

MariaDB Installation, Sanitation, and Verification on CentOS Stream 9

Overview

This project documents the installation, configuration, sanitation, and validation of MariaDB on a CentOS Stream 9 system. The workflow covers repository setup, package installation with dnf, service management using systemctl, execution of initial sanitation steps, and final version verification to confirm the database server is operational.

What Was Accomplished

Configured a MariaDB YUM repository file under /etc/yum.repos.d/ to support database package management.

Installed the MariaDB server and client packages, with dependencies resolved through the AppStream repository.

Started and enabled the MariaDB service, verifying it is running and ready to accept SQL connections.

Ran the MariaDB secure installation process to review and apply sanitation options, including authentication and default database considerations.

Verified the installed MariaDB version using the MySQL client to confirm proper installation and access.

Result

MariaDB 10.5.27 is successfully installed and running on the system. Core sanitation steps were reviewed during setup, and the database service is stable, enabled at boot, and accessible from the command line.

Outcome

The system is now prepared for continued development or further hardening, demonstrating hands-on experience with Linux package management, database service control, and initial sanitation practices in an enterprise-style environment.

A custom MariaDB 10.7.8 YUM repository configuration is being edited under `/etc/yum.repos.d/MariaDB.repo`, defining the repository name, archive base URL, GPG key location, and enabling GPG signature verification to ensure secure package installation.

A terminal window with a dark background and light-colored text. The window title bar shows 'egarrido@dev-app-eg3:~'. The terminal content shows the configuration of a YUM repository for MariaDB 10.7.8. The configuration is being edited in a file named 'MariaDB.repo' located in '/etc/yum.repos.d/'. The configuration includes the repository name, base URL, GPG key location, and GPG signature verification. The terminal output shows the configuration being written to the file and the file's size and line count.

```
[mariadb] name = MariaDB-10.7.8
baseurl= http://archive.mariadb.org/mariadb-10.7.8/yum/centos/$releasever/$basearch
gpgkey= https://archive.mariadb.org/PublicKey
gpgcheck=1

"/etc/yum.repos.d/MariaDB.repo" 5L, 174B
```

The terminal output shows an initial failure to locate MariaDB-server and MariaDB-client, followed by a warning that the custom /etc/yum.repos.d/MariaDB.repo could not be loaded and was skipped. As a result, dnf falls back to the CentOS Stream 9 appstream repository and proceeds to install the default MariaDB 10.5.27 packages (mariadb, mariadb-server) along with required, weak, and SELinux-related dependencies.

```
egarrido@dev-app-eg3:~$ sudo dnf install mariadb-server mariadb -y
Warning: failed loading '/etc/yum.repos.d/MariaDB.repo', skipping.
Last metadata expiration check: 1:50:52 ago on Fri 26 Sep 2025 10:38:56 AM EDT.
Dependencies resolved.
```

