

ETHICAL SOFTWARE COMMUNITY

Fedora Linux Introduction

TABLE OF CONTENTS

| | |
|--|----|
| Fedora Basic..... | |
| Installing Fedora!..... | |
| Installing Rpm Fusion (DNF)..... | 20 |
| 1. Enabling the RPM Fusion repositories using command-line utilities..... | 20 |
| Installing Rpm Dependency/Packages (Yum)..... | 24 |
| Easiest apps Installation from “Software” (App store)..... | 30 |
| How to Search and Install through DNF (Terminal) | 33 |
| Updating Fedora..... | 39 |
| Terminal Basic..... | |
| Basic Commands..... | |

Fedora Basic

Here are the basic things you need to know about Fedora Linux.

Installing Fedora!

READ THE FOLLOWING REMINDER BEFORE INSTALLING!!!!

1. Back up all your important data before installation.
2. This installation guide is not for Dual Boot OS.
3. Data from your Compute will be entirely Overwritten.
4. This installation is irreversible.
5. If you need further assistance on advanced installation, please refer to this link¹.

Here is the Simple Tutorial that helps you install **Fedora Linux**. Let's get started.

Step 1. First and foremost, In order to install Fedora, you need the following devices;

- Formatted USB Flash Drive (No Data Inside)
- Desktop/Laptop (Windows **Pre-Installed**)

Step 2. Follow the step accordingly for installing the **USB boot loader!**

We won't need to download an ISO file since the Fedora Media Writer will help with it.

1 <https://docs.fedoraproject.org/en-US/fedora/latest/install-guide>

(P.S. USB Boot Loader worked as a means for burning the ISO file to your USB)

- go ahead and download **Fedora Media Writer** from the [URL](#) below
(Select your OS: Windows Icon).

<https://getfedora.org/fmw/FedoraMediaWriter-win32-latest.exe>

- **Double Click** the download file and Click **Yes** if they ask permission to write on your device.
- **Agree** on the terms and continue the installation.



Fedora Media Writer Setup



License Agreement

Please review the license terms before installing Fedora Media Writer.



Press Page Down to see the rest of the agreement.

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc., <<http://fsf.org/>>
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your

If you accept the terms of the agreement, click I Agree to continue. You must accept the
agreement to install Fedora Media Writer.

Nullsoft Install System v3.07

I Agree

Cancel



Fedora Media Writer Setup



Choose Install Location

Choose the folder in which to install Fedora Media Writer.

Setup will install Fedora Media Writer in the following folder. To install in a different folder, click Browse and select another folder. Click Install to start the installation.

Destination Folder

C:\Program Files (x86)\Fedora Media Writer

[Browse...](#)

Space required: 130.9 MB

Space available: 386.1 GB

Nullsoft Install System v3.07

[< Back](#)

[Install](#)

[Cancel](#)



Fedora Media Writer Setup



Installation Complete

Setup was completed successfully.



Completed

Show details

Nullsoft Install System v3.07

< Back

Next >

Cancel



Fedora Media Writer Setup



Completing Fedora Media Writer Setup

Fedora Media Writer has been installed on your computer.

Click Finish to close Setup.

Run Fedora Media Writer

< Back

Finish

Cancel

- Click on the “**Next**” button.



Select Image Source

- Download automatically
- Select .iso file

About



Next

- Click on the “**Next**” button.

Select Fedora Release

Select from:

- Official Editions
- Emerging Editions
- Spins
- Labs

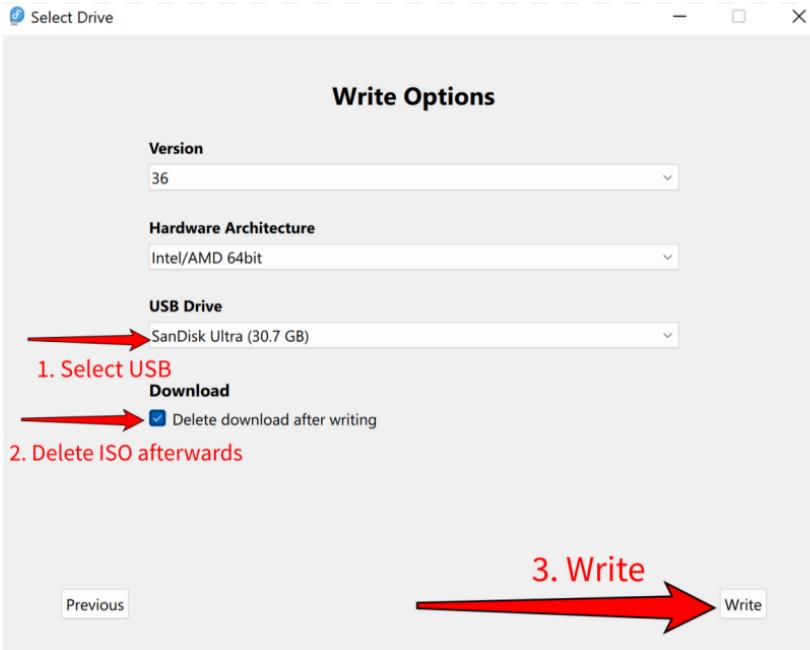
Fedora Workstation

Previous

Next



- **Select** your USB Flash Drive.
- Select the “**Delete download**” option to save you some disk space.
- Simply press the button “**Write**” and wait for it to finish.



- You should see no error message and click “Finish”. You are good to go!
- (P.S. if there’s any error message, please contact the Linux Support Officer)

 Successfully written



Fedora Workstation 36 Successfully Written

Finished!



Restart and boot from SanDisk Ultra (30.7 GB) to start using Fedora Workstation.

 Finish

Step 4. Entering the boot session (In short)

1. Reboot your PC
2. Press Del and wait for a menu to pop up, then select your USB as a boot device.
3. If 2. is not working, please follow 4.
4. Press F2 to enter the boot session and select your USB as the first boot loading device

If there are any difficulties getting the USB to boot, check out the Youtube link below for getting into the Boot Menu;

Regular Desktop:

<https://www.youtube.com/watch?v=wH9q3KSISvQ>

Apple Computer:

<https://www.youtube.com/watch?v=XJDwF1BY66Y>

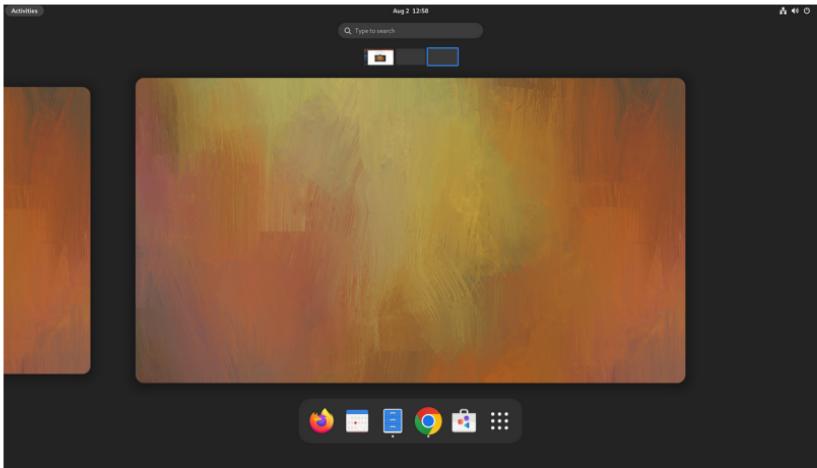
You shall see the following screen with Two Options

[Try Fedora] and [Install to Hard Drive]:



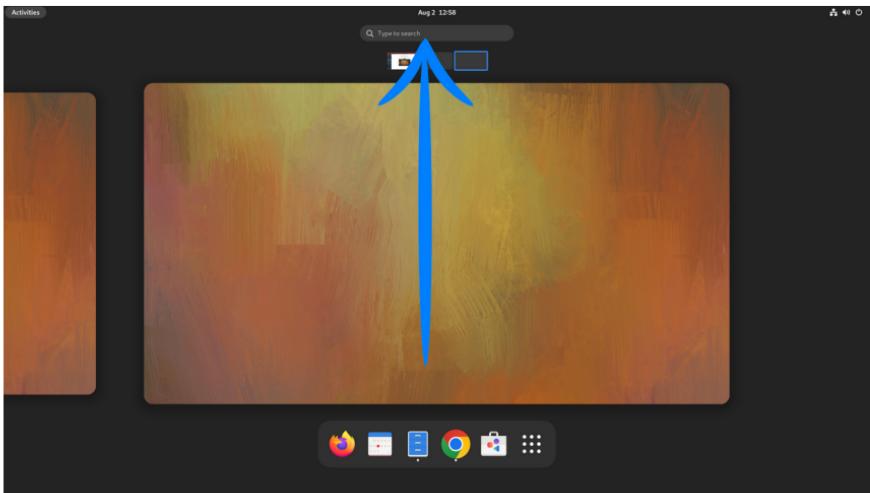
Step 5. On your Fedora screen, move your mouse to the top-left corner of your screen. You should see the following screen:

Example Output:



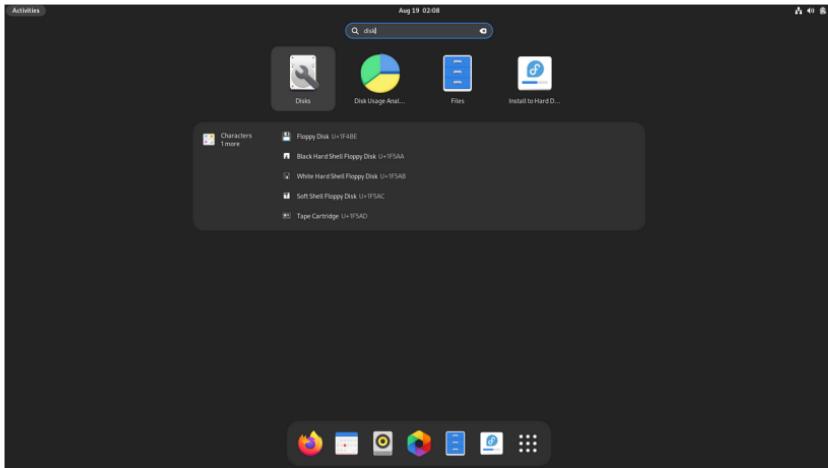
Step 6. Left Click “**Type to search**”.

Example Output:



Step 7. Enter the word “disk”.

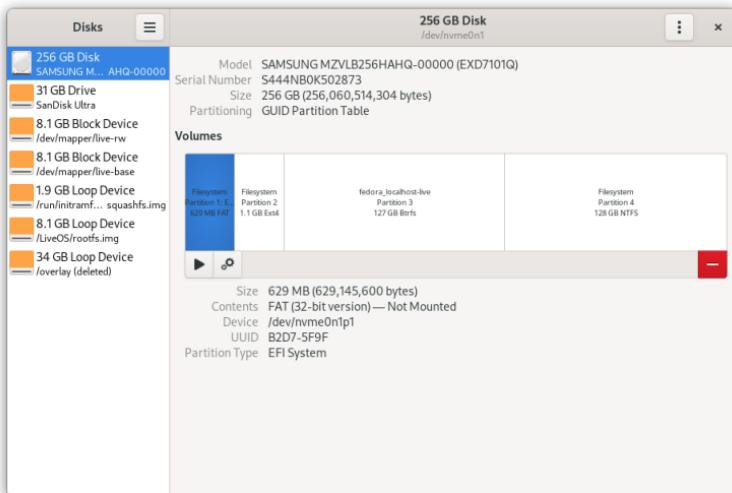
Example Output:



Step 8. After Left Clicking on the disk Icon. You should see the following window pop out. Go ahead and select the disk to install Fedora.

