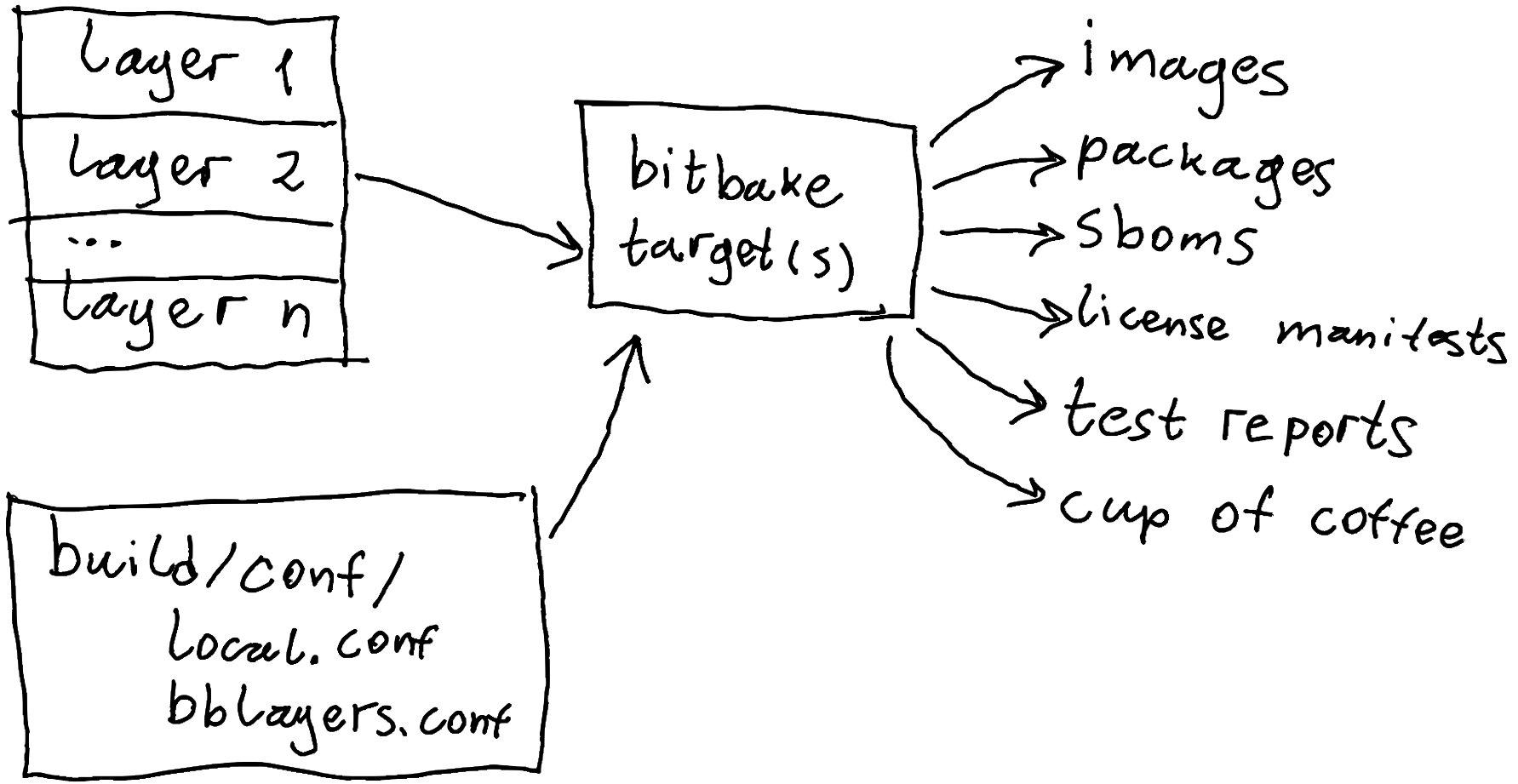
LINUTRONIX

Setting up Yocto Layers and Builds with Official Tools
2023 Edition

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All of Yocto on one diagram



