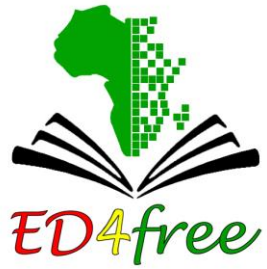# Eduphone

Educational server running in a smartphone

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Eduphone, what is it

The Eduphone is an environment running on nearly all smartphone with at least Android 7, containing 3 servers useful for education :
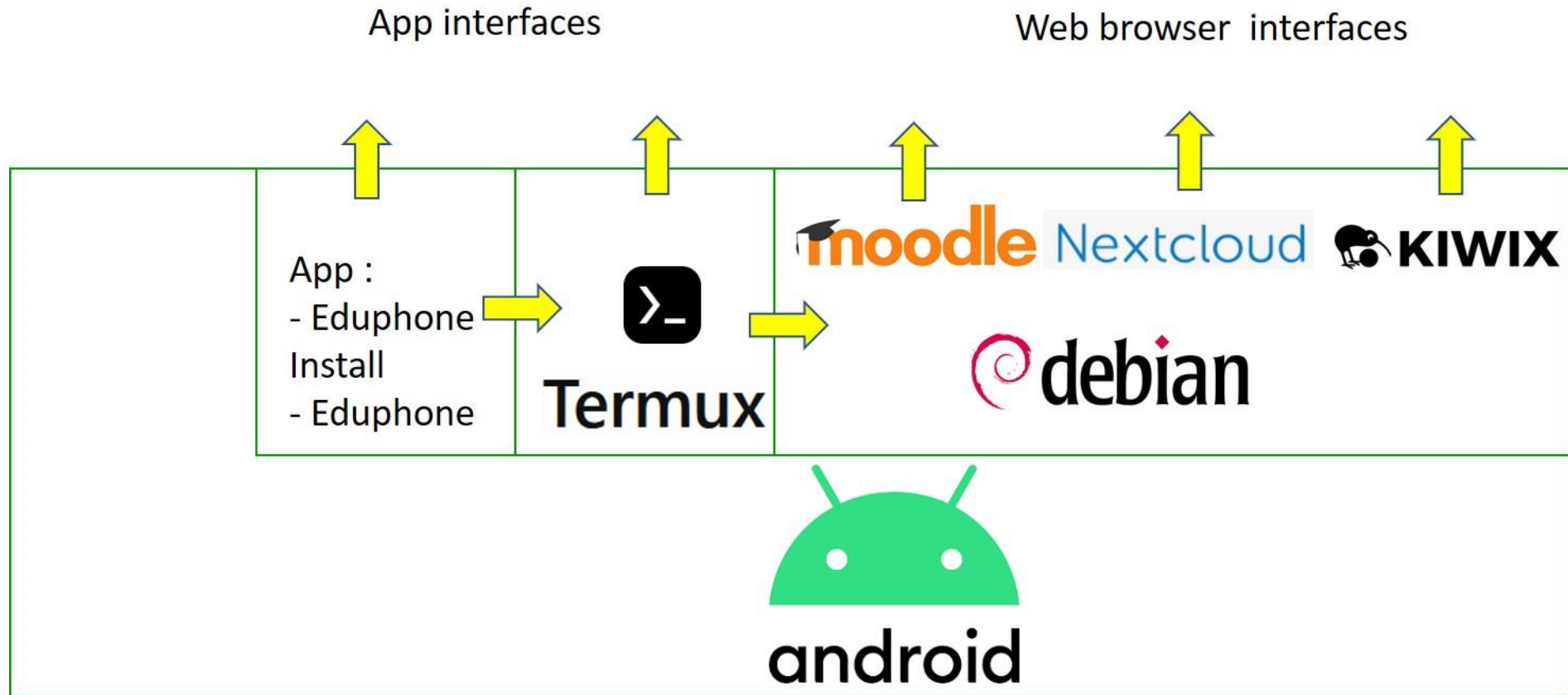
- Moodle server, the famous Learning Management System.

- Nextcloud server, a Drive like Google Drive or One Drive.

- Kiwix server, allowing to provide access to international contents such as Wikipedia, wikibook, etc.

When the wifi Access Point of the smartphone is activated, every device connected to it can access these servers via wifi. The Eduphone turns the smartphone into a mini off-line educational server

Eduphone, how it works

App interfaces

Web browser interfaces

App :
- Eduphone Install
- Eduphone

Termux

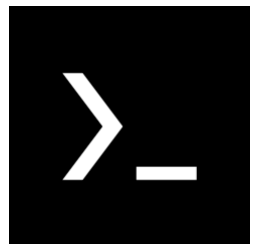moodle Nextcloud KIWIX

debian

android

Eduphone,
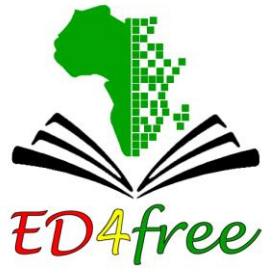# how can Linux Debian run on Android

Moodle, Nextcloud and Kiwix can run on Linux Debian for these reasons :

- Android itself is a Linux system.

- Linux allow to launch process from elsewhere than the "root" directory, e.g. instead of starting form top directory "/ ", they can start from the directory "/xxxx/debian11" containing a whole Debian system.

- All binaries required for a Linux system run on Smartphone processors, they are often binaries for arm.

- The app Termux makes it easy to implement this principle.

Important : All the required processes run directly on the smartphone's processors, which is why performance is not bad.
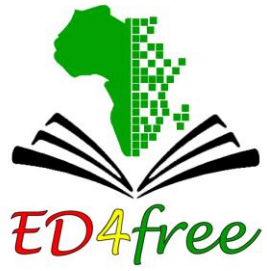
Termux

Eduphone, what for

- Thanks to the Eduphone, a teacher, a trainer, and even a student, can always have the courses and content they need with them on their smartphone. He accesses it from a PC connected with wifi to his smartphone or directly from his smartphone.

- He can share it with his loved ones who can also connect on his smartphone.

- This is particularly useful in countries where internet connection is rare and expensive.

EDphone, how to get it

An Eduphone environment, almost empty of content, can be downloaded from the page https://eduphone.eu
On this environment you can upload courses on Moodle and contents on Nextcloud, you can even restore a back up of a whole server

We can migrate an existing Moodle server to the Eduphone environment, this was done for the FUN-Ressources platform of L'Université Numérique (50 GB of content) and the Educmad media library of the Franco-association Accesmad (15 GB of content).

It is then possible to create a USB C key which will allow this server to be installed on a smartphone in around ten minutes.

Réferences

- About how a linux server can launch process of another linux server : https://manpages.ubuntu.com/manpages/trusty/man1/proot.1.html

- About it's implementation by app Termux used in Eduphone : https://wiki.termux.com/wiki/PRoot

- See also on ED4free site https://ed4free.org/,
  - EDbox, mini educational server on Raspberry PI.
  - EDphone, strictly the same than EDbox, same boot device, same storage, but for rooted smartphone (Eduphone is on non rooted smartphones)

- Documentations of ED4free Products : https://drive.edcloud.fr/s/MQ6MrzpdjQMc6gE