Observium server install RHEL-8 / CentOS 8

Repositories

Add EPEL, OpenNMS and REMI repositories, and switch to REMI's PHP 7.4 packages.

```
yum install https://dl.fedoraproject.org/pub/epel/epel-release-latest-8.noarch.rpm
yum install http://yum.opennms.org/repofiles/opennms-repo-stable-rhel8.noarch.rpm
yum install http://rpms.remirepo.net/enterprise/remi-release-8.rpm
yum install yum-utils
dnf module enable php:remi-7.4
[root@localhost ~]# yum install net-snmp-utils fping mariadb-server mariadb rrdtool subversion
whois ipmitool graphviz -y
```

Packages

Install the packages required for Observium

```
[root@localhost ~]# yum install wget httpd php php-opcache php-mysqlnd php-gd php-posix php-pear cronie net-snmp \
net-snmp-utils fping mariadb-server mariadb rrdtool subversion whois ipmitool graphviz \
ImageMagick php-sodium python3 python3-mysql python3-PyMySQL
```

Set Python3 to be the default Python version

[root@localhost ~]# alternatives --set python /usr/bin/python3

If you want to monitor libvirt virtual machines, install libvirt

[root@localhost ~]# yum install libvirt

Download Observium

First, create a directory for Observium to live in:

[root@localhost ~]# mkdir -p /opt/observium && cd /opt

Observium Community Edition

If you would like to install the Community Edition, please install using the most recent .tar.gz release.

Download the latest .tar.gz of Observium and unpack:

[root@localhost opt]# wget http://www.observium.org/observium-community-latest.tar.gz

[root@localhost opt]# tar zxvf observium-community-latest.tar.gz

```
| mkdir -p /opt/observium_s& cd /opt | roote|coalhost opt| wget http://www.observium.org/observium-community-latest.tar.gz | -2022-11-30 12:52:39- http://www.observium.org/observium-community-latest.tar.gz | connecting to www.observium.org (www.observium.org)... 144.76.112.154 | s0... connected. | connecting to www.observium.org (www.observium.org)... 144.76.112.154 | s0... connected. | connecting to www.observium.org (www.observium.org)... 144.76.112.154 | s0... connected. | connecting to www.observium.org/observium-community-latest.tar.gz | following | connecting to www.observium.org/observium-community-latest.tar.gz | connected to www.observium.org/observium.org/observium-community-latest.tar.gz | connected to www.observium.org (www.observium.org) | 144.76.112.154 | :443... connected
```

[root@localhost ~]# yum install @mariadb –y

```
[root@localhost ~]# yum install @mariadb -y
Last metadata expiration check: 0:03:12 ago on Wed 30 Nov 2022 12:07:48 PM +06.
Dependencies resolved.
                                                                                      Size
 Package
                    Arch
                            Version
                                                                         Repo
Installing group/module packages:
 mariadb-server x86_64 3:10.3.28-1.module_el8.3.0+757+d382997d appstream
Installing dependencies:
                   x86_64 3:10.3.28-1.module_el8.3.0+757+d382997d appstream 6.0 M x86_64 3:10.3.28-1.module_el8.3.0+757+d382997d appstream 64 k
 mariadb
 mariadb-common
                   x86_64 3:10.3.28-1.module_el8.3.0+757+d382997d appstream 234 k
 mariadb-errmsg
Installing weak dependencies:
 mariadb-backup x86_64 3:10.3.28-1.module_el8.3.0+757+d382997d appstream 6.1 M
 mariadb-gssapi-server
                    x86_64 3:10.3.28-1.module_el8.3.0+757+d382997d appstream 51 k
 mariadb-server-utils
                    x86_64 3:10.3.28-1.module_el8.3.0+757+d382997d appstream 1.1 M
Installing module profiles:
 mariadb/server
Enabling module streams:
 mariadb
                            10.3
```

