



## Precision / XPS: Ubuntu General Touchpad / Mouse Issue Fix

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### Ubuntu Mouse Issues

The following fix is a best practice for touchpad / mouse configuration in Ubuntu. This is a modification to your Ubuntu Operating System (OS) that has had great success. This should improve the overall experience of the feel of the touchpad / mouse.

#### Verify that the system is fully updated

\*\*\* run the following in terminal (ctrl+alt+t) \*\*\*

```
sudo apt-get update
```

```
sudo app-get upgrade -y
```

```
sudo apt-get dist-upgrade -y
```

\*\*\* reboot \*\*\*

#### Enable the HWE kernel

For more info on what this kernel is see <https://wiki.ubuntu.com/Kernel/LTSEnablementStack> 

(<https://wiki.ubuntu.com/Kernel/LTSEnablementStack>).

\*\*\* run the following in terminal (ctrl+alt+t) \*\*\*

```
sudo apt-get install --install-recommends linux-generic-hwe-16.04 xserver-xorg-hwe-16.04
```

\*\*\* reboot \*\*\*

#### Verify if your system has the dual mouse drivers

\*\*\* note that not all models have this issue. If your system does not have the double mouse driver, proceed to the next section\*\*\*

Verify that Linux detects 2 touch pads. In terminal type the following:

#### xinput list

It should have output like the following (**Figure 1**):

\*\*\* note that your Id number will be different as each system pulls and assigns the ids differently \*\*\*

```
dell@dell-XPS-13-9360: ~
dell@dell-XPS-13-9360:~$ xinput list
Virtual core pointer                    id=2        [master pointer (3)]
├─ Virtual core XTEST pointer           id=4        [slave pointer (2)]
├─ ELAN Touchscreen                     id=10       [slave pointer (2)]
├─ DLL075B:01 06CB:76AE Touchpad        id=12       [slave pointer (2)]
├─ SynPS/2 Synaptics TouchPad           id=18       [slave pointer (2)]
Virtual core keyboard                   id=3        [master keyboard (2)]
├─ Virtual core XTEST keyboard          id=5        [slave keyboard (3)]
├─ Power Button                         id=6        [slave keyboard (3)]
├─ Video Bus                            id=7        [slave keyboard (3)]
├─ Power Button                         id=8        [slave keyboard (3)]
├─ Sleep Button                         id=9        [slave keyboard (3)]
├─ Integrated_Webcam_HD: Integrate      id=11       [slave keyboard (3)]
├─ Intel Virtual Button driver          id=13       [slave keyboard (3)]
├─ Intel HID events                     id=14       [slave keyboard (3)]
├─ Intel HID 5 button array             id=15       [slave keyboard (3)]
├─ Dell WMI hotkeys                     id=16       [slave keyboard (3)]
├─ AT Translated Set 2 keyboard         id=17       [slave keyboard (3)]
dell@dell-XPS-13-9360:~$
```

