

Sensor Validation Setup - Android

Rev. A2

25 Aug 2014

Sensor Validation Setup Guide

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(USA)

Revision History:

Date	Rev No.	Description	By
25-Aug-2014	A2	Sensor validation setup for android	Intersil Corp
30-July-2014	A1	Sensor validation setup for android	Intersil corp

CONFIDENTIAL - DRAFT

Table of Contents

1	INTRODUCTION.....	4
1.1	REFERENCE DOCUMENTS	4
2	SOFTWARE SETUP.....	5
2.1	BUILD ENVIRONMENT.....	5
2.2	DOWNLOADING ANDROID SOURCE.....	6
2.3	BUILDING ANDROID	19
2.4	FLASHING IMAGES TO SD CARD.....	19
2.4.1	Disable automount in Ubuntu	19
2.4.2	Install Linaro image tools.....	19
2.4.3	Flash images to SD card	20
2.4.4	Install graphics libraries	20
2.4.5	Restore automount in Ubuntu.....	21

1 Introduction

This document describes the process of setting up an Android Build Server (would be setup at Intersil, Milpitas premises) in order to generate binaries to be flashed to SD card used to boot Pandaboard reference board. The binaries generated after integration of android sensor driver would then be used to validate the sensor features.

This document is made for the reference of

- Product managers at Intersil and Quality Assurance Department to understand the sensor validation setup
- Engineering Team at Intersil for recreating the sensor validation setup using this guide

1.1 Reference documents

S. No.	Description	Revision	Date
1	ISL29177_AndroidDriver_IntegrationGuide_A2.pdf	A2	25 Aug 2014
2	ISL29177_AndroidDriver_IntegrationGuide_A1.pdf	A1	30 Jul 2014

2 Software setup

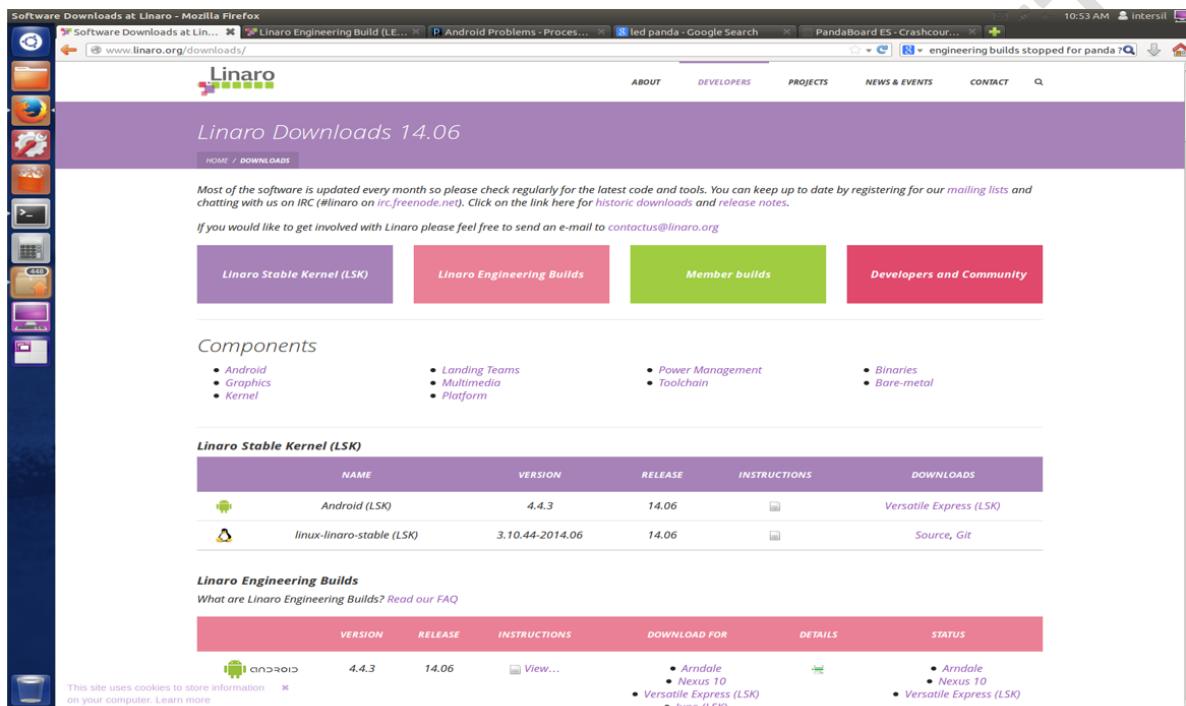
2.1 Build environment

Operating System	Ubuntu 13.10 64-bit Linux Kernel 3.2.0-54-generic
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IMPORTANT NOTE: Initially the build operating system that already existed in Android build server at Intersil , Milpitas has Ubuntu 13.10 64-bit. As it is not an LTS version any future support may not be available for this operating system. Once the support period for 13.10 is over we may need to migrate to Ubuntu 12.04 (upto 2017) or 14.04 (upto 2019) versions of Ubuntu.

2.2 Downloading android source

STEP1 : Go to the url <http://www.linaro.org/downloads> from any browser. You should see a webpage as shown below.



Linaro Downloads 14.06

Most of the software is updated every month so please check regularly for the latest code and tools. You can keep up to date by registering for our mailing lists and chatting with us on IRC (#linaro on irc.freenode.net). Click on the link here for historic downloads and release notes.

If you would like to get involved with Linaro please feel free to send an e-mail to contactus@linaro.org

Linaro Stable Kernel (LSK)	Linaro Engineering Builds	Member builds	Developers and Community
Linaro Stable Kernel (LSK)	Linaro Engineering Builds	Member builds	Developers and Community

Components

- Android
- Graphics
- Kernel
- Landing Teams
- Multimedia
- Platform
- Power Management
- Toolchain
- Binaries
- Bare-metal

Linaro Stable Kernel (LSK)

NAME	VERSION	RELEASE	INSTRUCTIONS	DOWNLOADS
Android (LSK)	4.4.3	14.06	View...	Versatile Express (LSK)
linux-linaro-stable (LSK)	3.10.44-2014.06	14.06	View...	Source, Git

Linaro Engineering Builds

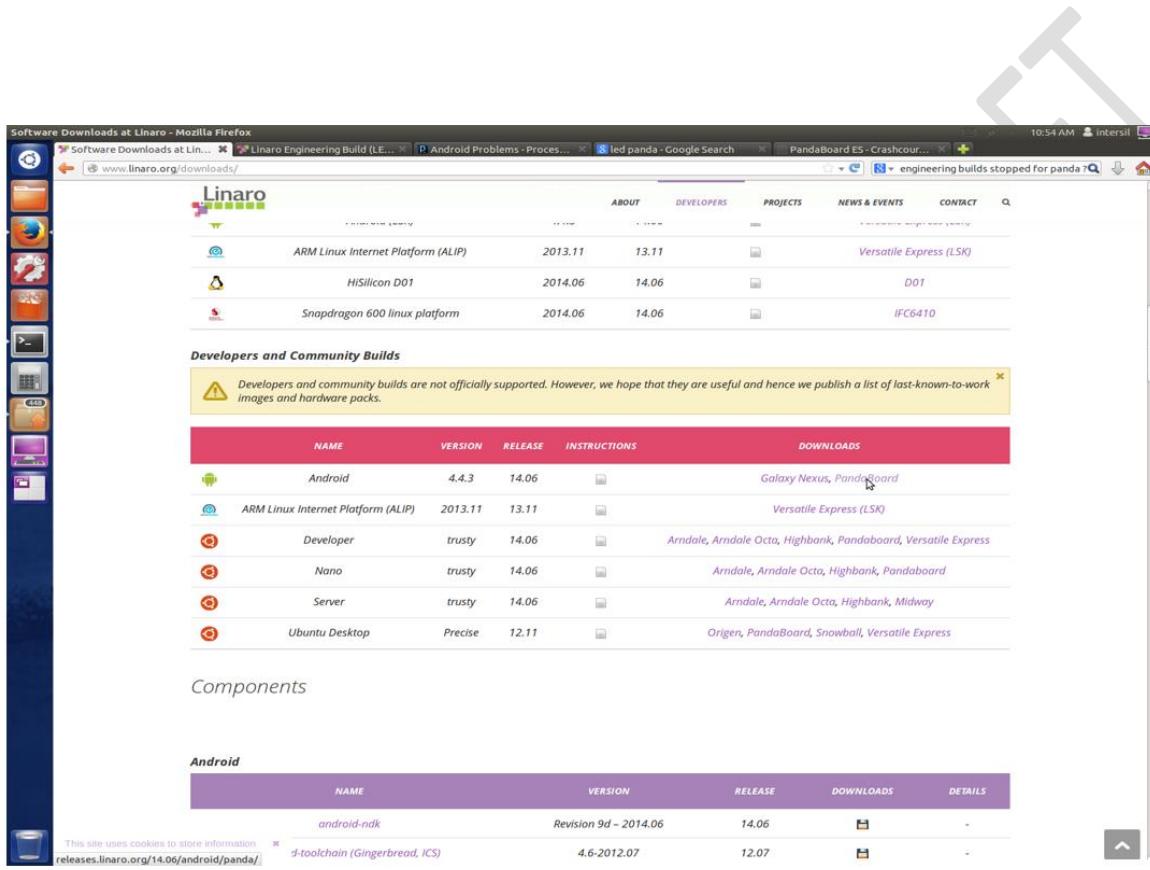
What are Linaro Engineering Builds? [Read our FAQ](#)

VERSION	RELEASE	INSTRUCTIONS	DOWNLOAD FOR	DETAILS	STATUS
4.4.3	14.06	View...	<ul style="list-style-type: none"> Arndale Nexus 10 Versatile Express (LSK) Linux FOTA 	View...	<ul style="list-style-type: none"> Arndale Nexus 10 Versatile Express (LSK)

This site uses cookies to store information on your computer. [Learn more](#)



