BOOTING LINUX FROM A USB STICK

Booting from a USB stick varies slightly depending on the laptop brand, as each manufacturer uses different BIOS/UEFI interfaces and key combinations to access the boot menu or BIOS settings.

Below is a concise guide for major laptop brands (Dell, HP, Lenovo, Acer, ASUS, and Apple) to help you boot from a USB stick. This assumes you have a bootable USB stick prepared with an operating system or diagnostic tool.

General Steps for Booting from a USB Stick

1. Prepare the USB Stick: Download the Linux image from the Linux Distro site. For example, download the latest Ubuntu 24.04.3 from ubuntu.com. Then Flash the Linux OS image to the USB stick using software like Balena Etcher, or Win32diskimager on Windows.
2. Insert the USB Stick: Plug the USB into a USB port before powering on the laptop.
3. Optional Step: Access the Boot Menu or BIOS/UEFI:
   - Boot Menu: Allows direct selection of the USB as the boot device.
   - BIOS/UEFI: Modify the boot order to prioritize the USB.
4. This step is not needed for Ubuntu. Disable Secure Boot (if needed): Some systems require disabling Secure Boot in BIOS/UEFI to boot from a USB.
5. Save and Exit: After selecting the USB or changing the boot order, save changes and restart.

Brand-Specific Instructions1. Dell

- Boot Menu Key: F12
- BIOS/UEFI Key: F2
- Steps:
  1. Power on the laptop and press F12 repeatedly to enter the Boot Menu.
  2. Select the USB device (e.g., "USB Storage Device" or the USB's name).
  3. If the USB doesn't appear, enter BIOS (F2), navigate to the "Boot Sequence" or "Boot" tab, and set the USB as the first boot device.
  4. Optionally, go to the "Security" tab and disable Secure Boot.
  5. Save changes (F10) and restart.
- Notes: On some Dell models (e.g., XPS, Inspiron), ensure "Legacy Boot" is enabled for older USB boot formats.

2. HP

- Boot Menu Key: `F9` or `Esc` then `F9`
- BIOS/UEFI Key: `F10` or `Esc` then `F10`
- Steps:
    1. Turn on the laptop and press `F9` (or `Esc` followed by `F9`) to access the Boot Device Options.
    2. Choose the USB device from the list.
    3. If the USB isn't listed, enter BIOS (`F10`), go to "System Configuration" > "Boot Options," and prioritize the USB device.
    4. Disable Secure Boot under the "Security" tab if required.
    5. Save settings (`F10`) and reboot.
- Notes: HP laptops (e.g., Pavilion, EliteBook) may label the USB as "USB Hard Drive" or by the USB's brand.

3. Lenovo

- Boot Menu Key: `F12` or `Fn + F12`
- BIOS/UEFI Key: `F2`, `Fn + F2`, or `Novo Button` (on some models)
- Steps:
    1. Power on and press `F12` to open the Boot Menu.
    2. Select the USB device.
    3. If the USB doesn't show, enter BIOS (`F2` or Novo Button), navigate to the "Boot" tab, and set the USB as the first boot device.
    4. Disable Secure Boot in the "Security" tab if necessary.
    5. Save changes (`F10`) and restart.
- Notes: For Lenovo ThinkPad models, the Novo Button (a small pinhole near the power button) may be used to access the boot menu or BIOS.

4. Acer

- Boot Menu Key: `F12`
- BIOS/UEFI Key: `F2` or `Del`
- Steps:
    1. Turn on the laptop and press `F12` to access the Boot Menu (you may need to enable the F12 Boot Menu in BIOS first).
    2. Select the USB device.
    3. If the USB isn't detected, enter BIOS (`F2` or `Del`), go to the "Boot" tab, and move the USB to the top of the boot order.
    4. In the "Main" tab, enable "F12 Boot Menu" if disabled. Disable Secure Boot under the "Security" tab if needed.
    5. Save (`F10`) and restart.
- Notes: On Acer Aspire or Predator models, ensure the USB is formatted correctly (e.g., FAT32 for UEFI).

5. ASUS

- Boot Menu Key: `Esc` or `F8`
- BIOS/UEFI Key: `F2` or `Del`
- Steps:
    1. Power on and press `Esc` or `F8` to enter the Boot Menu.
    2. Select the USB device.
    3. If the USB doesn't appear, enter BIOS (`F2` or `Del`), go to the "Boot" tab, and set the USB as the first boot device.
    4. Disable Secure Boot in the "Security" tab and enable "CSM" (Compatibility Support Module) for legacy USBs.
    5. Save changes (`F10`) and reboot.
- Notes: ASUS models (e.g., ZenBook, ROG) may require enabling "Launch CSM" for non-UEFI USBs.

6. Apple (MacBooks)

- Boot Menu Key: `Option (⌥)`
- Steps:
    1. Insert the bootable USB (macOS or compatible bootable drive, e.g., created with Disk Utility or Boot Camp).
    2. Power on the Mac and hold `Option (⌥)` immediately until the Startup Manager appears.
    3. Select the USB drive (often labeled with the OS name or "EFI Boot").
    4. Press `Return` to boot from the USB.
- Notes:
    1. Macs only boot from USBs with compatible macOS installers or specific Linux distributions.
    2. For newer M1/M2 Macs, ensure the USB is formatted as GUID Partition Map with APFS or macOS Extended.
    3. If the USB doesn't boot, check Security settings in macOS Recovery (`Command + R` at startup) to allow external boot devices.

Troubleshooting Tips

- USB Not Detected: Ensure the USB is bootable and formatted correctly (FAT32 or NTFS for Windows, GUID for macOS). Test on another port or computer.
- Secure Boot Issues: Disable Secure Boot in BIOS/UEFI for non-signed OS images.
- Legacy vs. UEFI: Check if the USB is set for UEFI or Legacy boot. Some laptops require enabling "Legacy Support" or "CSM" in BIOS.

- Correct Key Timing: Press the boot menu or BIOS key repeatedly right after powering on.
- Check USB Compatibility: Some older laptops may not support booting from certain USB drives (e.g., USB 3.0 on older hardware).

Additional Notes

- Key Variations: Some models within a brand may use different keys (e.g., Lenovo Yoga vs. ThinkPad). Check the laptop's manual or manufacturer's website.
- Firmware Updates: Ensure the laptop's BIOS/UEFI is updated for better USB compatibility.