



Fedora 44 Workstation Installation on the Framework Laptop 16

How to install Fedora 44 Linux on a Framework Laptop 16.

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INTRODUCTION

Once you have your Framework Laptop 16 set up following the [Quick Start Guide](#), you're ready to install your preferred OS. The Framework Laptop 16 is running some very recent hardware, and we've worked with the team at Fedora to improve support. Fedora 44 is one of the Linux distributions we recommend, as it has full hardware support with very little setup required, and it offers a great user experience overall.

One note on Fedora is that the distro follows a fairly aggressive update policy on new kernels. This means that if you have the most recent generation of hardware, there is a higher risk that a kernel update could have a driver regression. On older platforms, this is less of a risk. To avoid this risk altogether, you can use a more conservative distro like Ubuntu LTS.

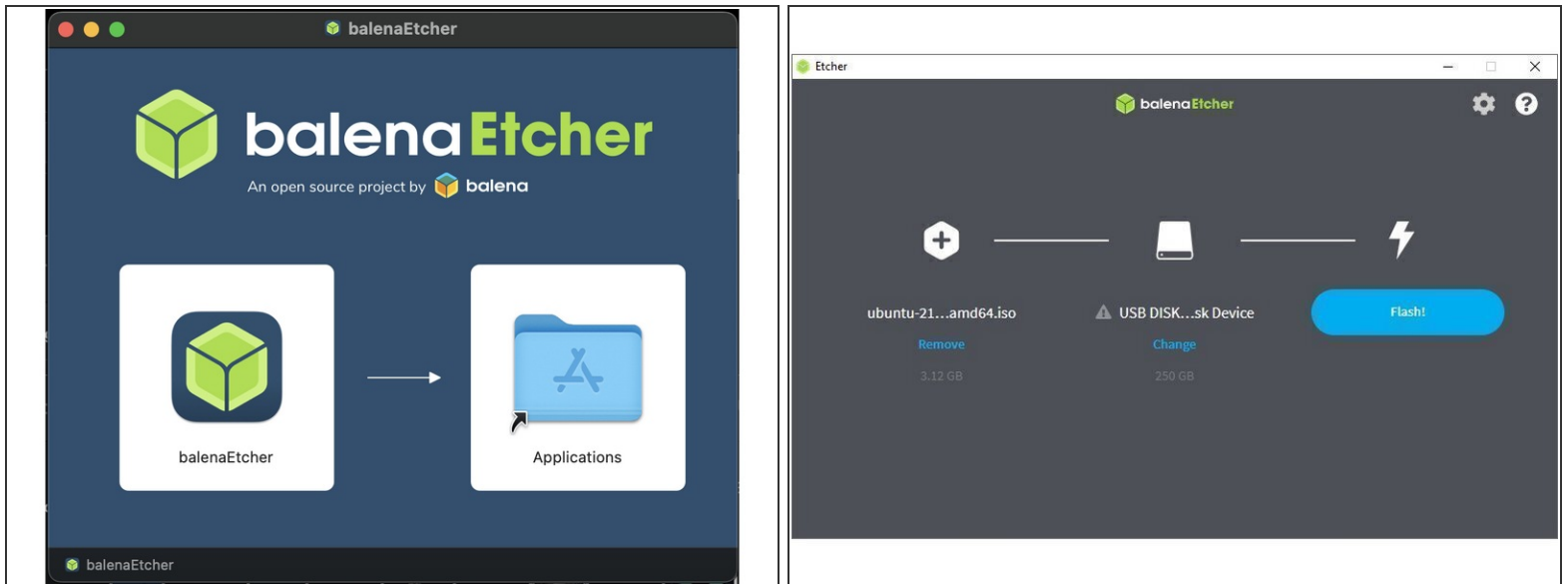
This is an [Officially Supported Linux Distribution](#). [Learn more here](#).