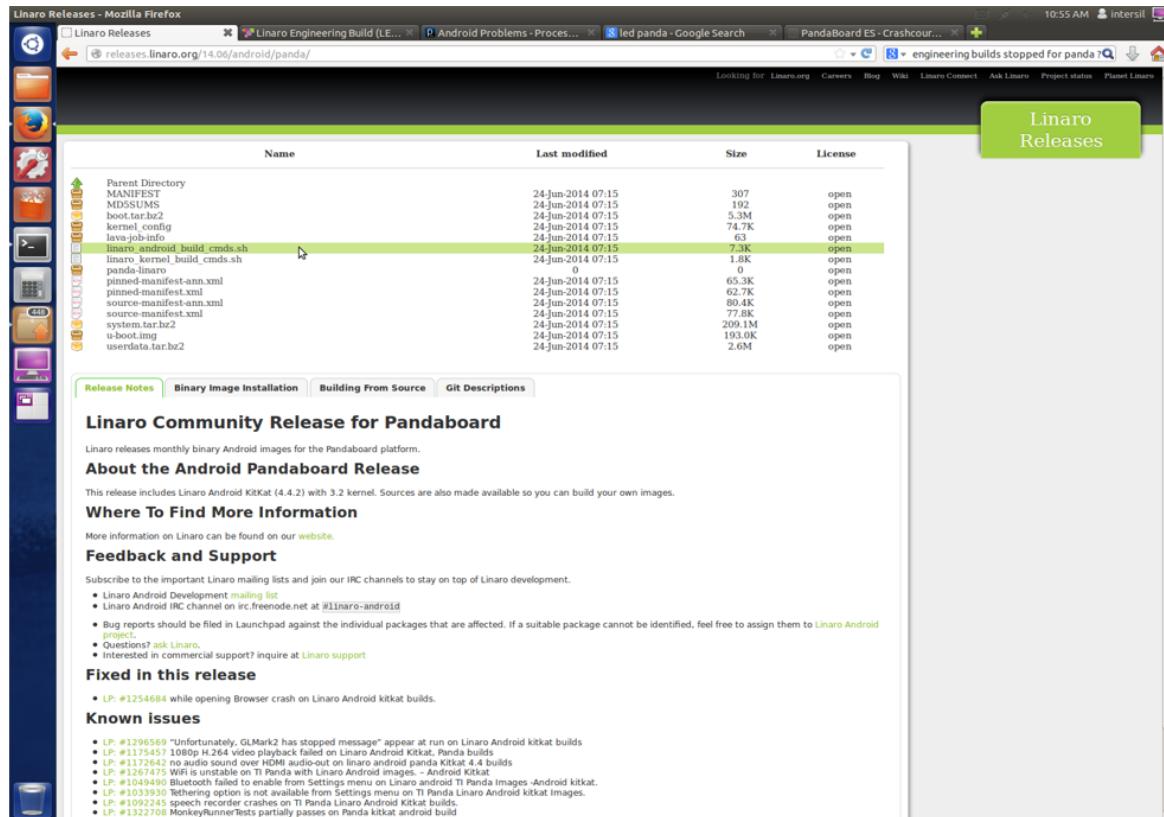
STEP 2: Scroll down the webpage to the “**Developer and Community Builds**” section and click on the link for Pandaboard as shown in below image. It would navigate to the webpage containing information about recent android source code released for Pandaboard by Linaro.



NAME	VERSION	RELEASE	INSTRUCTIONS	DOWNLOADS
Android	4.4.3	14.06		Galaxy Nexus, Panda Board
ARM Linux Internet Platform (ALIP)	2013.11	13.11		Versatile Express (LSK)
HiSilicon D01	2014.06	14.06		D01
Snapdragon 600 linux platform	2014.06	14.06		IFC6410



STEP 3: The below page has information and files related to the latest android release for Pandaboard.



Linaro Releases - Mozilla Firefox

releases.linaro.org/14.06/android/panda/

Looking for Linaro.org Careers Blog Wiki Linaro Connect Ask Linaro Project status Planet Linaro engineering builds stopped for panda? Q

10:55 AM intersil

Linaro Releases

Name	Last modified	Size	License
Parent Directory			
MANIFEST	24-Jun-2014 07:15	307	open
MDSSUMS	24-Jun-2014 07:15	192	open
boot.tar.bz2	24-Jun-2014 07:15	5.3M	open
kernel.config	24-Jun-2014 07:15	747K	open
lava-job-info	24-Jun-2014 07:15	63	open
linaro_android_build_cmds.sh	24-Jun-2014 07:15	7.3K	open
linaro_kernel_build_cmds.sh	24-Jun-2014 07:15	1.8K	open
linaro-linex	24-Jun-2014 07:15	0	open
pinned-manifest-ann.xml	24-Jun-2014 07:15	65.3K	open
pinned-manifest.xml	24-Jun-2014 07:15	62.7K	open
source-manifest-ann.xml	24-Jun-2014 07:15	80.4K	open
source-manifest.xml	24-Jun-2014 07:15	77.8K	open
sysrom-image2	24-Jun-2014 07:15	209.1M	open
u-boot.ing	24-Jun-2014 07:15	193.0K	open
userdata.tar.bz2	24-Jun-2014 07:15	2.6M	open

Release Notes Binary Image Installation Building From Source Git Descriptions

Linaro Community Release for Pandaboard

Linaro releases monthly binary Android images for the Pandaboard platform.

About the Android Pandaboard Release

This release includes Linaro Android KitKat (4.4.2) with 3.2 kernel. Sources are also made available so you can build your own images.

Where To Find More Information

More information on Linaro can be found on our [website](#).

Feedback and Support

Subscribe to the important Linaro mailing lists and join our IRC channels to stay on top of Linaro development.

- Linaro Android Development [mailing list](#)
- Linaro Android IRC channel on irc.freenode.net at #linaro-android
- Bug reports should be filed in Launchpad against the individual packages that are affected. If a suitable package cannot be identified, feel free to assign them to Linaro Android project.
- Questions? [ask Linaro](#).
- Interested in commercial support? inquire at [Linaro support](#)

Fixed in this release

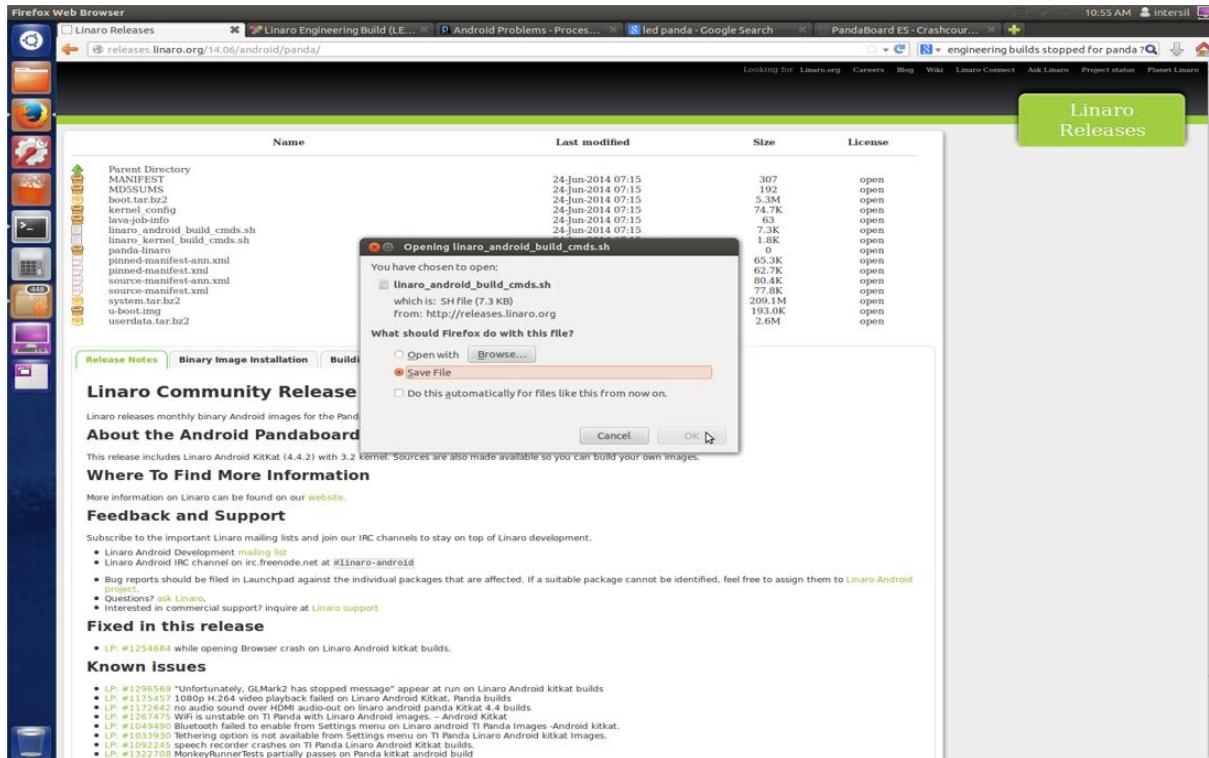
- LP: #1254684 while opening Browser crash on Linaro Android kitkat builds.

