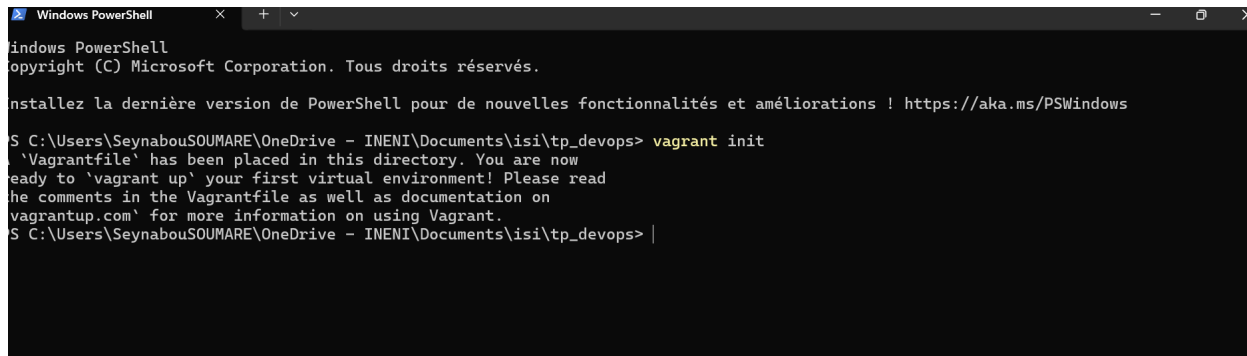


## TP2: TP Linux - mise en place d'un cluster de 2 nodes

### Initialisation de Vagrant

**Description de l'étape :** Initialisation de Vagrant.

1. Commande exécutée : **vagrant init**.
2. Résultat : Génération d'un fichier **Vagrantfile** pour configurer les machines virtuelles.



```
Windows PowerShell
Copyright (C) Microsoft Corporation. Tous droits réservés.

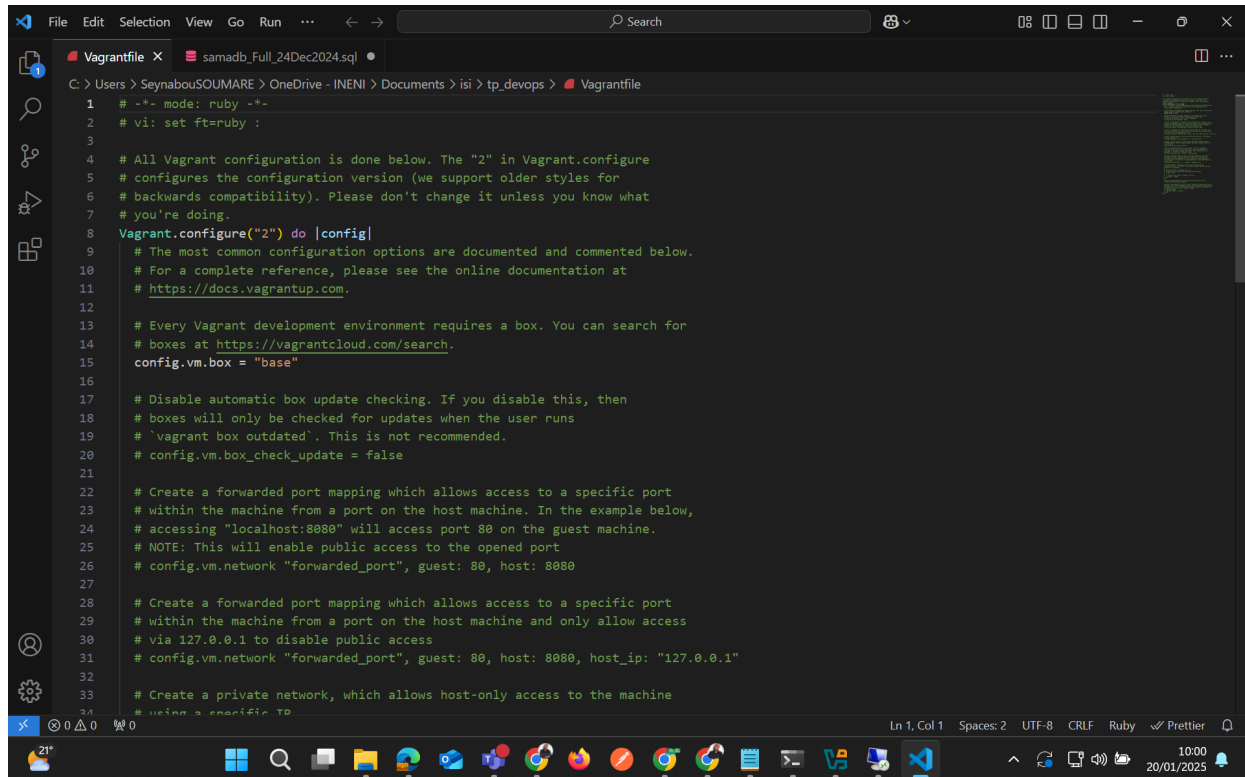
Installez la dernière version de PowerShell pour de nouvelles fonctionnalités et améliorations ! https://aka.ms/PSWindows

S C:\Users\SeynabouSOUWARE\OneDrive - INENTI\Documents\isi\tp_devops> vagrant init
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.
S C:\Users\SeynabouSOUWARE\OneDrive - INENTI\Documents\isi\tp_devops> |
```

