

Installing moodle on oracle linux

This lab shows the steps I've taken to install Moodle on Oracle Linux machine with separate sql database server (also Oracle Linux).

My linux machines are installed on hyper-v which is set up on Windows 11 machine.

Both machines have internal adapter connected and have static IP addresses set up on network 192.168.100.0/24

192.168.100.5 is the machine where moodle will be set up.

192.168.100.4 is the machine where sql will be set up.

Each machine has also external adapter connected to be able to connect to the internet to download the necessary installers etc.

On 192.168.100.5 I opened port 80 and reloaded firewall to be able to access moodle from Windows Host:

```
sudo firewall-cmd --add-port=80/tcp --permanent
sudo firewall-cmd --reload
```

Updated packages with sudo dnf update.

Installing apache (httpd) on 192.168.100.5

1. To install apache server I used the guide Install the Apache Web Server (Oracle, 2022)
2. Installed httpd with command: **sudo dnf install httpd**

```
[aliceoracle@linux Downloads]$ sudo dnf install httpd
[sudo] password for aliceoracle:
Last metadata expiration check: 1 day, 18:54:41 ago on Sat 25 Oct 2025 05:50:48 PM CEST.
Dependencies resolved.
=====
Package                                Architecture                               Ver
=====
Installing:
  httpd                                x86_64                                    2.4
Installing dependencies:
  apr                                  x86_64                                    1.7
  apr-util                             x86_64                                    1.6
```

3. As per information on the website: "This command enables and starts the httpd service for immediate use and also starts the service automatically after a system reboot:" (Oracle, 2022) **sudo systemctl enable --now httpd.service**
4. I can see that service is enable and running. It listens by default on port 80.
sudo systemctl status httpd

```
[aliceoracle@linux Downloads]$ sudo systemctl status httpd
● httpd.service - The Apache HTTP Server
   Loaded: loaded (/usr/lib/systemd/system/httpd.service; enabled; preset: disabled)
   Active: active (running) since Mon 2025-10-27 11:46:03 CET; 2s ago
     Docs: man:httpd.service(8)
  Main PID: 64458 (httpd)
    Status: "Started, listening on: port 80"
     Tasks: 177 (limit: 21724)
    Memory: 38.3M
       CPU: 104ms
    CGroup: /system.slice/httpd.service
            └─64458 /usr/sbin/httpd -DFOREGROUND
              └─64459 /usr/sbin/httpd -DFOREGROUND
                └─64460 /usr/sbin/httpd -DFOREGROUND
                  └─64461 /usr/sbin/httpd -DFOREGROUND
                    └─64462 /usr/sbin/httpd -DFOREGROUND

Oct 27 11:45:58 linux.local systemd[1]: Starting The Apache HTTP Server...
Oct 27 11:46:03 linux.local httpd[64458]: Server configured, listening on: port 80
Oct 27 11:46:03 linux.local systemd[1]: Started The Apache HTTP Server.
```

5. Checked with **curl** <http://192.168.100.5/> that apache server works. Curls transmits HTTP requests and provides responses from the command line or a shell script. (Adobe Developer, 2025)

```
[aliceoracle@linux moodle]$ curl http://192.168.100.5/
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.1//EN" "http://www.w3.org/TR/xhtml11/DTD/xhtml11.dtd">
  <head>
    <title>Apache HTTP Server Test Page powered by Linux</title>
    <meta http-equiv="Content-Type" content="text/html; charset=UTF-8" />
    <style type="text/css">
      body {
        background-color: #fff;
        color: #000;
        font-size: 0.9em;
        font-family: sans-serif, helvetica;
        margin: 0;
        padding: 0;
      }
    </style>
  </head>
  <div style="text-align: center;">
    <img alt="Apache HTTP Server Test Page" data-bbox="192.168.100.5/100x100px" style="height: 100px; width: 100px;"/>
    <p>Apache HTTP Server Test Page powered by Linux</p>
  </div>
</body>
</html>
```

6. Now, when I have /var/www/ directory, I can install db and moodle.

Installing mariadb on 192.168.100.4

1. Checked there is no mysql with command **sudo systemctl status mysql**

```
alicedelice@linux:~
login as: alicedelice
alicedelice@192.168.100.4's password:
Last login: Mon Oct 27 11:09:00 2025 from 192.168.100.1
[alicedelice@linux ~]$ sudo systemctl status mysql
[sudo] password for alicedelice:
Unit mysql.service could not be found.
[alicedelice@linux ~]$
```

2. I installed the server with command **sudo dnf install mariadb-server** that contains the following packages:

```
[alicedelice@linux ~]$ sudo dnf install mariadb-server
[sudo] password for alicedelice:
Last metadata expiration check: 23:34:51 ago on Mon 27 Oct 2025 11:22:57 CET.
Dependencies resolved.
=====
Package                                Arch      Version                               Repository      Size
=====
Installing:
mariadb-server                        x86_64    3:10.5.27-1.el9_5                   ol9_appstream  9.8 M
Installing dependencies:
mariadb                              x86_64    3:10.5.27-1.el9_5                   ol9_appstream  1.6 M
mariadb-common                       x86_64    3:10.5.27-1.el9_5                   ol9_appstream   54 k
mariadb-connector-c                  x86_64    3.2.6-1.el9_0                       ol9_appstream  205 k
mariadb-connector-c-config           noarch    3.2.6-1.el9_0                       ol9_appstream   9.7 k
mariadb-errmsg                       x86_64    3:10.5.27-1.el9_5                   ol9_appstream  239 k
mysql-selinux                        noarch    1.0.14-1.el9_6                      ol9_appstream   36 k
perl-DBD-MariaDB                     x86_64    1.21-16.el9_0                       ol9_appstream  160 k
perl-File-Copy                       noarch    2.34-481.1.el9_6                   ol9_appstream   19 k
perl-Sys-Hostname                     x86_64    1.23-481.1.el9_6                   ol9_appstream   15 k
Installing weak dependencies:
mariadb-backup                       x86_64    3:10.5.27-1.el9_5                   ol9_appstream   6.5 M
mariadb-gssapi-server                x86_64    3:10.5.27-1.el9_5                   ol9_appstream   14 k
mariadb-server-utils                 x86_64    3:10.5.27-1.el9_5                   ol9_appstream  234 k
=====
```

- Then started and enabled mariadb with commands: **sudo systemctl start mariadb** and **sudo systemctl enable mariadb**

```
● mariadb.service - MariaDB 10.5 database server
   Loaded: loaded (/usr/lib/systemd/system/mariadb.service; enabled; preset: disabled)
   Active: active (running) since Tue 2025-10-28 10:59:45 CET; 13s ago
     Docs: man:mariadb(8)
           https://mariadb.com/kb/en/library/systemd/
   Main PID: 8353 (mariabdb)
    Status: "Taking your SQL requests now..."
     Tasks: 22 (limit: 21723)
    Memory: 76.1M
       CPU: 460ms
    CGroup: /system.slice/mariadb.service
            └─8353 /usr/libexec/mariabdb --basedir=/usr

Oct 28 10:59:45 linux.local mariadb-prepare-db-dir[8301]: The second is mysql@localhost, it has no password either, but
Oct 28 10:59:45 linux.local mariadb-prepare-db-dir[8301]: you need to be the system 'mysql' user to connect.
Oct 28 10:59:45 linux.local mariadb-prepare-db-dir[8301]: After connecting you can set the password, if you would need to be
Oct 28 10:59:45 linux.local mariadb-prepare-db-dir[8301]: able to connect as any of these users with a password and without sudo
Oct 28 10:59:45 linux.local mariadb-prepare-db-dir[8301]: See the MariaDB Knowledgebase at https://mariadb.com/kb
Oct 28 10:59:45 linux.local mariadb-prepare-db-dir[8301]: Please report any problems at https://mariadb.org/jira
Oct 28 10:59:45 linux.local mariadb-prepare-db-dir[8301]: The latest information about MariaDB is available at https://mariadb.org/
Oct 28 10:59:45 linux.local mariadb-prepare-db-dir[8301]: Consider joining MariaDB's strong and vibrant community:
Oct 28 10:59:45 linux.local mariadb-prepare-db-dir[8301]: https://mariadb.org/get-involved/
Oct 28 10:59:45 linux.local systemd[1]: Started MariaDB 10.5 database server.
```

- Secured installation with command: **sudo mysql_secure_installation**. It improves security of MariaDB by setting a root password, removing anonymous users, which allows anyone to login to db even if they have no account created, disabling remote root logins or removing test database. (Oracle, 2025), (Server Fault)
Since I had already password for root set up, I didn't use **unix_socket authentication** which allows logging as root and then logging in to sql using operating system credentials, so without providing password. (MariaDB, 2025) See example from Ubuntu machine where password is not used:

```
alicedelice@alicedelice-Virtual-Machine:~$ sudo -u root mysql
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 45
```

