Лабораторная работа №6

СТУДЕНТ: САХНО

ГРУППА: НФИБД-02-23

Цель

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

Задания

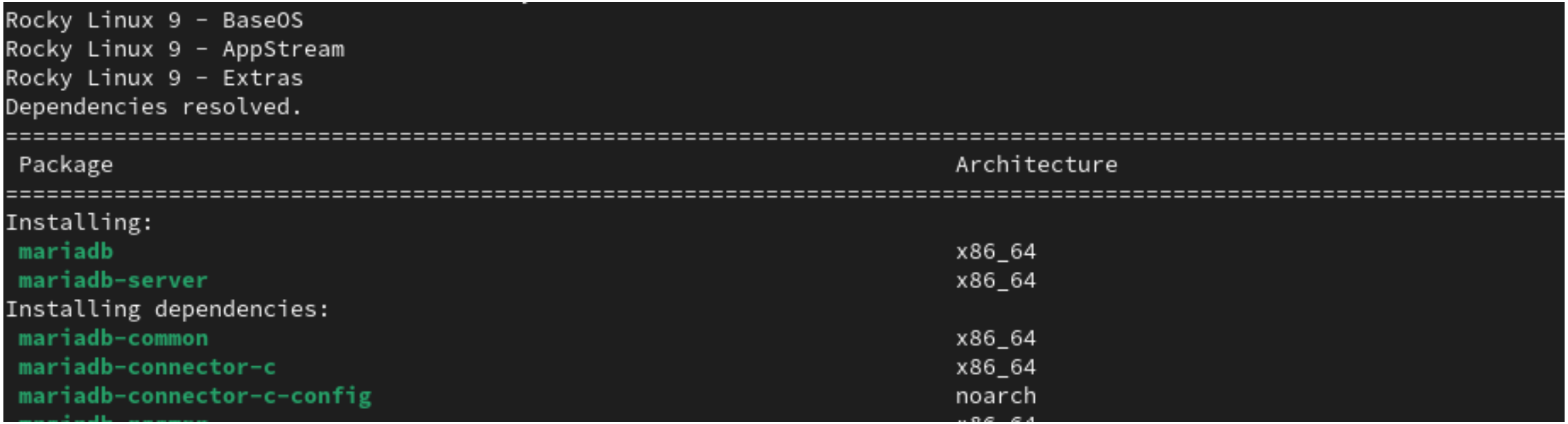
Установить необходимые для работы MariaDB пакеты (см. раздел 6.4.1).

Настроить в качестве кодировки символов по умолчанию utf8 в базах данных.

