

Лабораторная работа № 5.

Расширенная настройка HTTP-сервера Apache

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Цель работы

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

Конфигурирование HTTP-сервера для работы через протокол HTTPS

```
Country Name (2 letter code) [XX]:RU  
State or Province Name (full name) []:Russia  
Locality Name (eg, city) [Default City]:Moscow  
Organization Name (eg, company) [Default Company Ltd]:dastarikov  
Organizational Unit Name (eg, section) []:dastarikov  
Common Name (eg, your name or your server's hostname) []:dastarikov.net  
Email Address []:dastarikov@dastarikov.net
```

Рис.: Создание SSL-сертификата.

Конфигурирование HTTP-сервера для работы через протокол HTTPS

```
<VirtualHost *:80>
ServerAdmin webmaster@dastarikov.net
DocumentRoot /var/www/html/www.dastarikov.net
ServerName www.dastarikov.net
ServerAlias www.dastarikov.net
ErrorLog logs/www.dastarikov.net-error_log
CustomLog logs/www.dastarikov.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@dastarikov.net
DocumentRoot /var/www/html/www.dastarikov.net
ServerName www.dastarikov.net
ServerAlias www.dastarikov.net
ErrorLog logs/www.dastarikov.net-error_log
CustomLog logs/www.dastarikov.net-access_log common
SSLCertificateFile /etc/ssl/certs/www.dastarikov.net.crt
SSLCertificateKeyFile /etc/ssl/private/www.dastarikov.net.key
</VirtualHost>
</IfModule>
```

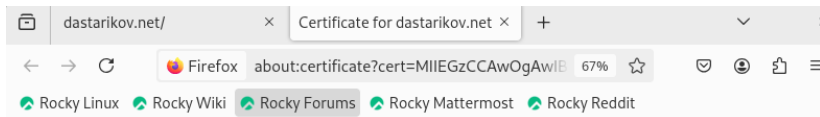
Рис.: Изменение конфигурационного файла для работы через протокол HTTPS.

Конфигурирование HTTP-сервера для работы через протокол HTTPS

```
[root@server.dastarikov.net conf.d]# firewall-cmd --list-services
firewall-cmd --get-services
firewall-cmd --add-service=https
firewall-cmd --add-service=https --permanent
firewall-cmd --reload
cockpit dhcp dhcpv6-client dns http ssh
RH-Satellite-6 RH-Satellite-6-capsule afp amanda-client amanda-k5-client amqp amqps apcupsd audit ausweisapp2 ba
cula bacula-client bareos-director bareos-filedaemon bareos-storage bb bgp bitcoin bitcoin-rpc bitcoin-testnet b
itcoin-testnet-rpc bittorrent-lsd ceph ceph-exporter ceph-mon cfengine checkmk-agent cockpit collectd condor-col
lector cratedb ctdb dds dds-multicast dds-unicast dhcp dhcpv6 dhcpv6-client distcc dns dns-over-tls docker-regis
try docker-swarm dropbox-lansync elasticsearch etcd-client etcd-server finger foreman foreman-proxy freeipa-4 fr
eeipa-ldap freeipa-ldaps freeipa-replication freeipa-trust ftp galera ganglia-client ganglia-master git gpsd gra
fana gre high-availability http http3 https ident imap imaps ipfs ipp ipp-client ipsec irc ircs iscsi-target isn
s jenkins kadmin kdeconnect kerberos kibana klogin kpasswd kprop kshell kube-api kube-apiserver kube-control-pla
ne kube-control-plane-secure kube-controller-manager kube-controller-manager-secure kube-nodeport-services kube-
scheduler kube-scheduler-secure kube-worker kubelet kubelet-readonly kubelet-worker ldap ldaps libvirt libvirt-t
ls lightning-network llmnr llmnr-client llmnr-tcp llmnr-udp managiesieve matrix mdns memcache minidlna mongodb mo
sh mountd mqtt mqtt-tls ms-wbt mssql murmur mysql nbd nebula netbios-ns netdata-dashboards nfs nfs3 nmea-0183 nrp
e ntp nut openvpn ovirt-imageio ovirt-storageconsole ovirt-vmconsole plex pncd pmproxy pmwebapi pmwebapis pop3 p
op3s postgresql privoxy prometheus prometheus-node-exporter proxy-dhcp ps2link ps3netrv ptp pulseaudio puppetma
ster quassel radius rdp redis redis-sentinel rpc-bind rquotad rsh rsyncd rtsp salt-master samba samba-client sam
ba-dc sane sip sips slp smtp smtp-submission smtps snmp snmptls snmptls-trap snmptrap spideroak-lansync spotify-
sync squid sssd ssh steam-streaming svdrp svn syncthing syncthing-gui syncthing-relay synergy syslog syslog-tls
telnet tentacle tftp tile38 tinc tor-socks transmission-client upnp-client vdsms vnc-server warpinator wbem-http
wbem-https wireguard ws-discovery ws-discovery-client ws-discovery-tcp ws-discovery-udp wsman wsmans xdmcp xmpp-
bosh xmpp-client xmpp-local xmpp-server zabbix-agent zabbix-server zerotier
success
success
success
[root@server.dastarikov.net conf.d]#
```

Рис.: Настройка межсетевого экрана.

Конфигурирование HTTP-сервера для работы через протокол HTTPS



Certificate

dastarikov.net	
Subject Name	
Country	RU
State/Province	Russia
Locality	Moscow
Organization	dastarikov
Organizational Unit	dastarikov
Common Name	dastarikov.net
Email Address	dastarikov@dastarikov.net
Issuer Name	
Country	RU
State/Province	Russia
Locality	Moscow
Organization	dastarikov
Organizational Unit	dastarikov
Common Name	dastarikov.net
Email Address	dastarikov@dastarikov.net

Рис.: Просмотр содержания созданного сертификата.

