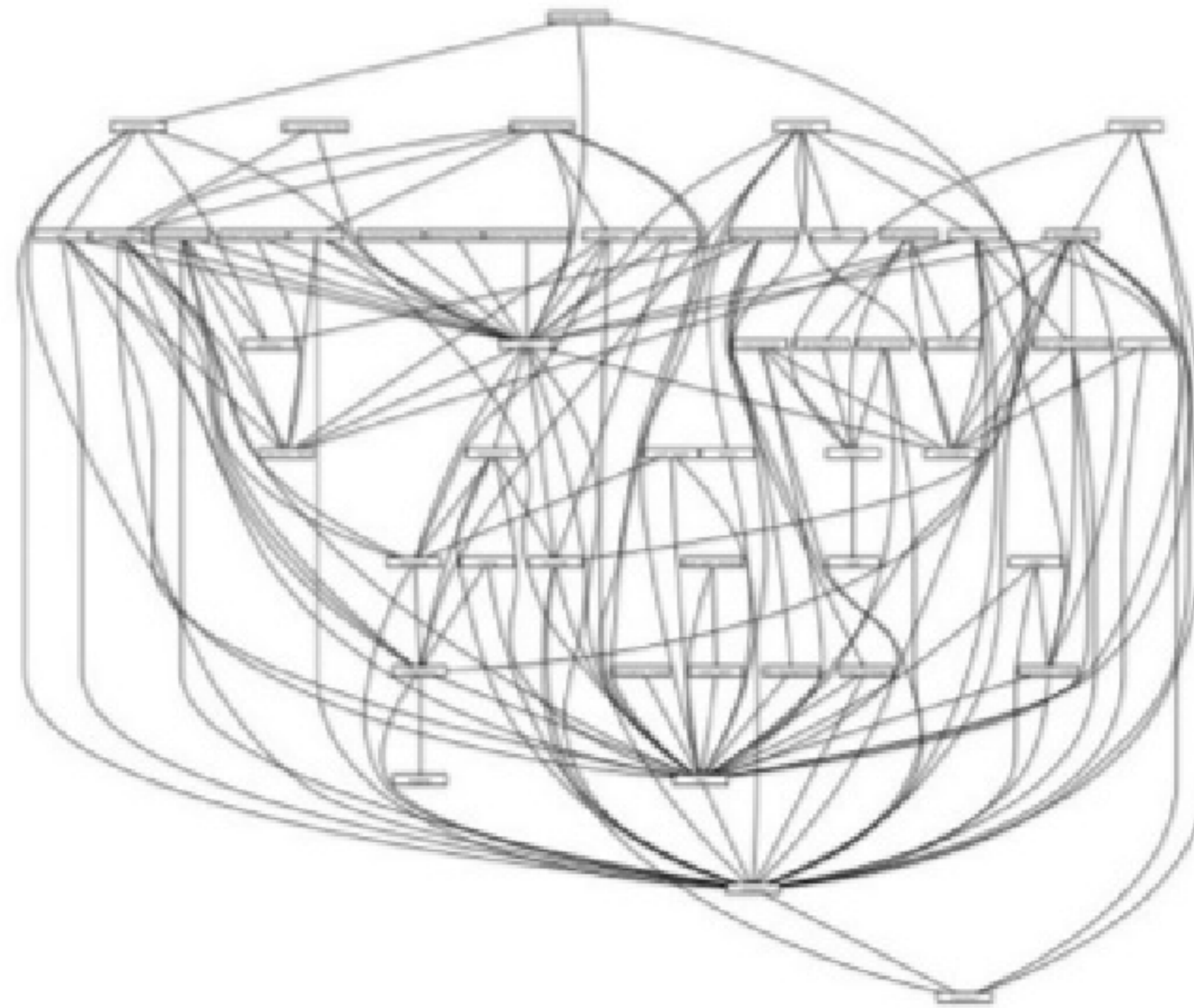


Reproducible build environments:
mucho más que containers

— _ (ツ) _ / —

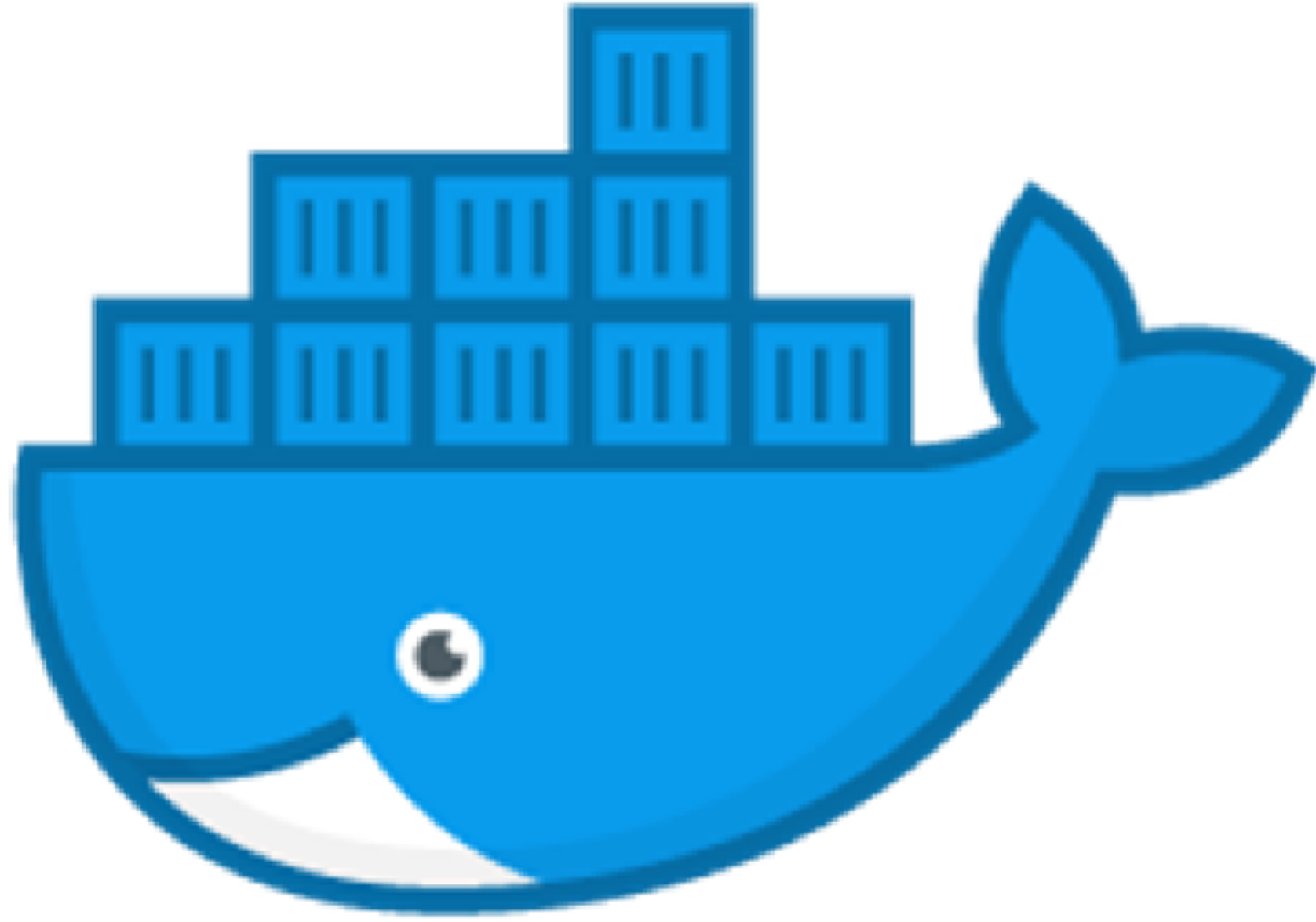
IT WORKS
on my machine

DEPENDENCY HELL



```
[matias@lizarazu:/tmp/sample-project]$ cat requirements.txt
asn1crypto==0.24.0
certifi==2019.6.16
cffi==1.12.3
chardet==3.0.4
cryptography==2.7
idna==2.8
packaging==19.0
pyasn1==0.4.5
pycparser==2.19
pyOpenSSL==19.0.0
pyparsing==2.3.1
PySocks==1.6.8
requests==2.22.0
six==1.12.0
urllib3==1.24.3
virtualenv==16.4.3

[matias@lizarazu:/tmp/sample-project]$
```



docker®

- “chroot on steroids”
- Entorno aislado del sistema host
- Reproducibilidad vía Dockerfiles