Figure 1

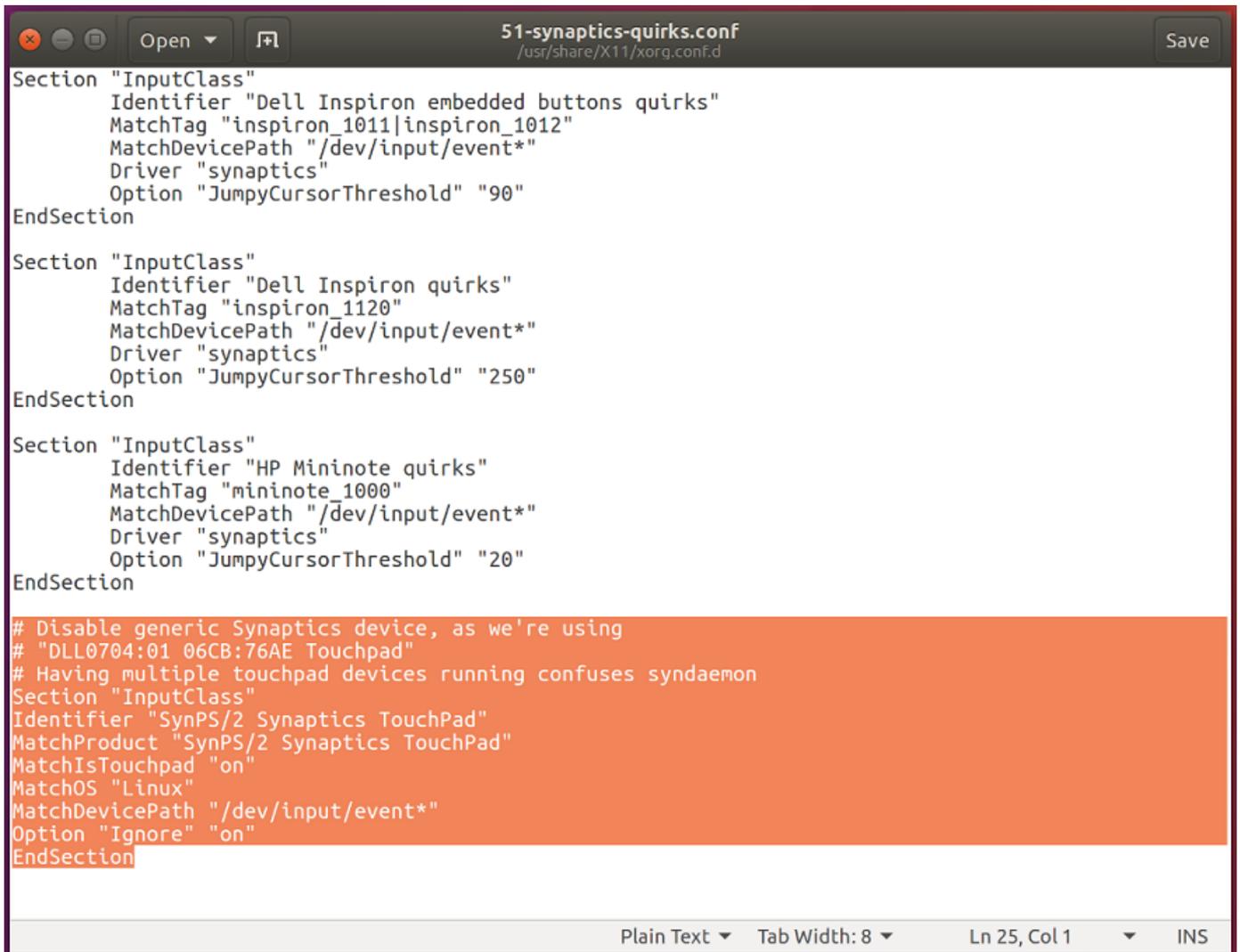
Edit the 51-synaptics-quirks.conf file by running this in terminal:  
**sudo gedit /usr/share/X11/xorg.conf.d/\*synaptics-quirks.conf**

Add this to the bottom:

```
# Disable generic Synaptics device, as we're using
# "DLL0704:01 06CB:76AE Touchpad"

# Having multiple touchpad devices running confuses syndaemon
Section "InputClass"
Identifier "SynPS/2 Synaptics TouchPad"
MatchProduct "SynPS/2 Synaptics TouchPad"
MatchIsTouchpad "on"
MatchOS "Linux"
MatchDevicePath "/dev/input/event*"
Option "Ignore" "on"
EndSection
```

