Installing Arch Linux in 5 Minutes

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COSCUP

archlinux.tw

$ whoami

- Arch Linux Trusted User since 2018
  - I applied after delivering a talk about Arch Linux packaging on COSCUP 2018

- Also volunteers in the LXQt project

Why Installing Arch Linux?

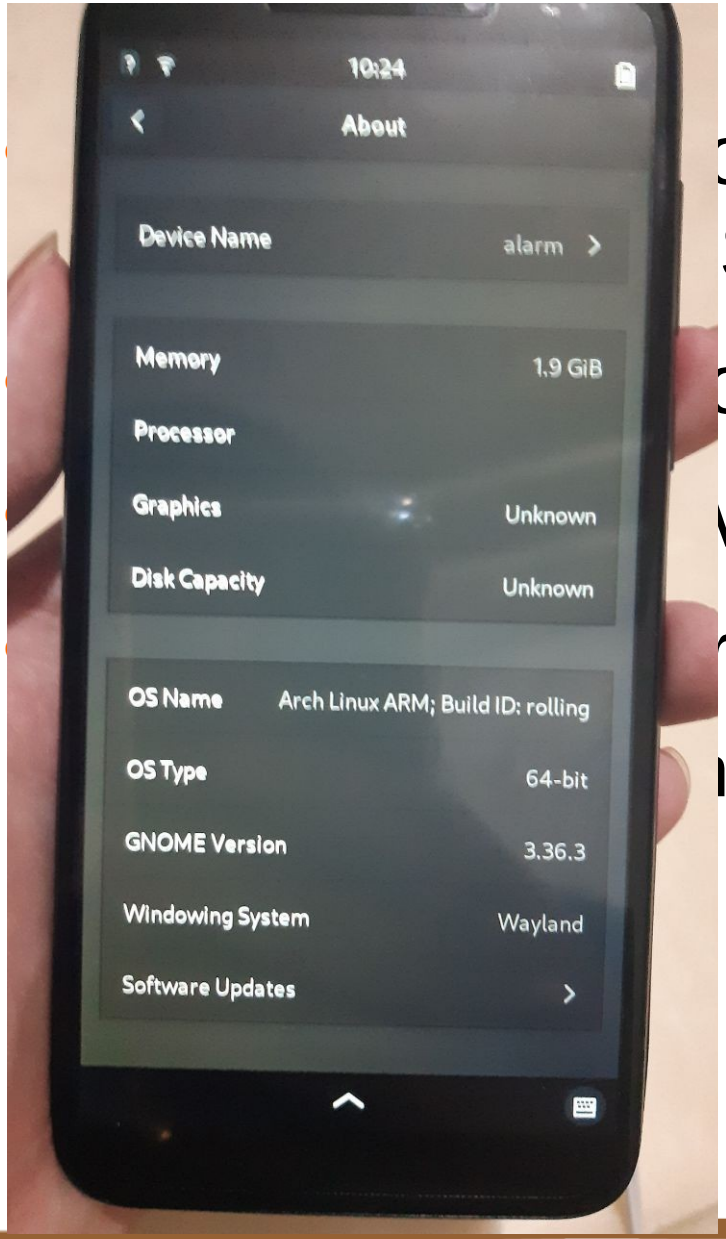
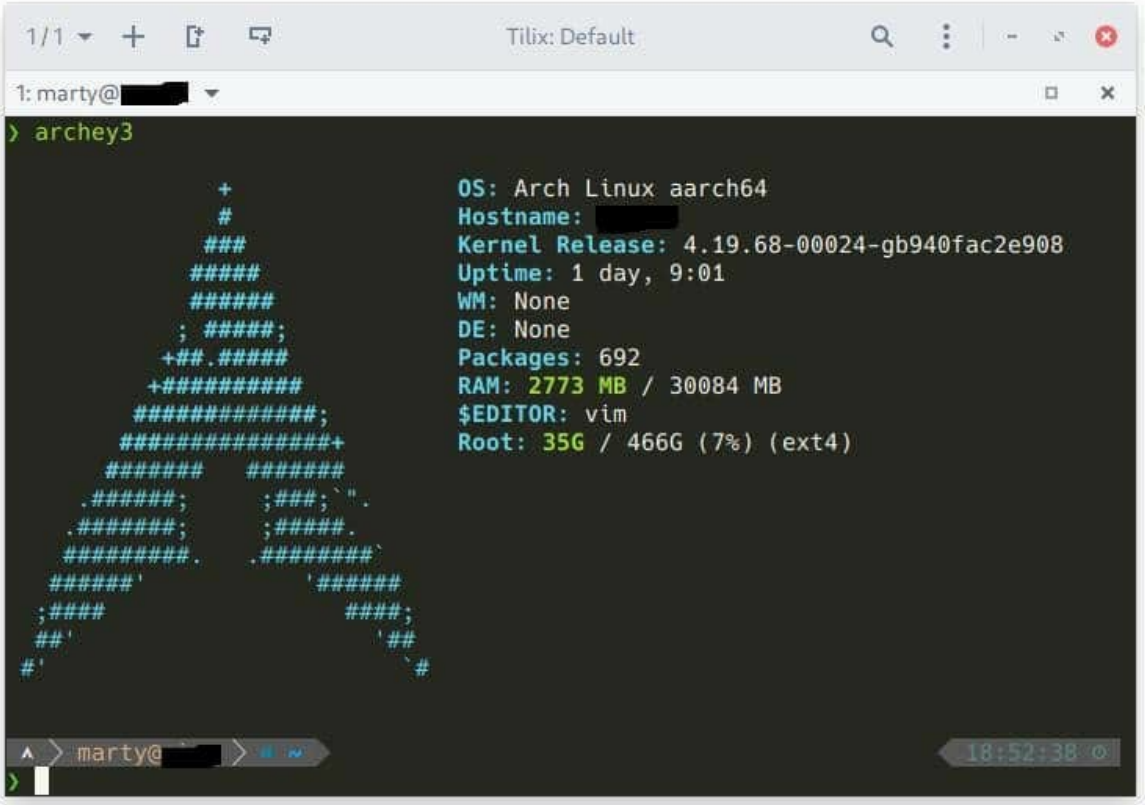