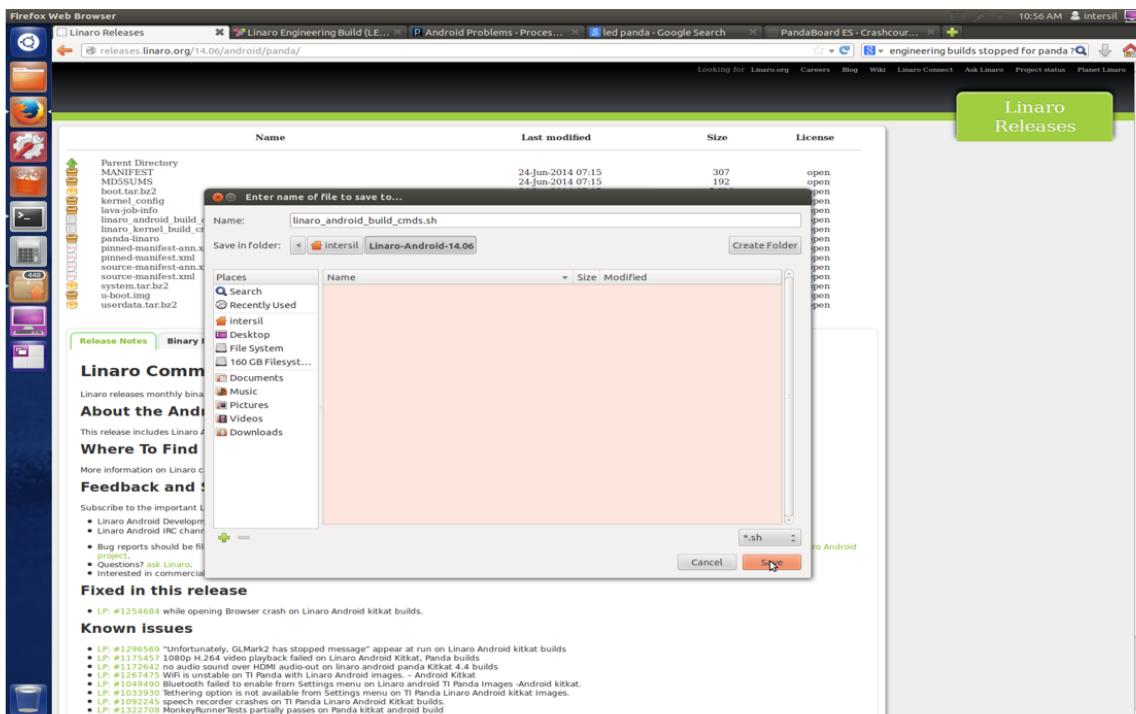
Known Issues

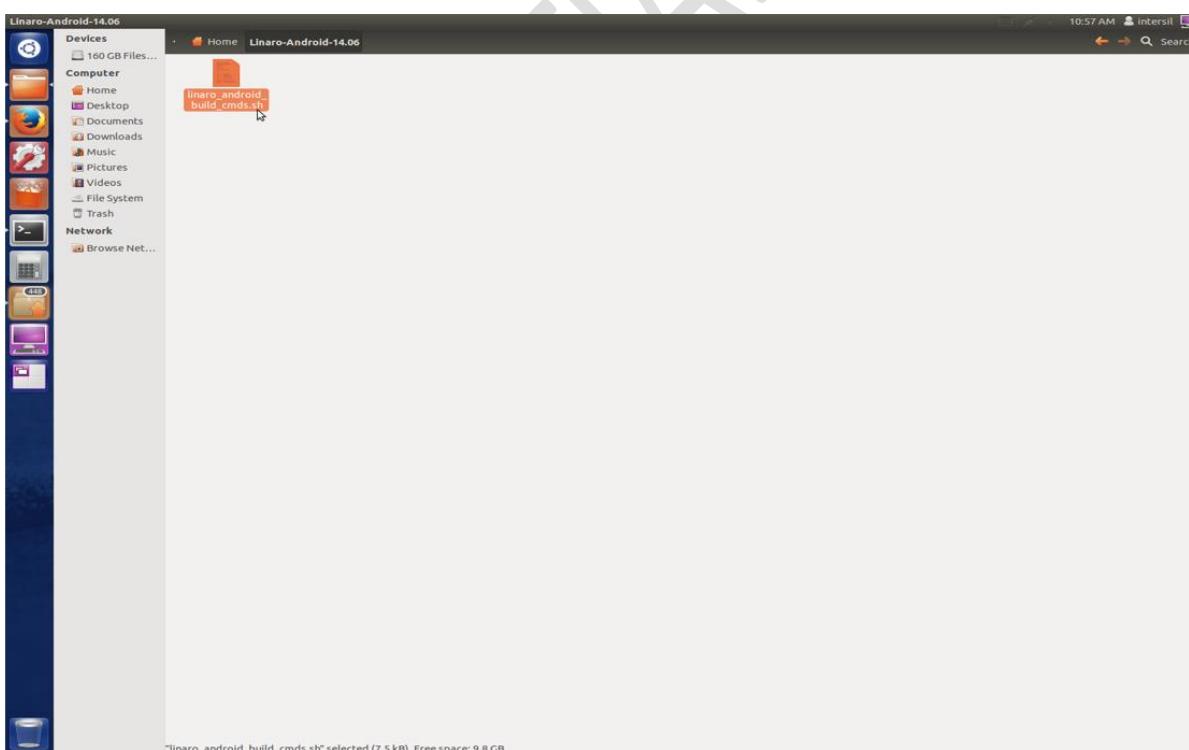
- LP: #1296569 "Unfortunately, GLMark2 has stopped message" appear at run on Linaro Android kitkat builds
- LP: #1175457 1080p H.264 video playback fail on Linaro Android KitKat. Android builds
- LP: #1266629 WiFi over USB does not work on Linaro Android panda KitKat 4.4.2 builds
- LP: #1267475 WiFi is unstable on TI Panda with Linaro Android Images - Android KitKat
- LP: #1049490 Bluetooth failed to enable from Settings menu on Linaro android TI Panda Images -Android kitkat
- LP: #1033930 Tethering option is not available from Settings menu on TI Panda Linaro Android kitkat Images.
- LP: #1227708 WiFi over USB does not work on Linaro Android KitKat 4.4.2 builds
- LP: #1322708 MonkeyRunnerTests partially passes on Panda kitkat android build



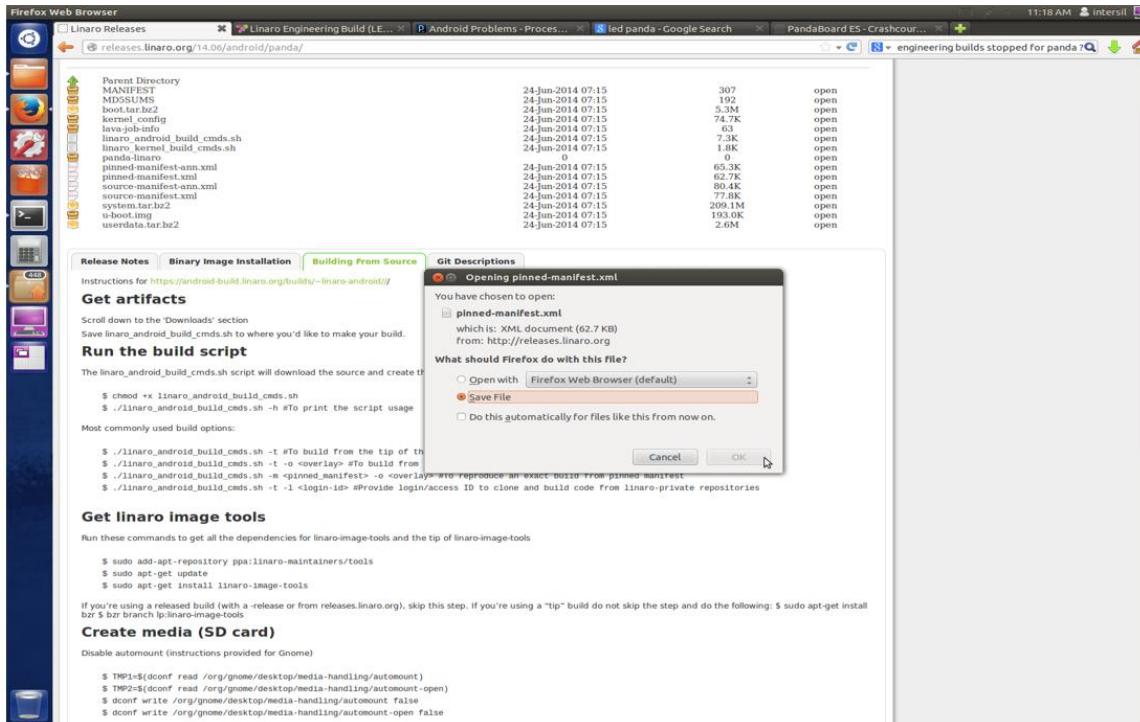
STEP 4: Click on `linaro_android_build_cmds.sh` and save the script to an appropriate folder (for example Linaro-Android-14.06)

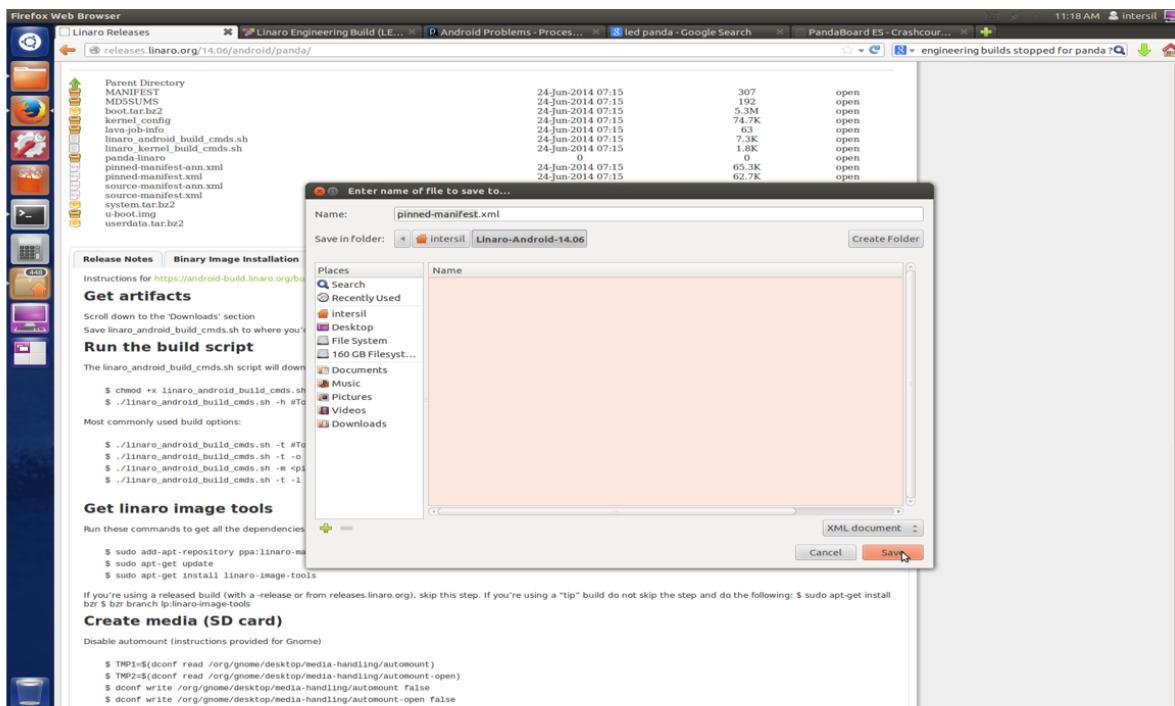


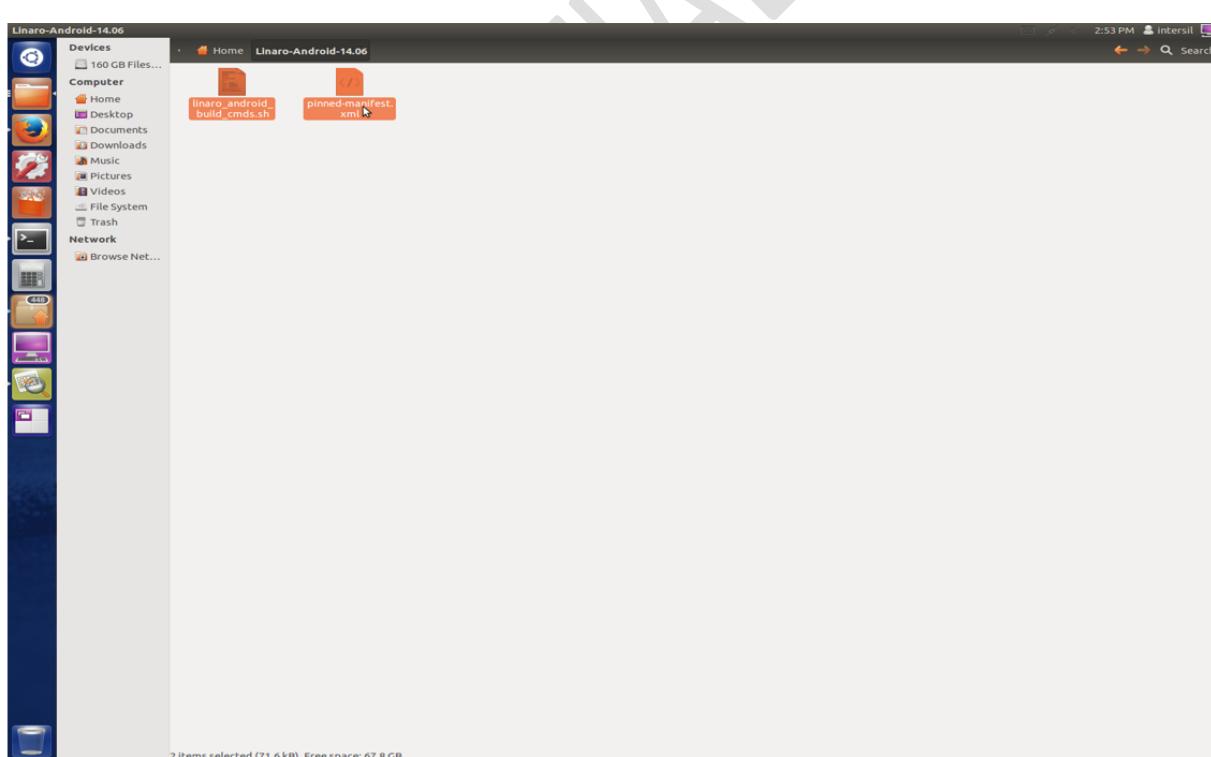






STEP 5: Click on pinned-manifest.xml and save the script to the same folder where the linaro_android_build_cmds.sh was saved.






