CERTIF ACADEMY

Stack LAMP

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1. Installation Apache et exposition NAT du port 80
2. Installation PHP
3. Installation de MySQL sans exposition NAT du port 3306
4. Configuration des extensions Apache
5. Configuration des extensions PHP

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Installation Apache et exposition NAT du port 80

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Le serveur HTTP Apache est le serveur Web le plus utilisé au monde. Il fournit de nombreuses fonctionnalités puissantes, notamment des modules chargeables dynamiquement, une prise en charge multimédia robuste et une intégration étendue avec d'autres logiciels populaires.

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```
apt install apache2
```

```
systemctl status apache2
```

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```
root@Debian:/var/www# ps aux | grep apache
www-data    3760  0.0  0.0   3496   164 ?        Ss   05:01   0:00 /usr/bin/htcacheclean -d 120 -p /var/cache/apache2/mod_cache_disk -l 300M -n
root       13569  0.0  1.0 194452 20572 ?        Ss   05:48   0:00 /usr/sbin/apache2 -k start
www-data   13570  0.0  0.5 194912 10336 ?        S    05:48   0:00 /usr/sbin/apache2 -k start
www-data   13571  0.0  0.5 194912 10336 ?        S    05:48   0:00 /usr/sbin/apache2 -k start
www-data   13572  0.0  0.8 194960 16372 ?        S    05:48   0:00 /usr/sbin/apache2 -k start
www-data   13573  0.0  0.5 194912 10336 ?        S    05:48   0:00 /usr/sbin/apache2 -k start
www-data   13574  0.0  0.7 194960 15304 ?        S    05:48   0:00 /usr/sbin/apache2 -k start
www-data   13577  0.0  0.5 194912 10336 ?        S    05:48   0:00 /usr/sbin/apache2 -k start
www-data   13579  0.0  0.5 194912 10336 ?        S    05:48   0:00 /usr/sbin/apache2 -k start
root       13726  0.0  0.0   6244   640 pts/1    S+   06:07   0:00 grep apache
root@Debian:/var/www#
```

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le service démarre en tant que root afin de faire des choses comme se lier aux ports réservés (par exemple 80 et 443). Ensuite, il démarre quel que soit le nombre de processus configurés, pour effectuer le travail du serveur Web et toute autre tâche, en tant qu'utilisateurs définis.

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De cette façon, les demandes sont traitées par des processus non privilégiés. Vous remarquerez que l'ID parent (PPID) est le même pour tous les autres processus. Cette idée sera le PID pour ce processus exécuté en tant que root.

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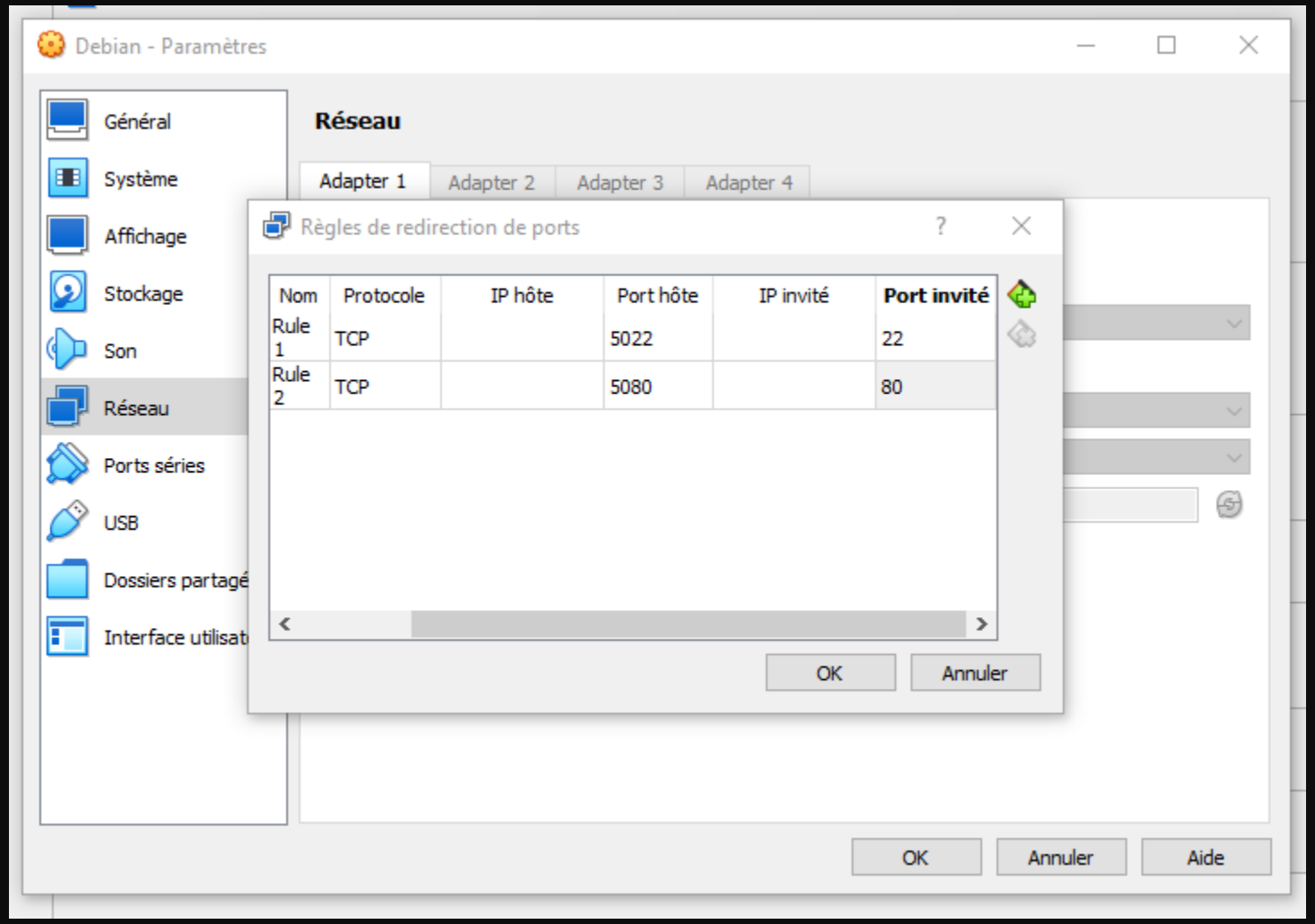