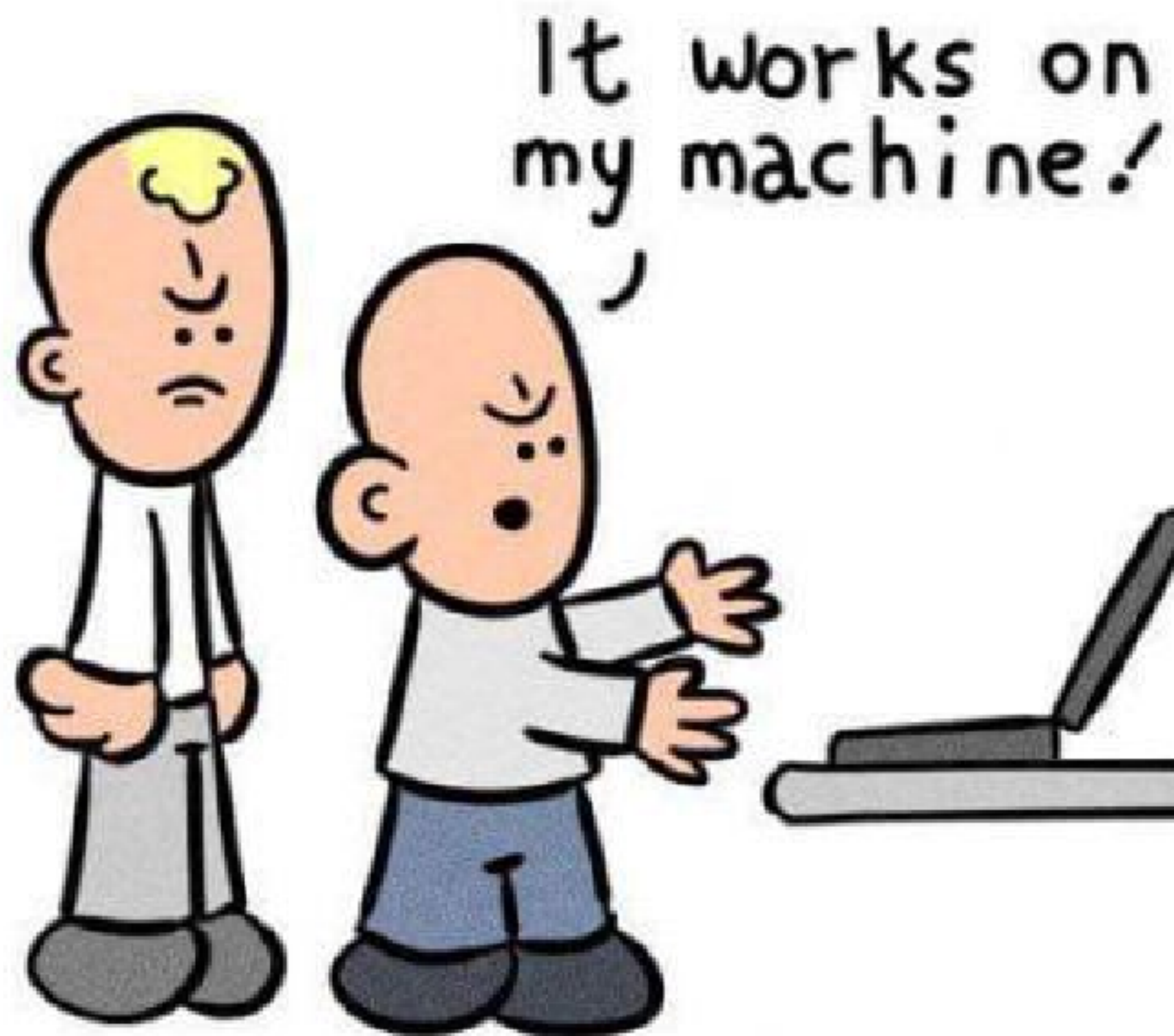
```
# DO NOT USE THIS DOCKERFILE AS AN EXAMPLE, IT IS BROKEN
# https://pythonspeed.com/articles/dockerizing-python-is-hard/
