CentOS Stream 8 – LAMP Stack

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 – LAMP Stack 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

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	Apache Web Server

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.
@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          472M     0  472M   0% /dev
tmpfs             482M     0  482M   0% /dev/shm
tmpfs             482M  6.5M  475M   2% /run
tmpfs             482M     0  482M   0% /sys/fs/cgroup
/dev/nvme0n1p2     38G  2.9G   33G   9% /
/dev/nvme1n1      9.8G  234M  9.0G   3% /var/lib/mysql
/dev/nvme0n1p1    2.0G  121M  1.7G   7% /boot
tmpfs              97M     0   97M   0% /run/user/1002
/dev/nvme2n1      9.8G   37M  9.2G   1% /var/www/html
```

Mount Point	Description
/boot	Operating System Kernel files
/var/lib/mysql	MySQL data directory
/var/www/html	Apache 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	22.1	/etc/cloud
MySQL 8	8.0.26	/etc/my.cnf
Apache HTTP	2.4.7	/etc/httpd

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PHP	7.2.24	/etc/php.ini
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
```

Apache HTTP Server

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

```
#Check the HTTP Server is running

systemctl status httpd


#Stop the HTTP Server

systemctl stop httpd


#Start the HTTP Server

systemctl start httpd
```

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Once the HTTP Server status has started, you will be able to access the Apache front end via the below URL exchanging the values between <> to match that of your own instance.

<PRIVATE/PUBLICIP>:80

HTTP SERVER TEST PAGE

This page is used to test the proper operation of the HTTP server after it has been installed. If you can read this page it means that this site is working properly. This server is powered by CentOS.

If you are a member of the general public:

The website you just visited is either experiencing problems or is undergoing routine maintenance.

If you would like to let the administrators of this website know that you've seen this page instead of the page you expected, you should send them e-mail. In general, mail sent to the name "webmaster" and directed to the website's domain should reach the appropriate person.

For example, if you experienced problems while visiting www.example.com, you should send e-mail to "webmaster@example.com".

If you are the website administrator:

You may now add content to the webroot directory. Note that until you do so, people visiting your website will see this page, and not your content.

For systems using the Apache HTTP Server: You may now add content to the directory /var/www/html/. Note that until you do so, people visiting your website will see this page, and not your content. To prevent this page from ever being used, follow the instructions in the file /etc/httpd/conf.d/welcome.conf.

For systems using NGINX: You should now put your content in a location of your choice and edit the root configuration directive in the **nginx** configuration file /etc/nginx/nginx.conf.

Important note!

PHP

PHP has been preinstalled on the system. The below command can be run as the **root** user to check the PHP version installed.

```
php -v
```

On boot, you will be able to access the PHP front end via the below URL exchanging the values between <> to match that of your own instance.

<PRIVATE/PUBLICIP>/info.php

PHP Version 7.2.24

System	Linux ip-172-31-81-97.ec2.internal 4.18.0-408.el8.x86_64 #1 SMP Mon Jul 18 17:42:52 UTC 2022 x86_64
Build Date	Oct 22 2019 08:28:36
Server API	FPM/FastCGI
Virtual Directory Support	disabled
Configuration File (php.ini) Path	/etc
Loaded Configuration File	/etc/php.ini
Scan this dir for additional .ini files	/etc/php.d
Additional .ini files parsed	/etc/php.d/20-bz2.ini, /etc/php.d/20-calendar.ini, /etc/php.d/20-ctype.ini, /etc/php.d/20-curl.ini, /etc/php.d/20-exif.ini, /etc/php.d/20-fileinfo.ini, /etc/php.d/20-ftp.ini, /etc/php.d/20-gettext.ini, /etc/php.d/20-iconv.ini, /etc/php.d/20-json.ini, /etc/php.d/20-mbstring.ini, /etc/php.d/20-mysqlnd.ini, /etc/php.d/20-pdo.ini, /etc/php.d/20-phar.ini, /etc/php.d/20-sockets.ini, /etc/php.d/20-sqlite3.ini, /etc/php.d/20-tokenizer.ini, /etc/php.d/30-mysqli.ini, /etc/php.d/30-pdo_mysql.ini, /etc/php.d/30-pdo_sqlite.ini, /etc/php.d/40-zip.ini
PHP API	20170718
PHP Extension	20170718
Zend Extension	320170718
Zend Extension Build	API320170718,NTS
PHP Extension Build	API20170718,NTS
Debug Build	no
Thread Safety	disabled
Zend Signal Handling	enabled
Zend Memory Manager	enabled
Zend Multibyte Support	provided by mbstring
IPv6 Support	enabled
DTrace Support	available, disabled
Registered PHP Streams	https, ftps, compress.zlib, php, file, glob, data, http, ftp, compress.bzip2, phar, zip
Registered Stream Socket Transports	tcp, udp, unix, udg, ssl, tls, tlsv1.0, tlsv1.1, tlsv1.2
Registered Stream Filters	zlib.*, string.rot13, string.toupper, string.tolower, string.strip_tags, convert.*, consumed, dechunk, bzip2.*, convert.iconv.*

This program makes use of the Zend Scripting Language Engine:
Zend Engine v3.2.0, Copyright (c) 1998-2018 Zend Technologies

zend engine

Configuration

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