Отчет по лабораторной работе №5

Простейший вариант

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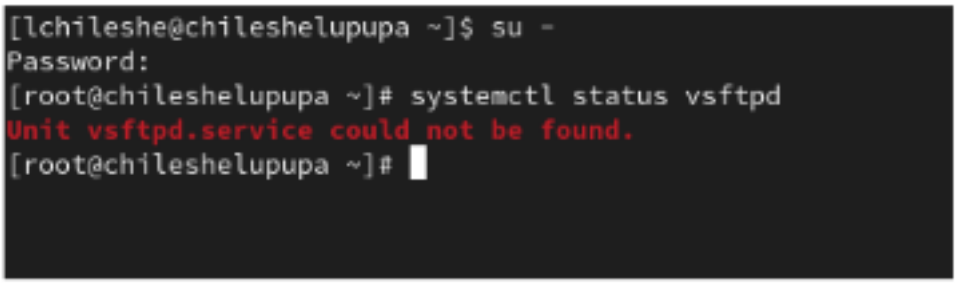
1 Цель работы

Получить навыки управления системными службами операционной системы посредством systemd.

1. Получите полномочия администратора su –
2. Проверьте статус службы Very Secure FTP: systemctl status vsftpd



3. Установите службу Very Secure FTP: dnf -y install vsftpd

```
[root@chileshelupupa ~]# dnf -y install vsftpd
Rocky Linux 9 - BaseOS                                          820  B/s | 4.1 kB     00:05
Rocky Linux 9 - BaseOS                                          227 kB/s | 2.3 MB     00:10
Rocky Linux 9 - AppStream                                       5.3 kB/s | 4.5 kB     00:00
Rocky Linux 9 - AppStream                                       395 kB/s | 8.0 MB     00:20
Rocky Linux 9 - Extras                                          1.0 kB/s | 2.9 kB     00:02
Dependencies resolved.
================================================================================
 Package                Architecture           Version                 Repository                  Size
================================================================================
Installing:
 vsftpd                 x86_64                 3.0.5-5.el9             appstream                  157 k

Transaction Summary
================================================================================
Install  1 Package

Total download size: 157 k
Installed size: 347 k
Downloading Packages:
vsftpd-3.0.5-5.el9.x86_64.rpm                                   349 kB/s | 157 kB     00:00
--------------------------------------------------------------------------------
Total                                                           31 kB/s | 157 kB     00:05
Running transaction check
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
Running transaction
  Preparing        :                                                        1/1
  Installing       : vsftpd-3.0.5-5.el9.x86_64                              1/1
  Running scriptlet: vsftpd-3.0.5-5.el9.x86_64                              1/1
  Verifying        : vsftpd-3.0.5-5.el9.x86_64                              1/1
```

4. Запустите службу Very Scure FTP: systemctl start vsftpd e

```
[root@chileshelupupa ~]# systemctl start vsftpd
[root@chileshelupupa ~]# systemctl status vsftpd
● vsftpd.service - Vsftpd ftp daemon
     Loaded: loaded (/usr/lib/systemd/system/vsftpd.service; disabled; preset: disabled)
     Active: active (running) since Sat 2024-10-05 18:08:44 MSK; 21s ago
    Process: 3454 ExecStart=/usr/sbin/vsftpd /etc/vsftpd/vsftpd.conf (code=exited, status=0/SUCCESS)
   Main PID: 3455 (vsftpd)
      Tasks: 1 (limit: 24674)
     Memory: 712.0K
        CPU: 6ms
     CGroup: /system.slice/vsftpd.service
             └─3455 /usr/sbin/vsftpd /etc/vsftpd/vsftpd.conf

Oct 05 18:08:44 chileshelupupa.localdomain systemd[1]: Starting Vsftpd ftp daemon...
Oct 05 18:08:44 chileshelupupa.localdomain systemd[1]: Started Vsftpd ftp daemon.
[root@chileshelupupa ~]#
```

