

Recommended Minimum Requirements for Converting a Used Personal Computer Into an Educational Information Server

A. Select a Laptop or Desktop Computer

Select a used laptop or desktop computer with the following **minimum system requirements so it can be converted into an educational information server** so it can operate adequately using the Windows 10 or later operating system:

- **Operating System:** Microsoft Windows 10 or later (64-bit preferred).
- **Processor:** 1 GHz dual-core CPU (Intel Core i3 or AMD equivalent recommended).
- **RAM:** Minimum 4 GB (8 GB or more recommended for smooth performance).
- **Storage:** Minimum 64 GB SSD or 300 GB HDD (SSD highly recommended for better speed).
- **Graphics:** DirectX 9 or later with WDDM 1.0 driver.
- **Display:** 800 x 600 resolution (1024 x 768 or higher recommended).
- **Battery** (if laptop): Ensure it holds enough charge to operate for at least 30 minutes.

If a computer does not meet these minimum requirements for Windows 10 or later, we recommend it be **converted to operate with the Linux Mint operating system** for better performance on older hardware.

B. Document the personal computer specifications:

1. Create a summary of the computer's specifications:
 - o **Brand** (e.g., Dell, HP, Lenovo).
 - o **Year Made**.
 - o **Processor** (e.g., Intel Core i3, i5, AMD Ryzen 3).
 - o **RAM Capacity** (e.g., 4 GB, 8 GB).
 - o **Storage Type and Capacity** (e.g., 500 GB HDD or 128 GB SSD).
 - o **Current Operating System** (e.g., Windows 7, 10, 11 or Linux Mint).
 2. Include whether the system has MS Office or LibreOffice included.
 3. Document any hardware issues or limitations.
 4. If it is going to or has been purchased, include the cost in the summary.
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C. Check Hardware Components

Verify that all hardware components work properly:

1. **Keyboard keys, mouse buttons, and touchpad.**
2. External ports (e.g., USB, HDMI, VGA).
3. Screen resolution and display.
4. Battery health (if it's a laptop).
5. Wi-Fi or Ethernet connection.

Note: If this computer is going to be provided to a customer, share this information with this customer before proceeding to convert it to an educational information server.

D. Perform a Memory Check

Run a memory diagnostic to ensure the computer's RAM is functional:

- **Windows 10 and 11:**
 1. Press Windows + R, type mdsched.exe, and press Enter.
 2. Choose **Restart now and check for problems.**

E. Check the Hard Drive for Errors

1. **Windows 10 and 11:**
 - o Open **File Explorer**, right-click the drive (e.g., C:), and select:
 - **Properties > Tools > Check > Scan Drive.**

F. If a computer is running Windows 7 or 8 and meets Windows 10 minimum requirements, upgrade it to Windows 10. To do so, follow steps shown below:

1. **Check Compatibility:**
 - o Ensure the system meets the minimum requirements for Windows 10.
2. **Download Windows 10:**
 - o Visit the official [Microsoft Download Page](#) and download the Media Creation Tool.
3. **Upgrade:**
 - o Run the Media Creation Tool and select **Upgrade this PC now.**
 - o Follow the on-screen instructions to complete the installation.

G. If a computer is running Windows 7 or 8 and does not meet Windows 10 and 11 minimum requirements, we recommend that you convert it operate on Linux Mint. (Note: Linux Mint is ideal for older hardware and resource-limited environments. It is lightweight, secure, and free.)

End of video

Note to Hira: View this page: [Converting an Old Personal Computer into a Linux-Based Educational Information Server and Links to Free Educational Content](#)

H. New video to convert Windows 7 or 8 to Linux Mint:

Given below are a set of steps to convert Windows 7 or 8 to Linux Mint:

1. **If there is useful data on the computer, backup all data on this computer**
 - a. Inform the user to back up critical files using an external drive or cloud storage.
 - b. Linux Mint will overwrite Windows 7 or 8 during installation.
2. **Erase all the data on the computer (Wipe the drive).**
3. **Download Linux Mint:**
 - a. Visit the [Linux Mint website](#) and download the latest **Linux Mint ISO** file (e.g., Linux Mint 21 Cinnamon Edition).
4. **Create a Bootable USB Drive:**
 - a. Use a USB drive (minimum 8 GB).
 - b. On a Windows computer, download **Rufus** (<https://rufus.ie/>).
 - c. Use Rufus to create a bootable USB:
 - i. Select the USB drive.
 - ii. Choose the Linux Mint ISO file.
 - iii. Set the partition scheme to **MBR** for older systems.
 - iv. Click **Start**.
5. **Boot into the USB:**
 - a. Insert the bootable USB into the Windows 7 or 8 computer.
 - b. Restart the computer and access the **BIOS/UEFI settings** (press F2, F12, DEL, or ESC during startup).
 - c. Change the boot order to prioritize the USB drive.
 - d. Save and exit BIOS.
6. **Test Linux Mint (Optional):**
 - a. When booted from the USB, select **"Try Linux Mint"** to run it in Live Mode.
 - b. Test hardware compatibility (Wi-Fi, keyboard, display).
7. **Install Linux Mint:**
 - a. Double-click the **Install Linux Mint** icon on the desktop.
 - b. Follow the on-screen instructions:
 - i. Select language and keyboard layout.
 - ii. Choose **"Erase disk and install Linux Mint"** (this will remove Windows 7 or 8).
 - iii. Set time zone and create a username/password.

- c. Wait for the installation to complete and restart.

8. Update Linux Mint:

- a. After installation, open the terminal and run;
- b. `sudo apt update && sudo apt upgrade -y`

9. Install Educational Software:

- a. Install **LibreOffice** (pre-installed with Linux Mint) as an alternative to MS Office.
- b. Install antivirus software if desired. One option is ClamAV ClamTK. To install it, use this command: `sudo apt install clamav clamtk`

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