[root@localhost ~]# yum install mariadb-server -y

[root@localhost ~]# systemctl start mariadb

[root@localhost ~]# mysql_secure_installation

```
[root@localhost ~]# mysql secure installation
NOTE: RUNNING ALL PARTS OF THIS SCRIPT IS RECOMMENDED FOR ALL MariaDB
       SERVERS IN PRODUCTION USE! PLEASE READ EACH STEP CAREFULLY!
In order to log into MariaDB to secure it, we'll need the current
password for the root user. If you've just installed MariaDB, and you haven't set the root password yet, the password will be blank,
so you should just press enter here.
Enter current password for root (enter for none):
OK, successfully used password, moving on...
Setting the root password ensures that nobody can log into the MariaDB
root user without the proper authorisation.
Set root password? [Y/n] Y
New password:
Re-enter new password:
Password updated successfully!
Reloading privilege tables..
 ... Success!
By default, a MariaDB installation has an anonymous user, allowing anyone
to log into MariaDB without having to have a user account created for
them. This is intended only for testing, and to make the installation go a bit smoother. You should remove them before moving into a
production environment.
Remove anonymous users? [Y/n] Y
Normally, root should only be allowed to connect from 'localhost'. This
ensures that someone cannot guess at the root password from the network.
Disallow root login remotely? [Y/n] Y
By default, MariaDB comes with a database named 'test' that anyone can access. This is also intended only for testing, and should be removed before moving into a production environment.
Remove test database and access to it? [Y/n] Y
 - Dropping test database...
 ... Success!
 - Removing privileges on test database...
Reloading the privilege tables will ensure that all changes made so far
will take effect immediately.
Reload privilege tables now? [Y/n] Y
Cleaning up...
All done! If you've completed all of the above steps, your MariaDB
installation should now be secure.
```

[root@localhost ~]# systemctl enable mariadb.service

[root@localhost opt]# systemctl enable mariadb

[root@localhost opt]# systemctl start mariadb

Query OK, 0 rows affected (0.002 sec)

```
[root@localhost opt]# mysql -u root -p

MariaDB [(none)]> CREATE DATABASE observium DEFAULT CHARACTER
SET utf8 COLLATE utf8_general_ci;

Query OK, 1 row affected (0.005 sec)

MariaDB [(none)]> CREATE USER 'observium'@'localhost' IDENTIFIED BY 'password';

Query OK, 1 row affected (0.005 sec)

MariaDB [(none)]> GRANT ALL PRIVILEGES ON observium.* TO
'observium'@'localhost' IDENTIFIED BY '<observium db password>';

Query OK, 0 rows affected (0.047 sec)

MariaDB [(none)]> drop user omer@localhost;
```

```
MariaDB [(none)]> drop user omer@localhost;
Query OK, 0 rows affected (0.002 sec)

MariaDB [(none)]> CREATE USER 'observium'@'localhost' IDENTIFIED BY 'test123';
ERROR 1396 (HY000): Operation CREATE USER failed for 'observium'@'localhost'
MariaDB [(none)]> drop user observium@localhost;
Query OK, 0 rows affected (0.001 sec)

MariaDB [(none)]> CREATE USER 'observium'@'localhost' IDENTIFIED BY 'password';
Query OK, 0 rows affected (0.001 sec)

MariaDB [(none)]> GRANT ALL PRIVILEGES ON observium.* TO 'observium'@'localhost';
Query OK, 0 rows affected (0.001 sec)

MariaDB [(none)]> FLUSH PRIVILEGES;
Query OK, 0 rows affected (0.006 sec)

MariaDB [(none)]> exit
Rve
```

System

Create the rrd directory to store RRDs in:

```
[root@localhost observium]# mkdir rrd
[root@localhost observium]# chown apache:apache rrd
```

If the server will be running *only* Observium, change /etc/httpd/conf.d/observium.conf and add the following to the end :

```
[root@localhost observium]# vim /etc/httpd/conf.d/observium.conf

<VirtualHost *>
    DocumentRoot /opt/observium/html/
    ServerName your Server IP (10.200.10.50)
    CustomLog /opt/observium/logs/access_log combined
    ErrorLog /opt/observium/logs/error_log
    <Directory "/opt/observium/html/">
        AllowOverride All
        Options FollowSymLinks MultiViews
        Require all granted
        </Directory>
    </VirtualHost>
```

Create logs directory for apache

```
[root@localhost]#cd /opt/observium
[root@localhost observium]# mkdir logs
[root@localhost observium]# chown apache:apache /opt/observium/logs

Add a first user, use level of 10 for admin:

[root@localhost]# cd /opt/observium

./adduser.php <username> <password> <level>

[root@localhost observium]#./adduser.php admin admin@123 10
```

Add a first device to monitor:

```
./add_device.php <hostname> <community> v2c
[root@localhost observium]#./add_device.php 10.200.10.50 redhat v2c
```

Do an initial discovery and polling run to populate the data for the new device:

```
./discovery.php -h all
./poller.php -h all
```

SELinux

Explaining SELinux and how to make Observium work within it is beyond the scope of this guide, so we will disable it. If you are competent enough to maintain SELinux, then that is possible too, but is an even more unsupported configuration than RHEL/CentOS themselves.