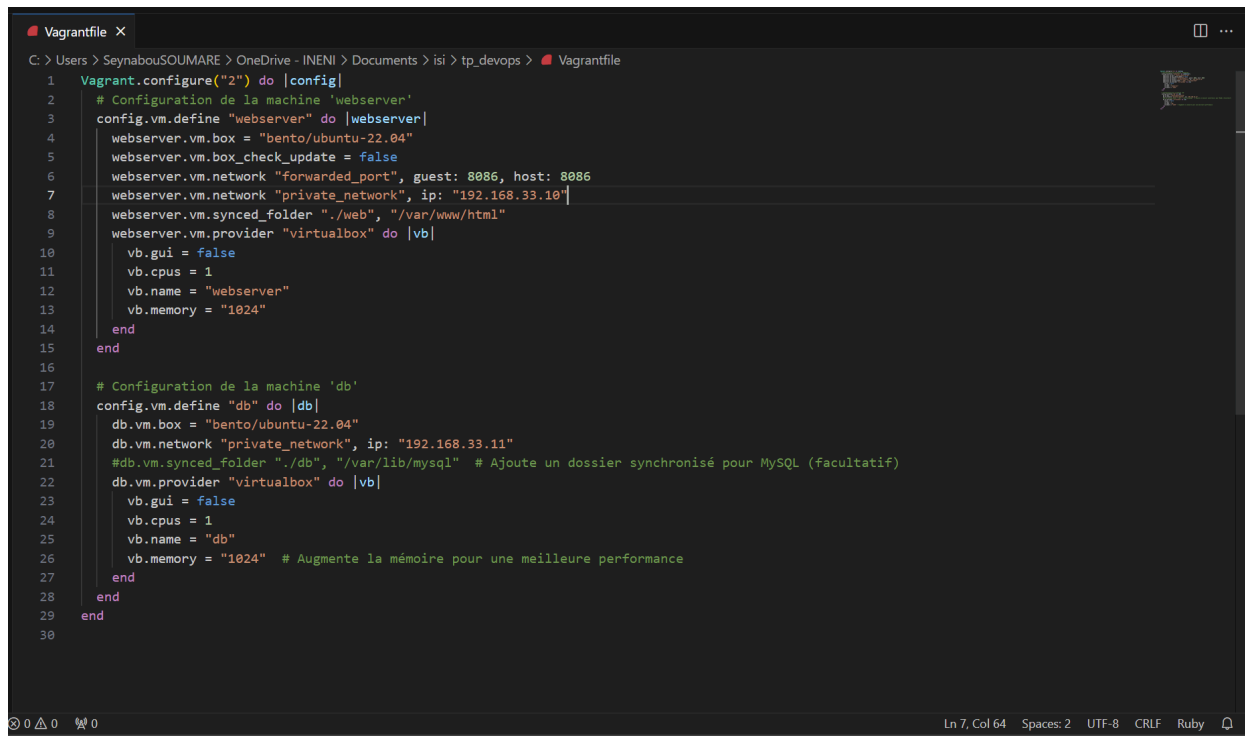
### Modification du fichier Vagrantfile

**Description de l'étape :** Configuration des machines virtuelles.

1. Ajout des configurations pour deux machines : **webserver** et **db**.
2. Définition des paramètres réseau et des ressources système.



```
1 # -*- mode: ruby -*-
2 # vi: set ft=ruby :
3
4 # All Vagrant configuration is done below. The "2" in Vagrant.configure
5 # configures the configuration version (we support older styles for
6 # backwards compatibility). Please don't change it unless you know what
7 # you're doing.
8 Vagrant.configure("2") do |config|
9
10 # The most common configuration options are documented and commented below.
11 # For a complete reference, please see the online documentation at
12 # https://docs.vagrantup.com.
13
14 # Every Vagrant development environment requires a box. You can search for
15 # boxes at https://vagrantcloud.com/search.
16 config.vm.box = "base"
17
18 # Disable automatic box update checking. If you disable this, then
19 # boxes will only be checked for updates when the user runs
20 # 'vagrant box outdated'. This is not recommended.
21 # config.vm.box_check_update = false
22
23 # Create a forwarded port mapping which allows access to a specific port
24 # within the machine from a port on the host machine. In the example below,
25 # accessing "localhost:8080" will access port 80 on the guest machine.
26 # NOTE: This will enable public access to the opened port
27 # config.vm.network "forwarded_port", guest: 80, host: 8080
28
29 # Create a forwarded port mapping which allows access to a specific port
30 # within the machine from a port on the host machine and only allow access
31 # via 127.0.0.1 to disable public access
