

CentOS Stream 8 – Moodle 3.9

Version:	1.0.0
Created by:	cloudimg

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1.) Overview

This document is provided as a user guide for the CentOS Stream 8 – Moodle 3.9 product offering on the Azure Marketplace. Please reach out to support@cloudimg.co.uk if any issues are encountered following this user guide for the chosen product offering.

2.) Access & Security



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Please update the security group of the target instance to allow the below ports and protocols for access and connectivity.

Protocol	Type	Port	Description
SSH	TCP	22	SSH connectivity
Custom TCP	TCP	3306	MySQL Database Listener Port for remote access
Custom TCP	TCP	80	Moodle Front End Access (HTTP)
Custom TCP	TCP	443	Moodle Front End Access (HTTPS)

3.) System Requirements

The minimum system requirements for the chosen product offering can be found below

Minimum CPU	Minimum RAM	Required Disk Space
1	1 GB	20 GB

4.) Connecting to the Instance

Once launched in the Azure Virtual Machines Service, please connect to the instance via an SSH client using the **azureuser** with the key pair associated at launch. Once connected as the **azureuser**, you will be able to **sudo** to the **root** user by issuing the below command.

Switch to the root user

```
sudo su -
```

5.) On Startup

An OS package update script has been configured to run on boot to ensure the image is fully up to date at first use. You can disable this feature by removing the script from `/stage/scripts/` and deleting the entry in `crontab` for the root user.

Disable the OS update script from running on reboot

```
rm -f /stage/scripts/initial_boot_update.sh
crontab -e
#DELETE THE BELOW LINE. SAVE AND EXIT THE FILE.
```



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```
@reboot /stage/scripts/initial_boot_update.sh
```

6.) Filesystem Configuration

Please see below for a screenshot of the server disk configuration and specific mount point mappings for software locations.

```
Filesystem      Size  Used Avail Use% Mounted on
devtmpfs        1.9G   0 1.9G   0% /dev
tmpfs           2.0G   0 2.0G   0% /dev/shm
tmpfs           2.0G  8.5M 1.9G   1% /run
tmpfs           2.0G   0 2.0G   0% /sys/fs/cgroup
/dev/nvme0n1p2  38G  3.1G  33G   9% /
/dev/nvme1n1    9.8G  234M  9.0G   3% /var/lib/mysql
/dev/nvme0n1p1  2.0G  121M  1.7G   7% /boot
tmpfs           391M   0 391M   0% /run/user/1002
tmpfs           391M   0 391M   0% /run/user/0
/dev/nvme2n1    9.8G  361M  8.9G   4% /var/www/html
```

Mount Point	Description
/boot	Operating System Kernel files
/var/lib/mysql	MySQL data directory
/var/www/html/moodle	Moodle installation directory

7.) Server Components

Please see below for a list of installed server components and their respective installation paths. The below versions are subject to change on initial boot based on the initial_boot_update.sh script finding new versions of the software in the systems package repositories.

Component	Version	Software Home
Cloud-Init	19.4	/etc/cloud



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MySQL 8	8.0.30	/etc/my.cnf
PHP	7.4	/etc/php.ini
Apache HTTP	2.4.6	/etc/httpd
Moodle	3.9	/var/www/html/moodle
Azure CLI	2.53.1	/lib64/az

8.) Scripts and Log Files

The below table provides a breakdown of any scripts & log files created to enhance the useability of the chosen offering.

Script/Log	Path	Description
Initial_boot_update.sh	/stage/scripts	Update the Operating System with the latest updates available.
Initial_boot_update.log	/stage/scripts	Provides output for initial_boot_update.sh
mysql_root_password.log	/stage/scripts	MySQL root database password file

9.) Using System Components

Instructions can be found below for using each component of the server build mentioned in section 7 of this user guide document.

Azure CLI

Using Azure CLI - as any OS user.

```
az
```

Cloud-Init

Edit the /etc/cloud/cloud.cfg file to reflect your desired configuration. A link to the cloud-init official documentation can be found below for referencing best practise for your use case.

<https://cloudinit.readthedocs.io/en/latest/>

```
vi /etc/cloud/cloud.cfg
```



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MySQL 8

The MySQL Database service has been configured to start on boot, please use the below commands to start, stop and check the status of the service.

```
#Check the MySQL service is running
service mysqld status

#Stop the MySQL service
service mysqld stop

#Start the MySQL service
service mysqld start
```

You can access the mysql database server as the root user by referring to the instructions in the /stage/scripts/mysql_root_password.log file. The root database user has been disabled for remote login as per best practise and therefore only a local login from the server command line will be allowed for the root user.

```
mysql -u root -p

#Enter the randomly generated password found in the /stage/scripts/mysql_root_password.log
file
```

PHP

PHP 8.1 has been preinstalled on the system along with the required extensions required to run Moodle. You may check the PHP version being used by the server via the below command.

