

# **Защита лабораторной работы № 11**

## **Настройка безопасного удалённого доступа по протоколу SSH**

*Администрирование сетевых подсистем*

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## Цель работы

Приобретение практических навыков по настройке удалённого доступа к серверу с помощью SSH.

## Запрет удалённого доступа по SSH для пользователя root

```
[saismael@server.saismael.net ~]$ sudo -i
[sudo] password for saismael:
[root@server.saismael.net ~]# passwd root
Changing password for user root.
New password:
Retype new password:
Sorry, passwords do not match.
New password:
Retype new password:
passwd: all authentication tokens updated successfully.
```

```
#
#Port 22
#AddressFamily any
#ListenAddress 0.0.0.0
#ListenAddress ::

#HostKey /etc/ssh/ssh_host_rsa_key
#HostKey /etc/ssh/ssh_host_ecdsa_key
#HostKey /etc/ssh/ssh_host_ed25519_key

# Ciphers and keying
#RekeyLimit default none

# Logging
#SyslogFacility AUTH
#LogLevel INFO

# Authentication:

#LoginGraceTime 2m
PermitRootLogin no
#StrictModes yes
```

1Help 2Save 3Mark 4Replac 5Copy 6Move 7Search 8Delete 9PullDn

## Ограничение списка пользователей для удалённого доступа по SSH

```
[root@server.saismael.net ~]# systemctl restart sshd
[root@server.saismael.net ~]# ssh root@server.saismael.net
root@server.saismael.net's password:
Permission denied, please try again.
root@server.saismael.net's password:
Permission denied, please try again.
root@server.saismael.net's password:
root@server.saismael.net: Permission denied (publickey,gssapi-keyex,gssapi-with-
mic,password).
```

```
sshd config      [-M--] 18 L:[ 30+14  44/131] *(1222/3671b) 0010
# Ciphers and keying
#RekeyLimit default none

# Logging
#SyslogFacility AUTH
#LogLevel INFO

# Authentication:

#LoginGraceTime 2m
PermitRootLogin no
#StrictModes yes
#MaxAuthTries 6
#MaxSessions 10
AllowUsers vagrant
#PubkeyAuthentication yes

# The default is to check both .ssh/authorized_keys and .ssh/author
# but this is overridden so installations will only check .ssh/aut
AuthorizedKeysFile<---->.ssh/authorized_keys

#AuthorizedPrincipalsFile none
1Help 2Save 3Mark 4Replac 5Copy 6Move 7Search 8Delete 9
```



## Настройка удалённого доступа по SSH по ключу

```
[root@server.saismael.net ~]# ssh-keygen
Generating public/private rsa key pair.
Enter file in which to save the key (/root/.ssh/id_rsa):
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /root/.ssh/id_rsa
Your public key has been saved in /root/.ssh/id_rsa.pub
The key fingerprint is:
SHA256:ESsvE36hM+kgtcPeEfK6xjp/sRPYC3rvVpFL7kIs014 root@server.saismael.net
The key's randomart image is:
+----[RSA 3072]-----+
|
|   .
|  o + +
| o = B o
| . =o@oS .
| oo**B= E
| oo.o@ + .
| o +.* o o
| .*o=o. +o
+-----[SHA256]-----+
[root@server.saismael.net ~]#
```

```
ssh config [-M--] 24 L:[ 57+12 69/133] *(2014/3740b) 0010 0x00A [*][X]
# For this to work you will also need host keys in /etc/ssh/ssh_known_hosts
#HostbasedAuthentication no
# Change to yes if you don't trust ~/.ssh/known_hosts for
# HostbasedAuthentication
#IgnoreUserKnownHosts no
# Don't read the user's ~/.rhosts and ~/.shosts files
#IgnoreRhosts yes

# To disable tunneled clear text passwords, change to no here!
#PasswordAuthentication yes
#PermitEmptyPasswords no
PasswordAuthentication yes
PubkeyAuthentication yes
# Change to no to disable s/key passwords
#KbdInteractiveAuthentication yes

# Kerberos options
#KerberosAuthentication no
#KerberosOrLocalPasswd yes
#KerberosTicketCleanup yes
#KerberosGetAFSToken no
#KerberosUseKuserok yes
1Help 2Save 3Mark 4Replac 5Copy 6Move 7Search 8Delete 9PullDn10Quit
```

```
[root@server.saismael.net ~]# tail -f /var/log/maillog
Dec  3 15:15:01 server postfix/master[4273]: reload -- version 3.5.9, configuration /etc/postfix
Dec  3 15:15:01 server postfix/master[4273]: warning: ignoring inet_protocols parameter value change
Dec  3 15:15:01 server postfix/master[4273]: warning: old value: "all", new value: "ipv4"
Dec  3 15:15:01 server postfix/master[4273]: warning: to change inet_protocols, stop and start Postfix
Dec  3 15:15:01 server postfix/master[4273]: warning: service smtp: ignoring inet_interfaces change
Dec  3 15:15:01 server postfix/master[4273]: warning: to change inet_interfaces, stop and start Postfix
Dec  3 15:15:21 server postfix/postfix-script[4843]: stopping the Postfix mail system
Dec  3 15:15:21 server postfix/master[4273]: terminating on signal 15
Dec  3 15:16:01 server postfix/postfix-script[4930]: starting the Postfix mail system
Dec  3 15:16:01 server postfix/master[4932]: daemon started -- version 3.5.9, configuration /etc/postfix
Dec  3 15:37:11 server postfix/postfix-script[5225]: refreshing the Postfix mail system
```