PARTS:

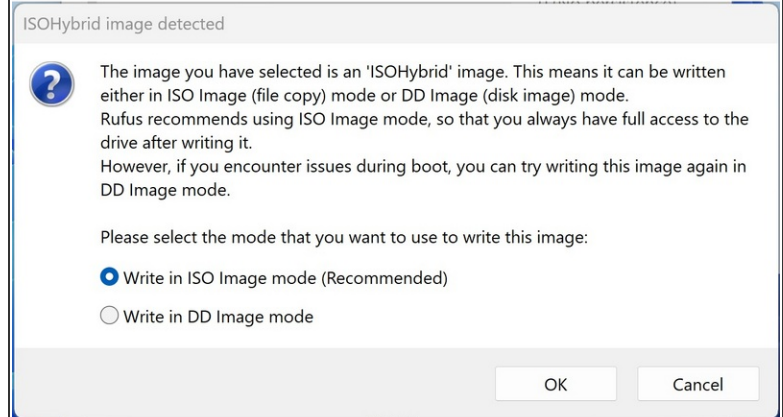
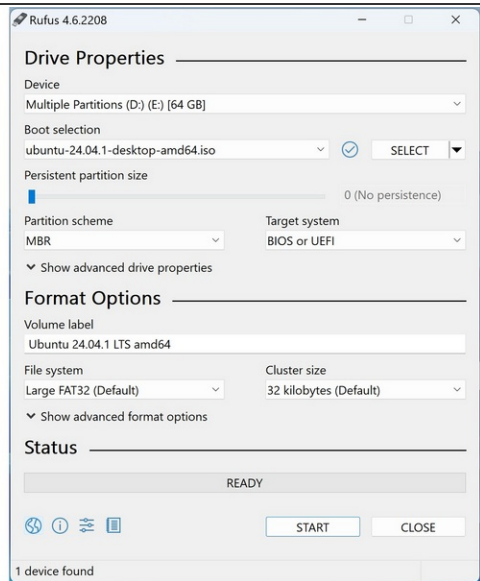
- [Storage Expansion Card](#) (1)
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Step 1 — (From macOS) Preparing USB Fedora Installation Media



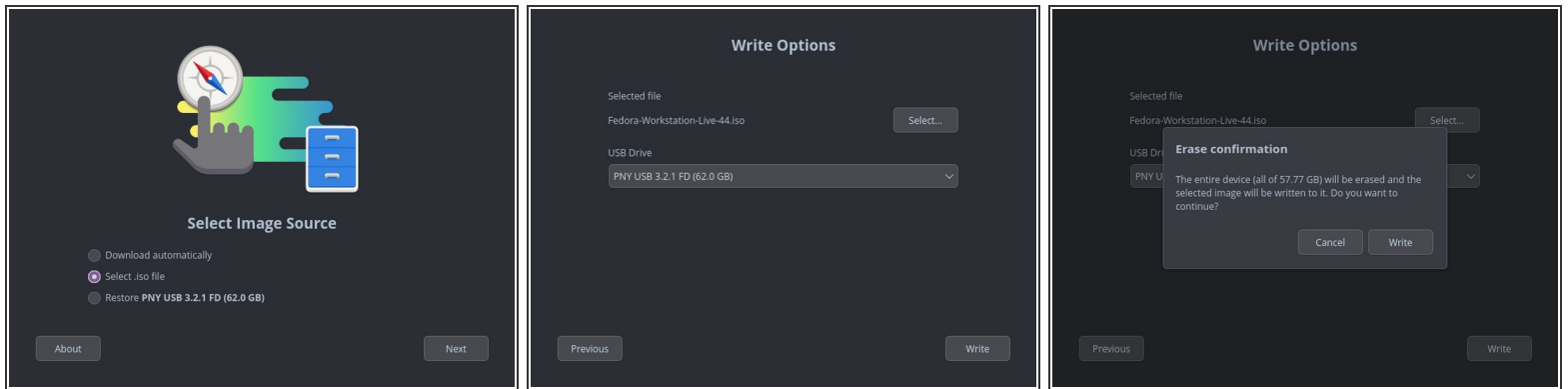
- First, [download the latest Fedora release](#) from the Fedora website. We'll go through the steps in this Guide assuming you have a simple installation scenario of a fresh install on a blank drive.
- Download [balenaEtcher](#) as a tool to create the USB installer from the ISO. balenaEtcher is available for MacOS. Install it.
 - ⚠ **If upgrading from Fedora 43**, we recommend backing up [your home directory](#) and doing a clean installation. If you decide you prefer to [upgrade from 43](#), make absolutely sure your 43 installation is fully up to date first. Should you wish to instead, the [DNF System Plugin method](#) remains an option.
- Launch balenaEtcher. Insert your USB drive (8GB or larger). Click on "Flash from file" and select the Fedora iso that you downloaded. Click on "Select target" and choose your USB drive. Click "Flash" and wait a minute or two for it to complete.
- Once the USB drive creation is complete, you can close balenaEtcher and eject the USB drive from your OS.

