

# **XLIBRE: A Modern X Server**

## Benefits and Installation Guide



A comprehensive overview of the next generation X Window System

# Mission and Vision

The XLibre contributors strive to:

- **Clean up and strengthen**  
the existing X.Org codebase while maintaining backward compatibility
- **Actively enhance**  
the functionality of the Xserver and its drivers
- **Incorporate improvements**  
that have been unreleased for years or were made to Xwayland only
- **Base decisions on merit**  
through an active community keen to bring X forward
- Make X11 a **viable choice for the future**



*"Our decision making is based on merit and our active community keen to bring X forward."*

# Key Benefits of XLIBRE

## Code Cleanup & Strengthening

Refactored and optimized codebase leading to a more robust, maintainable, and efficient display server

## Enhanced Functionality

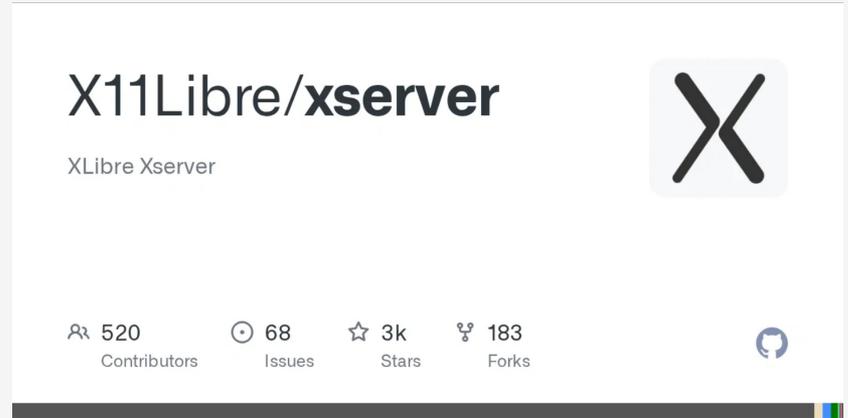
Active integration of new features and improvements that ensure X11 remains viable for modern computing

## Backward Compatibility

Maintains compatibility with existing X11 applications while providing modern improvements

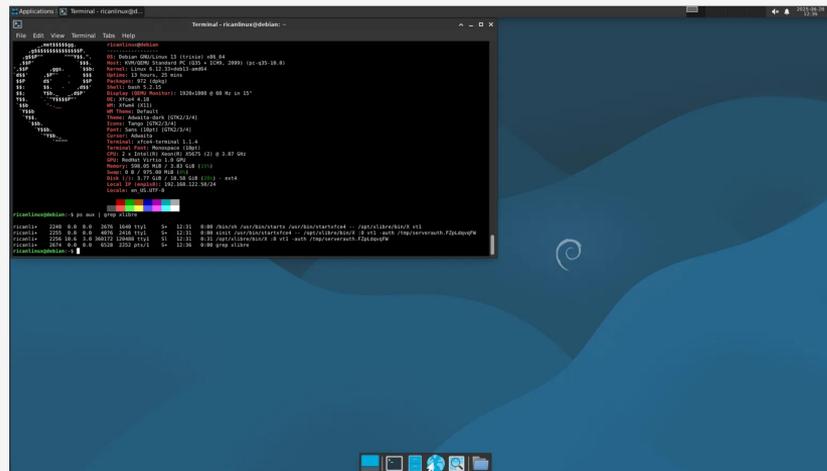
## Community-Driven Innovation

Over 30 contributors since June 2025, fostering innovation through collaborative development



# Achievements So Far

-  **Code Cleanups and Xnamespace Extension** - Separating X clients for improved security and stability
-  **Security Fixes** - Backported critical X.Org CVE fixes from June 2025
-  **TearFree by Default** - Smoother visual experience by eliminating screen tearing
-  **Atomic Modesetting** - Better control over display configurations
-  **Xnest Port to XCB** - Improved integration and performance
-  **Per-ABI Driver Directories** - Streamlined driver management



# Installation Options

## Method 1: Using Distribution Packages

**Recommended** for most users

- ✓ Simplest approach with automatic dependency handling
- ✓ Seamless system integration
- ✓ Check "Are We XLibre Yet?" wiki page for available options

## Method 2: Building from Source

For advanced users or when packages aren't available

- ✓ Access to the latest features and improvements
- ✓ More control over build options
- ✓ Requires development tools and libraries



# Building from Source

## Prerequisites

C compiler (GCC), make, development headers for X11 libraries

### 1 Navigate to the Source Directory

```
cd "<source dir of xserver>"
```

Change to the directory containing XLIBRE source code

### 2 Configure with Meson

```
meson setup <prefix> build <meson_options>
```

Example: `--prefix="$(pwd)/image" -Dxnest=false`

### 3 Compile and Install

```
ninja -C build install
```

Compiles source code and places files in the specified prefix directory



For detailed build instructions and dependencies, refer to the

[Building XLibre Wiki page](#) .