It should look like this (Figure 2):



```

51-synaptics-quirks.conf
/usr/share/X11/xorg.conf.d
Save

Section "InputClass"
    Identifier "Dell Inspiron embedded buttons quirks"
    MatchTag "inspiron_1011|inspiron_1012"
    MatchDevicePath "/dev/input/event*"
    Driver "synaptics"
    Option "JumpyCursorThreshold" "90"
EndSection

Section "InputClass"
    Identifier "Dell Inspiron quirks"
    MatchTag "inspiron_1120"
    MatchDevicePath "/dev/input/event*"
    Driver "synaptics"
    Option "JumpyCursorThreshold" "250"
EndSection

Section "InputClass"
    Identifier "HP Mininote quirks"
    MatchTag "mininote_1000"
    MatchDevicePath "/dev/input/event*"
    Driver "synaptics"
    Option "JumpyCursorThreshold" "20"
EndSection

# Disable generic Synaptics device, as we're using
# "DLL0704:01 06CB:76AE Touchpad"
# Having multiple touchpad devices running confuses syndaemon
Section "InputClass"
    Identifier "SynPS/2 Synaptics TouchPad"
    MatchProduct "SynPS/2 Synaptics TouchPad"
    MatchIsTouchpad "on"
    MatchOS "Linux"
    MatchDevicePath "/dev/input/event*"
    Option "Ignore" "on"
EndSection

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```

**Figure 2**

Once completed, click on the save button on the upper right and then exit out the window.

\*\*\* reboot \*\*\*

Verify that the 2nd mouse is disabled. In terminal type the following:

**xinput -list**

Notice that the Synaptics touch pad is not there and you only see the following (**Figure 3**):

```
dell@dell-XPS-13-9360: ~
dell@dell-XPS-13-9360:~$ xinput list
Virtual core pointer                    id=2    [master pointer (3)]
├─ Virtual core XTEST pointer           id=4    [slave pointer (2)]
├─ DLL075B:01 06CB:76AE Touchpad        id=12   [slave pointer (2)]
├─ ELAN Touchscreen                     id=10   [slave pointer (2)]
Virtual core keyboard                   id=3    [master keyboard (2)]
├─ Virtual core XTEST keyboard          id=5    [slave keyboard (3)]
├─ Power Button                         id=6    [slave keyboard (3)]
├─ Video Bus                            id=7    [slave keyboard (3)]
├─ Power Button                         id=8    [slave keyboard (3)]
├─ Sleep Button                         id=9    [slave keyboard (3)]
├─ Intel Virtual Button driver          id=13   [slave keyboard (3)]
├─ Intel HID events                     id=14   [slave keyboard (3)]
├─ Intel HID 5 button array             id=15   [slave keyboard (3)]
├─ Dell WMI hotkeys                     id=16   [slave keyboard (3)]
├─ AT Translated Set 2 keyboard         id=17   [slave keyboard (3)]
├─ Integrated_Webcam_HD: Integrate      id=11   [slave keyboard (3)]
dell@dell-XPS-13-9360:~$
```

Figure 3

If done correctly you can move to the next steps. If you still have the extra touchpad, retry the above steps.

#### Install the new libinput driver

\*\*\* run the following in terminal (ctrl+alt+t) \*\*\*

```
sudo apt-get install xserver-xorg-input-libinput-hwe-16.04 libinput-tools xorg-input-abi-24
```

\*\*\* reboot \*\*\*

#### Blacklist the synaptics driver

Now we need to edit the synaptics.conf file to blacklist the old driver. Depending on your model, the number at the front may be different.

\*\*\* run the following in terminal (ctrl+alt+t) \*\*\*

```
sudo gedit /usr/share/X11/xorg.conf.d/*synaptics.conf
```

Here is what it should look like before we edit the document (**Figure 4**):

```

# Example xorg.conf.d snippet that assigns the touchpad driver
# to all touchpads. See xorg.conf.d(5) for more information on
# InputClass.
# DO NOT EDIT THIS FILE, your distribution will likely overwrite
# it when updating. Copy (and rename) this file into
# /etc/X11/xorg.conf.d first.
# Additional options may be added in the form of
#   Option "OptionName" "value"
#
Section "InputClass"
    Identifier "touchpad catchall"
    Driver "synaptics"
    MatchIsTouchpad "on"
# This option is recommend on all Linux systems using evdev, but cannot be
# enabled by default. See the following link for details:
# http://who-t.blogspot.com/2010/11/how-to-ignore-configuration-errors.html
    MatchDevicePath "/dev/input/event*"
EndSection