Step 2 — (From Windows) Preparing USB Fedora Installation Media



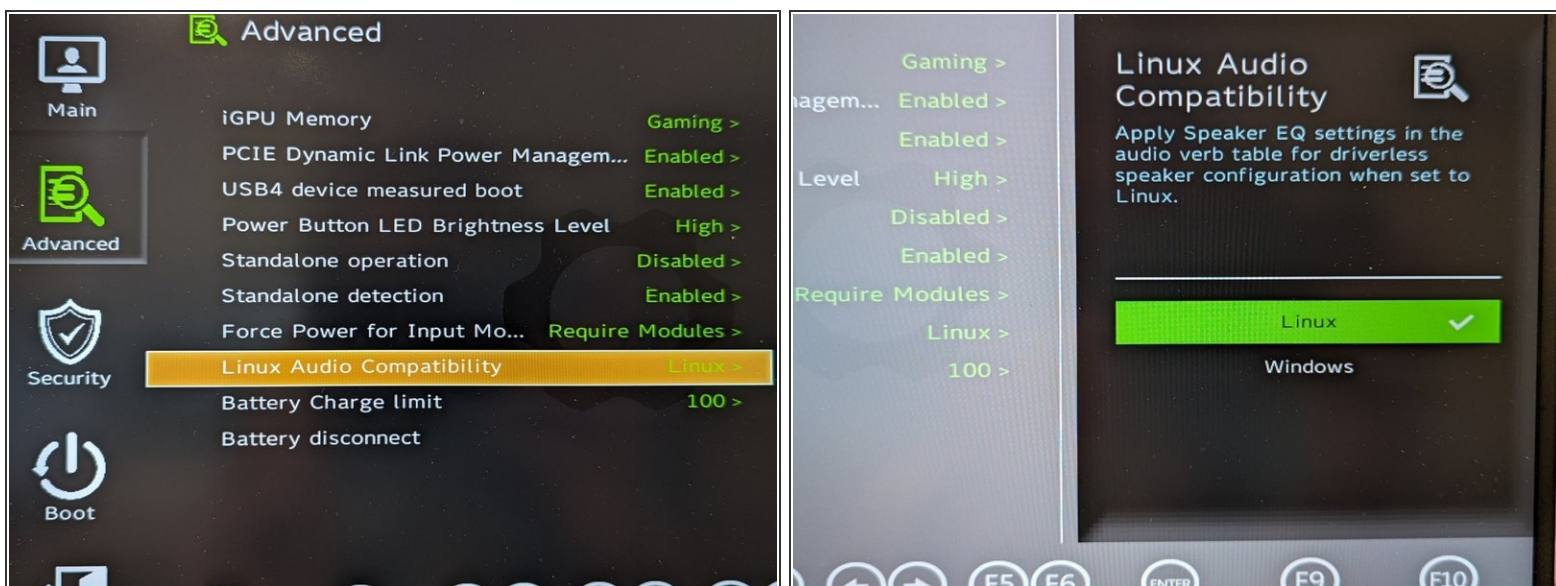
- First, [download the latest Fedora release](#) from the Fedora website. We'll go through the steps in this Guide assuming you have a simple installation scenario of a fresh install on a blank drive.
- New line.Download [Rufus](#) as a tool to create the USB installer from the ISO - select the top download option from the link provided. Rufus is available for Windows. Install it.
 - ⚠ **If upgrading from Fedora 43**, we recommend backing up [your home directory](#) and doing a clean installation. If you decide you prefer to [upgrade from 43](#), make absolutely sure your 43 installation is fully up to date first.
 - ⚠ If you are removing Windows to install Linux, you may run into the "Device is Active" error. [This will provide you with guidance](#) to overcome this error.
- Launch Rufus. Insert your USB drive (8GB or larger). Click on "Flash from file" and select the Fedora iso that you downloaded. Click on "SELECT" and choose your USB drive. Click "START" and wait a minute or two for it to complete.