Layer configuration

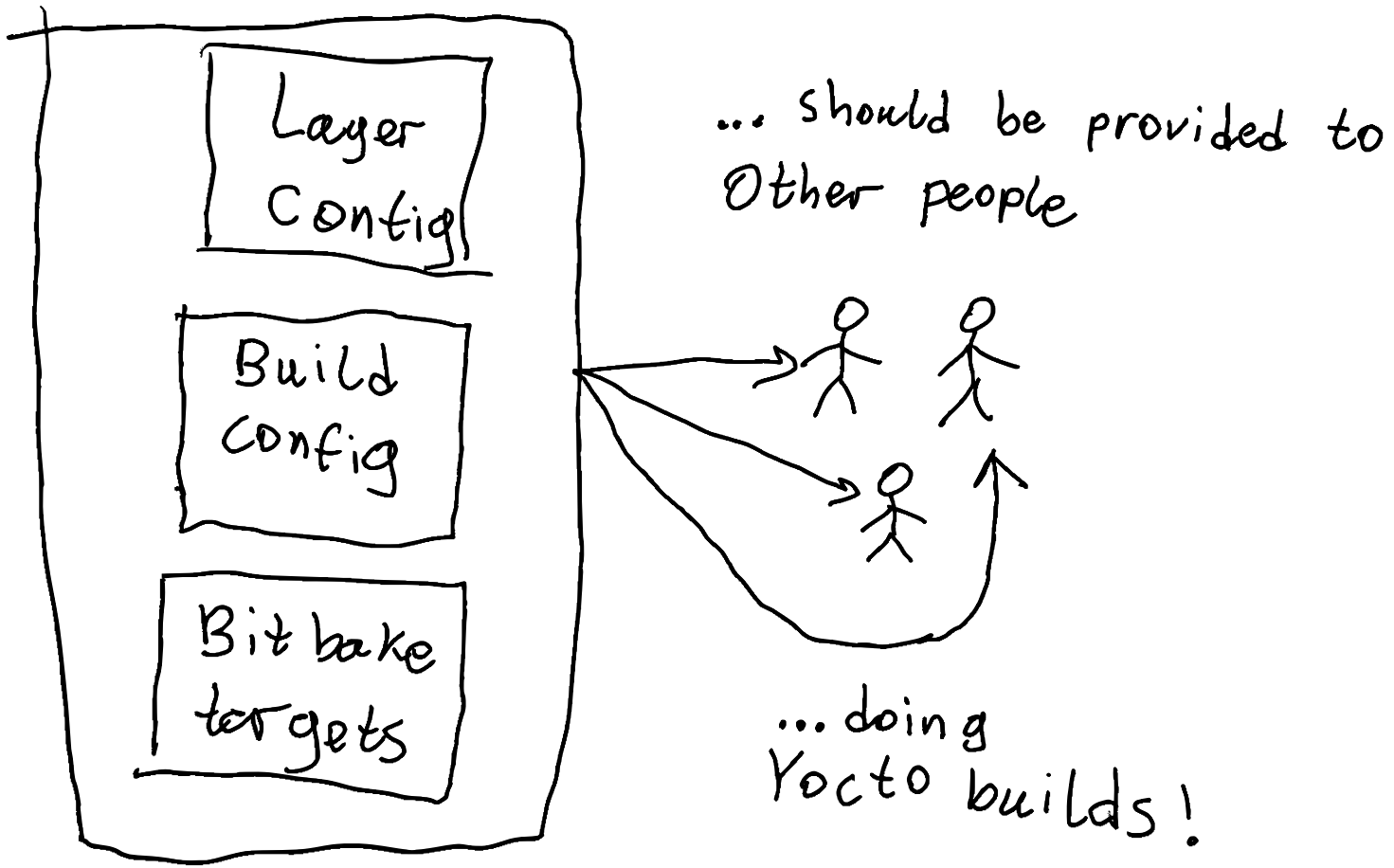
- Layer 1
  - Repository url
  - Repository revision
  - Location on local disk
- Layer 2
  - Same things
- Layer 3
- ...
- Layer n

