

# Лабораторная работа 6

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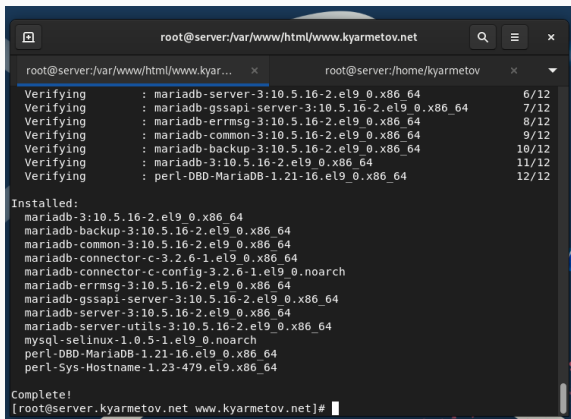
## Цель лабораторной работы

Приобретение практических навыков по установке и конфигурированию системы управления базами данных на примере программного обеспечения MariaDB.

# **Выполнение лабораторной работы**

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# Установка MariaDB



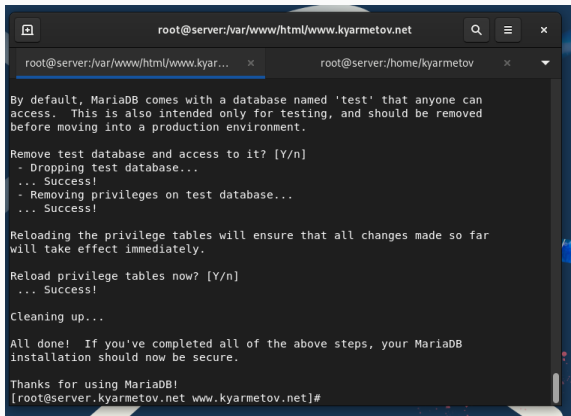
```
root@server:/var/www/html/www.kyarmetov.net
root@server:/var/www/html/www.kyar... x root@server:/home/kyarmetov x
Verifying      : mariadb-server-3:10.5.16-2.el9_0.x86_64      6/12
Verifying      : mariadb-gssapi-server-3:10.5.16-2.el9_0.x86_64 7/12
Verifying      : mariadb-errmsg-3:10.5.16-2.el9_0.x86_64    8/12
Verifying      : mariadb-common-3:10.5.16-2.el9_0.x86_64    9/12
Verifying      : mariadb-backup-3:10.5.16-2.el9_0.x86_64    10/12
Verifying      : mariadb-3:10.5.16-2.el9_0.x86_64           11/12
Verifying      : perl-DBD-MariaDB-1.21-16.el9_0.x86_64       12/12

Installed:
mariadb-3:10.5.16-2.el9_0.x86_64
mariadb-backup-3:10.5.16-2.el9_0.x86_64
mariadb-common-3:10.5.16-2.el9_0.x86_64
mariadb-connector-c-3.2.6-1.el9_0.x86_64
mariadb-connector-c-config-3.2.6-1.el9_0.noarch
mariadb-errmsg-3:10.5.16-2.el9_0.x86_64
mariadb-gssapi-server-3:10.5.16-2.el9_0.x86_64
mariadb-server-3:10.5.16-2.el9_0.x86_64
mariadb-server-utils-3:10.5.16-2.el9_0.x86_64
mysql-selinux-1.0.5-1.el9_0.noarch
perl-DBD-MariaDB-1.21-16.el9_0.x86_64
perl-Sys-Hostname-1.23-479.el9.x86_64

Complete!
[root@server.kyarmetov.net www.kyarmetov.net]#
```

Figure 1: запуск службы

# Установка MariaDB



```
root@server:/var/www/html/www.kyarmetov.net
root@server:/var/www/html/www.kyar... x root@server:/home/kyarmetov x
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]
- Dropping test database...
... Success!
- Removing privileges on test database...
... Success!

Reloading the privilege tables will ensure that all changes made so far
will take effect immediately.

Reload privilege tables now? [Y/n]
... Success!

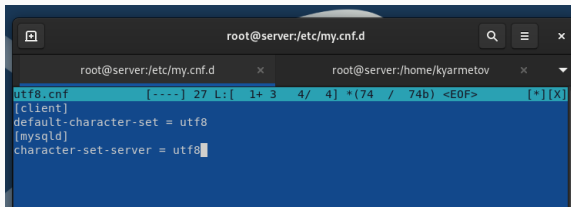
Cleaning up...

All done! If you've completed all of the above steps, your MariaDB
installation should now be secure.

Thanks for using MariaDB!
[root@server.kyarmetov.net www.kyarmetov.net]#
```

