

Лабораторная работа №9

Тема «Настройка POP3/IMAP сервера»
по дисциплине «Администрирование сетевых подсистем»

Выполнил: Щербак Маргарита Романовна

Студент группы: НПИбд-02-21

«5» декабря 2023г.

Цель работы:

Приобретение практических навыков по установке и простейшему конфигурированию POP3/IMAP-сервера.

Задание

1. Установить на виртуальной машине server Dovecot и Telnet для дальнейшей проверки корректности работы почтового сервера.
2. Настроить Dovecot.
3. Установить на виртуальной машине client программу для чтения почты Evolution и настроить её для манипуляций с почтой вашего пользователя. Проверить корректность работы почтового сервера как с виртуальной машины server, так и с виртуальной машины client.
4. Изменить скрипт для Vagrant, фиксирующий действия по установке и настройке Postfix и Dovecot во внутреннем окружении виртуальной машины server, создать скрипт для Vagrant, фиксирующий действия по установке Evolution во внутреннем окружении виртуальной машины client. Соответствующим образом внести изменения в Vagrantfile.

Выполнение работы

Установка Dovecot

```
root@server:~  
[mrshcherbak@server.mrshcherbak.net ~]$ sudo -i  
[sudo] password for mrshcherbak:  
[root@server.mrshcherbak.net ~]# dnf -y install dovecot telnet  
Extra Packages for Enterprise Linux 9 - x86_64 67 kB/s | 31 kB 00:00  
Extra Packages for Enterprise Linux 9 - x86_64 1.0 MB/s | 20 MB 00:19  
Rocky Linux 9 - BaseOS  
Rocky Linux 9 - AppStream 2.3 kB/s | 4.1 kB 00:01  
Rocky Linux 9 - Extras 8.4 kB/s | 4.5 kB 00:00  
5.3 kB/s | 2.9 kB 00:00  
Dependencies resolved.  
=====
```

Package	Architecture	Version	Size
	Repository		
=====			
Installing:			
dovecot	x86_64	1:2.3.16-10.el9	
	appstream	4.7 M	
telnet	x86_64	1:0.17-85.el9	
	appstream	63 k	
Installing dependencies:			
clucene-core	x86_64	2.3.3.4-42.20130812.e8	
e3d20git.el9	appstream	585 k	
libexttextcat	x86_64	3.4.5-11.el9	

Настройка dovecot

```
mc [root@server.mrshcherbak.net]:/etc/dovecot  
dovecot.conf [B---] 0 L:[ 14+11 25/103] *(1194/4355b) 0112 0x070 [*] [X]  
# protocol imap { }, local 127.0.0.1 { }, remote 10.0.0.0/8 { }  
  
# Default values are shown for each setting, it's not required to uncomment  
# those. These are exceptions to this though: No sections (e.g. namespace {})  
# or plugin settings are added by default, they're listed only as examples.  
# Paths are also just examples with the real defaults being based on configure  
# options. The paths listed here are for configure --prefix=/usr  
# --sysconfdir=/etc --localstatedir=/var  
  
# Protocols we want to be serving.  
#protocols = imap pop3 lmtp submission  
protocols = imap pop3  
  
# A comma separated list of IPs or hosts where to listen in for connections..  
# "*" listens in all IPv4 interfaces, "::" listens in all IPv6 interfaces.  
# If you want to specify non-default ports or anything more complex
```

```
mc [root@server.mrshcherbak.net]:/etc/dovecot/conf.d
10-auth.conf [B---] 0 L:[ 87+13 100/128] *(4446/5248b) 0097 0x061 [*][X]

# Require a valid SSL client certificate or the authentication fails.
#auth_ssl_require_client_cert = no

# Take the username from client's SSL certificate, using.
# X509_NAME_get_text_by_NID() which returns the subject's DN's
# CommonName..
#auth_ssl_username_from_cert = no

# Space separated list of wanted authentication mechanisms:
# plain login digest-md5 cram-md5 ntlm rpa apop anonymous gssapi otp
# gss-spnego
# NOTE: See also disable_plaintext_auth setting.
auth_mechanisms = plain

##
```