## Запуск консольных приложений через SSH

```
[root@server.saismael.net ~]# ssh saismael@server.saismael.net ls -Al
total 44
-rw-----. 1 saismael saismael 460 Dec 31 11:12 .bash_history
-rw-r--r--. 1 saismael saismael  18 May 16  2022 .bash_logout
-rw-r--r--. 1 saismael saismael 141 May 16  2022 .bash_profile
-rw-r--r--. 1 saismael saismael 546 Nov 26 14:23 .bashrc
drwxr-xr-x. 14 saismael saismael 4096 Dec 24 17:45 .cache
drwxr-xr-x. 2 root      root      6 Dec 31 08:04 common
drwx-----. 11 saismael saismael 4096 Dec 24 17:45 .config
drwxr-xr-x. 2 saismael saismael  6 Nov 26 14:30 Desktop
drwxr-xr-x. 2 saismael saismael  6 Nov 26 14:30 Documents
drwxr-xr-x. 2 saismael saismael  6 Nov 26 14:30 Downloads
drwx-----. 4 saismael saismael 32 Nov 26 14:31 .local
drwx-----. 5 saismael saismael 180 Dec  8 08:06 Maildir
drwxr-xr-x. 5 saismael saismael 54 Nov 27 14:14 .mozilla
drwxr-xr-x. 2 saismael saismael  6 Nov 26 14:30 Music
drwxr-xr-x. 2 saismael saismael  6 Nov 26 14:30 Pictures
drwxr-xr-x. 2 saismael saismael  6 Nov 26 14:30 Public
drwx-----. 2 saismael saismael 29 Dec 31 11:54 .ssh
drwxr-xr-x. 2 saismael saismael  6 Nov 26 14:30 Templates
-rw-r-----. 1 saismael saismael  5 Dec 31 08:07 .vboxclient-clipboard.pid
-rw-r-----. 1 saismael saismael  5 Dec 31 08:07 .vboxclient-display-svg-x11.
pid
```



## Внесение изменений в настройки внутреннего окружения виртуальной машины

```
nfs.sh x nfs.sh x smb.sh x smb.sh x netlog.sh x netlog.sh x protect.sh x ssh.sh x
1  #!/bin/bash
2
3  echo "Provisioning script $0"
4
5  echo "Copy configuration files"
6  cp -R /vagrant/provision/server/ssh/etc/* /etc
7
8  restorecon -vR /etc
9
10 echo "Configure firewall"
11 firewall-cmd --add-port=2022/tcp
12 firewall-cmd --add-port=2022/tcp --permanent
13
14 echo "Tuning SELinux"
15 semanage port -a -t ssh_port_t -p tcp 2022
16
17 echo "Restart sshd service"
18 systemctl restart sshd
```

```
[root@server.saismael.net ~]# ssh -YC saismael@server.saismael.net firefox
/usr/bin/xauth: file /home/saismael/.Xauthority does not exist
Crash Annotation GraphicsCriticalError: |[0][GFX1-]: glxtest: X error, error_cod
e=1, request_code=154, minor_code=1 (t=12.9792) [GFX1-]: glxtest: X error, error
_code=1, request_code=154, minor_code=1
Crash Annotation GraphicsCriticalError: |[0][GFX1-]: glxtest: X error, error_cod
e=1, request_code=154, minor_code=1 (t=12.9792) |[1][GFX1-]: glxtest: process fa
iled (exited with status 1) (t=12.9818) [GFX1-]: glxtest: process failed (exited
with status 1)
Missing chrome or resource URL: resource://gre/modules/UpdateListener.jsm
Missing chrome or resource URL: resource://gre/modules/UpdateListener.sys.mjs
Missing chrome or resource URL: resource://gre/modules/UpdateListener.jsm
Missing chrome or resource URL: resource://gre/modules/UpdateListener.sys.mjs
[root@server.saismael.net ~]#
[root@server.saismael.net ~]# cd /vagrant/provision/server
[root@server.saismael.net server]# mkdir -p /vagrant/provision/server/ssh/etc/ss
h
[root@server.saismael.net server]# cp -R /etc/ssh/sshd_config /vagrant/provision
/server/ssh/etc/ssh/
[root@server.saismael.net server]# cd /vagrant/provision/server
[root@server.saismael.net server]# touch ssh.sh
[root@server.saismael.net server]# chmod +x ssh.sh
[root@server.saismael.net server]#
```





## Вывод

Приобрел практические навыки по настройке удалённого доступа к серверу с помощью SSH.