Firstly, disable SELinux. You can do this temporarily with the following command:

```
[root@localhost ~]# vim /etc/sysconfig/selinux

SELINUX=disabled

# 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 en
# disabled No SELinux policy is loaded.

SELINUX=disabled # SELINUXTIPE can take one of these three values:
# targeted - Targeted processes are protected,
# minimum - Modification of targeted policy. Only se tected.
# mls - Multi Level Security protection.
SELINUXTYPE=targeted
```

setenforce 0

We need to disable SELinux permanently, so you also need to change /etc/selinux/config so that the SELINUX option is set to permissive

SELINUX=permissive

Cron

Add cron jobs, create a new file /etc/cron.d/observium with the following contents: **Cron Usage**

The below example includes a username, so will only work in /etc/crontab or /etc/cron.d/observium. It will **NOT** work in a user crontab edited with crontab -e without removing the username.

#Run a complete discovery of all devices once every 6 hours 33 */6 *** root /opt/observium/discovery.php -h all >> /dev/null 2>&1 #Run automated discovery of newly added devices every 5 minutes */5 * ** root /opt/observium/discovery.php -h new >> /dev/null 2>&1 #Run multithreaded poller wrapper every 5 minutes */5 * ** root /opt/observium/poller-wrapper.py >> /dev/null 2>&1 #Run housekeeping script daily for syslog, eventlog and alert log 13 5 ** root /opt/observium/housekeeping.php -ysel #Run housekeeping script daily for rrds, ports, orphaned entries in the database and performance data 47 4 ** root /opt/observium/housekeeping.php -vrptb

```
# Run a complete discovery of all devices once every 6 hours
33 */6 * * * root /opt/observium/discovery.php -h all >> /dev/null 2>&1

# Run automated discovery of newly added devices every 5 minutes
*/5 * * * * root /opt/observium/discovery.php -h new >> /dev/null 2>&1

# Run multithreaded poller wrapper every 5 minutes
*/5 * * * * root /opt/observium/poller-wrapper.py >> /dev/null 2>&1

# Run housekeeping script daily for syslog, eventlog and alert log
13 5 * * root /opt/observium/housekeeping.php -ysel

# Run housekeeping script daily for rrds, ports, orphaned entries in the database and performance data
47 4 * * root /opt/observium/housekeeping.php -yrpt
```

And reload the cron process:

[root@localhost ~]# systemctl reload crond

[root@localhost opt]# cd observium/

[root@localhost observium]# cp config.php.default config.php

[root@localhost observium]# vim config.php \$config['db_user'] = 'observium'; \$config['db_pass'] = 'password';

```
// Database config
// --- This MUST be configured
$config['db_host'] = 'localhost';
$config['db_name'] = 'observium';
$config['db_user'] = 'observium';
$config['db_pass'] = 'password';

// Base directory
#$config['insmp']['version'] = "v2c";
// Snmp max repetition for faster requests
#$config['snmp']['wax-rep'] = TRUE;
// Snmp max repetition for faster requests
#$config['snmp']['max-rep'] = IRUE;
// Default snmp community list to use when adding/discovering
#$config['snmp']['community'] = [ "public" ];

// Authentication Model
#$config['auth_mechanism'] = "mysql"; // default, other options: ldap, http-auth, please s

// Enable alerter
#$config['poller-wrapper']['alerter'] = TRUE;

// Show or not disabled devices on major pages
#$config['web_show_disabled'] = FALSE;

// Set up a default alerter (email to a single address)
#$config['web_show_disabled'] = "user@your-domain";
$config['email']['default'] = "user@your-domain";
$config['email']['from'] = "Observium <observium@your-domain>";
$config['fping'] = "user/sbin/fping"]
```