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localhost:5080

Apache2 Debian Default Page

debian

It works!

This is the default welcome page used to test the correct operation of the Apache2 server after installation on Debian systems. If you can read this page, it means that the Apache HTTP server installed at this site is working properly. You should **replace this file** (located at `/var/www/html/index.html`) before continuing to operate your HTTP server.

If you are a normal user of this web site and don't know what this page is about, this probably means that the site is currently unavailable due to maintenance. If the problem persists, please contact the site's administrator.

Configuration Overview

Debian's Apache2 default configuration is different from the upstream default configuration, and split into several files optimized for interaction with Debian tools. The configuration system is **fully documented in /usr/share/doc/apache2/README.Debian.gz**. Refer to this for the full documentation. Documentation for the web server itself can be found by accessing the **manual** if the `apache2-doc` package was installed on this server.

The configuration layout for an Apache2 web server installation on Debian systems is as follows:

```
/etc/apache2/
|-- apache2.conf
|       `--  ports.conf
|-- mods-enabled
|       |-- *.load
|       `-- *.conf
|-- conf-enabled
|       `-- *.conf
|-- sites-enabled
```

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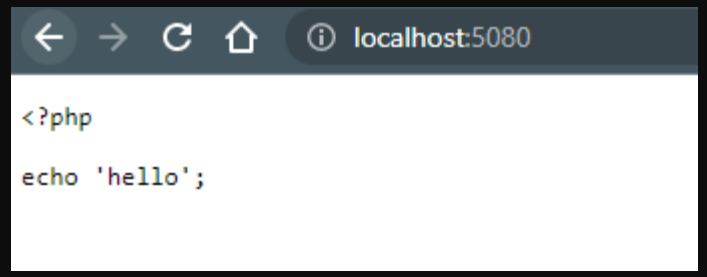

Apache n’est pas capable de lire du PHP

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Installer le serveur Apache, vérifier le statut du daemon et ses droits sur le système

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Installation PHP

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```
sh -c 'echo "deb https://packages.sury.org/php/ $(lsb_release -sc) main" > /etc/apt/sources.list.d/php.list'
```

```
wget -qO - https://packages.sury.org/php/apt.gpg | sudo apt-key add -
```

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```
apt install php8.1
```

```
apt install libapache2-mod-php8.1
```

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```
apt install php7.4
```

```
apt install libapache2-mod-php7.4
```

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```
apt install php5.6
```

```
apt install libapache2-mod-php5.6
```

