



# lona

Building **Ubuntu** remixes with lona

# Ubuntu ISO structure

**/EFI:** GRUB (bootloader)

**/casper:**

- **filesystem.squashfs:** squashfs containing main live rootfs (mounted by the initramfs)
- **initrd.img:** initramfs (initial filesystem the kernel copies to RAM and uses as /)
- **vmlinuz:** Linux kernel image

**/boot/grub:** GRUB config and other files





# What does lona do?

A tool I wrote to automate the process of building root filesystems and ISOs by hand, through simple YAML configuration files.

01.

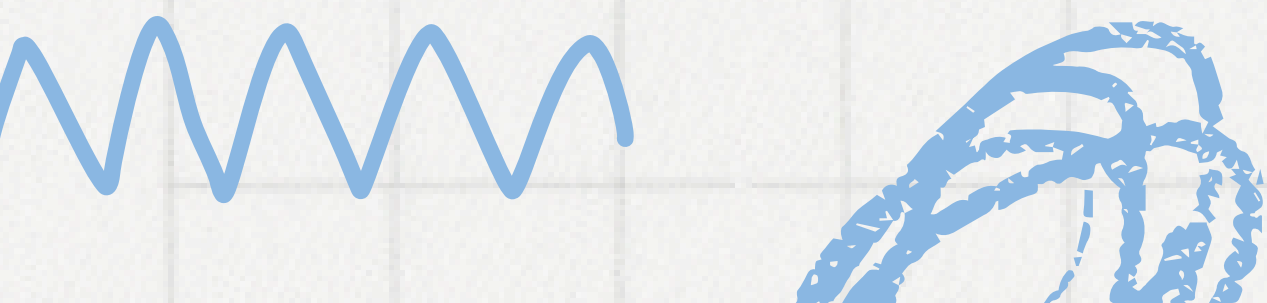
Rootfs is generated using mmdebstrap (alternative to debootstrap with support for multi-repos).

02.

Any packages to be installed are installed and packaged into a squashfs.

03.

An ISO is then built from the squashfs, any kernel previously installed in the rootfs & GRUB.



```
name: 'Ubuntu Sample' # Name of remix

codename: 'noble' # Ubuntu release codename

repos: # Repositories
  - url: 'http://archive.ubuntu.com/ubuntu' # Repository URL
    components: # Repository components
      - 'main'
      - 'universe'
      - 'multiverse'
      - 'restricted'
    suites: # Repository suits
      - 'noble'
      - 'noble-updates'
    deb-src: false # true if this were a deb-src repo entry (for pulling source packages with APT)

  - url: 'http://security.ubuntu.com/ubuntu'
    components:
      - 'main'
      - 'universe'
      - 'multiverse'
      - 'restricted'
    suites:
      - 'noble-security'
    deb-src: false
```

## packages:

- type: 'deb'
- list: # list of packages
  - 'gnome-core'
  - 'nginx'
  - 'openssh-server'
  - 'ubiquity-casper' # installer package (Ubiquity)
  - 'ubiquity-frontend-gtk' # installer package (Ubiquity)
  - 'ubiquity-slideshow-ubuntu' # installer package (Ubiquity)

## post-workarounds: # similar to pre-workarounds, you can add commands here too (like in pre-workarounds)

- name: 'ubuntu-network' # to fix certain networking issues
- name: 'ubiquity-remove' # to remove Ubiquity (installer) packages after the system is installed

## artifacts:

- type: 'iso' # replace with 'squashfs' to generate a squashfs or 'tarball' for a tarball
- name: 'ubuntu-gnome.iso' # name of ISO/squashfs/tarball

<https://github.com/RudraSwat/iona>

Workshop at 3 pm tomorrow.

*"Building Ubuntu remixes with Iona"*

The background features a light blue grid pattern overlaid with various hand-drawn blue scribbles, including circles, loops, and wavy lines.

**Thank you!**  
**Any questions?**

**Rudra Saraswat**