32 # config.vm.network "forwarded_port", guest: 80, host: 8080, host_ip: "127.0.0.1"
33
34 # Create a private network, which allows host-only access to the machine
35 # using a specific IP
```



```
1 Vagrant.configure("2") do |config|
2 # Configuration de la machine 'webserver'
3 config.vm.define "webserver" do |webserver|
4 webserver.vm.box = "bento/ubuntu-22.04"
5 webserver.vm.box_check_update = false
6 webserver.vm.network "forwarded_port", guest: 8086, host: 8086
7 webserver.vm.network "private_network", ip: "192.168.33.10"
8 webserver.vm.synced_folder "./web", "/var/www/html"
9 webserver.vm.provider "virtualbox" do |vb|
10 vb.gui = false
11 vb.cpus = 1
12 vb.name = "webserver"
13 vb.memory = "1024"
14 end
15 end
16
17 # Configuration de la machine 'db'
18 config.vm.define "db" do |db|
19 db.vm.box = "bento/ubuntu-22.04"
20 db.vm.network "private_network", ip: "192.168.33.11"
21 #db.vm.synced_folder "./db", "/var/lib/mysql" # Ajoute un dossier synchronisé pour MySQL (facultatif)
22 db.vm.provider "virtualbox" do |vb|
23 vb.gui = false
24 vb.cpus = 1
25 vb.name = "db"
26 vb.memory = "1024" # Augmente la mémoire pour une meilleure performance
27 end
28 end
29 end
30
```

## Validation du fichier Vagrantfile

Description de l'étape : Validation de la configuration.

1. Commande exécutée : **vagrant validate**.
2. Résultat : Confirmation que le fichier **Vagrantfile** est correct.

```
PS C:\Users\SeynabouSOUMARE\OneDrive - INENI\Documents\isi\tp_devops> vagrant validate
Vagrantfile validated successfully.
PS C:\Users\SeynabouSOUMARE\OneDrive - INENI\Documents\isi\tp_devops> |
```

## Lancement des VM avec Vagrant

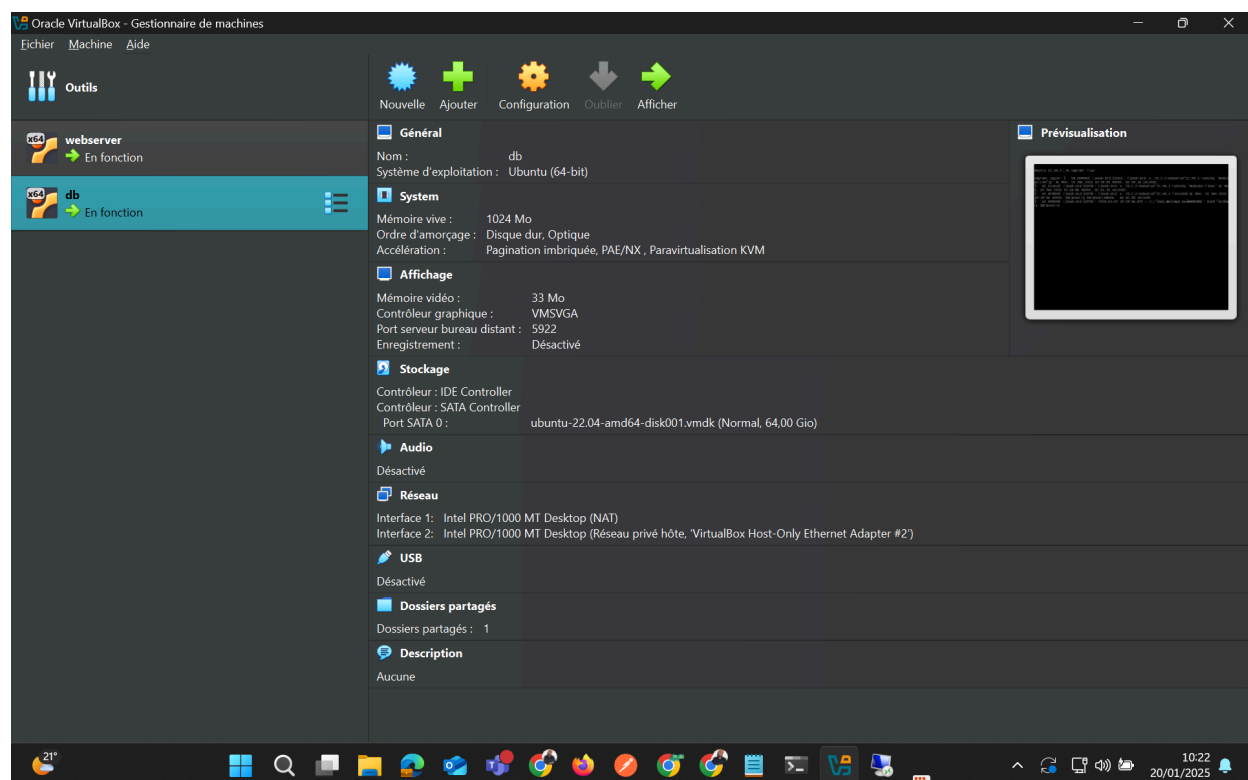
**Description de l'étape :** Création et démarrage des machines virtuelles.