Build configuration

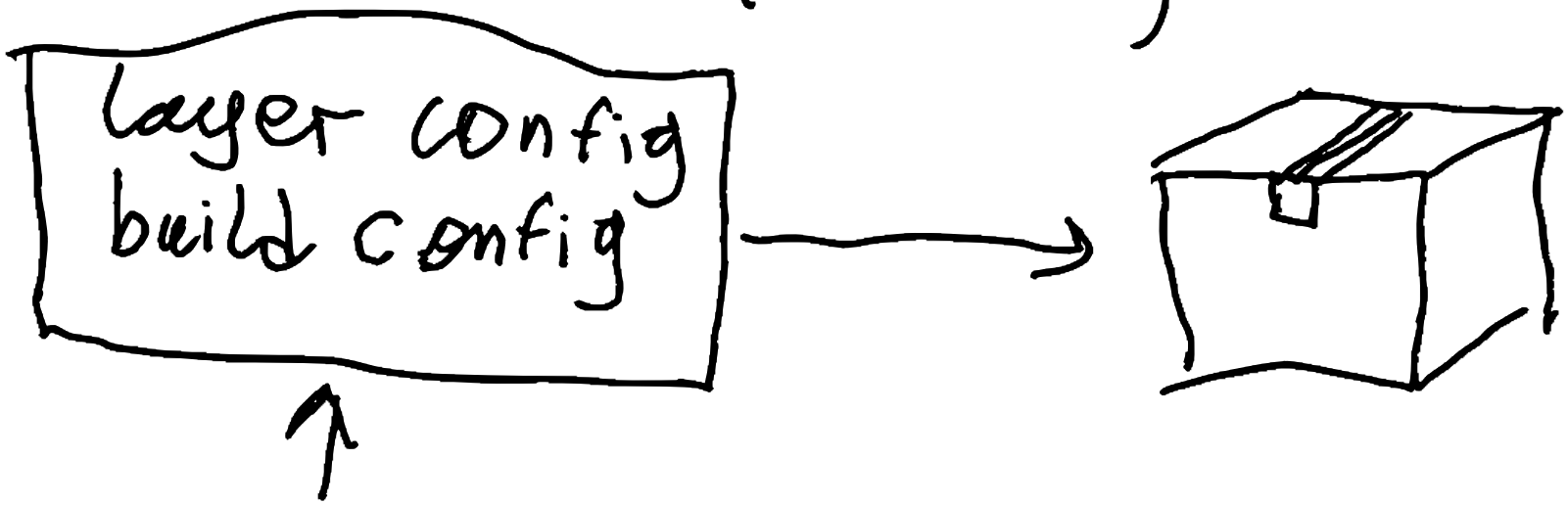
build/conf/

- local.conf
  - DISTRO
  - MACHINE
- bblayers.conf
  - /path/to/layer1/
  - path/to/some/layer2/
- site.conf
  - Parallelism
  - Download cache location
  - Sstate cache location