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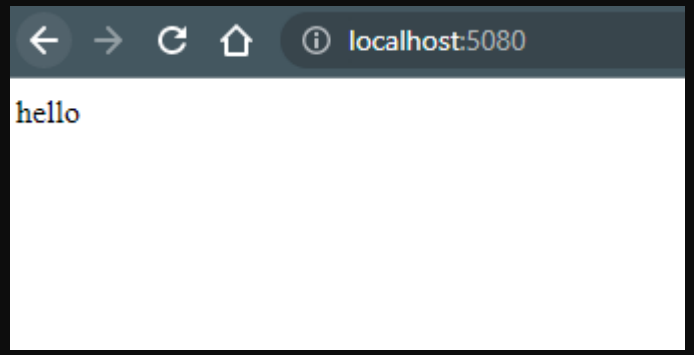

Maintenant Apache peut lire le PHP ! ☺

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Installez PHP version 7.4

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Installation MySQL/MariaDB sans exposition NAT du port 3306

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```
apt install mariadb-server
```

```
systemctl status mysqld
```

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mysql_secure_installation

```
In order to log into MariaDB to secure it, we'll need the current
password for the root user. If you've just installed MariaDB, and
haven't set the root password yet, you should just press enter here.

Enter current password for root (enter for none):
OK, successfully used password, moving on...

Setting the root password or using the unix_socket ensures that nobody
can log into the MariaDB root user without the proper authorisation.

You already have your root account protected, so you can safely answer 'n'.

Switch to unix_socket authentication [Y/n] n
 ... skipping.

You already have your root account protected, so you can safely answer 'n'.

Change the root password? [Y/n] n
 ... skipping.

By default, a MariaDB installation has an anonymous user, allowing anyone
to log into MariaDB without having to have a user account created for
them.  This is intended only for testing, and to make the installation
go a bit smoother.  You should remove them before moving into a
production environment.

Remove anonymous users? [Y/n]
 ... Success!

Normally, root should only be allowed to connect from 'localhost'.  This
ensures that someone cannot guess at the root password from the network.

Disallow root login remotely? [Y/n]
 ... Success!

By default, MariaDB comes with a database named 'test' that anyone can
access.  This is also intended only for testing, and should be removed
before moving into a production environment.

Remove test database and access to it? [Y/n]
 - Dropping test database...
 ... Success!
 - Removing privileges on test database...
 ... Success!

Reloading the privilege tables will ensure that all changes made so far
will take effect immediately.

Reload privilege tables now? [Y/n]
 ... Success!

Cleaning up...

All done!  If you've completed all of the above steps, your MariaDB
installation should now be secure.

Thanks for using MariaDB!
root@Debian:/var/www/html#
```

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```
systemctl restart mysqld
```

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En plus du package php, vous aurez besoin de php-mysql, un module PHP qui permet à PHP de communiquer avec une base de données basée sur MySQL, telle que MariaDB.

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```
apt install php-mysql
```

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```
root@Debian:/var/www/html# mysql -u root
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 30
Server version: 10.5.18-MariaDB-0+deb11u1 Debian 11

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)]> create database dbtest;
Query OK, 1 row affected (0.000 sec)

MariaDB [(none)]> use dbtest;
Database changed
MariaDB [dbtest]>
```

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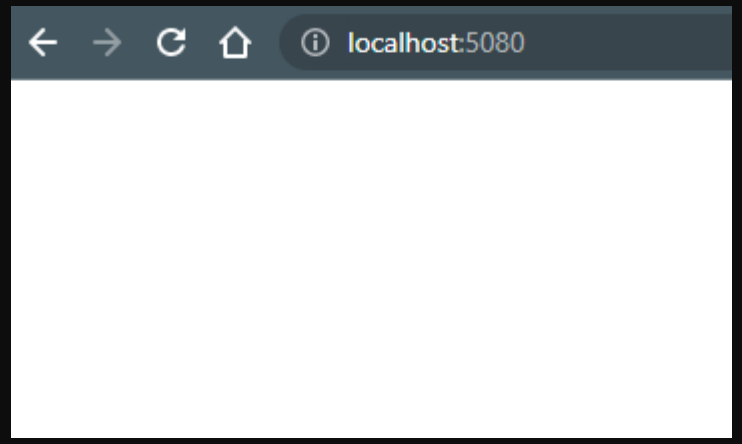
```php
<?php
try
{
    $db = new PDO('mysql:host=localhost;dbname=dbtest;charset=utf8',
'root', 'root');
}
catch (Exception $e)
{
        die('Erreur : ' . $e->getMessage());
}
```

CERTIF ACADEMY



Apache peut se connecter !