Метод аутентификации plain

```
mc [root@server.mrshcherbak.net]:/etc/dovecot/conf.d
auth-system.conf.ext [B---] 1 L:[ 6+ 9 15/ 75] *(547 /2182b) 0010 0x00A

# PAM authentication. Preferred nowadays by most systems.
# PAM is typically used with either userdb passwd or userdb static.
# REMEMBER: You'll need /etc/pam.d/dovecot file created for PAM
# authentication to actually work. <doc/wiki/PasswordDatabase.PAM.txt>
passdb {
    driver = pam
    # [session=yes] [setcred=yes] [failure_show_msg=yes] [max_requests=<n>]
    # [cache_key=<key>] [<service name>]
    #args = dovecot
}

# System users (NSS, /etc/passwd, or similar).
```

```
mc [root@server.mrshcherbak.net]:/etc/dovecot/conf.d
auth-system.conf.ext [B---] 3 L:[ 44+23 67/ 75] *(1813/2182b) 0032 0x020

## User databases
##

# System users (NSS, /etc/passwd, or similar). In many systems nowadays this
# uses Name Service Switch, which is configured in /etc/nsswitch.conf.
userdb {
    # <doc/wiki/AuthDatabase.Passwd.txt>
    driver = passwd
    # [blocking=no]
    #args =

    # Override fields from passwd
    #override_fields = home=/home/virtual/%u
}

# Static settings generated from template <doc/wiki/UserDatabase.Static.txt>
#userdb {
```

Проверка, что для поиска пользователей и их паролей используется pam и файл passwd

```
mc [root@server.mrshcherbak.net]:/etc/dovecot/conf.d

10-mail.conf [BM--] 0 L: [25+ 6 31/418] *(1067/17829b) 0109 0x06D
# mail_location = mbox:~/mail:INBOX=/var/mail/%u
# mail_location = mbox:/var/mail/%d/%n%n:INDEX=/var/indexes/%d/%n%n
#
# <doc/wiki/MailLocation.txt>
#
#mail_location =
mail_location = maildir:~/Maildir

# If you need to set multiple mailbox locations or want to change default
# namespace settings, you can do it by defining namespace sections.
#
# You can have private, shared and public namespaces. Private namespaces
# are for user's personal mails. Shared namespaces are for accessing other
```

Настройка месторасположения почтовых ящиков пользователей

```
root@server:/etc/dovecot/conf.d

[root@server.mrshcherbak.net conf.d]# postconf -e 'home_mailbox = Maildir/'
[root@server.mrshcherbak.net 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 ba
cula-client bb bgp bitcoin bitcoin-rpc bitcoin-testnet bitcoin-testnet-rpc bittorrent-lsd ceph ceph-mon cfengine checkm
k-agent cockpit collectd condor-collector cratedb ctdb dhcp dhcpv6 dhcpv6-client distcc dns dns-over-tls docker-registr
y docker-swarm dropbox-lansync elasticsearch etcd-client etcd-server finger foreman foreman-proxy freeipa-4 freeipa-lda
p freeipa-ldaps freeipa-replication freeipa-trust ftp galera ganglia-client ganglia-master git gpsd grafana gre high-av