Step 3 — (From Linux) Preparing USB Fedora Installation Media



- First, download the latest Fedora Workstation release <https://fedoraproject.org/workstation/> from the Fedora website. This Guide assumes a simple installation scenario of a fresh install on a blank drive.
- **Fedora:** Media Writer is already installed on Workstation, so just launch it from the app menu.
- **Other distro, Flatpak installed:** Run `flatpak install flathub org.fedoraproject.MediaWriter`, then launch it from the app menu or with `flatpak run org.fedoraproject.MediaWriter`.
- **Other distro, no Flatpak:** Install Flatpak and add Flathub per <https://flathub.org/setup>
- Insert an 8 GB+ USB key. Back up its contents first, since this erases the entire drive.
- Open Fedora Media Writer, choose **Select .iso file**, and pick the Fedora 44 Workstation ISO you downloaded.
- Select your USB drive from the device list, double-checking the name and size so you don't wipe the wrong disk.
- **Click Write**, enter your password if prompted, wait for it to finish, then **click Finish** and safely eject the USB.

Step 4 — Linux Audio Compatibility



- **Before we begin the installation process** with the Live USB, let's make sure you have your Linux Audio Compatibility set to Linux in the BIOS. Explanation as to what this does can be [found here](#).
- Power on the laptop, repeatedly tapping F2 in order to get into the BIOS. Note: If you're having trouble with this, try again, holding down the Fn key while rapidly tapping F2.
- In BIOS mode, arrow key over to Setup Utility. Press the enter key. Arrow down to Advanced. Then arrow right, then arrow down to Linux Audio Compatibility. Press enter.
- A new box for Linux Audio Compatibility will appear, arrow to Linux, then press enter. Now press F10 key to reboot.
 - ⓘ Now we don't have an OS installed yet. So the reboot won't get us to a running operating system and we fully expect to see an error to this point. Simply press the power button to shutdown.
- The next step is to install Fedora 44 at Step 4.

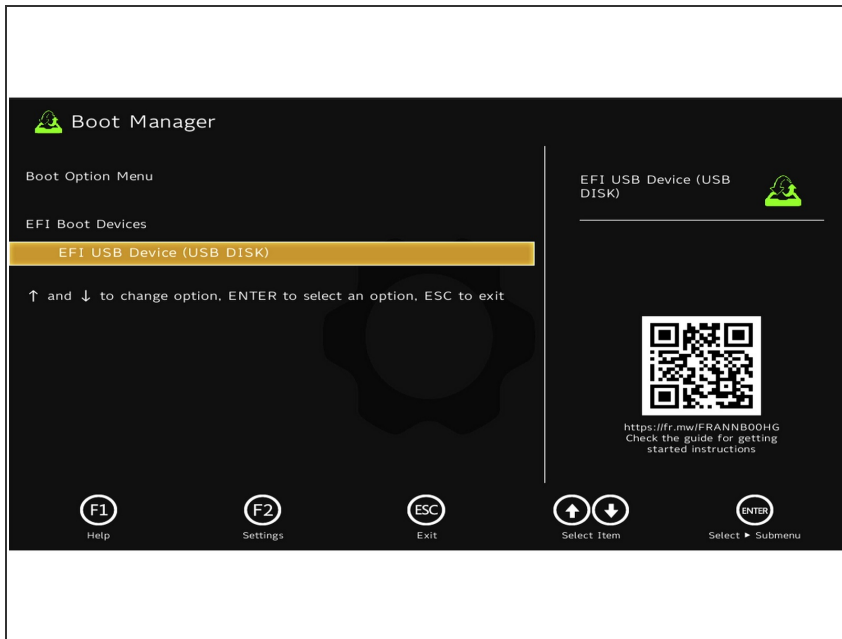
Step 5 — Secure Boot



⚠️ **Fedora works with Secure Boot out of the box. Fedora Live USBs will boot regardless of whether or not it is disabled. Users who intend to dual-boot with Windows should not disable Secure Boot!**