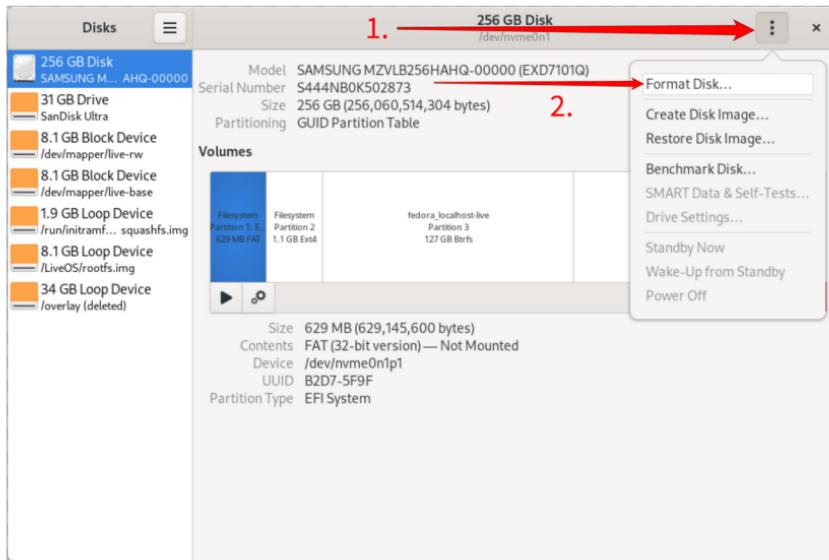
(This is a Formatting Operation, All data in the disk will be **erased**)

Example Output:



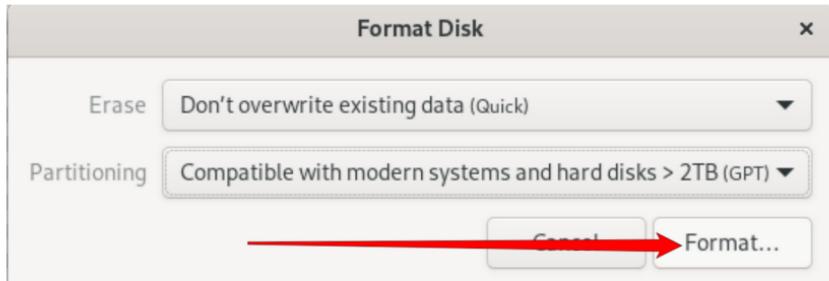
Step 9. Follow the arrow and Click on Format Disk. Then Format Disk window will pop out.

Example Output:



Step 10. Left Click on the Format Button.

Example Output:



Step 11. a warning will show up, Click on the Format Button to confirm.

(Again, All data in the disk will be **deleted** from the disk)

Example Output:

Are you sure you want to format the disk?

All data on the disk will be lost but may still be recoverable by data recovery services

Tip: If you are planning to recycle, sell or give away your old computer or disk, you should use a more thorough erase type to keep your private information from falling into the wrong hands

Affected Devices

256 GB Disk — SAMSUNG MZVLB25... -00000 [EXD7101Q] (/dev/nvme0n1)

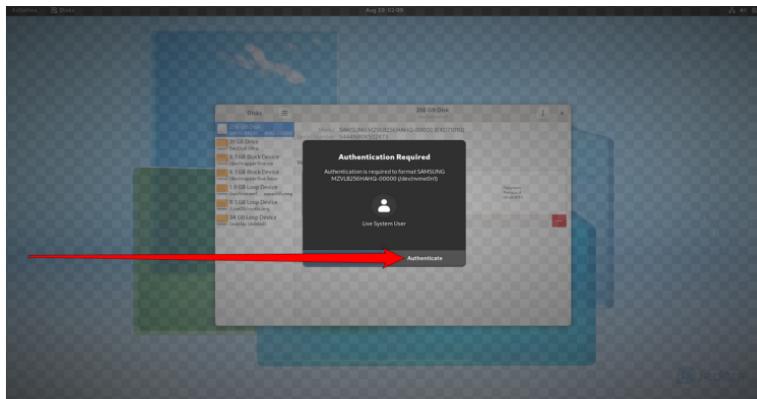
Cancel

Format

Step 12. Fedora will then ask for Permission, Click on the Authenticate Button to confirm.

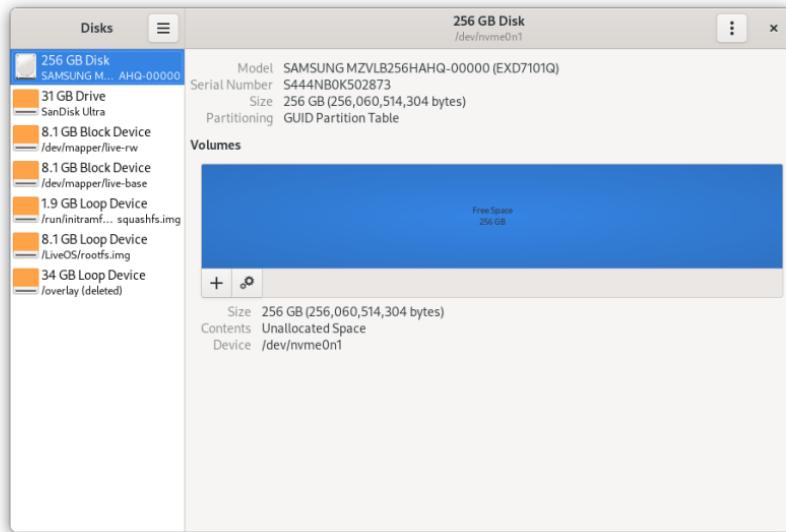
(Again, All data in the disk will be **deleted** from the disk)

Example Output:



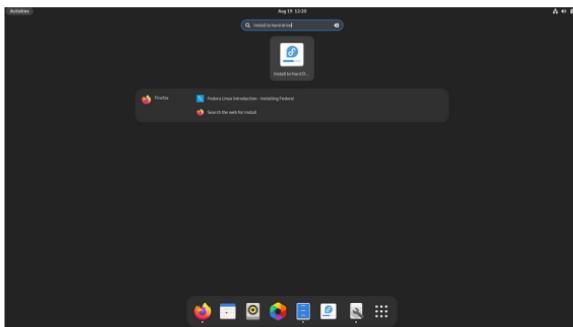
Step 13. Fedora Within the Disk Window, you should see they are now Free Space.

Example Output:

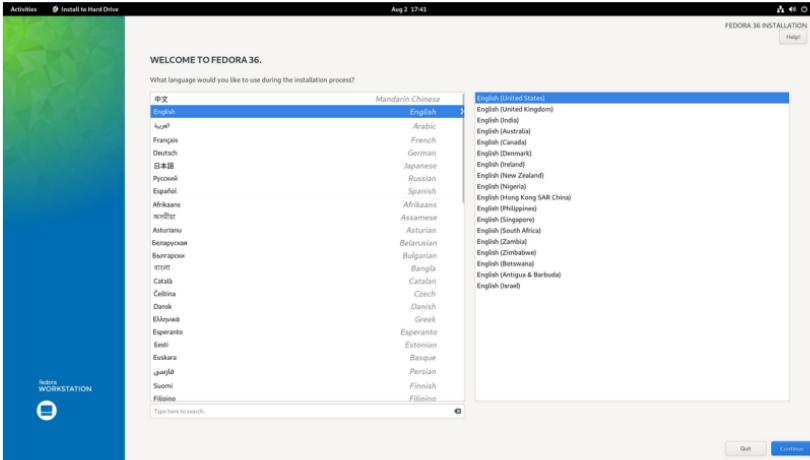


Step 14. Follow the Step 5-7, but instead of searching “disk”, search “install to hard drive”.

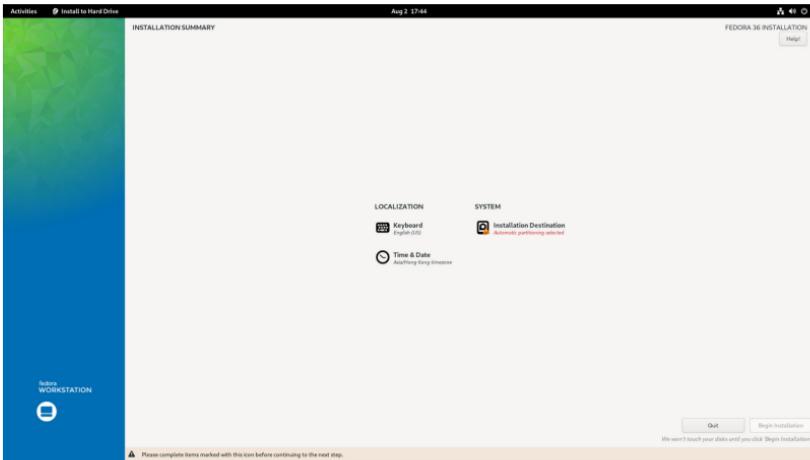
Example Output:



Step 15. Select the icon [Install to Hard Drive] and it will lead you to this screen:



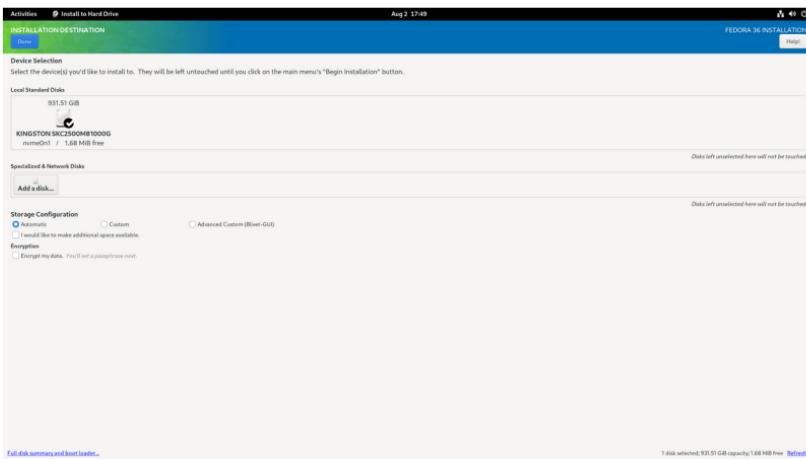
Step 16. Select your preferred language and press the **blue button** in the bottom-right corner.



Step 17. An “**Installation Destination**” label is located in the **centre of the screen**. Left Click on it.

Step 18. Now select the **Disk Location** that you would like to install on. In my case, there's only one Disk I could select.

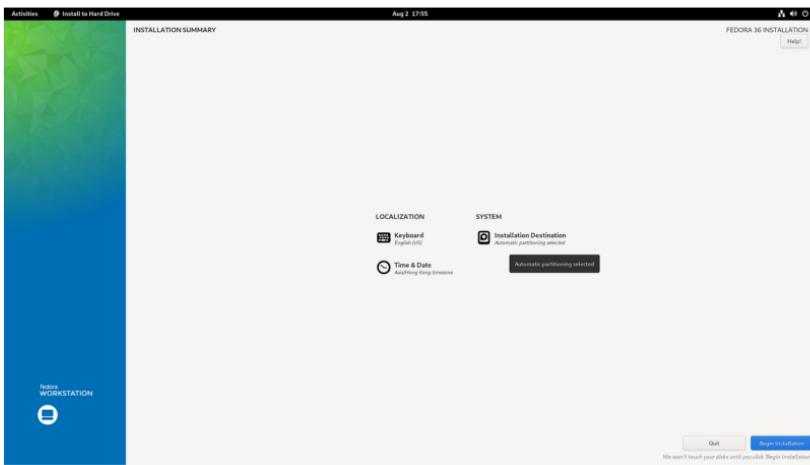
P.S. if you plan on installing Fedora onto another drive, go ahead selecting it.



Step 19. Now select the **Disk Location** that you would like to install on. In my case, there's only one Disk I could choose. Than, Left Click the **Blue Button "Done"** in the top-left corner.

P.S. if you plan on installing Fedora onto another drive, go ahead selecting it.

Step 20. Finally, Left Click on the "**Begin installation**" **Blue Button** in the bottom-right corner and wait for several minutes.



Step 21. Reboot your PC and enjoy Fedora!

E.N.D

Installing Rpm Fusion (DNF)

The RPM Fusion project is a community-maintained software repository providing additional packages that are not distributed by Fedora.

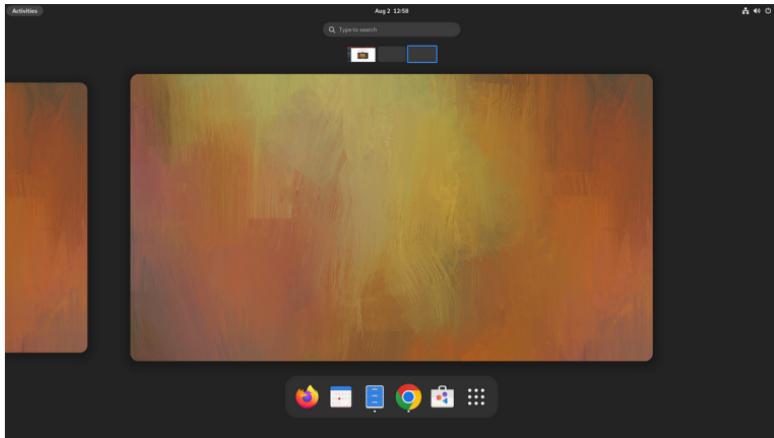
Remarks: If you need further assistance on advanced installation, please refer to this link².