Instead, on Oracle linux I had to provide the password:

```
[alicedelice@linux ~]$ sudo -u root mysql
[sudo] password for alicedelice: █
```

5. Accessed sql with **sudo mysql -u root -p** and created **moodle** database and **moodleuser**.

```
[alicedelice@linux ~]$ sudo mysql -u root -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 9
Server version: 10.5.27-MariaDB MariaDB Server

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 moodle;
Query OK, 1 row affected (0.000 sec)

MariaDB [(none)]> CREATE USER 'moodleuser'@'localhost' IDENTIFIED BY ' '
Query OK, 0 rows affected (0.014 sec)

MariaDB [(none)]> GRANT ALL PRIVILEGES ON mydatabase.* TO 'moodleuser'@'localhost';
Query OK, 0 rows affected (0.005 sec)

MariaDB [(none)]> FLUSH PRIVILEGES;
Query OK, 0 rows affected (0.001 sec)
```

6. Checked datatbases with **show databases;**

```
MariaDB [(none)]> show databases;
+-----+
| Database                |
+-----+
| information_schema      |
| moodle                  |
| mysql                   |
| performance_schema      |
+-----+
```

7. **show tables;** used table called user and typed **select * from user;** but it doesn't display the information in readable format

```
MariaDB [mysql]> select * from user;
```

Host	User	Password	Select_priv	File_priv	Grant_priv	References_priv	Index_priv	Alter_priv	Client_priv	Create_view_priv	Show_view_priv	Create_routine_priv	Alter_routine_priv	ssl_cipher	x509_issuer	x509_subject	max_questions	max_updates	password_expired	is_role	default_role	max_statement_time
localhost	mariadb.sys		N	N	N	N	N	N	N	N	N	N	N				0	0				0

Selecting just specific authentication method helps: **select user, host, plugin from mysql.user;** and on the screenshot it's visible that users use `mysql_native_password`.

```
MariaDB [mysql]> select user, host, plugin from mysql.user;
```

User	Host	plugin
mariadb.sys	localhost	mysql_native_password
root	localhost	mysql_native_password
mysql	localhost	mysql_native_password
moodleuser	localhost	mysql_native_password

4 rows in set (0.001 sec)

8. According to moodle docs (Moodle, 2025) we need:

- **dbhost** - the database server hostname. Probably *localhost* if the database and web server are the same machine, otherwise the name of the database server. In my case: **192.168.100.4**
- **dbname** - the database name which is called **moodle**.
- **dbuser** - the username for the database which is called **moodleuser**.
- **dbpass** - the password for the above user

Installing php

1. I used command, found on google: **sudo dnf install php php-common**

```

aliceoracle@linux ~]$ sudo dnf install php php-common
[sudo] password for aliceoracle:
Last metadata expiration check: 3:11:07 ago on Tue 28 Oct 2025 11:47:14 AM CET.
Dependencies resolved.
=====
Package                Arch      Version                               Repository      Size
=====
Installing:
php                    x86_64    8.0.30-3.el9_6                      ol9_appstream  8.1 k
php-common             x86_64    8.0.30-3.el9_6                      ol9_appstream  715 k
Installing dependencies:
nginx-filessystem      noarch    2:1.20.1-22.0.1.el9_6.3            ol9_appstream  9.6 k
Installing weak dependencies:
php-cli                x86_64    8.0.30-3.el9_6                      ol9_appstream  3.1 M
php-fpm                x86_64    8.0.30-3.el9_6                      ol9_appstream  1.6 M
php-mbstring           x86_64    8.0.30-3.el9_6                      ol9_appstream  468 k
php-opcache            x86_64    8.0.30-3.el9_6                      ol9_appstream  510 k
php-pdo                x86_64    8.0.30-3.el9_6                      ol9_appstream   88 k
php-xml                x86_64    8.0.30-3.el9_6                      ol9_appstream  144 k
=====

```

Installing moodle on 192.168.100.5

1. Moodle is an open source learning platform and it requires www server (used apache), php, sql server (used mariadb) (Moodle, 2025)
2. Accessed downloads folder with **cd** command
3. I used the following official guide to install moodle and its components: (Moodle, 2025) searched for the website where I could download **tgz**. Tgz is a tar archive file compressed by the **gzip** algorithm.
4. Copied the link address and tried command **wget** which allows downloading files <https://download.moodle.org/download.php/stable501/moodle-latest-501.tgz>

The screenshot shows the Moodle website's 'Downloads' section. It features a table with columns for 'Version', 'Information', '.tgz', and '.zip'. The 'Moodle 5.1+ MOODLE_501_STABLE' package is highlighted. The 'Information' column describes it as a weekly built package with fixes, and lists links for 'Recent changes log', 'Upgrading notes', 'Requires: PHP 8.2, MariaDB 10.11.0 or MySQL 8.4 or Postgres 15 or MSSQL 2017', and 'Language packs'. The '.tgz' and '.zip' columns show download buttons and file sizes (71.1 M and 578 to... respectively). A context menu is open over the download buttons, offering options like 'Otwórz link w nowej karcie', 'Otwórz link w nowym oknie', 'Otwórz link w oknie incognito', 'Zapisz link jako...', and 'Kopiuj adres linku'.

5. Tried to display content of the file without extracting the file with command: **tar -tf** but got error: **gzip: stdin: not in gzip format**

```

-rw-r--r--. 1 aliceoracle aliceoracle 42566 Oct 27 11:09 moodle-latest-501.tgz
[aliceoracle@linux Downloads]$ tar -tf moodle-latest-501.tgz

gzip: stdin: not in gzip format
tar: Child returned status 1
tar: Error is not recoverable: exiting now

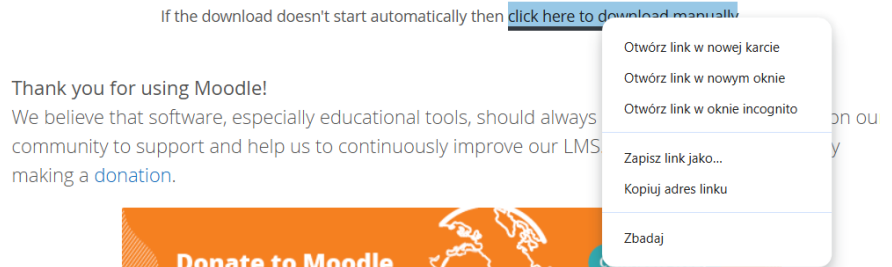
```

6. Checked with **file** command the type of the file. It was HTML document instead of .tgz

```
[aliceoracle@linux Downloads]$ file moodle-latest-501.tgz
moodle-latest-501.tgz: HTML document, ASCII text, with very long lines, with CRLF,
```

7. Turned out, I had to access inside “Download tgz” to get the working link:

Starting download for moodle-latest-501.tgz ...



<https://download.moodle.org/download.php/direct/stable501/moodle-latest-501.tgz>

The difference between the links is just **/direct/part**.

```
[aliceoracle@linux Downloads]$ wget https://download.moodle.org/download.php/direct/stable501/moodle-latest-501.tgz
--2025-10-27 11:25:20-- https://download.moodle.org/download.php/direct/stable501/moodle-latest-501.tgz
Resolving download.moodle.org (download.moodle.org)... 172.66.175.83, 104.20.33.175, 2606:4700:10::6814:21af, ...
Connecting to download.moodle.org (download.moodle.org)|172.66.175.83|:443... connected.
HTTP request sent, awaiting response... 302 Found
Location: https://packaging.moodle.org/stable501/moodle-latest-501.tgz [following]
--2025-10-27 11:25:21-- https://packaging.moodle.org/stable501/moodle-latest-501.tgz
Resolving packaging.moodle.org (packaging.moodle.org)... 172.66.175.83, 104.20.33.175, 2606:4700:10::6814:21af, ...
Connecting to packaging.moodle.org (packaging.moodle.org)|172.66.175.83|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 74545713 (71M) [application/x-gzip]
Saving to: 'moodle-latest-501.tgz'

moodle-latest-501.tgz      100%[=====]
[aliceoracle@linux Downloads]$ ll
total 72800
-rw-r--r--. 1 aliceoracle aliceoracle 74545713 Oct 24 05:59 moodle-latest-501.tgz
[aliceoracle@linux Downloads]$ file moodle-latest-501.tgz
moodle-latest-501.tgz: gzip compressed data, last modified: Fri Oct 24 04:43:10 2025, from Unix, original size modulo 2^32 339722240
```

8. Now **tar -tf moodle-latest-501.tgz** worked as expected showing lots of moodle files.
9. Extracted **sudo tar -xvzf /home/aliceoracle/Downloads/moodle-latest-501.tgz** in **/var/www/**
10. With **grep -I httpd /etc/passwd** I searched the file to check that I have apache user.

```
[aliceoracle@linux www]$ ll
total 4
drwxr-xr-x. 2 root root    6 Sep  2 10:02 cgi-bin
drwxr-xr-x. 2 root root    6 Sep  2 10:02 html
drwxr-xr-x. 9 1005 1005 4096 Oct 24 06:43 moodle
[aliceoracle@linux www]$ sudo grep -i httpd /etc/passwd
apache:x:48:48:Apache:/usr/share/httpd:/sbin/nologin
```

11. Current permissions are **drwxr-xr-x**, so 755 and root is the owner as started on moodle guide.

- **Secure the Moodle files:** It is vital that the files are not writeable by the web server user. For example, on Unix/Linux (as root):

```
chown -R root /path/to/moodle
chmod -R 0755 /path/to/moodle
```

(files are owned by the administrator/superuser and are only writeable by them - readable by everyone else)

12. Created **moodledata** directory that stores all of the moodle files like site's uploaded files, temporary data, cache, session data etc. The important thing is that the web server needs to be able to write to this directory and it cannot be accessible directly via web, so it cannot be put inside moodle program files directory or inside web root.

sudo mkdir /opt/moodledata

I chose /opt/ folder as it's reserved for 3rd party installs.