5. Проверьте статус службы Very Secure FTP: systemctl status vsftpd

```
[root@chileshelupupa ~]# systemctl status vsftpd
● vsftpd.service - Vsftpd ftp daemon
     Loaded: loaded (/usr/lib/systemd/system/vsftpd.service; enabled; preset: disabled)
     Active: active (running) since Sat 2024-10-05 18:08:44 MSK; 6min ago
   Main PID: 3455 (vsftpd)
      Tasks: 1 (limit: 24674)
     Memory: 712.0K
        CPU: 6ms
     CGroup: /system.slice/vsftpd.service
             └─3455 /usr/sbin/vsftpd /etc/vsftpd/vsftpd.conf

Oct 05 18:08:44 chileshelupupa.localdomain systemd[1]: Starting Vsftpd ftp daemon...
Oct 05 18:08:44 chileshelupupa.localdomain systemd[1]: Started Vsftpd ftp daemon.
[root@chileshelupupa ~]#
```

6. Добавьте службу Very Secure FTP в автозапуск при загрузке операционной системы, используя команду systemctl enable. Затем проверьте статус службы. Удалите службу из автозапуска, используя команду systemctl disable, и снова проверьте её статус.

7. Выведите на экран символические ссылки, ответственные за запуск различных сервисов: ls /etc/systemd/system/multi-user.target.wants

```
[root@chileshelupupa ~]# ls /etc/systemd/system/multi-user.target.wants
atd.service            cups.path           libstoragemgmt.service  remote-fs.target  tuned.service
auditd.service         cups.service        mcelog.service          rsyslog.service   vboxadd.service
avahi-daemon.service   firewalld.service   mdmonitor.service       smartd.service    vboxadd-service.service
chronyd.service        irqbalance.service  ModemManager.service    sshd.service      vmtoolsd.service
crond.service          kdump.service       NetworkManager.service  sssd.service
[root@chileshelupupa ~]#
```