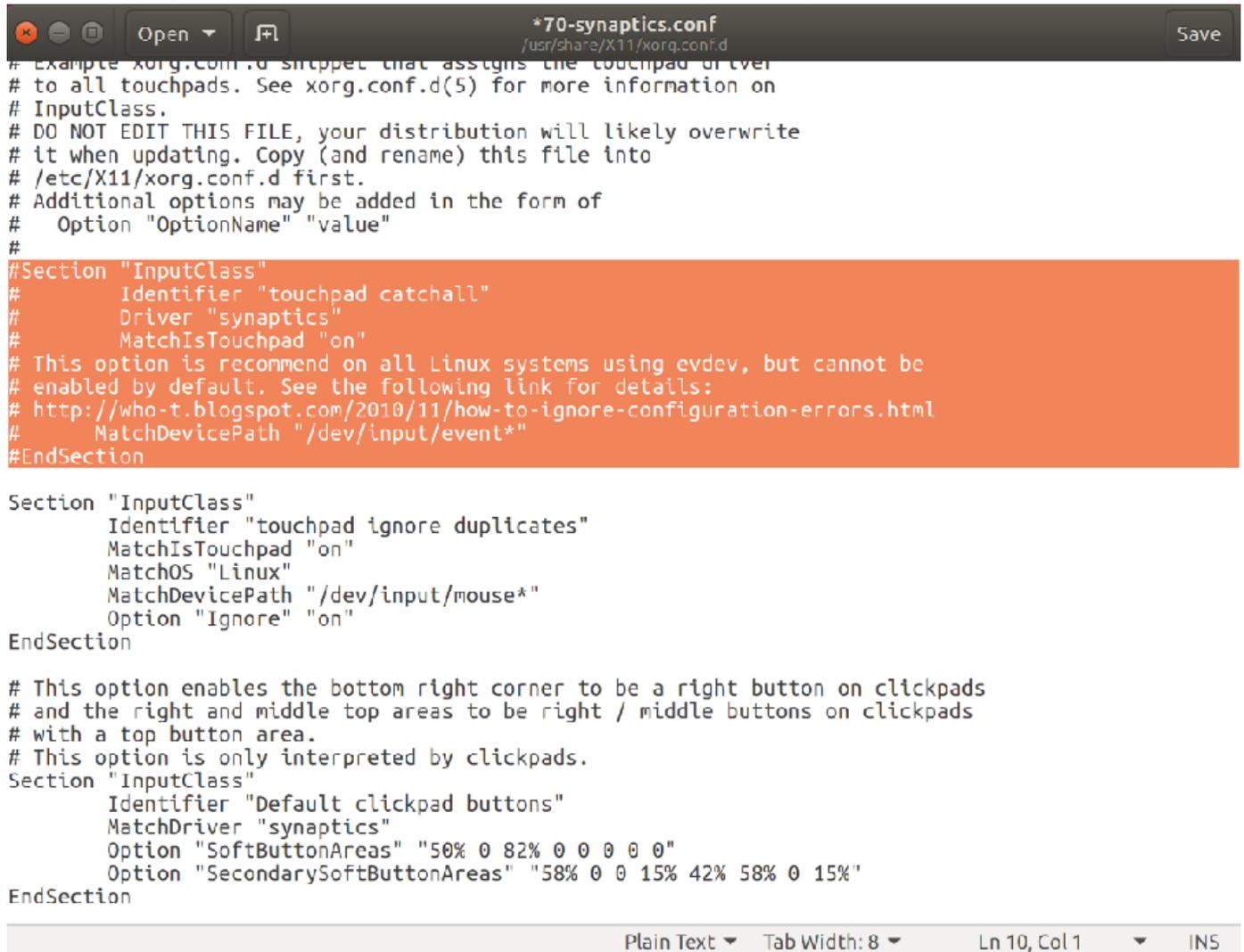
Section "InputClass"
    Identifier "touchpad ignore duplicates"
    MatchIsTouchpad "on"
    MatchOS "Linux"
    MatchDevicePath "/dev/input/mouse*"
    Option "Ignore" "on"
EndSection