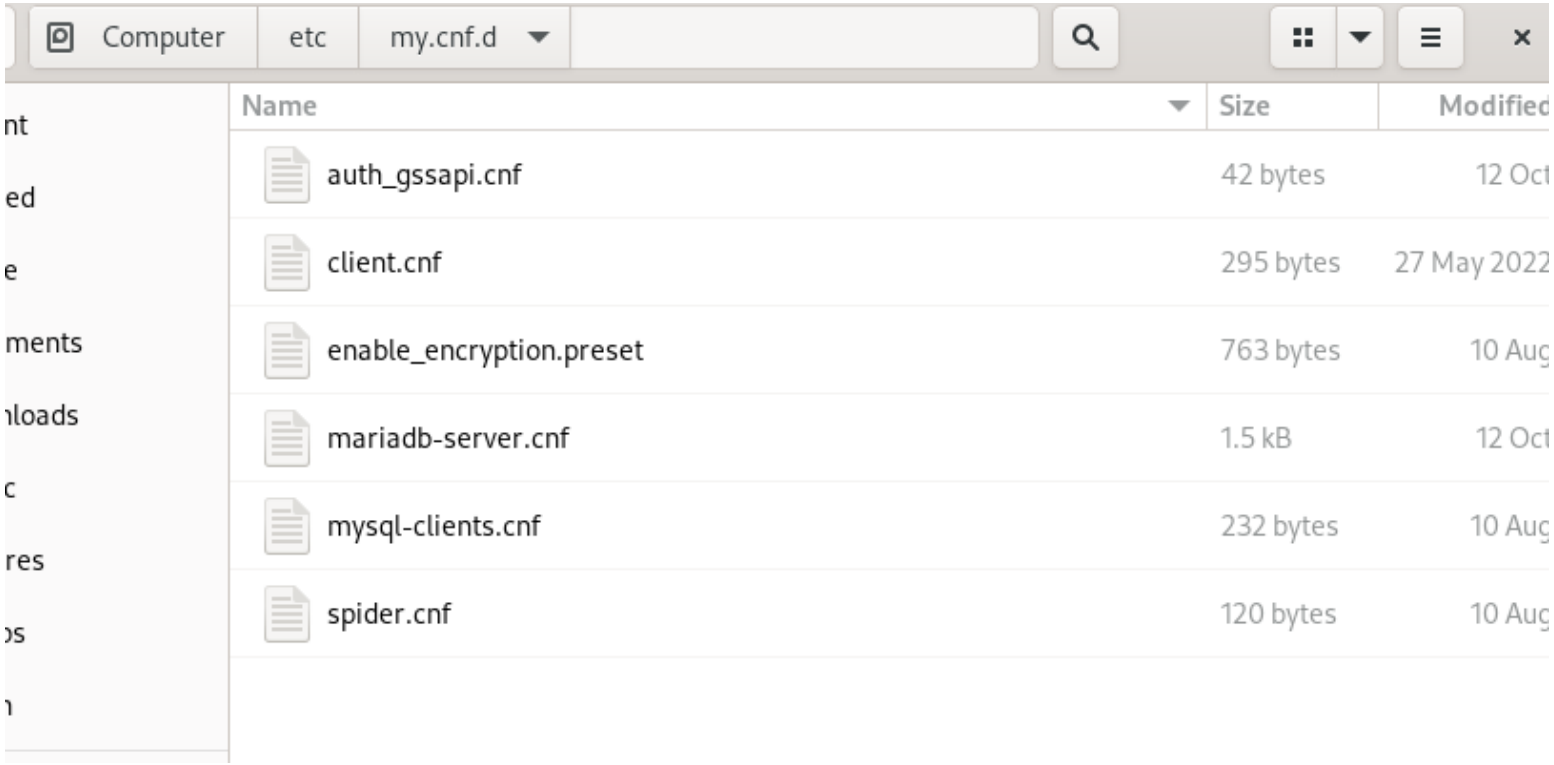
В базе данных MariaDB создать тестовую базу addressbook, содержащую таблицу city с полями name и city, т.е., например, для некоторого сотрудника указан город, в котором он работает.

Создать резервную копию базы данных addressbook и восстановите из неё данные.

Написать скрипт для Vagrant, фиксирующий действия по установке и настройке базы данных MariaDB во внутреннем окружении виртуальной машины server. Соответствующим образом внести изменения в Vagrantfile.


Rocky Linux 9 - BaseOS
Rocky Linux 9 - AppStream
Rocky Linux 9 - Extras
Dependencies resolved.
Package
Architecture
Installing:
mariadb
x86_64
mariadb-server
x86_64
Installing dependencies:
mariadb-common
x86_64
mariadb-connector-c
x86_64
mariadb-connector-c-config
noarch

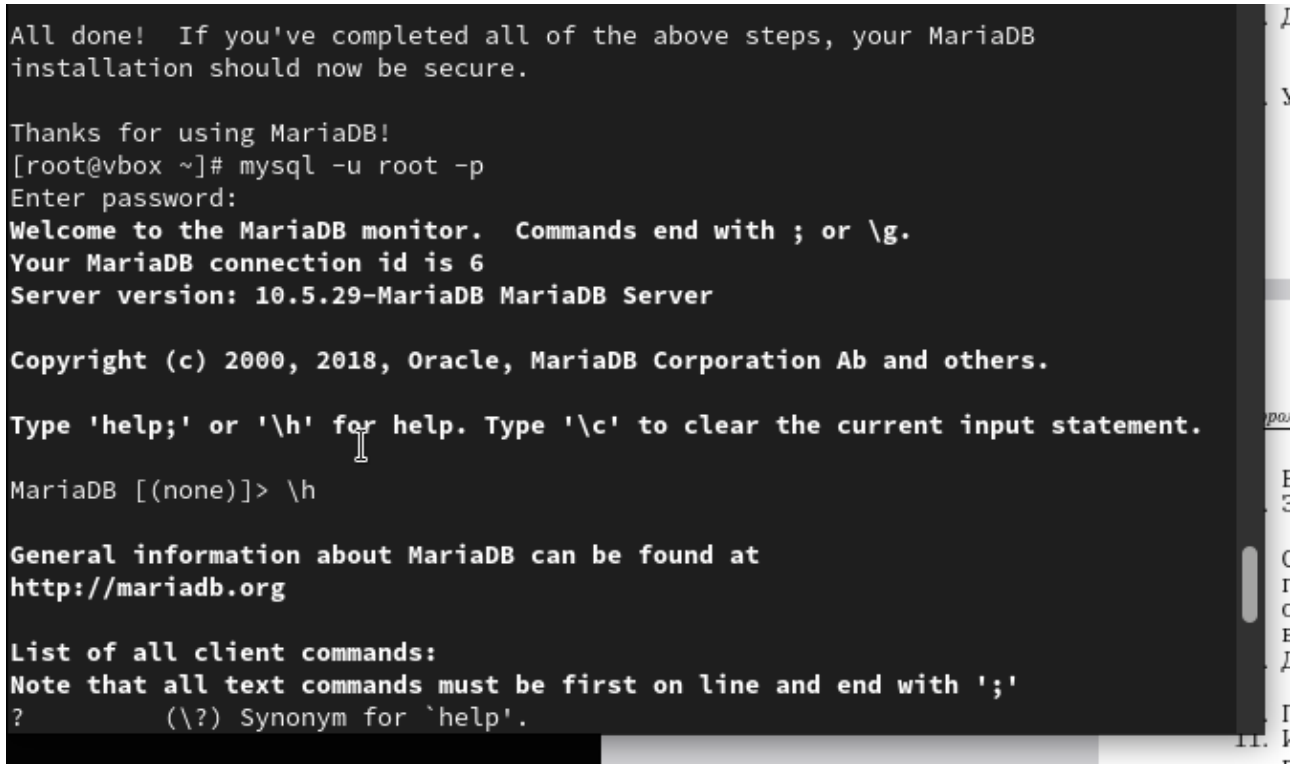
Задание №1


Computer
etc
my.cnf.d
Name
Size
Modified
auth_gssapi.cnf
42 bytes
12 Oct
client.cnf
295 bytes
27 May 2022
enable_encryption.preset
763 bytes
10 Aug
mariadb-server.cnf
1.5 kB
12 Oct
mysql-clients.cnf
232 bytes
10 Aug
spider.cnf
120 bytes
10 Aug

Задание №1

```
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
haven't set the root password yet, you should just press enter here.

Enter current password for root (enter for none):
OK, successfully used password, moving on...

Setting the root password or using the unix_socket ensures that nobody
can log into the MariaDB root user without the proper authorisation.

You already have your root account protected, so you can safely answer 'n'.

Switch to unix_socket authentication [Y/n] n
 ... skipping.

You already have your root account protected, so you can safely answer 'n'.

Change the root password? [Y/n] n
 ... skipping.

By default, a MariaDB installation has an anonymous user, allowing anyone
to log into MariaDB without having to have a user account created for
```

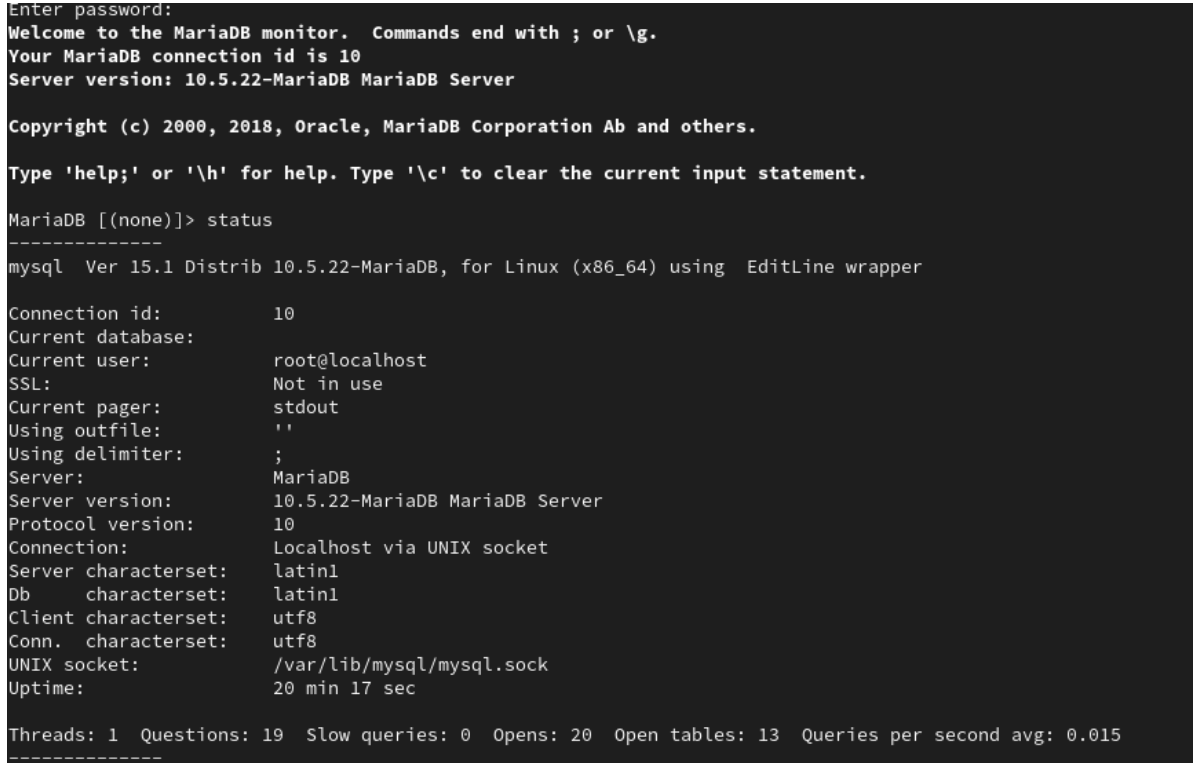
Задание №1


All done! If you've completed all of the above steps, your MariaDB
installation should now be secure.
Thanks for using MariaDB!
[root@vbox ~]# mysql -u root -p
Enter password:
Welcome to the MariaDB monitor. Commands end with ; or \g.
Your MariaDB connection id is 6
Server version: 10.5.29-MariaDB MariaDB Server
Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.
Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.
MariaDB [(none)]> \h
General information about MariaDB can be found at
http://mariadb.org
List of all client commands:
Note that all text commands must be first on line and end with ';'
?   (\?) Synonym for `help'.

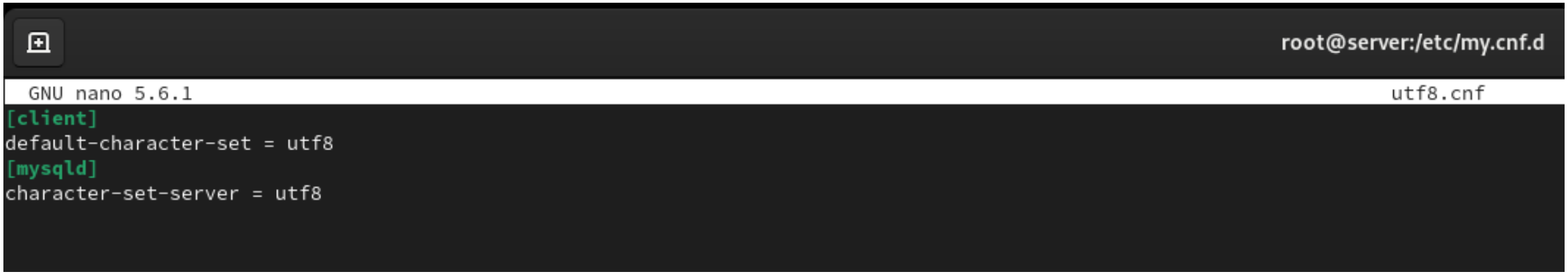
Задание №2

```
MariaDB [(none)]> SHOW DATABASES;
+--------------------+
| Database           |
+--------------------+
| information_schema |
| mysql              |
| performance_schema |
+--------------------+
3 rows in set (0.001 sec)

MariaDB [(none)]> exit;
Bye
```

Задание №1


Enter password:
Welcome to the MariaDB monitor. Commands end with ; or \g.
Your MariaDB connection id is 10
Server version: 10.5.22-MariaDB MariaDB Server
Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.
Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.
MariaDB [(none)]> status
mysql Ver 15.1 Distrib 10.5.22-MariaDB, for Linux (x86_64) using EditLine wrapper
Connection id: 10
Current database:
Current user: root@localhost
SSL: Not in use
Current pager: stdout
Using outfile: ''
Using delimiter: ;
Server: MariaDB
Server version: 10.5.22-MariaDB MariaDB Server
Protocol version: 10
Connection: Localhost via UNIX socket
Server characterset: latin1
Db characterset: latin1
Client characterset: utf8
Conn. characterset: utf8
UNIX socket: /var/lib/mysql/mysql.sock
Uptime: 20 min 17 sec
Threads: 1 Questions: 19 Slow queries: 0 Opens: 20 Open tables: 13 Queries per second avg: 0.015

Задание №2


root@server:/etc/my.cnf.d
GNU nano 5.6.1
utf8.cnf
[client]
default-character-set = utf8
[mysqld]
character-set-server = utf8

Задание №2

```
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 3
Server version: 10.5.22-MariaDB MariaDB Server

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MariaDB [(none)]> status
--------------
mysql  Ver 15.1 Distrib 10.5.22-MariaDB, for Linux (x86_64) using  EditLine wrapper

Connection id:          3
Current database:
Current user:           root@localhost
SSL:                    Not in use
Current pager:          stdout
Using outfile:          ''
Using delimiter:        ;
Server:                 MariaDB
Server version:         10.5.22-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:                 27 sec

Threads: 1  Questions: 4  Slow queries: 0  Opens: 17  Open tables: 10  Queries per second avg: 0.148
--------------
```