1. Enabling the RPM Fusion repositories using command-line utilities

Step 1. First, on your Fedora, move your mouse to the **top-left corner** of your screen.

You should see the following screen:

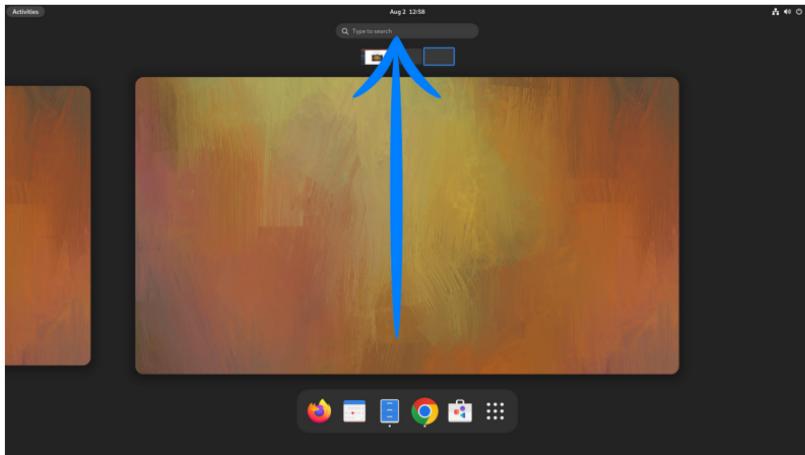
Example Output:



2 https://docs.fedoraproject.org/en-US/quick-docs/setup_rpmfusion/

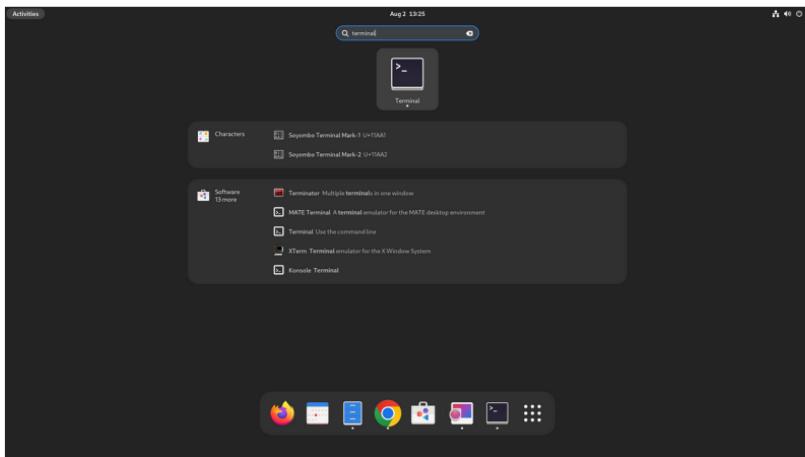
Step 2. Left Click “Type to search”.

Example Output:



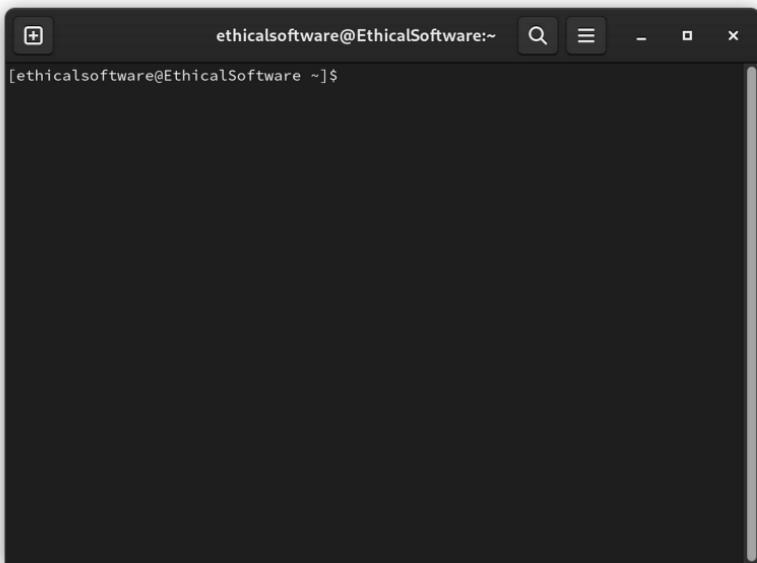
Step 3. Enter the word “Terminal”.

Example Output:



Step 4. After Left Clicking on the Terminal Icon. You should see the following terminal pop out.

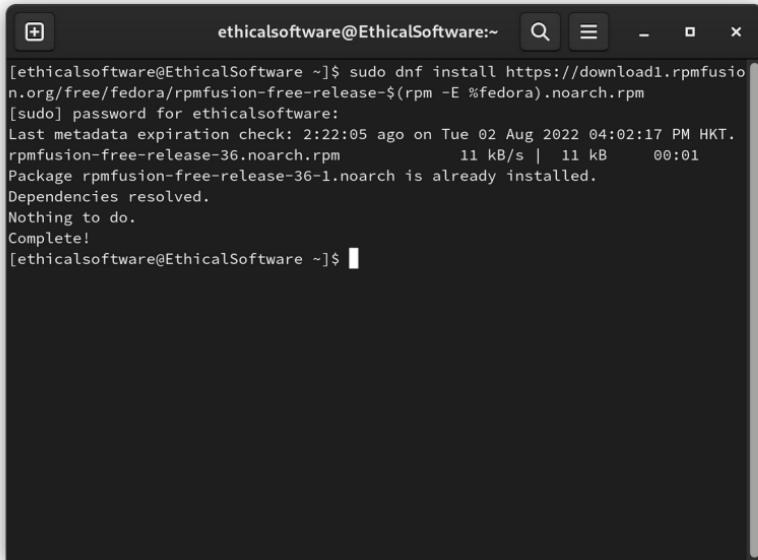
Example Output:



Step 5. Enter the below command in the terminal and enter your user password:

```
sudo dnf install  
https://download1.rpmfusion.org/free/fedora/rpmfusion-free-  
release-$(rpm -E %fedora).noarch.rpm
```

Example Output:



A screenshot of a terminal window titled "ethicalsoftware@EthicalSoftware:~". The window contains the following text output from a sudo dnf command:

```
[ethicalsoftware@EthicalSoftware ~]$ sudo dnf install https://download1.rpmfusion.org/free/fedora/rpmfusion-free-release-$(rpm -E %fedora).noarch.rpm  
[sudo] password for ethicalsoftware:  
Last metadata expiration check: 2:22:05 ago on Tue 02 Aug 2022 04:02:17 PM HKT.  
rpmfusion-free-release-36.noarch.rpm 11 kB/s | 11 kB 00:01  
Package rpmfusion-free-release-36-1.noarch is already installed.  
Dependencies resolved.  
Nothing to do.  
Complete!  
[ethicalsoftware@EthicalSoftware ~]$
```

Congregation! You have successfully installed Rpm Fusion on Fedora!

E.N.D

Installing Rpm Dependency/Packages (Yum)

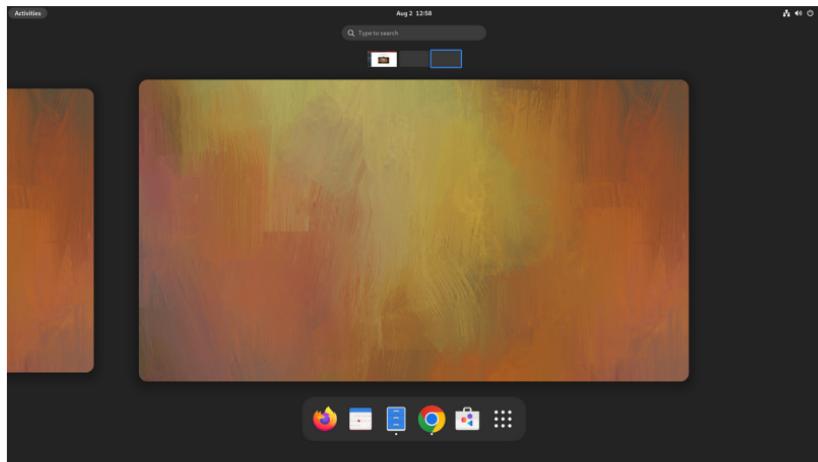
RPM Package Manager is a free and open-source package management system. User's can install Rpm Dependency or Packages with RPM Package Manager.

Rpm command only worked decently with individual packages with a small number of Dependencies. On the other hand, Yum worked fine even with a complex list of Dependencies. In this case, we will prefer installing Rpm Packages via Yum.

Step 1. First, on your Fedora, move your mouse to the **top-left corner** of your screen.

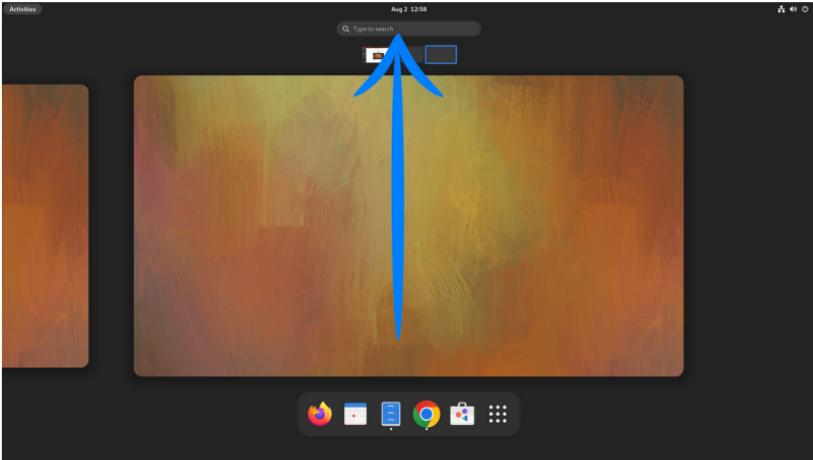
You should see the following screen:

Example Output:



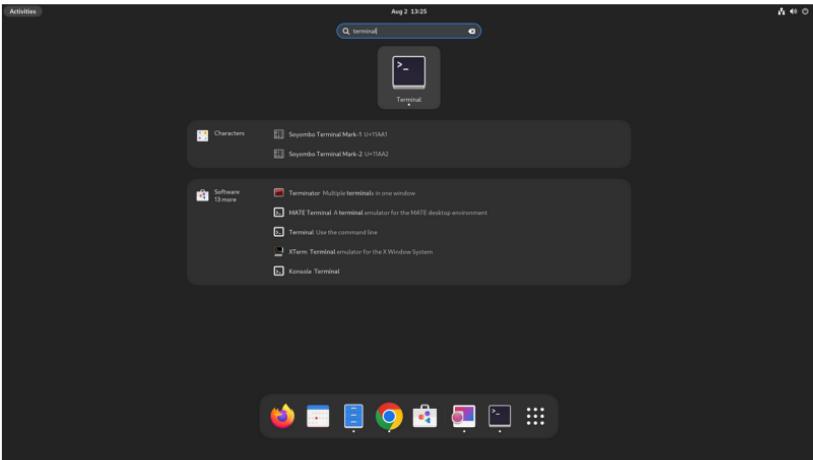
Step 2. Left Click "**Type to search**".

Example Output:



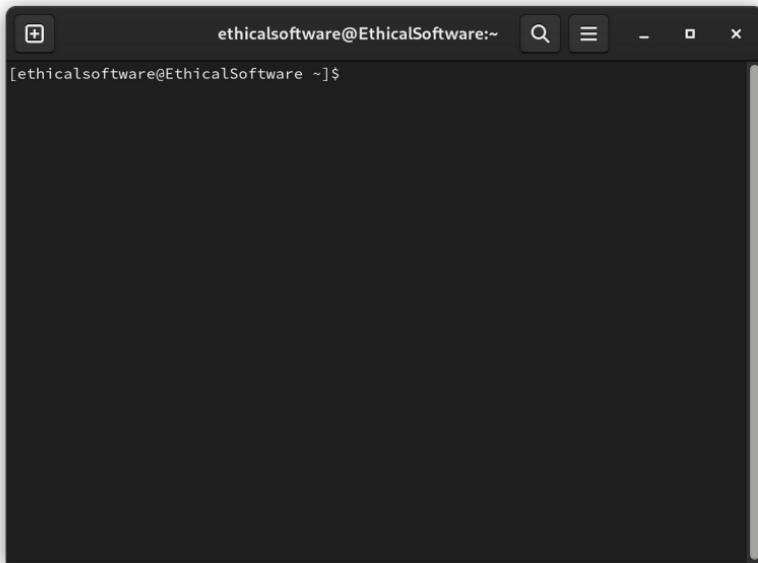
Step 3. Enter the word “Terminal”.