ailability http http3 https ident imap imaps ipfs ipp ipp-client ipsec irc ircs iscsi-target isns jellyfin jenkins kadm
in kdeconnect kerberos kibana klogon kpasswd kprop kshell kube-api kube-apiserver kube-control-plane kube-control-plane
-secure kube-controller-manager kube-controller-manager-secure kube-nodeport-services kube-scheduler kube-scheduler-sec
ure kube-worker kubelet kubelet-readonly kubelet-worker ldap ldaps libvirt libvirt-tls lightning-network llmnr llmnr-tc
p llmnr-udp managesieve matrix mdns memcache minidlna mongodb mosh mountd mqtt mqtt-tls ms-wbt mssql murmur mysql nbd n
etbios-ns netdata-dashboard nfs nfs3 nmea-0183 nrpe ntp nut openvpn ovirt-imageio ovirt-storageconsole ovirt-vmconsole
plex pmcd pmproxy pmwebapi pmwebapis pop3 pop3s postgresql privoxy prometheus prometheus-node-exporter proxy-dhcp ps3ne
tsrv ptp pulseaudio puppetmaster quassel radius rdp redis redis-sentinel rpc-bind rquotad rsh rsyncd rtsp salt-master s
amba samba-client samba-dc sane sip sips slp smtp smtp-submission smtps snmp snmptls snmptls-trap snmptrap spideroak-la
nsync spotify-sync squid ssdp ssh ssh-custom steam-streaming svdrp svn syncthing syncthing-gui synergy syslog syslog-tl
s telnet tentacle tftp tile38 tinc tor-socks transmission-client upnp-client vdsms vnc-server wbem-http wbem-https wireg
uard ws-discovery ws-discovery-client ws-discovery-tcp ws-discovery-udp wsman wsmans xdmcp xmpp-bosh xmpp-client xmpp-l
ocal xmpp-server zabbix-agent zabbix-server zerotier
[root@server.mrshcherbak.net conf.d]# firewall-cmd --add-service=pop3 --permanent
success
[root@server.mrshcherbak.net conf.d]# firewall-cmd --add-service=pop3s --permanent
success
[root@server.mrshcherbak.net conf.d]# firewall-cmd --add-service=imap --permanent
success
[root@server.mrshcherbak.net conf.d]# firewall-cmd --add-service=imaps --permanent
success
[root@server.mrshcherbak.net conf.d]# firewall-cmd --reload
success
[root@server.mrshcherbak.net conf.d]# firewall-cmd --list-services
cockpit dhcp dhcpv6-client dns http https imap imaps pop3 pop3s smtp ssh
[root@server.mrshcherbak.net conf.d]# restorecon -VR /etc
Relabeled /etc/sysconfig/network-scripts/ifcfg-eth1 from unconfined_u:object_r:user_tmp_t:s0 to unconfined_u:object_r:n
et_conf_t:s0
[root@server.mrshcherbak.net conf.d]# systemctl restart postfix
[root@server.mrshcherbak.net conf.d]# systemctl enable dovecot
Created symlink /etc/systemd/system/multi-user.target.wants/dovecot.service → /usr/lib/systemd/system/dovecot.service.
[root@server.mrshcherbak.net conf.d]# systemctl start dovecot
[root@server.mrshcherbak.net conf.d]#
```

