

Администрирование сетевых подсистем

Лабораторная работа №4

Чилеше Лупупа

22 ноября 2025

Российский университет дружбы народов, Москва, Россия

Цель работы

Основная цель

Приобретение навыков установки и базовой настройки HTTP-сервера Apache, включая конфигурирование виртуального хостинга и обновление DNS-зон.

Установка и базовая настройка Apache

Установка веб-сервера

```
Installed:
apr-1.7.5-2.el10.x86_64
apr-util-lmdb-1.6.3-21.el10.x86_64
httpd-2.4.63-1.el10_0.2.x86_64
httpd-filesystem-2.4.63-1.el10_0.2.noarch
httpd-tools-2.4.63-1.el10_0.2.x86_64
mod_http2-2.0.29-2.el10_0.1.x86_64
mod_ssl-1:2.4.63-1.el10_0.2.x86_64

apr-util-1.6.3-21.el10.x86_64
apr-util-openssl-1.6.3-21.el10.x86_64
httpd-core-2.4.63-1.el10_0.2.x86_64
httpd-manual-2.4.63-1.el10_0.2.noarch
mod_fcgid-2.3.9-35.el10.x86_64
mod_lua-2.4.63-1.el10_0.2.x86_64
rocky-logos-httpd-100.4-7.el10.noarch

Complete!
[root@server.chileshe.net ~]# ls /etc/httpd/conf
httpd.conf  magic
[root@server.chileshe.net ~]# ls /etc/httpd/conf.d/
autoindex.conf  fcgid.conf  manual.conf  README  ssl.conf  userdir.conf  welcome.conf
[root@server.chileshe.net ~]#
```

Рис. 1: Конфигурационные каталоги

Разрешение HTTP-трафика

```
[root@server.chileshe.net ~]# firewall-cmd --add-service=http
success
[root@server.chileshe.net ~]# firewall-cmd --add-service=http --permanent
success
[root@server.chileshe.net ~]# systemctl enable httpd
Created symlink '/etc/systemd/system/multi-user.target.wants/httpd.service' → '/usr/lib/systemd/system/httpd.service'.
[root@server.chileshe.net ~]# systemctl start httpd
[root@server.chileshe.net ~]# █
```