Photo credits:
* Rpi2B: Wikipedia, Public Domain
* PinePhone & Server: Martin Chang (@marty1885) CC-BY-NC-SA



Official Installation Method

- Read the *fancy* manual

Installation guide

This document is a guide for installing **Arch Linux** from the live system booted with the official installation image. For alternative means of installation, see **Category:Installation process**.

Before installing, it would be advised to view the **FAQ**. For conventions used in this document, see **Help:Reading**. In particular, code examples may contain placeholders (formatted in `italics`) that must be replaced manually.

For more detailed instructions, see the respective **ArchWiki** articles or the various programs' **man pages**, both linked from this guide. For interactive help, the **IRC channel** and the **forums** are also available.

Arch Linux should run on any **x86_64**-compatible machine with a minimum of 530 MiB RAM. A basic installation should take less than 2 GiB of disk space. As the installation process needs to retrieve packages from a remote repository, this guide assumes a working internet connection is available.

Contents [hide]

➡ Check out workshop in the afternoon: *Arch Linux installation workshop*

A Wiki-style Warning

> **Warning**: Approaches I will introduce later are NOT officially recommended installation method! Use the method from Installation guide if you are not sure.

Installation Target: Machine Types

- Bare metal
- Containers – for those from another Linux distribution
- Virtual machines
  - Local virtual machines
  - Cloud virtual machines

How to Choose?