FROM python:3

COPY yourscript.py /

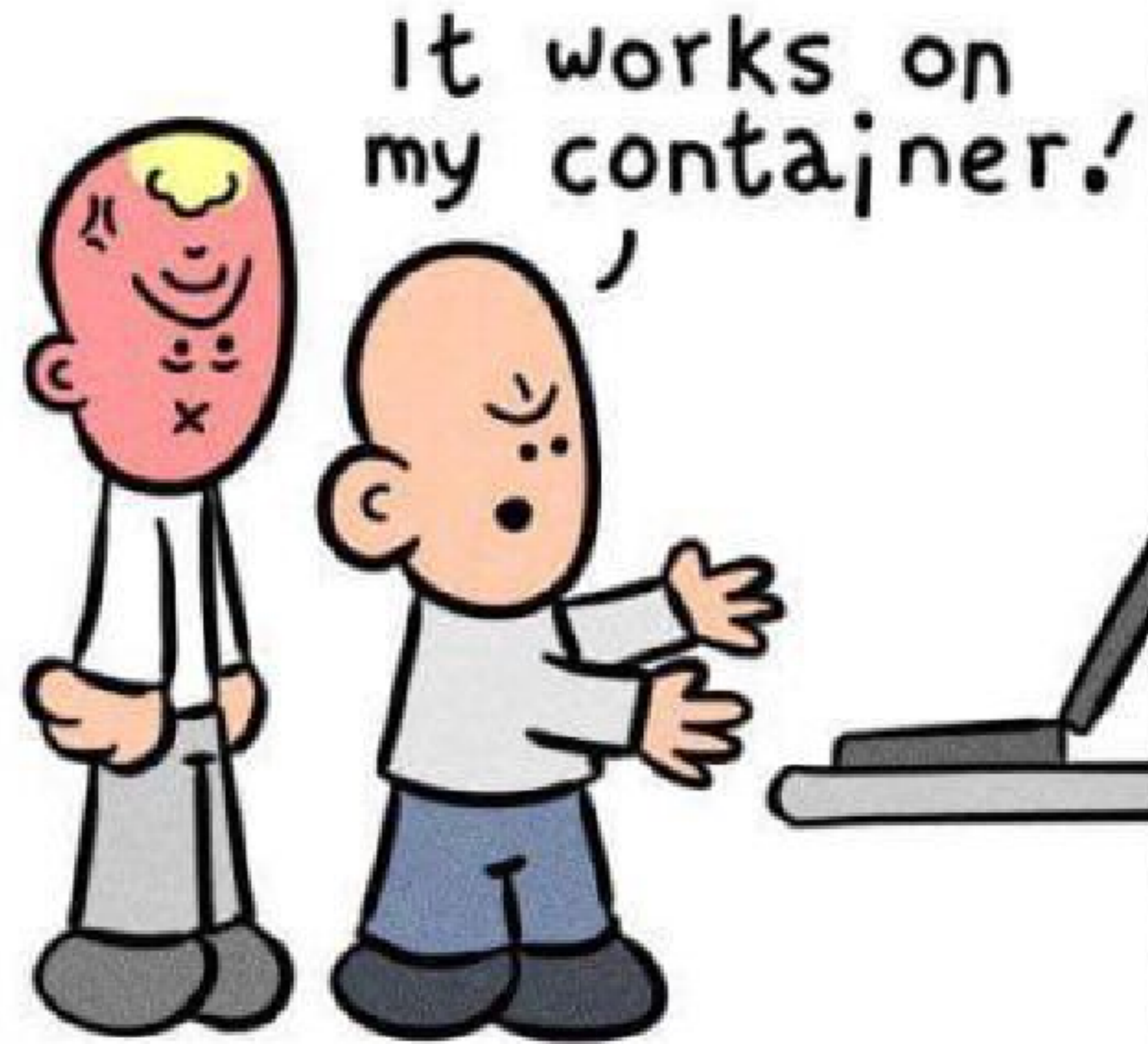
RUN pip install flask

CMD [ "python", "./yourscript.py" ]
```