Проверка работы Dovecot

```
root@server:~  
[root@server.mrshcherbak.net ~]# tail -f /var/log/maillog  
Dec 3 09:54:07 server postfix/postfix-script[10279]: stopping the Postfix mail system  
Dec 3 09:54:07 server postfix/master[1182]: terminating on signal 15  
Dec 3 09:54:07 server postfix/postfix-script[10356]: starting the Postfix mail system  
Dec 3 09:54:07 server postfix/master[10358]: daemon started -- version 3.5.9, configuration /etc/postfix  
Dec 3 09:54:22 server dovecot[10407]: master: Dovecot v2.3.16 (7e2e900c1a) starting up for imap, pop3 (core dumps disabled)  
Dec 3 10:41:23 server dovecot[10409]: imap-login: Disconnected: Connection closed: read(size=486) failed: Connection reset by peer (no auth attempts in 4 secs): user=<  
>, rip=192.168.1.31, lip=192.168.1.1, TLS handshaking: read(size=486) failed: Connection reset by peer, session=<TTyApJgLSJHAQAEf>  
Dec 3 10:46:12 server dovecot[10409]: imap-login: Login: user=<mrshcherbak>, method=PLAIN, rip=192.168.1.31, lip=192.168.1.1, mpid=11555, TLS, session=<M1+2tZgLv0jAqAEf>
```

```
[root@server.mrshcherbak.net server]# doveadm mailbox list -u mrshcherbak  
INBOX  
[root@server.mrshcherbak.net server]#
```

Установка почтового клиента

```
root@client:~  
[root@client.mrshcherbak.net ~]# dnf -y install evolution  
Last metadata expiration check: 0:02:03 ago on Sun 03 Dec 2023 10:26:32 AM UTC.  
Dependencies resolved.  
=====
```

Package	Arch	Version	Repository	Size
Installing:				
evolution	x86_64	3.40.4-9.el9	appstream	3.7 M
Installing dependencies:				
evolution-langpacks	noarch	3.40.4-9.el9	appstream	5.6 M
highlight	x86_64	3.60-5.el9	appstream	880 k

```
=====
```

Transaction Summary

=====

Install 3 Packages

Total download size: 10 M
Installed size: 56 M
Downloading Packages:

	651 kB/s	880 kB	00:01
(1/3): highlight-3.60-5.el9.x86_64.rpm	721 kB/s	3.7 MB	00:05
(2/3): evolution-3.40.4-9.el9.x86_64.rpm	660 kB/s	5.6 MB	00:08
(3/3): evolution-langpacks-3.40.4-9.el9.noarch			

```
=====
```

Total 1.1 MB/s | 10 MB 00:09

Running transaction check

Identity

×

Welcome

Restore from Backup

Identity

Receiving Email

Sending Email

Account Summary

Done

Please enter your name and email address below. The "optional" fields below do not need to be filled in, unless you wish to include this information in email you send.

Required Information

Full Name:

Email Address:

Optional Information

Reply-To:

Organization:

Aliases:

☒ Look up mail server details based on the entered e-mail address

Account Summary

×

Welcome

Restore from Backup

Identity

Receiving Email

Receiving Options

Sending Email

Account Summary

Done

This is a summary of the settings which will be used to access your mail.

Account Information

Name:

The above name will be used to identify this account.
Use for example, "Work" or "Personal".

Personal Details

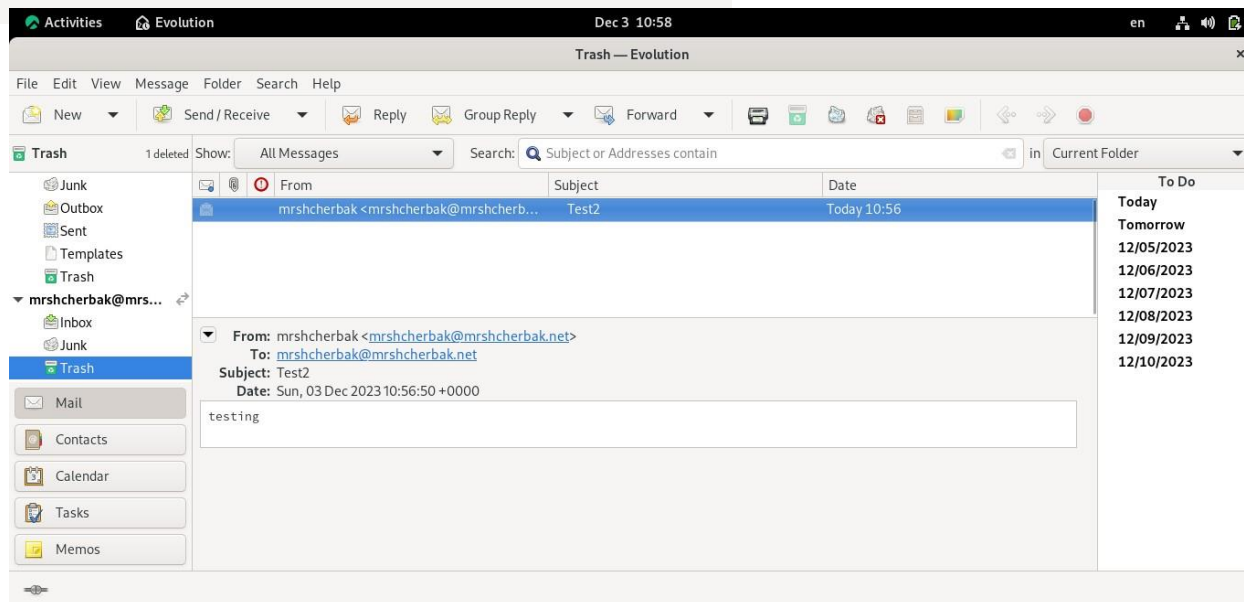
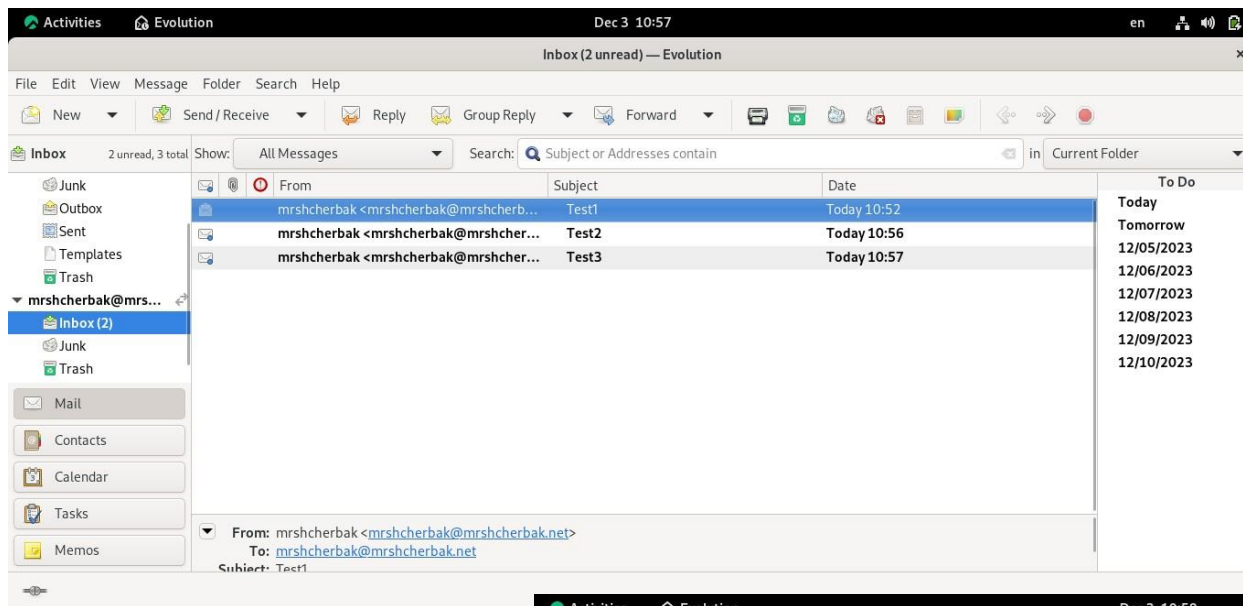
Full Name: mrshcherbak

