

# Администрирование сетевых подсистем

## Лабораторная работа №5

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10 февраля 2026

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## Информация

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Приобретение практических навыков по расширенному конфигурированию HTTP-сервера Apache в части безопасности и возможности использования PHP.

## Выполнение лабораторной работы

[illegible]

Рис. 1: Генерация ключа и сертификата

```
GNU nano 5.6.1      /etc/httpd/conf.d/www.user.net.conf
<VirtualHost *:80>
  ServerAdmin webmaster@user.net
  DocumentRoot /var/www/html/www.user.net
  ServerName www.user.net
  ServerAlias www.user.net
  ErrorLog logs/www.user.net-error_log
  CustomLog logs/www.user.net-access_log common
  RewriteEngine on
  RewriteRule ^(.*)$ https://%{HTTP_HOST}$1 [R=301,L]
</VirtualHost>

<IfModule mod_ssl.c>
<VirtualHost *:443>
  SSLEngine on
  ServerAdmin webmaster@user.net
  DocumentRoot /var/www/html/www.user.net
  ServerName www.user.net
  ServerAlias www.user.net
  ErrorLog logs/www.user.net-error_log
  CustomLog logs/www.user.net-access_log common
  SSLCertificateFile /etc/ssl/certs/www.user.net.crt
  SSLCertificateKeyFile /etc/ssl/private/www.user.net.key
</VirtualHost>
</IfModule>
```

Рис. 2: Изменения в файле www.user.net.conf

```
[root@server conf.d]# firewall-cmd --list-services
cockpit dhcp dhcpv6-client dns http ssh
[root@server conf.d]# firewall-cmd --get-services
RH-Satellite-6 RH-Satellite-6-capsule afp amanda-client amanda-k5-client amqp
amqps apcupsd audit ausweisapp2 bacula bacula-client bareos-director bareos-fi
ledaemon bareos-storage bb bgp bitcoin bitcoin-rpc bitcoin-testnet bitcoin-tes
tnet-rpc bittorrent-lsd ceph ceph-exporter ceph-mon cfengine checkmk-agent coc
kpit collectd condor-collector cratedb ctdb dds dds-multicast dds-unicast dhcp
dhcpv6 dhcpv6-client distcc dns dns-over-tls docker-registry docker-swarm dro
pbox-lansync elasticsearch etcd-client etcd-server finger foreman foreman-prox
y freeipa-4 freeipa-ldap freeipa-ldaps freeipa-replication freeipa-trust ftp g
alera ganglia-client ganglia-master git gpsd grafana gre high-availability htt
p http3 https ident imap imaps ipfs ipp ipp-client ipsec irc ircs iscsi-target
isns jenkins kadmin kdeconnect kerberos kibana klogin kpasswd kprop kshell ku
be-api kube-apiserver kube-control-plane kube-control-plane-secure kube-contro
ller-manager kube-controller-manager-secure kube-nodeport-services kube-schedu
ler kube-scheduler-secure kube-worker kubelet kubelet-readonly kubelet-worker
ldap ldaps libvirt libvirt-tls lightning-network llmnr llmnr-client llmnr-tcp
llmnr-udp managesieve matrix mdns memcache minidlna mongodb mosh mountd mqtt m
qtt-tls ms-wbt mssql murmur mysql nbd nebula netbios-ns netdata-dashboard nfs
nfs3 nmea-0183 nrpe ntp nut openvpn ovirt-imageio ovirt-storageconsole ovirt-v
mconsole plex pmcd pmproxy pmwebapi pmwebapis pop3 pop3s postgresql privoxy pr
ometheus prometheus-node-exporter proxy-dhcp ps2link ps3netrv pt pulseaudio
puppetmaster quassel radius rdp redis redis-sentinel rpc-bind rquodad rsh rsyn
cd rtsp salt-master samba samba-client samba-dc sane sip sips slp smtp smtp-su
bmission smtps snmp snmpv3 snmpv3-trap snmptrap spideroak-lansync spotify-sy
nc squid ssdp ssh steam-streaming svdrp svn syncthing syncthing-gui syncthing-
relay synergy syslog syslog-tls telnet tentacle tftp tile38 tinc tor-socks tra
nsmision-client upnp-client vdsn vnc-server warpinator wbem-http wbem-https w
ireguard ws-discovery ws-discovery-client ws-discovery-tcp ws-discovery-udp ws
man wsmans xdmpc xmpp-bosh xmpp-client xmpp-local xmpp-server zabbix-agent zab
bix-server zerotier
[root@server conf.d]# firewall-cmd --add-service=https
success
[root@server conf.d]# firewall-cmd --add-service=https --permanent
success
[root@server conf.d]# firewall-cmd --reload
success
[root@server conf.d]#
```

