

# Workshop 03 - Laravel

---

## Preamble

We make sure to have the server running with:

```
vagrant up
```

## Installing dependencies

There are a few dependencies we need first to continue working, we can install them with:

```
sudo apt-get update
sudo apt-get install vim vim-nox curl apache2 mariadb-client php8.2 php8.2-curl
php8.2-bcmath php8.2-mysql php8.2-mcrypt php8.2-xml php8.2-zip php8.2-mbstring
php -v
```

The last command is so we can confirm the correct instalation of php.

```
vagrant@bookworm:~$ php -v
PHP 8.2.18 (cli) (built: Apr 11 2024 22:07:45) (NTS)
Copyright (c) The PHP Group
Zend Engine v4.2.18, Copyright (c) Zend Technologies
    with Zend OPcache v8.2.18, Copyright (c), by Zend Technologies
vagrant@bookworm:~$
```

## Creating the database

To create a database we must first create a folder for it, this will be done on the VMs folder, if we have the terminal on the previous step, then the command line should look something like this:

```
vagrant@bookworm:~$ exit
logout

pamel@SuperPCG3000 MINGW64
~/Documents/Universidad/CuatrimestreII2024/Programación_con_Software_Libre/Worksho
ps/VMs/webserver (master)
$ cd ..

pamel@SuperPCG3000 MINGW64
~/Documents/Universidad/CuatrimestreII2024/Programación_con_Software_Libre/Worksho
ps/VMs (master)
$ ls
webserver/

pamel@SuperPCG3000 MINGW64
```

```
~/Documents/Universidad/CuatrimestreII2024/Programación_con_Software_Libre/Worksho
ps/VMs (master)
$ mkdir database

pamel@SuperPCG3000 MINGW64
~/Documents/Universidad/CuatrimestreII2024/Programación_con_Software_Libre/Worksho
ps/VMs (master)
$ ls
database/  webserver/
```

To create a vagrant file, we must specify the register, the version and the architecture this way:

```
vagrant init debian/bookworm64
code Vagrantfile
```

On that file, on line 35, we must de-comment the line and change the ip to something more useful to us.

```
34  # using a specific IP.
35  config.vm.network "private_network", ip: "192.168.56.11"
36
```

## Changing the hostname

With this, we can start vagrant and change the host name to avoid confusion.

```
sudo hostnamectl set-hostname database
vagrant@bookworm:~$ sudo nano /etc/hosts
```

The second line is to access another file necessary to change the hostname. On the second row, right column there is a text "hostname", that will be changed into whatever it is you want.

```
vagrant@bookworm: ~
GNU nano 7.2 /etc/hosts
127.0.0.1    localhost
127.0.0.2    database
::1         localhost ip6-localhost ip6-loopback
ff02::1     ip6-allnodes
ff02::2     ip6-allrouters
```

The same is done for the webserver.

## Installing server dependencies

In vagrant@database, we use the following command to install the necessary packages

```
sudo apt-get update
sudo apt-get install mariadb-server mariadb-client
```

Having this installed, we can use the command `sudo mysql` to connect to mysql

```
vagrant@database:~$ sudo mysql
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 31
Server version: 10.11.6-MariaDB-0+deb12u1 Debian 12

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

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

MariaDB [(none)]> show databases;
+-----+
| Database |
+-----+
| information_schema |
| mysql |
| performance_schema |
| sys |
+-----+
4 rows in set (0.002 sec)
```

## Creating a database and user

```
create database lfts;
create user laravel identified by 'secret';
grant all privileges on lfts.* to laravel;
flush privileges;
```

With "lfts" "laravel" and "secret" being the database name, the username and the password, respectively.

## Habilitating database and webserver connection

```
sudo nano -l /etc/mysql/mariadb.conf.d/50-server.cnf
```

We comment line 27 to habilitate remote connections and then restart the machine to apply all changes.

```
sudo systemctl restart mysql
```

## Installing and configuring composer and node

### Composer

In the webserver we use the following commands

```
php -r "copy('https://getcomposer.org/installer', 'composer-setup.php');"
php -r "if (hash_file('sha384', 'composer-setup.php') ===
'dac665fdc30fdd8ec78b38b9800061b4150413ff2e3b6f88543c636f7cd84f6db9189d43a81e5503c
da447da73c7e5b6') { echo 'Installer verified'; } else { echo 'Installer corrupt';
unlink('composer-setup.php'); } echo PHP_EOL;"
php composer-setup.php
rm composer-setup.php

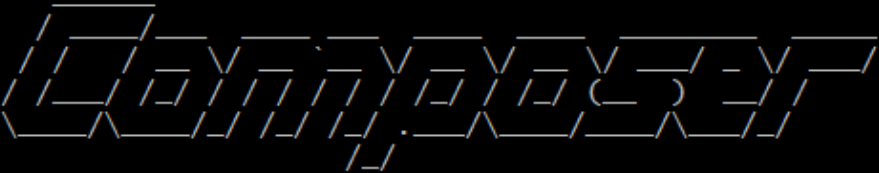
sudo mkdir -p /opt/composer
sudo mv composer.phar /opt/composer/
```