At this point we have the necessary scripts to start fetching the required android source code.

STEP6: Open up a terminal and follow the below steps to invoke the fetching of the android source code.

1. Change directory to the path where the “linaro_android_build_cmds.sh” and “pinned-manifest.xml” were downloaded

```
$ cd </path/to/downloaded_scripts>
```

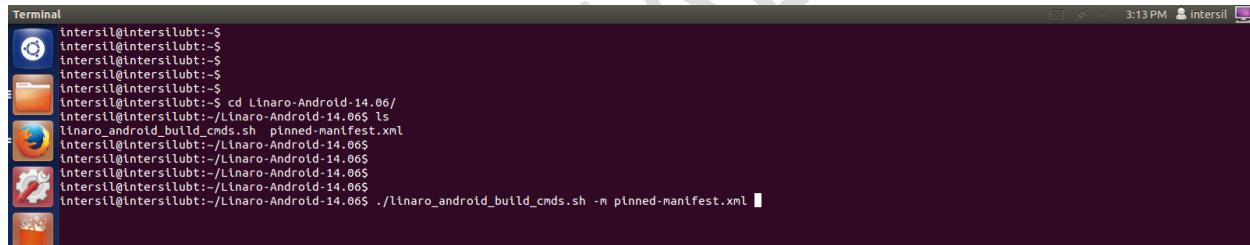
2. Make sure that the script has execution permission for the user if not use the below command

```
$ chmod u+x ./linaro_android_build_cmds.sh
```

3. Ensure that you have internet connectivity in the android build server machine and then use the below command to start fetching the android source code

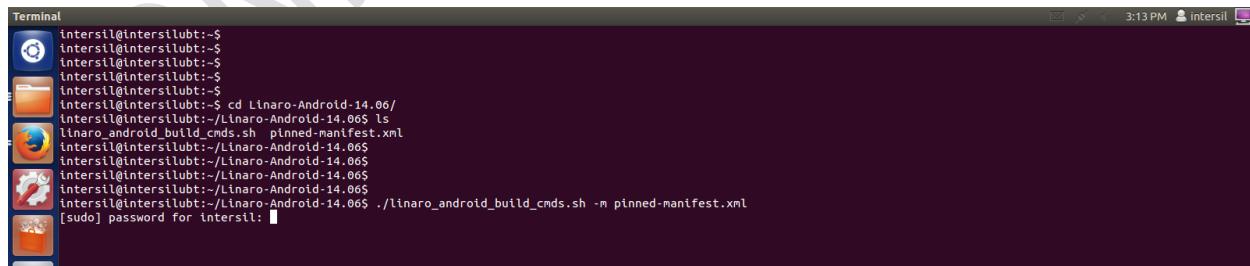
```
./linaro_android_build_cmds.sh -m pinned-manifest.xml
```

Figure : Execute android fetch and build script



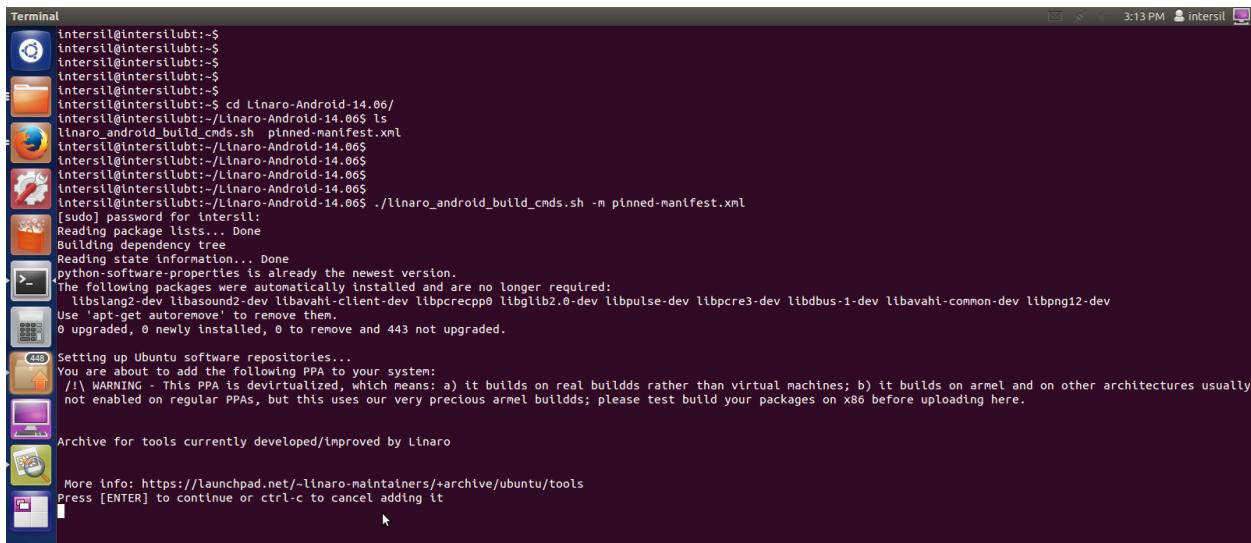
4. System would provide a password prompt, user shall enter his sudo password

Figure : Authenticate android fetch process



STEP7: Open up a terminal and follow the below steps to invoke the fetching of the android source code.

Figure : User response for setting up Ubuntu software repositories



```

Terminal
intersil@intersilubt:~$ cd Linaro-Android-14.06/
intersil@intersilubt:~/Linaro-Android-14.06$ ls
linaro_android_build_cmds.sh pinned-manifest.xml
intersil@intersilubt:~/Linaro-Android-14.06$ intersil@intersilubt:~/Linaro-Android-14.06$ intersil@intersilubt:~/Linaro-Android-14.06$ intersil@intersilubt:~/Linaro-Android-14.06$ intersil@intersilubt:~/Linaro-Android-14.06$ ./linaro_android_build_cmds.sh -m pinned-manifest.xml
[sudo] password for intersil:
Reading package lists... Done
Building dependency tree
Reading state information... Done
python-software-properties is already the newest version.
The following packages were automatically installed and are no longer required:
  libbslang2-dev libasound2-dev libavahi-client-dev libpcrecpp0 libglib2.0-dev libpulse-dev libpcre3-dev libdbus-1-dev libavahi-common-dev libpng12-dev
Use 'apt-get autoremove' to remove them.
0 upgraded, 0 newly installed, 0 to remove and 443 not upgraded.

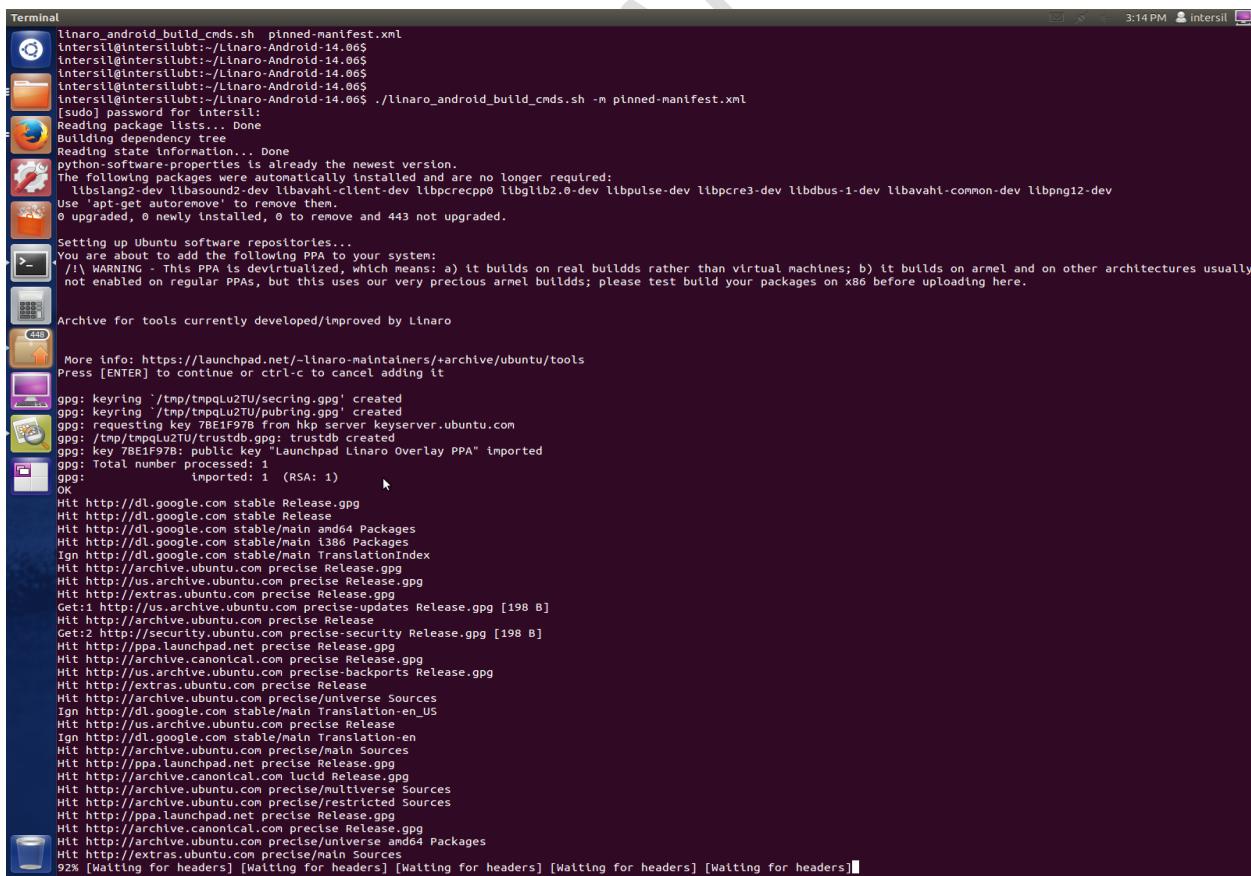
Setting up Ubuntu software repositories...
You are about to add the following PPA to your system:
  /!\ WARNING - This PPA is devirtualized, which means: a) it builds on real buildds rather than virtual machines; b) it builds on armel and on other architectures usually not enabled on regular PPAs, but this uses our very precious armel buildds; please test build your packages on x86 before uploading here.

Archive for tools currently developed/improved by Linaro

More info: https://launchpad.net/~linaro-maintainers/+archive/ubuntu/tools
Press [ENTER] to continue or ctrl-c to cancel adding it