# This option enables the bottom right corner to be a right button on clickpads
# and the right and middle top areas to be right / middle buttons on clickpads
# with a top button area.
# This option is only interpreted by clickpads.
Section "InputClass"
    Identifier "Default clickpad buttons"
    MatchDriver "synaptics"
    Option "SoftButtonAreas" "50% 0 82% 0 0 0 0"
    Option "SecondarySoftButtonAreas" "58% 0 0 15% 42% 58% 0 15%"
EndSection

```

**Figure 4**

We need to commit out the highlighted section. To perform this action you need to just put the pound sign (#) in front of every line. Here is what it should look like when completed (**Figure 5**):



```

# Example xorg.conf.d snippet that assigns the touchpad driver
# to all touchpads. See xorg.conf.d(5) for more information on
# InputClass.
# DO NOT EDIT THIS FILE, your distribution will likely overwrite
# it when updating. Copy (and rename) this file into
# /etc/X11/xorg.conf.d first.
# Additional options may be added in the form of
#   Option "OptionName" "value"
#
#Section "InputClass"
#   Identifier "touchpad catchall"
#   Driver "synaptics"
#   MatchIsTouchpad "on"
# This option is recommend on all Linux systems using evdev, but cannot be
# enabled by default. See the following link for details:
# http://who-t.blogspot.com/2010/11/how-to-ignore-configuration-errors.html
#   MatchDevicePath "/dev/input/event*"
#EndSection

Section "InputClass"
    Identifier "touchpad ignore duplicates"
    MatchIsTouchpad "on"
    MatchOS "Linux"
    MatchDevicePath "/dev/input/mouse*"
    Option "Ignore" "on"
EndSection