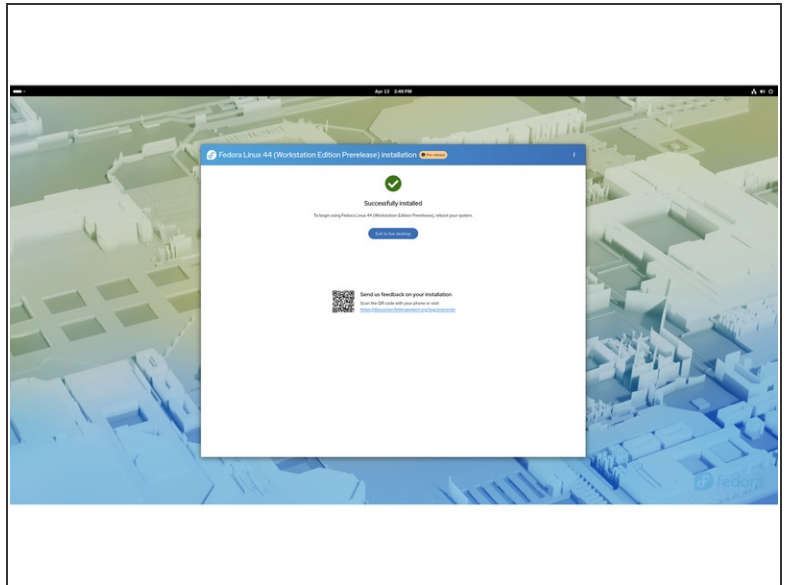
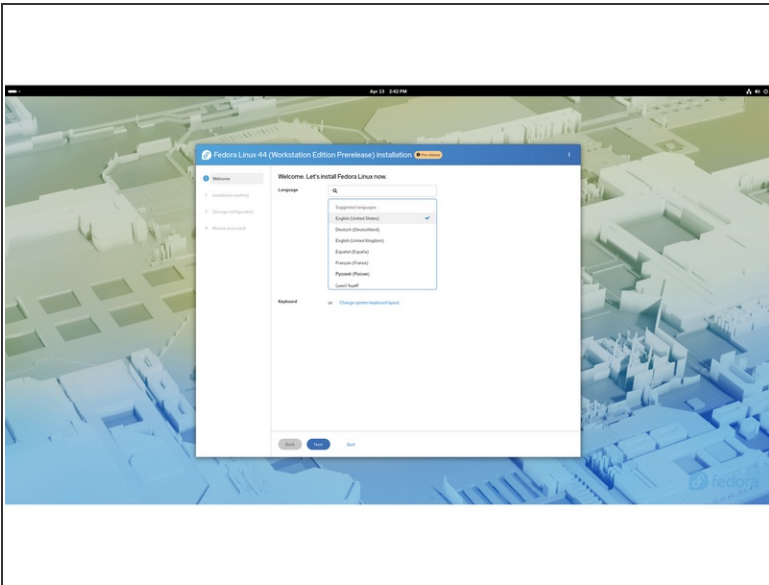
- ❗ If a user has a reason to disable Secure Boot, such as specialized third party devices that require unsigned drivers:
- Boot into BIOS by tapping F2 just before the Framework splash screen.
 - Arrow down to Administer Secure Boot. Press enter.
 - Arrow down to Enforce Secure Boot. Press enter, select Disabled, and press enter.
 - Press F10 to save and reboot. With Yes selected, press Enter.
- 📌 To enable Secure Boot again, repeat the above steps but select Enable this time.

Step 6 — Booting to Live Fedora USB



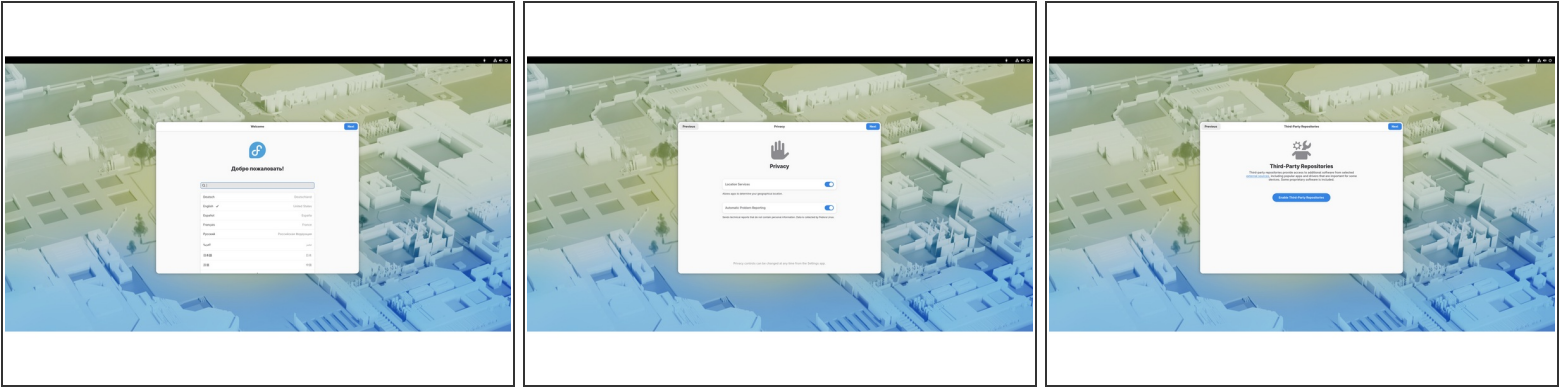
- Boot to Fedora Live USB: Insert the USB drive into the powered-off machine, then power it on.
- ❗ If an OS is already installed, immediately begin tapping F12 as soon as the power light comes on. Start tapping before the Framework logo appears.
- At the Boot Option Menu, use arrow keys to select your USB drive (shown as "EFI USB Device (USB Disk)" or similar) and press Enter. On the black GRUB menu, confirm "Try or Install Ubuntu" is highlighted and press Enter.
 - ⚠ If Windows is currently installed, trying to boot a Linux Live USB can result in the "Device is Active" error. [This will provide guidance](#) to overcome this error.
- Next select Start Fedora Workstation-Live 44. Hit the enter key.
- The installer will start automatically after some time. How long depends on the speed of the USB drive.