Рис. 2: firewalld

Проверка на клиентской машине

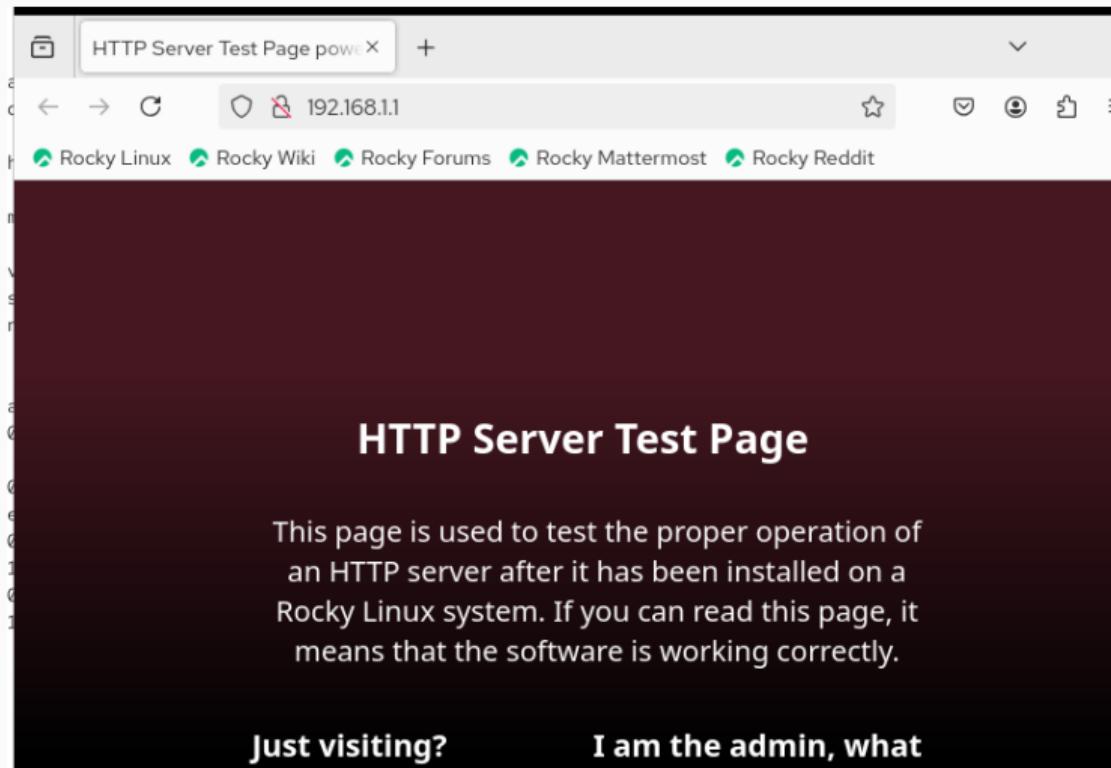


Рис. 3: Тестовая страница

Просмотр логов

```
[chileshe@server.chileshe.net ~]$ sudo -i
[sudo] password for chileshe:
[root@server.chileshe.net ~]#
[root@server.chileshe.net ~]# tail -f /var/log/httpd/error_log
[Sat Nov 22 12:14:04.358542 2025] [suexec:notice] [pid 15909:tid 15909] AH01232: suEXEC mechanism enabled (wrapper: /usr/sbin/suexec)
[Sat Nov 22 12:14:04.367329 2025] [lbbmethod_heartbeat:notice] [pid 15909:tid 15909] AH02282: No slotmem from mod_heartbeat
monitor
[Sat Nov 22 12:14:04.369051 2025] [systemd:notice] [pid 15909:tid 15909] SELinux policy enabled; httpd running as context system_u:system_r:httpd_t:s0
[Sat Nov 22 12:14:04.370687 2025] [mpm_event:notice] [pid 15909:tid 15909] AH00489: Apache/2.4.63 (Rocky Linux) OpenSSL/3.2.2 mod_fcgid/2.3.9 configured -- resuming normal operations
[Sat Nov 22 12:14:04.370697 2025] [core:notice] [pid 15909:tid 15909] AH00094: Command line: '/usr/sbin/httpd -D FOREGROUND'
^C
[root@server.chileshe.net ~]# tail -f /var/log/httpd/access_log
192.168.1.30 - - [22/Nov/2025:12:16:21 +0000] "GET / HTTP/1.1" 403 7620 "-" "Mozilla/5.0 (X11; Linux x86_64; rv:128.0) Gecko/20100101 Firefox/128.0"
192.168.1.30 - - [22/Nov/2025:12:16:21 +0000] "GET /icons/poweredbypng HTTP/1.1" 200 15443 "http://192.168.1.1/" "Mozilla/5.0 (X11; Linux x86_64; rv:128.0) Gecko/20100101 Firefox/128.0"
192.168.1.30 - - [22/Nov/2025:12:16:21 +0000] "GET /poweredby.png HTTP/1.1" 200 5714 "http://192.168.1.1/" "Mozilla/5.0 (X11; Linux x86_64; rv:128.0) Gecko/20100101 Firefox/128.0"
192.168.1.30 - - [22/Nov/2025:12:16:21 +0000] "GET /favicon.ico HTTP/1.1" 404 196 "http://192.168.1.1/" "Mozilla/5.0 (X11; Linux x86_64; rv:128.0) Gecko/20100101 Firefox/128.0"
```

Рис. 4: ЛОГИ

Добавление DNS-записей

The screenshot shows a text editor window with the title bar "chileshe.net" and the path "/var/named/master/fz". The editor interface includes "Open", "▼", and "+" buttons. The main content area displays a DNS zone file:

```
1 $ORIGIN .
2 $TTL 86400      ; 1 day
3 chileshe.net      IN SOA chileshe.net. server.chileshe.net. (
4                               2025112204 ; serial
5                               86400      ; refresh (1 day)
6                               3600       ; retry (1 hour)
7                               604800    ; expire (1 week)
8                               10800     ; minimum (3 hours)
9 )
10                      NS   chileshe.net.
11                      A    192.168.1.1
12 $ORIGIN chileshe.net.
13 $TTL 1200        ; 20 minutes
14 client           A    192.168.1.30
15                  DHCID ( AAEBSq5elVMrxz69tzEL9ekk/7dvg1e9NEAeZ62EERY4
16                  PrM= ) ; 1 1 32
17 $TTL 86400      ; 1 day
18 dhcp             A    192.168.1.1
19 ns               A    192.168.1.1
20 server           A    192.168.1.1
21 www              A    192.168.1.1
22 |
```