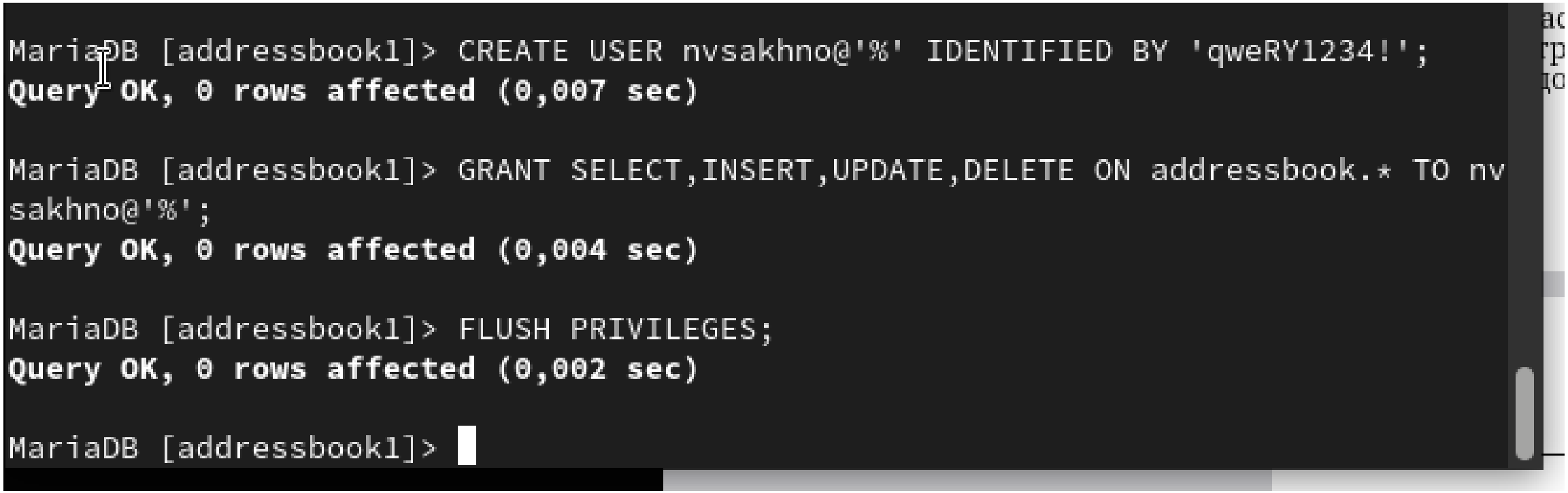
Задание №2

```
MariaDB [(none)]> CREATE DATABASE addressbook CHARACTER SET utf8 COLLATE utf8_general_ci;
Query OK, 1 row affected (0.000 sec)

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 (0.066 sec)

MariaDB [addressbook]> SHOW TABLES;
+----------------------+
| Tables_in_addressbook |
+----------------------+
| city                 |
+----------------------+
1 row in set (0.000 sec)
```

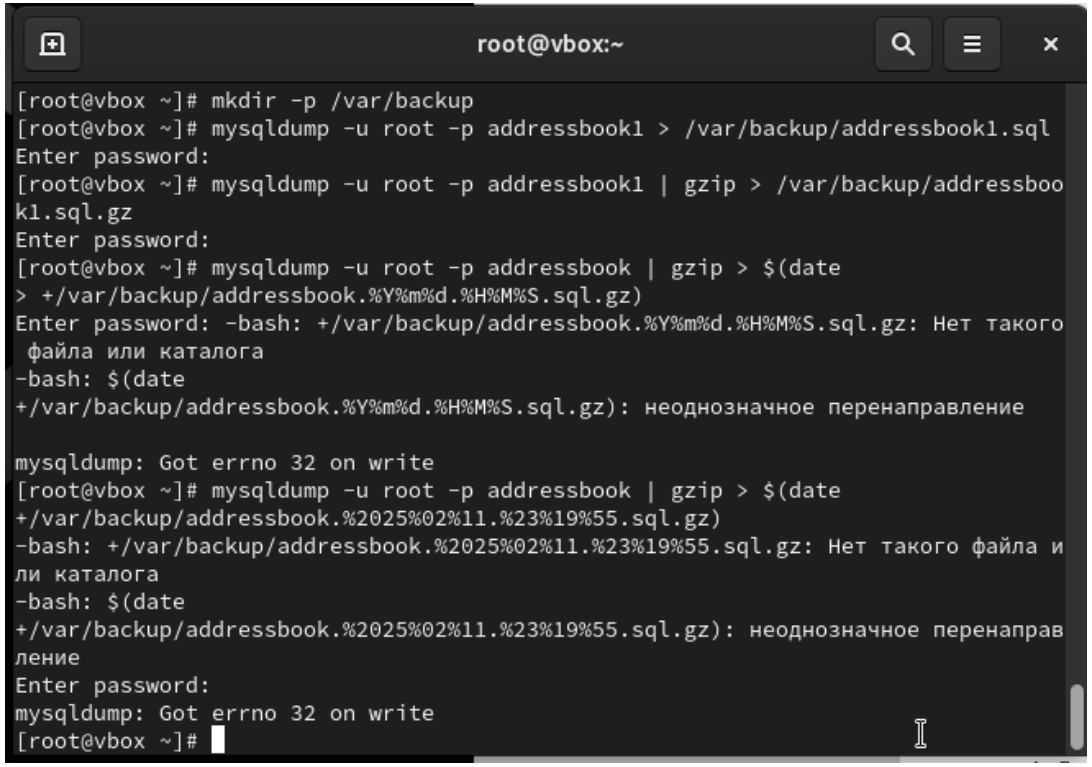
Задание №2

```
MariaDB [addressbook]> INSERT INTO city(name,city) VALUES ('Иванов','Москва');
Query OK, 1 row affected (0.016 sec)

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

MariaDB [addressbook]> INSERT INTO city(name,city) VALUES ('Сидоров','Дубна');
Query OK, 1 row affected (0.010 sec)

MariaDB [addressbook]> SELECT * FROM city;
+----------------+--------------+
| name           | city         |
+----------------+--------------+
| Иванов         | Москва       |
| Петров         | Сочи         |
| Сидоров        | Дубна        |
+----------------+--------------+
3 rows in set (0.001 sec)

MariaDB [addressbook]> CREATE USER dmbelicheva@'%' IDENTIFIED BY '123456';
Query OK, 0 rows affected (0.027 sec)

MariaDB [addressbook]> GRANT SELECT,INSERT,UPDATE,DELETE ON addressbook.* TO dmbelicheva@'%';
Query OK, 0 rows affected (0.011 sec)
```