Example Output:



Step 4. After Left Clicking on the Terminal Icon. You should see the following terminal pop out.

Example Output:



Step 5. Enter the below command for checking the Rpm dependencies of <package-name>

(Taking Apache HTTP Server as an example):

```
rpm -qR httpd
```

Example Output:

```
[ethicalsoftware@EthicalSoftware ~]$ rpm -qR httpd
/bin/sh
/bin/sh
/bin/sh
/etc/mime.types
/usr/bin/sh
config(httpd) = 2.4.53-1.fc36
httpd-filesystem
httpd-filesystem = 2.4.53-1.fc36
httpd-tools = 2.4.53-1.fc36
libapr-1.so.0()(64bit)
libaprutil-1.so.0()(64bit)
libbrotlienc.so.1()(64bit)
libc.so.6()(64bit)
libc.so.6(GLIBC_2.14)(64bit)
libc.so.6(GLIBC_2.2.5)(64bit)
libc.so.6(GLIBC_2.3)(64bit)
libc.so.6(GLIBC_2.3.4)(64bit)
libc.so.6(GLIBC_2.30)(64bit)
libc.so.6(GLIBC_2.32)(64bit)
libc.so.6(GLIBC_2.33)(64bit)
libc.so.6(GLIBC_2.34)(64bit)
libc.so.6(GLIBC_2.4)(64bit)
libc.so.6(GLIBC_2.7)(64bit)
libcrypt.so.2()(64bit)
libexpat.so.1()(64bit)
libpcre2-8.so.0()(64bit)
libselinux.so.1()(64bit)
libselinux.so.1(LIBSELINUX_1.0)(64bit)
libsystemd.so.0()(64bit)
libsystemd.so.0(LIBSYSTEMD_209)(64bit)
libz.so.1()(64bit)
rpmlib(CompressedFileNames) <= 3.0.4-1
rpmlib(FileCaps) <= 4.6.1-1
rpmlib(FileDigests) <= 4.6.0-1
rpmlib(PayloadFilesHavePrefix) <= 4.0-1
rpmlib(PayloadIsZstd) <= 5.4.18-1
rtld(GNU_HASH)
system-logos(httpd-logo-ng)
systemd-units
systemd-units
systemd-units
[ethicalsoftware@EthicalSoftware ~]$
```

Step 6. Enter the below command for installing the specified <package-name>

(Taking Apache HTTP Server as an example):

Enter the “y” key. You are good to go if you don’t see any Error messages.

```
sudo yum install httpd
```

Example Output:

```
[ethicalsoftware@EthicalSoftware ~]$ sudo yum install httpd
[sudo] password for ethicalsoftware:
Last metadata expiration check: 2:53:26 ago on Tue 02 Aug 2022 04:02:17 PM HKT.
Dependencies resolved.
=====
Package           Arch    Version      Repository  Size
=====
Installing:
httpd            x86_64  2.4.54-3.fc36   updates     47 k
Installing dependencies:
fedora-logos-httdp noarch  36.0.0-2.fc36   fedora     16 k
httpd-core        x86_64  2.4.54-3.fc36   updates     1.3 M
httpd-filesystem  noarch  2.4.54-3.fc36   updates     13 k
httpd-tools       x86_64  2.4.54-3.fc36   updates     80 k
Installing weak dependencies:
julietaula-montserrat-fonts noarch  1:7.222-2.fc36   fedora     1.6 M
mod_http2         x86_64  1.15.24-2.fc36   fedora     151 k
mod_lua           x86_64  2.4.54-3.fc36   updates     60 k
=====
Transaction Summary
=====
Install 8 Packages

Total download size: 3.3 M
Installed size: 9.6 M
Is this ok [y/N]: y
Downloading Packages:
(1/8): fedora-logos-httdp-36.0.0-2.fc36.noarch. 49 kB/s | 16 kB  00:00
(2/8): httpd-2.4.54-3.fc36.x86_64.rpm          226 kB/s | 47 kB  00:00
(3/8): httpd-core-2.4.54-3.fc36.x86_64.rpm      5.2 MB/s | 1.3 MB  00:00
(4/8): httpd-filesystem-2.4.54-3.fc36.noarch.rpm 239 kB/s | 13 kB  00:00
(5/8): mod_http2-1.15.24-2.fc36.x86_64.rpm     172 kB/s | 151 kB  00:00
(6/8): httpd-tools-2.4.54-3.fc36.x86_64.rpm     1.5 MB/s | 80 kB  00:00
(7/8): julietaula-montserrat-fonts-7.222-2.fc36 1.7 MB/s | 1.6 MB  00:00
(8/8): mod_lua-2.4.54-3.fc36.x86_64.rpm        311 kB/s | 60 kB  00:00
=====
Total                                         1.5 MB/s | 3.3 MB  00:02
Running transaction check
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
Running transaction
Preparing :                                                 1/1
Installing : httpd-tools-2.4.54-3.fc36.x86_64          1/8
Running scriptlet: httpd-filesystem-2.4.54-3.fc36.noarch 2/8
Installing : httpd-filesystem-2.4.54-3.fc36.noarch       2/8
Installing : httpd-core-2.4.54-3.fc36.x86_64           3/8
Installing : mod_http2-1.15.24-2.fc36.x86_64          4/8
Installing : julietaula-montserrat-fonts-1:7.222-2.fc36 5/8
Installing : fedora-logos-httdp-36.0.0-2.fc36.noarch    6/8
Installing : mod_lua-2.4.54-3.fc36.x86_64              7/8
Installing : httpd-2.4.54-3.fc36.x86_64               8/8
Running scriptlet: httpd-2.4.54-3.fc36.x86_64          8/8
```

E.N.D

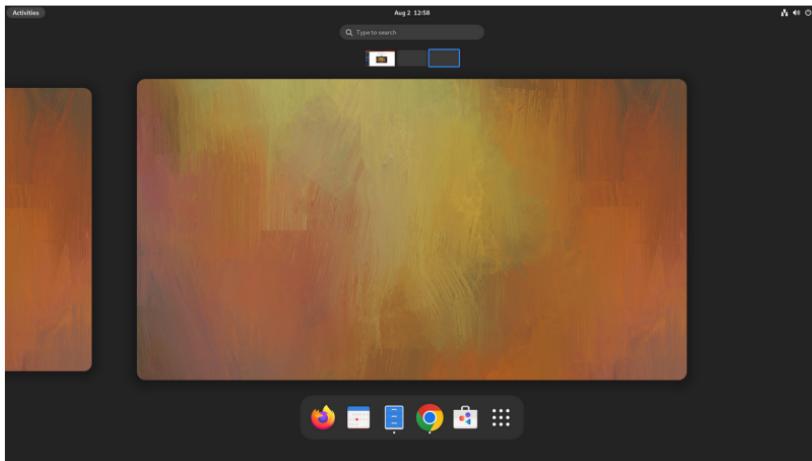
Easiest apps Installation from “Software” (App store)

It is better to start things graphical as some beginners might get lost/confused when dealing with Terminal. Here comes Fedora Software”. It is similar to an app store on your smartphone. Simply search apps with a name, and boom! Magic happened.

Step 1. First, on your Fedora, move your mouse to the **top-left corner** of your screen.

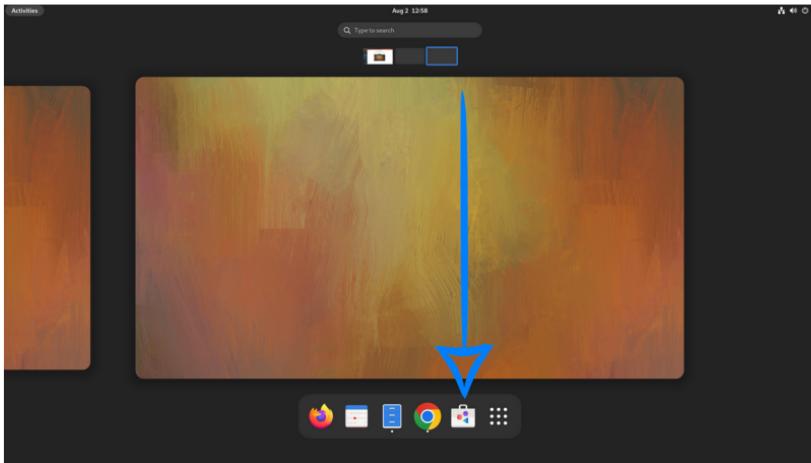
You should see the following screen:

Example Output:



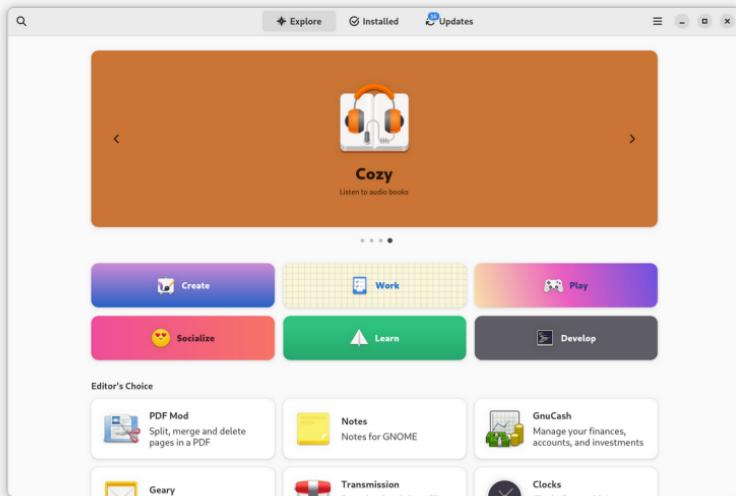
Step 2. Follow the **Blue Arrow** and **Left Click** on the “Software” app store Icon :

Example Output:



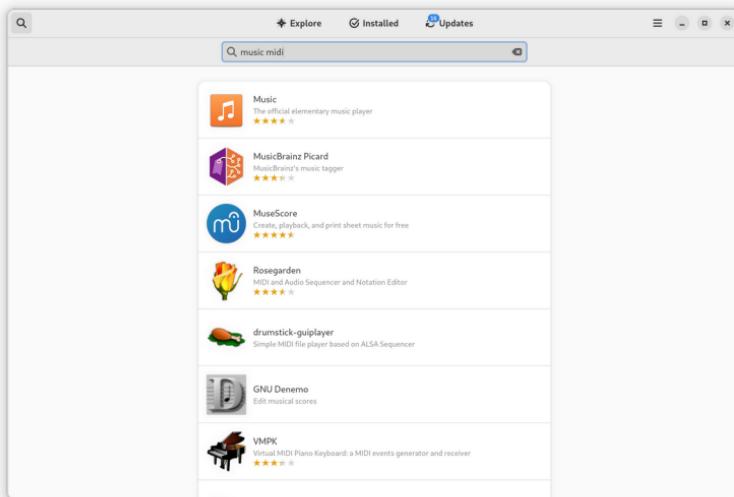
Step 3. You should see the following “**Software**” store screen, you can find software packages in the suggested **categories**.