Рис. 5: DNS-прямая

Добавление DNS-записей

```
1 $ORIGIN .
2 $TTL 86400      ; 1 day
3 1.168.192.in-addr.arpa  IN SOA 1.168.192.in-addr.arpa. server.chileshe.net. (
4                               2025112203 ; serial
5                               86400       ; refresh (1 day)
6                               3600        ; retry (1 hour)
7                               604800     ; expire (1 week)
8                               10800      ; minimum (3 hours)
9 )
10                      NS   1.168.192.in-addr.arpa.
11                      A    192.168.1.1
12                      PTR  server.chileshe.net.
13 $ORIGIN 1.168.192.in-addr.arpa.
14 1                      PTR  server.chileshe.net.
15                      PTR  ns.chileshe.net.
16                      PTR  dhcp.chileshe.net.
17                      PTR  www.chileshe.net.|          ← Cursor here
18 $TTL 1200      ; 20 minutes
19 30                      PTR  client.chileshe.net.
20                      DHCID ( AAEBSq5elVMrxz69tzEL9ekk/7dvg1e9NEAeZ62EERY4
21                               PrM= ) ; 1 1 32
```

Рис. 6: DNS-обратная

Создание конфигураций виртуальных хостов



The screenshot shows a text editor window with the title bar "server.chileshe.net" and the path "/etc/httpd/conf.d". The editor interface includes "Open", "Save", and "New" buttons. The main content area displays the following configuration code:

```
1 <VirtualHost *:80>
2     ServerAdmin webmaster@chileshe.net
3     DocumentRoot /var/www/html/server.chileshe.net
4     ServerName server.chileshe.net
5     ErrorLog logs/server.chileshe.net-error_log
6     CustomLog logs/server.chileshe.net-access_log common
7 
```

The line "7" is highlighted with a red rectangle, indicating the cursor position.

Рис. 7: server.chileshe.net.conf

Создание конфигураций виртуальных хостов



The screenshot shows a text editor window with the title bar "www.chileshe.net /etc/httpd/conf.d". The editor has buttons for "Open", a dropdown menu, and a "+" button. The main area contains the following configuration code:

```
1 <VirtualHost *:80>
2     ServerAdmin webmaster@chileshe.net
3     DocumentRoot /var/www/html/www.chileshe.net
4     ServerName www.chileshe.net
5     ErrorLog logs/www.chileshe.net-error_log
6     CustomLog logs/www.chileshe.net-access_log common
7 </VirtualHost>
```

The line "7 </VirtualHost>" is highlighted with a gray background.

Рис. 8: www.chileshe.net.conf

Создание каталогов и страниц

```
[root@server.chileshe.net conf.d]# cd /var/www/html
[root@server.chileshe.net html]# mkdir server.chileshe.net
[root@server.chileshe.net html]# cd server.chileshe.net/
[root@server.chileshe.net server.chileshe.net]# touch index.html
[root@server.chileshe.net server.chileshe.net]# gedit index.html
[root@server.chileshe.net server.chileshe.net]# cd ..
[root@server.chileshe.net html]# mkdir www.chileshe.net
[root@server.chileshe.net html]# touch index.html
[root@server.chileshe.net html]# gedit index.html
[root@server.chileshe.net html]# chown -R apache:apache /var/www
[root@server.chileshe.net html]# cd /etc/httpd/conf.d/
[root@server.chileshe.net conf.d]# mv server.chileshe.net server.chileshe.net.conf
[root@server.chileshe.net conf.d]# mv www.chileshe.net www.chileshe.net.conf
[root@server.chileshe.net conf.d]# restorecon -vR /etc
Relabeled /etc/NetworkManager/system-connections/eth1.nmconnection from unconfined_u:object_r:user_tmp_t:s0 to unconfined_u:object_r:NetworkManager_etc_rw_t:s0
Relabeled /etc/named.conf from unconfined_u:object_r:etc_t:s0 to unconfined_u:object_r:named_conf_t:s0
[root@server.chileshe.net conf.d]# restorecon -vR /var/named
[root@server.chileshe.net conf.d]# restorecon -vR /var/www
[root@server.chileshe.net conf.d]# systemctl restart httpd
[root@server.chileshe.net conf.d]# █
```