Задание №2


MariaDB [addressbook1]> CREATE USER nvsakhno@'%' IDENTIFIED BY 'qweRY1234!';
Query OK, 0 rows affected (0,007 sec)
MariaDB [addressbook1]> GRANT SELECT,INSERT,UPDATE,DELETE ON addressbook.* TO nv
sakhno@'%';
Query OK, 0 rows affected (0,004 sec)
MariaDB [addressbook1]> FLUSH PRIVILEGES;
Query OK, 0 rows affected (0,002 sec)
MariaDB [addressbook1]>

Задание №2


root@vbox:~
[root@vbox ~]# mkdir -p /var/backup
[root@vbox ~]# mysqldump -u root -p addressbook1 > /var/backup/addressbook1.sql
Enter password:
[root@vbox ~]# mysqldump -u root -p addressbook1 | gzip > /var/backup/addressboo
k1.sql.gz
Enter password:
[root@vbox ~]# mysqldump -u root -p addressbook | gzip > $(date
> +/var/backup/addressbook.%Y%m%d.%H%M%S.sql.gz)
Enter password: -bash: +/var/backup/addressbook.%Y%m%d.%H%M%S.sql.gz: Нет такого
файла или каталога
-bash: $(date
+/var/backup/addressbook.%Y%m%d.%H%M%S.sql.gz): неоднозначное перенаправление
mysqldump: Got errno 32 on write
[root@vbox ~]# mysqldump -u root -p addressbook | gzip > $(date
+/var/backup/addressbook.%2025%02%11.%23%19%55.sql.gz)
-bash: +/var/backup/addressbook.%2025%02%11.%23%19%55.sql.gz: Нет такого файла и
ли каталога
-bash: $(date
+/var/backup/addressbook.%2025%02%11.%23%19%55.sql.gz): неоднозначное перенаправ
ление
Enter password:
mysqldump: Got errno 32 on write
[root@vbox ~]#

Задание №2

Вывод:

В процессе выполения данной лабораторной работы я приобрел практические навыки по установке и конфигурированию системы управления базами данных на примере программного обеспечения MariaDB.