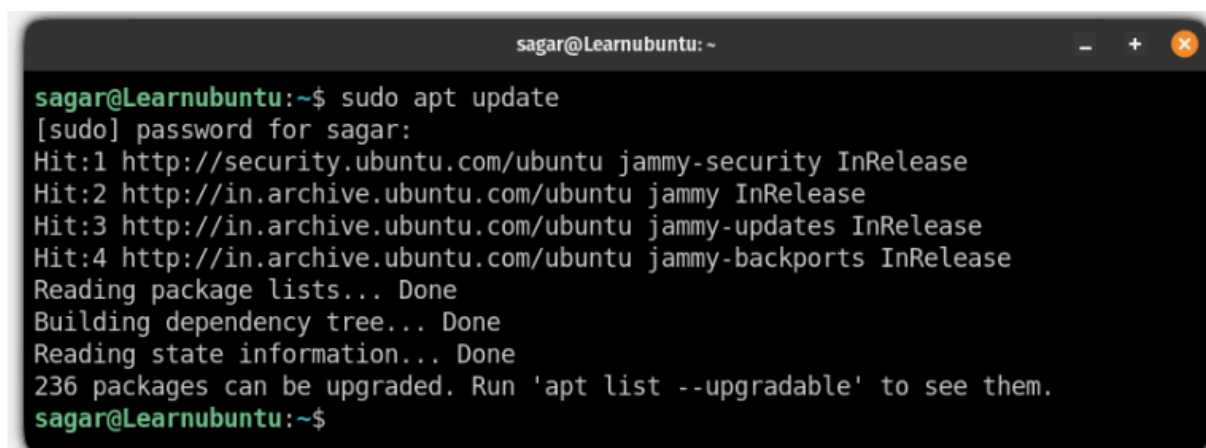
First, check the current kernel version using the following command:

Uname -r



```
sagar@Learnubuntu: ~  
sagar@Learnubuntu:~$ uname -r  
5.19.0-29-generic  
sagar@Learnubuntu:~$
```

Sudo apt update



```
sagar@Learnubuntu: ~  
sagar@Learnubuntu:~$ sudo apt update  
[sudo] password for sagar:  
Hit:1 http://security.ubuntu.com/ubuntu jammy-security InRelease  
Hit:2 http://in.archive.ubuntu.com/ubuntu jammy InRelease  
Hit:3 http://in.archive.ubuntu.com/ubuntu jammy-updates InRelease  
Hit:4 http://in.archive.ubuntu.com/ubuntu jammy-backports InRelease  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
236 packages can be upgraded. Run 'apt list --upgradable' to see them.  
sagar@Learnubuntu:~$
```

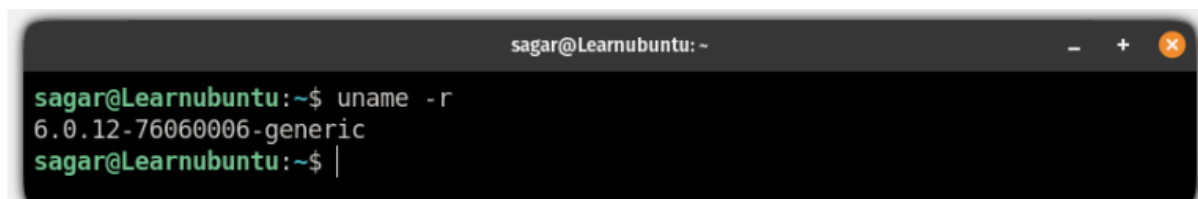
And if you see pending updates, you can execute the following command to update your system:

`Sudo apt upgrade`

Once done, reboot your system and check the kernel version.

If the update had a kernel update, it should get you a new kernel:

`Uname -r`

A terminal window with a dark background and light green text. The window title is 'sagar@Learnubuntu: ~'. The prompt is 'sagar@Learnubuntu:~\$'. The command 'uname -r' has been entered and executed, resulting in the output '6.0.12-76060006-generic'. The prompt is now 'sagar@Learnubuntu:~\$ |'.

```
sagar@Learnubuntu: ~  
sagar@Learnubuntu:~$ uname -r  
6.0.12-76060006-generic  
sagar@Learnubuntu:~$ |
```

And as you can see, it upgraded the kernel from 5.19 to 6.0.

Install mainline kernel in Ubuntu via unofficial PPA

If you don't know, the mainline kernel is maintained by Linus Torvalds and introduces all new features implemented.

So you get to use the spicy stuff before anyone else.

To install the mainline kernel, you'd need a package named `mainline`.

Which can only be installed by using PPA on Ubuntu. So first, add the PPA by the following command:

```
Sudo add-apt-repository ppa:cappelikan/ppa
```

Next, use the following command to update repositories and install the mainline package:

```
Sudo apt update && sudo apt install mainline
```

Mainline --check

To install the latest mainline kernel, you will have to use the following command:

```
Sudo mainline - -install-point
```

Once you are done with the download, a reboot is required to take effect from the new kernel.

Now, check the kernel version and it will show the most recent mainline kernel:

```
Uname -r
```

But you can do the entire process with GUI.

So if you have access to GUI, you can the given guide that explains the complete usage of the `mainline` package with GUI:

Roll back to the previous kernel in Ubuntu

If you are facing stability issues with the latest kernel, you can always roll back to the previous kernel.

To roll back to the old kernel, restart your system and select the **Advanced options for Ubuntu** option.

And then, select the previous kernel and hit enter:

