

TECHNICAL NOTE: INSTALLING AND CONFIGURING MariaDB DATABASE SERVER ON groov EPIC

If your application requires some local data storage and a database server, you might consider installing a database on the groov EPIC® so you can temporarily store and access the data in a structured manner.

This tech note shows you how to install MariaDB, a small, lightweight, open-source database that is a community-developed, commercially supported fork of the MySQL relational database management system. For more information, visit <https://mariadb.org/>.

Requirements

Installing and using MariaDB requires a Secure Shell license, part number GROOV-LIC-SHELL, available at <https://www.opto22.com/products/product-container/groov-lic-shell>.

CAUTION: *Setting up and administering the database on your groov EPIC is only for advanced developers who are familiar with both Linux® shell commands and database administration. Once you upload the license file that includes Secure Shell access, you are on your own and will have to solve any issues that arise through your own knowledge and online research. Opto 22 product support is limited to helping you reset the groov EPIC processor to factory defaults; our Product Support engineers cannot help you with programming, usage, or troubleshooting.*

CAUTION: *Before updating groov EPIC firmware, be sure you back up any files or applications you have created, as they will be deleted during the update. In addition, be aware that when you update EPIC firmware, your installation and database server setup will not be restored. You will need to repeat the steps in this tech note after you have updated the firmware.*

Installing MariaDB server

1. Log into SSH and use apt to update the package repositories.
2. Use apt to install MariaDB.

If you just need a local database, installation is finished. But most applications require a database server.

Setting up the database server

1. Type: `sudo nano /etc/my.cnf`
2. Make two changes in this file:
 - Change `skip-networking` to `#skip-networking`
 - Change `bind_address = localhost` to `bind_address = 0.0.0.0`
3. Go back to groov Manage and open the database port on the EPIC firewall.
 - a. Go to Home > Security > Firewall.

- b. Scroll down to the bottom, click the Add Rule button, and enter the rule as shown below.

New Rule	
Title	MariaDB
Protocol	tcp/udp
Port	3306
Add Port	<i>Optional</i> port or port:range
eth0	<input checked="" type="checkbox"/>
eth1	<input type="checkbox"/>
wlan0	<input type="checkbox"/>
tun0	<input type="checkbox"/>

Cancel Delete OK

- c. Click OK to add the rule, and then click Save in the top right of the page to apply that new rule to the firewall.

Next we create a root password and grant access from any remote clients.

4. Create the root password using the following command, setting your own password.
`mysqladmin -u root password "[my-root-password]";`
5. Add the root user that can have remote access to the database.
 - a. Connect to the database from the command line:
`mysql -u root -p`
 - b. Type the password from [step 4](#) to connect to the database.
 - c. Grant privileges by typing the following command, using your own password.
`GRANT ALL PRIVILEGES ON *.* TO 'root'@'%' IDENTIFIED BY '[my-root-password]' WITH GRANT OPTION;`
 - d. Type `EXIT`.
6. Restart the database server to apply all these changes.
`sudo /etc/init.d/mysqld restart`

You can now test SQL commands locally or remotely, because the server has been configured and started.