

Задание 1.

Создаём файл скрипта для установки MariaDB и запускаем его.

```
alex@alex-VirtualBox:~$ cd scripts/
alex@alex-VirtualBox:~/scripts$ nano install_MariaDB.sh
alex@alex-VirtualBox:~/scripts$ chmod +x install_MariaDB.sh
alex@alex-VirtualBox:~/scripts$ ls -la
total 12
drwxrwxr-x  2 alex alex 4096 мая 30 18:29 .
drwxr-x--- 19 alex alex 4096 мая 30 18:26 ..
-rwxrwxr-x  1 alex alex   93 мая 30 18:29 install_MariaDB.sh
alex@alex-VirtualBox:~/scripts$ ./install_MariaDB.sh
Hit:1 http://by.archive.ubuntu.com/ubuntu jammy InRelease
Hit:2 http://by.archive.ubuntu.com/ubuntu jammy-updates InRelease
Hit:3 http://by.archive.ubuntu.com/ubuntu jammy-backports InRelease
Hit:4 http://packages.microsoft.com/repos/code stable InRelease
Get:5 http://security.ubuntu.com/ubuntu jammy-security InRelease [110 kB]
Hit:6 https://packages.microsoft.com/repos/vscode stable InRelease
Get:7 http://security.ubuntu.com/ubuntu jammy-security/main amd64 Packages [405
kB]
Get:8 http://security.ubuntu.com/ubuntu jammy-security/main i386 Packages [220
kB]
Get:9 http://security.ubuntu.com/ubuntu jammy-security/main Translation-en [115
kB]
Fetched 851 kB in 3s (318 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
71 packages can be upgraded. Run 'apt list --upgradable' to see them.
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
```

```
Processing triggers for man-db (2.10.2-1) ...
Processing triggers for libc-bin (2.35-0ubuntu3.1) ...
● mariadb.service - MariaDB 10.6.12 database server
   Loaded: loaded (/lib/systemd/system/mariadb.service; enabled; vendor pres>
   Active: active (running) since Tue 2023-05-30 18:30:28 +03; 14s ago
     Docs: man:mariadb(8)
           https://mariadb.com/kb/en/library/systemd/
   Process: 5283 ExecStartPre=/usr/bin/install -m 755 -o mysql -g root -d /va>
   Process: 5284 ExecStartPre=/bin/sh -c systemctl unset-environment _WSREP_S>
   Process: 5286 ExecStartPre=/bin/sh -c [ ! -e /usr/bin/galera_recovery ] &&>
   Process: 5332 ExecStartPost=/bin/sh -c systemctl unset-environment _WSREP_>
   Process: 5334 ExecStartPost=/etc/mysql/debian-start (code=exited, status=0>
  Main PID: 5315 (mariabdd)
    Status: "Taking your SQL requests now..."
     Tasks: 18 (limit: 5803)
    Memory: 61.4M
      CPU:  1.743s
```

Сам скрипт:

```
alex@alex-VirtualBox: ~/scripts
GNU nano 6.2                                install_MariaDB.sh
#!/bin/bash

# Update the list of packages
sudo apt update

#install MariaDB
sudo apt install mariadb-server -y

#pause to raise the base
sleep 10

#check database status
sudo systemctl status mariadb
```

Задание 2.

Создаём скрипт, делаем его исполняемым, запускаем скрипт с аргументами и проверяем результат.

```
alex@alex-VirtualBox:~/scripts$ nano create_user.sh
alex@alex-VirtualBox:~/scripts$ chmod +x create_user.sh
alex@alex-VirtualBox:~/scripts$ ./create_user.sh aliaksei /home/aliaksei yes yes
Creating user: aliaksei
useradd: warning: the home directory /home/aliaksei already exists.
useradd: Not copying any file from skel directory into it.
New password:
BAD PASSWORD: The password fails the dictionary check - it is based on a dictionary word
Retype new password:
passwd: password updated successfully
Enabling user ssh access: aliaksei
Enable account: aliaksei
usermod: no changes
User aliaksei has been created!
alex@alex-VirtualBox:~/scripts$ cat /etc/passwd
root:x:0:0:root:/root:/bin/bash
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin/nologin
sync:x:4:65534:sync:/bin:/bin/sync
games:x:5:60:games:/usr/games:/usr/sbin/nologin
man:x:6:12:man:/var/cache/man:/usr/sbin/nologin
lp:x:7:7:lp:/var/spool/lpd:/usr/sbin/nologin
mail:x:8:8:mail:/var/mail:/usr/sbin/nologin
news:x:9:9:news:/var/spool/news:/usr/sbin/nologin
uucp:x:10:10:uucp:/var/spool/uucp:/usr/sbin/nologin
proxy:x:13:13:proxy:/bin:/usr/sbin/nologin
www-data:x:33:33:www-data:/var/www:/usr/sbin/nologin
backup:x:34:34:backup:/var/backups:/usr/sbin/nologin
list:x:38:38:Mailing List Manager:/var/list:/usr/sbin/nologin
irc:x:39:39:ircd:/run/ircd:/usr/sbin/nologin
gnats:x:41:41:Gnats Bug-Reporting System (admin):/var/lib/gnats:/usr/sbin/nologin
nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin
systemd-network:x:100:102:systemd Network Management,,,:/run/systemd:/usr/sbin/nologin
systemd-resolve:x:101:103:systemd Resolver,,,:/run/systemd:/usr/sbin/nologin
```

```

nm-openvpn:x:121:127:NetworkManager OpenVPN,,,:/var/lib/openvpn/chroot:/usr/sbin/nologin
saned:x:122:129::/var/lib/saned:/usr/sbin/nologin
colord:x:123:130:colord colour management daemon,,,:/var/lib/colord:/usr/sbin/nologin
geoclue:x:124:131::/var/lib/geoclue:/usr/sbin/nologin
pulse:x:125:132:PulseAudio daemon,,,:/run/pulse:/usr/sbin/nologin
gnome-initial-setup:x:126:65534::/run/gnome-initial-setup:/bin/false
hplip:x:127:7:HPLIP system user,,,:/run/hplip:/bin/false
gdm:x:128:134:Gnome Display Manager:/var/lib/gdm3:/bin/false
alex:x:1000:1000:alex,,,:/home/alex:/bin/bash
vboxadd:x:999:1::/var/run/vboxadd:/bin/false
mysql:x:129:137:MySQL Server,,,:/nonexistent:/bin/false
aliaksei:x:1001:1001::/home/aliaksei:/bin/sh
alex@alex-VirtualBox:~/scripts$

```

Скрипт:

```

+  alex@alex-VirtualBox: ~/scripts
GNU nano 6.2 create_user.sh
#!/bin/bash

#argument checking
if [ $# -ne 4 ]; then
    echo "Invalid number of arguments!"
    exit 1
fi

#Assignment of arguments
user_name=$1
home_folder=$2
ssh_access=$3
enable=$4

#creating user and user folder
echo "Creating user: $user_name"
sudo useradd -m -d $home_folder $user_name

#Creating password
sudo passwd $user_name

#Setting up ssh access
if [ $ssh_access == "yes" ]; then
    echo "Enabling user ssh access: $user_name"
    sudo usermod -aG ssh $user_name
fi

#Enable or disable an account

if [ $enable == "yes" ]; then
    echo "Enable account: $user_name"
    sudo usermod -e "" $user_name
else
    echo "Disable account: $user_name"
    sudo usermod -e 1 $user_name
fi

echo "User $user_name has been created!"

```

Задание 3.

Создаём скрипт, создаём пустой файл для записи результата скрипта, делаем скрипт исполняемым и запускаем его.

```
alex@alex-VirtualBox:~/scripts$ nano pinganator.sh
alex@alex-VirtualBox:~/scripts$ touch ping_results.txt
alex@alex-VirtualBox:~/scripts$ chmod +x pinganator.sh
alex@alex-VirtualBox:~/scripts$ ./pinganator.sh
Invalid number of arguments!
alex@alex-VirtualBox:~/scripts$ ./pinganator.sh google.com 5
Ping complited!!!
alex@alex-VirtualBox:~/scripts$
```

Результат скрипта:

```
alex@alex-VirtualBox: ~/scripts
GNU nano 6.2 ping_results.txt
PING google.com (142.250.186.206) 56(84) bytes of data.
64 bytes from waw07s05-in-f14.1e100.net (142.250.186.206): icmp_seq=1 ttl=114 time=15.0 ms
64 bytes from waw07s05-in-f14.1e100.net (142.250.186.206): icmp_seq=2 ttl=114 time=38.5 ms
64 bytes from waw07s05-in-f14.1e100.net (142.250.186.206): icmp_seq=3 ttl=114 time=23.8 ms
64 bytes from waw07s05-in-f14.1e100.net (142.250.186.206): icmp_seq=4 ttl=114 time=18.2 ms
64 bytes from waw07s05-in-f14.1e100.net (142.250.186.206): icmp_seq=5 ttl=114 time=18.2 ms

--- google.com ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4055ms
rtt min/avg/max/mdev = 15.013/22.725/38.491/8.370 ms
```

Скрипт:

```
GNU nano 6.2
#!/bin/bash

#argument checking
if [ $# -ne 2 ]; then
    echo "Invalid number of arguments!"
    exit 1
fi

#Assignment of arguments
uri=$1
retries=$2

#File for writing the result
output_file="ping_results.txt"

#Ping host
for ((i=1; i<=$retries; i++))
do
    ping -c $retries $uri > $output_file
done

echo "Ping complited!!!"
```