1. Commande exécutée : **vagrant up**.
2. Résultat : Les machines virtuelles **webserver** et **db** sont démarrées.

```

=> db: Fixed port collision for 22 => 2222. Now on port 2200.
=> db: Clearing any previously set network interfaces...
=> db: Preparing network interfaces based on configuration...
db: Adapter 1: nat
db: Adapter 2: hostonly
=> db: Forwarding ports...
db: 22 (guest) => 2200 (host) (adapter 1)
=> db: Running 'pre-boot' VM customizations...
=> db: Booting VM...
=> db: Waiting for machine to boot. This may take a few minutes...
db: SSH address: 127.0.0.1:2200
db: SSH username: vagrant
db: SSH auth method: private key
db: Warning: Connection reset. Retrying...
db: Warning: Connection aborted. Retrying...
db:
db: Vagrant insecure key detected. Vagrant will automatically replace
db: this with a newly generated keypair for better security.
db:
db: Inserting generated public key within guest...
db: Removing insecure key from the guest if it's present...
db: Key inserted! Disconnecting and reconnecting using new SSH key...
=> db: Machine booted and ready!
=> db: Checking for guest additions in VM...
db: The guest additions on this VM do not match the installed version of
db: VirtualBox! In most cases this is fine, but in rare cases it can
db: prevent things such as shared folders from working properly. If you see
db: shared folder errors, please make sure the guest additions within the
db: virtual machine match the version of VirtualBox you have installed on
db: your host and reload your VM.
db:
db: Guest Additions Version: 7.0.10
db: VirtualBox Version: 7.1
=> db: Configuring and enabling network interfaces...
=> db: Mounting shared folders...
db: C:/Users/SeynabouSOUARE/OneDrive - INENI/Documents/isi/tp_devops => /vagrant
S C:\Users\SeynabouSOUARE\OneDrive - INENI\Documents\isi\tp_devops> |

```



## Connexion SSH aux machines

**Description de l'étape :** Accès aux machines virtuelles via SSH.

1. Commande pour **webserver** : **vagrant ssh webserver**.

```
PS C:\Users\SeynabouSOUARE\OneDrive - INENI\Documents\isi\tp_devops> vagrant ssh webserver
Welcome to Ubuntu 22.04.3 LTS (GNU/Linux 5.15.0-83-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/advantage

System information as of Mon Jan 20 10:22:41 AM UTC 2025

System load:          0.11962890625
Usage of /:           12.0% of 30.34GB
Memory usage:         23%
Swap usage:           0%
Processes:            131
Users logged in:      0
IPv4 address for eth0: 10.0.2.15
IPv6 address for eth0: fd00::a00:27ff:fe3b:cf90
IPv4 address for eth1: 192.168.33.10

This system is built by the Bento project by Chef Software
More information can be found at https://github.com/chef/bento
vagrant@vagrant:~$
```

2. Commande pour **db** : **vagrant ssh db**.

```
Windows PowerShell
Copyright (C) Microsoft Corporation. Tous droits réservés.

Installez la dernière version de PowerShell pour de nouvelles fonctionnalités et améliorations ! https://aka.ms/PSWindows

PS C:\Users\SeynabouSOUARE\OneDrive - INENI\Documents\isi\tp_devops> vagrant ssh db
Welcome to Ubuntu 22.04.3 LTS (GNU/Linux 5.15.0-83-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/advantage

System information as of Mon Jan 20 10:24:29 AM UTC 2025

System load:          0.10107421875
Usage of /:           12.0% of 30.34GB
Memory usage:         22%
Swap usage:           0%
Processes:            130
Users logged in:      0
IPv4 address for eth0: 10.0.2.15
IPv6 address for eth0: fd00::a00:27ff:fe3b:cf90
IPv4 address for eth1: 192.168.33.11

This system is built by the Bento project by Chef Software
More information can be found at https://github.com/chef/bento
vagrant@vagrant:~$
```