```

Figure : Ubuntu software update starts



```

Terminal
linaro_android_build_cmds.sh pinned-manifest.xml
intersil@intersilubt:~/Linaro-Android-14.06$ intersil@intersilubt:~/Linaro-Android-14.06$ intersil@intersilubt:~/Linaro-Android-14.06$ intersil@intersilubt:~/Linaro-Android-14.06$ intersil@intersilubt:~/Linaro-Android-14.06$ intersil@intersilubt:~/Linaro-Android-14.06$ ./linaro_android_build_cmds.sh -m pinned-manifest.xml
[sudo] password for intersil:
Reading package lists... Done
Building dependency tree
Reading state information... Done
python-software-properties is already the newest version.
The following packages were automatically installed and are no longer required:
  libbslang2-dev libasound2-dev libavahi-client-dev libpcrecpp0 libglib2.0-dev libpulse-dev libpcre3-dev libdbus-1-dev libavahi-common-dev libpng12-dev
Use 'apt-get autoremove' to remove them.
0 upgraded, 0 newly installed, 0 to remove and 443 not upgraded.

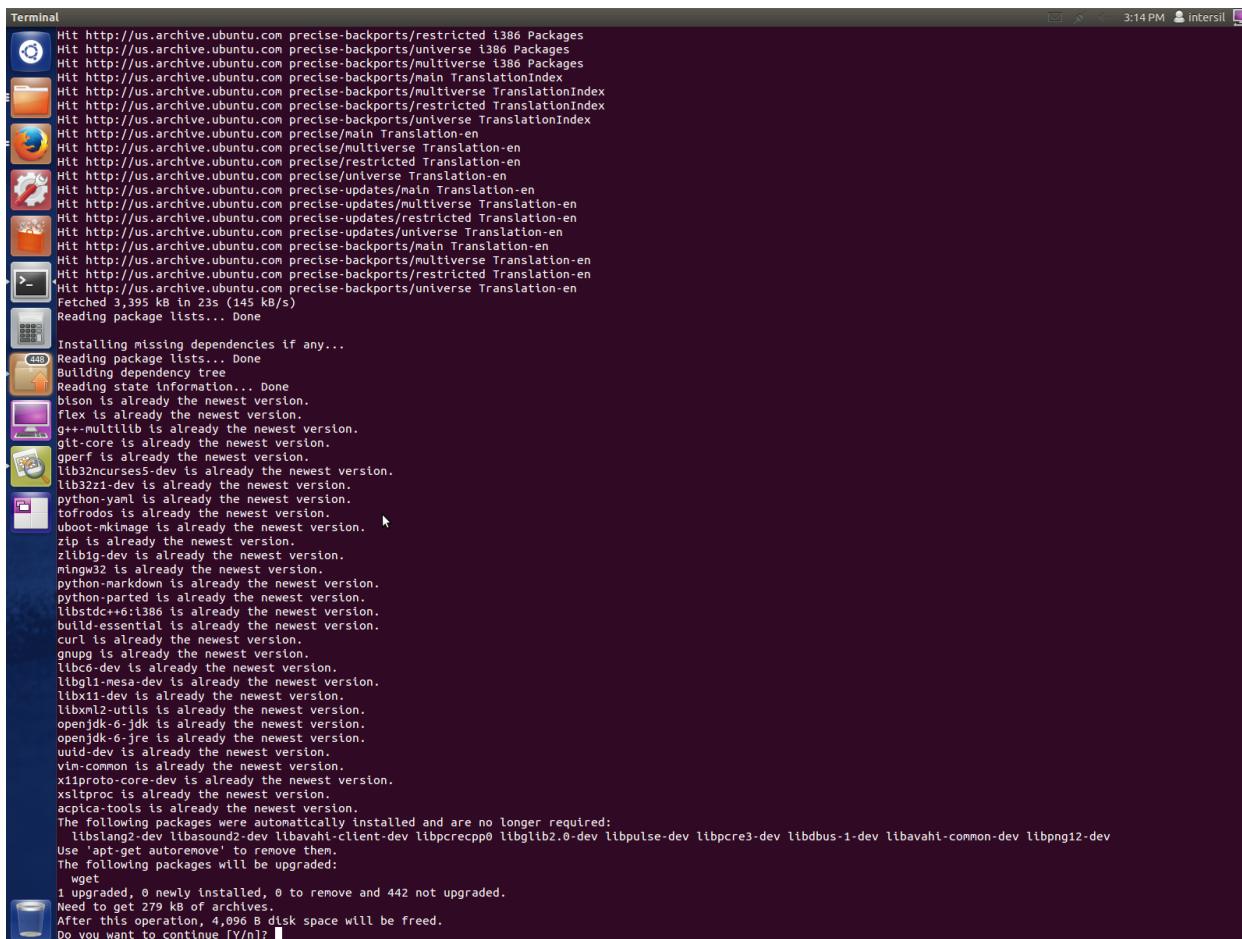
Setting up Ubuntu software repositories...
You are about to add the following PPA to your system:
  /!\ WARNING - This PPA is devirtualized, which means: a) it builds on real buildds rather than virtual machines; b) it builds on armel and on other architectures usually not enabled on regular PPAs, but this uses our very precious armel buildds; please test build your packages on x86 before uploading here.

Archive for tools currently developed/improved by Linaro

More info: https://launchpad.net/~linaro-maintainers/+archive/ubuntu/tools
Press [ENTER] to continue or ctrl-c to cancel adding it

gpg: keyring '/tmp/tmpqqlu2TU/seccring.gpg' created
gpg: keyring '/tmp/tmpqqlu2TU/trustdb.gpg' created
gpg: requesting key 7B51FD78 from hkp://keyserver.ubuntu.com
gpg: /tmp/tmpqqlu2TU/trustdb.gpg: trustdb created
gpg: key 7B51FD78: public key "Launchpad Linaro Overlay PPA" imported
gpg: Total number processed: 1
gpg:           imported: 1  (RSA: 1)
OK
Hit http://dl.google.com stable Release.gpg
Hit http://dl.google.com stable Release
Hit http://dl.google.com stable/main amd64 Packages
Hit http://dl.google.com stable/main i386 Packages
Ign http://dl.google.com stable/main TranslationIndex
Hit http://archive.ubuntu.com precise Release.gpg
Hit http://archive.ubuntu.com precise Release
Hit http://archive.ubuntu.com precise/main Packages
Hit http://extras.ubuntu.com precise Release.gpg
Get:1 http://us.archive.ubuntu.com precise-updates Release.gpg [198 B]
Hit http://archive.ubuntu.com precise Release
Get:2 http://Security.ubuntu.com precise-security Release.gpg [198 B]
Hit http://ppa.launchpad.net precise Release.gpg
Hit http://archive.canonical.com precise Release.gpg
Hit http://us.archive.ubuntu.com precise-backports Release.gpg
Hit http://archive.ubuntu.com precise Release
Hit http://archive.ubuntu.com precise/universe Sources
Ign http://dl.google.com stable/main Translation-en_US
Hit http://us.archive.ubuntu.com precise Release
Ign http://dl.google.com stable/main Translation-en
Hit http://archive.ubuntu.com precise/main Sources
Hit http://archive.ubuntu.com precise/universe Sources
Hit http://archive.canonical.com lucid Release.gpg
Hit http://archive.ubuntu.com precise/multiverse Sources
Hit http://archive.ubuntu.com precise/restricted Sources
Hit http://ppa.launchpad.net precise Release.gpg
Hit http://archive.canonical.com precise Release.gpg
Hit http://archive.ubuntu.com precise/universe amd64 Packages
Hit http://extras.ubuntu.com precise/main Sources
92% [Waiting for headers] [Waiting for headers] [Waiting for headers] [Waiting for headers] [Waiting for headers]

```

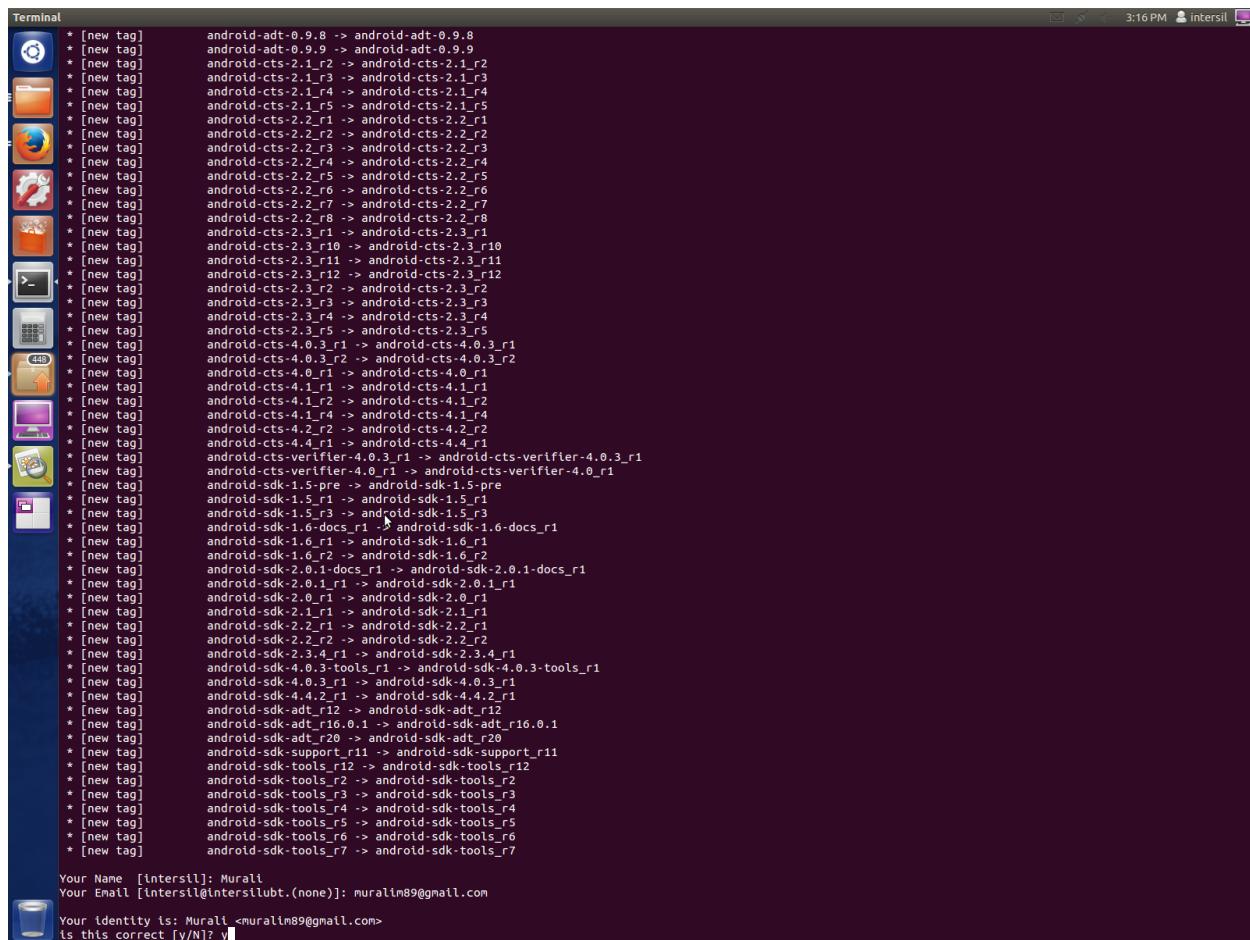
STEP 8: Give the confirmation as yes for fetching the Ubuntu archives**Figure :** Confirmation for fetching Ubuntu archives