Рис. 3: Настройка межсетевого экрана

# Выполнение лабораторной работы

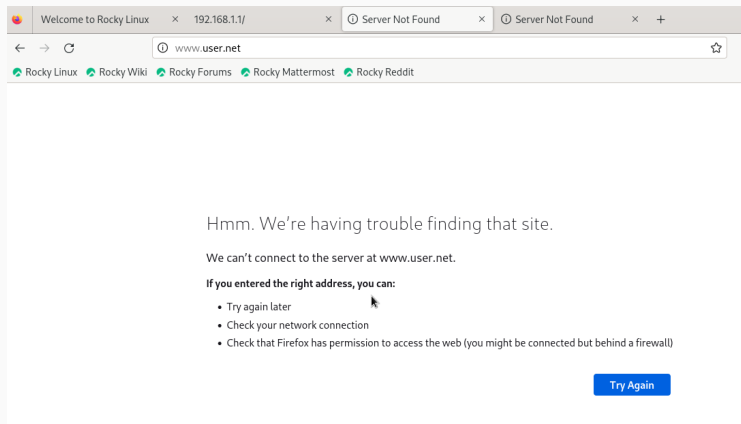


Рис. 4: Открытие адреса www.user.net

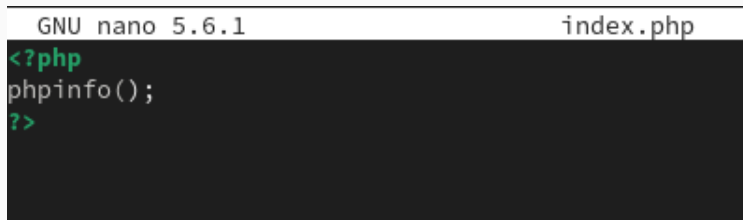


# Выполнение лабораторной работы

```
[root@server conf.d]# dnf -y install php
Last metadata expiration check: 1:22:52 ago on Tue 02 Dec 2025 04:36:32 PM MSK
.
Dependencies resolved.
=====
Package                Arch      Version      Repository    Size
=====
Installing:
php                    x86_64    8.0.30-3.el9_6    appstream     8.2 k
Installing dependencies:
nginx-filesystem       noarch    2:1.20.1-24.el9    appstream     9.2 k
php-common              x86_64    8.0.30-3.el9_6    appstream     666 k
Installing weak dependencies:
php-cli                x86_64    8.0.30-3.el9_6    appstream     3.1 M
php-fpm                x86_64    8.0.30-3.el9_6    appstream     1.6 M
php-mbstring           x86_64    8.0.30-3.el9_6    appstream     466 k
php-opcache             x86_64    8.0.30-3.el9_6    appstream     510 k
php-pdo                 x86_64    8.0.30-3.el9_6    appstream      81 k
php-xml                 x86_64    8.0.30-3.el9_6    appstream     132 k
=====
Transaction Summary
=====
Install 9 Packages

Total download size: 6.5 M
Installed size: 35 M
Downloading Packages:
(1/9): nginx-filesystem-1.20.1-24.el9.noarch. 7.0 kB/s | 9.2 kB  00:01
(2/9): php-8.0.30-3.el9_6.x86_64.rpm         6.2 kB/s | 8.2 kB  00:01
(3/9): php-fpm-8.0.30-3.el9_6.x86_64.rpm      2.6 MB/s | 1.6 MB  00:00
(4/9): php-mbstring-8.0.30-3.el9_6.x86_64.rpm 1.8 MB/s | 466 kB  00:00
(5/9): php-common-8.0.30-3.el9_6.x86_64.rpm   742 kB/s | 666 kB  00:00
(6/9): php-opcache-8.0.30-3.el9_6.x86_64.rpm  4.0 MB/s | 510 kB  00:00
(7/9): php-pdo-8.0.30-3.el9_6.x86_64.rpm     650 kB/s | 81 kB  00:00
(8/9): php-xml-8.0.30-3.el9_6.x86_64.rpm     1.3 MB/s | 132 kB  00:00
```