Email Address: mrshcherbak@mrshcherbak.net

	Receiving	Sending
Server Type:	imapx	smtp
Server:	mail.mrshcherbak.net	mail.mrshcherbak.net
Username:	mrshcherbak	mrshcherbak
Security:	STARTTLS	None

Настройка почтового клиента Evolution

Отправка и удаление писем из почтового клиента



```
Activities Terminal Dec 3 10:58 en root@server:~

root@server:/vagrant/provision/server x mrshcherbak@server:~ x root@server:~ x

[root@server.mrshcherbak.net ~]# tail -f /var/log/maillog
Dec 3 09:54:07 server postfix/postfix-script[10279]: stopping the Postfix mail system
Dec 3 09:54:07 server postfix/master[1182]: terminating on signal 15
Dec 3 09:54:07 server postfix/postfix-script[10356]: starting the Postfix mail system
Dec 3 09:54:07 server postfix/master[10358]: daemon started -- version 3.5.9, configuration /etc/postfix
Dec 3 09:54:22 server dovecot[10407]: master: Dovecot v2.3.16 (7e2e900c1a) starting up for imap, pop3 (core dumps disabled)
Dec 3 10:41:23 server dovecot[10409]: imap-login: Disconnected: Connection closed: read(size=486) failed: Connection reset by peer (no auth attempts in 4 secs): user=<
>, rip=192.168.1.31, lip=192.168.1.1, TLS handshaking: read(size=486) failed: Connection reset by peer, session=<TTyApJgLSJHAQAEf>
Dec 3 10:46:12 server dovecot[10409]: imap-login: Login: user=<mrshcherbak>, method=PLAIN, rip=192.168.1.31, lip=192.168.1.1, mpid=11555, TLS, session=<M1+2tZgLv0jAqAE
f>
Dec 3 10:52:01 server postfix/smtpd[11626]: connect from client.mrshcherbak.net[192.168.1.31]
Dec 3 10:52:01 server postfix/smtpd[11626]: 42CF81017B4B: client=client.mrshcherbak.net[192.168.1.31]
Dec 3 10:52:01 server postfix/cleanup[11630]: 42CF81017B4B: message-id=<c806948bdf746db14b09f567bd9ad29a194ba3c7.camel@mrshcherbak.net>
Dec 3 10:52:01 server postfix/smtpd[11626]: disconnect from client.mrshcherbak.net[192.168.1.31] ehlo=1 mail=1 rcpt=1 data=1 quit=1 commands=5
Dec 3 10:52:01 server postfix/qmgr[10360]: 42CF81017B4B: from=<mrshcherbak@mrshcherbak.net>, size=571, nrcpt=1 (queue active)
Dec 3 10:52:01 server postfix/local[11631]: 42CF81017B4B: to=<mrshcherbak@mrshcherbak.net>, relay=local, delay=0.11, delays=0.08/0.02/0/0, dsn=2.0.0, status=sent (deli
vered to maildir)
Dec 3 10:52:01 server postfix/qmgr[10360]: 42CF81017B4B: removed
Dec 3 10:56:51 server postfix/smtpd[11679]: connect from client.mrshcherbak.net[192.168.1.31]
Dec 3 10:56:51 server postfix/smtpd[11679]: 1032D1017B4B: client=client.mrshcherbak.net[192.168.1.31]
Dec 3 10:56:51 server postfix/cleanup[11682]: 1032D1017B4B: message-id=<ca2472fcb8f210efd5041d3dd08e9da403bde821.camel@mrshcherbak.net>
Dec 3 10:56:51 server postfix/qmgr[10360]: 1032D1017B4B: from=<mrshcherbak@mrshcherbak.net>, size=571, nrcpt=1 (queue active)
Dec 3 10:56:51 server postfix/smtpd[11679]: disconnect from client.mrshcherbak.net[192.168.1.31] ehlo=1 mail=1 rcpt=1 data=1 quit=1 commands=5
Dec 3 10:56:51 server postfix/local[11683]: 1032D1017B4B: to=<mrshcherbak@mrshcherbak.net>, relay=local, delay=0.09, delays=0.07/0.01/0/0, dsn=2.0.0, status=sent (deli
vered to maildir)
Dec 3 10:56:51 server postfix/qmgr[10360]: 1032D1017B4B: removed
```

```
[mrshcherbak@server.mrshcherbak.net ~]$ mail
s-nail version v14.9.22. Type '?' for help
/home/mrshcherbak/Maildir: 3 messages 1 deleted
┌ 1 mrshcherbak      2023-12-03 10:52   18/684  "Test1"
└ 3 mrshcherbak      2023-12-03 10:57   18/684  "Test3"
& q
Held 3 messages in /home/mrshcherbak/Maildir
[mrshcherbak@server.mrshcherbak.net ~]$ MAIL=~ /Maildir mail
s-nail version v14.9.22. Type '?' for help
/home/mrshcherbak/Maildir: 3 messages 1 deleted
┌ 1 mrshcherbak      2023-12-03 10:52   18/684  "Test1"
└ 3 mrshcherbak      2023-12-03 10:57   18/684  "Test3"
& q
Held 3 messages in /home/mrshcherbak/Maildir
[mrshcherbak@server.mrshcherbak.net ~]$
```