Current permissions are: 7 – owner 5 – group 5 - others and the directory is owned by root.

```
[aliceoracle@linux www]$ ls -l /opt/ | grep moodledata
drwxr-xr-x. 2 root root 6 Oct 28 11:59 moodledata
```

Changed the ownership to apache as per (Moodle, 2016)

```
owner: apache user (apache, httpd, www-data, whatever; see above)
group: apache group (apache, httpd, www-data, whatever; see above)
permissions: 700 on directories, 600 on files
```

sudo chown -R apache:apache /opt/moodledata/

```
[aliceoracle@linux www]$ sudo chown -R apache:apache /opt/moodledata/
[sudo] password for aliceoracle:
[aliceoracle@linux www]$ ls -l /opt/ | grep moodledata
drwxr-xr-x. 2 apache apache 6 Oct 28 11:59 moodledata
[aliceoracle@linux www]$
```

sudo find /opt/moodledata -type d -exec chmod 700 '{}' \;

sudo find /opt/moodledata -type f -exec chmod 600 '{}' \;

```
[aliceoracle@linux www]$ sudo find /opt/moodledata -type d -exec chmod 700 '{}' \;
[aliceoracle@linux www]$ sudo find /opt/moodledata -type f -exec chmod 600 '{}' \;
```

For moodle directory we should have 755 for directories and 644 for files:

```
owner: root
group: root
permissions: 755 on directories, 644 on files.
```


sudo chown -R root:root /var/www/moodle/

sudo find /var/www/moodle -type d -exec chmod 755 '{}' \; so we got drwxr-xr-x

sudo find /var/www/moodle -type f -exec chmod 644 '{}' \; so we got -rw-r--r--

```
total 1000
drwxr-xr-x.  3 root root    17 Oct 24 05:59 admin
-rw-r--r--.  1 root root  2173 Oct 24 05:59 composer.json
-rw-r--r--.  1 root root 170511 Oct 24 05:59 composer.lock
-rw-r--r--.  1 root root  72712 Oct 24 05:59 config-dist.php
-rw-r--r--.  1 root root   2651 Oct 24 05:59 CONTRIBUTING.md
-rw-r--r--.  1 root root  35147 Oct 24 05:59 COPYING.txt
-rw-r--r--.  1 root root    953 Oct 24 06:43 githash.php
-rw-r--r--.  1 root root   9685 Oct 24 05:59 Gruntfile.js
-rw-r--r--.  1 root root   1024 Oct 24 05:59 index.php
-rw-r--r--.  1 root root    664 Oct 24 05:59 INSTALL.txt
drwxr-xr-x.  3 root root    79 Oct 24 05:59 lib
```

13. Processed steps from Moodle website to proceed with installation (Moodle, 2025)

- Example of using the command-line (as root - substitute 'www-data' for your web user):

```
# chown www-data /path/to/moodle
# cd /path/to/moodle/admin/cli
# sudo -u www-data /usr/bin/php install.php
# chown -R root /path/to/moodle
```

14. Created **moodle.conf** file that contains information like port used, server name, directory etc..

- 15.

```
[aliceoracle@linux conf.d]$ pwd
/etc/httpd/conf.d
[aliceoracle@linux conf.d]$ sudo vim moodle.conf
```

If there is a config file in /etc/httpd/conf.d, httpd will load it. It's stated in main httpd.conf file.

```
# Load config files in the "/etc/httpd/conf.d" directory, if any.
IncludeOptional conf.d/*.conf
```

```
<VirtualHost *:80>
    ServerName localhost
    DocumentRoot /var/www/moodle

    <Directory /var/www/moodle>
        Options Indexes FollowSymLinks
        AllowOverride All
        Require all granted
    </Directory>
</VirtualHost>
```

Tried installing moodle with command `sudo -u apache /usr/bin/php install.php`

Turned out I had lower version of php than 8.2 and moodle 5.1 required version 8.2 (Moodle, 2025)

Used `dnf module list php` and `sudo dnf install @php:8.2` to install newer version.

Installing PHP on Oracle Linux 9 via AppStream Modules

To list available Module Streams for PHP:

```
$ dnf module list php
```

To install PHP 8.2 :

```
$ sudo dnf install @php:8.2
```

Checked version with command `php --version`

```
Complete!
[aliceoracle@linux cli]$ php --version
PHP 8.2.28 (cli) (built: Mar 11 2025 17:58:12) (NTS gcc x86_64)
Copyright (c) The PHP Group
Zend Engine v4.2.28, Copyright (c) Zend Technologies
    with Zend OPcache v8.2.28, Copyright (c), by Zend Technologies
```

Tried installing moodle again. Typed db details etc ut an error occurred: “**PHP Fatal error: Uncaught Error: Call to a member function connect () ...**” so it might be that it was trying to connect to db but failed looking at the function connect ()

```
Database password
type value
:
PHP Fatal error: Uncaught Error: Call to a member function connect() on null in
/var/www/moodle/public/lib/installlib.php:170
Stack trace:
#0 /var/www/moodle/admin/cli/install.php(635): install_db_validate()
#1 [main]
    thrown in /var/www/moodle/public/lib/installlib.php on line 170

Fatal error: Uncaught Error: Call to a member function connect() on null in /var
/www/moodle/public/lib/installlib.php:170
```

I checked the details in sql again and realised that after creating moodleuser and when granting privileges to the moodleuser I wrote mydatabase.* instead of moodle.* hence I recreated privileges.

```
[alicedelice@linux ~]$ sudo -u root mysql
[sudo] password for alicedelice:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 11
Server version: 10.5.27-MariaDB MariaDB Server

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)]> grant all privileges on moodle.* to 'moodleuser'@'localhost' i
identified by 'moodleuser';
Query OK, 0 rows affected (0.010 sec)
```

Another problem was that during installation I didn't have option to select the driver
“choose database driver”.

On <https://moodle.org/mod/forum/discuss.php?d=415811> in one of the comments I found that if the driver is not displayed it means it's not installed. According to AI Overview in google I should install php-mysqli, so I did: **sudo dnf install php-mysqli** and then the drivers appeared. It's visible on next screenshot. I chose mariadb as stated on moodle website (Moodle, 2025)

```
/------.---.---.---| | | .--.\n|_|_/_\\_/\\_/\\_|_|_|_\n*\n|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_\n|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_)
```

Moodle 5.1+ (Build: 20251024) command line installation program

== Choose a language ==
en - English (en)
? - Available language packs
type value, press Enter to use default value (en)
:

== Data directories permission ==
type value, press Enter to use default value (2777)
: 700

== Web address ==
type value
: http://192.168.100.5/moodle

== Data directory ==
type value, press Enter to use default value (/var/www/moodledat
: /opt/moodlesdata

== Choose database driver ==
mysqli
auroramysql
mariadb
type value, press Enter to use default value (mysqli)
: mariadb

== Database host ==
type value, press Enter to use default value (localhost)
: 192.168.100.4

== Database name ==
type value, press Enter to use default value (moodle)
: moodle

== Tables prefix ==
type value, press Enter to use default value (mdl_
:

== Database port ==
type value, press Enter to use default value (
:

Another try and another error occurred:

++ Readwrite db connection failed for host 192.168.100.4: No route to host (2002) ++

*** line 257 of /lib/dml/moodle_read_replica_trait.php: call to debugging()**

*** line 170 of /lib/installlib.php: call to mysqli_native_moodle_database->connect()**

*** line 635 of /var/www/moodle/admin/cli/install.php: call to install_db_validate()**

PHP Warning: mysqli::__construct(): (HY000/2002): No route to host in /var/www/moodle/public/lib/dml/mysqli_native_moodle_database.php on line 91