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Installez un serveur MySQL

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Configuration des extentions Apache

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```
root@Debian:~# cd /etc/apache2/mods-enabled/
root@Debian:/etc/apache2/mods-enabled# ls -l
total 0
lrwxrwxrwx 1 root root 36 Dec 28 05:01 access_compat.load -> ../mods-available/access_compat.load
lrwxrwxrwx 1 root root 28 Dec 28 05:01 alias.conf -> ../mods-available/alias.conf
lrwxrwxrwx 1 root root 28 Dec 28 05:01 alias.load -> ../mods-available/alias.load
lrwxrwxrwx 1 root root 33 Dec 28 05:01 auth_basic.load -> ../mods-available/auth_basic.load
lrwxrwxrwx 1 root root 33 Dec 28 05:01 authn_core.load -> ../mods-available/authn_core.load
lrwxrwxrwx 1 root root 33 Dec 28 05:01 authn_file.load -> ../mods-available/authn_file.load
lrwxrwxrwx 1 root root 33 Dec 28 05:01 authz_core.load -> ../mods-available/authz_core.load
lrwxrwxrwx 1 root root 33 Dec 28 05:01 authz_host.load -> ../mods-available/authz_host.load
lrwxrwxrwx 1 root root 33 Dec 28 05:01 authz_user.load -> ../mods-available/authz_user.load
lrwxrwxrwx 1 root root 32 Dec 28 05:01 autoindex.conf -> ../mods-available/autoindex.conf
lrwxrwxrwx 1 root root 32 Dec 28 05:01 autoindex.load -> ../mods-available/autoindex.load
lrwxrwxrwx 1 root root 30 Dec 28 05:01 deflate.conf -> ../mods-available/deflate.conf
lrwxrwxrwx 1 root root 30 Dec 28 05:01 deflate.load -> ../mods-available/deflate.load
lrwxrwxrwx 1 root root 26 Dec 28 05:01 dir.conf -> ../mods-available/dir.conf
lrwxrwxrwx 1 root root 26 Dec 28 05:01 dir.load -> ../mods-available/dir.load
lrwxrwxrwx 1 root root 26 Dec 28 05:01 env.load -> ../mods-available/env.load
lrwxrwxrwx 1 root root 29 Dec 28 05:01 filter.load -> ../mods-available/filter.load
lrwxrwxrwx 1 root root 27 Dec 28 05:01 mime.conf -> ../mods-available/mime.conf
lrwxrwxrwx 1 root root 27 Dec 28 05:01 mime.load -> ../mods-available/mime.load
lrwxrwxrwx 1 root root 34 Dec 28 05:34 mpm_prefork.conf -> ../mods-available/mpm_prefork.conf
lrwxrwxrwx 1 root root 34 Dec 28 05:34 mpm_prefork.load -> ../mods-available/mpm_prefork.load
lrwxrwxrwx 1 root root 34 Dec 28 05:01 negotiation.conf -> ../mods-available/negotiation.conf
lrwxrwxrwx 1 root root 34 Dec 28 05:01 negotiation.load -> ../mods-available/negotiation.load
lrwxrwxrwx 1 root root 29 Dec 28 05:34 php7.4.conf -> ../mods-available/php7.4.conf
lrwxrwxrwx 1 root root 29 Dec 28 05:34 php7.4.load -> ../mods-available/php7.4.load
lrwxrwxrwx 1 root root 33 Dec 28 05:01 reqtimeout.conf -> ../mods-available/reqtimeout.conf
lrwxrwxrwx 1 root root 33 Dec 28 05:01 reqtimeout.load -> ../mods-available/reqtimeout.load
lrwxrwxrwx 1 root root 31 Dec 28 05:01 setenvif.conf -> ../mods-available/setenvif.conf
lrwxrwxrwx 1 root root 31 Dec 28 05:01 setenvif.load -> ../mods-available/setenvif.load
lrwxrwxrwx 1 root root 29 Dec 28 05:01 status.conf -> ../mods-available/status.conf
lrwxrwxrwx 1 root root 29 Dec 28 05:01 status.load -> ../mods-available/status.load
root@Debian:/etc/apache2/mods-enabled#
```

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```
root@Debian:/etc/apache2/mods-enabled# cd /etc/apache2/mods-available/
root@Debian:/etc/apache2/mods-available# ls -l
total 584
-rw-r--r-- 1 root root  100 Jun  9  2022 access_compat.load
-rw-r--r-- 1 root root  377 Jun  9  2022 actions.conf
-rw-r--r-- 1 root root   66 Jun  9  2022 actions.load
-rw-r--r-- 1 root root  843 Jun  9  2022 alias.conf
-rw-r--r-- 1 root root   62 Jun  9  2022 alias.load
-rw-r--r-- 1 root root   76 Jun  9  2022 allowmethods.load
-rw-r--r-- 1 root root   76 Jun  9  2022 asis.load
```

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a2enmod rewrite

```
root@Debian:/etc/apache2/mods-available# a2enmod rewrite
Enabling module rewrite.
To activate the new configuration, you need to run:
  systemctl restart apache2
root@Debian:/etc/apache2/mods-available# systemctl restart apache2
root@Debian:/etc/apache2/mods-available#
```

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En plus du package php, vous aurez besoin de php-mysql, un module PHP qui permet à PHP de communiquer avec une base de données basée sur MySQL, telle que MariaDB.