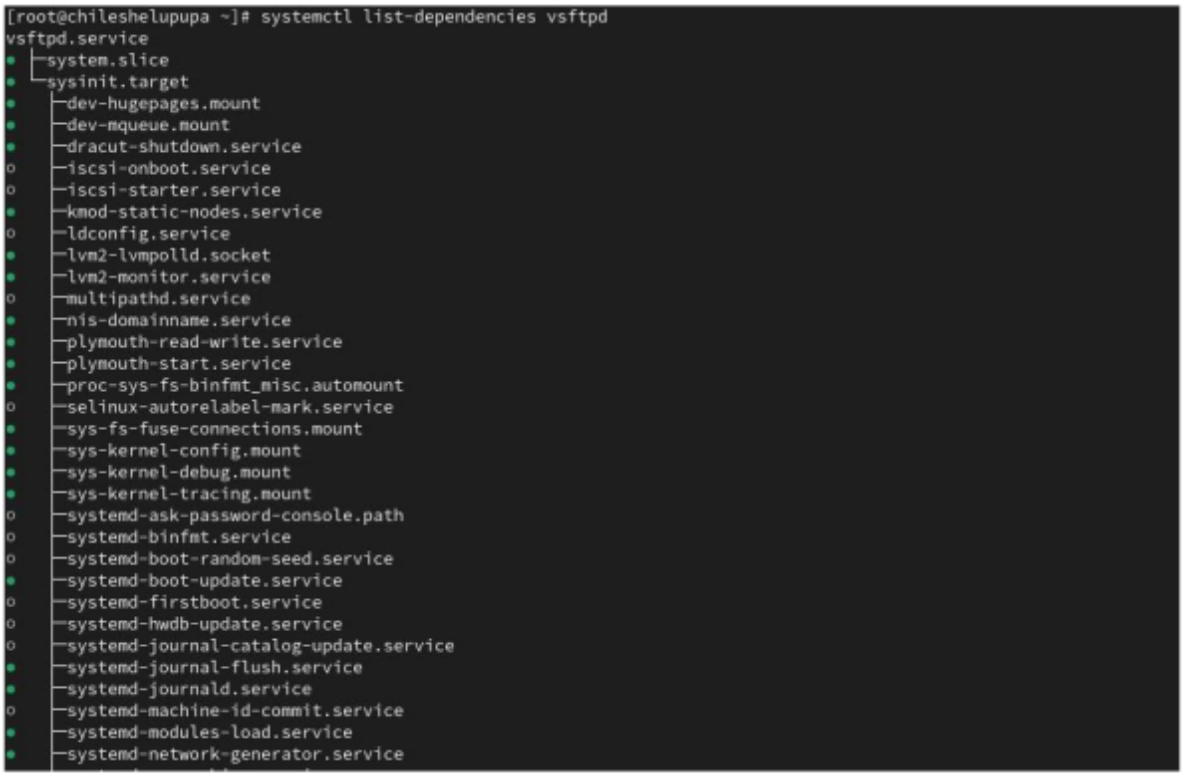
8. Снова добавьте службу Very Secure FTP в автозапуск: systemctl enable vsftpd

```
[root@chileshelupupa ~]# systemctl enable vsftpd
Created symlink /etc/systemd/system/multi-user.target.wants/vsftpd.service → /usr/lib/systemd/system/vsftpd.service.
[root@chileshelupupa ~]# systemctl status vsftpd
● vsftpd.service - Vsftpd ftp daemon
     Loaded: loaded (/usr/lib/systemd/system/vsftpd.service; enabled; preset: disabled)
     Active: active (running) since Sat 2024-10-05 18:08:44 MSK; 2min 34s ago
   Main PID: 3455 (vsftpd)
      Tasks: 1 (limit: 24674)
     Memory: 712.0K
        CPU: 6ms
     CGroup: /system.slice/vsftpd.service
             └─3455 /usr/sbin/vsftpd /etc/vsftpd/vsftpd.conf

Oct 05 18:08:44 chileshelupupa.localdomain systemd[1]: Starting Vsftpd ftp daemon...
Oct 05 18:08:44 chileshelupupa.localdomain systemd[1]: Started Vsftpd ftp daemon.
```

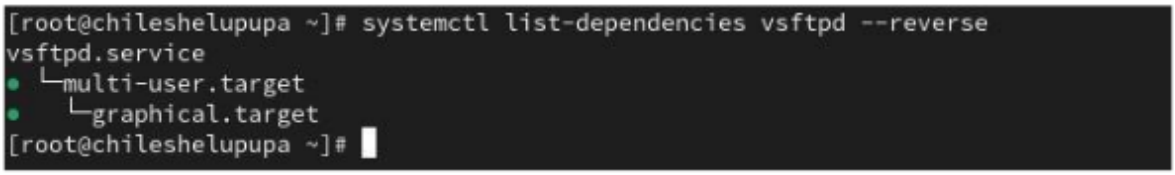
9. Снова проверьте статус службы Very Secure FTP: systemctl status vsftpd

```
[root@chileshelupupa ~]# systemctl status vsftpd
● vsftpd.service - Vsftpd ftp daemon
     Loaded: loaded (/usr/lib/systemd/system/vsftpd.service; enabled; preset: disabled)
     Active: active (running) since Sat 2024-10-05 18:08:44 MSK; 6min ago
   Main PID: 3455 (vsftpd)
      Tasks: 1 (limit: 24674)
     Memory: 712.0K
        CPU: 6ms
     CGroup: /system.slice/vsftpd.service
             └─3455 /usr/sbin/vsftpd /etc/vsftpd/vsftpd.conf

Oct 05 18:08:44 chileshelupupa.localdomain systemd[1]: Starting Vsftpd ftp daemon...
Oct 05 18:08:44 chileshelupupa.localdomain systemd[1]: Started Vsftpd ftp daemon.
[root@chileshelupupa ~]#
```