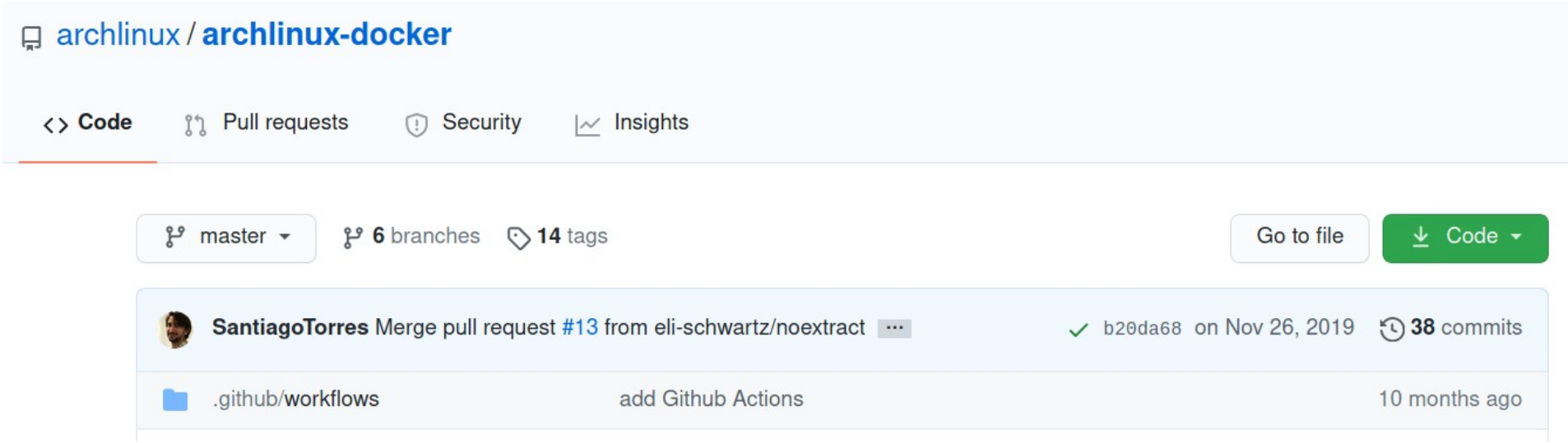
- How it works
  - Characteristics
  - Intended/designed usage
- Is it supported?
  - Ex: Arch Linux on WSL is supported by neither Microsoft nor Arch Linux team
- Long-term vision
  - News/blog posts
  - Relationship with the community

“Installing in 5 minutes, preparation for 10 days”

Containers - Docker

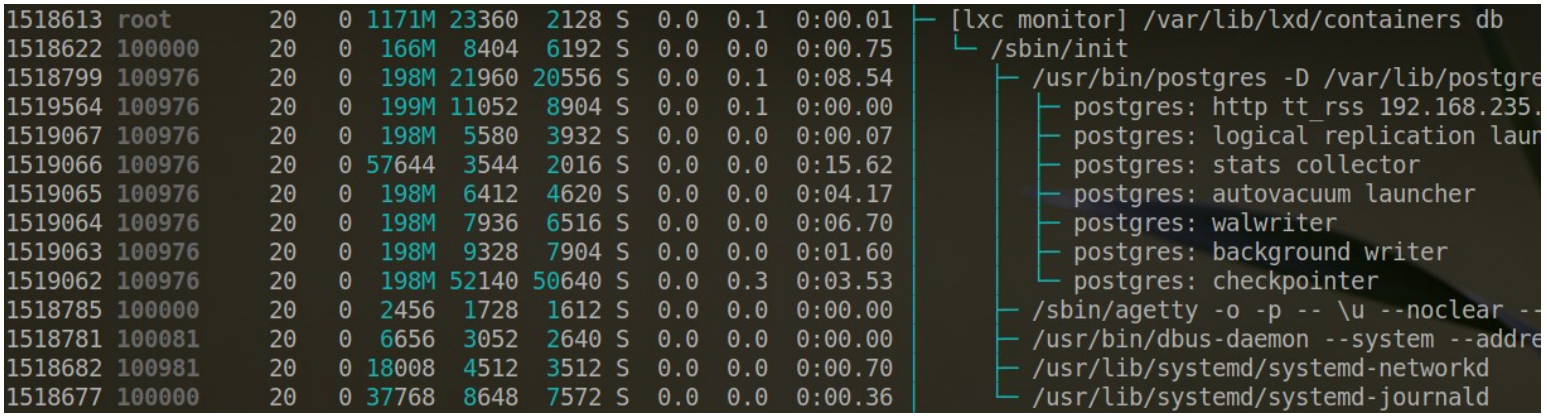
- Docker
  - Officially supported by Arch Linux
    https://github.com/archlinux/archlinux-docker

```
$ docker run -it archlinux:latest
```



Containers - LXC + LXD

- Out-of-box support for systemd, even in unpriviledged containers



- Maintained by *Canonical* CANONICAL
  - May not follow Arch Linux – pre-installs vi and nano
  - Various minor issues (nftables, rsync, ...)

```
$ lxc launch images:archlinux test-container
$ lxc exec test-container bash
```