## Mise à jour des VM et installation des paquets requis

**Description de l'étape :** Mise à jour des systèmes et installation des dépendances.

1. Mise à jour des paquets : **sudo apt update && sudo apt upgrade**.
2. Installation de paquets comme **mysql-server**, **openjdk-17-jdk**, et **maven**.

```
vagrant@vagrant:~$ sudo apt update
Hit:1 http://us.archive.ubuntu.com/ubuntu jammy InRelease
Hit:2 http://us.archive.ubuntu.com/ubuntu jammy-updates InRelease
Hit:3 http://us.archive.ubuntu.com/ubuntu jammy-backports InRelease
Hit:4 http://us.archive.ubuntu.com/ubuntu jammy-security InRelease
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
185 packages can be upgraded. Run 'apt list --upgradable' to see them.
vagrant@vagrant:~$ sudo apt install -y openjdk-17-jdk maven
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  adwaita-icon-theme alsa-topology-conf alsa-ucm-conf at-spi2-core ca-certificates-java dconf-gsettings-backend dconf-service
  default-jre-headless fontconfig fontconfig-config fonts-dejavu-core fonts-dejavu-extra gsettings-desktop-schemas
  gtk-update-icon-cache hicolor-icon-theme humanity-icon-theme java-common libaopalliance-java libapache-pom-java libasound2
  libasound2-data libatinject-jsr330-api-java libatk-bridge2.0-0 libatk-wrapper-java libatk-wrapper-java-jni libatk1.0-0
  libatk1.0-data libatspi2.0-0 libavahi-client3 libavahi-common-data libavahi-common3 libcairo-gobject2 libcairo2 libcdi-api-java
  libcommons-cli-java libcommons-io-java libcommons-lang3-java libcommons-parent-java libcupswrapper-java libdatriel libdconf1 libdeflate0
  libdrm-amdgpu1 libdrm-intel1 libdrm-nouveau2 libdrm-radeon1 libfontconfig1 libfontenc1 libgail-common libgail18
  libgdk-pixbuf-2.0-0 libgdk-pixbuf2.0-bin libgdk-pixbuf2.0-common libgeronimo-annotation-1.3-spec-java
  libgeronimo-interceptor-3.0-spec-java libgif7 libgl1 libgl1-amd-glx libgl1-mesa-dri libglapi-mesa libglvnd0 libglx-mesa0
  libglx0 libgraphite2-3 libgtk2.0-0 libgtk2.0-bin libgtk2.0-common libguava-java libguice-java libharfbuzz0b
  libhawtjni-runtime-java libice-dev libice6 libjansi-java libjansi-native-java libjbig0 libjpeg-turbo8 libjpeg8 libjsr305-java
  liblcms2-2 libllvm15 libmaven-parent-java libmaven-resolver-java libmaven-shared-utils-java libmaven3-core-java libpango-1.0-0
  libpangocairo-1.0-0 libpangoft2-1.0-0 libpciaccess0 libpcsc-lite1 libpixmap-1-0 libplexus-cipher-java libplexus-classworlds-java
  libplexus-component-annotations-java libplexus-interpolation-java libplexus-sec-dispatcher-java libplexus-utils2-java
  libpthread-stubs0-dev librsync2-2 librsync2-common libsensors-config libsensors5 libsisu-inject-java libsisu-plexus-java
  libslf4j-java libsm-dev libsm6 libthai-data libthai0 libtiff5 libwagon-file-java libwagon-http-shaded-java
  libwagon-provider-api-java libwebp7 libx11-6 libx11-data libx11-dev libx11-xcb1 libxau-dev libxau6 libxaw7 libxcb-dri2-0
  libxcb-dri3-0 libxcb-glx0 libxcb-present0 libxcb-randr0 libxcb-render0 libxcb-shape0 libxcb-shm0 libxcb-sync1 libxcb-xfixes0
  libxcb1 libxcb1-dev libxcomposite1 libxcursor1 libxdamage1 libxdmcp-dev libxdmcp6 libxext6 libxfixes3 libxft2 libxi6 libxinerama1
```

## Clonage du dépôt Git

Description de l'étape : Téléchargement du code source de l'application.