The figure shows a screenshot of a Linux desktop environment, likely Ubuntu, with a terminal window open. The terminal window displays the output of an 'apt-get update' command. The output shows numerous hits from the Ubuntu archive, including packages like 'precise-backports/restricted i386 Packages', 'precise-backports/universe i386 Packages', and 'precise-backports/multiverse i386 Packages'. It also lists several dependencies being installed or updated, such as 'bison', 'flex', 'g++-multilib', 'git-core', 'gperf', 'lib32curses5-dev', 'lib32z1-dev', 'python-yaml', 'tftpd-hpa', 'uboot-mkimage', 'zip', 'zlibbig-dev', 'mingw32', 'python-markdown', 'python-parted', 'libstdc++6-i386', 'build-essential', 'curl', 'gnupg', 'libc6-dev', 'libgl1-mesa-dev', 'libgbx11-dev', 'libxml2-utils', 'openjdk-6-jdk', 'openjdk-6-jre', 'uuid-dev', 'vim-common', 'x11proto-core-dev', 'xsltproc', 'acpi-tools', and 'libavahi-client-dev'. The terminal also shows the automatic removal of packages like 'libslang2-dev', 'libasound2-dev', 'libavahi-client-dev', 'libpcrccpp0', 'libpulse-dev', 'libpcres3-dev', 'libdbus-1-dev', 'libavahi-common-dev', and 'libpng12-dev'. Finally, it asks the user if they want to continue with the operation.

```
Hit http://us.archive.ubuntu.com precise-backports/restricted i386 Packages
Hit http://us.archive.ubuntu.com precise-backports/universe i386 Packages
Hit http://us.archive.ubuntu.com precise-backports/multiverse i386 Packages
Hit http://us.archive.ubuntu.com precise-backports/main TranslationIndex
Hit http://us.archive.ubuntu.com precise-backports/multiverse TranslationIndex
Hit http://us.archive.ubuntu.com precise-backports/restricted TranslationIndex
Hit http://us.archive.ubuntu.com precise-backports/universe TranslationIndex
Hit http://us.archive.ubuntu.com precise/main Translation-en
Hit http://us.archive.ubuntu.com precise/multiverse Translation-en
Hit http://us.archive.ubuntu.com precise/restricted Translation-en
Hit http://us.archive.ubuntu.com precise/universe Translation-en
Hit http://us.archive.ubuntu.com precise-updates/main Translation-en
Hit http://us.archive.ubuntu.com precise-updates/multiverse Translation-en
Hit http://us.archive.ubuntu.com precise-updates/restricted Translation-en
Hit http://us.archive.ubuntu.com precise-updates/universe Translation-en
Hit http://archive.ubuntu.com precise-backports/main Translation-en
Hit http://archive.ubuntu.com precise-backports/multiverse Translation-en
Hit http://archive.ubuntu.com precise-backports/restricted Translation-en
Hit http://archive.ubuntu.com precise-backports/universe Translation-en
Fetched 3,395 kB in 23s (145 kB/s)
Reading package lists... Done
Installing missing dependencies if any...
Reading package lists... Done
Building dependency tree
Reading state information... Done
bison is already the newest version.
flex is already the newest version.
g++-multilib is already the newest version.
git-core is already the newest version.
gperf is already the newest version.
lib32curses5-dev is already the newest version.
lib32z1-dev is already the newest version.
python-yaml is already the newest version.
tftpd-hpa is already the newest version.
uboot-mkimage is already the newest version.
zip is already the newest version.
zlibbig-dev is already the newest version.
mingw32 is already the newest version.
python-markdown is already the newest version.
python-parted is already the newest version.
libstdc++6-i386 is already the newest version.
build-essential is already the newest version.
curl is already the newest version.
gnupg is already the newest version.
libc6-dev is already the newest version.
libgl1-mesa-dev is already the newest version.
libgbx11-dev is already the newest version.
libxml2-utils is already the newest version.
openjdk-6-jdk is already the newest version.
openjdk-6-jre is already the newest version.
uuid-dev is already the newest version.
vim-common is already the newest version.
x11proto-core-dev is already the newest version.
xsltproc is already the newest version.
acpi-tools is already the newest version.
The following packages were automatically installed and are no longer required:
libslang2-dev libasound2-dev libavahi-client-dev libpcrccpp0 libpulse-dev libpcres3-dev libdbus-1-dev libavahi-common-dev libpng12-dev
Use 'apt-get autoremove' to remove them.
The following packages will be upgraded:
wget
1 upgraded, 0 newly installed, 0 to remove and 442 not upgraded.
Need to get 279 kB of archives.
After this operation, 4,096 B disk space will be freed.
Do you want to continue [Y/n]? ■
```

STEP 9: During fetch process user would be prompted to provide username and e-mail id information. Provide the same and confirm identity.

Figure : Enter personal details



```

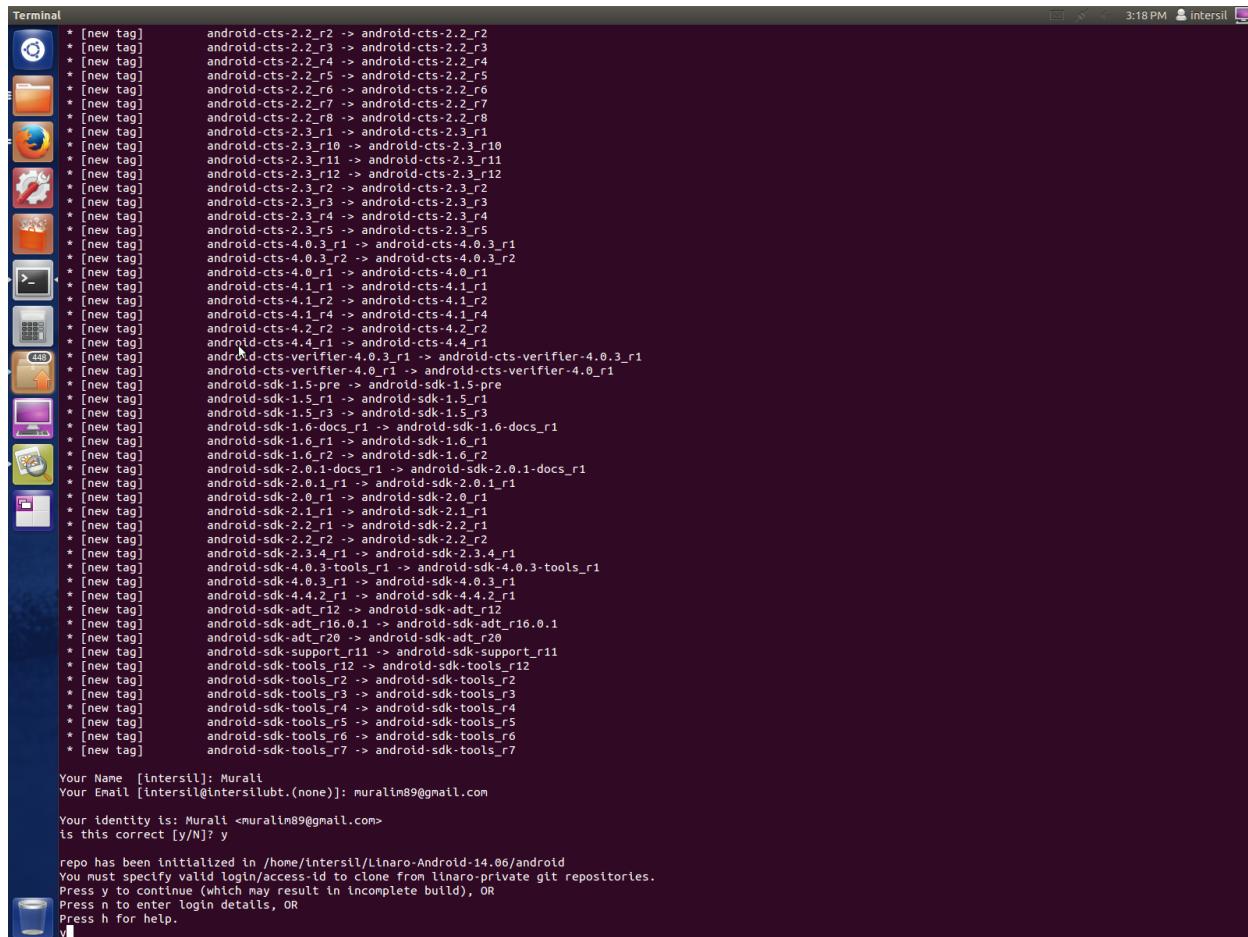
Terminal 3:16 PM intersil
* [new tag]      android-adt-0.9.8 -> android-adt-0.9.8
* [new tag]      android-adt-0.9.9 -> android-adt-0.9.9
* [new tag]      android-cts-2.1_r2 -> android-cts-2.1_r2
* [new tag]      android-cts-2.1_r3 -> android-cts-2.1_r3
* [new tag]      android-cts-2.1_r4 -> android-cts-2.1_r4
* [new tag]      android-cts-2.1_r5 -> android-cts-2.1_r5
* [new tag]      android-cts-2.2_r1 -> android-cts-2.2_r1
* [new tag]      android-cts-2.2_r2 -> android-cts-2.2_r2
* [new tag]      android-cts-2.2_r3 -> android-cts-2.2_r3
* [new tag]      android-cts-2.2_r4 -> android-cts-2.2_r4
* [new tag]      android-cts-2.2_r5 -> android-cts-2.2_r5
* [new tag]      android-cts-2.2_r6 -> android-cts-2.2_r6
* [new tag]      android-cts-2.2_r7 -> android-cts-2.2_r7
* [new tag]      android-cts-2.2_r8 -> android-cts-2.2_r8
* [new tag]      android-cts-2.3_r1 -> android-cts-2.3_r1
* [new tag]      android-cts-2.3_r10 -> android-cts-2.3_r10
* [new tag]      android-cts-2.3_r11 -> android-cts-2.3_r11
* [new tag]      android-cts-2.3_r12 -> android-cts-2.3_r12
* [new tag]      android-cts-2.3_r2 -> android-cts-2.3_r2
* [new tag]      android-cts-2.3_r3 -> android-cts-2.3_r3
* [new tag]      android-cts-2.3_r4 -> android-cts-2.3_r4
* [new tag]      android-cts-2.3_r5 -> android-cts-2.3_r5
* [new tag]      android-cts-4.0.3_r1 -> android-cts-4.0.3_r1
* [new tag]      android-cts-4.0.3_r2 -> android-cts-4.0.3_r2
* [new tag]      android-cts-4.0_r1 -> android-cts-4.0_r1
* [new tag]      android-cts-4.1_r1 -> android-cts-4.1_r1
* [new tag]      android-cts-4.1_r2 -> android-cts-4.1_r2
* [new tag]      android-cts-4.1_r4 -> android-cts-4.1_r4
* [new tag]      android-cts-4.2_r2 -> android-cts-4.2_r2
* [new tag]      android-cts-4.4_r1 -> android-cts-4.4_r1
* [new tag]      android-cts-verifier-4.0.3_r1 -> android-cts-verifier-4.0.3_r1
* [new tag]      android-cts-verifier-4.0_r1 -> android-cts-verifier-4.0_r1
* [new tag]      android-sdk-1.5-pre -> android-sdk-1.5-pre
* [new tag]      android-sdk-1.5_r1 -> android-sdk-1.5_r1
* [new tag]      android-sdk-1.5_r3 -> android-sdk-1.5_r3
* [new tag]      android-sdk-1.6-docs_r1 -> android-sdk-1.6-docs_r1
* [new tag]      android-sdk-1.6_r1 -> android-sdk-1.6_r1
* [new tag]      android-sdk-1.6_r2 -> android-sdk-1.6_r2
* [new tag]      android-sdk-2.0.1-docs_r1 -> android-sdk-2.0.1-docs_r1
* [new tag]      android-sdk-2.0.1_r1 -> android-sdk-2.0.1_r1
* [new tag]      android-sdk-2.0_r1 -> android-sdk-2.0_r1
* [new tag]      android-sdk-2.1_r1 -> android-sdk-2.1_r1
* [new tag]      android-sdk-2.2_r1 -> android-sdk-2.2_r1
* [new tag]      android-sdk-2.2_r2 -> android-sdk-2.2_r2
* [new tag]      android-sdk-2.3_4_r1 -> android-sdk-2.3_4_r1
* [new tag]      android-sdk-4.0.3-tools_r1 -> android-sdk-4.0.3-tools_r1
* [new tag]      android-sdk-4.0.3_r1 -> android-sdk-4.0.3_r1
* [new tag]      android-sdk-4.4_2_r1 -> android-sdk-4.4_2_r1
* [new tag]      android-sdk-adt_r12 -> android-sdk-adt_r12
* [new tag]      android-sdk-adt_r16.0.1 -> android-sdk-adt_r16.0.1
* [new tag]      android-sdk-adt_r20 -> android-sdk-adt_r20
* [new tag]      android-sdk-support_r11 -> android-sdk-support_r11
* [new tag]      android-sdk-tools_r12 -> android-sdk-tools_r12
* [new tag]      android-sdk-tools_r2 -> android-sdk-tools_r2
* [new tag]      android-sdk-tools_r3 -> android-sdk-tools_r3
* [new tag]      android-sdk-tools_r4 -> android-sdk-tools_r4
* [new tag]      android-sdk-tools_r5 -> android-sdk-tools_r5
* [new tag]      android-sdk-tools_r6 -> android-sdk-tools_r6
* [new tag]      android-sdk-tools_r7 -> android-sdk-tools_r7

Your Name [intersil]: Murali
Your Email [intersil@Intersilubt.(none)]: muralim89@gmail.com
Your Identity is: Murali <muralim89@gmail.com>
Is this correct [y/N?]