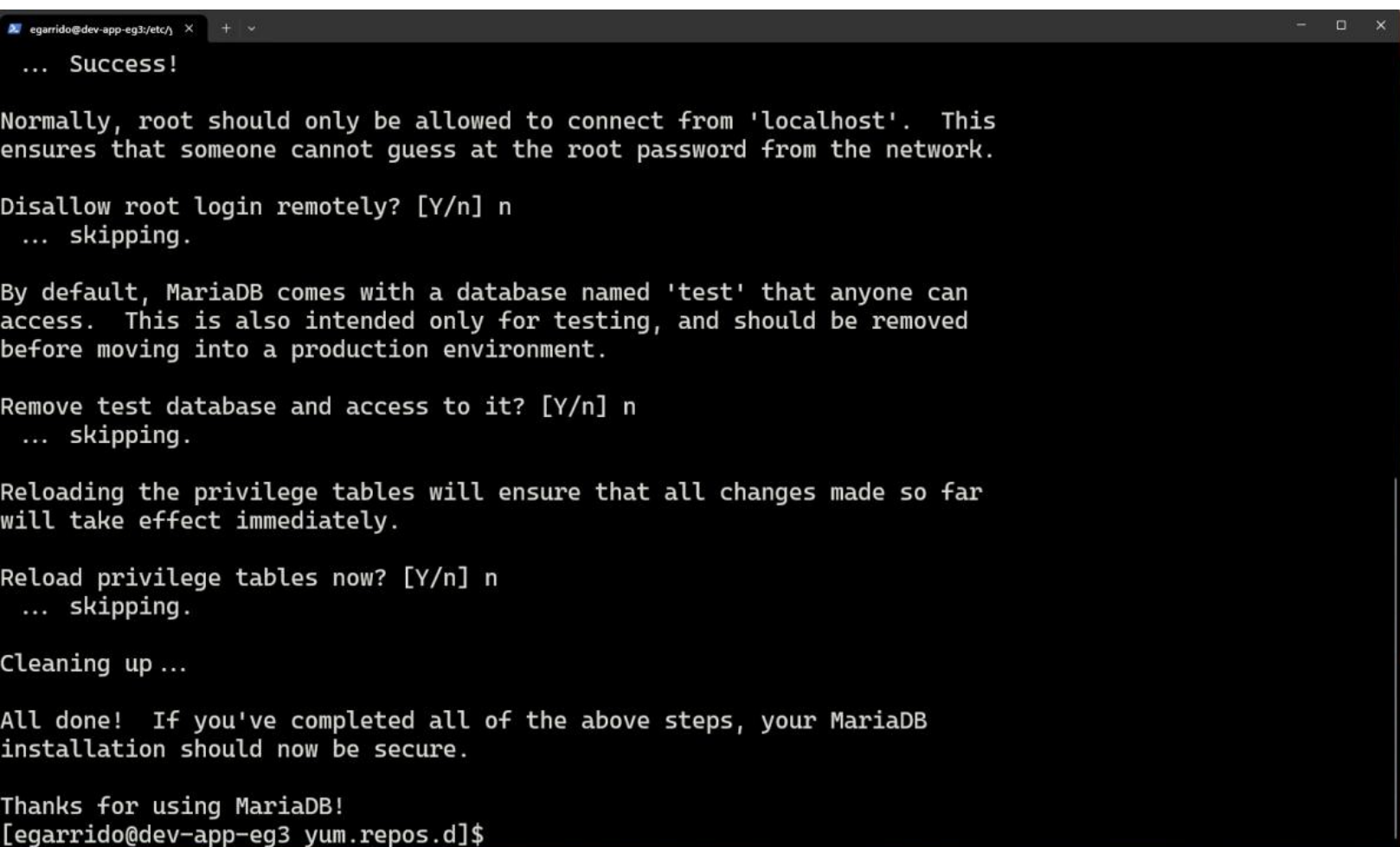
Package	Architecture	Version	Repository	Size
Installing:				
mariadb	x86_64	3:10.5.27-1.el9	appstream	1.6 M
mariadb-server	x86_64	3:10.5.27-1.el9	appstream	9.8 M
Installing dependencies:				
mariadb-common	x86_64	3:10.5.27-1.el9	appstream	30 k
mariadb-connector-c	x86_64	3.2.6-1.el9	appstream	198 k
mariadb-connector-c-config	noarch	3.2.6-1.el9	appstream	11 k
mariadb-errmsg	x86_64	3:10.5.27-1.el9	appstream	219 k
mysql-selinux	noarch	1.0.14-1.el9	appstream	36 k
perl-DBD-MariaDB	x86_64	1.21-17.el9	appstream	148 k
perl-DBI	x86_64	1.643-9.el9	appstream	725 k
perl-File-Copy	noarch	2.34-483.el9	appstream	20 k
perl-Math-BigInt	noarch	1:1.9998.18-460.el9	appstream	190 k
perl-Math-Complex	noarch	1.59-483.el9	appstream	46 k
perl-Sys-Hostname	x86_64	1.23-483.el9	appstream	17 k
Installing weak dependencies:				
mariadb-backup	x86_64	3:10.5.27-1.el9	appstream	6.5 M
mariadb-gssapi-server	x86_64	3:10.5.27-1.el9	appstream	15 k
mariadb-server-utils	x86_64	3:10.5.27-1.el9	appstream	215 k