1. Commande exécutée : `git clone https://github.com/ngorseck/admin-app`.

```
vagrant@vagrant:~$ git clone https://github.com/ngorseck/admin-app
Cloning into 'admin-app'...
remote: Enumerating objects: 237, done.
remote: Counting objects: 100% (237/237), done.
remote: Compressing objects: 100% (164/164), done.
remote: Total 237 (delta 100), reused 188 (delta 53), pack-reused 0 (from 0)
Receiving objects: 100% (237/237), 893.95 KiB | 1.50 MiB/s, done.
Resolving deltas: 100% (100/100), done.
vagrant@vagrant:~$ |
```

2. Résultat : Les fichiers de l'application sont téléchargés dans le répertoire `admin-app`.

```

vagrant@vagrant:~$ git clone https://github.com/ngorseck/admin-app
Cloning into 'admin-app'...
remote: Enumerating objects: 237, done.
remote: Counting objects: 100% (237/237), done.
remote: Compressing objects: 100% (164/164), done.
remote: Total 237 (delta 100), reused 188 (delta 53), pack-reused 0 (from 0)
Receiving objects: 100% (237/237), 893.95 KiB | 1.50 MiB/s, done.
Resolving deltas: 100% (100/100), done.
vagrant@vagrant:~$ cd admin-app
vagrant@vagrant:~/admin-app$ ls
compose.yml  img_10.png  img_2.png  img_4.png  img_6.png  img_8.png  img.png  logs  mvnw.cmd  README.md
Dockerfile  img_1.png  img_3.png  img_5.png  img_7.png  img_9.png  k8s      mvnw  pom.xml  src
vagrant@vagrant:~/admin-app$ cd src/
vagrant@vagrant:~/admin-app/src$ ls
main  test
vagrant@vagrant:~/admin-app/src$ cd main
vagrant@vagrant:~/admin-app/src/main$ ls
java  resources
vagrant@vagrant:~/admin-app/src/main$ cd resources/
vagrant@vagrant:~/admin-app/src/main/resources$ ls
accueil.html  application.yml  index.html  layout.html  log4j2.xml  messages.properties
vagrant@vagrant:~/admin-app/src/main/resources$ vim application.yml
vagrant@vagrant:~/admin-app/src/main/resources$ |

```

```

server:
  port: 8080

spring:
  datasource:
    url: jdbc:mysql://${DB_HOST:localhost}:3306/${DB_NAME:adminapp-db}?createDatabaseIfNotExist=true&useUnicode=true&useJDBCCompliant
    TimeZoneShift=true&useLegacyDatetimeCode=false&serverTimezone=UTC
    username: ${DB_USERNAME:user}
    password: ${DB_PASSWORD:user123}
    driverClassName: com.mysql.cj.jdbc.Driver
    #Pour aws, nous navons pas besoin de driver
    # url: jdbc:mysql://database-mysql1.cv3dshuqxbdr.us-east-1.rds.amazonaws.com:3306/db_test?createDatabaseIfNotExist=true&useUnicode
    =true&useJDBCCompliantTimeZoneShift=true&useLegacyDatetimeCode=false&serverTimezone=UTC
    # username: admin
    # password: hLKQUq[#R{XW+wh)Ji!xs8Vs:XO[
    # url: jdbc:mysql://adminapp-db.cv3dshuqxbdr.us-east-1.rds.amazonaws.com:3306/adminappdb
    # username: admin
    # password: SamanecorporationPasser123!
  application:
    name: admin-app
    #SamanecorporationPasser123!
  jpa:
    hibernate:
      ddl-auto: update
      show-sql: true
      properties:
        hibernate:
          format_sql: true
          dialect: org.hibernate.dialect.MySQLDialect

  #modification pour le caching
  data:
    redis:
      host: localhost
      port: 6379
      timeout: 60000
"application.yml" [noeol] 72L, 1758B
1,1 Top