Local Virtual Machines - Vagrant

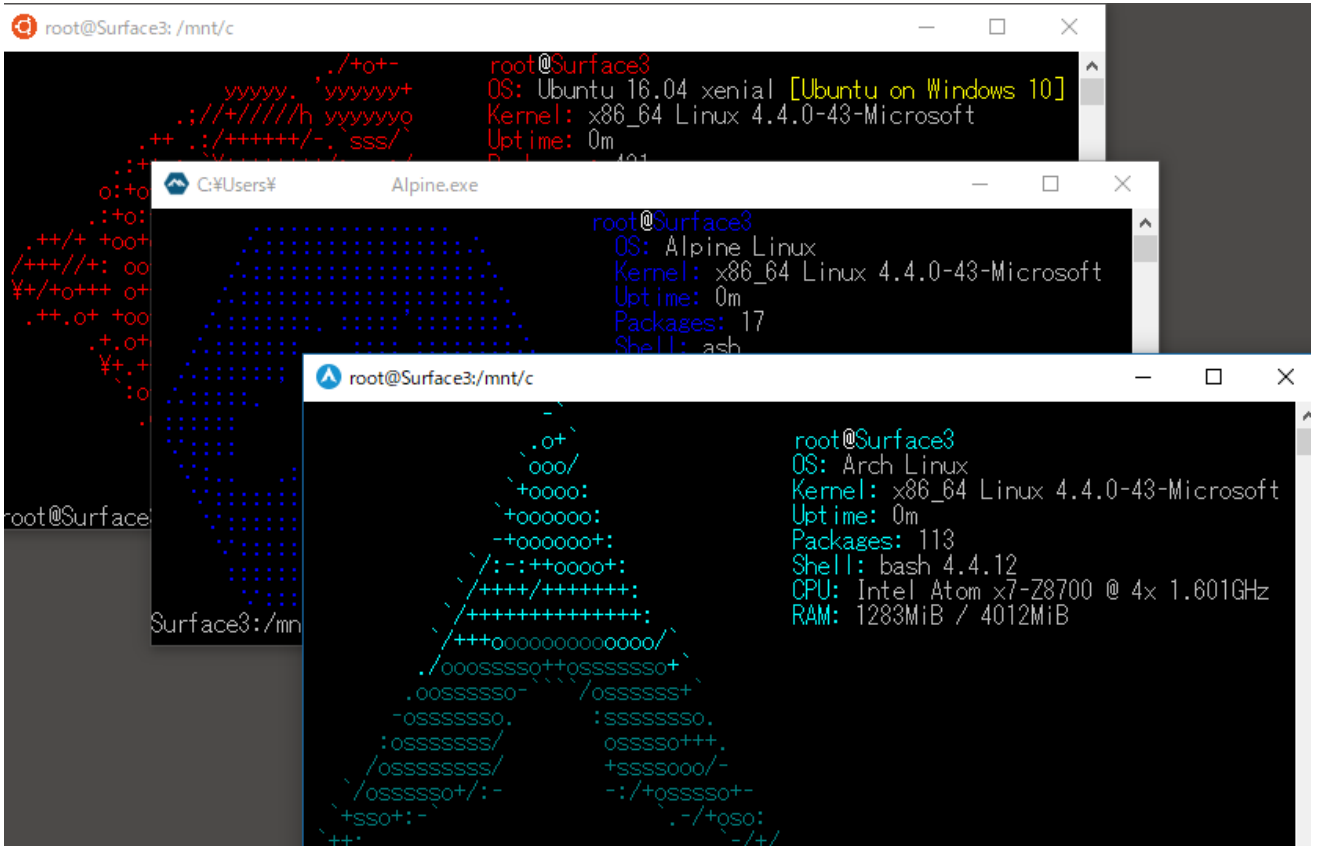
- Officially supported by Arch Linux
  https://gitlab.archlinux.org/archlinux/arch-boxes
- Arch Linux provides VirtualBox and libvirt/QEMU images
  - With corresponding guest tools pre-installed

```
$ vagrant init archlinux/archlinux
$ vagrant up
$ vagrant ssh
```