# This option enables the bottom right corner to be a right button on clickpads
# and the right and middle top areas to be right / middle buttons on clickpads
# with a top button area.
# This option is only interpreted by clickpads.
Section "InputClass"
    Identifier "Default clickpad buttons"
    MatchDriver "synaptics"
    Option "SoftButtonAreas" "50% 0 82% 0 0 0 0 0"
    Option "SecondarySoftButtonAreas" "58% 0 0 15% 42% 58% 0 15%"
EndSection

```

**Figure 5**

Once completed, click on the save button on the upper right and then exit out the window.

\*\*\* reboot \*\*\*

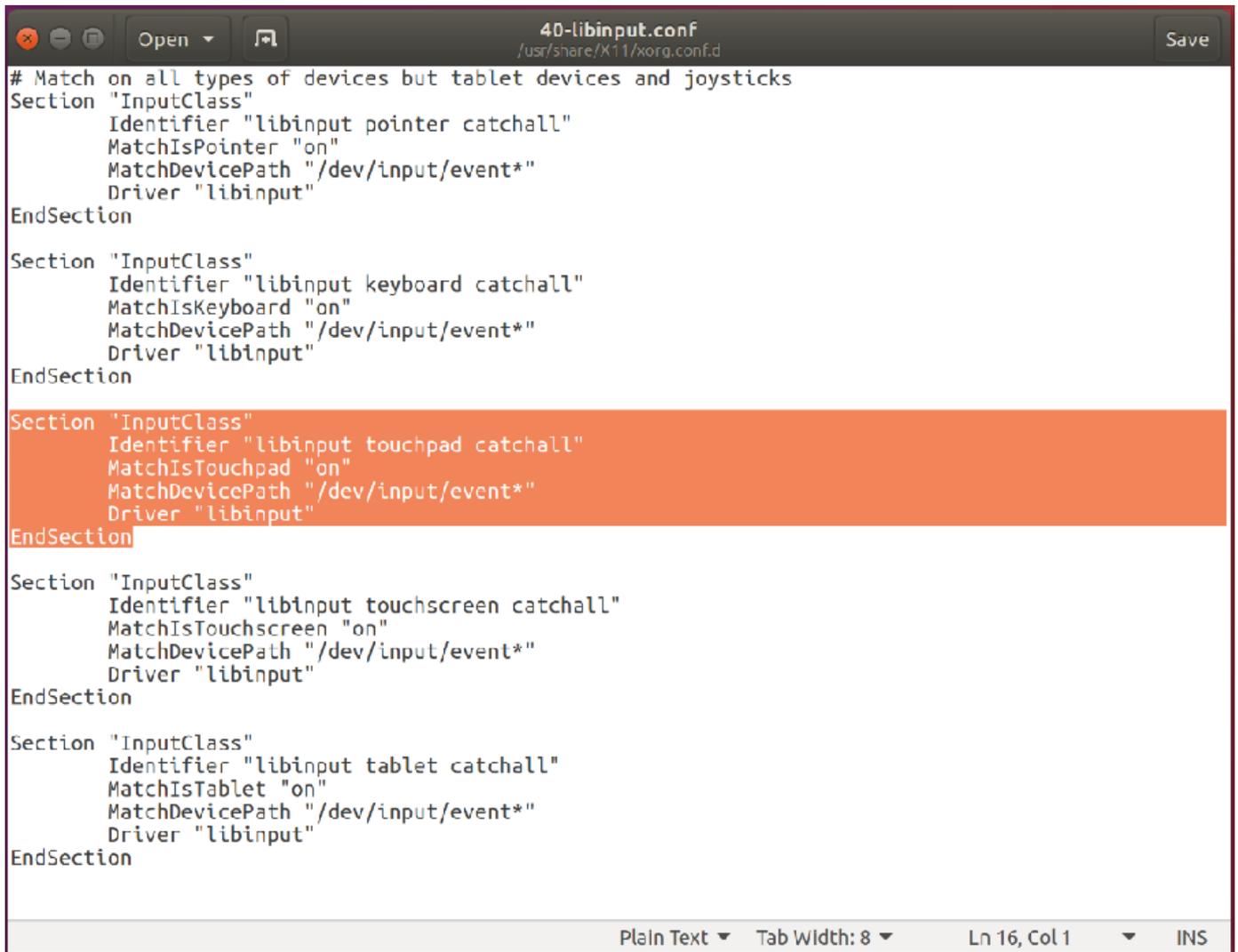
### Add in options to the libinput configuration file

The last step is to add in the extra options to the libinput configuration file. This will enable some extra features and improve the overall feel of the touch pad.

\*\*\* run the following in terminal (ctrl+alt+t) \*\*\*

```
sudo gedit /usr/share/X11/xorg.conf.d/*libinput.conf
```

Here is what it should look like before we edit the document (**Figure 6**):



```

40-libinput.conf
/usr/share/X11/xorg.conf.d
Save

# Match on all types of devices but tablet devices and joysticks
Section "InputClass"
    Identifier "libinput pointer catchall"
    MatchIsPointer "on"
    MatchDevicePath "/dev/input/event*"
    Driver "libinput"
EndSection

Section "InputClass"
    Identifier "libinput keyboard catchall"
    MatchIsKeyboard "on"
    MatchDevicePath "/dev/input/event*"
    Driver "libinput"
EndSection

Section "InputClass"
    Identifier "libinput touchpad catchall"
    MatchIsTouchpad "on"
    MatchDevicePath "/dev/input/event*"
    Driver "libinput"
EndSection

Section "InputClass"
    Identifier "libinput touchscreen catchall"
    MatchIsTouchscreen "on"
    MatchDevicePath "/dev/input/event*"
    Driver "libinput"
EndSection

Section "InputClass"
    Identifier "libinput tablet catchall"
    MatchIsTablet "on"
    MatchDevicePath "/dev/input/event*"
    Driver "libinput"
EndSection