```
php -v
```



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Moodle

On first use of the system, an interactive script has been created so that the Front-End URL of Moodle can be set based on your requirements. Initiate the `/stage/scripts/set-moodle-front-end-url.sh` script as the **root** user to run the script.

```
#Initiate the set-moodle-front-end-url.sh script
/stage/scripts/set-moodle-front-end-url.sh
```

EXPECT AND RESPOND (INPUTS HIGHLIGHTED IN **RED**, ALTER INPUTS BASED ON YOUR REQUIREMENTS)

```
[root@ip-172-31-89-144 scripts]# /stage/scripts/set-moodle-front-end-url.sh

Moodle Front-end URL Configuration Options:

1. IP Address (HTTP) - Use this option if your Moodle site is accessible via an IP address
using HTTP.

2. IP Address (HTTPS) - Use this option if your Moodle site is accessible via an IP address
using HTTPS.

3. Domain Name (HTTP) - Use this option if your Moodle site is accessible via a domain name
using HTTP.

4. Domain Name (HTTPS) - Use this option if your Moodle site is accessible via a domain name
using HTTPS.

Enter the number of your choice (1-4): 1

Please enter the IP address (e.g., IP address or domain name): 18.205.191.237

Moodle front-end URL updated to: http://18.205.191.237/moodle

[root@ip-172-31-89-144 scripts]#
```

You will now be able to access the Moodle Front End via the URL shown above in **GREEN**, this value will differ based on your inputs.



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Installation

Moodle - Modular Object-Oriented Dynamic Learning Environment

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See the Moodle License information page for full details: <https://moodledev.io/general/license>

Confirm

Have you read these conditions and understood them?

Cancel

Continue



Once the URL for Moodle has loaded, a screen matching the above will appear. Click Continue.

Installation - Moodle 3.9.23+ (Build: 20231004)

Name	Information	Report	Plugin	Status
unicode		must be installed and enabled		OK
database	mysql (8.0.30)	version 5.6 is required and you are running 8.0.30		OK
php		version 7.2.5 is required and you are running 7.4.33		OK
pcrunicode		should be installed and enabled for best results		OK
php_extension	iconv	must be installed and enabled		OK
php_extension	mbstring	must be installed and enabled		OK
php_extension	curl	must be installed and enabled		OK
php_extension	openssl	must be installed and enabled		OK
php_extension	tokenizer	should be installed and enabled for best results		OK
php_extension	xmlrpc	should be installed and enabled for best results		OK
php_extension	soap	should be installed and enabled for best results		OK
php_extension	ctype	must be installed and enabled		OK
php_extension	zip	must be installed and enabled		OK
php_extension	zlib	must be installed and enabled		OK
php_extension	gd	must be installed and enabled		OK
php_extension	simplexml	must be installed and enabled		OK
php_extension	spdi	must be installed and enabled		OK
php_extension	json	must be installed and enabled		OK
php_extension	dom	must be installed and enabled		OK
php_extension	xml	must be installed and enabled		OK
php_extension	xmlreader	must be installed and enabled		OK
php_extension	intl	must be installed and enabled		OK
php_extension	json	must be installed and enabled		OK
php_extension	hash	must be installed and enabled		OK
php_extension	fileinfo	must be installed and enabled		OK
php_setting	memory_limit	recommended setting detected		OK
php_setting	file_uploads	recommended setting detected		OK
php_setting	opcache.enable	recommended setting detected		OK

Other checks

Information	Report	Plugin	Status
site not https	If this test fails, it indicates a potential problem It is strongly recommended to migrate your site to HTTPS for increased security and improved integration with other systems.		OK

You will now be taken to a screen matching the above showing that the system meets the requirements for installation of Moodle. You may see in the 'Other checks' section information related to 'site not https' this will only be applicable if you selected an option for the front-end URL to be HTTP and can therefore be ignored.

Click Continue.



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Installation

System

Waiting for 3.86.210.68...

For a few moments the above will appear, at this point the installation of Moodle will now take place. After some time, the screen will begin updating as below.

Success (0.17 seconds)

mod_assign

Success (1.56 seconds)

mod_bigbluebuttonbn

Success (0.94 seconds)

mod_book

Success (0.36 seconds)

mod_chat

Success (0.75 seconds)

mod_choice

Success (0.58 seconds)

mod_data

Waiting for 3.86.210.68...

The Moodle installation is now underway. Average runtime for a t3a.medium instance type is 3:30mins.

Once complete you will be able to scroll to the bottom of the webpage to find a Continue button.



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Success (0.11 seconds)

tiny_link

Success (0.10 seconds)

tiny_media

Success (0.09 seconds)

tiny_recordrtc

Success (0.12 seconds)

logstore_database

Success (0.11 seconds)

logstore_standard

Success (0.22 seconds)

Continue



Click Continue

Installation

On this page you should configure your main administrator account which will have complete control over the site. Make sure you give it a secure username and password as well as a valid email address. You can create more admin accounts later on.

Expand all

General

Username

Choose an authentication method Manual accounts

The password must have at least 8 characters, at least 1 digit(s), at least 1 lower case letter(s), at least 1 upper case letter(s), at least 1 special character(s) such as *, -, or #

New password Force password change

First name

Last name

Email address

Email visibility

City/town

Select a country

Timezone



We may not begin to customize our Moodle site. The following steps will use example and templatised values, please edit these values based on your own requirements.



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Installation

