

Home Server

1 Specs Server

CPU: Intel Jasper Lake N5105 - Cache quad-core a quattro thread da 4 MB, 2.0GHz, fino a 2.9GHz 10W

RAM: DDR4 da 8 GB 2933 MHz

Storage: SSD M.2 da 256 GB + SSD SATA da 2,5 pollici 2 TB

SO: Ubuntu Server 20.4 (no GUI)

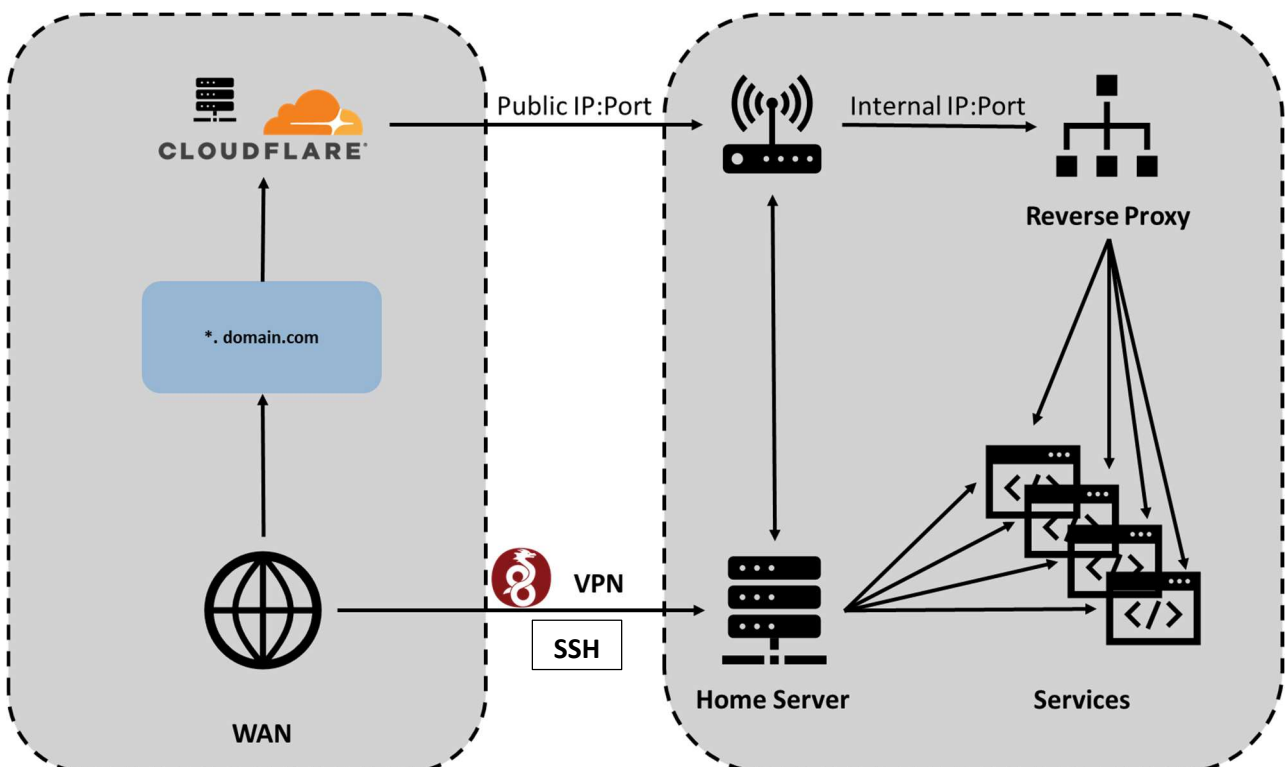
Cost: 240 €

2 Architecture flow

This section aims to provide an overview of the network flow used by the infrastructure set up for the home server.

2.1 Network flow

This section aims to provide an overview of the network flow used to reach the home network from outside.