Рис. 5: Установка пакетов для PHP

A screenshot of a terminal window showing the GNU nano 5.6.1 text editor editing a file named index.php. The editor's content is as follows:

```
GNU nano 5.6.1 index.php
<?php
phpinfo();
?>
```

Рис. 6: index.php

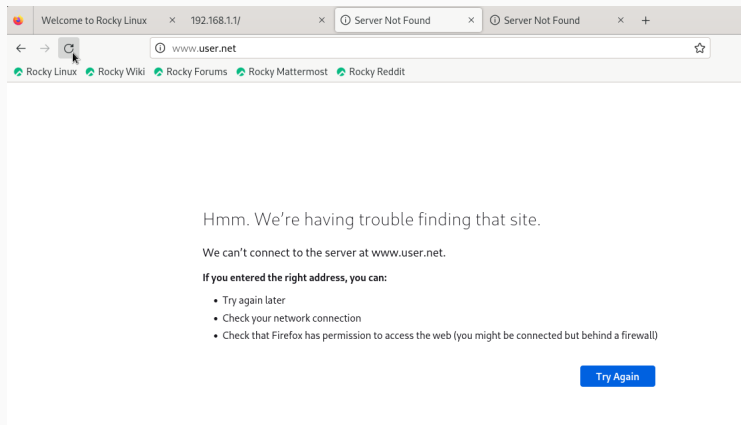
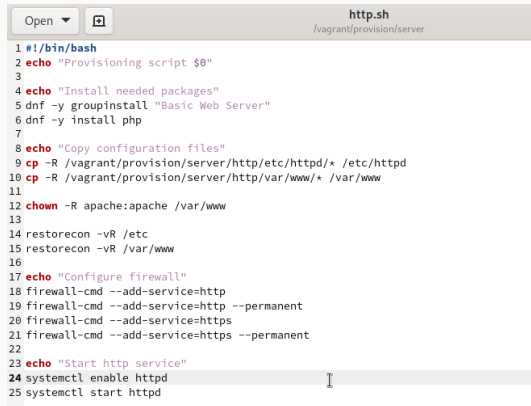


Рис. 7: Неудачное открытие адреса www.user.net

# Выполнение лабораторной работы



The screenshot shows a terminal window with a title bar that includes an 'Open' button and a file icon. The title of the window is 'http.sh' and the path is '/vagrant/provision/server'. The terminal content is a shell script with 25 lines. Lines 1-3 are comments and a blank line. Lines 4-6 install packages using 'dnf'. Lines 7-11 are comments and a blank line. Lines 12-13 set permissions for /var/www. Lines 14-15 run 'restorecon' on /etc and /var/www. Lines 16-22 are comments and a blank line. Lines 23-25 enable and start the httpd service using 'systemctl'.

```
1 #!/bin/bash
2 echo "Provisioning script $0"
3
4 echo "Install needed packages"
5 dnf -y groupinstall "Basic Web Server"
6 dnf -y install php
7
8 echo "Copy configuration files"
9 cp -R /vagrant/provision/server/http/etc/httpd/* /etc/httpd
10 cp -R /vagrant/provision/server/http/var/www/* /var/www
11
12 chown -R apache:apache /var/www
13
14 restorecon -vR /etc
15 restorecon -vR /var/www
16
17 echo "Configure firewall"
18 firewall-cmd --add-service=http
19 firewall-cmd --add-service=http --permanent
20 firewall-cmd --add-service=https
21 firewall-cmd --add-service=https --permanent
22
23 echo "Start http service"
24 systemctl enable httpd
25 systemctl start httpd
```

Рис. 8: http.sh

В процессе выполнения данной лабораторной работы я освоил практические навыки по расширенному конфигурированию HTTP-сервера Apache в части безопасности и возможности использования PHP.