

PARTIE 1

Prérequis

```
[root@guest-019-064:/home/ksoares/Documents/devenv_vagrant# vagrant -v
Vagrant 2.3.4
```

Créer et initialiser un projet Vagrant

```
[ksoares@guest-019-064:~/Documents$ lsmod | grep -i box
vboxguest                57344  0
[ksoares@guest-019-064:~/Documents$ systemctl start libvirtd
==== AUTHENTICATING FOR org.freedesktop.systemd1.manage-units ====
Authentication requise pour démarrer « libvirtd.service ».
Authenticating as: Kevin Soares (ksoares)
Password:
==== AUTHENTICATION COMPLETE ====
[ksoares@guest-019-064:~/Documents$ mkdir vagrant-test
[ksoares@guest-019-064:~/Documents$ cd vagrant-test
[ksoares@guest-019-064:~/Documents/vagrant-test$ vagrant init generic/ubuntu2004
A `Vagrantfile` has been placed in this directory. You are now
ready to `vagrant up` your first virtual environment! Please read
the comments in the Vagrantfile as well as documentation on
`vagrantup.com` for more information on using Vagrant.
[ksoares@guest-019-064:~/Documents/vagrant-test$ ls
Vagrantfile
```

Démarrer une machine virtuelle

```
[ksoares@guest-019-064:~/Documents/vagrant-test$ vagrant up --provider=libvirt
Bringing machine 'default' up with 'libvirt' provider...
==> default: Box 'generic/ubuntu2004' could not be found. Attempting to find and install...
default: Box Provider: libvirt
default: Box Version: >= 0
==> default: Loading metadata for box 'generic/ubuntu2004'
default: URL: https://vagrantcloud.com/generic/ubuntu2004
==> default: Adding box 'generic/ubuntu2004' (v4.3.12) for provider: libvirt
default: Downloading: https://vagrantcloud.com/generic/boxes/ubuntu2004/versions/4.3.12/providers/libvirt/amd64/vagrant.box
default: Calculating and comparing box checksum...
==> default: Successfully added box 'generic/ubuntu2004' (v4.3.12) for 'libvirt'!
==> default: Uploading base box image as volume into Libvirt storage...
==> default: Creating image (snapshot of base box volume)...
==> default: Creating domain with the following settings...
default: -- Name: vagrant-test_default
default: -- Description: Source: /home/ksoares/Documents/vagrant-test/Vagrantfile
default: Key inserted! Disconnecting and reconnecting using new SSH key...
==> default: Machine booted and ready!
[ksoares@guest-019-064:~/Documents/vagrant-test$
```

Redémarrer une machine virtuelle en cours d'exécution

```
[ksoares@guest-019-064:~/Documents/vagrant-test$ vagrant reload
==> default: Attempting graceful shutdown of VM...
==> default: Creating shared folders metadata...
==> default: Starting domain.
==> default: Domain launching with graphics connection settings...
==> default: -- Graphics Port: 5900
==> default: -- Graphics IP: 127.0.0.1
==> default: -- Graphics Password: Not defined
==> default: -- Graphics Websocket: 5700
==> default: Waiting for domain to get an IP address...
==> default: Waiting for machine to boot. This may take a few minutes...
default: SSH address: 192.168.122.14:22
default: SSH username: vagrant
default: SSH auth method: private key
default: Warning: Host unreachable. Retrying...
default: Warning: Host unreachable. Retrying...
default: Warning: Connection refused. Retrying...
==> default: Machine booted and ready!
==> default: Machine already provisioned. Run `vagrant provision` or use the `--provision`
==> default: flag to force provisioning. Provisioners marked to run always will still run.
```

Suspendre une machine virtuelle

```
[ksoares@guest-019-064:~/Documents/vagrant-test$ vagrant suspend  
==> default: Suspending domain...  
ksoares@guest-019-064:~/Documents/vagrant-test$
```

Redémarrer une machine virtuelle suspendue

```
[ksoares@guest-019-064:~/Documents/vagrant-test$ vagrant resume  
==> default: Resuming domain...  
==> default: Waiting for machine to boot. This may take a few minutes...  
default: SSH address: 192.168.122.14:22  
default: SSH username: vagrant  
default: SSH auth method: private key  
==> default: Machine booted and ready!  
==> default: Machine already provisioned. Run `vagrant provision` or use the `--provision`  
==> default: flag to force provisioning. Provisioners marked to run always will still run.
```

Arrêter une machine virtuelle

```
[ksoares@guest-019-064:~/Documents/vagrant-test$ vagrant halt  
==> default: Attempting graceful shutdown of VM...
```