```

STEP 10: When prompted with a question as shown in below figure, enter 'y' as option and proceed.

Figure : User confirmation for Linaro private repositories



```

Terminal 3:18 PM intersil [~]
* [new tag] android-cts-2.2_r2 -> android-cts-2.2_r2
* [new tag] android-cts-2.2_r3 -> android-cts-2.2_r3
* [new tag] android-cts-2.2_r4 -> android-cts-2.2_r4
* [new tag] android-cts-2.2_r5 -> android-cts-2.2_r5
* [new tag] android-cts-2.2_r6 -> android-cts-2.2_r6
* [new tag] android-cts-2.2_r7 -> android-cts-2.2_r7
* [new tag] android-cts-2.2_r8 -> android-cts-2.2_r8
* [new tag] android-cts-2.3_r1 -> android-cts-2.3_r1
* [new tag] android-cts-2.3_r10 -> android-cts-2.3_r10
* [new tag] android-cts-2.3_r11 -> android-cts-2.3_r11
* [new tag] android-cts-2.3_r12 -> android-cts-2.3_r12
* [new tag] android-cts-2.3_r2 -> android-cts-2.3_r2
* [new tag] android-cts-2.3_r3 -> android-cts-2.3_r3
* [new tag] android-cts-2.3_r4 -> android-cts-2.3_r4
* [new tag] android-cts-2.3_r5 -> android-cts-2.3_r5
* [new tag] android-cts-4.0.3_r1 -> android-cts-4.0.3_r1
* [new tag] android-cts-4.0.3_r2 -> android-cts-4.0.3_r2
* [new tag] android-cts-4.0_r1 -> android-cts-4.0_r1
* [new tag] android-cts-4.1_r1 -> android-cts-4.1_r1
* [new tag] android-cts-4.1_r2 -> android-cts-4.1_r2
* [new tag] android-cts-4.1_r4 -> android-cts-4.1_r4
* [new tag] android-cts-4.2_r2 -> android-cts-4.2_r2
* [new tag] android-cts-4.4_r1 -> android-cts-4.4_r1
* [new tag] android-cts-verifier-4.0.3_r1 -> android-cts-verifier-4.0.3_r1
* [new tag] android-cts-verifier-4.0_r1 -> android-cts-verifier-4.0_r1
* [new tag] android-sdk-1.5_r1 -> android-sdk-1.5_r1
* [new tag] android-sdk-1.5_r2 -> android-sdk-1.5_r2
* [new tag] android-sdk-1.6-docs_r1 -> android-sdk-1.6-docs_r1
* [new tag] android-sdk-1.6_r1 -> android-sdk-1.6_r1
* [new tag] android-sdk-1.6_r2 -> android-sdk-1.6_r2
* [new tag] android-sdk-2.0.1-docs_r1 -> android-sdk-2.0.1-docs_r1
* [new tag] android-sdk-2.0.1_r1 -> android-sdk-2.0.1_r1
* [new tag] android-sdk-2.0_r1 -> android-sdk-2.0_r1
* [new tag] android-sdk-2.1_r1 -> android-sdk-2.1_r1
* [new tag] android-sdk-2.2_r1 -> android-sdk-2.2_r1
* [new tag] android-sdk-2.2_r2 -> android-sdk-2.2_r2
* [new tag] android-sdk-2.5_r1 -> android-sdk-2.5_r1
* [new tag] android-sdk-4.0.3-tools_r1 -> android-sdk-4.0.3-tools_r1
* [new tag] android-sdk-4.0_r1 -> android-sdk-4.0_r1
* [new tag] android-sdk-4.4_r2 -> android-sdk-4.4_r2
* [new tag] android-sdk-adt_r12 -> android-sdk-adt_r12
* [new tag] android-sdk-adt_r16.0.1 -> android-sdk-adt_r16.0.1
* [new tag] android-sdk-adt_r20 -> android-sdk-adt_r20
* [new tag] android-sdk-support_r11 -> android-sdk-support_r11
* [new tag] android-sdk-tools_r12 -> android-sdk-tools_r12
* [new tag] android-sdk-tools_r2 -> android-sdk-tools_r2
* [new tag] android-sdk-tools_r3 -> android-sdk-tools_r3
* [new tag] android-sdk-tools_r4 -> android-sdk-tools_r4
* [new tag] android-sdk-tools_r5 -> android-sdk-tools_r5
* [new tag] android-sdk-tools_r6 -> android-sdk-tools_r6
* [new tag] android-sdk-tools_r7 -> android-sdk-tools_r7

Your Name [intersil]: Murali
Your Email [intersil@Intersilubt.(none)]: muralim89@gmail.com

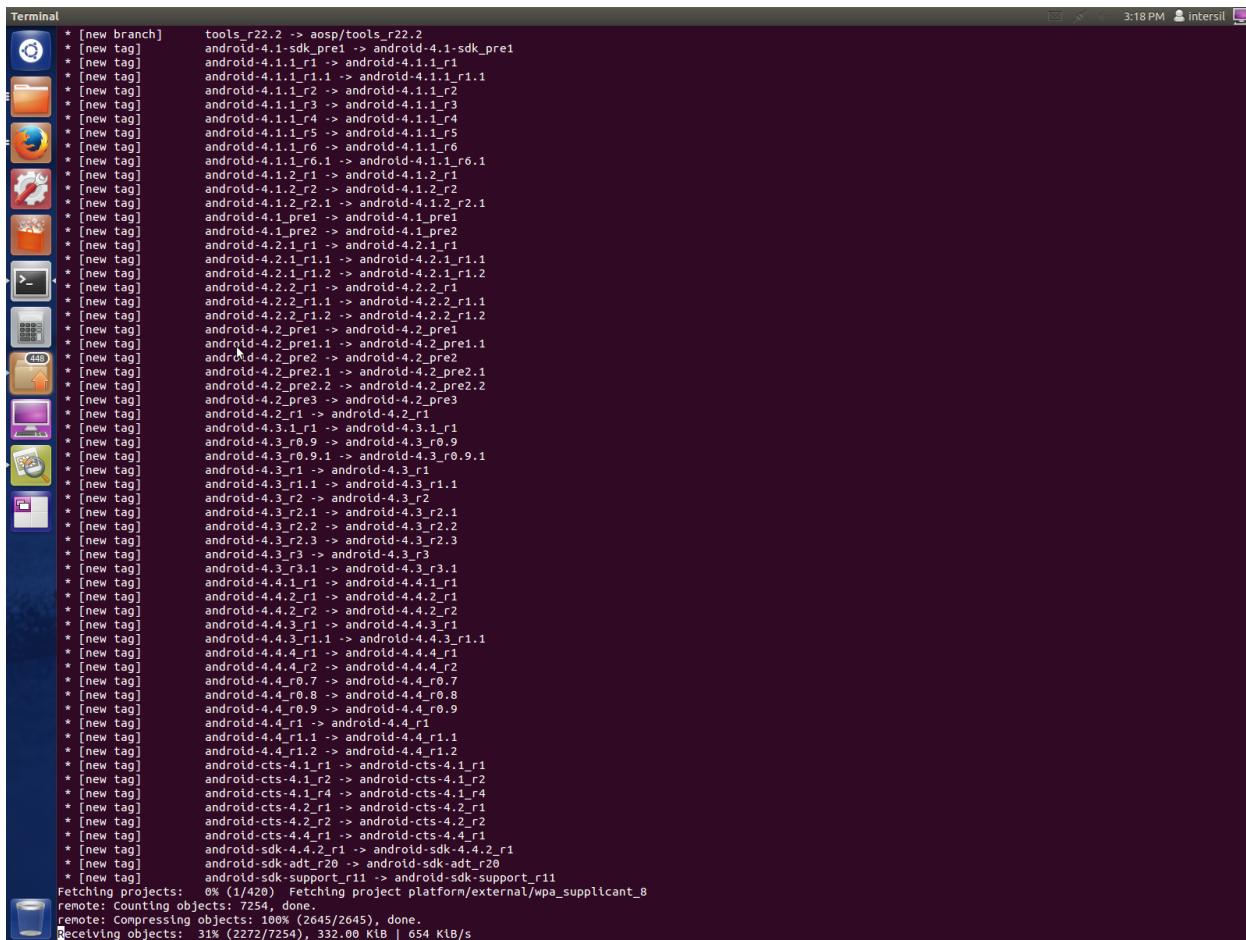
Your identity is: Murali <muralim89@gmail.com>
Is this correct [Y/N]? y

repo has been initialized in /home/intersil/Linaro-Android-14.06/android
You must specify valid login/access-id to clone from linaro-private git repositories.
Press y to continue (which may result in incomplete build), OR
Press n to enter login details, OR
Press h for help.

y