Yocto build inputs

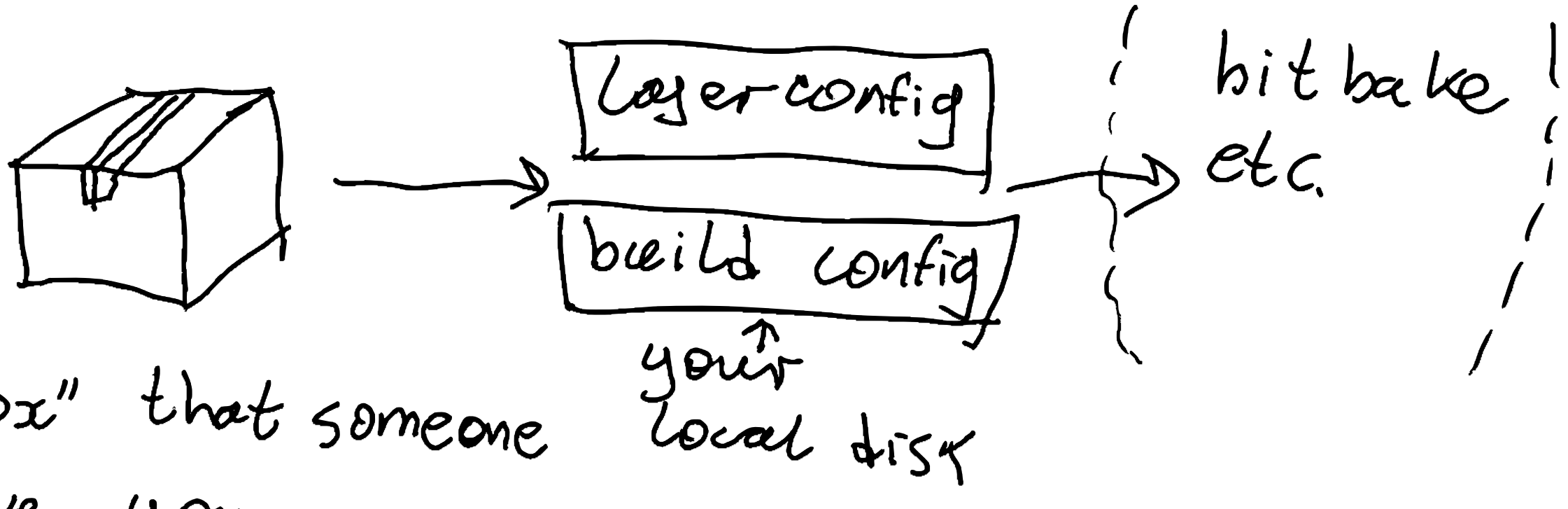


Problem 1 (of 2)



„box" that can be given to others

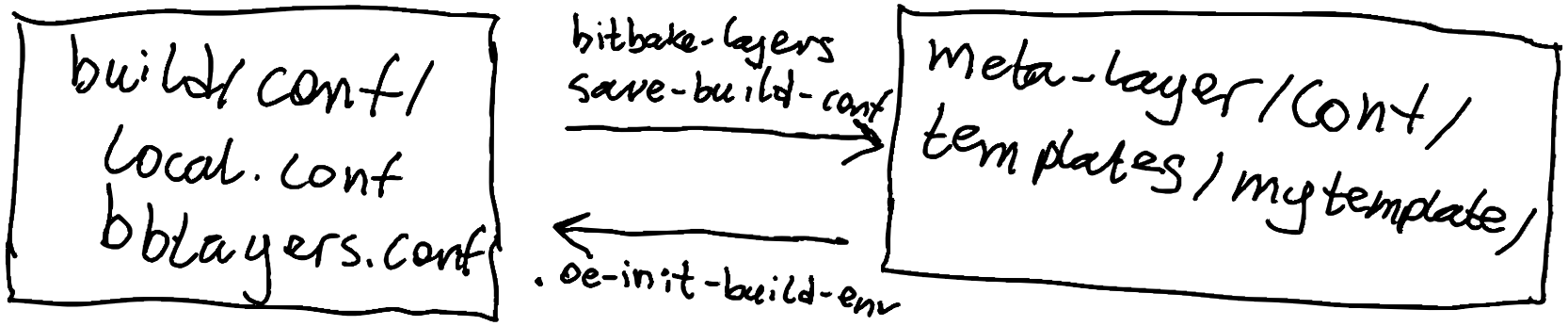
Problem 2 (of 2)



The tools! (tl;dr version)

- Saving configurations (from an active Yocto build)
  - Run: bitbake-layers save-build-conf (writes into meta-layer/conf/templates/sometemplate/)
  - Run: bitbake-layers create-layers-setup (produces setup-layers/setup-layers.json pair of files)
- Setting up layers
  - Copy setup-layers/setup-layers.json elsewhere (or clone the „bootstrap layer“ that has them)
  - Run: setup-layers (self-contained python script, needs only git executable)
- Setting up builds from /meta-layer/conf/templates/sometemplate/
  - oe-init-build-env (low-level)
  - oe-setup-build (high level) - *as of may 2023 under review*