The main flow will be of two types:

- Public flow
- Private flow

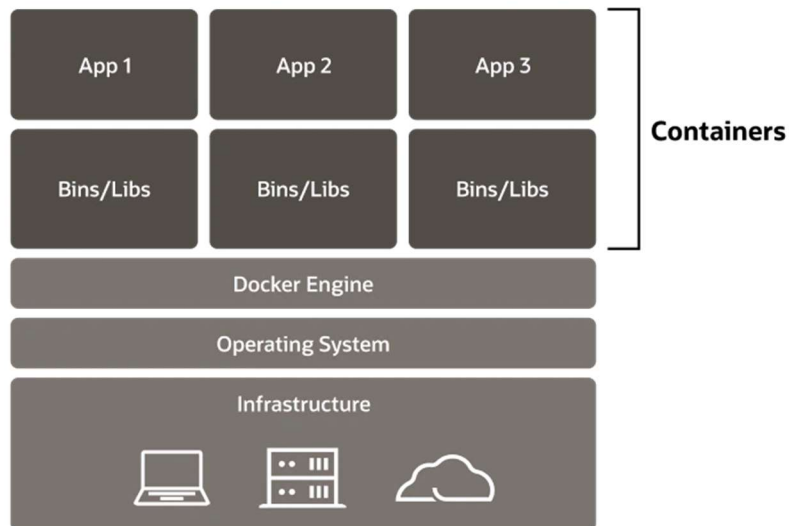
2.1.1 Public flow

This will be the flow used to connect to services reachable from the Internet, publicly exposing only the Reverse Proxy that will internally redirect to the services.

2.1.2 Private flow

This will be the flow used to connect to the Server with ssh protocol and to the internal services using a VPN. This is because the server and some core services will not be publicly exposed but will only be accessible from the internal network.

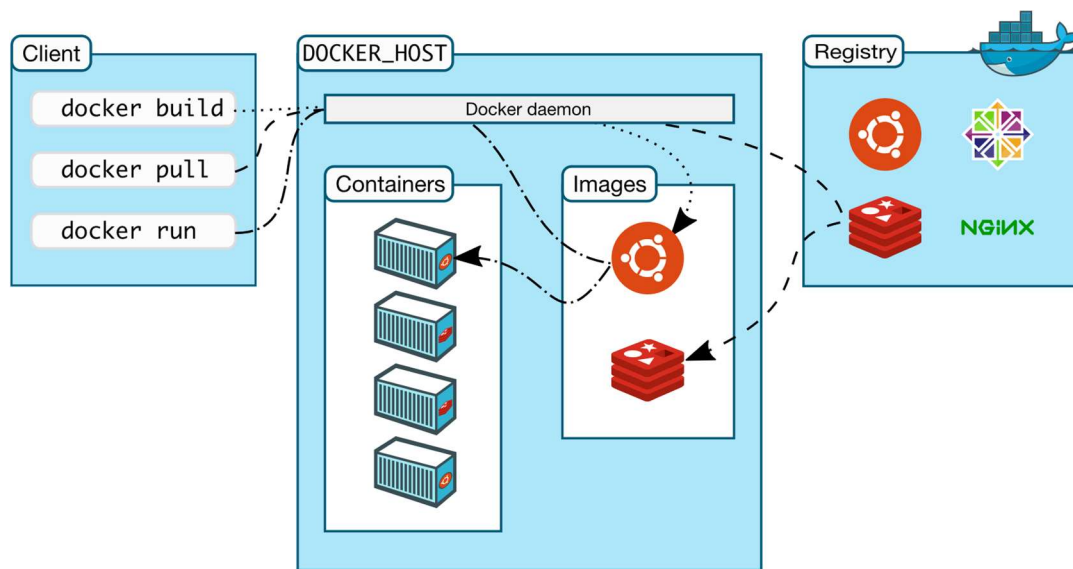
2.2 Server Architecture



Containers

- Containers include the app and all of its dependencies, but **share the kernel** with other containers.
- Run as an isolated process in userspace on the host operating system.
- Not tied to any specific infrastructure - containers run on any computer, on any infrastructure and in any cloud.

2.3 Docker architecture



3 SO

At the moment will be used a standard installation of Ubuntu Server 20.4 (no GUI) with the installation of:

- OpenSSH
- Docker
- Network drivers

4 Orchestrator

An orchestrator will be used for the administration of Docker containers and the installation (when possible) of new services, the service chosen being:

- Portainer