# Configuration and Setup

## General Configuration

XLIBRE uses the standard X.Org configuration approach:

- Main config file: `/etc/X11/xorg.conf`
- Config directory: `/etc/X11/xorg.conf.d/`

## Nvidia Driver Configuration

To enable proprietary Nvidia driver support:

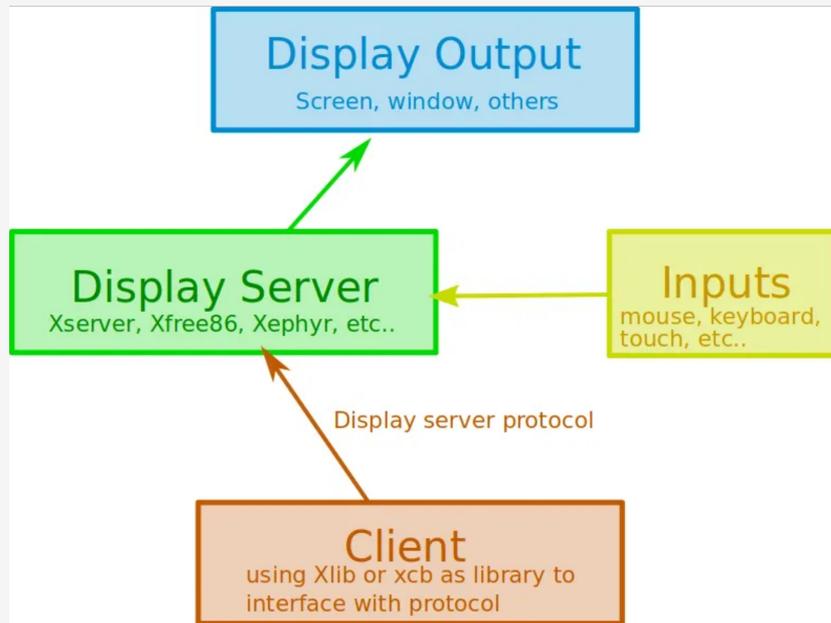
```
Section "ServerFlags"
Option "IgnoreABI" "1"
EndSection
```

*This tells the X server to ignore ABI mismatches, necessary for proprietary drivers.*

## Custom Installation

If you built XLIBRE from source:

```
cd <prefix>
mkdir -p etc/X11
touch etc/X11/xorg.conf
```



# Running XLIBRE

## Starting from Distribution Packages

When installed via distribution packages:

XLIBRE typically starts automatically via system init

- For manual start, use the `startx` command:

```
startx
```

This starts the X server and your default desktop environment

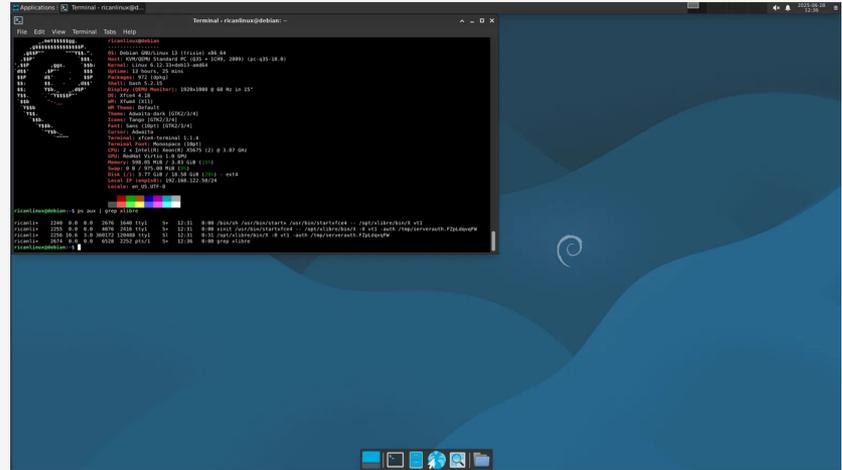
## Starting from Source Build

For source builds, create a test script:

```
#!/bin/sh
./bin/X :1 vt8 &
_pid=$!
sleep 10 && kill $_pid
```

Make executable and run:

```
chmod 0770 testx.sh
./testx.sh
```



# Conclusion

XLIBRE represents a significant step forward for the X Window System, offering:

- A cleaner, more maintainable codebase
- Enhanced functionality and active development
- Backward compatibility with existing applications
- Community-driven innovation and improvements
- Specific technical achievements like TearFree by default

## Key Resources

-  [GitHub Repository](#)
-  [Wiki Documentation](#)
-  [Distribution Availability](#)



**Try XLIBRE today and experience the next generation of X Window System!**