<p>Error: Database connection failed</p>

<p>It is possible that the database is overloaded or otherwise not running properly.</p>

**<p>The site administrator should also check that the database details have been correctly specified in config.php</p>
**

Warning: mysqli::__construct(): (HY000/2002): No route to host in /var/www/moodle/public/lib/dml/mysqli_native_moodle_database.php on line 91

```
=====
== Unix socket ==
type value, press Enter to use default value ()
:
=====
== Database user ==
type value, press Enter to use default value (root)
: moodleuser
=====
== Database password ==
type value
:
=====
++ Readwrite db connection failed for host 192.168.100.4: No route to host (2002) ++
* line 257 of /lib/dml/moodle_read_replica_trait.php: call to debugging()
* line 170 of /lib/installlib.php: call to mysqli_native_moodle_database->connect()
* line 635 of /var/www/moodle/admin/cli/install.php: call to install_db_validate()
PHP Warning: mysqli::__construct(): (HY000/2002): No route to host in /var/www/moodle/public/lib/dml/mysqli_native_moodle_database.php on line 91
<p>Error: Database connection failed</p>
<p>It is possible that the database is overloaded or otherwise not running properly.</p>
<p>The site administrator should also check that the database details have been correctly specified in config.php</p><br />
Warning: mysqli::__construct(): (HY000/2002): No route to host in /var/www/moodle/public/lib/dml/mysqli_native_moodle_database.php on line 91
=====
```

On 192.168.100.4 I opened 3306 port, as forgot to do it earlier. Used command: **firewall-cmd --add-port=3306/tcp --permanent** and reloaded firewall with **firewall-cmd --reload**

```
[alicedelice@linux ~]$ sudo firewall-cmd --add-port=3306/tcp --permanent
[sudo] password for alicedelice:
success
[alicedelice@linux ~]$ sudo firewall-cmd --reload
success
[alicedelice@linux ~]$ sudo firewall-cmd --list-ports
3306/tcp 7788/tcp 8181/tcp 8383/tcp
```

Tested from 192.168.100.5 if communication works on port 3306: **nc -zv 192.168.100.4 3306**

```
[aliceoracle@linux cli]$ nc -zv 192.168.100.4 3306
Ncat: Version 7.92 ( https://nmap.org/ncat )
Ncat: Connected to 192.168.100.4:3306.
Ncat: 0 bytes sent, 0 bytes received in 0.01 seconds.
```

Tested installation of moodle once again and different error appeared:

++ Readwrite db connection failed for host 192.168.100.4: Host '192.168.100.5' is not allowed to connect to this MariaDB server (1130) ++

*** line 257 of /lib/dml/moodle_read_replica_trait.php: call to debugging()**

*** line 170 of /lib/installlib.php: call to mysqli_native_moodle_database->connect()**

*** line 635 of /var/www/moodle/admin/cli/install.php: call to install_db_validate()**

PHP Warning: mysqli::__construct(): (HY000/1130): Host '192.168.100.5' is not allowed to connect to this MariaDB server in

/var/www/moodle/public/lib/dml/mysqli_native_moodle_database.php on line 91

<p>Error: Database connection failed</p>

<p>It is possible that the database is overloaded or otherwise not running properly.</p>

**<p>The site administrator should also check that the database details have been correctly specified in config.php</p>
**

Warning: mysqli::__construct(): (HY000/1130): Host '192.168.100.5' is not allowed to connect to this MariaDB server in

/var/www/moodle/public/lib/dml/mysqli_native_moodle_database.php on line 91

```
++ Readwrite db connection failed for host 192.168.100.4: Host '192.168.100.5' is not allowed to connect to this MariaDB server (1130) ++
* line 257 of /lib/dml/moodle_read_replica_trait.php: call to debugging()
* line 170 of /lib/installlib.php: call to mysqli_native_moodle_database->connect()
* line 635 of /var/www/moodle/admin/cli/install.php: call to install_db_validate()
PHP Warning: mysqli::__construct(): (HY000/1130): Host '192.168.100.5' is not allowed to connect to this MariaDB server in /var/www/moodle/public/lib/dml/mysqli_native_moodle_database.php on line 91
<p>Error: Database connection failed</p>
<p>It is possible that the database is overloaded or otherwise not running properly.</p>
<p>The site administrator should also check that the database details have been correctly specified in config.php</p><br />
Warning: mysqli::__construct(): (HY000/1130): Host '192.168.100.5' is not allowed to connect to this MariaDB server in /var/www/moodle/public/lib/dml/mysqli_native_moodle_database.php on line 91
```

Googling (Synology community, 2021) looks like I should have granted privileges to moodle user using IP address instead of localhost and it makes sense since the app is trying to connect from 192.168.100.5 instead of localhost.

I deleted the user with localhost

drop user if exists 'moodleuser'@'localhost';

flush privileges;, created a new one with @192.168.100.5 and granted privileges:

grant all privileges on moodle.* to 'moodleuser'@'192.168.100.5' identified by 'twoje_haslo';

flush privileges;

Tried installation again and it worked but not without errors:

Moodle 5.1+ (Build: 20251024) command line installation program

== Choose a language ==

en - English (en)

? - Available language packs

type value, press Enter to use default value (en)

:

== Data directories permission ==

type value, press Enter to use default value (2777)

: 700

== Web address ==

type value

: http://192.168.100.5/moodle

== Data directory ==

type value, press Enter to use default value (/var/www/moodldata)

: /opt/moodldata

== Choose database driver ==

mysqli

auroramysql

mariadb

type value, press Enter to use default value (mysqli)

: mariadb

== Database host ==

type value, press Enter to use default value (localhost)

: 192.168.100.4

== Database name ==

type value, press Enter to use default value (moodle)

: moodle

== *Tables prefix* ==

type value, press Enter to use default value (mdl_)

:

== *Database port* ==

type value, press Enter to use default value ()

:

== *Unix socket* ==

type value, press Enter to use default value ()

:

== *Database user* ==

type value, press Enter to use default value (root)

: *moodleuser*

== *Database password* ==

type value

: *XXXXXXXXXXXX*

== *Full site name* ==

type value

: *My Moodle Site*

== *Short name for site (eg single word)* ==

type value

: *modsite*

== *Admin account username* ==

type value, press Enter to use default value (admin)

:

== New admin user password ==

type value

: XXXXXXXXXXXXXXXX

== New admin user email address ==

type value, press Enter to use default value ()

: XXXXXXXXXXXXXXXXXXXX

== Support email address ==

type value, press Enter to use default value ()

: XXXXXXXXXXXXXXXXXXXX

== Upgrade key (leave empty to not set it) ==

type value

:

== Environment ==

!! database mariadb (10.5.27-MariaDB) !!

[System] version 10.11.0 is required and you are running 10.5.27 -

!! php_extension zip !!

[System] must be installed and enabled - The Zip PHP extension is now required by Moodle, info-ZIP binaries or

PclZip library are not used anymore.

!! php_extension gd !!

[System] must be installed and enabled - The GD extension is now required by Moodle for image conversion.

!! php_extension intl !!

[System] must be installed and enabled - Intl extension is required to improve internationalization support, such as

locale aware sorting and international domain names.

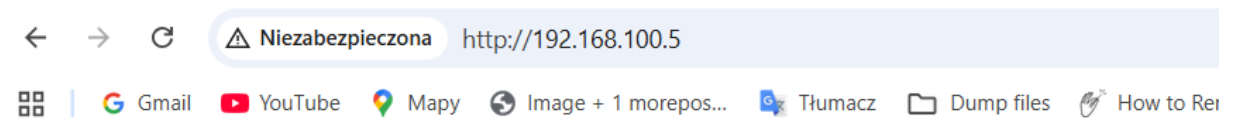
!! php_extension sodium !!

[System] must be installed and enabled -

!! max_input_vars !!

[System] this test must pass - PHP setting max_input_vars must be at least 5000.

And this is what I get when accessing 192.168.100.5:



Fatal error: \$CFG->dataroot is not writable, admin has to fix directory permissions! Exiting.