10. Выведите на экран список зависимостей юнита: systemctl list-dependencies vsftpd

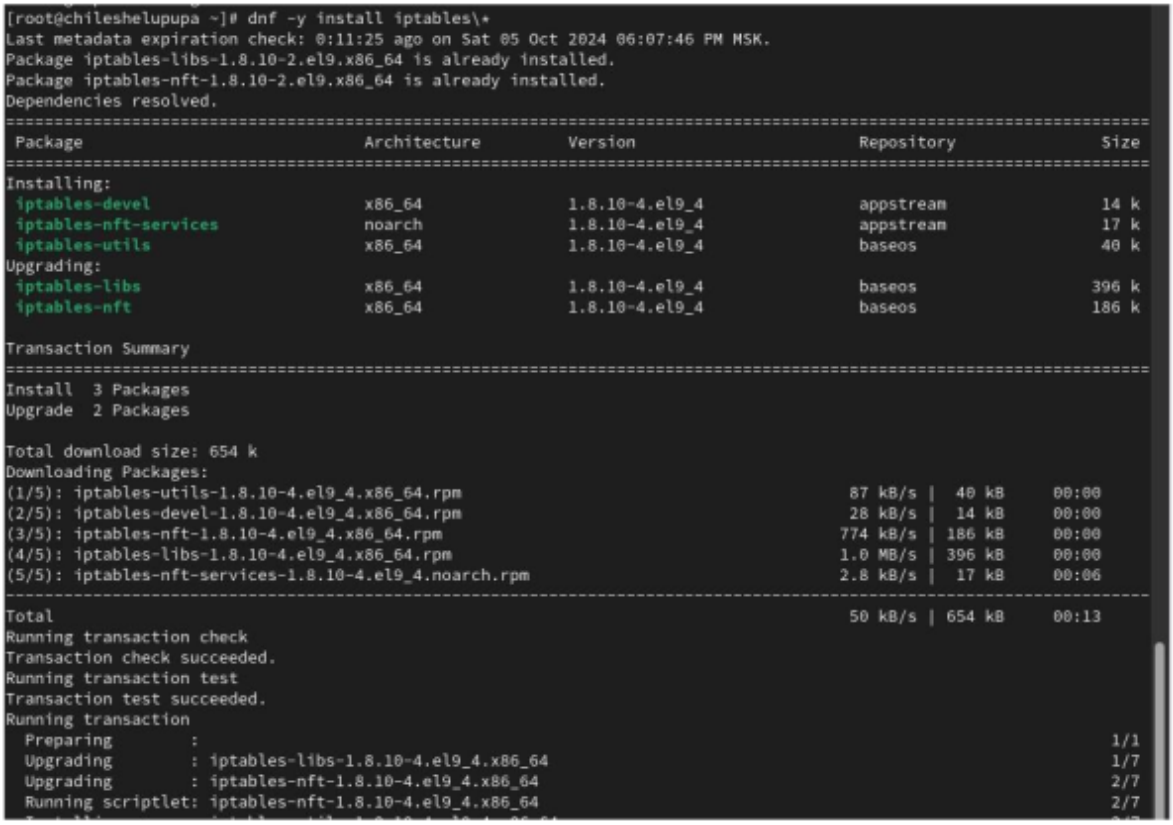


11. Выведите на экран список юнитов, которые зависят от данного юнита: systemctl list-dependencies vsftpd –reverse



2 Конфликты юнитов

1. Получите полномочия администратора. Установите iptables: dnf -y install iptables*



