Xorg

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Normally, the configuration of X through Xorg is generated on the fly. Compared to the old XFree86 setups of years ago, this works surprisingly well. There is usually no need to create your own configuration. However, in some corner cases, it is advantageous to understand the configuration, or even to create part of the configuration explicitly.

1 Using A Laptop With external Display Only (Internal LCD Closed)

Some laptops have a BIOS option to use only the external monitor. As long as Linux does not detect the internal LCD, everything is fine. Some other BIOS's may define the primary screen to be the external one, but usually Linux does not care. And in some cases, there is no option.

In these cases, the onboard LCD screen is automatically configured via Xorg. Whether this is good or bad depends on your window manager. In my experience, Gnome or MATE will handle such a screen well, i.e. it will blank it and you can log in, lock the screen and even log into the system correctly after hibernation.

Some other window managers, such as XFCE4 on Debian 10 Buster, do not behave well. Some or all of the following can sometimes be observed:

- After the system boots, the login dialog will be displayed on the **closed** laptop screen and not on the external monitor
- After logging out and logging in again, the login dialog is displayed on a random screen, sometimes on the closed screen.
- After unlocking or logging in from the external monitor, the system gets aware of a closed internal screen, and if there is no activity (mouse for example), the system gets sent to hibernation and it seems that unlocking or logging in does not work. This happens even if the correct values for never hibernate when lid is closed have been selected in the power management setup dialog.

The following may fix some of the problems, but may not fix all of them. The trick is to provide a part of the Xorg configuration that explicitly tells Xorg not to guess the configuration for the onboard LCD, but to simply ignore it. As a result, the screen is blanked out and unavailable to X configuration tools. While this has advantages in a static scenario where the laptop is always closed, it has the disadvantage that if you decide to use the laptop as a mobile computer, no X will appear. The second step is to fix this unexpected behavior.

First the following file `/usr/share/X11/xorg.conf.d/50-disable-lvds.conf` with the content

```
1  Section "Monitor"
2        Identifier "lvds monitor"
3        Option "ignore" "true"
4  EndSection
5
6  Section "Device"
7        Identifier "LVDS-1"
8        Option "Monitor-LVDS-1" "lvds monitor"
9  EndSection
```

All but the `LVDS-1` value are fixed. To find out what value the device identifier has, use the command `xrandr -q`. Usually on laptops there is a line starting with or containing the string `LVDS` like this

```
1  LVDS-1 connected 1280x800+0+0 (normal left inverted right x axis y axis) 321
      mm x 213mm
```

Second, in case you forget how you configured X on your laptop. This might happen if you decide to use the laptop on the road again (after 2 years of using it as a desktop replacement), a hint on the login screen might help you figure out why X did not start. Of course,

you would have to restart the laptop, or at least restart X.

```
1  export MOTD=/etc/motd
2  echo "">>$MOTD
3  echo "==============================================================">>
      $MOTD
4  echo "To start X on LCD screen, move or remove:">>$MOTD
5  echo "/usr/share/X11/xorg.conf.d/50-disable-lvds.conf">>$MOTD
6  echo "==============================================================">>
      $MOTD
```

2   History

Version	Date	Notes
0.1.1	2023-04-27	Improve writing, add history
0.1.0	2021-03-22	Initial release

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