Répertoires synchronisés

```
# Create a private network, which allows host-only access to the machine  
# using a specific IP.  
config.vm.network "private_network", ip: "192.168.33.10"  
config.vm.synced_folder "/home/ksoares/Documents/shared-vagrant", "/var/www/assets", type: "rsync"  
[ksoares@guest-019-064:~/Documents/vagrant-test$ vagrant up --provider=libvirt  
Bringing machine 'default' up with 'libvirt' provider...  
==> default: Checking if box 'generic/ubuntu2004' version '4.3.12' is up to date...  
==> default: Creating shared folders metadata...  
==> default: Starting domain.  
==> default: Domain launching with graphics connection settings...  
==> default: -- Graphics Port: 5900  
==> default: -- Graphics IP: 127.0.0.1  
==> default: -- Graphics Password: Not defined  
==> default: -- Graphics Websocket: 5700  
==> default: Waiting for domain to get an IP address...  
==> default: Waiting for machine to boot. This may take a few minutes...  
default: SSH address: 192.168.122.14:22  
default: SSH username: vagrant  
default: SSH auth method: private key  
default: Warning: Host unreachable. Retrying...  
default: Warning: Host unreachable. Retrying...  
default: Warning: Host unreachable. Retrying...  
default: Warning: Connection refused. Retrying...  
==> default: Machine booted and ready!  
==> default: Rsyncing folder: /home/ksoares/Documents/shared-vagrant/ => /var/www/assets  
==> default: Machine already provisioned. Run `vagrant provision` or use the `--provision`  
==> default: flag to force provisioning. Provisioners marked to run always will still run.
```

Gestion des distributions d'OS

Lister les distributions installées

```
[ksoares@guest-019-064:~/Documents/vagrant-test$ vagrant box list
generic/ubuntu2004 (libvirt, 4.3.12)
```

Ajouter une nouvelle distribution

```
[ksoares@guest-019-064:~/Documents/vagrant-test$ vagrant halt
[ksoares@guest-019-064:~/Documents/vagrant-test$ vagrant box add --force hashicorp/precise64
==> box: Loading metadata for box 'hashicorp/precise64'
      box: URL: https://vagrantcloud.com/hashicorp/precise64
This box can work with multiple providers! The providers that it
can work with are listed below. Please review the list and choose
the provider you will be working with.

1) hyperv
2) virtualbox
3) vmware_fusion

Enter your choice: 2
==> box: Adding box 'hashicorp/precise64' (v1.1.0) for provider: virtualbox
      box: Downloading: https://vagrantcloud.com/hashicorp/boxes/precise64/versions/1.1.0/providers/virtualbox/unknown/vagrant.box
==> box: Successfully added box 'hashicorp/precise64' (v1.1.0) for 'virtualbox!'
ksoares@guest-019-064:~/Documents/vagrant-test$
```

Vérifier les mises à jour des distributions installées

```
[ksoares@guest-019-064:~/Documents/vagrant-test$ vagrant box outdated
Checking if box 'generic/ubuntu2004' version '4.3.12' is up to date...
```

Supprimer une distribution

```
[ksoares@guest-019-064:~/Documents/vagrant-test$ vagrant box remove hashicorp/precise64
Removing box 'hashicorp/precise64' (v1.1.0) with provider 'virtualbox'...
```

Mettre à jour la distribution de l'environnement courant

```
[ksoares@guest-019-064:~/Documents/vagrant-test$ vagrant box update
==> default: Checking for updates to 'generic/ubuntu2004'
      default: Latest installed version: 4.3.12
      default: Version constraints:
      default: Provider: libvirt
==> default: Box 'generic/ubuntu2004' (v4.3.12) is running the latest version.
ksoares@guest-019-064:~/Documents/vagrant-test$
```

Vagrant et Docker

/

Lister les environnements actifs

```
[ksoares@guest-019-064:~/Documents/vagrant-test$ vagrant global-status
id      name      provider state  directory
-----
356e781 default libvirt  shutoff /home/ksoares/Documents/vagrant-test
```

The above shows information about all known Vagrant environments on this machine. This data is cached and may not be completely up-to-date (use "vagrant global-status --prune" to prune invalid entries). To interact with any of the machines, you can go to that directory and run Vagrant, or you can use the ID directly with Vagrant commands from any directory. For example:
"vagrant destroy 1a2b3c4d"

Se connecter à une VM contrôlée par Vagrant

```
[ksoares@guest-019-064:~/Documents/vagrant-test$ vagrant ssh
vagrant@ubuntu2004:~$
```