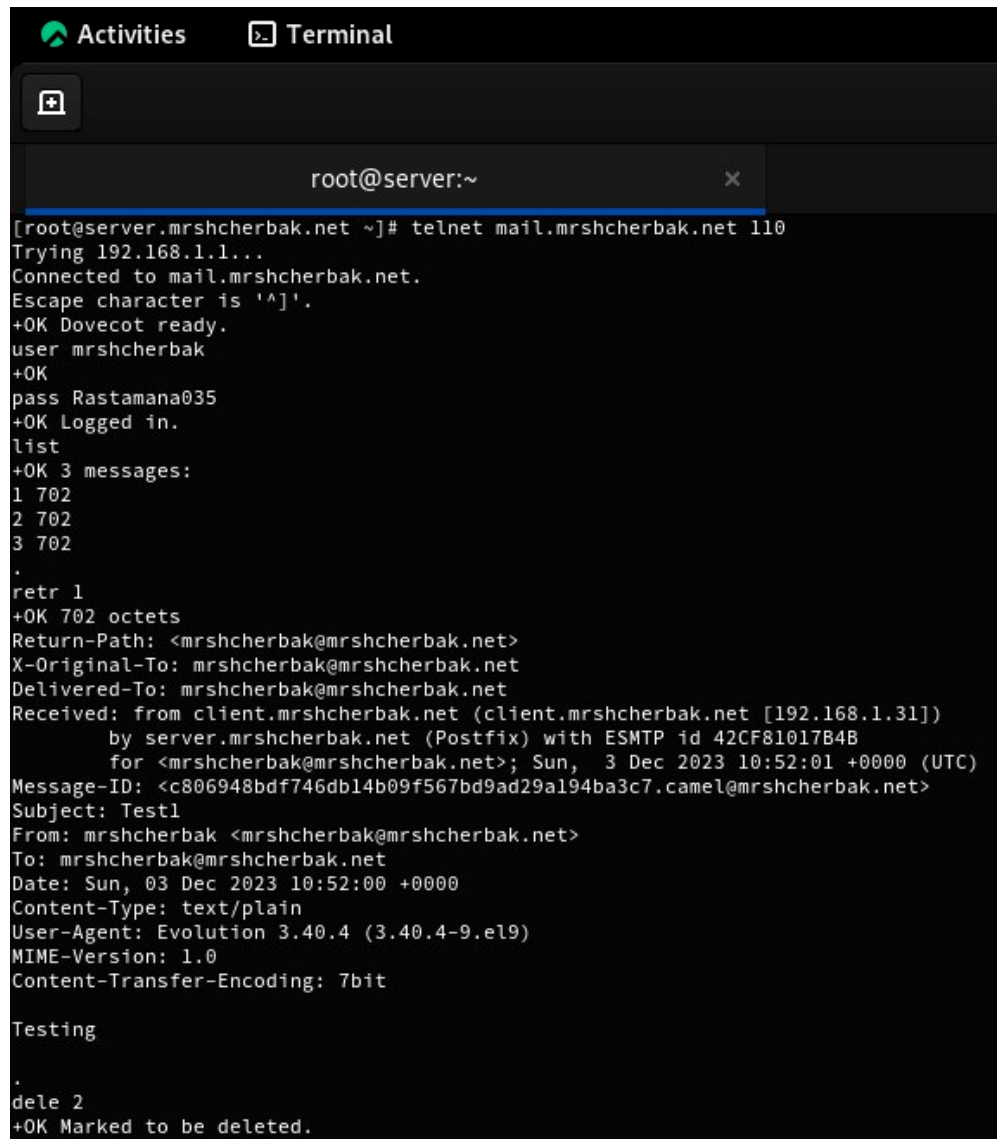
```
root@server:/etc/dovecot/conf.d x mrshcherbak@server:~

[root@server.mrshcherbak.net conf.d]# doveadm search mailbox Inbox all -u mrshcherbak
95278e06745c6c65232d00001812ba15 1
95278e06745c6c65232d00001812ba15 2
95278e06745c6c65232d00001812ba15 3
[root@server.mrshcherbak.net conf.d]# doveadm fetch -u mrshcherbak text 1
text:
Return-Path: <mrshcherbak@mrshcherbak.net>
X-Original-To: mrshcherbak@mrshcherbak.net
Delivered-To: mrshcherbak@mrshcherbak.net
Received: from client.mrshcherbak.net (client.mrshcherbak.net [192.168.1.31])
    by server.mrshcherbak.net (Postfix) with ESMTP id 42CF81017B4B
    for <mrshcherbak@mrshcherbak.net>; Sun, 3 Dec 2023 10:52:01 +0000 (UTC)
Message-ID: <c806948bdf746db14b09f567bd9ad29a194ba3c7.camel@mrshcherbak.net>
Subject: Test1
From: mrshcherbak <mrshcherbak@mrshcherbak.net>
To: mrshcherbak@mrshcherbak.net
Date: Sun, 03 Dec 2023 10:52:00 +0000
Content-Type: text/plain
User-Agent: Evolution 3.40.4 (3.40.4-9.el9)
MIME-Version: 1.0
Content-Transfer-Encoding: 7bit

Testing

[root@server.mrshcherbak.net conf.d]# doveadm fetch -u mrshcherbak text 3
text:
Return-Path: <mrshcherbak@mrshcherbak.net>
X-Original-To: mrshcherbak@mrshcherbak.net
Delivered-To: mrshcherbak@mrshcherbak.net
Received: from client.mrshcherbak.net (client.mrshcherbak.net [192.168.1.31])
    by server.mrshcherbak.net (Postfix) with ESMTP id 1810D1017B4B
    for <mrshcherbak@mrshcherbak.net>; Sun, 3 Dec 2023 10:57:21 +0000 (UTC)
Message-ID: <989bd0aaae0ccf5bb3601ald56ae060815d91f5.camel@mrshcherbak.net>
Subject: Test3
From: mrshcherbak <mrshcherbak@mrshcherbak.net>
To: mrshcherbak@mrshcherbak.net
Date: Sun, 03 Dec 2023 10:57:20 +0000
Content-Type: text/plain
```