Example Output:



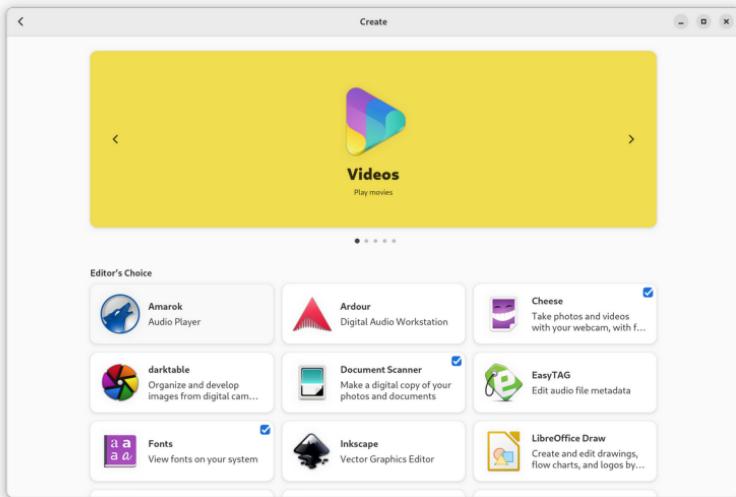
Step 4. On the other hand, if we need to install a specific **application**. E.g. (**music midi apps**), we could simply Left Click the search button on the top-left corner of the “**Software**” store. Afterwards, we can type in “**music midi**” in the search bar.

Example Output:



Step 5. As stated in **Step 2.** we could find valuable tools in the **categories**. If we go back to the screen in **Step 2**, we could click on the “**Create**” Label In the middle of the screen, “**Software**” would provide us with a series of helpful software when we are creating. E.g. Ardour.

Example Output:



E.N.D

How to Search and Install through DNF (Terminal)

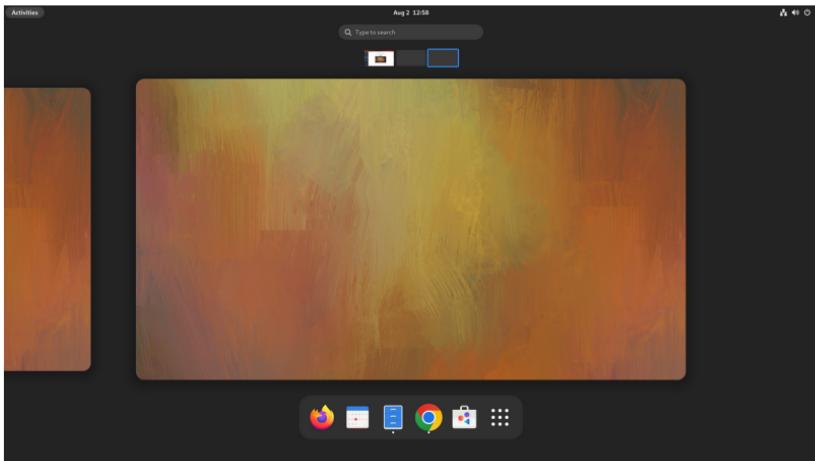
As we have just installed apps in the “Software” store, we could also install them using DNF in a Terminal. DNF is a software package manager that installs, updates, and removes packages on Fedora and is the successor to YUM³.

- DNF search and install (To search and install the repositories for a package type)

Step 1. First, on your Fedora, move your mouse to the **top-left corner** of your screen.

You should see the following screen:

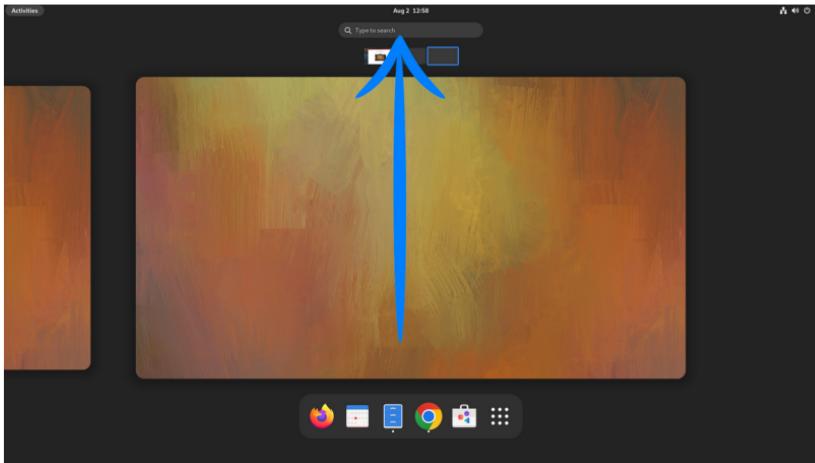
Example Output:



Step 2. Left Click “Type to search”.

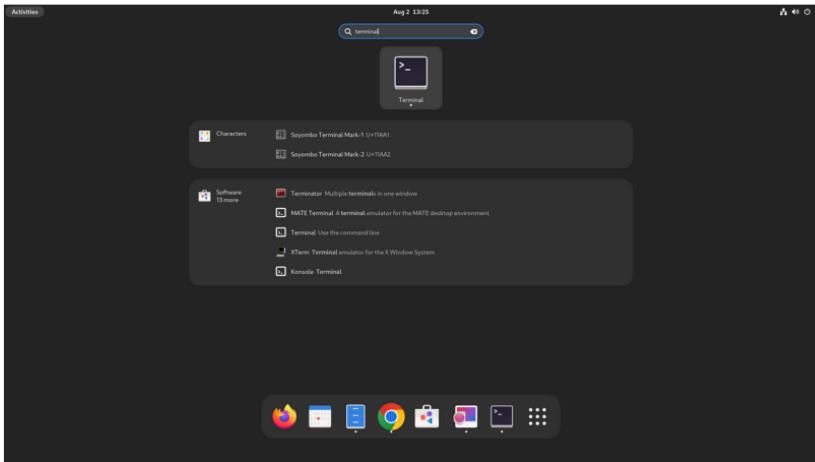
Example Output:

³ <https://docs.fedoraproject.org/en-US/quick-docs/dnf/>



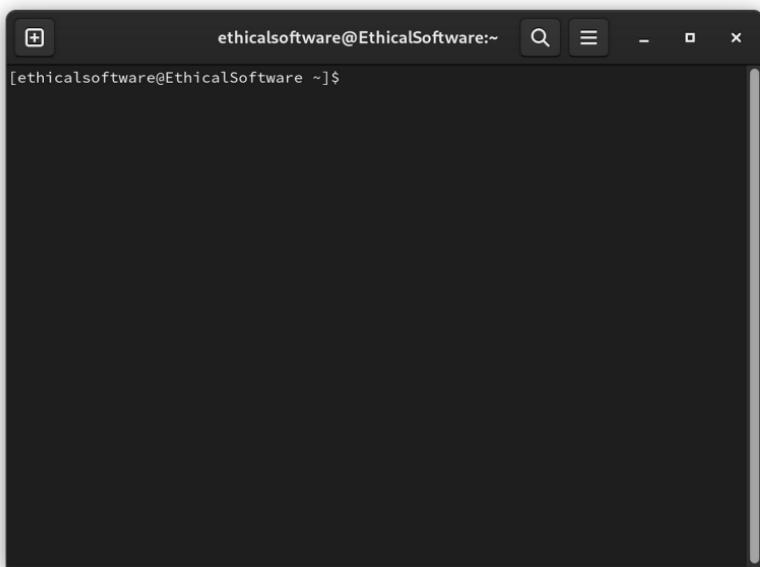
Step 3. Enter the word “Terminal”.

Example Output:



Step 4. After Left Clicking on the Terminal Icon. You should see the following terminal pop out.

Example Output:

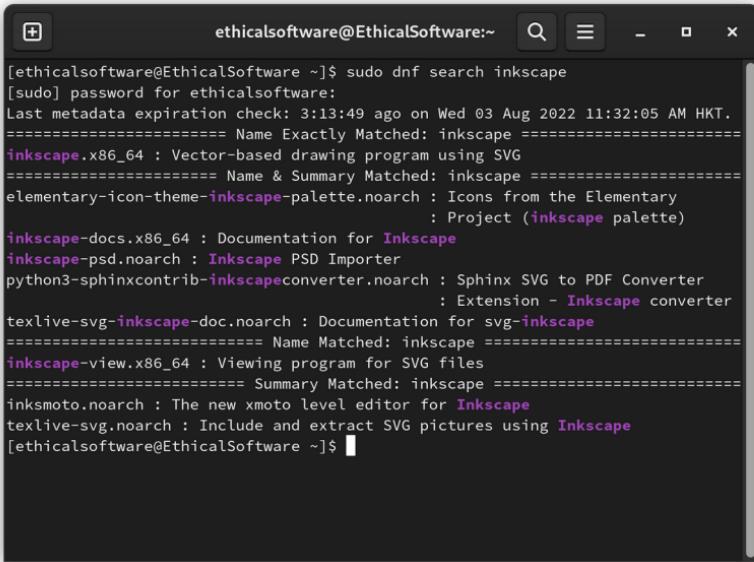


```
ethicalsoftware@EthicalSoftware:~
```

Step 5. Enter the below command in the terminal for searching a package and enter your user password. In our case, we will search for “**inkscape**”, which is a vector drawing application.

```
sudo dnf search inkscape
```

Example Output:



```
[ethicalsoftware@EthicalSoftware ~]$ sudo dnf search inkscape
[sudo] password for ethicalsoftware:
Last metadata expiration check: 3:13:49 ago on Wed 03 Aug 2022 11:32:05 AM HKT.
=====
===== Name Exactly Matched: inkscape =====
inkscape.x86_64 : Vector-based drawing program using SVG
=====
===== Name & Summary Matched: inkscape =====
elementary-icon-theme-inkscape-palette.noarch : Icons from the Elementary
                                                : Project (inkscape palette)
inkscape-docs.x86_64 : Documentation for Inkscape
inkscape-psd.noarch : Inkscape PSD Importer
python3-sphinxcontrib-inkscapeconverter.noarch : Sphinx SVG to PDF Converter
                                                : Extension - Inkscape converter
texlive-svg-inkscape-doc.noarch : Documentation for svg-inkscape
=====
===== Name Matched: inkscape =====
inkscape-view.x86_64 : Viewing program for SVG files
=====
===== Summary Matched: inkscape =====
inksmoto.noarch : The new xmoto level editor for Inkscape
texlive-svg.noarch : Include and extract SVG pictures using Inkscape
[ethicalsoftware@EthicalSoftware ~]$ █
```

Step 6. As we found that there are “inkscape” packages available for install, we will execute the following command and begin to install “inkscape”.

```
sudo dnf install inkscape
```

After Entering the above command, type in the “y” key to confirm this installation.

Example Output:

```
[ethicalsoftware@EthicalSoftware:~]$ sudo dnf install inkscape
Last metadata expiration check: 3:17:31 ago on Wed 03 Aug 2022 11:32:05 AM HKT.
Dependencies resolved.
=====
Package           Arch    Version      Repository  Size
=====
Installing:
  inkscape        x86_64  1.2.1-1.fc36   updates     23 M
Installing dependencies:
  ImageMagick-c++ x86_64  1:6.9.12.52-1.fc36   updates     175 k
  ImageMagick-libs x86_64  1:6.9.12.52-1.fc36   updates     2.3 M
  gsl              x86_64  2.6-6.fc36      fedora      1.1 M
  liblqr-1         x86_64  0.4.2-19.fc36     fedora      49 k
  libwmf-lite      x86_64  0.2.12-8.fc36     fedora      73 k
  potrace          x86_64  1.16-7.fc36      fedora     122 k
  python3-appdirs  noarch   1.4.4-5.fc36     fedora      22 k
  python3-cssselect noarch   0.9.2-20.fc36     fedora      38 k
  python3-numpy    x86_64  1:1.22.0-2.fc36     fedora      5.7 M
  python3-scour    noarch   0.38.1-5.fc36     fedora     94 k

Transaction Summary
=====
Install  11 Packages

Total download size: 33 M
Installed size: 218 M
Is this ok [y/N]: y
Downloading Packages:
(1/11): liblqr-1-0.4.2-19.fc36.x86_64.rpm      218 kB/s | 49 kB  00:00
(2/11): libwmf-lite-0.2.12-8.fc36.x86_64.rpm    325 kB/s | 73 kB  00:00
(3/11): python3-appdirs-1.4.4-5.fc36.noarch.rpm 484 kB/s | 22 kB  00:00
(4/11): potrace-1.16-7.fc36.x86_64.rpm       1.3 MB/s | 122 kB  00:00
(5/11): python3-cssselect-0.9.2-20.fc36.noarch. 818 kB/s | 38 kB  00:00
(6/11): gsl-2.6-6.fc36.x86_64.rpm            2.7 MB/s | 1.1 MB  00:00
(7/11): python3-scour-0.38.1-5.fc36.noarch.rpm 1.0 MB/s | 94 kB  00:00
(8/11): python3-numpy-1.22.0-2.fc36.x86_64.rpm 18 MB/s | 5.7 MB  00:00
(9/11): ImageMagick-c++-6.9.12.52-1.fc36.x86_64 432 kB/s | 175 kB  00:00
(10/11): ImageMagick-libs-6.9.12.52-1.fc36.x86_64 3.6 MB/s | 2.3 MB  00:00
(11/11): inkscape-1.2.1-1.fc36.x86_64.rpm      19 MB/s | 23 MB  00:01

Total                                         15 MB/s | 33 MB  00:02

Running transaction check
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
Running transaction
  Preparing   :                                     1/1
  Installing : liblqr-1-0.4.2-19.fc36.x86_64      1/11
  Installing : python3-scour-0.38.1-5.fc36.noarch 2/11
  Installing : python3-numpy-1:1.22.0-2.fc36.x86_64 3/11
```

If no error message popped out, you are good to go and enjoy your package!