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```

**Figure 6**

Now find the section that has the wording - Identifier "libinput touchpad catchall"

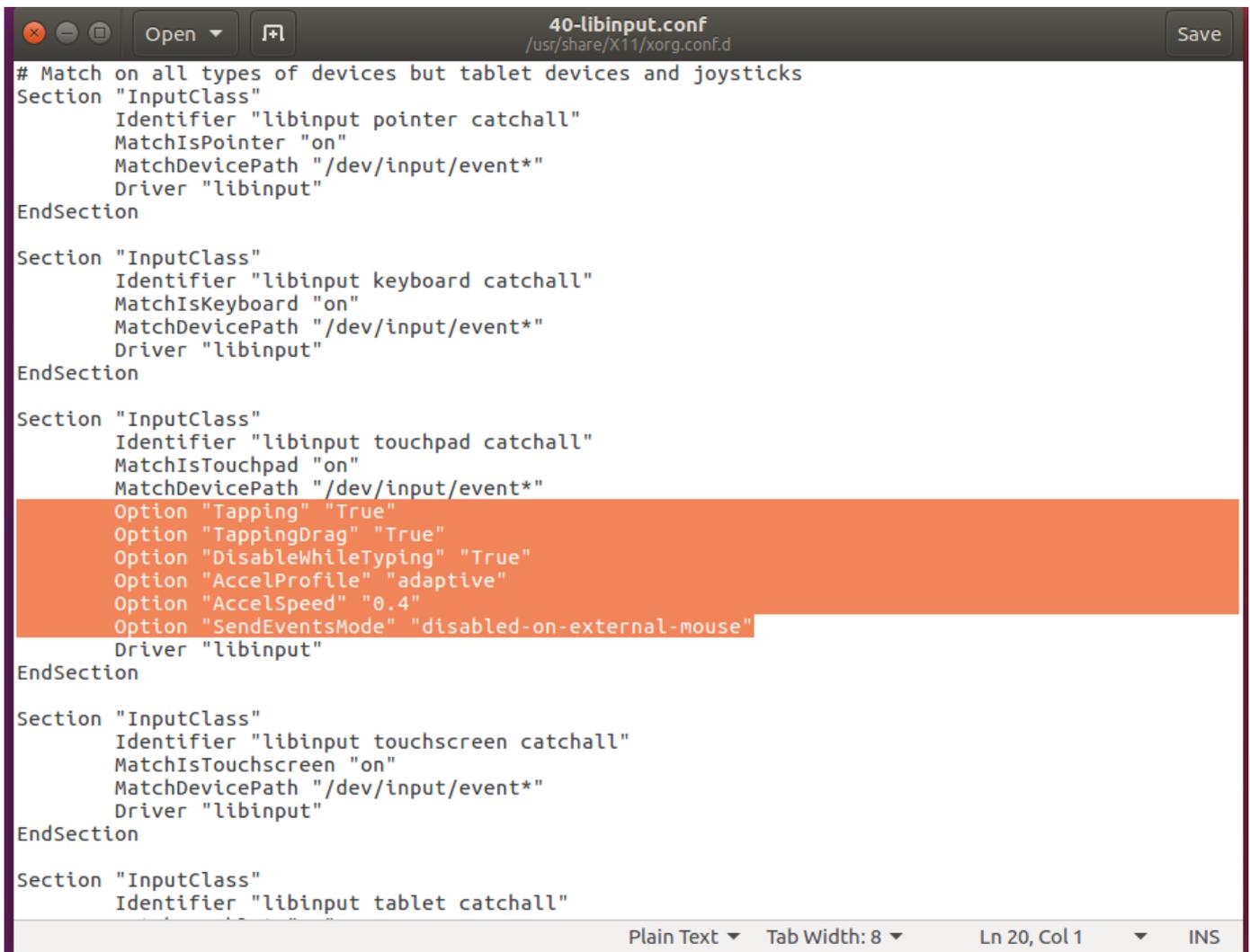
Paste the following changes between the lines MatchDevicePath "/dev/input/event\*" and Driver "libinput":

```

Option "Tapping" "True"
Option "TappingDrag" "True"
Option "DisableWhileTyping" "True"
Option "AccelProfile" "adaptive"
Option "AccelSpeed" "0.4"
Option "SendEventsMode" "disabled-on-external-mouse"