```

```
vagrant@vagrant: ~/admin-a
vagrant@vagrant:~/admin-app$ mvn clean package
[INFO] Scanning for projects...
Downloading from central: https://repo.maven.apache.org/maven2/org/springframework/boot/spring-boot-starter-parent/3.1.2/spring-boot-starter-parent-3.1.2.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/springframework/boot/spring-boot-starter-parent/3.1.2/spring-boot-starter-parent-3.1.2.pom (12 kB at 6.4 kB/s)

vagrant@vagrant:~$ sudo apt update
Hit:1 http://us.archive.ubuntu.com/ubuntu jammy InRelease
Get:2 http://us.archive.ubuntu.com/ubuntu jammy-updates InRelease [128 kB]
Get:3 http://us.archive.ubuntu.com/ubuntu jammy-backports InRelease [127 kB]
Get:4 http://us.archive.ubuntu.com/ubuntu jammy-security InRelease [129 kB]
Get:5 http://us.archive.ubuntu.com/ubuntu jammy-updates/main amd64 Packages [2,276 kB]
Get:6 http://us.archive.ubuntu.com/ubuntu jammy-updates/main Translation-en [382 kB]
Get:7 http://us.archive.ubuntu.com/ubuntu jammy-updates/restricted amd64 Packages [2,877 kB]
Get:8 http://us.archive.ubuntu.com/ubuntu jammy-updates/restricted Translation-en [501 kB]
Get:9 http://us.archive.ubuntu.com/ubuntu jammy-updates/universe amd64 Packages [1,183 kB]
Get:10 http://us.archive.ubuntu.com/ubuntu jammy-updates/universe Translation-en [289 kB]
Get:11 http://us.archive.ubuntu.com/ubuntu jammy-updates/multiverse amd64 Packages [44.5 kB]
Get:12 http://us.archive.ubuntu.com/ubuntu jammy-updates/multiverse Translation-en [11.5 kB]
Get:13 http://us.archive.ubuntu.com/ubuntu jammy-backports/main amd64 Packages [67.7 kB]
Get:14 http://us.archive.ubuntu.com/ubuntu jammy-backports/main Translation-en [11.1 kB]
Get:15 http://us.archive.ubuntu.com/ubuntu jammy-backports/universe amd64 Packages [28.9 kB]
Get:16 http://us.archive.ubuntu.com/ubuntu jammy-backports/universe Translation-en [16.5 kB]
Get:17 http://us.archive.ubuntu.com/ubuntu jammy-security/main amd64 Packages [2,041 kB]
Get:18 http://us.archive.ubuntu.com/ubuntu jammy-security/main Translation-en [321 kB]
Get:19 http://us.archive.ubuntu.com/ubuntu jammy-security/restricted amd64 Packages [2,772 kB]
Get:20 http://us.archive.ubuntu.com/ubuntu jammy-security/restricted Translation-en [484 kB]
Get:21 http://us.archive.ubuntu.com/ubuntu jammy-security/universe amd64 Packages [960 kB]
Get:22 http://us.archive.ubuntu.com/ubuntu jammy-security/universe Translation-en [205 kB]
Get:23 http://us.archive.ubuntu.com/ubuntu jammy-security/multiverse amd64 Packages [37.6 kB]
Get:24 http://us.archive.ubuntu.com/ubuntu jammy-security/multiverse Translation-en [8,260 B]
Fetched 14.9 MB in 8s (1,837 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
185 packages can be upgraded. Run 'apt list --upgradable' to see them.
vagrant@vagrant:~$ sudo apt install -y mysql-server
```

## Configuration de MySQL

Description de l'étape : Configuration de la base de données.

1. Modification du fichier `/etc/mysql/mysql.conf.d/mysqld.cnf` pour permettre les connexions externes.



```
GNU nano 6.2 /etc/mysql/mysql.conf.d/mysqld.cnf
# The MySQL database server configuration file.
#
# One can use all long options that the program supports.
# Run program with --help to get a list of available options and with
# --print-defaults to see which it would actually understand and use.
#
# For explanations see
# http://dev.mysql.com/doc/mysql/en/server-system-variables.html
#
# Here is entries for some specific programs
# The following values assume you have at least 32M ram
[mysqld]
#
# * Basic Settings
#
user                = mysql
# pid-file           = /var/run/mysqld/mysqld.pid
# socket             = /var/run/mysqld/mysqld.sock
# port               = 3306
# datadir            = /var/lib/mysql

# If MySQL is running as a replication slave, this should be
# changed. Ref https://dev.mysql.com/doc/refman/8.0/en/server-system-variables.html#sysvar_tmpdir
# tmpdir             = /tmp
#
# Instead of skip-networking the default is now to listen only on
# localhost which is more compatible and is not less secure.
bind-address        = 127.0.0.1
mysqlx-bind-address = 127.0.0.1
#
^G Help      ^O Write Out  ^W Where Is   ^K Cut        ^T Execute    ^C Location   M-U Undo      M-A Set Mark
^X Exit      ^R Read File  ^R Replace    ^U Paste      ^J Justify    ^_ Go To Line  M-E Redo      M-G Copy

[ Read 78 lines ]
```

```
# Instead of skip-networking the default is now to listen only on
# localhost which is more compatible and is not less secure.
bind-address        = 0.0.0.0
mysqlx-bind-address = 127.0.0.1
#
^G Help      ^O Write Out  ^W Where Is   ^K Cut        ^T Execute
```