E.N.D

Updating Fedora

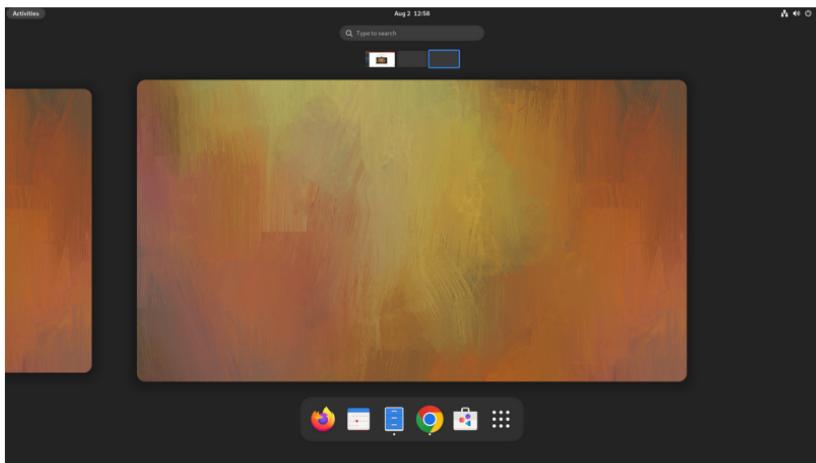
It is always good to update Fedora on a daily basis. In this tutorial, we will get to know how to update your Fedora System.

Option 1, via Terminal:

Step 1. First, on your Fedora, move your mouse to the **top-left corner** of your screen.

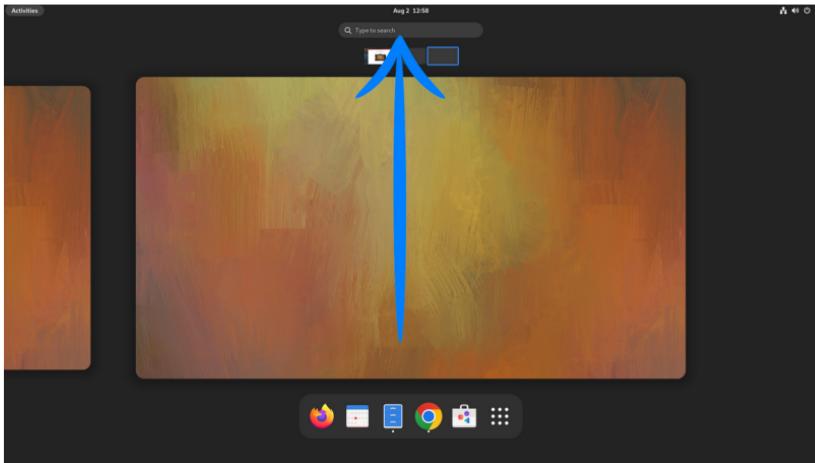
You should see the following screen:

Example Output:



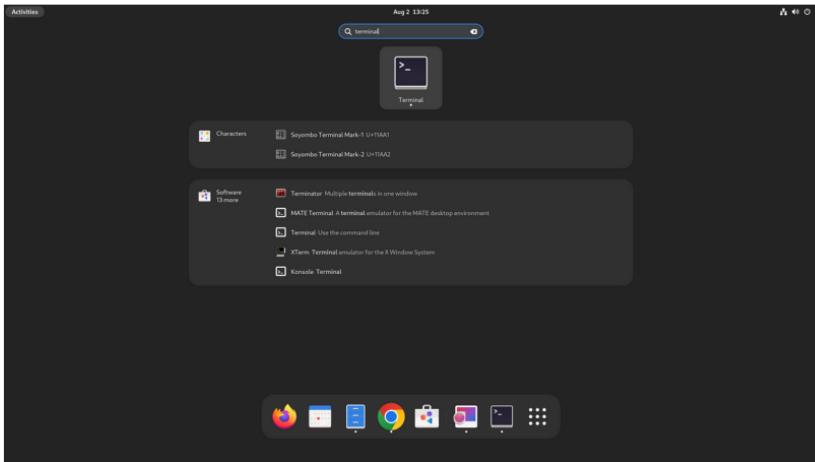
Step 2. Left Click "**Type to search**".

Example Output:



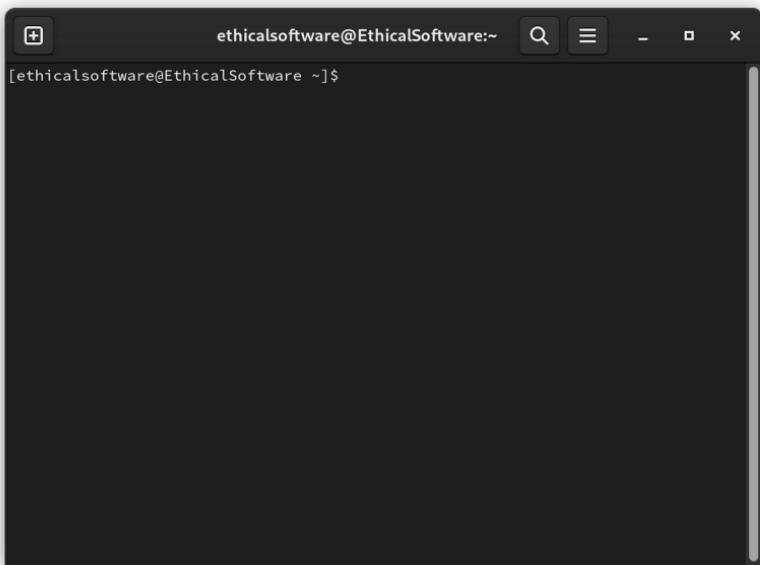
Step 3. Enter the word “Terminal”.

Example Output:



Step 4. After Left Clicking on the Terminal Icon. You should see the following terminal pop out.

Example Output:

A screenshot of a terminal window with a dark background. At the top, there's a header bar with icons for minimizing, maximizing, and closing the window. The title bar displays the text "ethicalsoftware@EthicalSoftware:~". Below the header, the terminal prompt "[ethicalsoftware@EthicalSoftware ~]\$" is visible. The main body of the terminal is completely blank, showing no output from commands.

Step 5. Enter the below command in the terminal to update your Fedora system release. Then, enter your user password:

```
sudo dnf upgrade --refresh
```

Example Output:

```
[ethicalsoftware@EthicalSoftware:~] $ sudo dnf upgrade --refresh
[sudo] password for ethicalsoftware:
Fedora 36 - x86_64                                29 kB/s | 4.8 kB    00:00
Fedora 36 openh264 (From Cisco) - x86_64          1.4 kB/s | 989 B    00:00
Fedora Modular 36 - x86_64                          23 kB/s | 4.8 kB    00:00
Fedora 36 - x86_64 - Updates                       33 kB/s | 5.2 kB    00:00
Fedora 36 - x86_64 - Updates                       2.0 MB/s | 6.6 MB   00:03
Fedora Modular 36 - x86_64 - Updates              6.1 kB/s | 4.3 kB    00:00
Fedora Modular 36 - x86_64 - Updates              534 kB/s | 835 kB   00:01
google-chrome                                       24 kB/s | 1.3 kB    00:00
google-chrome                                       33 kB/s | 3.6 kB    00:00
RPM Fusion for Fedora 36 - Free                  2.3 kB/s | 2.0 kB    00:00
RPM Fusion for Fedora 36 - Free - Updates        16 kB/s | 11 kB    00:00
RPM Fusion for Fedora 36 - Nonfree                148 kB/s | 268 kB   00:01
RPM Fusion for Fedora 36 - Nonfree                13 kB/s | 12 kB    00:00
RPM Fusion for Fedora 36 - Nonfree - Updates      12 kB/s | 11 kB    00:00
RPM Fusion for Fedora 36 - Nonfree - Updates      55 kB/s | 85 kB    00:01
Dependencies resolved.
=====
Package           Arch   Version       Repo      Size
=====
Installing:
kernel           x86_64  5.18.17-200.fc36  updates   257 k
kernel-modules   x86_64  5.18.17-200.fc36  updates   57 M
```

- Enter the key “y” and press **enter** to confirm this update. if you encountered more questions asking for [y/N], enter “y”.

```
Total download size: 789 M
Is this ok [y/N]: y
Downloading Packages:
(1/208): kernel-5.18.17-200.fc36.x86_64.rpm      354 kB/s | 257 kB    00:00
(2/208): kernel-devel-5.18.17-200.fc36.x86_64.r 8.1 MB/s | 16 MB    00:01
(3/208): kernel-modules-extra-5.18.17-200.fc36. 5.6 MB/s | 3.6 MB   00:00
(4/208): NetworkManager-1.38.4-1.fc36.x86_64.rp 1.8 MB/s | 2.1 MB   00:01
(5/208): NetworkManager-adsl-1.38.4-1.fc36.x86_ 68 kB/s | 26 kB    00:00
(6/208): kernel-core-5.18.17-200.fc36.x86_64.rp 11 MB/s | 49 MB   00:04
(7/208): NetworkManager-bluetooth-1.38.4-1.fc36 54 kB/s | 52 kB    00:00
(8/208): NetworkManager-config-connectivity-fed 17 kB/s | 12 kB    00:00
(9/208): NetworkManager-ppp-1.38.4-1.fc36.x86_6 97 kB/s | 35 kB    00:00
(10/208): NetworkManager-libnm-1.38.4-1.fc36.x8 2.4 MB/s | 1.7 MB   00:00
(11/208): NetworkManager-team-1.38.4-1.fc36.x86 81 kB/s | 30 kB    00:00
(12/208): NetworkManager-wifi-1.38.4-1.fc36.x86 355 kB/s | 127 kB   00:00
(13/208): NetworkManager-wwan-1.38.4-1.fc36.x86 185 kB/s | 59 kB    00:00
(14/208): annobin-docs-10.81-1.fc36.noarch.rpm 274 kB/s | 91 kB    00:00
(15/208): annobin-plugin-gcc-10.81-1.fc36.x86_6 1.7 MB/s | 882 kB   00:00
(16/208): bind-license-9.16.31-1.fc36.noarch.rp 46 kB/s | 14 kB    00:00
(17/208): bind-libs-9.16.31-1.fc36.x86_64.rpm 2.2 MB/s | 1.2 MB   00:00
(18/208): bind-utils-9.16.31-1.fc36.x86_64.rpm 633 kB/s | 206 kB   00:00
(19/208): ca-certificates-2022.2.54-1.2.fc36.no 1.8 MB/s | 828 kB   00:00
```

- If no error occurs, you are good to go.

Step 6. Reboot your PC.

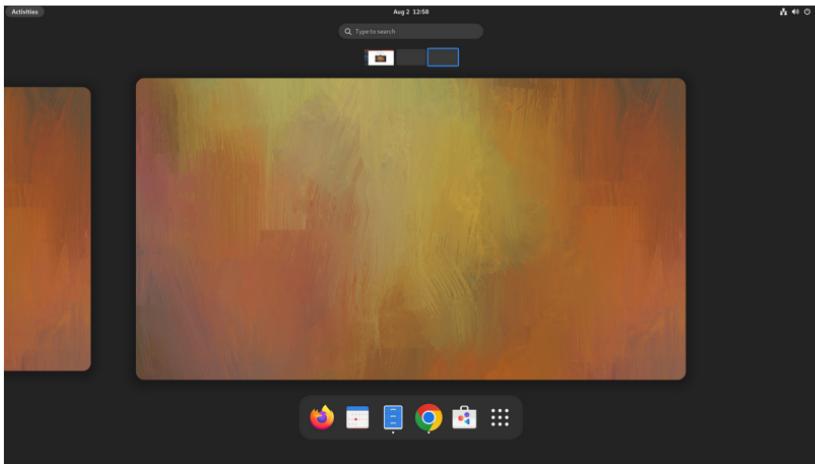
* * *

Option 2, via Software Store:

Step 1. First, on your Fedora, move your mouse to the **top-left corner** of your screen.