Step 7 — Installing Fedora to a drive



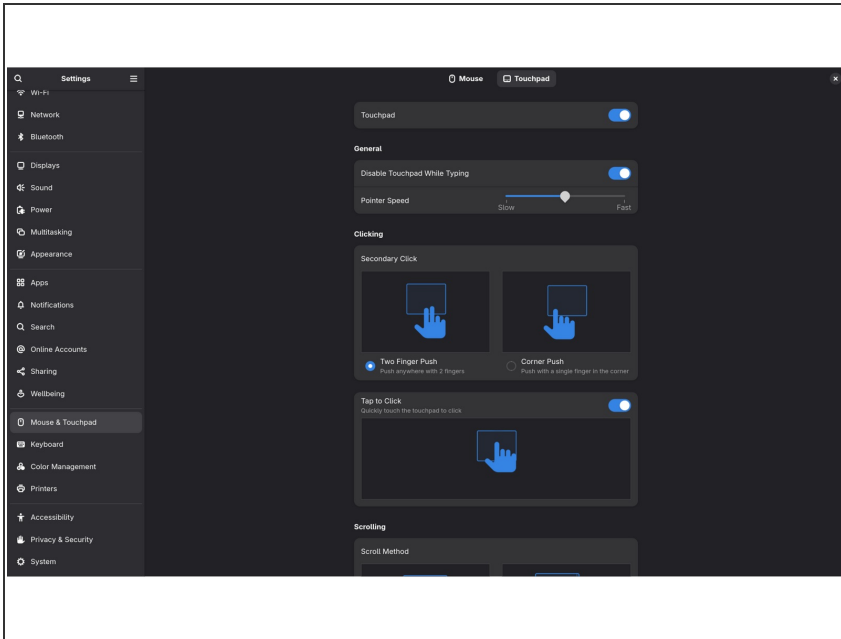
- Select the keyboard language you'd like to use. On the next screen, click on the Installation Destination button to choose the disk. Note that you can install Fedora onto a USB drive or a Storage Expansion Card as an alternative to installing it onto your internal drive.
- ① If there is an OS already installed on the target drive, you'll need to follow the guided steps in the installer to resize partitions or delete the existing partitions. This is out of scope of this guide, but Fedora has very detailed documentation: <https://docs.fedoraproject.org/en-US/qui...>
- ⚠ Important for non-US keyboard users! Please [open this link in a new tab](#) and read carefully.
- Click Finish Installation and then reboot into your new Fedora install!
- The installer will close the window, but not reboot. You can click on the power icon in the top right, click Power Off / Log Out, and click Restart.

