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



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

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

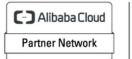
sudo su -

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	98	/
/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



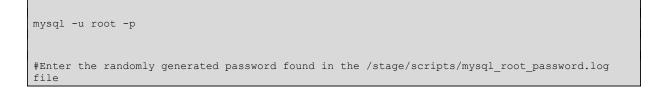
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MySQL 8

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.



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
Copyright notice
Copyright (C) 1999 onwards Martin Dougiamas (https://moodle.com)
This program is free software: you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation, either version 3 of the License, or (at your option) any later version.
This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.
See the Moodle License information page for full details: https://moodledev.io/general/license
Confirm
Have you read these conditions and understood them?
Cancel

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

Moodle 3.9	9.23+ (Build: 2	0231004)	
For information a	bout this version of Mood	le, please see the online Release Notes	
Server che	cks		
Name	Information	Report Plug	in 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 7.2.0 is required and you are running 7.4.33	OK
pcreunicode		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	xmirpc	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	0 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	spl	must be installed and enabled	OK
php_extension	pcre	0 must be installed and enabled	OK
php_extension	dom	0 must be installed and enabled	OK
php_extension	xml	must be installed and enabled	OK
php_extension	xmireader	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} Other chec	opcache.enable	recommended setting detected	OK
Information Rep			Plugin Sta

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

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	
g 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	?
lick Cor	ntinue	

	r main administrator account which will have complete control over the site. Make sure you give it a secure username and ss. You can create more admin accounts later on.	
✓ General	Expand all	
Username 🕜	admin	
Choose an authentication 🛛 🕢	Manual accounts	
New password 🥥 🔕	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),	
First name 0	Admin	
Last name 0	User	
Email address		
Email visibility 🔞	Visible to everyone	
City/town		
Select a country	Select a country	
Timezone	Server timezone (Europe/London) •	

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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Expand all	
admin	
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 #	
Force password change	
Admin	
User	
example@cloudimg.co.uk	
Hidden •	
London	
United Kingdom +	
Server timezone (Europe/London) •	
THIS IS AN EXAMPLE MOODLE SITE	
I addr I I I I I I I I I I I I I I I I I I	admin 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 # force password hange Admin User casepte@clouding.co.uk Hidden ubser London United Kingdom e

Username = admin New Password = Enter a strong password value First name = Admin Last name = User Email Address = <u>example@cloudimg.co.uk</u> Email visibility = Hidden City/Town = London Select a Country = United Kingdom Timezone = Europe/London Description = THIS IS AN EXAMPLE MOODLE SITE

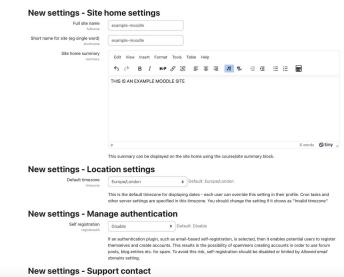
New password	0 0	······································	
		Force password change	
First name	0	Admin	
Last name	0	User	
Email address	0	example@cloudimg.co.uk	
Email visibility	0	Hidden •	
Cityłtown		London	
Select a country		United Kingdom •	
Timezone		Server timezone (Europe/London) •	
Description	0	THIS IS AN EXAMPLE MOODLE SITE	
		HTML format +	
> Additional	names		
> Optional			
		Update profile Cancel	?
8 Required			-
Click Update profile			



Registered Technology Partner cloudimg (+44) 02045382725 3rd Floor 86-90 Paul Street London EC2A 4NE support@cloudimg.co.uk https://cloudimg.co.uk

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Installation



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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
	p 6 words © tiny 2 This summary can be displayed on the site home using the course/site summary block.
New settings - Loca	
Default timezone	Europe/London
	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 estimate Man	ana authantiatian
New settings - Man	·
New settings - Man Self registration registerauth	Disable Default: Disable
Self registration	·
Self registration	Disable Default: Disable 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 spanmers creating accounts in order to use forum posst, blog emriter et. for span. To avoid this risk, self-registration should be disabled or limited by Allowed email domains setting.
Self registration registerauth	Disable Default: Disable 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 spanmers creating accounts in order to use forum posst, blog emriter et. for span. To avoid this risk, self-registration should be disabled or limited by Allowed email domains setting.
Self registration registration New settings - Supp Support email	Disable Default: Disable 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 spanmers creating accounts in order to use forum posst, blog entries et. for span. To avoid this risk, self-registration should be disabled or limited by Allowed email domains setting. port contact
Sef registration republicants New settings - Supp Support email supportenal	Disable Default: Disable If an authentication plugin, such as email-based self-registration, is selected, then it enables potential users to register themselves and create accounts. This needs in the possibility of spanners creating accounts in order to use forum possible default: Disable Dots, log enrice e.c. for span. To avoid this risk, self-registration should be disabled or limited by Alfowed email domain setting. port contact example/electuding.couk. VISMTP is configured on this site and a support page is not set, this email address will receive messages submitted
Sef registration republicants New settings - Supp Support email supportenal	Disable Default: Disable 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 possible domain setting. Dots, log entries etc. for spam. To avoid this risk, self-registration should be disabled or limited by Allowed email domains setting. port contact example@clouding.co.uk VMTP is conflued 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.

Support email = <u>example@cloudimg.co.uk</u> No-reply address = <u>noreply@cloudimg.co.uk</u>

Click Save Changes



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ele-moodle Home Dashboard My courses Site ad	Iministration	4 A	AU ~	Edit mode 🌘
We'd love to stay in touch and provide you with important th • You can subscribe to receive notifications of new Moo • You can access and activate mobile push notifications • You are contributing to our Model statistics of the wo • If you wish, your site can be included in the list of regi	dle releases, s from your Mo orldwide comm	ecurity alerts and other important news. odle site through our free Moodle app. unity, which helps us improve Moodle and our community sites.		
i About the Moodle app 🗠 Moodle statistics 🍳	Other sites in	my country		
 Registration information 				Expand all
Name	0	example-moodle		
Site listing	0	Do not list my site		
Description	0	THIS IS AN EXAMPLE MODDLE SITE		
Language	0	English •		lė
Country	0 0	United Kingdom		
Admin email address	9 0	example@clouding.co.t		
Notifications of new Moodle releases, security alerts and important news	d other 🛛 🔞	Yes, notify me of new Moodle releases, security alerts and other important news		
Moodle newsletter	0	□ 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 I		
> More information				
		Register your site		
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	🐥 🗭 🛛 🗸	Edit mode
	Xample-moodle General Users Courses Grades Plugins Appearance Server Reports Development	Search	٩
Si	ite registration confirmed		
	Thank you for registration information will be kept up to date by the "Site registration' scheduled task.		×
	Continue		

Click Continue

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Imple-moodle Home Dashboard My courses Site administration								* *	AU ~	Edit n
	Welcom	ie, Admii	n! 👋							
	Timeline Next 7 day	s ~ Sort by		-						
	Next 7 day	s + J (soir by	uates +		ch by activity ty	ve or name				
			No	in-progress co	urses					
	Calendar									
	All course		0	ctober 20	23		New event			
	Mon	Tue	Wed	Thu	Fri	Sat	Sun			
							1			
	2	3	4	5	6	7	8			
	-	5	•	5	0		Ŭ			
	9	10	11	12	13	14	15			

Moodle is now up and running, available for use.



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