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Activez l‘extension Apache rewrite

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Configuration des extensions PHP

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```php
<?php
try
{
    $db = new PDO('mysql:host=localhost;dbname=dbtest;charset=utf8',
'root', 'root');
}
catch (Exception $e)
{
        die('Erreur : ' . $e->getMessage());
}

phpinfo();
```

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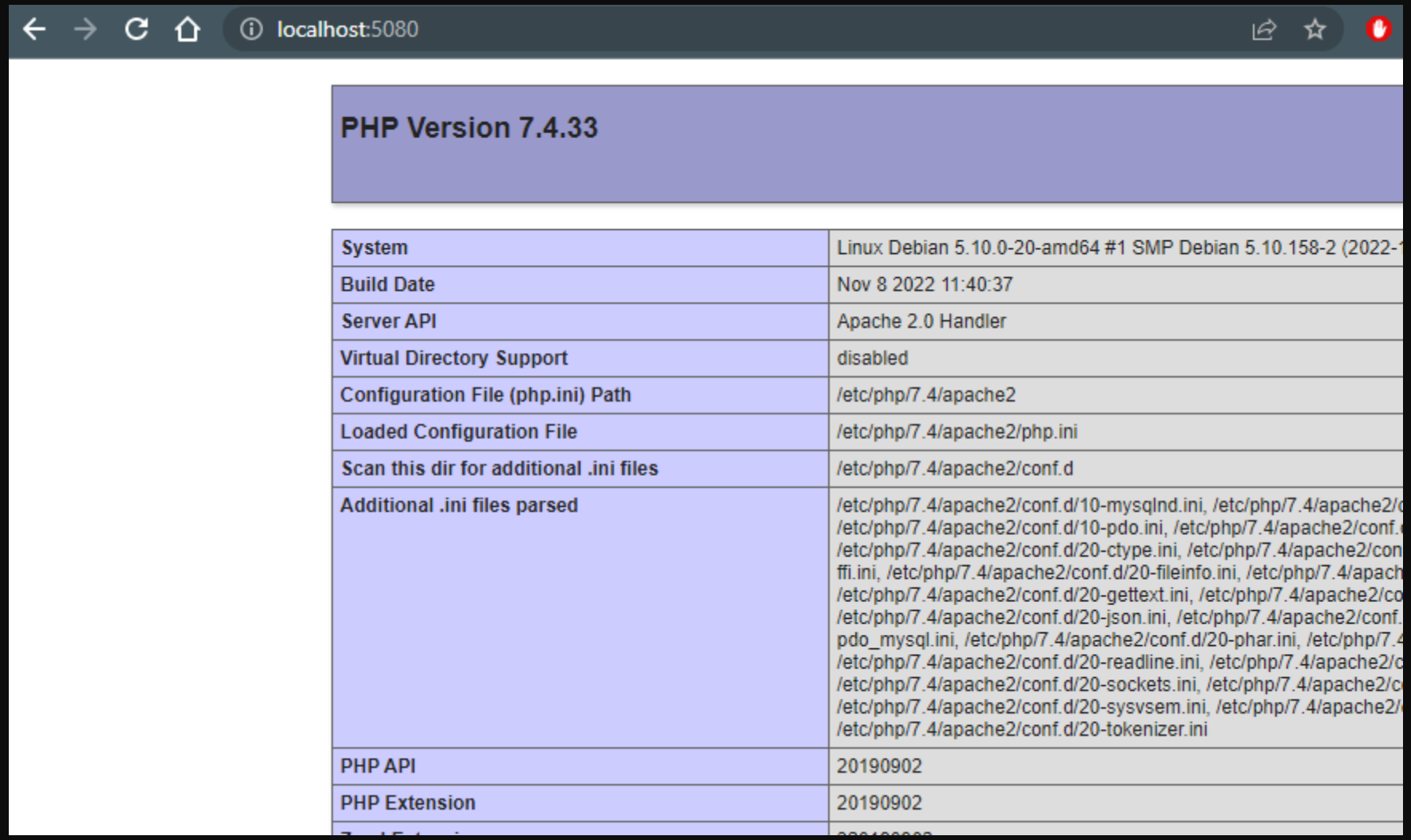

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