Step 8 — Welcome to Fedora Screen - Setting Up



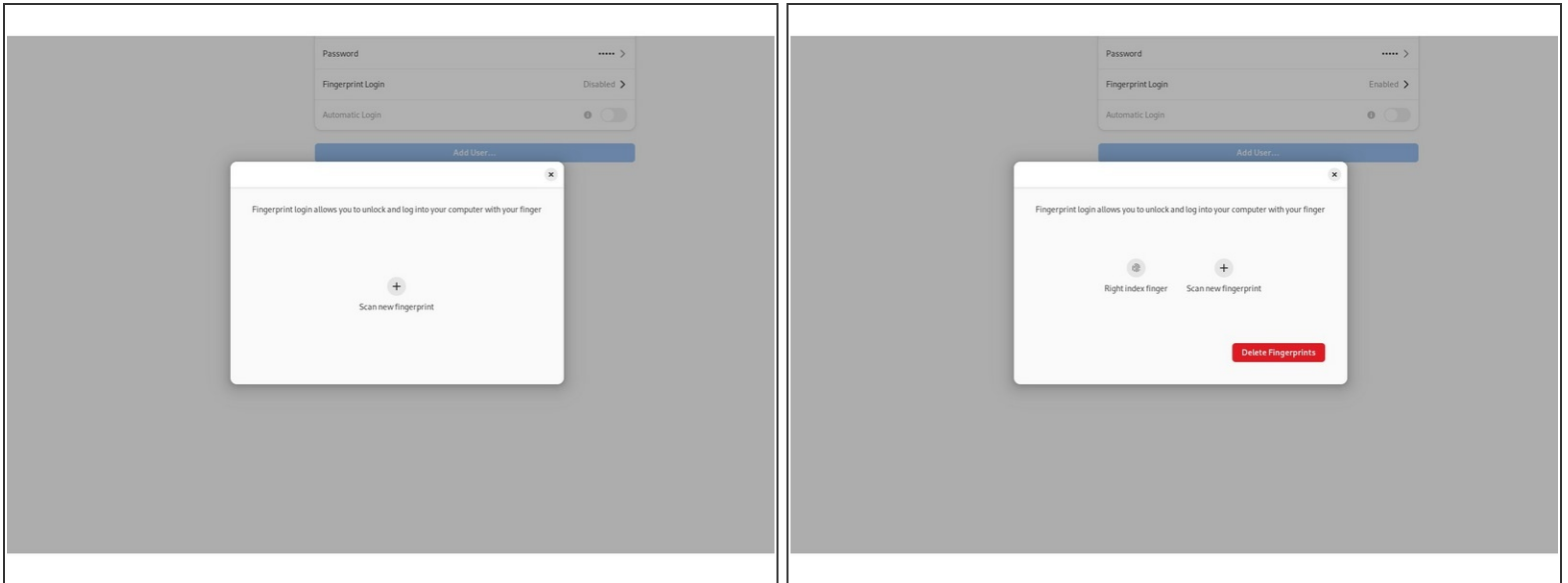
- Click on preferred language, again for your preferred keyboard. This begins the process of completing the initial setup of your Fedora installation.
- Connect to Wi-Fi or Skip. If you wish not to connect to wireless just yet, you can skip this and return to connecting to Wi-Fi later on.
- Choose your Privacy settings. Here you can decide if you would like to allow Location Services using Mozilla Location Service or not.
- ⚠ **Click on Enable Third-Party Repositories.** Unless you have a specific reason for not doing so, **it's recommended that these repositories are enabled for access to additional drivers and applications.**
- Setup your user account. And then your user password.

Step 9 — Touchpad Settings



- ✦ To configure the touchpad to meet your needs:
- Go to Settings>Mouse and Touchpad.
- Select the Touchpad tile/button at the top of displayed window.
- There you can control Touchpad while typing behavior, pointer speed, secondary click options, tap to click, scrolling method, and scroll direction.

Step 10 — Configure the fingerprint reader



- Let's setup fingerprint login. Click on Activities shown as ---- in the upper left corner, search for user.
 - Choose Fingerprint Login. Then select Scan new fingerprint. Select your desired fingerprint. Carefully tap your finger tip on the sensor (power button). You may need to try a few attempts as everyone's prints are different.
 - Once it's successful, you will see the word Complete.
- ⚠ If you're experiencing issues getting your fingerprint reader working, please [follow our help guide](#) to get your reader working for you on Fedora.

