

Magma Upgrade to 1.9 & Debian Package Installation

Sl. No.	Description	Version	Date	Author
1.	Documented procedures for upgrading magma 1.8 to 1.9	0.2	2 nd June 2023	Athira Vinod Athira.vinod@wavelabs.ai

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Steps to be followed for Magma Upgrade

1. Login as root user inside Magma VM.

```
vagrant@magma-dev:~$ sudo su
```

2. Download the file “agw_install_ubuntu.sh”

```
root@magma-dev:/home/vagrant# wget
```

```
https://raw.githubusercontent.com/magma/magma/v1.8/lte/gateway/deploy/agw\_install\_ubuntu.sh
```

3. Run the bash script.

```
root@magma-dev:/home/vagrant# bash agw_install_ubuntu.sh
```

This will install the packages.

4. Expected output.

```
+ rm -rf /home/magma/build
+ rm -rf /home/magma/magma
+ echo 'AGW installation is done, Run agw_post_install_ubuntu.sh install script after reboot to finish installation'
AGW installation is done, Run agw_post_install_ubuntu.sh install script after reboot to finish installation
+ wget https://raw.githubusercontent.com/magma/magma/v1.8/lte/gateway/deploy/agw_post_install_ubuntu.sh -P /root/
2023-05-31 19:14:39 -- https://raw.githubusercontent.com/magma/magma/v1.8/lte/gateway/deploy/agw_post_install_ubuntu.sh
Resolving raw.githubusercontent.com (raw.githubusercontent.com)... 185.199.110.133, 185.199.111.133, 185.199.108.133, ...
Connecting to raw.githubusercontent.com (raw.githubusercontent.com)|185.199.110.133|:443 ... connected.
HTTP request sent, awaiting response... 200 OK
Length: 4565 (4.5K) [text/plain]
Saving to: '/root/agw_post_install_ubuntu.sh'

agw_post_install_ubuntu.sh 100%[=====] 4.46K --KB/s in 0s
2023-05-31 19:14:39 (21.3 MB/s) - '/root/agw_post_install_ubuntu.sh' saved [4565/4565]
+ reboot
```

5. Check magma version before upgrade using the following command.

```
vagrant@magma-dev:~$ apt list -i| grep magma
```

```
vagrant@magma-dev:~$ apt list -i| grep magma
```

WARNING: apt does not have a stable CLI interface. Use with caution in scripts

```
libopenvswitch-dev/focal-ci,now 2.15.4-10-magma amd64 [installed]
libopenvswitch/focal-ci,now 2.15.4-10-magma amd64 [installed]
magma-cpp-redis/focal-ci,focal-ci,now 4.3.1.1-2 amd64 [installed]
magma-libfluid/focal-ci,now 0.1.0.7-1 amd64 [installed]
magma-libtacomie/focal-ci,focal-ci,now 3.2.0.1-1 amd64 [installed,automatic]
magma-nghttpx/focal-ci,focal-ci,now 1.31.1-1 amd64 [installed]
openvswitch-common/focal-ci,now 2.15.4-10-magma amd64 [installed]
openvswitch-datapath-dkms/focal-ci,focal-ci,now 2.15.4-10-magma all [installed]
openvswitch-switch/focal-ci,now 2.15.4-10-magma amd64 [installed]
openvswitch-test/focal-ci,focal-ci,now 2.15.4-10-magma all [installed]
python3-openvswitch/focal-ci,focal-ci,now 2.15.4-10-magma all [installed]
```

6. Navigate to this path and check apt directory is added or not .

```
vagrant@magma-dev:/etc/apt/sources.list.d$ ls magma.list
```

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7. If not present, add using

```
add-apt-repository 'deb https://linuxfoundation.jfrog.io/artifactory/magma-packages-test  
focal-ci main '
```