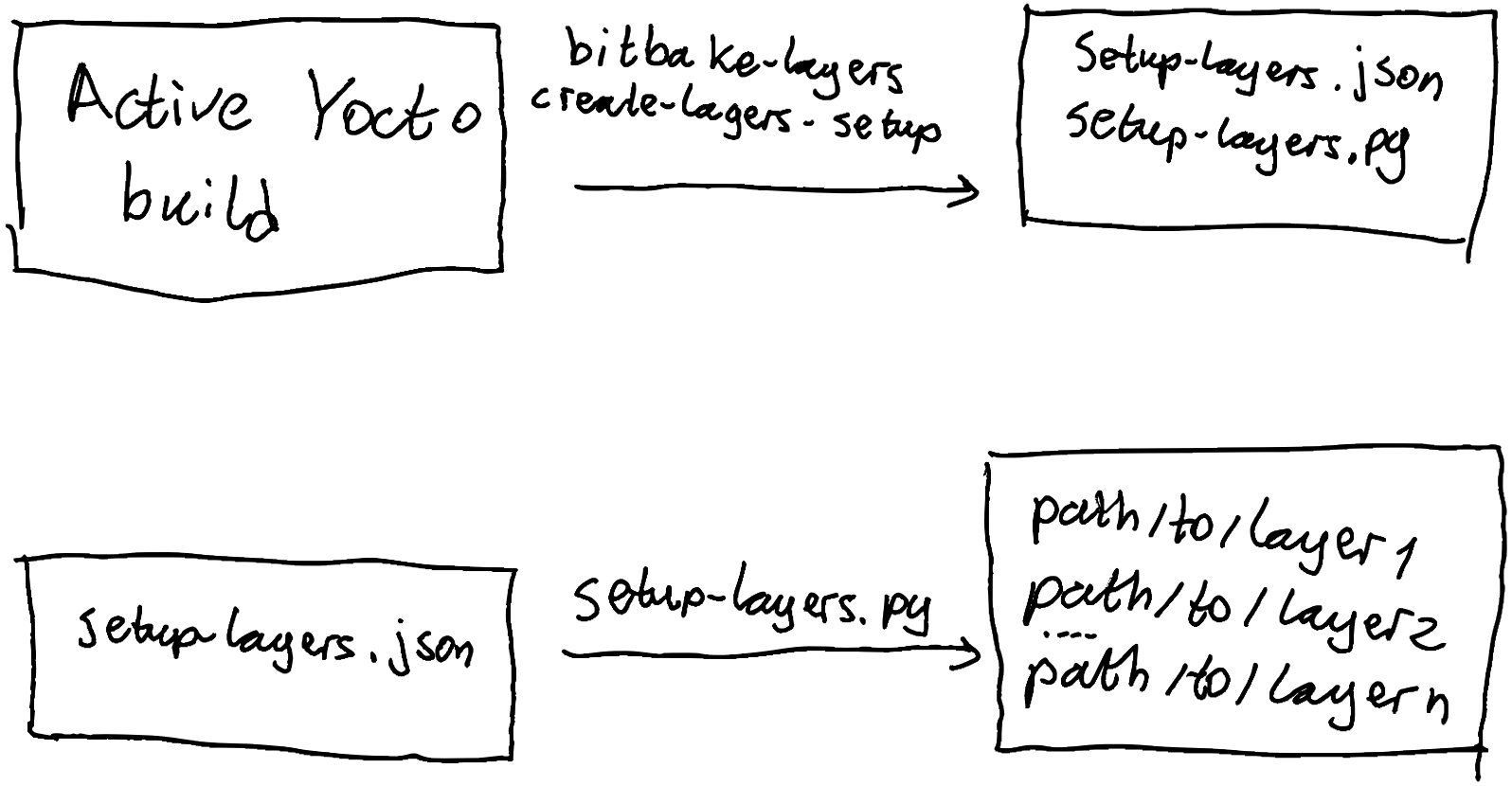
Saving and Restoring build configurations



- oe-init-build-env [template-path]

meta/conf/templates/default/
(or meta-poky)

Saving and restoring layer configurations



The future – what pieces are still missing

- oe-setup-build
  - already written, in code review on oe-core list
  - nicer to users than oe-init-build-env
    - tells where the build config templates are, and what they are for
    - picks a build directory
    - does *not* replace or wrap bitbake
- config fragments
  - add features to a build with a single command without help from ~~chatgpt~~ documentation
- oe-setup
  - an even higher level tool for setting up yocto builds, possibly available via pypi
  - „make me an image with chromium and wayland for raspberry pi 5“

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Thanks for your attention

Any questions ?