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Thread: [\[TUT\]How to install Linux on a Chromebook! - Full indepth guide\[TUT\]](#)

Judecca - April 25, 2015, 4:46 pm

How to Install Linux on a Chromebook!

Full indepth guide on installing, using and removing Ubuntu XFCE

Introduction

Hello there! Most likely this would be the last place you'd look for for a tutorial on how to install Linux (since there are hundreds upon thousands of tutorials and web blogs dedicated to this) but either way, I made one for the little few who happen to search HF before consulting Google. ?

Today, we'll see how to install Linux on a Chromebook, basic steps to get you up and running, a few tips and tricks I've learned based on my own experience on a chromebook and maybe even something extra.

Without further adieu,..

Step 1.- Installation...

A) Developer Mode

In this tutorial, we're going to be installing Ubuntu 14.04 using the XFCE Desktop Environment via Crouton. (Because Unity is a resource hog.)

Lets get started!

First of all, as usual, back up all your files important to you since this will get deleted once we get into Developer Mode.

Usually this process could vary depending on your computer. [Click Here to check how to access Developer Mode for your computer!](#) Just click on your model and look around for the "How to enter Developer Mode" link, then the "Entering" tab on specific instructions on how to enter .

In my case, the way to invoke Developer Mode was to hold down the ESC and Refresh keys and tap the Power button. From that, you'll enter recovery mode. (Older Chromebooks have physical developer switches that you'll need to toggle instead. Epic safety features am I right?)

At the recovery screen, press Ctrl+D, agree to the prompt, and you'll boot into developer mode.

Note: As mentioned before, this will wipe your drive, and start anew; fresh as if you had nothing installed. Therefore, remember to back up files important to you.

Recovery Mode screen.

Entering Developer Mode screen.

This process usually takes 15-20 mins, maybe even longer. After that, this screen will show up in every boot-up.

This is just an advisory, stating that developer mode is enabled. Currently, there is no way to disable this screen, so what ever you do, don't tap the spacebar. Wait 30 seconds or just Ctrl-D to skip it quickly. After that, ChromeOS boots normally.

B) Download and Installing Crouton.

Now why Crouton? Why not a typical dual boot method?

Well, Crouton gives us the opportunity to install and run Linux at the same time, enabling us to switch between OS's with keyboard shortcuts.

First off, download Crouton [Here](#). The link is the direct download to the latest version of the Crouton script.

Once downloaded, just Ctrl-Alt-T to open the Terminal. Type in
Code shellthen

Code sudo sh ~/Downloads/crouton -e -t xfce

What does this do? This installs Crouton with the Xfce desktop and an encrypted chroot for security. Now then, after that, you will be asked to define the encryption password, then the passphrase in order to run Ubuntu.

Note: The Password and the Passphrase is NOT the same thing. The password is for ChromeOS related purposes (for example, letting an OS boot via USB) while the Passphrase is used explicitly to run Ubuntu. In the OS itself, you will need to define your password for use in Ubuntu.

Now then, if you want to see any other Linux distribution supported by Crouton, just run

Code sh -e ~/Downloads/crouton

If you truly insist on running Unity, then change

Code -t xfcefor

Code -t unity

How to use Unity on ChromeOS is a whole different situation that I don't plan on explaining it in this thread, although it's not very different as usual Unity on a typical computer.

The installation process is automatic, although it will take time to install as the script downloads and installs the files necessary to run Ubuntu. This can range from half an hour to a full hour or more depending on your internet speed.

Once done, at the end, it gives some useful basic tips and the command in order to run Ubuntu.

Code sudo startxfce4

Step 2.- Usage

A) Basics

To switch back and forth between Chrome OS and your Linux desktop environment, use the following keyboard shortcuts:

ARM (like the Samsung Series 3 Chromebook): Ctrl+Alt+Shift+Back and Ctrl+Alt+Shift+Forward

Intel x86/AMD64 (like the Chromebook Pixel and \$200 Acer Chromebook): Ctrl+Alt+Back, Ctrl+Alt+Refresh and Ctrl+Alt+Forward, Ctrl+Alt+Refresh

Logout to close Ubuntu, and return to ChromeOS. Do not turn off computer.

B) Things to do after Installation.

Well let's get the very basics installed:

Code `sudo apt-get install bash-completion vlc ubuntu-restricted-extras ttf-ubuntu-font-family software-center synaptic`

This installs VLC, The Bash Completion, Ubuntu Font, Synaptic Package Manager and Ubuntu Software Center (which your going to have to run via terminal with the following command:

Code `gksu software-center`

Apparently, running the software center from the menu doesn't actually let you install anything.)

C) Remove xScreensaver.

xScreensaver is known to cause issues in ChromeOS.

Code `sudo apt-get purge xscreensaver`

D) Volume and Brightness Control Issues

In Terminal, the commands for brightness are

Code `brightness up`Code `brightness down`and the volume is

Code `amixer set Master 5%`-Code `amixer set Master 5%`+Code `amixer set Master toggle`

You can set them as shortcuts as seen here.