Started with the fatal error, I didn't see any logs in journalctl. I tried changing permissions of /opt/moodldata to 755 or 777, but it didn't do anything and since apache was the owner and had the write permissions, it wasn't the case. Googling I found out that some people reported that SELINUX was causing the issue for them. I checked that disabling selinux (changing enforcing to disabled in config file: /etc/selinux/config and rebooted) indeed removed the error.

```

# This file controls the state of SELinux on the system.
# SELINUX= can take one of these three values:
#   enforcing - SELinux security policy is enforced.
#   permissive - SELinux prints warnings instead of enforcing.
#   disabled - No SELinux policy is loaded.
# See also:
# https://access.redhat.com/documentation/en-us/red_hat_enterprise_linux/9/html/using_selinux-states-and-modes
#
# NOTE: Up to RHEL 8 release included, SELINUX=disabled would also
# fully disable SELinux during boot. If you need a system with SELinux
# fully disabled instead of SELinux running with no policy loaded, you
# need to pass selinux=0 to the kernel command line. You can use grubby
# to persistently set the bootloader to boot with selinux=0:
#
#   grubby --update-kernel ALL --args selinux=0
#
# To revert back to SELinux enabled:
#
#   grubby --update-kernel ALL --remove-args selinux
#
SELINUX=enforcing
# SELINUXTYPE= can take one of these three values:
#   targeted - Targeted processes are protected,
#   minimum - Modification of targeted policy. Only selected processes are protected.
#   mis - Multi Level Security protection.
SELINUXTYPE=targeted

```

I re-enabled SELINUX and checked with `ls -Z` the context. It showed:
unconfined_u:object_r:usr_t:s0

```

[aliceoracle@linux ~]$ sudo ls -Z /opt/moodledata/
[sudo] password for aliceoracle:
unconfined_u:object_r:usr_t:s0 cache          system_u:object_r:usr_t:s0 muc
unconfined_u:object_r:usr_t:s0 lang          unconfined_u:object_r:usr_t:s0 temp
unconfined_u:object_r:usr_t:s0 localcache

```

and according to (die.net) “On Targeted policy systems the **__default__** user is assigned to the **unconfined_u** SELinux user.” And “The SELinux user **user_u** is defined in policy as a unprivileged user. SELinux prevents unprivileged users from doing administration tasks without transitioning to a different role.”

Indeed when checked with command: **semanage login -l** it showed:

```

[root@linux aliceoracle]# semmanage login -l

```

Login Name	SELinux User	MLS/MCS Range	Service
__default__	unconfined_u	s0-s0:c0.c1023	*
root	unconfined_u	s0-s0:c0.c1023	*

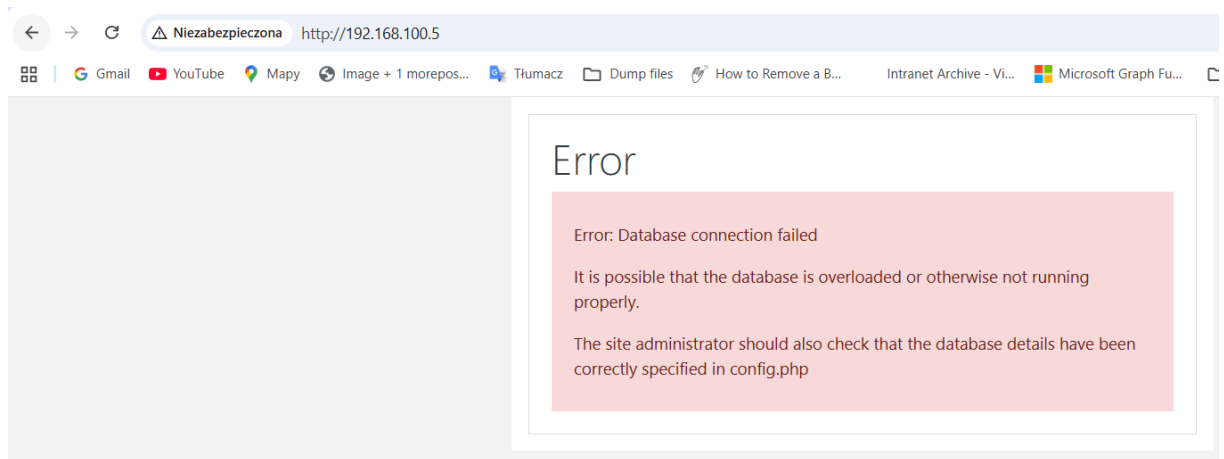
I’ve checked the Red Hat EnterpriseLinux guide for apache HTTP server (Red Hat Enterprise Linux, 2025) and changed the context to **httpd_sys_rw_content_t** to allow writing.

```

[root@linux aliceoracle]# chcon -R -t httpd_sys_rw_content_t /opt/moodledata/
[root@linux aliceoracle]# ls -Z /opt/moodledata/
unconfined_u:object_r:httpd_sys_rw_content_t:s0 cache unconfined_u:object_r:httpd_sys_rw_content_t:s0 localcache unconfined_u:object_r:httpd_sys_rw_content_t:s0 temp
unconfined_u:object_r:httpd_sys_rw_content_t:s0 lang system_u:object_r:httpd_sys_rw_content_t:s0 muc

```

After reloading the page, the error disappeared but now it’s time to correct the other one.



First, let's fix the version of MariaDB.

!! database mariadb (10.5.27-MariaDB) !!

[System] version 10.11.0 is required and you are running 10.5.27 -

Since it's an empty database, I just activated the newer module and installed new version. (John-Baptiste, 2024)

dnf module list mariadb

dnf module enable mariadb:10.11

dnf install mariadb-server mariadb

mariadb --version

```
[root@linux alicedelice]# mariadb --version
mariadb Ver 15.1 Distrib 10.11.10-MariaDB, for Linux (x86_64) using EditLine wrapper
```

The fixed the rest:

!! php_extension zip !!

[System] must be installed and enabled - The Zip PHP extension is now required by Moodle, info-ZIP binaries or

PclZip library are not used anymore.

dnf install php-zip

!! php_extension gd !!

[System] must be installed and enabled - The GD extension is now required by Moodle for image conversion.

dnf install php-gd

!! php_extension intl !!

[System] must be installed and enabled - Intl extension is required to improve internationalization support, such as

locale aware sorting and international domain names.

dnf install php-intl

!! php_extension sodium !!

[System] must be installed and enabled -

dnf install php-sodium (had to enable remi's repo, which provides latest versions of the software to install this one)

dnf list installed *php*

```
[root@linux aliceoracle]# dnf list installed *php*
Installed Packages
gd3php.x86_64                                2.3.3-9.el9.remi
oniguruma5php.x86_64                        6.9.10-1.el9.remi
php.x86_64                                  8.2.29-1.el9.remi
php-cli.x86_64                              8.2.29-1.el9.remi
php-common.x86_64                          8.2.29-1.el9.remi
php-fpm.x86_64                              8.2.29-1.el9.remi
php-gd.x86_64                               8.2.29-1.el9.remi
php-intl.x86_64                             8.2.29-1.el9.remi
php-mbstring.x86_64                        8.2.29-1.el9.remi
php-mysqlnd.x86_64                         8.2.29-1.el9.remi
php-opcache.x86_64                         8.2.29-1.el9.remi
php-pdo.x86_64                             8.2.29-1.el9.remi
php-pear.x86_64                            1.22.3-1.module+el9.4.0+90261+af5cc95
php-sodium.x86_64                          8.2.29-1.el9.remi
php-xml.x86_64                             8.2.29-1.el9.remi
```

!! max_input_vars !!

[System] this test must pass - PHP setting max_input_vars must be at least 5000.

Found on google that max_input_vars is located in php.ini.

Searched for the file using command: find / -type f -name php.ini

```
[root@linux moodle]# find / -type f -name php.ini
find: '/run/user/1000/doc': Permission denied
find: '/run/user/1000/gvfs': Permission denied
/etc/php.ini
```

Confirmed with grep that the setting is there: **grep max_input_vars /etc/php.ini**

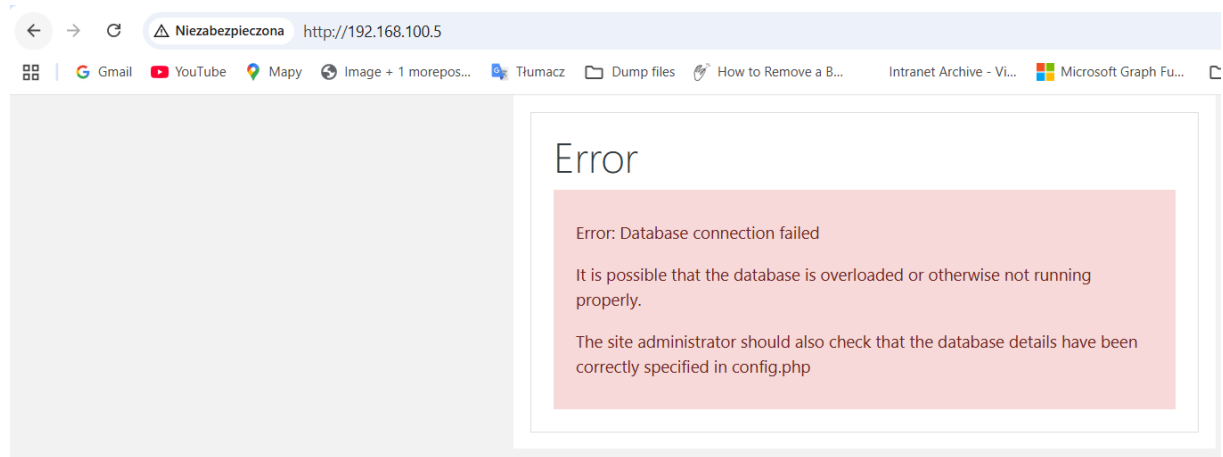
```
[root@linux moodle]# grep max_input_vars /etc/php.ini
;max_input_vars = 1000
; Default Value: -1 (Sum of max_input_vars and max_file_uploads)
```

Changed the value to 5000 and removed “;”

```
; How many GET/POST/COOKIE input variables may be accepted  
max_input_vars = 5000
```

Restarted php with **systemctl restart php-fpm.service**.