Having done this, the connexion is the only thing left

```
sudo ln -s /opt/composer/composer.phar /usr/local/bin/composer
```

This way, we can call for composer anywhere in our machine

```
vagrant@webserver:/vagrant/sites$ composer
```



```
Composer version 2.7.6 2024-05-04 23:03:15

Usage:
  command [options] [arguments]

Options:
  -h, --help                Display help for the given command. When no co
mand is given display help for the list command
  -q, --quiet               Do not output any message
  -V, --version             Display this application version
      --ansi|--no-ansi     Force (or disable --no-ansi) ANSI output
  -n, --no-interaction      Do not ask any interactive question
      --profile            Display timing and memory usage information
```

## Node version manager

```
curl -o- https://raw.githubusercontent.com/nvm-sh/nvm/v0.39.7/install.sh | bash
exit
vagrant ssh
vmv -v
```

Now, that last line should give the version of the nvm installed.

## Node

```
nvm install --lts
```

## Manipulating a new project

Having done all that, we position ourselves in the correct workplace using `cd /vagrant/sites/`. In here, we'll create a new composer project.

```
composer create-project laravel/laravel:8.6.12 lfts.isw811.xyz
```

```
vagrant@webserver:/vagrant/sites$ composer create-project laravel/laravel:8.6.12 lfts.isw811.xyz
Creating a "laravel/laravel:8.6.12" project at "./lfts.isw811.xyz"
Installing laravel/laravel (v8.6.12)
 - Downloading laravel/laravel (v8.6.12)
 - Installing laravel/laravel (v8.6.12): Extracting archive
Created project in /vagrant/sites/lfts.isw811.xyz
> @php -r "file_exists('.env') || copy('.env.example', '.env');"
Loading composer repositories with package information
Updating dependencies
Lock file operations: 108 installs, 0 updates, 0 removals
 - Locking asm89/stack-cors (v2.2.0)
 - Locking brick/math (0.12.1)
 - Locking carbonphp/carbon-doctrine-types (3.2.0)
```

## Edit 'hosts' file

In a cmd in administration mode, we use the following commands to be able to edit the file

```
cd \
cd Windows\System32\drivers\etc
notepad hosts
```