8. Add the key to the keyring and this is often used when setting up package repositories or verifying the authenticity of packages during installation on Debian-based systems.

```
root@magma-dev:/etc/apt/sources.list.d# wget -qO -  
https://linuxfoundation.jfrog.io/artifactory/api/security/keypair/magmaci/public | apt-key add-
```

```
root@magma-dev:/etc/apt/sources.list.d# wget -qO -  
https://linuxfoundation.jfrog.io/artifactory/api/security/keypair/magmaci/public |  
apt-key add -  
OK
```

9. Stop and remove the magma services.

```
sudo service magma@* stop
```

```
sudo apt remove magma
```

```
sudo apt autoremove
```

10. Install 1.9 version of Magma.

```
sudo apt-get update
```

```
sudo apt install magma
```

```
sudo apt install -y magma -o Dpkg::Options::="--force-overwrite"
```

11. Verify the status of services.

```
sudo service magma@mme status
```

12. Verify the new version of magma using the command in step 5 above.

```
WARNING: apt does not have a stable CLI interface. Use with caution in scripts.  
libopenvswitch-dev/focal-ci,now 2.15.4-10-magma amd64 [installed]  
libopenvswitch/focal-ci,now 2.15.4-10-magma amd64 [installed]  
magma-cpp-redts/focal-ci,focal-ci,now 4.3.1-1-2 amd64 [installed]  
magma-dhcp-cli/focal-ci,now 1.9.0-1683050472-94137ddd amd64 [installed,auto-removable]  
magma-libfluid/focal-ci,now 0.1.0.7-1 amd64 [installed]  
magma-libtacomie/focal-ci,focal-ci,now 3.2.0.1-1 amd64 [installed,automatic]  
magma-nghttpx/focal-ci,focal-ci,now 1.31.1-1 amd64 [installed]  
magma-sctpdp/focal-ci,now 1.9.0-1683050472-94137ddd amd64 [installed,auto-removable]  
openvswitch-common/focal-ci,now 2.15.4-10-magma amd64 [installed]  
openvswitch-datapath-dkms/focal-ci,focal-ci,now 2.15.4-10-magma all [installed]  
openvswitch-switch/focal-ci,now 2.15.4-10-magma amd64 [installed]  
openvswitch-test/focal-ci,focal-ci,now 2.15.4-10-magma all [installed]  
python3-openvswitch/focal-ci,focal-ci,now 2.15.4-10-magma all [installed]  
root@magma-dev:~#
```

Installing Debian packages on Magma

1. Update the VM and upgrade it.

```
sudo apt update
```

```
sudo apt upgrade
```

2. Building and running a component of Magmad, specifically the "agw" (Access Gateway) module.

```
cd $MAGMA_ROOT && bazel/scripts/build_and_run_bazelified_agw.sh
```

3. Invoking the Bazel build tool to run a target called release_build within the lte/gateway/release package.

```
bazel run //lte/gateway/release:release_build
```

4. Installing the packages.

Package names are visible in the snip below.

```
vagrant@magma-dev:/tmp/packages$ ls
magma_1.9.0-1685619077-94137ddd_amd64.deb      magma-sctpd_1.9.0-1685619077-94137ddd_amd64.deb
magma-dhcp-cli_1.9.0-1685619077-94137ddd_amd64.deb
```

5. Installing packages on the system, potentially overwriting any conflicting files from other packages.

```
sudo apt install -f /home/vagrants/packages name
```

NB: if you are facing dpkg error like below:

```
Replacing files in old package python3-snowflake (0.0.3) ...
Replacing files in old package python3-sortedcontainers (2.4.0) ...
Replacing files in old package python3-spyne (2.13.15) ...
Replacing files in old package python3-strict-rfc3339 (0.7) ...
Replacing files in old package python3-swagger-spec-validator (2.7.4) ...
Replacing files in old package python3-systemd-python (234) ...
Replacing files in old package python3-tinyrpc (1.0.4) ...
dpkg: error processing archive /home/vagrant/magma_1.9.0-1685961151-7ee59cdc_amd64.deb (--unpack):
 trying to overwrite '/usr/local/lib/python3.8/dist-packages/typing_extensions.py', which is also in package python3-typing-extensions 3.
7.4.3
dpkg-deb: error: paste subprocess was killed by signal (Broken pipe)
Errors were encountered while processing:
 /var/cache/apt/archives/magma-dhcp-cli_1.9.0-1685656202-7ee59cdc_amd64.deb
 /home/vagrant/magma_1.9.0-1685961151-7ee59cdc_amd64.deb
E: Sub-process /usr/bin/dpkg returned an error code (1)
```