Before Devops



After Devops



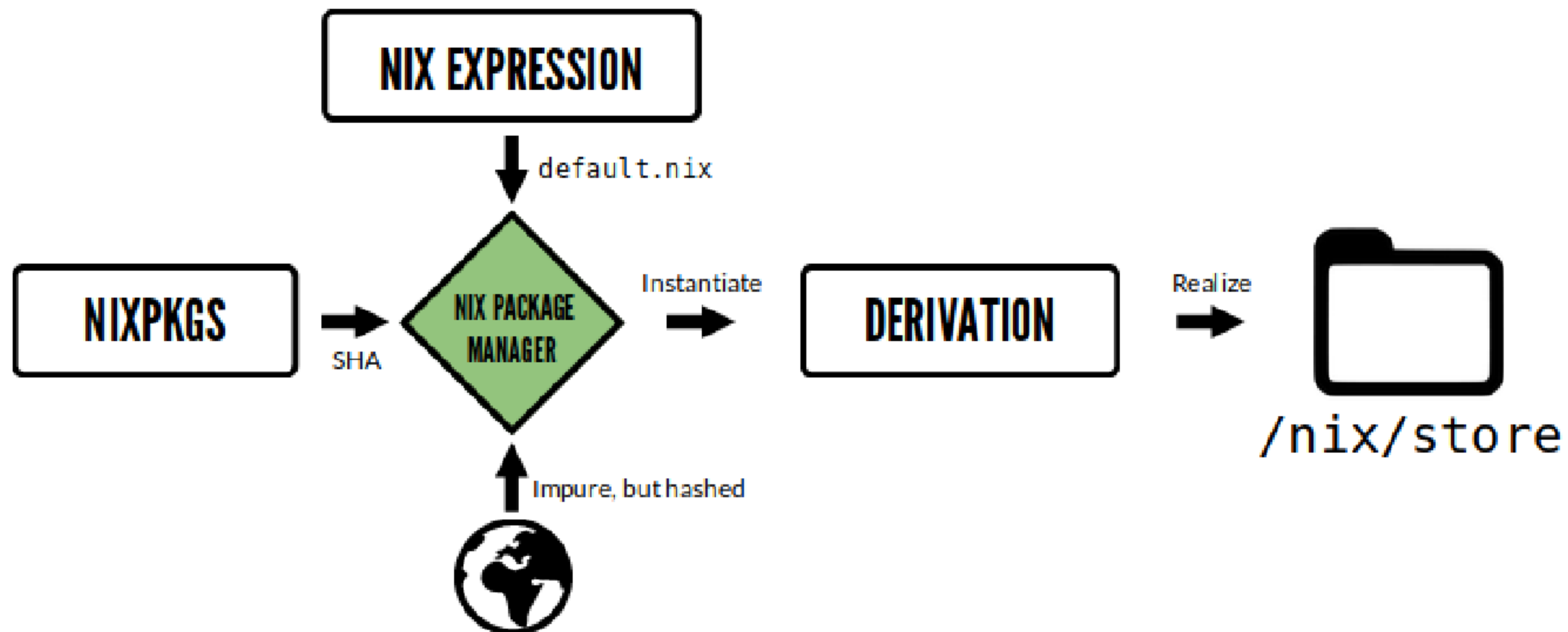
- Reproducibilidad "espacial", no "temporal"
- Difícil de usar para desarrollar
- Generalmente usan binarios de las distros
- Caching difícil (por el modelo de layers)