Figure 2: настройка параметров

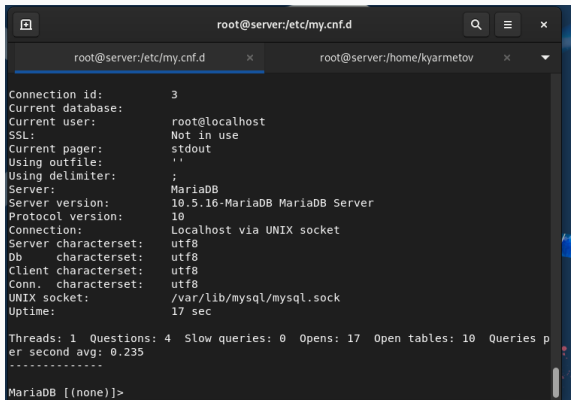
# Установка MariaDB



The image shows a terminal window with a dark blue background. The title bar at the top reads "root@server:/etc/my.cnf.d" and includes search, menu, and close icons. Below the title bar, there are two tabs: "root@server:/etc/my.cnf.d" (active) and "root@server:/home/kyarmetov". The main content area of the terminal displays the following text:

```
utf8.cnf [----] 27 L:[ 1+ 3 4/ 4] *(74 / 74b) <E0F> [*][X]  
[client]  
default-character-set = utf8  
[mysqld]  
character-set-server = utf8
```

**Figure 3:** настройка кодировки

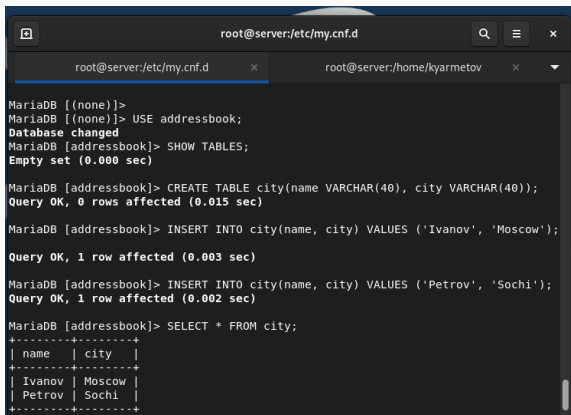


The image shows a terminal window with a dark background. At the top, there are two tabs: 'root@server:/etc/my.cnf.d' (active) and 'root@server:/home/kyarmetov'. The terminal displays the output of the 'show status;' command in MariaDB. The output lists various connection and server statistics. The connection is identified as 'root@localhost' using a 'stdouth' pager. The server is 'MariaDB 10.5.16-MariaDB MariaDB Server' running on 'localhost via UNIX socket'. The character set is 'utf8'. The uptime is '17 sec'. At the bottom, a summary line shows 'Threads: 1 Questions: 4 Slow queries: 0 Opens: 17 Open tables: 10 Queries per second avg: 0.235'. The prompt 'MariaDB [(none)]>' is visible at the bottom left.

```
root@server:/etc/my.cnf.d
root@server:/etc/my.cnf.d x root@server:/home/kyarmetov x
Connection id:          3
Current database:
Current user:           root@localhost
SSL:                   Not in use
Current pager:          stdout
Using outfile:          ''
Using delimiter:        ;
Server:                 MariaDB
Server version:         10.5.16-MariaDB MariaDB Server
Protocol version:       10
Connection:             Localhost via UNIX socket
Server characterset:    utf8
Db characterset:        utf8
Client characterset:    utf8
Conn. characterset:     utf8
UNIX socket:            /var/lib/mysql/mysql.sock
Uptime:                 17 sec

Threads: 1 Questions: 4 Slow queries: 0 Opens: 17 Open tables: 10 Queries p
er second avg: 0.235
-----
MariaDB [(none)]>
```