Well, the error keeps on showing up:



I checked again:

- **nc -zv 192.168.100.4 3306 -> connected**
- **systemctl status mysql** on 192.168.100.4 ->active and running
- accessed mariadb and checked moodleuser and it's grants and they looked fine:
SELECT user, host FROM mysql.user WHERE user='moodleuser';
show grants for 'moodleuser'@'192.168.100.5';

```
MariaDB [(none)]> show grants for 'moodleuser'@'192.168.100.5';  
+-----+  
| Grants for moodleuser@192.168.100.5 |  
+-----+  
| GRANT USAGE ON *.* TO `moodleuser`@`192.168.100.5` IDENTIFIED BY PASSWORD '*36 |  
| GRANT ALL PRIVILEGES ON `moodle`.* TO `moodleuser`@`192.168.100.5` |
```

- checked config.php details and they also looked fine:


```
<?php // Moodle configuration file

unset($CFG);
global $CFG;
$CFG = new stdClass();

$CFG->dbtype      = 'mariadb';
$CFG->dblibrary    = 'native';
$CFG->dbhost       = '192.168.100.4';
$CFG->dbname       = 'moodle';
$CFG->dbuser       = 'moodleuser';
$CFG->dbpass       = '...';
$CFG->prefix       = 'mdl_';
$CFG->dboptions    = array (
    'dbpersist' => 0,
    'dbport'    => '3306',
    'dbsocket'  => '',
    'dbcollation' => 'utf8mb4_general_ci',
);

$CFG->wwwroot     = 'http://192.168.100.5/moodle';
$CFG->dataroot     = '/opt/moodledata';
$CFG->admin        = 'admin';
```

- turned off selinux for a moment -> error still existed.
- Had to check with chantgpt for this one. He suggested that mariadb's bind address may be not set up to listen on all ip addresses. Uncommented **bind-address=0.0.0.0** in the config file: `/etc/my.cnf.d/mariadb-server.cnf` and restarted the service. -> it didn't solve the issue.

```
# Allow server to accept connections on all interfaces.
#
bind-address=0.0.0.0
#
```

- As per guide (MariaDB) tested connection to mariadb: **mariadb -u moodleuser'@'192.168.100.5 -p --port=3306 --protocol=tcp** (had to install mariadb package with **sudo dnf install mariadb** to get the command)

```
[aliceoracle@linux ~]$ mariadb -u moodleuser'@'192.168.100.5 -p --port=3306 --protocol=tcp
bash: mariadb: command not found...
Install package 'mariadb' to provide command 'mariadb'? [N/y] y

[aliceoracle@linux ~]$ mariadb -u moodleuser'@'192.168.100.5 -p --port=3306 --protocol=tcp
Enter password:
ERROR 2002 (HY000): Can't connect to MySQL server on 'localhost' (111)
```

- On 192.168.100.4 no errors in mariadb logs: **tail /var/log/mariadb/mariadb.log | grep 2025-10-30**

```
[root@linux mysql]# tail /var/log/mariadb/mariadb.log | grep 2025-10-30
2025-10-30 11:21:37 0 [Note] InnoDB: 128 rollback segments are active.
2025-10-30 11:21:37 0 [Note] InnoDB: Setting file './ibtmp1' size to 12.000MiB. Physically writing the file full; Please wait ...
2025-10-30 11:21:37 0 [Note] InnoDB: File './ibtmp1' size is now 12.000MiB.
2025-10-30 11:21:37 0 [Note] InnoDB: log sequence number 45763; transaction id 21
2025-10-30 11:21:37 0 [Note] InnoDB: Loading buffer pool(s) from /var/lib/mysql/ib_buffer_pool
2025-10-30 11:21:37 0 [Note] Plugin 'FEEDBACK' is disabled.
2025-10-30 11:21:37 0 [Note] InnoDB: Buffer pool(s) load completed at 251030 11:21:37
2025-10-30 11:21:37 0 [Note] Server socket created on IP: '0.0.0.0'.
2025-10-30 11:21:37 0 [Note] /usr/libexec/mariadbd: ready for connections.
```

- I've read somewhere on forum that someone did a php check. I found the checks.php file and ran: **sudo -u apache /usr/bin/php checks.php**
It showed me the same error as on the browser but additionally it said: **"PHP: syntax error, unexpected END_OF_LINE, expecting '=' in /etc/php.ini on line 2"**

```
[aliceoracle@linux cli]$ sudo -u apache /usr/bin/php checks.php
PHP: syntax error, unexpected END_OF_LINE, expecting '=' in /etc/php.ini on line 2
!!! <p>Error: Database connection failed</p>
<p>It is possible that the database is overloaded or otherwise not running properly.</p>
<p>The site administrator should also check that the database details have been correctly specified in config.php</p> !!!
[aliceoracle@linux cli]$
```

When accessed php.ini file it looked like this on first line: **max_input_vars**
[PHP]

```
max_input_vars [PHP]

;;;;;;;;;;;;;;;;;;;;;;;;;
; About php.ini      ;
;;;;;;;;;;;;;;;;;;;;;;;;;
```

People on different forums said there should be just [PHP] at the beginning.

I made a copy of php.ini file with command: **sudo cp /etc/php.ini**

/etc/php.ini_old and then edited the file: **sudo vim /etc/php.ini**

Removed the line **max_input_vars [PHP]** and left only **[PHP]**. Ran again php check and now just database connection error if left

```
[aliceoracle@linux cli]$ sudo -u apache /usr/bin/php checks.php
!!! <p>Error: Database connection failed</p>
<p>It is possible that the database is overloaded or otherwise not running properly.</p>
<p>The site administrator should also check that the database details have been correctly specified in co
```

- I tried **mysql -h 192.168.100.4 -u moodleuser -p moodle** and got **access denied error**.

-

```
[root@linux conf]# mysql -h 192.168.100.4 -u moodleuser -p moodle
Enter password:
ERROR 1045 (28000): Access denied for user 'moodleuser'@'192.168.100.5' (using password: YES)
```

It turned out later on that I had the wrong password written down since I dropped the user in DB and created it from the beginning with a new password, I could log in from 102.168.100.5

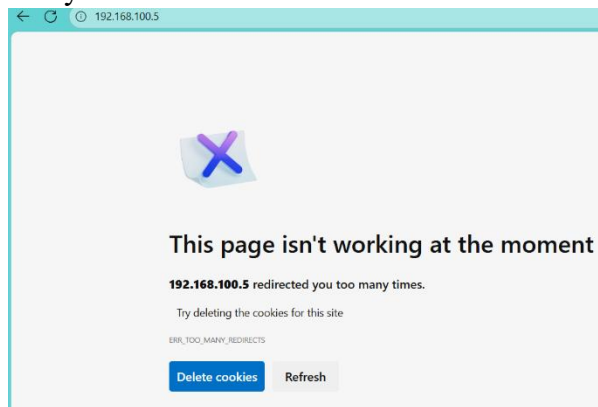
```
[aliceoracle@linux ~]$ mysql -h 192.168.100.4 -u moodleuser -p moodle
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 1948
Server version: 10.11.10-MariaDB MariaDB Server

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

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

I corrected password in config.php but the database connection error persisted.

- I changed Selinux to permissive mode and then on the browser I can see: too many redirects.

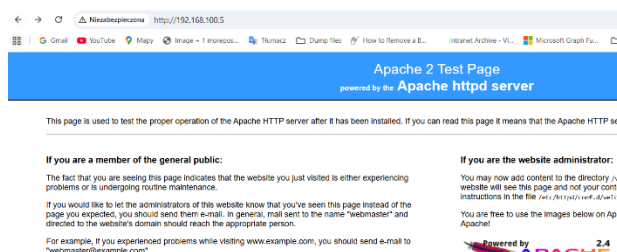
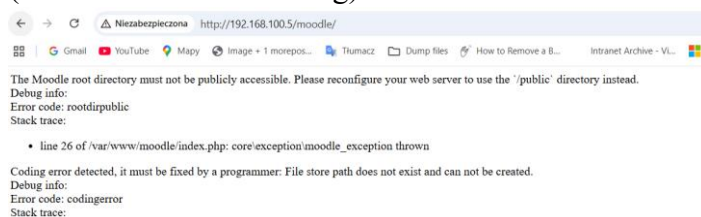


- The redirect was fixed by adding line **DocumentRoot /var/www/** to moodle.conf file (I compared the settings for virtual hosts on my ubuntu machine where I had moodle installed but with local db).