```

Here is what it should look like when completed (**Figure 7**):



```

# Match on all types of devices but tablet devices and joysticks
Section "InputClass"
    Identifier "libinput pointer catchall"
    MatchIsPointer "on"
    MatchDevicePath "/dev/input/event*"
    Driver "libinput"
EndSection

Section "InputClass"
    Identifier "libinput keyboard catchall"
    MatchIsKeyboard "on"
    MatchDevicePath "/dev/input/event*"
    Driver "libinput"
EndSection

Section "InputClass"
    Identifier "libinput touchpad catchall"
    MatchIsTouchpad "on"
    MatchDevicePath "/dev/input/event*"
    Option "Tapping" "True"
    Option "TappingDrag" "True"
    Option "DisableWhileTyping" "True"
    Option "AccelProfile" "adaptive"
    Option "AccelSpeed" "0.4"
    Option "SendEventsMode" "disabled-on-external-mouse"
    Driver "libinput"
EndSection

Section "InputClass"
    Identifier "libinput touchscreen catchall"
    MatchIsTouchscreen "on"
    MatchDevicePath "/dev/input/event*"
    Driver "libinput"
EndSection

Section "InputClass"
    Identifier "libinput tablet catchall"

```

Figure 7

Once completed, click on the save button on the upper right and then exit out the window.

\*\*\* reboot \*\*\*

Extra information

**Useful terminal commands to know:**

#### **xinput -list-devices**

- This will give you the hardware id of the touchpad. Each system will display a different number. For example my system is ID 11 but yours might be different.

#### **xinput list-props 11**

- Will show you all the options that are enabled and disabled. This will also verify that libinput is working. the 11 at the end is the hardware ID that was obtained from the previous command.

#### **sudo libinput-list-devices**

- This will show you all the device recognized by libinput and show you the state of the options.

**For all the libinput options please visit:** <https://www.mankier.com/4/libinput>   
(<https://www.mankier.com/4/libinput>)

**Here are the following options that are most common:**

These options are added to /usr/share/X11/xorg.conf.d/\*libinput.conf

#### Option "SendEventsMode" "disabled-on-external-mouse"

- When a USB mouse is detected it will disable the touch pad.

#### Option "Tapping" "True"

- This allows you to just use your finger and tap the mouse to click. If you leave this option out it will cause you to have to physically click the touch pad to activate a mouse click or use the lower buttons. Once enabled, it allows 2 finger tap to activate a right click.

#### Option "DisableWhileTyping" "True"

- Enabled by default but if you like here is the setting.

#### Option "AccelProfile" "adaptive"

- Enables the mouse acceleration profile. This will help make the speed of your mouse finger to be a bit more natural and less sluggish feeling. Adaptive is recommend as it changes vs your input. You may also try the "flat" option.

#### Option "AccelSpeed" "0.3"

- Changes the acceleration speed of the pointer. Use values -1 to 1. The higher the number the faster the pointer will go. Most people like 0.2 for slower response and 0.5 for a faster response feel.

#### Option "TappingDrag" "True"

- When enabled, a tap followed by a finger held down causes a single button down only, all motions of that finger thus translate into dragging motion.

#### Option "HorizontalScrolling" "True"

- If you want to be able to scroll side to side. Personally I do not like this one. If you have a touch screen you can use the option on the touch screen. It feels more natural on the touch screen vs the touch pad.

#### Option "ScrollMethod" "edge"

- By default the touch pad scrolls using 2 fingers. If you like the older mouse style that had the scroll area to the right of the touch pad you may use this option to enable it.

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Article ID: SLN308258

Last Date Modified: 10/01/2018 01:27 PM