2. Commande : `sudo systemctl restart mysql` pour redémarrer MySQL après modification.

```
vagrant@vagrant:~$ sudo nano /etc/mysql/mysql.conf.d/mysqld.cnf
vagrant@vagrant:~$ sudo nano /etc/mysql/mysql.conf.d/mysqld.cnf
vagrant@vagrant:~$ sudo systemctl restart mysql
vagrant@vagrant:~$ |

vagrant@vagrant:~$ sudo mysql -u root
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 8
Server version: 8.0.40-0ubuntu0.22.04.1 (Ubuntu)

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affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> |
```

## Création de la base de données

**Description de l'étape :** Préparation de la base pour l'application.

1. Commande exécutée : `CREATE DATABASE adminapp_db CHARACTER SET utf8mb4 COLLATE utf8mb4_unicode_ci;`

```
mysql> CREATE DATABASE adminapp_db CHARACTER SET utf8mb4 COLLATE utf8mb4_unicode_ci;
Query OK, 1 row affected (0.03 sec)

mysql> |
```

```
vagrant@vagrant: ~/admin-app$ mysql -h 192.168.33.11 -u nabou -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 9
Server version: 8.0.40-0ubuntu0.22.04.1 (Ubuntu)

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affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> |
```

2. Configuration de l'utilisateur : `GRANT ALL PRIVILEGES ON adminapp_db.* TO 'nabou'@'%' IDENTIFIED BY 'passer';`



**Description de l'étape :** Construction du projet Java avec Maven.

1. Commande exécutée : `mvn clean package -DskipTests`.

```
vagrant@vagrant: ~/admin-a
vagrant@vagrant:~/admin-app$ mvn clean package -DskipTests
[INFO] Scanning for projects...
[WARNING]
[WARNING] Some problems were encountered while building the effective model for sn.isi:admin-app:jar:0.0.1-SNAPSHOT
[WARNING] 'dependencies.dependency.(groupId:artifactId:type:classifier)' must be unique: org.springframework.boot:spring-boot-start
aop:jar -> duplicate declaration of version (?) @ line 37, column 15
[WARNING]
[WARNING] It is highly recommended to fix these problems because they threaten the stability of your build.
[WARNING]
[WARNING] For this reason, future Maven versions might no longer support building such malformed projects.
[WARNING]
[INFO]
[INFO] -----< sn.isi:admin-app >-----
[INFO] Building admin-app 0.0.1-SNAPSHOT
[INFO] -----[ jar ]-----
[INFO]
[INFO] --- maven-clean-plugin:3.2.0:clean (default-clean) @ admin-app ---
[INFO] Deleting /home/vagrant/admin-app/target
[INFO]
[INFO] --- maven-resources-plugin:3.3.1:resources (default-resources) @ admin-app ---
[INFO] Copying 1 resource from src/main/resources to target/classes
[INFO] Copying 5 resources from src/main/resources to target/classes
[INFO]
[INFO] --- maven-compiler-plugin:3.11.0:compile (default-compile) @ admin-app ---
[INFO] Changes detected - recompiling the module! :source
[INFO] Compiling 24 source files with javac [debug release 17] to target/classes
[WARNING] /home/vagrant/admin-app/src/main/java/sn/samanecorporation/exception/RequestException.java:[8,1] Generating equals/hashCo
implementation but without a call to superclass, even though this class does not extend java.lang.Object. If this is intentional,
'@EqualsAndHashCode(callSuper=false)' to your type
[INFO]
```

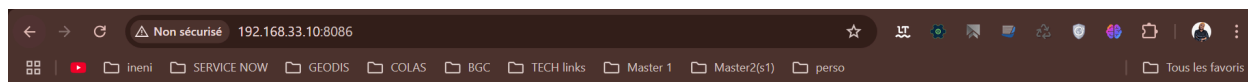
2. Résultat : Un fichier `.jar` est généré dans le dossier `target`.

```
Downloaded from central: https://repo.maven.apache.org/maven2/com/google/guava/guava/28.2-android/guava-28.2-android.jar (2.6 MB at
25 kB/s)
[INFO] Replacing main artifact /home/vagrant/admin-app/target/admin-app.jar with repackaged archive, adding nested dependencies in
OT-INF/.
[INFO] The original artifact has been renamed to /home/vagrant/admin-app/target/admin-app.jar.original
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 01:00 min
[INFO] Finished at: 2025-01-20T12:01:59Z
[INFO] -----
```

## Accès et test de l'application via le navigateur

**Description de l'étape :** Validation de l'application via un navigateur.

1. Accès à l'application : URL utilisée <http://192.168.33.10:8086>.



### Whitelabel Error Page

This application has no explicit mapping for /error, so you are seeing this as a fallback.

Mon Jan 20 12:34:36 UTC 2025

There was an unexpected error (type=Not Found, status=404).

## 2. Vérification des routes disponibles.