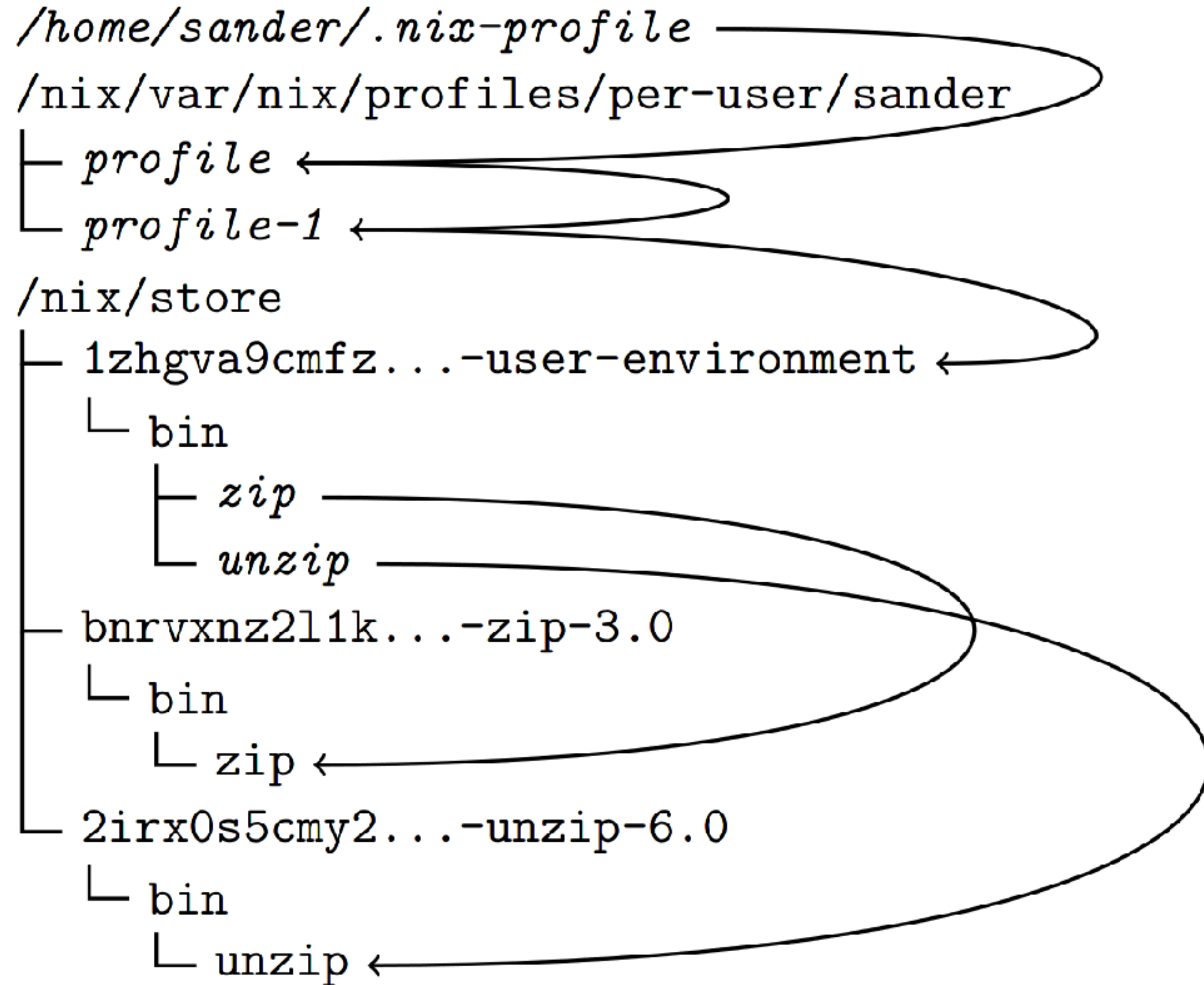


Nix

- Build tool y package manager
- Reproducible by design
- Multiplataforma
- “symlinks on steroids”



HOW DOES NIX WORK?




```
1
2 let
3   pkgs = import (builtins.fetchGit {
4     name = "nixpkgs-unstable";
5     url = https://github.com/nixos/nixpkgs/;
6     rev = "ac1aeb4fbbbeda940792c9c319c89badd36598705";
7   }) {};
8 in
9 pkgs.mkShell {
10   buildInputs = [ pkgs.imagemagick pkgs.xdotool ];
11 }
12
```

~

shell.nix

"shell.nix" line 1 of 12 --8%-- col 1

matias@hayashida> ./topdf.sh ~/presentacion-nix-nerdearla

./topdf.sh: line 4: convert: command not found

[1] matias@hayashida> nix-shell ~/presentacion-nix-nerdearla

[nix-shell:~/presentacion-nix-nerdearla]\$./topdf.sh

PDF saved in ./slides.pdf

[nix-shell:~/presentacion-nix-nerdearla]\$

```
1 #! /usr/bin/env nix-shell
2 #! nix-shell -i bash -p neofetch inxi curl -I nixpkgs=https://github.com/NixOS
  /nixpkgs/archive/ac1aeb4fbbbeda940792c9c319c89badd36598705.tar.gz
3
4 neofetch | curl 'http://misitio.com/collect-system-stats?tool=neofetch' -d @-
5 inxi | curl 'http://misitio.com/collect-system-stats?tool=inxi' -d @-
```

Nix no es una alternativa a Docker!

Nix no es una alternativa a Docker!
Pero sí a los Dockerfiles

Problemas de Nix

Documentación

Complicado lidiar con malas
prácticas de packaging

Conclusiones

Links útiles

- nixos.org/nixos/nix-pills/
- nixos.org/{nix,nixpkgs,nixos}/manual/
- guix.gnu.org
- twitter.com/cript0nauta
- cutt.ly/nix-en-nerdearla

Muchas gracias!

Preguntas?