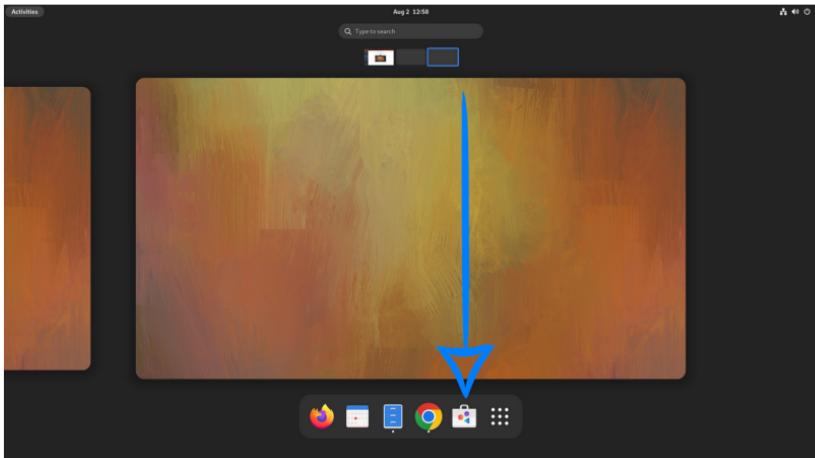
You should see the following screen:

Example Output:



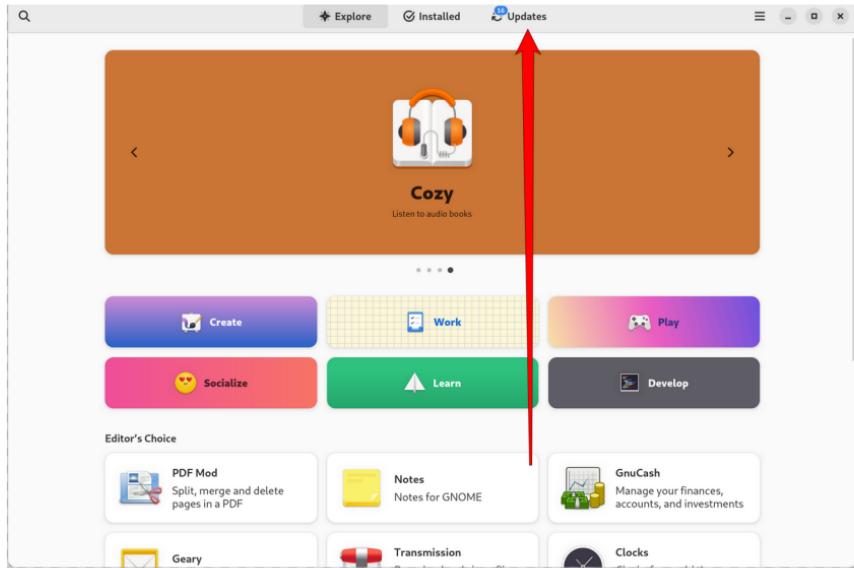
Step 2. Follow the **Blue Arrow** and **Left Click** on the “**Software**” app store Icon :

Example Output:



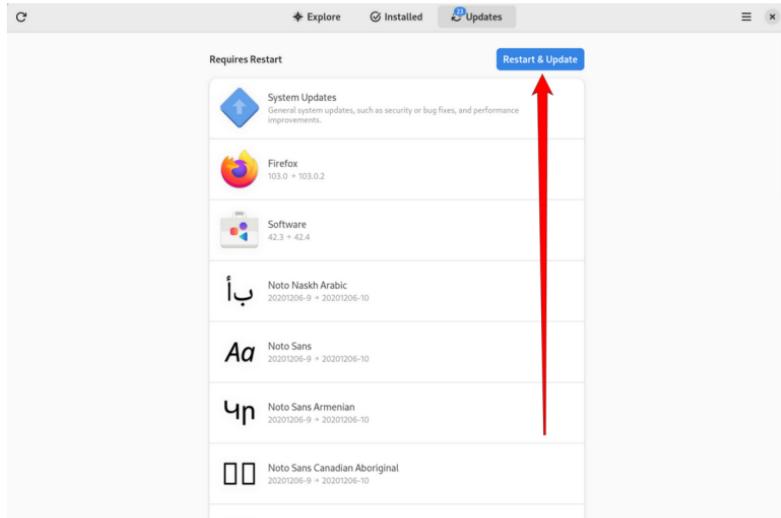
Step 3. You should see the following “**Software**” store screen and Left Click “**Updates**” as pointed by the red arrow.

Example Output:



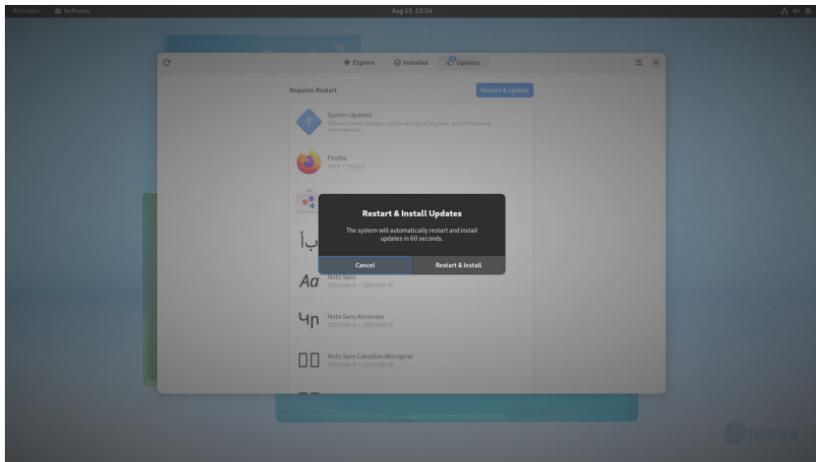
Step 4. Press the “**Restart & Update**” blue button to update Fedora!

Example Output:



Step 5. Press the “**Restart & install**” confirm button!

Example Output:



Now your Fedora System and software are up to date!

E.N.D

Terminal Basic

A terminal is a text input and output interface. It serves as a Linux program that allows us to enter commands for the computer to process.

Basic Commands

Color Formatting for the Commands

Command + Description

Use case

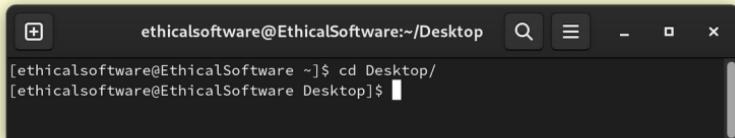
Example Output

1.

cd (Change Directory)

The **cd** command helped the user to change their current working directory. If we perform the following command, we could then change the directory to the Desktop directory.

```
cd Desktop/
```



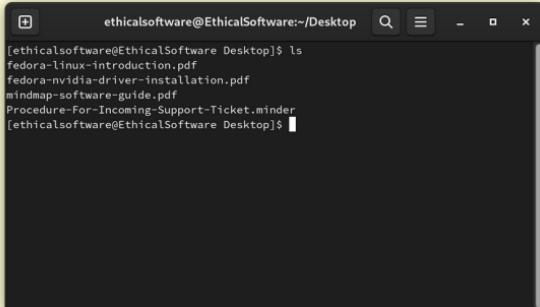
A screenshot of a terminal window titled "ethicalsoftware@EthicalSoftware:~/Desktop". The window has standard OS X-style controls at the top. Inside the terminal, the command `[ethicalsoftware@EthicalSoftware ~]$ cd Desktop/` is typed and executed, followed by a new prompt `[ethicalsoftware@EthicalSoftware Desktop]$`.

2.

ls (Listing Directory)

We could use **ls** to view the contents (files and directories) inside of the current director.In our case, we are listing the content inside our Desktop.

```
ls
```

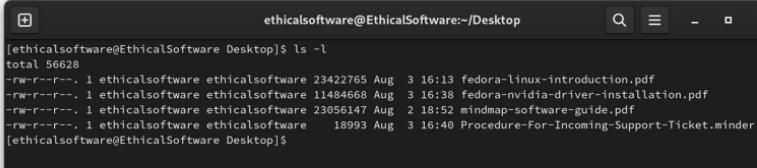


A screenshot of a terminal window titled "ethicalsoftware@EthicalSoftware:~/Desktop". The window has standard OS X-style controls at the top. Inside the terminal, the command `[ethicalsoftware@EthicalSoftware Desktop]$ ls` is typed and executed, displaying a list of files: `fedora-linux-introduction.pdf`, `fedora-nvidia-driver-installation.pdf`, `mindmap-software-guide.pdf`, and `Procedure-For-Incoming-Support-Ticket.mindr`. The prompt `[ethicalsoftware@EthicalSoftware Desktop]$` is shown again.

- in addition, if we would like to have more detail on the files, we could add the argument -l (ls -l).

```
ls -l
```

Example Output:



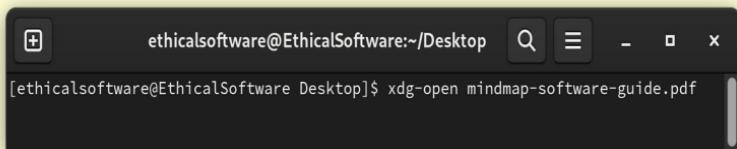
```
[ethicalsoftware@EthicalSoftware Desktop]$ ls -l
total 56628
-rw-r--r--. 1 ethicalsoftware ethicalsoftware 23422765 Aug  3 16:13 fedora-linux-introduction.pdf
-rw-r--r--. 1 ethicalsoftware ethicalsoftware 11484668 Aug  3 16:38 fedora-nvidia-driver-installation.pdf
-rw-r--r--. 1 ethicalsoftware ethicalsoftware 23856147 Aug  2 18:52 mindmap-software-guide.pdf
-rw-r--r--. 1 ethicalsoftware ethicalsoftware     18993 Aug  3 16:40 Procedure-For-Incoming-Support-Ticket.minder
[ethicalsoftware@EthicalSoftware Desktop]$
```

3.

xdg-open (Open files)

We might have a file we would like to open in the current directory; we could use the **xdg-open** command to open it. For example, I would like to open the “mindmap-software-guide.pdf” in the “Desktop” Directory.

xdg-open mindmap-software-guide.pdf



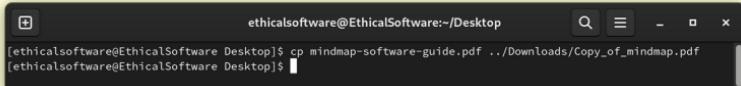
```
[ethicalsoftware@EthicalSoftware Desktop]$ xdg-open mindmap-software-guide.pdf
```

4.

cp (Copy a file to another directory)

The **cp** command aids us in copying a file from one location to another. Also, We have to follow the format (**cp “filename” “newfilename”**). As an example, we will copy the “mindmap-software-guide.pdf” to the “**Download**” Directory.

```
cp mindmap-software-guide.pdf ..../Downloads/Copy_of_mindmap.pdf
```



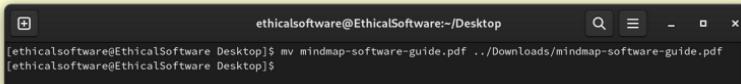
A screenshot of a terminal window titled "ethicalsoftware@EthicalSoftware:~/Desktop". The window shows the command "cp mindmap-software-guide.pdf/Downloads/Copy_of_mindmap.pdf" being typed at the prompt. The terminal has a dark background with light-colored text and standard window controls.

5.

mv (Move a file)

If we don't want to copy a file but rather move it to another location, simply use the (**mv “filename” “path/to/new/file/location”**)

```
mv mindmap-software-guide.pdf ..../Downloads/mindmap-software-guide.pdf
```



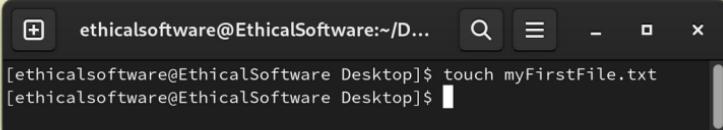
A screenshot of a terminal window titled "ethicalsoftware@EthicalSoftware:~/Desktop". The window shows the command "mv mindmap-software-guide.pdf/Downloads/mindmap-software-guide.pdf" being typed at the prompt. The terminal has a dark background with light-colored text and standard window controls.