2. Проверьте статус firewalld и iptables: systemctl status firewalld

```
[root@chileshelupupa ~]# systemctl status firewalld
● firewalld.service - firewalld - dynamic firewall daemon
     Loaded: loaded (/usr/lib/systemd/system/firewalld.service; enabled; preset: enabled)
     Active: active (running) since Sat 2024-10-05 18:01:36 MSK; 18min ago
       Docs: man:firewalld(1)
   Main PID: 786 (firewalld)
      Tasks: 2 (limit: 24674)
     Memory: 44.2M
        CPU: 988ms
     CGroup: /system.slice/firewalld.service
             └─786 /usr/bin/python3 -s /usr/sbin/firewalld --nofork --nopid

Oct 05 18:01:35 chileshelupupa.localdomain systemd[1]: Starting firewalld - dynamic firewall daemon...
Oct 05 18:01:36 chileshelupupa.localdomain systemd[1]: Started firewalld - dynamic firewall daemon.
[root@chileshelupupa ~]# systemctl status iptables
○ iptables.service - IPv4 firewall with iptables
     Loaded: loaded (/usr/lib/systemd/system/iptables.service; disabled; preset: disabled)
     Active: inactive (dead)
[root@chileshelupupa ~]#
```

3. Попробуйте запустить firewalld и iptables: systemctl start firewalld systemctl start iptables

```
[root@chileshelupupa ~]# systemctl start firewalld
[root@chileshelupupa ~]# systemctl start iptables
[root@chileshelupupa ~]# systemctl status firewalld
○ firewalld.service - firewalld - dynamic firewall daemon
     Loaded: loaded (/usr/lib/systemd/system/firewalld.service; enabled; preset: enabled)
     Active: inactive (dead) since Sat 2024-10-05 18:21:31 MSK; 21s ago
   Duration: 19min 54.957s
       Docs: man:firewalld(1)
    Process: 786 ExecStart=/usr/sbin/firewalld --nofork --nopid $FIREWALLD_ARGS (code=exited, status=0/SUCCESS)
   Main PID: 786 (code=exited, status=0/SUCCESS)
        CPU: 1.052s

Oct 05 18:01:35 chileshelupupa.localdomain systemd[1]: Starting firewalld - dynamic firewall daemon...
Oct 05 18:01:36 chileshelupupa.localdomain systemd[1]: Started firewalld - dynamic firewall daemon.
Oct 05 18:21:31 chileshelupupa.localdomain systemd[1]: Stopping firewalld - dynamic firewall daemon...
Oct 05 18:21:31 chileshelupupa.localdomain systemd[1]: firewalld.service: Deactivated successfully.
Oct 05 18:21:31 chileshelupupa.localdomain systemd[1]: Stopped firewalld - dynamic firewall daemon.
Oct 05 18:21:31 chileshelupupa.localdomain systemd[1]: firewalld.service: Consumed 1.052s CPU time.
[root@chileshelupupa ~]# systemctl status firewalld
○ firewalld.service - firewalld - dynamic firewall daemon
     Loaded: loaded (/usr/lib/systemd/system/firewalld.service; enabled; preset: enabled)
     Active: inactive (dead) since Sat 2024-10-05 18:21:31 MSK; 52s ago
   Duration: 19min 54.957s
       Docs: man:firewalld(1)
    Process: 786 ExecStart=/usr/sbin/firewalld --nofork --nopid $FIREWALLD_ARGS (code=exited, status=0/SUCCESS)
   Main PID: 786 (code=exited, status=0/SUCCESS)
        CPU: 1.052s

Oct 05 18:01:35 chileshelupupa.localdomain systemd[1]: Starting firewalld - dynamic firewall daemon...
Oct 05 18:01:36 chileshelupupa.localdomain systemd[1]: Started firewalld - dynamic firewall daemon.
Oct 05 18:21:31 chileshelupupa.localdomain systemd[1]: Stopping firewalld - dynamic firewall daemon...
Oct 05 18:21:31 chileshelupupa.localdomain systemd[1]: firewalld.service: Deactivated successfully.
Oct 05 18:21:31 chileshelupupa.localdomain systemd[1]: Stopped firewalld - dynamic firewall daemon.
Oct 05 18:21:31 chileshelupupa.localdomain systemd[1]: firewalld.service: Consumed 1.052s CPU time.
[root@chileshelupupa ~]# systemctl status iptables
● iptables.service - IPv4 firewall with iptables
     Loaded: loaded (/usr/lib/systemd/system/iptables.service; disabled; preset: disabled)
     Active: active (exited) since Sat 2024-10-05 18:21:31 MSK; 58s ago
    Process: 3941 ExecStart=/usr/libexec/iptables/iptables.init start (code=exited, status=0/SUCCESS)
   Main PID: 3941 (code=exited, status=0/SUCCESS)
        CPU: 21ms

Oct 05 18:21:31 chileshelupupa.localdomain systemd[1]: Starting IPv4 firewall with iptables...
Oct 05 18:21:31 chileshelupupa.localdomain iptables.init[3941]: iptables: Applying firewall rules: [  OK  ]
Oct 05 18:21:31 chileshelupupa.localdomain systemd[1]: Finished IPv4 firewall with iptables.
[root@chileshelupupa ~]#
```