- Suitable for testing
  - Creates an account `vagrant` with password `vagrant`

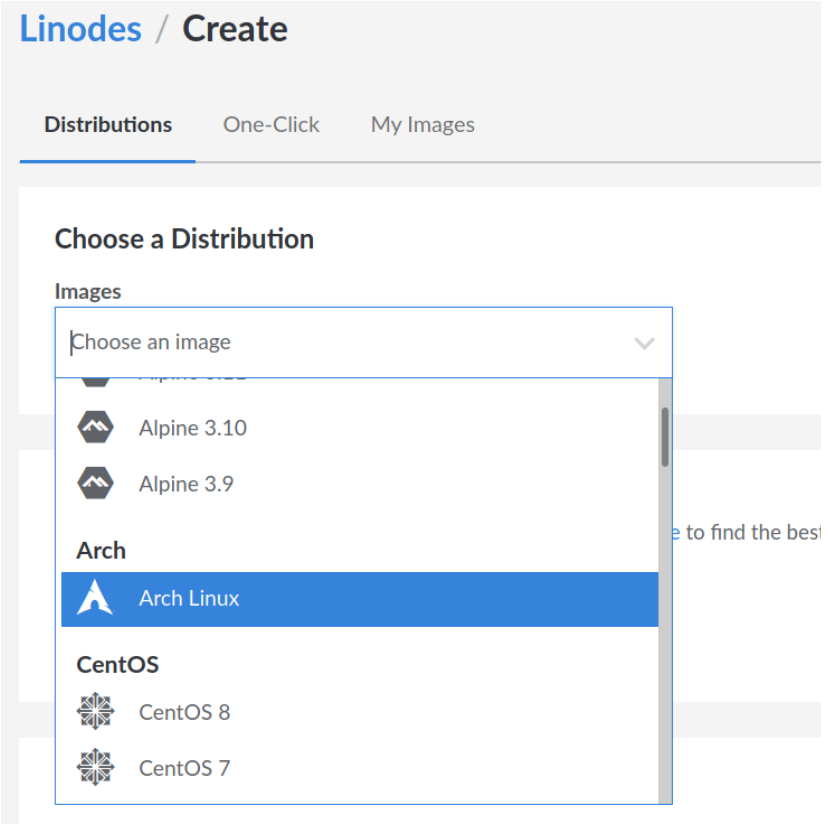
Local Virtual Machines – WSL

- https://github.com/yuk7/ArchWSL/



Cloud VMs - Linode

- Officially supported by Linode
- I didn’t find the script to build the image
- By default, the image uses a custom kernel not packaged on AUR



Cloud VMs - Google Compute Engine

- Semi-officially supported by Google
  - No Arch Linux in public GCE images
  - A Google-maintained script and a GCP project with a prebuilt Arch image

GoogleCloudPlatform / **compute-archlinux-image-builder**

master · 1 branch · 5 tags · Go to file · Add file · Code

toastwaffle Merge pull request #35 from yan12125/dont-touch-host-machine-id ··· 0b502ed 12 days ago 45 commits

CONTRIB.md	Brings the project up to date with a new bash implementation.	2 years ago
LICENSE	Update LICENSE	3 years ago
README.md	Fixes typo.	2 years ago
build-arch-gce	Don't touch machine-id on the building host	12 days ago

Clone an Existing System on a Physical/ Virtual Machine

- rsync
  - Cloning files – slower
- Snapshot features built into filesystems
  - Btrfs send/receive
  - ZFS send/receive
- CloneZilla (再生龍)
  - Cloning partitions/disks, not supporting cloning from larger to smaller partitions/disks

Customized Live System

- Arch ISO build scripts: https://gitlab.archlinux.org/archlinux/archiso
- My own live CD with many tools at https://github.com/yan12125/archiso
  - X11
  - Firefox
  - CloneZilla
  - GParted

Clone an Existing Container

- Docker

```
$ docker export -o filename.tar container_id
$ docker import filename.tar another_container_id
```

- LXC+LXD
  - May need to be patched for rsync compatibility on Arch Linux

```
$ lxc copy container_name another_container_name
```

Post-installation – System Settings

- Ansible
  - Using YAML
  - Supports bare metal (SSH), virtual machines (libvirt) and containers (docker, LXD+LXC, …)

```
# install.sh
pacman -S --needed \
    --noconfirm foobar
```

Define “steps”

```
# install.yml
pacman: name=foobar state=present
```

Define “states”

- Check out a talk later – *Ansible: From VM to Kubernetes*

Post-Installation – Personal Settings

- Keep settings for as many applications as possible in XDG directories
  - Application support: https://wiki.archlinux.org/index.php/XDG_Base_Directory#Supported
  - Ex: `alias gdb="gdb -x $HOME/.config/gdbinit.py"`
- Sync XDG directories whenever a new copy of Arch Linux is installed