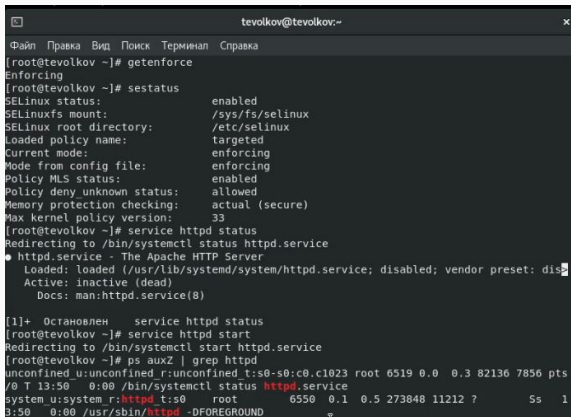


Лабораторная работа № 6. Мандатное разграничение прав в Linux

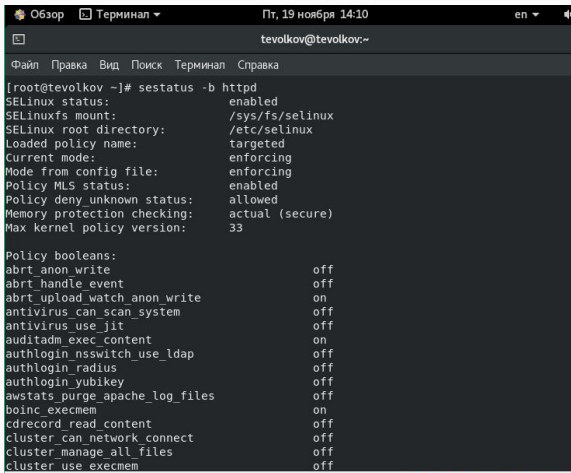
Волков Тимофей Евгеньевич НПИбд-01-18

Развить навыки администрирования ОС Linux. Получить первое практическое знакомство с технологией SELinux. Проверить работу SELinux на практике совместно с веб-сервером Apache.

A terminal window titled 'tevolkov@tevolkov:~' showing a series of commands and their outputs. The commands include 'getenforce', 'sestatus', 'service httpd status', and 'service httpd start'. The output shows SELinux is in enforcing mode and the httpd service is currently inactive. The terminal also shows the command 'ps auxZ | grep httpd' and its output, which includes the httpd process running as root.

```
tevolkov@tevolkov:~  
Файл Правка Вид Поиск Терминал Справка  
[root@tevolkov ~]# getenforce  
Enforcing  
[root@tevolkov ~]# sestatus  
SELinux status: enabled  
SELinuxfs mount: /sys/fs/selinux  
SELinux root directory: /etc/selinux  
Loaded policy name: targeted  
Current mode: enforcing  
Mode from config file: enforcing  
Policy MLS status: enabled  
Policy deny_unknown status: allowed  
Memory protection checking: actual (secure)  
Max kernel policy version: 33  
[root@tevolkov ~]# service httpd status  
Redirecting to /bin/systemctl status httpd.service  
● httpd.service - The Apache HTTP Server  
   Loaded: loaded (/usr/lib/systemd/system/httpd.service; disabled; vendor preset: disabled)  
   Active: inactive (dead)  
   Docs: man:httpd.service(8)  
  
[1]+  Остановлен   service httpd status  
[root@tevolkov ~]# service httpd start  
Redirecting to /bin/systemctl start httpd.service  
[root@tevolkov ~]# ps auxZ | grep httpd  
unconfined u:unconfined_r:unconfined_t:s0-s0:c0.c1023 root 6519 0.0  0.3 82136 7856 pts  
/0 T 13:50  0:00 /bin/systemctl status httpd.service  
system u:system_r:httpd_t:s0 root 6550 0.1  0.5 273848 11212 ? Ss 1  
3:50 0:00 /usr/sbin/httpd -DFOREGROUND
```

Figure 1: Начало работ с apache



The screenshot shows a terminal window titled "Обзор Терминал" with the date and time "Пт, 19 ноября 14:10". The user is logged in as "tevolkov@tevolkov:~". The terminal displays the output of the command "sestatus -b httpd".

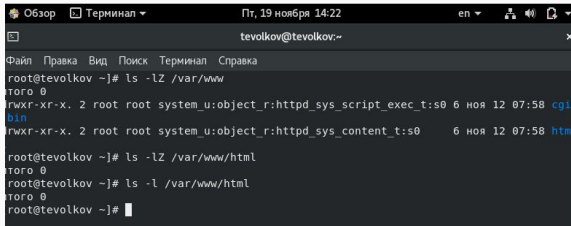
```
[root@tevolkov ~]# sestatus -b httpd
SELinux status:                enabled
SELinuxfs mount:                /sys/fs/selinux
SELinux root directory:        /etc/selinux
Loaded policy name:              targeted
Current mode:                    enforcing
Mode from config file:          enforcing
Policy MLS status:              enabled
Policy deny unknown status:     allowed
Memory protection checking:     actual (secure)
Max kernel policy version:      33

Policy booleans:
abrt_anon_write                  off
abrt_handle_event                off
abrt_upload_watch_anon_write    on
antivirus_can_scan_system       off
antivirus_use_jit                off
auditadm_exec_content            on
authlogin_nsswitch_use_ldap      off
authlogin_radius                 off
authlogin_yubikey                off
awstats_purge_apache_log_files  off
boinc_execmem                    on
cdrecord_read_content            off
cluster_can_network_connect      off
cluster_manage_all_files         off
cluster_use_execmem              off
```