```

Figure : Android source code fetch starts



```

Terminal
* [new branch]      tools_r22.2 -> aosp/tools_r22.2
* [new tag]         android-4.1-sdk_pre1 -> android-4.1-sdk_pre1
* [new tag]         android-4.1.1_r1 -> android-4.1.1_r1
* [new tag]         android-4.1.1_r1.1 -> android-4.1.1_r1.1
* [new tag]         android-4.1.1_r2 -> android-4.1.1_r2
* [new tag]         android-4.1.1_r3 -> android-4.1.1_r3
* [new tag]         android-4.1.1_r4 -> android-4.1.1_r4
* [new tag]         android-4.1.1_r5 -> android-4.1.1_r5
* [new tag]         android-4.1.1_r6 -> android-4.1.1_r6
* [new tag]         android-4.1.1_r6.1 -> android-4.1.1_r6.1
* [new tag]         android-4.1.2_r1 -> android-4.1.2_r1
* [new tag]         android-4.1.2_r2 -> android-4.1.2_r2
* [new tag]         android-4.1.2_r2.1 -> android-4.1.2_r2.1
* [new tag]         android-4.1_pre1 -> android-4.1_pre1
* [new tag]         android-4.1_pre2 -> android-4.1_pre2
* [new tag]         android-4.2.1_r1 -> android-4.2.1_r1
* [new tag]         android-4.2.1_r1.1 -> android-4.2.1_r1.1
* [new tag]         android-4.2.1_r2 -> android-4.2.1_r2
* [new tag]         android-4.2.2_r1 -> android-4.2.2_r1
* [new tag]         android-4.2.2_r1.1 -> android-4.2.2_r1.1
* [new tag]         android-4.2.2_r1.2 -> android-4.2.2_r1.2
* [new tag]         android-4.2_pre1 -> android-4.2_pre1
* [new tag]         android-4.2_pre1.1 -> android-4.2_pre1.1
* [new tag]         android-4.2_pre2 -> android-4.2_pre2
* [new tag]         android-4.2_pre2.1 -> android-4.2_pre2.1
* [new tag]         android-4.2_pre2.2 -> android-4.2_pre2.2
* [new tag]         android-4.2_pre3 -> android-4.2_pre3
* [new tag]         android-4.2_r1 -> android-4.2_r1
* [new tag]         android-4.3.1_r1 -> android-4.3.1_r1
* [new tag]         android-4.3_r0.9 -> android-4.3_r0.9
* [new tag]         android-4.3_r0.9.1 -> android-4.3_r0.9.1
* [new tag]         android-4.3_r1 -> android-4.3_r1
* [new tag]         android-4.3_r1.1 -> android-4.3_r1.1
* [new tag]         android-4.3_r2 -> android-4.3_r2
* [new tag]         android-4.3_r2.1 -> android-4.3_r2.1
* [new tag]         android-4.3_r2.2 -> android-4.3_r2.2
* [new tag]         android-4.3_r2.3 -> android-4.3_r2.3
* [new tag]         android-4.3_r3 -> android-4.3_r3
* [new tag]         android-4.3_r3.1 -> android-4.3_r3.1
* [new tag]         android-4.4.1_r1 -> android-4.4.1_r1
* [new tag]         android-4.4.2_r1 -> android-4.4.2_r1
* [new tag]         android-4.4.3_r1 -> android-4.4.3_r1
* [new tag]         android-4.4.3_r1.1 -> android-4.4.3_r1.1
* [new tag]         android-4.4.4_r1 -> android-4.4.4_r1
* [new tag]         android-4.4.4_r2 -> android-4.4.4_r2
* [new tag]         android-4.4_r0.7 -> android-4.4_r0.7
* [new tag]         android-4.4_r0.8 -> android-4.4_r0.8
* [new tag]         android-4.4_r0.9 -> android-4.4_r0.9
* [new tag]         android-4.4_r1 -> android-4.4_r1
* [new tag]         android-4.4_r1.1 -> android-4.4_r1.1
* [new tag]         android-4.4_r1.2 -> android-4.4_r1.2
* [new tag]         android-cts-4.1_r1 -> android-cts-4.1_r1
* [new tag]         android-cts-4.1_r2 -> android-cts-4.1_r2
* [new tag]         android-cts-4.1_r4 -> android-cts-4.1_r4
* [new tag]         android-cts-4.2_r1 -> android-cts-4.2_r1
* [new tag]         android-cts-4.2_r2 -> android-cts-4.2_r2
* [new tag]         android-cts-4.4_r1 -> android-cts-4.4_r1
* [new tag]         android-sdk-4.4_r2 -> android-sdk-4.4_r2
* [new tag]         android-sdk-adt_r20 -> android-sdk-adt_r20
* [new tag]         android-sdk-support_r11 -> android-sdk-support_r11
remote: Counting objects: 7254, done.
remote: Compressing objects: 100% (2645/2645), done.
Receiving objects: 31% (2272/7254), 332.00 KB | 654 KiB/s
Fetching projects: 0% (1/420) Fetching project platform/external/wpa_supplicant_8
remote: Counting objects: 7254, done.
remote: Compressing objects: 100% (2645/2645), done.
Receiving objects: 31% (2272/7254), 332.00 KB | 654 KiB/s

```

After this step the repository is synced 100% and the source code is available in a directory named android in the current directory.

IMPORTANT NOTE:

1. If the android source code was download in a single go without any interruption the script "linaro_android_build_cmds.sh" would automatically start the build process too. But if the download stops due to some reason following instructions in the following section to manually start the android build.
2. If the download stops due to some reason follow the below instructions
 - a. Change to directory named android in current directory
\$ cd android
 - b. Use the below command to resume syncing the android repository
\$./repo sync

2.3 Building android

To build the android source code provided by Linaro use the below command.

Once repositories are fetched inside a directory named android in the current repository. Use the below commands

```
$ cd android  
$ . build/envsetup.sh  
$ lunch pandaboard-eng  
$ make boottarball systemtarball userdatatarball
```

The above commands will start the android build and the process would continue until the build is complete

Once the build is complete the following files would be generated in the below path

Android/out/target/product/pandaboard/

1. Boot.tar.bz2
2. System.tar.bz2
3. Userdata.tar.bz2

2.4 Flashing Images to SD card

Follow the below instructions in sequence in order to flash the SD card with android image binaries

2.4.1 Disable automount in Ubuntu

To disable automount use the below commands

```
$ TMP1=$(dconf read /org/gnome/desktop/media-handling/automount)  
$ TMP2=$(dconf read /org/gnome/desktop/media-handling/automount-open)  
$ dconf write /org/gnome/desktop/media-handling/automount false  
$ dconf write /org/gnome/desktop/media-handling/automount-open false
```

2.4.2 Install Linaro image tools

In order to flash the SD card with the android binaries generated from the build process, we require to install the following package

- Linaro-image-tools

To install this package use the below commands

```
$ sudo add-apt-repository ppa:linaro-maintainers/tools  
$ sudo apt-get update  
$ sudo apt-get install linaro-image-tools
```

2.4.3 Flash images to SD card

Insert a formatted SD card into the host machine. Once inserted use the below command to get to know the device node associated with SD card. Device node is a representation of SD card on Linux system.

```
$ dmesg
```

Look for a line that looks like the following at the end of the log

```
[288582.790722] sd: sdc: sdc1 sdc2 sdc3 sdc4 < sdc5 sdc6 >
```

The most recent log after inserting the SD card would indicate the correct node name (like sdb, sdc or sdb etc.)

IMPORTANT NOTE:

1. In some system the node name would be something similar to **mmcblkx** where x is the device number
2. Choosing a wrong device may cause loss of data in system. So to be safe it is advised to verify the size of the device using the partition manager present in Ubuntu.
3. If partition manager is not installed use below command to install one (gparted partition manager)
\$ sudo apt-get install gparted

Run linaro image tools

```
$ linaro-android-media-create --mmc /dev/sdc --dev panda --boot boot.tar.bz2  
--system system.tar.bz2 --userdata userdata.tar.bz2
```

2.4.4 Install graphics libraries

Use the below commands in order to flash the graphic libraries to the SD card

```
$ wget http://people.linaro.org/~vishalbhoj/install-binaries-4.0.4.sh  
$ chmod a+x install-binaries-4.0.4.sh  
$ ./install-binaries-4.0.4.sh
```

2.4.5 Restore automount in Ubuntu

Use the below commands to restore automount in Ubuntu

```
$ dconf write /org/gnome/desktop/media-handling/automount $TMP1  
$ dconf write /org/gnome/desktop/media-handling/automount-open $TMP2
```

Now plug the SD card into pandaboard setup and , boot it to view android screen on HDMI or DVI display.