On this page you should configure your main administrator account which will have complete control over the site. Make sure you give it a secure username and password as well as a valid email address. You can create more admin accounts later on.

Expand all

General

Username

Choose an authentication method Manual accounts

The password must have at least 8 characters, at least 1 digit(s), at least 1 lower case letter(s), at least 1 upper case letter(s), at least 1 special character(s) such as ' , - , or #

New password

Force password change

First name

Last name

Email address

Email visibility

City/town

Select a country

Timezone

Description

Username = admin

New Password = Enter a strong password value

First name = Admin

Last name = User

Email Address = example@cloudimg.co.uk

Email visibility = Hidden

City/Town = London

Select a Country = United Kingdom

Timezone = Europe/London

Description = THIS IS AN EXAMPLE MOODLE SITE

letter(s), at least 1 special character(s) such as ' , - , or #

New password

Force password change

First name

Last name

Email address

Email visibility

City/town

Select a country

Timezone

Description

HTML format

> Additional names

> Optional

Click Update profile



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Installation

New settings - Site home settings

Full site name

Short name for site (eg single word)

Site home summary

This summary can be displayed on the site home using the course/site summary block.

New settings - Location settings

Default timezone

This is the default timezone for displaying dates - each user can override this setting in their profile. Cron tasks and other server settings are specified in this timezone. You should change the setting if it shows as "Invalid timezone"

New settings - Manage authentication

Self registration

If an authentication plugin, such as email-based self-registration, is selected, then it enables potential users to register themselves and create accounts. This results in the possibility of spammers creating accounts in order to use forum posts, blog entries etc. for spam. To avoid this risk, self-registration should be disabled or limited by Allowed email domains setting.

New settings - Support contact

Full site name = example-moodle
Short name for site (eg single word) – example-moodle
Site home summary - THIS IS AN EXAMPLE MOODLE SITE

THIS IS AN EXAMPLE MOODLE SITE

This summary can be displayed on the site home using the course/site summary block.

New settings - Location settings

Default timezone

This is the default timezone for displaying dates - each user can override this setting in their profile. Cron tasks and other server settings are specified in this timezone. You should change the setting if it shows as "Invalid timezone"

New settings - Manage authentication

Self registration

If an authentication plugin, such as email-based self-registration, is selected, then it enables potential users to register themselves and create accounts. This results in the possibility of spammers creating accounts in order to use forum posts, blog entries etc. for spam. To avoid this risk, self-registration should be disabled or limited by Allowed email domains setting.

New settings - Support contact

Support email

If SMTP is configured on this site and a support page is not set, this email address will receive messages submitted through the support form. If sending fails, the email address will be displayed to logged-in users.

New settings - Outgoing mail configuration

No-reply address

Emails are sometimes sent out on behalf of a user (eg forum posts). The email address you specify here will be used as the "From" address in those cases when the recipients should not be able to reply directly to the user (eg when a user chooses to keep their address private). This setting will also be used as the envelope sender when sending email.

Save changes

Support email = example@cloudimg.co.uk
No-reply address = noreply@cloudimg.co.uk

Click Save Changes



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example-moodle Home Dashboard My courses Site administration

We'd love to stay in touch and provide you with important things for your Moodle site! By registering:

- You can subscribe to receive notifications of new Moodle releases, security alerts and other important news.
- You can access and activate mobile push notifications from your Moodle site through our free Moodle app.
- You are contributing to our Moodle statistics of the worldwide community, which help us improve Moodle and our community sites.
- If you wish, your site can be included in the list of registered Moodle sites in your country.

About the Moodle app Moodle statistics Other sites in my country

Expand all

Registration information

Name

Site listing

Description

Language

Country

Admin email address

Notifications of new Moodle releases, security alerts and other important news Yes, notify me of new Moodle releases, security alerts and other important news

Moodle newsletter Yes, I would like to receive the Moodle newsletter

Privacy notice and data processing agreement I agree to the Privacy notice and data processing agreement

More information

Required

Skip

Select 'I agree to the Privacy notice and data processing agreement'
 Select Register your site once all values match your expectation.

example-moodle Home Dashboard My courses Site administration

example-moodle

General Users Courses Grades Plugins Appearance Server Reports Development

Site registration confirmed

Thank you for registering your site. Registration information will be kept up to date by the 'Site registration' scheduled task.

Click Continue



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Welcome, Admin! 🌟

Timeline

Next 7 days ▾ Sort by dates ▾ Search by activity type or name

No in-progress courses

Calendar

All courses ▾ New event

September October 2023 November

Mon	Tue	Wed	Thu	Fri	Sat	Sun
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15

Moodle is now up and running, available for use.



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