Рис. 9: Каталоги

Доступ к сайтам

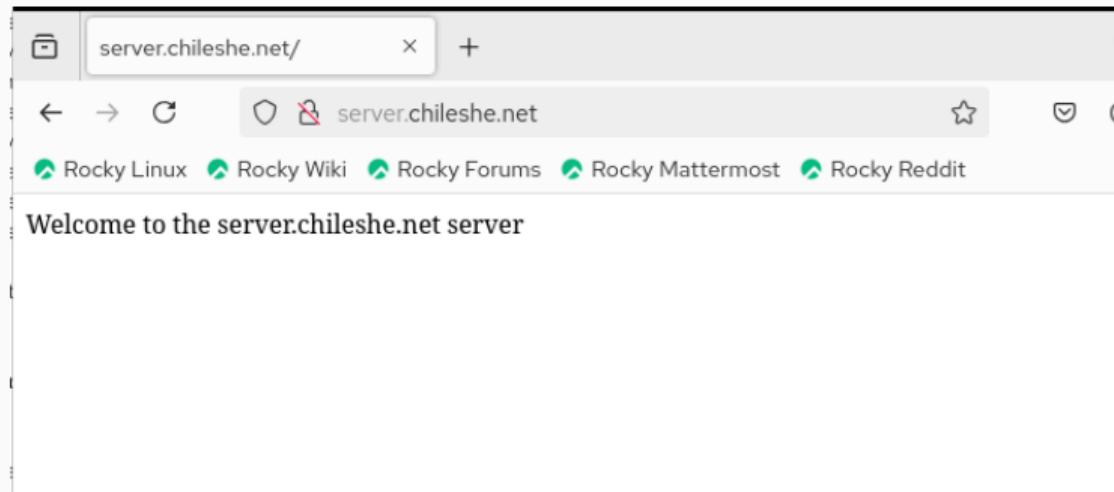


Рис. 10: server.chileshe.net

Доступ к сайтам

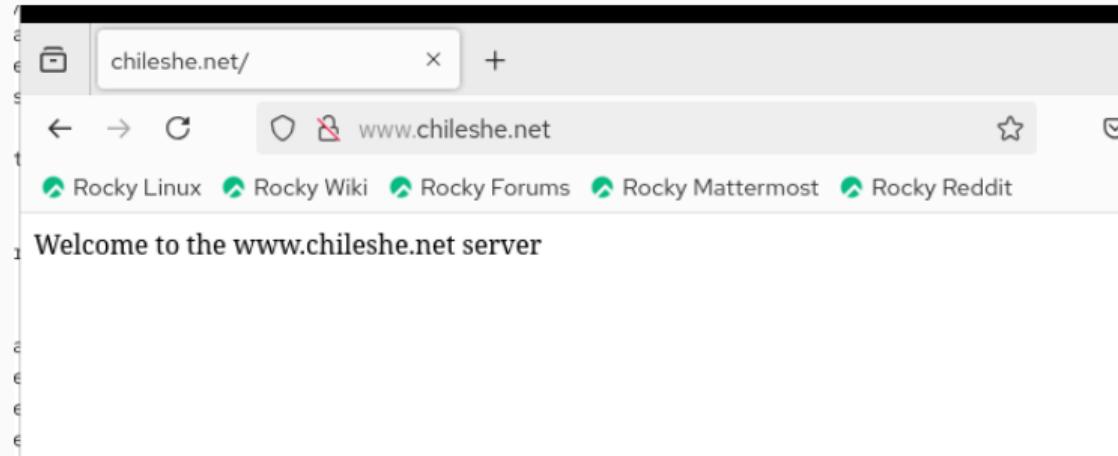


Рис. 11: www.chileshe.net

Вывод

Настроен web-сервер Apache с виртуальным хостингом и обновлёнными зонами DNS. Проверка с клиентской машины подтвердила корректную работу обоих сайтов. Все компоненты — Apache, DNS и веб-контент — функционируют согласованно и обеспечивают стабильную работу веб-службы.