```
<VirtualHost *:80>
    ServerName 192.168.100.5
    DocumentRoot /var/www/

    <Directory /var/www/moodle>
        Options Indexes FollowSymLinks
        AllowOverride All
        Require all granted
    </Directory>
</VirtualHost>
```

Right now I can access apache under 192.168.100.5 and moodle is accessible under 192.168.100.5/moodle, however some other error appeared though (without selinux enforcing):



- This confirms though that SELinux is the problem causing database connection error.
- However, I wanted moodle to be under 192.168.100.5 and I also had to make changes to public as per error stated. Found official moodle guide about it (Moodle, 2025) that stated that since moodle 5.1 it's required to reconfigure Moodle's DocumentRoot to **/path to/moodle/public**.

- **I made the following changes:**

- In config.php I changed 'http://192.168.100.5/moodle'; to 'http://192.168.100.5';

```
$CFG->wwwroot = 'http://192.168.100.5';
```

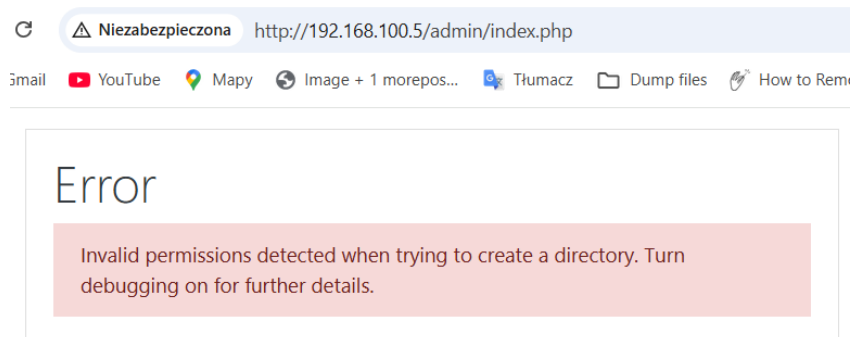
- In moodle.conf I replaced **DocumentRoot** /var/www/ with **DocumentRoot** /var/www/moodle/public and replaced **<Directory** /var/www/moodle /> with **<Directory** /var/www/moodle/public/>

```
<VirtualHost *:80>
    ServerName 192.168.100.5
    DocumentRoot /var/www/moodle/public

    <Directory /var/www/moodle/public/>
        Options Indexes FollowSymLinks
        AllowOverride All
        Require all granted
    </Directory>
</VirtualHost>
```

- Restarted httpd.service

- Moodle is now accessible under 192.168.100.5 but now I have an error about incorrect permissions



- Logs – not really useful in this case.

```
root@linux1:~# tail -10 /var/log/php-fpm/www-error.log
line 26 of /var/www/moodle/index.php: core_exception:moodle_exception thrown
[31-Oct-2025 12:52:31 UTC] Default exception handler: The Moodle root directory must not be publicly accessible. Please reconfigure your web server to use the '/public' directory instead.
bug:
Error code: rootdirpublic
line 26 of /var/www/moodle/index.php: core_exception:moodle_exception thrown
[31-Oct-2025 12:52:36 UTC] Default exception handler: The Moodle root directory must not be publicly accessible. Please reconfigure your web server to use the '/public' directory instead.
bug:
Error code: rootdirpublic
line 26 of /var/www/moodle/index.php: core_exception:moodle_exception thrown

root@linux1:~# tail -10 /var/log/httpd/access_log
92.168.100.1 - - [31/Oct/2025:19:46:19 +0100] "GET /admin/index.php HTTP/1.1" 500 1371 "-" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/141.0.0.0 Safari/537.36"
92.168.100.1 - - [31/Oct/2025:19:46:19 +0100] "GET / HTTP/1.1" 303 1500 "-" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/141.0.0.0 Safari/537.36"
92.168.100.1 - - [31/Oct/2025:19:46:19 +0100] "GET /admin/index.php HTTP/1.1" 500 1371 "-" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/141.0.0.0 Safari/537.36"
92.168.100.1 - - [31/Oct/2025:19:48:11 +0100] "GET /admin/index.php HTTP/1.1" 500 2650 "-" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/141.0.0.0 Safari/537.36"
92.168.100.1 - - [31/Oct/2025:19:49:14 +0100] "GET / HTTP/1.1" 303 1500 "-" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/141.0.0.0 Safari/537.36"
92.168.100.1 - - [31/Oct/2025:19:49:15 +0100] "GET /admin/index.php HTTP/1.1" 500 2650 "-" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/141.0.0.0 Safari/537.36"
92.168.100.1 - - [31/Oct/2025:19:49:16 +0100] "GET / HTTP/1.1" 303 1500 "-" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/141.0.0.0 Safari/537.36"
92.168.100.1 - - [31/Oct/2025:19:50:08 +0100] "-" 408 - "-" "-"
92.168.100.1 - - [31/Oct/2025:19:58:24 +0100] "GET /admin/index.php HTTP/1.1" 500 2650 "-" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/141.0.0.0 Safari/537.36"

root@linux1:~# tail -10 /var/log/httpd/error_log
Fri Oct 31 15:12:46.674266 2025] [suexec:notice] [pid 6442:tid 6442] AH01232: suEXEC mechanism enabled (wrapper: /usr/sbin/suexec)
Fri Oct 31 15:12:49.226893 2025] [limbmod:heartbeat:notice] [pid 6442:tid 6442] AH02282: No slowness from mod_heartbeat
Fri Oct 31 15:12:49.226666 2025] [mpm_event:notice] [pid 6442:tid 6442] AH00489: Apache/2.4.42 (Oracle Linux Server) configured -- resuming normal operations
Fri Oct 31 15:12:49.226693 2025] [core:notice] [pid 6442:tid 6442] AH00094: Command line: '/usr/sbin/httpd -D FOREGROUND'
Fri Oct 31 19:48:57.791605 2025] [mpm_event:notice] [pid 6442:tid 6442] AH00492: caught SIGWATCH, shutting down gracefully
Fri Oct 31 19:49:01.473434 2025] [core:notice] [pid 6701:tid 6701] suEXEC policy enabled: httpd running as context system_u:system_r:httpd_t:s0
Fri Oct 31 19:49:01.476558 2025] [suexec:notice] [pid 6701:tid 6701] AH01232: suEXEC mechanism enabled (wrapper: /usr/sbin/suexec)
Fri Oct 31 19:49:04.020519 2025] [limbmod:heartbeat:notice] [pid 6701:tid 6701] AH02282: No slowness from mod_heartbeat
Fri Oct 31 19:49:04.024758 2025] [mpm_event:notice] [pid 6701:tid 6701] AH00489: Apache/2.4.42 (Oracle Linux Server) configured -- resuming normal operations
Fri Oct 31 19:49:04.024841 2025] [core:notice] [pid 6701:tid 6701] AH00094: Command line: '/usr/sbin/httpd -D FOREGROUND'
```

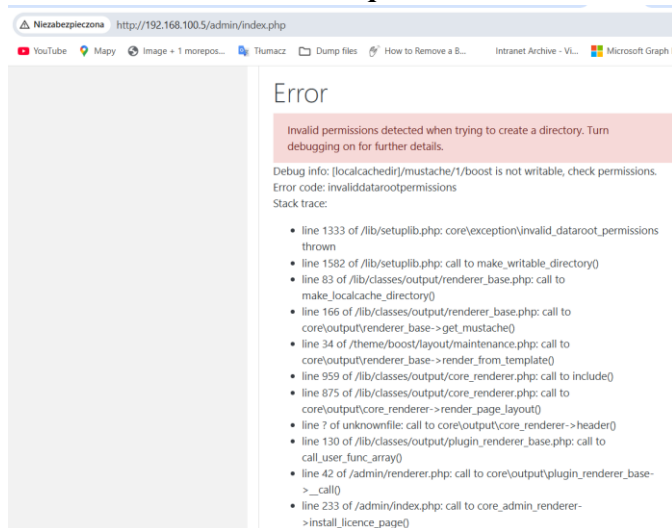
- Turned on debugging as per (Stack Overflow, 2020). Added lines in config.php and restarted httpd service.