6.

touch (Create any file)

The **touch** command helps us in creating any type of blank file. After creating a blank file, we can edit it inside an editor (E.g. Text Editor).

```
touch myFirstFile.txt
```



A screenshot of a terminal window titled "ethicalsoftware@EthicalSoftware:~/D...". The window has standard OS X-style controls at the top. The terminal prompt is "[ethicalsoftware@EthicalSoftware Desktop]\$". The user has run the command "touch myFirstFile.txt", which creates a new file in the current directory.

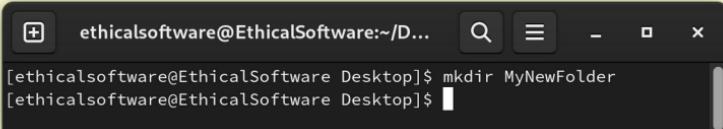
```
[ethicalsoftware@EthicalSoftware Desktop]$ touch myFirstFile.txt
```

7.

mkdir (Create a directory)

If we need a place to store new files, just use the **mkdir** command to add a new directory in the current working directory. Moreover, a full path could also be specified if needed.

mkdir MyNewFolder



A screenshot of a terminal window titled "ethicalsoftware@EthicalSoftware:~/D...". The window has standard OS X-style controls at the top. The terminal prompt is "[ethicalsoftware@EthicalSoftware Desktop]\$". The user has run the command "mkdir MyNewFolder", which creates a new directory named "MyNewFolder" in the current directory.

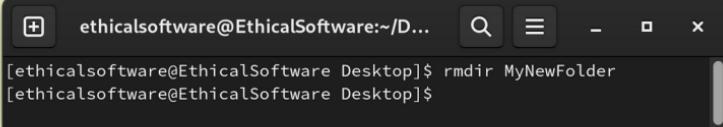
```
[ethicalsoftware@EthicalSoftware Desktop]$ mkdir MyNewFolder
```

8.

rmdir (Remove an empty directory)

Sometimes we might want to remove the Folder we just created, **mkdir** is a good command for removing that Folder.

rmdir MyNewFolder



```
[ethicalsoftware@EthicalSoftware:~/Desktop]$ rm -r MyNewFolder  
[ethicalsoftware@EthicalSoftware Desktop]$
```

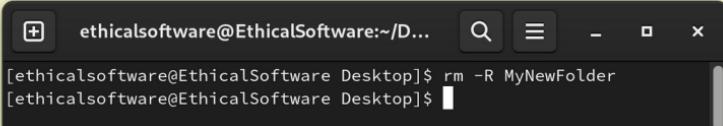
9.

rm -R (Remove nested directories)

On some occasions, we may want to delete a Folder that contains some other files/subfolders, we could make use of the **rm -R** command to complete this task.

Bear in mind. This command is irreversible!!!

```
rm -R MyNewFolder
```



```
[ethicalsoftware@EthicalSoftware:~/Desktop]$ rm -R MyNewFolder  
[ethicalsoftware@EthicalSoftware Desktop]$
```

10.

sudo (Execute commands with superuser privileges)

The **sudo** command promotes your user privileges when executing the command requiring Admin rights. For instance, by using **sudo**, removing another user's file could be performed.

```
sudo rm -R filesOfUser1
```

```
[+] ethicalsoftware@EthicalSoftware:~/D... Q - x
[ethicalsoftware@EthicalSoftware Desktop]$ sudo rm -R filesOfUser1
[sudo] password for ethicalsoftware:
[ethicalsoftware@EthicalSoftware Desktop]$
```

11.

top (List actively running computer processes)

System status could be reviewed under the **top** command, including RAM, CPU/GPU and disk utilization. Further, apps that take up a large amount of computer resources will be examined at the top.

(P.S. Press the "q" key to exit this screen)

top

```
[+] ethicalsoftware@EthicalSoftware:~/Desktop -- top Q - x
top - 15:11:26 up 1:49, 1 user, load average: 0.14, 0.22, 0.30
Tasks: 422 total, 1 running, 421 sleeping, 0 stopped, 0 zombie
%Cpu(s): 0.6 us, 0.2 sy, 0.0 ni, 99.1 id, 0.0 wa, 0.0 hi, 0.0 si, 0.0 st
MiB Mem: 15800.9 total, 8177.5 free, 4955.7 used, 2667.6 buff/cache
MiB Swap: 8192.0 total, 8192.0 free, 0.0 used. 10312.1 avail Mem

      PID USER      PR  NI    VIRT    RES    SHR S %CPU %MEM TIME+ COMMAND
 2117 ethical+  20   0 6472548 805440 180196 S 6.6  5.0 13:24.77 gnome-shell
 3584 ethical+  20   0 1125.2g 247544 124332 S 1.3  1.5  7:04.04 chrome
 6467 ethical+  20   0 781648 65968 49308 S 1.3  0.4  0:06.18 gnome-terminal-
 2450 ethical+  20   0 528524 14088 6760 S 0.3  0.1  0:11.33 ibus-daemon
 3630 ethical+  20   0 1125.1g 143984 101024 S 0.3  0.9  0:17.53 chrome
 5126 ethical+  20   0 1125.2g 384728 137964 S 0.3  2.4  3:51.58 chrome
11314 ethical+ 20  0 226556 4476 3580 R 0.3 0.0 0:00.02 top
  1 root     20   0 173392 18160 11344 S 0.0  0.1  0:01.07 systemd
  2 root     20   0      0 0      0 S 0.0  0.0  0:00.01 kthreadd
  3 root     0 -20      0 0      0 I 0.0  0.0  0:00.00 rcu_gp
  4 root     0 -20      0 0      0 I 0.0  0.0  0:00.00 rcu_par_gp
  5 root     0 -20      0 0      0 I 0.0  0.0  0:00.00 netns
  7 root     0 -20      0 0      0 I 0.0  0.0  0:00.00 kworker/0:0-H-events_hi+
  9 root     0 -20      0 0      0 I 0.0  0.0  0:00.00 mm_percpu_wq
 11 root     20   0      0 0      0 I 0.0  0.0  0:00.00 rcu_tasks_kthread
 12 root     20   0      0 0      0 I 0.0  0.0  0:00.00 rcu_tasks_rude_kthread
 13 root     20   0      0 0      0 I 0.0  0.0  0:00.00 rcu_tasks_trace_kthread
 14 root     20   0      0 0      0 S 0.0  0.0  0:00.00 ksoftirqd/0
```

12.

q (Quit sub-screen and return to Terminal)

For a command like **top** that leads us to sunscreen, we can exit it by entering the **q** key in the terminal. If things go wrong with **q**, try “**Ctrl + c**” on the keyboard.

q

The terminal window shows the following information:

```
Tasks: 420 total, 1 running, 419 sleeping, 0 stopped, 0 zombie
%Cpu(s): 0.3 us, 0.3 sy, 0.0 ni, 99.1 id, 0.0 wa, 0.0 hi, 0.3 si, 0.0 st
MiB Mem : 15800.9 total, 8092.3 free, 5030.5 used, 2678.0 buff/cache
MiB Swap: 8192.0 total, 8192.0 free, 0.0 used. 10237.2 avail Mem

PID USER PR NI VIRT RES SHR S %CPU %MEM TIME+ COMMAND
2117 ethical+ 20 0 6627924 827680 180220 S 6.7 5.1 13:46,51 gnome-shell
3584 ethical+ 20 0 1125.2g 285320 124652 S 6.7 1.8 7:25.38 chrome
10725 root 20 0 0 0 0 I 6.7 0.0 0:00.06 kworker/u40:11-flush-b+
1 root 20 0 173392 18160 11344 S 0.0 0.1 0:01.07 systemd
2 root 20 0 0 0 0 S 0.0 0.0 0:00.01 kthreadd
3 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 rcu_gp
4 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 rcu_par_gp
5 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 netns
7 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 kworker/o:0H-events_hi+
9 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 mm_percpu_wq
11 root 20 0 0 0 0 I 0.0 0.0 0:00.00 rcu_tasks_kthread
12 root 20 0 0 0 0 I 0.0 0.0 0:00.00 rcu_tasks_rude_kthred
13 root 20 0 0 0 0 I 0.0 0.0 0:00.00 rcu_tasks_trace_kthred
14 root 20 0 0 0 0 S 0.0 0.0 0:00.01 ksoftirqd/0
15 root 20 0 0 0 0 I 0.0 0.0 0:02.52 rCU_prempt
16 root rt 0 0 0 0 0 S 0.0 0.0 0:00.03 migration/0
18 root 20 0 0 0 0 S 0.0 0.0 0:00.00 cpuhp/0
19 root 20 0 0 0 0 S 0.0 0.0 0:00.00 cpuhp/1
```

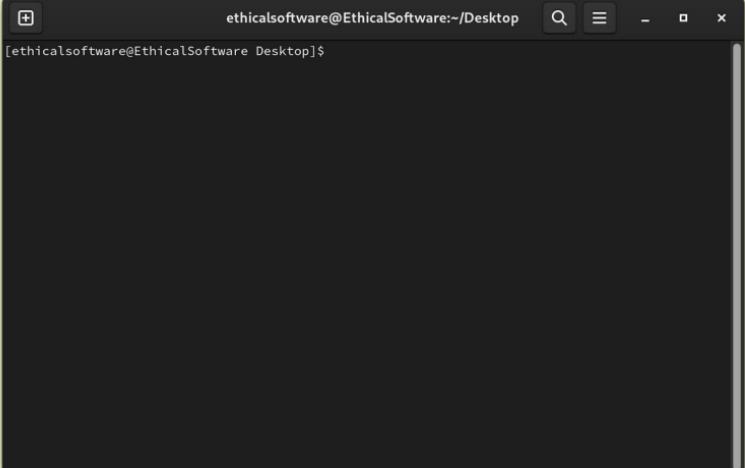
[ethicalsoftware@EthicalSoftware Desktop]\$ █

13.

clear (Clear the Terminal screen of all previous commands)

When the screen looks messy with thousands of things, we could use the **clear** command to remove all previously typed commands/History from the Terminal. Instead of entering the **clear** command, we can press **Ctrl+L** to perform the same action.

clear



A screenshot of a terminal window titled "ethicalsoftware@EthicalSoftware:~/Desktop". The window has standard Linux-style window controls at the top right. The terminal itself is entirely black, indicating no output or a blank command.

14.

whatis (Get one-line description for a command)

whatis helps in getting a short description of the command in Linux.

whatis ls



A screenshot of a terminal window titled "ethicalsoftware@EthicalSoftware:~/Desktop". The window has standard Linux-style window controls at the top right. The terminal displays the output of the "whatis ls" command, which provides a brief description of the "ls" command.

```
[ethicalsoftware@EthicalSoftware Desktop]$ whatis ls
ls (1)           - list directory contents
[ethicalsoftware@EthicalSoftware Desktop]$
```

15.

man (Show manual page for a command)

Most command in the terminal comes with a manual, by using **man** command on a explicit command, we could look up the argument/information for that command.

man ls

```
ethicalsoftware@EthicalSoftware:~/Desktop — man ls
LS(1)                               User Commands                               LS(1)

NAME
ls - list directory contents

SYNOPSIS
ls [OPTION]... [FILE]...

DESCRIPTION
List information about the FILEs (the current directory by default). Sort entries
alphabetically if none of -cftuvSUX nor --sort is specified.

Mandatory arguments to long options are mandatory for short options too.

-a, --all
      do not ignore entries starting with .

-A, --almost-all
      do not list implied . and ..

--author
      with -l, print the author of each file

-b, --escape
      print C-style escapes for nongraphic characters

--block-size=SIZE
      with -l, scale sizes by SIZE when printing them; e.g., '--block-size=M'; see
      SIZE format below

-B, --ignore-backups
      do not list implied entries ending with ~

-c
      with -lt: sort by, and show, ctime (time of last modification of file status
      information); with -l: show ctime and sort by name; otherwise: sort by ctime,
      newest first

-C
      list entries by columns

--color[=WHEN]
      Manual page ls(1) line 1 (press h for help or q to quit)
```

E.N.D