Installer des logiciels

```

ksoares@guest-019-064:~/Documents/vagrant-test$ vagrant ssh
Last login: Wed May 21 14:41:18 2025 from 192.168.122.1
vagrant@ubuntu2004:~$ sudo apt-get update
Hit:1 http://us.archive.ubuntu.com/ubuntu focal InRelease
Get:2 http://us.archive.ubuntu.com/ubuntu focal-updates InRelease [128 kB]
Get:3 http://us.archive.ubuntu.com/ubuntu focal-backports InRelease [128 kB]
Get:4 http://us.archive.ubuntu.com/ubuntu focal-updates/main i386 Packages [1,112 kB]
Get:5 http://us.archive.ubuntu.com/ubuntu focal-updates/main amd64 Packages [3,947 kB]
Get:6 http://us.archive.ubuntu.com/ubuntu focal-updates/main Translation-en [599 kB]
Get:7 http://us.archive.ubuntu.com/ubuntu focal-updates/main amd64 c-n-f Metadata [18.0 kB]
Get:8 http://us.archive.ubuntu.com/ubuntu focal-updates/restricted i386 Packages [44.1 kB]
Get:9 http://us.archive.ubuntu.com/ubuntu focal-updates/restricted amd64 Packages [3,907 kB]
Get:10 http://us.archive.ubuntu.com/ubuntu focal-updates/restricted Translation-en [547 kB]
Get:11 http://us.archive.ubuntu.com/ubuntu focal-updates/restricted amd64 c-n-f Metadata [604 B]
Get:12 http://us.archive.ubuntu.com/ubuntu focal-updates/universe amd64 Packages [1,262 kB]
Get:13 http://us.archive.ubuntu.com/ubuntu focal-updates/universe i386 Packages [824 kB]
Get:14 http://us.archive.ubuntu.com/ubuntu focal-updates/universe Translation-en [303 kB]
Get:15 http://us.archive.ubuntu.com/ubuntu focal-updates/universe amd64 c-n-f Metadata [29.3 kB]
Get:16 http://us.archive.ubuntu.com/ubuntu focal-updates/multiverse i386 Packages [8,440 B]
Get:17 http://us.archive.ubuntu.com/ubuntu focal-updates/multiverse amd64 Packages [29.7 kB]
Get:18 http://us.archive.ubuntu.com/ubuntu focal-updates/multiverse Translation-en [8,316 B]
Get:19 http://us.archive.ubuntu.com/ubuntu focal-updates/multiverse amd64 c-n-f Metadata [688 B]
Err:20 http://security.ubuntu.com/ubuntu focal-security InRelease
       Temporary failure resolving 'security.ubuntu.com'
Fetched 12.9 MB in 35s (367 kB/s)
Reading package lists... Done
W: Failed to fetch http://security.ubuntu.com/ubuntu/dists/focal-security/InRelease Temporary failure resolving 'security.ubuntu.com'
W: Some index files failed to download. They have been ignored, or old ones used instead.
vagrant@ubuntu2004:~$ sudo apt-get upgrade
Reading package lists... Done
Building dependency tree
Reading state information... Done

```

PARTIE 2

Pré-requis

```

ksoares@guest-019-064:~/Documents/vagrant-test$ pip install ansible-lint[yamllint]
Defaulting to user installation because normal site-packages is not writeable
Requirement already satisfied: ansible in /usr/lib/python3.12/site-packages (9.10.0)
Collecting ansible-lint[yamllint]
  Downloading ansible-lint-25.4.0-py3-none-any.whl.metadata (7.0 kB)
Requirement already satisfied: ansible-core~=2.16.11 in /usr/lib/python3.12/site-packages (from ansible) (2.16.11)
Requirement already satisfied: Jinja2>=3.0.0 in /usr/lib/python3.12/site-packages (from ansible-core==2.16.11->ansible) (3.1.4)
Requirement already satisfied: PyYAML>=5.1 in /usr/lib/python3.12/site-packages (from ansible-core==2.16.11->ansible) (6.0.1)
Requirement already satisfied: cryptography in /usr/lib/python3.12/site-packages (from ansible-core==2.16.11->ansible) (41.0.7)
Requirement already satisfied: packaging in /usr/lib/python3.12/site-packages (from ansible-core==2.16.11->ansible) (23.1)
Requirement already satisfied: resolvelib<1.1.0,>=0.5.3 in /usr/lib/python3.12/site-packages (from ansible-core==2.16.11->ansible) (0.5.5)
WARNING: ansible-lint 25.4.0 does not provide the extra 'yamllint'
Collecting ansible-compat>=25.1.5 (from ansible-lint[yamllint])
  Downloading ansible_compat-25.5.0-py3-none-any.whl.metadata (3.9 kB)
Collecting black>=24.3.0 (from ansible-lint[yamllint])
  Downloading black-25.1.0-cp312-cp312-manylinux_2_17_x86_64.manylinux2014_x86_64.manylinux_2_28_x86_64.whl.metadata (81 kB)
Collecting filelock>=3.8.2 (from ansible-lint[yamllint])
  Downloading filelock-3.18.0-py3-none-any.whl.metadata (2.9 kB)
Collecting importlib-metadata (from ansible-lint[yamllint])
  Downloading importlib_metadata-6.8.0-py3-none-any.whl.metadata (4.0 kB)

```

Clé SSH

```

ksoares@guest-019-064:~/Documents/vagrant-test$ ssh-keygen -t rsa -f vagrant_id_rsa
Generating public/private rsa key pair.
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in vagrant_id_rsa
Your public key has been saved in vagrant_id_rsa.pub
The key fingerprint is:
SHA256:X2rwnVbXf9wGKuPEIu9dGpfjk8xsJn376DpSnCeppbk ksoares@guest-019-064.dmiage.parisnanterre.fr
The key's randomart image is:
+---[RSA 3072]-----+
|      .      |
|      . o o |
|      . . = . o o |
|    o + o . o |
|      S +.Bo. |
|      . B /B+. |
|      . %*@o. |
|      o==.o o |
|      Eo.++. |
+---[SHA256]-----+

```