Figure 2: Состояние переключателей

```
tevolkov@tevolkov:~  
Файл Правка Вид Поиск Терминал Справка  
[root@tevolkov ~]# seinfo  
Statistics for policy file: /sys/fs/selinux/policy  
Policy Version: 31 (MLS enabled)  
Target Policy: selinux  
Handle unknown classes: allow  
Classes: 132 Permissions: 464  
Sensitivities: 1 Categories: 1024  
Types: 4971 Attributes: 255  
Users: 8 Roles: 14  
Booleans: 342 Cond. Expr.: 391  
Allow: 113037 Neverallow: 0  
Auditallow: 166 Dontaudit: 10367  
Type_trans: 253742 Type_change: 87  
Type_member: 35 Range_trans: 6015  
Role allow: 38 Role_trans: 423  
Constraints: 72 Validatetrans: 0  
MLS Constrain: 72 MLS Val. Tran: 0  
Permissives: 0 Polcap: 5  
Defaults: 7 Typebounds: 0  
Allowxperm: 0 Neverallowxperm: 0  
Auditallowxperm: 0 Dontauditxperm: 0  
Ibendportcon: 0 Ibpkeycon: 0  
Initial SIDs: 27 Fs_use: 34  
Genfscon: 107 Portcon: 642  
Netifcon: 0 Nodecon: 0  
[root@tevolkov ~]#
```

Figure 3: Статистика по политике



```
Обзор Терминал ▼ Пт, 19 ноября 14:22 en ▼ [иконки] ▼
tevolkov@tevolkov:~
Файл Правка Вид Поиск Терминал Справка
root@tevolkov ~]# ls -lZ /var/www
total 0
-rwxr-xr-x. 2 root root system_u:object_r:httpd_sys_script_exec_t:s0 6 ноя 12 07:58 cgi
bin
-rwxr-xr-x. 2 root root system_u:object_r:httpd_sys_content_t:s0 6 ноя 12 07:58 htm

root@tevolkov ~]# ls -lZ /var/www/html
total 0
root@tevolkov ~]# ls -l /var/www/html
total 0
root@tevolkov ~]#
```

Figure 4: Тип файлов и поддиректорий

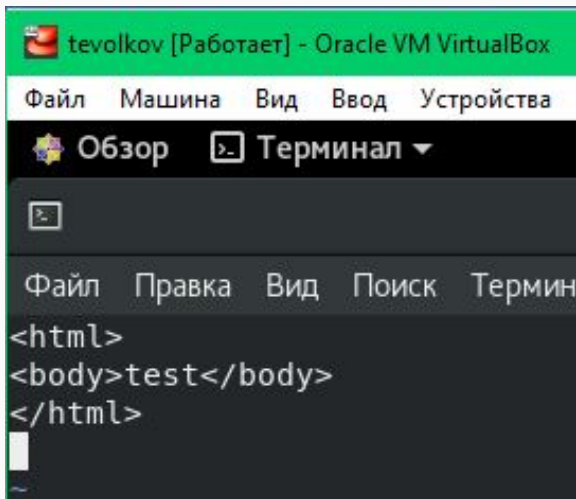


Figure 5: Файл test.html

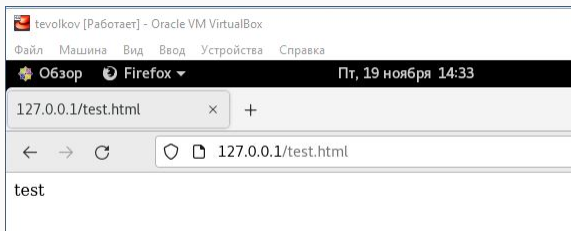


Figure 6: Вывод файла

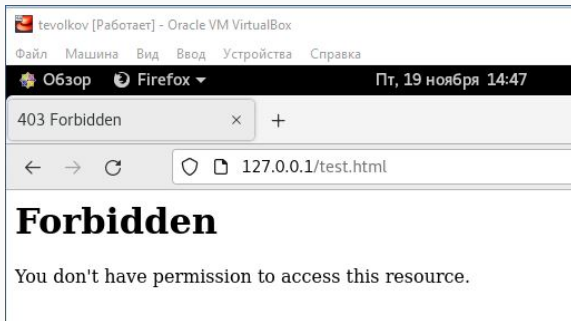


Figure 7: Ошибка доступа

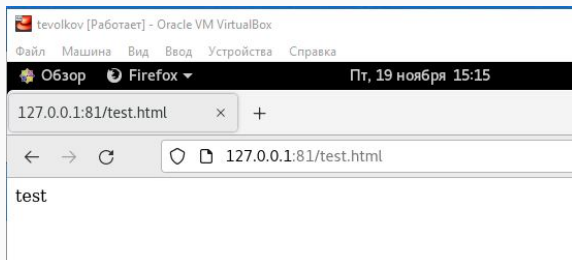


Figure 8: Вывод файла