MariaDB 10.5 is successfully installed, enabled, and actively running on the system. The mariadb service has started without errors, initialized its data directory, passed socket and upgrade checks, and is now ready to accept SQL connections, confirming a healthy database server state.

```
egarrido@dev-app-eg3 yum.repos.d]$ sudo systemctl status mariadb
● mariadb.service - MariaDB 10.5 database server
   Loaded: loaded (/usr/lib/systemd/system/mariadb.service; enabled; preset: disabled)
   Active: active (running) since Fri 2025-09-26 12:42:35 EDT; 6s ago
     Docs: man:mariadbd(8)
           https://mariadb.com/kb/en/library/systemd/
  Process: 7290 ExecStartPre=/usr/libexec/mariadb-check-socket (code=exited, status=0/SUCCESS)
  Process: 7312 ExecStartPre=/usr/libexec/mariadb-prepare-db-dir mariadb.service (code=exited, status=0/SUCCESS)
  Process: 7406 ExecStartPost=/usr/libexec/mariadb-check-upgrade (code=exited, status=0/SUCCESS)
 Main PID: 7394 (mariadbd)
    Status: "Taking your SQL requests now ..."
     Tasks: 11 (limit: 4605)
  Memory: 94.0M
     CPU: 1.248s
   CGroup: /system.slice/mariadb.service
           └─7394 /usr/libexec/mariadbd --basedir=/usr

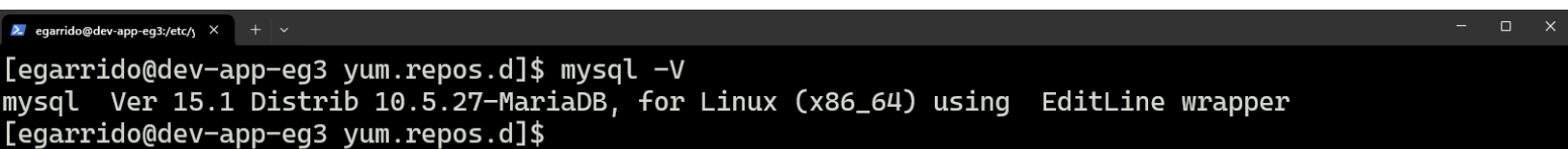
Sep 26 12:42:34 dev-app-eg3.procore.prod1 mariadb-prepare-db-dir[7351]: The second is mysql@localhost
Sep 26 12:42:34 dev-app-eg3.procore.prod1 mariadb-prepare-db-dir[7351]: you need to be the system user
Sep 26 12:42:34 dev-app-eg3.procore.prod1 mariadb-prepare-db-dir[7351]: After connecting you can see the error
Sep 26 12:42:34 dev-app-eg3.procore.prod1 mariadb-prepare-db-dir[7351]: able to connect as any of the users
Sep 26 12:42:34 dev-app-eg3.procore.prod1 mariadb-prepare-db-dir[7351]: See the MariaDB Knowledge Base for more details
Sep 26 12:42:34 dev-app-eg3.procore.prod1 mariadb-prepare-db-dir[7351]: Please report any problems at https://mariadb.org/get-involved
Sep 26 12:42:34 dev-app-eg3.procore.prod1 mariadb-prepare-db-dir[7351]: The latest information about MariaDB is at https://mariadb.org
Sep 26 12:42:34 dev-app-eg3.procore.prod1 mariadb-prepare-db-dir[7351]: Consider joining MariaDB's strong and growing
Sep 26 12:42:34 dev-app-eg3.procore.prod1 mariadb-prepare-db-dir[7351]: https://mariadb.org/get-involved
Sep 26 12:42:35 dev-app-eg3.procore.prod1 systemd[1]: Started MariaDB 10.5 database server.
egarrido@dev-app-eg3 yum.repos.d]$
```

The MariaDB secure installation process has completed successfully. During the interactive hardening steps, remote root login was left enabled, the default test database was retained, and privilege tables were not reloaded. The script finished without errors, confirming the MariaDB installation is operational and the security configuration steps were intentionally skipped based on the selected responses.

A terminal window with a dark background and light-colored text. The window title bar shows 'egarrido@dev-app-eg3/etc/...' and standard window controls. The text inside the terminal is the output of the MariaDB secure installation script, showing various prompts and user responses. The script concludes with a 'Success!' message and a final prompt for the yum repository.

```
egarrido@dev-app-eg3/etc/...  
... Success!  
  
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] n  
... skipping.  
  
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] n  
... skipping.  
  
Reloading the privilege tables will ensure that all changes made so far  
will take effect immediately.  
  
Reload privilege tables now? [Y/n] n  
... skipping.  
  
Cleaning up ...  
  
All done! If you've completed all of the above steps, your MariaDB  
installation should now be secure.  
  
Thanks for using MariaDB!  
[egarrido@dev-app-eg3 yum.repos.d]$
```

The `mysql -V` command confirms that the MySQL client is installed and reporting MariaDB 10.5.27 on a 64-bit Linux system, indicating the server and client versions are aligned and properly accessible from the command line.

A terminal window with a dark background. The title bar shows 'egarrido@dev-app-eg3/etc/' and window control buttons. The terminal text shows the command 'mysql -V' being executed, resulting in the output: 'mysql Ver 15.1 Distrib 10.5.27-MariaDB, for Linux (x86_64) using EditLine wrapper'.

```
egarrido@dev-app-eg3 yum.repos.d]$ mysql -V
mysql Ver 15.1 Distrib 10.5.27-MariaDB, for Linux (x86_64) using EditLine wrapper
egarrido@dev-app-eg3 yum.repos.d]$
```

Summary

MariaDB was successfully installed and validated on a CentOS Stream 9 system. The process included repository configuration, package installation, service startup and enablement, execution of initial sanitation steps through the secure installation workflow, and verification of the installed version. The database server is running, accessible from the command line, and ready for further configuration or application integration.