

# Xorg

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## 1 Introduction

Xorg is an open source implementation of the X Window System (frequently abbreviated to X or X11).

Xorg provides an interface between hardware and the graphical software which you want to run.

## 2 Nomenclature

1. **X session** The combination of an X server and connecting X clients.
2. **Display Managers** Provide X users with a graphical login prompt

## 3 X Client Server Architecture

X uses a client server model. A given X server runs on one user's **local** machine, whilst the client programs which communicate with the server may run on **different** remote machines. This is the **reverse** of the common

configuration of client-server systems, where the client runs on the user's computer and the server runs on a remote computer.

For example I can run **emacs** on my local machine, and connect via ssh to a remote CS server at uni to run say **libreoffice**, which would be running on the remote server so I can access my school files, but the libre office window would be rendered on my local machine, and it would also process my keyboard input (assuming of course the SSH session is configured correctly).

## 4 Starting an X Session

An X session is usually started by either the **startx** command or a daemon X display manager daemon program started by systemd based on the dependency of **graphical.target**.

1. Running startx basically runs xinit.
2. startx first looks for `~/.xinitrc` which, unless there is a very good reason, should not be on a Debian system (use `.xsession` instead - see the startx manpage for why you should do this).
3. startx now searches for the system xinitrc in *etc/X11/xinit*. This contains the line "*etc/X11/Xsession" and Xsession will use ~.xsession* if it exists.

See this [stackexchange](#) post for more details.

### 4.1 Summary

tl;dr: `.xinitrc` is run from xinit (and thus its wrapper startx), `.xsession` is run when **custom** is selected on display manager login or if `.xinitrc` is not found (have tested), and `.xsessionrc` is always run.