```
// Force a debugging mode regardless the settings in the site administration
// @error_reporting(1023); // NOT FOR PRODUCTION SERVERS!
@ini_set('display_errors', '1'); // NOT FOR PRODUCTION SERVERS!
$CFG->debug = 32767; // DEBUG DEVELOPER // NOT FOR PRODUCTION SERVERS!
// for Moodle 2.0 - 2.2, use: $CFG->debug = 38911;
$CFG->debugdisplay = true; // NOT FOR PRODUCTION SERVERS!

// You can specify a comma separated list of user ids that that always see
// debug messages, this overrides the debug flag in $CFG->debug and $CFG->debugdisplay
// for these users only.
$CFG->debugusers = '2';
```

- Reloaded page: ***“Debug info: [localcachedir]/mustache/1/boost is not writable, check permissions.***

Error code: invaliddatarootpermissions”



- So it looks like it cannot write to boost.

```
total 0
dr-----wT. 2 apache apache 6 Oct 31 15:12 boost
```

- So previously I’ve set up permissions for moodledata as 700 for directories and 600 for files on moodledata as per https://docs.moodle.org/31/en/Security_recommendations?_gl=1*6v74n5*_ga*MjExNTQzODQzNS4xNzU3NDE1Mjc3*_ga_QWYJYEY9P5*czE3NjE2NDg2MTgkbzYkZzEkdDE3NjE2NDkyNDckajYwJGwwJGgw#Most_secure.2Fparanoid_file_permissions but on https://docs.moodle.org/401/en/Installing_Moodle#Create_the_.28moodledata.29_data_directory it says it should have 0777 permissions which indeed works when I did **chmod -R 0777 /opt/moodle**.

```
# mkdir /path/to/moodledata
# chmod 0777 /path/to/moodledata
```

- Finally, it worked. Had to correct one more issue – missing one more php extension and not sure why but had to proceed with some installation steps again like creating admin account, site etc.

Other checks

Information	Report	Plugin	Status
Composer vendor directory not found	If this test fails, it indicates a potential problem Composer dependencies were not found. Make sure the "composer install --no-dev --classmap-authoritative" command has been run in the Moodle root directory. If you are not using Composer, make sure the vendor directory exists and contains the necessary files.		Check
site not https	If this test fails, it indicates a potential problem It has been detected that your site is not secured using HTTPS. It is strongly recommended to migrate your site to HTTPS for increased security and improved integration with other systems.		Check

Your server environment meets all minimum requirements. [Continue](#)

Anyway...

MyMo Home Dashboard My courses Site administration

Dashboard

Welcome, Admin! 🙌

Timeline

- Now just issue with SELINUX enforcing to be resolved, so I've set selinux to enforcing mode again and rebooted the system.

- Looked through the moodle guide and it looks like it's required to allow httpdprocess to create network connections with command: **sudo setsebool httpd_can_network_connect true**

As checked on Red Hat website (Red Hat Enterprise Linux, 2025)

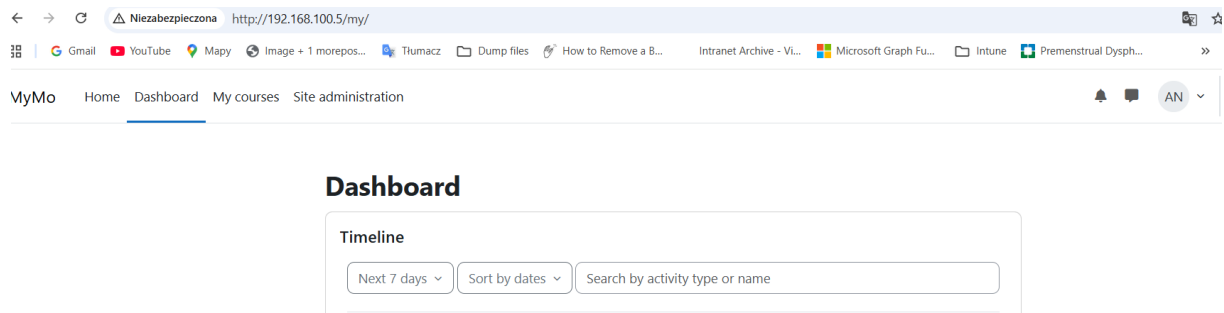
“httpd_can_network_connect When disabled, this Boolean prevents HTTP scripts and modules from initiating a connection to a network or remote port. Enable this Boolean to allow this access.”

There is also **“httpd_can_network_connect_db**

When disabled, this Boolean prevents HTTP scripts and modules from initiating a connection to database servers. Enable this Boolean to allow this access.” I tested that turning the first one off and turning the _db on also works fine.

```
[aliceoracle@linux ~]$ sudo setsebool httpd_can_network_connect true
[sudo] password for aliceoracle:
[aliceoracle@linux ~]$ █
```

- And now it works!



Bibliografia

- Adobe Developer. (2025). *Using cURL to run requests*. Retrieved from <https://developer.adobe.com/commerce/webapi/get-started/gs-curl/#:~:text='cURL'%20is%20a%20command%2D,syntax%20to%20construct%20the%20command.>
- die.net. (n.d.). *user_selinux(8) - Linux man page*. Retrieved from https://linux.die.net/man/8/user_selinux
- John-Baptiste, F. (2024, 10 13). *MariaDB can be installed by enabling the module or using the repository; both examples are in this guide*. Retrieved from <https://www.fabiantechtips.com/post/mariadb-can-be-installed-by-enabling-the-module-or-using-the-repository-both-examples-are-in-this-g>
- MariaDB. (2025). Retrieved from <https://mariadb.com/docs/server/reference/plugins/authentication-plugins/authentication-plugin-unix-socket>
- MariaDB. (n.d.). *Troubleshooting Connection Issues Guide*. Retrieved from <https://mariadb.com/docs/server/mariadb-quickstart-guides/mariadb-connection-troubleshooting-guide>
- Moodle. (2016, 11 07). Retrieved from https://docs.moodle.org/31/en/Security_recommendations?_gl=1*6v74n5*_ga*MjExNTQzODQzNS4xNzU3NDE1Mjc*_ga_QWYJYEY9P5*czE3NjE2NDg2MTgkbzYkZzEkdDE3NjE2NDkyNDckajYwJGwwJGgw#Most_secure.2Fparanoid_file_permissions
- Moodle. (2025). *Code Restructure*. Retrieved from <https://moodledev.io/docs/5.1/guides/restructure>
- Moodle. (2025, 10 20). *Installing Moodle*. Retrieved from [https://docs.moodle.org/501/en/Installing_Moodle#Create_the_\(moodledata\)_data_directory](https://docs.moodle.org/501/en/Installing_Moodle#Create_the_(moodledata)_data_directory)
- Moodle. (2025, 01 01). *MariaDB*. Retrieved from <https://docs.moodle.org/501/en/MariaDB>
- Moodle. (2025, 10 06). *Moodle 5.1*. Retrieved from https://moodledev.io/general/releases/5.1?_gl=1*1dcpv2h*_ga*MjExNTQzODQzNS4xNzU3NDE1Mjc*_ga_QWYJYEY9P5*czE3NjE2NDg2MTgkbzYkZzEkdDE3NjE2NDkzNzQkajYwJGwwJGgw#server-requirements
- Oracle. (2022, 05 06). *Install the Apache Web Server*. Retrieved from <https://docs.oracle.com/en/learn/apache-install/#introduction>
- Oracle. (2022, 05 06). *Install the Apache Web Server*. Retrieved from <https://docs.oracle.com/en/learn/apache-install/#installing-and-configuring-the-web-server-package>
- Oracle. (2025). Retrieved from https://dev.mysql.com/doc/refman/8.4/en/mysql-secure-installation.html#:~:text=6.4.-,2%20mysql_secure_installation%20%E2%80%94%20Improve%20MySQL%20Installation%20Security,line%20and%20in%20option%20files.

Red Hat Enterprise Linux. (2025). 13.3. *Booleans*. Retrieved from https://docs.redhat.com/en/documentation/red_hat_enterprise_linux/7/html/selinux_users_and_administrators_guide/sect-managing_confined_services-the_apache_http_server-booleans

Red Hat Enterprise Linux. (2025). 2.2. *Types*. Retrieved from https://docs.redhat.com/en/documentation/red_hat_enterprise_linux/6/html/managing_confined_services/sect-managing_confined_services-the_apache_http_server-types

Server Fault. (n.d.). Retrieved from <https://serverfault.com/questions/368641/mysql-5-5-16-allows-anonymous-connections#:~:text=By%20default%2C%20a%20MySQL%20installation,moving%20into%20a%20production%20environment>.

Stack Overflow. (2020). Retrieved from <https://stackoverflow.com/questions/62189763/how-do-i-debug-in-moodle-as-a-developer>

Synology community. (2021). *host " is not allowed to connect to this mariadb*. Retrieved from <https://community.synology.com/enu/forum/1/post/145026>