[root@localhost observium]# which fping

```
/usr/sbin/fping
```

```
$config['fping'] = "/usr/sbin/fping";
```

```
[root@localhost opt]#
[root@localhost opt]#
[root@localhost opt]# cd observium/
[root@localhost observium]# cp config.php.default config.php
cp: overwrite 'config.php'? y
[root@localhost observium]#
[root@localhost observium]#
[root@localhost observium]# vim config.php
[root@localhost observium]# who
who whoami whois whois.md
[root@localhost observium]# which fping
[root@localhost observium]# vim config.php
[root@localhost observium]# vim config.php
[root@localhost observium]# vim config.php
[root@localhost observium]# vim config.php
[root@localhost observium]# ./discovery.php -u
```

[root@localhost observium]# ./discovery.php -u

```
[root@localnost observium]# vim confid.bnb
[root@localhost observium]# ./discovery.php -u
                                           https://www.observium.org
Install initial database schema ... done.
-- Updating database/file schema
416 -> 417 # (db) .. Done (0s).
417 -> 418 # (db) . Done (0s).
418 -> 419 # (db) .... Done (0s).
419 -> 420 #
                (db) .. Done (0s).
                      ... Done (0s).
                (db)
420 -> 421 #
                (db) .. Done (0s).
421 -> 422 #
                      ..... Done (0s).
422 -> 423 #
                (db)
423 -> 424 # (php) Done (0s).
424 -> 425 # (db) . Done (0s).
```

[root@localhost observium]# mysql -u root -p

MariaDB [(none)]> show databases;

MariaDB [(none)]> use observium

```
MariaDB [(none)]> use observium
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
MariaDB [observium]>
```

MariaDB [observium]> show tables;

```
[root@localhost observium]# mkdir rrd
[root@localhost observium]# chown apache:apache rrd
[root@localhost observium]# mkdir logs
[root@localhost observium]# chown apache:apache /opt/observium/logs
```

```
[root@localhost observium]# vim /etc/php.ini
date.timezone =Asia/Dhaka
```

[root@localhost observium]# systemctl restart httpd

[root@localhost observium]# systemctl status httpd

[root@localhost observium]# ./adduser.php admin admin@123 10 User admin added successfully.

[root@localhost observium]# cp /opt/observium/snmpd.conf.example /etc/snmp/snmpd.conf
[root@localhost observium]# vim /etc/snmp/snmpd.conf
rwcommunity redhat 10.200.10.52

```
# Default access to full view rocommunity Obs3rv1um default -V all rwcommunity redhat 10.200.10.52
```

[root@localhost observium]# systemctl restart snmpd.service

[root@localhost observium]# systemctl start snmpd

[root@localhost observium]# systemctl status snmpd

```
[root@localhost observium]# systemctl start snmpd
[root@localhost observium]# systemctl status snmpd

• snmpd.service - Simple Network Management Protocol (SNMP) Daemon.

Loaded: loaded (/usr/lib/systemd/system/snmpd.service; disabled; vendor preset: disabled)

Active: active (running): ince Wed 2022-11-30 18:11:06 +06; 23s ago

Main PID: 04048 (snmpd)

Tasks: 1 (limit: 8038)

Memory: 10.8M

CGroup: /system.slice/snmpd.service

64648 /usr/sbin/snmpd -LS0-6d -f
```

[root@localhost observium]# systemctl reload crond

[root@localhost observium]# systemctl enable httpd

[root@localhost observium]#firewall-cmd --permanent --zone=public --add-service=http

[root@localhost observium]# firewall-cmd --reload

success

[root@localhost observium]# firewall-cmd --permanent --zone=public --add-service=http

success

[root@localhost observium]# firewall-cmd --reload

[root@localhost observium]# ./add_device.php 10.200.10.52 redhat v2c

Final Points

Let's set the httpd to startup when we reboot the server:

```
[root@localhost observium]# systemctl enable httpd
[root@localhost observium]# systemctl start httpd
```

Permit HTTP through the server's default firewall

```
[root@localhost observium]# firewall-cmd --permanent --zone=public --add-
service=http
[root@localhost observium]# firewall-cmd --reload
```

Source

https://docs.observium.org/install_rhel/#rhel-centos-7

https://www.youtube.com/watch?v=zQXVDc_zxw0&t=503s&ab_channel=IPCore Networks