Figure 4: статус службы



```
root@server:/etc/my.cnf.d
root@server:/etc/my.cnf.d x root@server:/home/kyarmetov x
MariaDB [(none)]>
MariaDB [(none)]> USE addressbook;
Database changed
MariaDB [addressbook]> SHOW TABLES;
Empty set (0.000 sec)

MariaDB [addressbook]> CREATE TABLE city(name VARCHAR(40), city VARCHAR(40));
Query OK, 0 rows affected (0.015 sec)

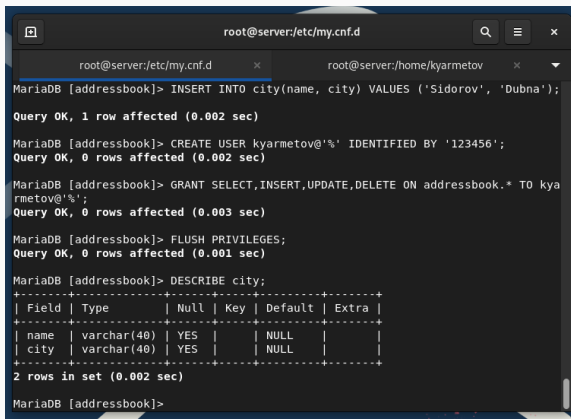
MariaDB [addressbook]> INSERT INTO city(name, city) VALUES ('Ivanov', 'Moscow');
Query OK, 1 row affected (0.003 sec)

MariaDB [addressbook]> INSERT INTO city(name, city) VALUES ('Petrov', 'Sochi');
Query OK, 1 row affected (0.002 sec)

MariaDB [addressbook]> SELECT * FROM city;
+-----+-----+
| name | city |
+-----+-----+
| Ivanov | Moscow |
| Petrov | Sochi |
+-----+-----+
```

Figure 5: работа с базой





```
root@server:/etc/my.cnf.d
MariaDB [addressbook]> INSERT INTO city(name, city) VALUES ('Sidorov', 'Dubna');
Query OK, 1 row affected (0.002 sec)

MariaDB [addressbook]> CREATE USER kyarmetov@'%' IDENTIFIED BY '123456';
Query OK, 0 rows affected (0.002 sec)

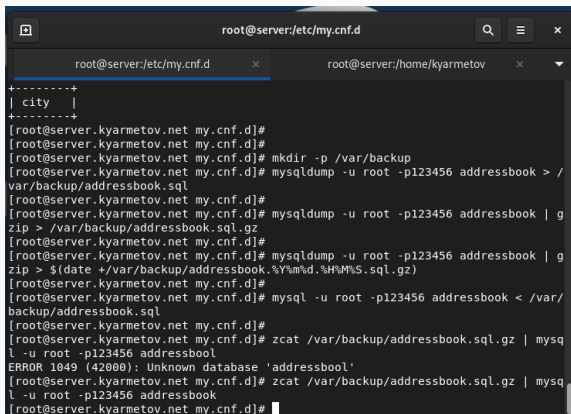
MariaDB [addressbook]> GRANT SELECT,INSERT,UPDATE,DELETE ON addressbook.* TO kyarmetov@'%';
Query OK, 0 rows affected (0.003 sec)

MariaDB [addressbook]> FLUSH PRIVILEGES;
Query OK, 0 rows affected (0.001 sec)

MariaDB [addressbook]> DESCRIBE city;
+-----+-----+-----+-----+-----+-----+
| Field | Type   | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| name  | varchar(40) | YES |     | NULL    |       |
| city  | varchar(40) | YES |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
2 rows in set (0.002 sec)

MariaDB [addressbook]>
```

Figure 6: создание пользователя



```
root@server:/etc/my.cnf.d
root@server:/etc/my.cnf.d x root@server:/home/kyarmetov x
+-----+
| city |
+-----+
[root@server.kyarmetov.net my.cnf.d]#
[root@server.kyarmetov.net my.cnf.d]#
[root@server.kyarmetov.net my.cnf.d]# mkdir -p /var/backup
[root@server.kyarmetov.net my.cnf.d]# mysqldump -u root -p123456 addressbook > /
var/backup/addressbook.sql
[root@server.kyarmetov.net my.cnf.d]#
[root@server.kyarmetov.net my.cnf.d]# mysqldump -u root -p123456 addressbook | g
zip > /var/backup/addressbook.sql.gz
[root@server.kyarmetov.net my.cnf.d]#
[root@server.kyarmetov.net my.cnf.d]# mysqldump -u root -p123456 addressbook | g
zip > $(date +%var/backup/addressbook.%Y%m%d.%H%M%S.sql.gz)
[root@server.kyarmetov.net my.cnf.d]#
[root@server.kyarmetov.net my.cnf.d]# mysql -u root -p123456 addressbook < /var/
backup/addressbook.sql
[root@server.kyarmetov.net my.cnf.d]#
[root@server.kyarmetov.net my.cnf.d]# zcat /var/backup/addressbook.sql.gz | mysq
l -u root -p123456 addressboo
ERROR 1049 (42000): Unknown database 'addressbool'
[root@server.kyarmetov.net my.cnf.d]# zcat /var/backup/addressbook.sql.gz | mysq
l -u root -p123456 addressbook
[root@server.kyarmetov.net my.cnf.d]#
```

Figure 7: резервное копирование

Я приобрел практические навыки по установке и конфигурированию системы управления базами данных на примере программного обеспечения MariaDB.