Step 11 — Completing Setup



- We're almost done. Please follow the links to your Framework Laptop 16.
 - [Click here](#) for the completion guide for Framework Laptop 16 (AMD Ryzen™ 7040 Series).
 - [Click here](#) for the completion guide for Framework Laptop 16 (AMD Ryzen™ AI 300 Series) .
 - ⚠ **NVIDIA dGPU users:** The above steps for the Framework Laptop 16 (AMD Ryzen™ AI 300 Series) also provide steps needed for NVIDIA/CUDA configuration - please do not [skip this if using the NVIDIA dGPU](#).
- ☑ Our recommendations for [Optimizing Fedora Battery Life](#). This includes **important** [expansion card behavior](#).
- ☑ Need richer sound? We have collected suitable [Easy Effects profiles to help](#).

Step 12 — NVIDIA Hybrid Mode BIOS settings



✦ Your Framework Laptop 16 with the NVIDIA dGPU module can operate in two primary graphics modes you will want to explore. You can switch between them in your laptop's BIOS settings.

⚠ To access this section of your BIOS: Tap F2 when you boot and see your Framework Splash screen (Framework logo). Arrow over to Setup utility. Click enter. Down arrow to Advanced on the left side. Right arrow to NVIDIA Mux. Enter key. Make your selection, press enter. Press F10 and press enter again to save changes and reboot.

⚠ The third option, Advanced Optimus, behaves like NVIDIA Hybrid Mode on Linux. So we will forgo it for this guide.

ℹ NVIDIA Hybrid Mode (Traditional Optimus): This is the default mode.

- Display Path: The integrated AMD GPU (iGPU) is always connected to the display. When the NVIDIA GPU (dGPU) is used for a demanding task, it renders the frames and copies them to the iGPU to be shown on the screen.

- Switching: Applications run on the power-saving iGPU by default. Steam uses dGPU this automatically for games.
- Performance: Small but measurable latency and FPS penalty compared to direct dGPU output because every frame must traverse the iGPU.

Step 13 — NVIDIA GPU-Only (Discrete Mode)



- Your Framework Laptop 16 with the NVIDIA dGPU module can operate in two primary graphics modes you will want to explore. You can switch between them in your laptop's BIOS settings.
- ⚠ To access this section of your BIOS: Tap F2 when you boot and see your Framework Splash screen (Framework logo). Arrow over to Setup utility. Click enter. Down arrow to Advanced on the left side. Right arrow to NVIDIA Mux. Enter key. Make your selection, press enter. Press F10 and press enter again to save changes and reboot.
- ❗ The third option, Advanced Optimus, behaves like NVIDIA Hybrid Mode on Linux. So we will forgo it for this guide.
- ✦ NVIDIA GPU-Only (Discrete Mode)

- Display Path The dGPU drives the panel 100% of the time. The iGPU is fully disabled.
- Switching: No switching possible without reboot — you must go back into BIOS or flip the MUX manually to return to Hybrid mode.
- Performance: Maximum performance and lowest latency, because there is no iGPU in the pipeline.

Step 14 — Recommended: Updating to the latest firmware



- How to check the BIOS version. Go to and click upper left corner where you see the horizontal line, search terminal and launch it. Please [follow this link](#) to copy and paste the code into your terminal, then press enter. The output will tell you which Framework Laptop 16 you have and also which BIOS version you're using.
 - ⚠ For Framework Laptop 16 AMD Ryzen 7040 Series, you can [check here](#) for the latest firmware.
 - ⚠ For Framework Laptop 16 AMD Ryzen AI 300 Series, you can [check here](#) for the latest firmware.
 - ⚠ **IMPORTANT:** Per the instructions above, we do NOT recommend updating BIOS and firmware using various GUIs. We recommend using fwupdmgr as provided in the step above. Using GUIs can potentially create issues that would not be present using fwupdmgr directly.

Step 15 — Using Discrete Graphics with Steam



- **Framework Laptop (7040 Series):** If you are looking to run Steam games, please follow our guide links below.
 - ① Gaming on Steam with Fedora: [One NVMe Drive Guide](#).
 - ① Gaming on Steam with Fedora: [Two NVMe Drives Guide](#).
 - ✦ With the proprietary NVIDIA driver installed, Steam games work with the dGPU without any extra work.
- ⚠ If you are unsure if something is using the dGPU, [install and run nvidia-smi](#). Look to the GPU section to see which is running during game play. You can alt-tab key to access this from within a game.

Step 16 — Fedora Troubleshooting



- Expecting different touchpad behavior? [The touchpad help guide](#) is here.
- Need help? Please visit our [troubleshooting guide first](#).
- If you need additional help, feel free to visit our [active support community](#).

Enjoy using Fedora on your Framework Laptop 16!