There, we'll add the following line

```
'192.168.56.10 lfts.isw811.xyz'
```

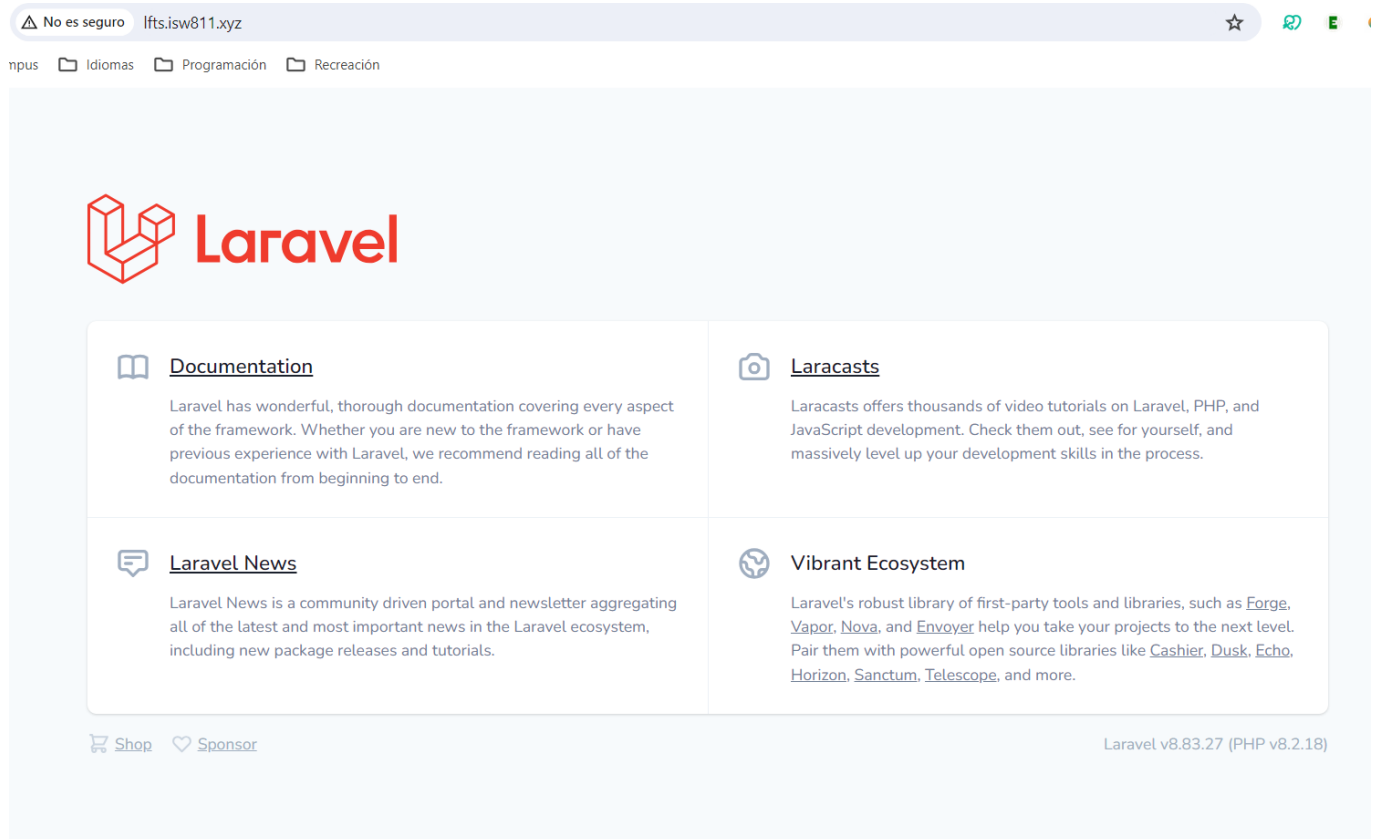
## Configuring virtual host

Now, we must create a copy of our previous conf file in webserver/confs and rename it `lfts.isw811.xyz.conf`. Inside, we must change all previous references to the website and add two instances of `/public` in lines 7 and 9, like this:

```
1  <VirtualHost *:80>
2  ServerAdmin webmaster@lfts.isw811.xyz
3  ServerName lfts.isw811.xyz
4
5  # Indexes + Directory Root.
6  DirectoryIndex index.php index.html
7  DocumentRoot /home/vagrant/sites/lfts.isw811.xyz/public
8
9  <Directory /home/vagrant/sites/lfts.isw811.xyz/public>
10     DirectoryIndex index.php index.html
11     AllowOverride All
12     Require all granted
13 </Directory>
14
15 ErrorLog ${APACHE_LOG_DIR}/lfts.isw811.xyz.error.log
16 LogLevel warn
17 CustomLog ${APACHE_LOG_DIR}/lfts.isw811.xyz.access.log combined
18 </VirtualHost>
```

```
sudo cp lfts.isw811.xyz.conf /etc/apache2/sites-available
confs$ sudo apachectl -t
sudo a2ensite lfts.isw811.xyz.conf
confs$ sudo apachectl -t
sudo systemctl reload apache2
```

We should always make sure to receive both Syntax OK before continuing. If done correctly, all of this should give us access to the web page in the browser



## Configuring laravel to allow for database

We'll have to access the `.env` file to change it. To do this, we position ourselves in `webserver/sites/lfts.isw811.xyz` and run the `code .env` file. In there, we'll change the following things:

1. On line 13 change the ip to 192.168.56.11
2. On line 14 change laravel to lfts
3. On line 15 change root to laravel
4. On line 16 add 'secret' as a password

Save it all and go run `php artisan migrate` on `/vagrant/sites/lfts.isw811.xyz`

```
permitted by applicable law.
Last login: Thu Jun  6 03:11:57 2024 from 10.0.2.2
vagrant@webserver:~$ cd /vagrant/sites/lfts.isw811.xyz
vagrant@webserver:/vagrant/sites/lfts.isw811.xyz$ php artisan migrate
Migration table created successfully.
Migrating: 2014_10_12_000000_create_users_table
Migrated: 2014_10_12_000000_create_users_table (57.43ms)
Migrating: 2014_10_12_100000_create_password_resets_table
Migrated: 2014_10_12_100000_create_password_resets_table (27.58ms)
Migrating: 2019_08_19_000000_create_failed_jobs_table
Migrated: 2019_08_19_000000_create_failed_jobs_table (32.26ms)
Migrating: 2019_12_14_000001_create_personal_access_tokens_table
Migrated: 2019_12_14_000001_create_personal_access_tokens_table (48.82ms)
```

```
vagrant@webserver:/vagrant/sites/lfts.isw811.xyz$ mysql -h 192.168.56.11 -u lar  
vel -p  
Enter password:  
Welcome to the MariaDB monitor.  Commands end with ; or \g.  
Your MariaDB connection id is 33  
Server version: 10.11.6-MariaDB-0+deb12u1 Debian 12  
  
Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.  
  
Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.  
  
MariaDB [(none)]> show databases  
-> ;  
+-----+  
| Database |  
+-----+  
| information_schema |  
| lfts |  
+-----+  
2 rows in set (0.012 sec)  
  
MariaDB [(none)]> use lfts;  
Reading table information for completion of table and column names  
You can turn off this feature to get a quicker startup with -A  
  
Database changed  
MariaDB [lfts]> show databases  
-> ;  
+-----+  
| Database |  
+-----+  
| information_schema |  
| lfts |  
+-----+  
2 rows in set (0.003 sec)  
  
MariaDB [lfts]> show tables;  
+-----+  
| Tables_in_lfts |  
+-----+  
| failed_jobs |  
| migrations |  
| password_resets |  
| personal_access_tokens |  
| users |  
+-----+  
5 rows in set (0.003 sec)
```

---

Created by Pamela Murillo