This controls the volume up, down and toggle (on/off). In my case, they were set in the exact same place as they are in ChromeOS.

E) Crouton Extension

The Crouton Extension is well, obviously an extension downloadable from the ChromeOS store in order to run Ubuntu on a window instead of it's own. Although it provides a better integration with ChromeOS, for example, copy and paste is synchronized, it's somewhat buggy, and can cause graphical issues inside Ubuntu. Still in it's beta stage.

Certainly something interesting to use, but not recommended in my opinion. To use, first download the extension [here](#), then run the following command to get everything set up

Code `sudo sh ~/Downloads/crouton -r trusty -t xiwi,xfce`

Run the typical

Code `sudo startxfce4`

to use ubuntu in a tab of it's own.

F) ChromeOS Updates and it's effects on Ubuntu

Usually after Chrome updates, it tends to mess up Ubuntu. This can be resolved by updating the chroot

Code `sudo sh ~/Downloads/crouton -u -n chrootname`

Err ma gewd, whats chrootname? ([Click to View](#))I usually just use Code `sudo sh ~/Downloads/crouton -u -e -t xorg -n trusty` and it gets the job done. ?

If you're using the Extension, the use Code `sudo sh ~/Downloads/crouton -u -e -t xiwi -n trusty`

Now, from here, the rest is pretty easy. Just look up a package you like either in Synaptic or Ubuntu Software Center, and download away.

These are the few catches...

Note(s):

1.- Remember that the typical Chromebook doesn't come with much harddrive disk space. My personal tip? Save archives on a flash drive and keep the computer filled only with installation files

from packages.

2.- Remember that RAM and CPU will always be an issue, regardless of dualbooting or using Crouton.

3.- Expect latency between switches from ChromeOS to XFCE or vice versa (although, it will be more apparent on XFCE.)

4.- You will always have to execute Ubuntu from the Terminal on Chrome OS

5.- Firefox does not come preinstalled, so install it via Synaptic or Ubuntu Software Center along with other software you may want or need.

Step 3.- Restoring

So you finally got fed up with Ubuntu and want to return to good old ChromeOS?

Just reboot your Chromebook normally to get back to the scary warning screen at boot-up. Tap the Space bar and then press Enter to disable Developer Mode. When you disable Developer Mode, your Chromebook will clean everything up, restoring you to a clean, safe locked-down Chrome OS system and overwriting all the changes you've made to your Chromebook's software.

It's that simple ?

Acknowledgments, Sources, etc.

This thread was done by me, obviously, with references from the following websites ([Click to View](#)):
<http://www.howtogeek.com/162120/how-to-install-ubuntu-linux-on-your-chromebook-with-crouton/>
(where I got the pictures LOL, since I was lazy to do it myself haha.)

<http://www.webupd8.org/2013/12/things-to-do-after-installing-ubuntu-on.html>

<http://liliputing.com/2014/12/crouton-chromebooks-run-ubuntu-browser-tab.html>

More information about the Crouton project:

<https://github.com/dnschneid/crouton>

In case you have an issue and want to join a group of friends who are willing to help.

<https://plus.google.com/u/0/communities/109120069102230291151>

Expect changes in the future, and hopefully you all like this. I'm sure this can be useful to you in the near future.

Lynchings - May 4, 2015, 3:10 pm

I don't have a chrome book, but I had to follow something very similar to this when I installed Linux on my IRL friend's computer. Very nicely put together tutorial, and I like how you called the warning screen scary ?

Betty Blue - May 4, 2015, 5:38 pm

I don't understand why people want to install inside of Chrome OS. Seems like a waste of storage.

Judecca - May 14, 2015, 7:37 am

ChromeOS is such a drag for everything not internet related. Linux makes things a lot more smoother.

Betty Blue - May 14, 2015, 8:29 am

(May 14, 2015 07:37 AM)Judecca Wrote: [\[CITE\]](#) ChromeOS is such a drag for everything not internet related. Linux makes things a lot more smoother. That wasn't my point. ChromeOS is garbage. Just

remove it from the SSD instead of wasting the space virtualizing GNU/Linux inside of it.

afk0 - May 14, 2015, 8:31 am

Great tutorial man, easy to follow and covers everything you need to know. Might have to drop some cash on a Chromebook so I can run linux on the go.

Judecca - May 15, 2015, 9:11 am

(May 14, 2015 08:29 AM)Zack de la Rocha Wrote: [CITE](#) That wasn't my point. ChromeOS is garbage. Just remove it from the SSD instead of wasting the space virtualizing GNU/Linux inside of it.

Well if you know the process or a tutorial I'd be more than glad to put in the OP.

After all, it is an indepth guide, the more the merrier!

WoahDave - May 16, 2015, 9:46 am

nice tutorial. thanks. already had it installed but all the extra you added on after i didnt know about. thanks for the info

Judecca - May 16, 2015, 7:51 pm

Anytime. Anything else you'd like or something you're unsure about, don't hesitate to ask!