# usrmerge and Ubuntu 24.04 LTS

## Introduction

With the release of Ubuntu 24.04 LTS (Noble Numbat), the Linux ecosystem continues its evolution toward a more consistent, modern filesystem layout. A key part of this shift is the usrmerge transition — a move to consolidate critical system directories under /usr. This change, initiated in earlier versions, is now a firmly established default in Ubuntu 24.04.

## What is usrmerge?

usrmerge is a structural change to the Linux filesystem hierarchy. Traditionally, Unix-like systems separated essential binaries (/bin, /sbin) and libraries (/lib, /lib64) from their /usr counterparts. With usrmerge, these top-level directories are symbolic links pointing to their equivalents under /usr:  
  
Traditional Path | New (Merged) Path  
--------------------|------------------------  
/bin | /usr/bin  
/sbin | /usr/sbin  
/lib | /usr/lib  
/lib64 | /usr/lib64

## Why It Matters

The move to a merged /usr layout provides several technical and practical benefits:  
  
1. Simplification: A single location for binaries and libraries simplifies system structure and package management.  
2. Compatibility with Modern Systems: Read-only root filesystems, containers, and minimal systems work more efficiently with a unified /usr.  
3. Consistency Across Distributions: Aligns Ubuntu with other major Linux distributions.  
4. Cleaner Upgrades: Reduces complexity and potential issues during upgrades.

## Ubuntu 24.04 and usrmerge

Ubuntu began shipping with a merged /usr starting in Ubuntu 20.04 LTS, and in 24.04, it is now an immutable default on fresh installations.  
  
- Default installations use a merged /usr layout.  
- The usrmerge package is included by default.  
- Systems upgraded from older installs will be converted automatically.  
  
Check if your system is merged by running:  
ls -l /bin /sbin /lib /lib64

## Dealing with Legacy Systems

For older or custom systems still using the traditional split layout, Ubuntu provides the usrmerge tool to perform the conversion:  
  
sudo apt install usrmerge  
sudo usrmerge  
  
Warning: Perform this operation with caution and ensure backups are taken. It may affect legacy scripts.

## Compatibility Notes

- No action is needed for users with standard Ubuntu 24.04 installs.  
- Developers should update hardcoded paths if needed.  
- The change is transparent due to symbolic links.

## Conclusion

Ubuntu 24.04 LTS solidifies the move toward a merged /usr filesystem, continuing a broader trend in Linux. While largely invisible to end users, it offers long-term maintainability and system clarity. For developers and administrators, understanding usrmerge is essential for modern Ubuntu systems.