4. Введите cat /usr/lib/systemd/system/firewalld.service

```
[root@chileshelupupa ~]# cat /usr/lib/systemd/system/firewalld.service
[Unit]
Description=firewalld - dynamic firewall daemon
Before=network-pre.target
Wants=network-pre.target
After=dbus.service
After=polkit.service
Conflicts=iptables.service ip6tables.service ebtables.service ipset.service nftables.service
Documentation=man:firewalld(1)

[Service]
EnvironmentFile=-/etc/sysconfig/firewalld
ExecStart=/usr/sbin/firewalld --nofork --nopid $FIREWALLD_ARGS
ExecReload=/bin/kill -HUP $MAINPID
# supress to log debug and error output also to /var/log/messages
StandardOutput=null
StandardError=null
Type=dbus
BusName=org.fedoraproject.FirewallD1
KillMode=mixed

[Install]
WantedBy=multi-user.target
Alias=dbus-org.fedoraproject.FirewallD1.service
```

5. Введите cat /usr/lib/systemd/system/iptables.service

```
[root@chileshelupupa ~]# cat /usr/lib/systemd/system/iptables.service
[Unit]
Description=IPv4 firewall with iptables
AssertPathExists=/etc/sysconfig/iptables
Before=network-pre.target
Wants=network-pre.target

[Service]
Type=oneshot
RemainAfterExit=yes
ExecStart=/usr/libexec/iptables/iptables.init start
ExecReload=/usr/libexec/iptables/iptables.init reload
ExecStop=/usr/libexec/iptables/iptables.init stop
Environment=BOOTUP=serial
Environment=CONSOLETYPE=serial

[Install]
WantedBy=multi-user.target
[root@chileshelupupa ~]#
```

6. Выгрузите службу iptables (на всякий случай, чтобы убедиться, что данная служба не загружена в систему): systemctl stop iptables и загрузите службу firewalld systemctl start firewalld

```
[root@chileshelupupa ~]# systemctl stop iptables
[root@chileshelupupa ~]# systemctl start firewalld
[root@chileshelupupa ~]#
```

7. Заблокируйте запуск iptables, введя: systemctl mask iptables

```
[root@chileshelupupa ~]# systemctl mask iptables
Created symlink /etc/systemd/system/iptables.service → /dev/null.
[root@chileshelupupa ~]# systemctl start iptables
Failed to start iptables.service: Unit iptables.service is masked.
[root@chileshelupupa ~]#
```

8. Попробуйте запустить iptables: systemctl start iptables

```
[root@chileshelupupa ~]# systemctl enable iptables
Failed to enable unit: Unit file /etc/systemd/system/iptables.service is masked.
[root@chileshelupupa ~]#
```

9. Попробуйте добавить iptables в автозапуск: systemctl enable iptables

```
[root@chileshelupupa ~]# systemctl enable iptables
Failed to enable unit: Unit file /etc/systemd/system/iptables.service is masked.
[root@chileshelupupa ~]#
```