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Use this command below.

sudo dpkg -i --force-overwrite /var/cache/apt/archives/package name

Output ending will be like this:

```
websocket-client 1.5.1
dpkg: warning: overriding problem because --force enabled:
dpkg: warning: trying to overwrite '/usr/local/lib/python3.8/dist-
packages/websocket/tests/test_url.py', which is also in package python3-websocket-
client 1.5.1
dpkg: warning: overriding problem because --force enabled:
dpkg: warning: trying to overwrite '/usr/local/lib/python3.8/dist-
packages/websocket/tests/test_websocket.py', which is also in package python3-
websocket-client 1.5.1
Replacing files in old package python3-werkzeug (1.0.1) ...
Replacing files in old package python3-wrapt (1.11.2) ...
Replacing files in old package python3-wsgiserver (1.3) ...
Replacing files in old package python3-yarl (1.8.1) ...
Setting up magma (1.9.0-1685656202-7ee59cdc) ...
COMMIT_HASH=magma@1.9.0.1-7ee59cdc
Created symlink /etc/systemd/system/multi-
user.target.wants/magma@magmad.service ->
/etc/systemd/system/magma@magmad.service.
Synchronizing state of redis-server.service with SysV service script with
/lib/systemd/systemd-sysv-install.
Executing: /lib/systemd/systemd-sysv-install disable redis-server
Removed /etc/systemd/system/multi-user.target.wants/redis-server.service.
Removed /etc/systemd/system/redis.service.
Synchronizing state of dnsmasq.service with SysV service script with
/lib/systemd/systemd-sysv-install.
Executing: /lib/systemd/systemd-sysv-install disable dnsmasq
Synchronizing state of lighttpd.service with SysV service script with
/lib/systemd/systemd-sysv-install.
Executing: /lib/systemd/systemd-sysv-install disable lighttpd
sctpd: no process found
Processing triggers for rsyslog (8.2001.0-1ubuntu1.3) ...
```

6. *sudo apt install -f /home/vagrants/packages name*

7. Check the versions again:

apt list -i | grep magma

```
vagrant@magma-dev:~$ apt list -i | grep magma
```

WARNING: apt does not have a stable CLI interface. Use with caution in scripts.

```
libopenvswitch-dev/focal-ci,now 2.15.4-10-magma amd64 [installed]
libopenvswitch/focal-ci,now 2.15.4-10-magma amd64 [installed]
magma-cpp-redis/focal-ci,focal-ci,now 4.3.1.1-2 amd64 [installed]
magma-dhcp-cli/focal-ci,now 1.9.0-1685656202-7ee59cdc amd64 [installed,automatic]
magma-libfluid/focal-ci,now 0.1.0.7-1 amd64 [installed]
magma-libtacomie/focal-ci,focal-ci,now 3.2.0.1-1 amd64 [installed,automatic]
magma-nghttpx/focal-ci,focal-ci,now 1.31.1-1 amd64 [installed]
magma-sctpd/now 1.9.0-1685961151-7ee59cdc amd64 [installed,local]
magma/focal-ci,now 1.9.0-1685656202-7ee59cdc amd64 [installed]
openvswitch-common/focal-ci,now 2.15.4-10-magma amd64 [installed]
openvswitch-datapath-dkms/focal-ci,focal-ci,now 2.15.4-10-magma all [installed]
openvswitch-switch/focal-ci,now 2.15.4-10-magma amd64 [installed]
openvswitch-test/focal-ci,focal-ci,now 2.15.4-10-magma all [installed]
python3-openvswitch/focal-ci,focal-ci,now 2.15.4-10-magma all [installed]
```

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