Конфигурирование HTTP-сервера для работы с PHP

```
[root@server.dastarikov.net www.dastarikov.net]# chown -R apache:apache /var/www
[root@server.dastarikov.net www.dastarikov.net]# restorecon -vR /etc
restorecon -vR /var/www
Relabeled /etc/sysconfig/network-scripts/ifcfg-eth1 from unconfined_u:object_r:user_tmp_t:s0 to unconfined_u:object_r:net_conf_t:s0
```

Рис.: Обновление контекста безопасности в SELinux.

Конфигурирование HTTP-сервера для работы с PHP

PHP 8.0.30 - phpinfo()	
https://www.dastarikov.net	
Rocky Linux Rocky Wiki Rocky Forums Rocky Mattermost Rocky Reddit	
PHP Version 8.0.30	
System	Linux server.dastarikov.net 5.14.0-427.37.1.el9_4.x86_64 #1 SMP PREEMPT_DY 11:51:41 UTC 2024 x86_64
Build Date	Aug 3 2023 17:13:08
Build System	Rocky Linux release 9.2 (Blue Onyx)
Build Provider	Rocky Enterprise Software Foundation
Compiler	gcc (GCC) 11.3.1 20221121 (Red Hat 11.3.1-4)
Architecture	x86_64
Server API	FPM/FastCGI
Virtual Directory Support	disabled
Configuration File (php.ini) Path	/etc
Loaded Configuration File	/etc/php.ini
Scan this dir for additional .ini files	/etc/php.d
Additional .ini files parsed	/etc/php.d/10-opcache.ini, /etc/php.d/20-bz2.ini, /etc/php.d/20-calendar.ini, /etc php.d/20-curl.ini, /etc/php.d/20-dom.ini, /etc/php.d/20-exif.ini, /etc/php.d/20 ftp.d/20-ftp.ini, /etc/php.d/20-gettext.ini, /etc/php.d/20-iconv.ini, /etc/php.d/20 php.d/20-pdo.ini, /etc/php.d/20-phar.ini, /etc/php.d/20-simplexml.ini, /etc/php.d

Рис.: Информация об оспользуемой на веб-сервере версии PHP.

Внесение изменений в настройки внутреннего окружения виртуальной машины

```
[root@server.dastarikov.net www.dastarikov.net]# cp -R /etc/httpd/conf.d/* /vagrant/provision/server/http/etc/httpd/conf.d
cp -R /var/www/html/* /vagrant/provision/server/http/var/www/html
mkdir -p /vagrant/provision/server/http/etc/pki/tls/private
mkdir -p /vagrant/provision/server/http/etc/pki/tls/certs
cp: overwrite '/vagrant/provision/server/http/etc/httpd/conf.d/autoindex.conf'? y
cp: overwrite '/vagrant/provision/server/http/etc/httpd/conf.d/fcgid.conf'? y
cp: overwrite '/vagrant/provision/server/http/etc/httpd/conf.d/manual.conf'? y
cp: overwrite '/vagrant/provision/server/http/etc/httpd/conf.d/README'? y
cp: overwrite '/vagrant/provision/server/http/etc/httpd/conf.d/server.dastarikov.net.conf'? y
cp: overwrite '/vagrant/provision/server/http/etc/httpd/conf.d/ssl.conf'? y
cp: overwrite '/vagrant/provision/server/http/etc/httpd/conf.d/userdir.conf'? y
cp: overwrite '/vagrant/provision/server/http/etc/httpd/conf.d/welcome.conf'? y
cp: overwrite '/vagrant/provision/server/http/etc/httpd/conf.d/www.dastarikov.net.conf'? y
cp: overwrite '/vagrant/provision/server/http/var/www/html/server.dastarikov.net/index.html'? y
[root@server.dastarikov.net www.dastarikov.net]# y
bash: y: command not found...
[root@server.dastarikov.net www.dastarikov.net]# cp -R /etc/pki/tls/private/www.user.net.key /vagrant/provision/server/http/etc/pki/tls/private
cp: cannot stat '/etc/pki/tls/private/www.user.net.key': No such file or directory
[root@server.dastarikov.net www.dastarikov.net]# cp -R /etc/pki/tls/private/www.dastarikov.net.key /vagrant/provision/server/http/etc/pki/tls/private
[root@server.dastarikov.net www.dastarikov.net]# cp -R /etc/pki/tls/certs/www.dastarikov.net.crt /vagrant/provision/server/http/etc/pki/tls/certs
[root@server.dastarikov.net www.dastarikov.net]#
```

Рис.: Копирование конфигурационных файлов для настройки внутреннего окружения.

Внесение изменений в настройки внутреннего окружения виртуальной машины

```
#!/bin/bash
echo "Provisioning script $0"
echo "Install needed packages"
dnf -y groupinstall "Basic Web Server"
dnf -y install php
echo "Copy configuration files"
cp -R /vagrant/provision/server/http/etc/httpd/* /etc/httpd
cp -R /vagrant/provision/server/http/var/www/* /var/www
chown -R apache:apache /var/www
restorecon -vR /etc
restorecon -vR /var/www
echo "Configure firewall"
firewall-cmd --add-service=http
firewall-cmd --add-service=http --permanent
firewall-cmd --add-service=https
firewall-cmd --add-service=https --permanent
echo "Start http service"
systemctl enable httpd
systemctl start httpd
```

Выводы

- ▶ В результате выполнения лабораторной работы приобрели практические навыки по расширенному конфигурированию HTTP-сервера Apache в части безопасности и возможности использования PHP.