Проверка работы почтовой службы, используя на сервере протокол Telnet



```
Activities Terminal
root@server:~
[root@server.mrshcherbak.net ~]# telnet mail.mrshcherbak.net 110
Trying 192.168.1.1...
Connected to mail.mrshcherbak.net.
Escape character is '^J'.
+OK Dovecot ready.
user mrshcherbak
+OK
pass Rastamana035
+OK Logged in.
list
+OK 3 messages:
1 702
2 702
3 702
.
retr 1
+OK 702 octets
Return-Path: <mrshcherbak@mrshcherbak.net>
X-Original-To: mrshcherbak@mrshcherbak.net
Delivered-To: mrshcherbak@mrshcherbak.net
Received: from client.mrshcherbak.net (client.mrshcherbak.net [192.168.1.31])
        by server.mrshcherbak.net (Postfix) with ESMTP id 42CF81017B4B
        for <mrshcherbak@mrshcherbak.net>; Sun,  3 Dec 2023 10:52:01 +0000 (UTC)
Message-ID: <c806948bdf746db14b09f567bd9ad29a194ba3c7.camel@mrshcherbak.net>
Subject: Test1
From: mrshcherbak <mrshcherbak@mrshcherbak.net>
To: mrshcherbak@mrshcherbak.net
Date: Sun, 03 Dec 2023 10:52:00 +0000
Content-Type: text/plain
User-Agent: Evolution 3.40.4 (3.40.4-9.el9)
MIME-Version: 1.0
Content-Transfer-Encoding: 7bit

Testing
.
dele 2
+OK Marked to be deleted.
```

Внесение изменений в настройки внутреннего окружения виртуальной машины

```
[root@server.mrshcherbak.net conf.d]# cd /vagrant/provision/server
[root@server.mrshcherbak.net server]# mkdir -p /vagrant/provision/server/mail/etc/dovecot/conf.d
[root@server.mrshcherbak.net server]# cp -R /etc/dovecot/dovecot.conf /vagrant/provision/server/mail/etc/dovecot/
[root@server.mrshcherbak.net server]# cp -R /etc/dovecot/conf.d/10-auth.conf /vagrant/provision/server/mail/etc/dovecot/conf.d/
[root@server.mrshcherbak.net server]# cp -R /etc/dovecot/conf.d/auth-system.conf.ext /vagrant/provision/server/mail/etc/dovecot/conf.d/
[root@server.mrshcherbak.net server]# cp -R /etc/dovecot/conf.d/10-mail.conf /vagrant/provision/server/mail/etc/dovecot/conf.d/
[root@server.mrshcherbak.net server]# cp -R /etc/postfix/main.cf /vagrant/provision/server/mail/etc/postfix/
cp: cannot create regular file '/vagrant/provision/server/mail/etc/postfix/': Not a directory
[root@server.mrshcherbak.net server]# cd /vagrant/provision/server/mail/etc/
[root@server.mrshcherbak.net etc]# mc

[root@server.mrshcherbak.net etc]# mkdir postfix
[root@server.mrshcherbak.net etc]# ls
dovecot postfix
[root@server.mrshcherbak.net etc]# cp -R /etc/postfix/main.cf /vagrant/provision/server/mail/etc/postfix/
[root@server.mrshcherbak.net etc]# mc

[root@server.mrshcherbak.net postfix]#
```

Содержимое файла
/vagrant/provision/server/mail.sh

```
mc [root@server.mrshcherbak.net]:/vagrant/provision/... x
/vagrant/provision/server/mail.sh
#!/bin/bash

echo "Provisioning script $0"

echo "Install needed packages"
dnf -y install postfix
dnf -y install s-nail
dnf -y install dovecot telnet

echo "Copy configuration files"
#cp -R /vagrant/provision/server/mail/etc/* /etc

echo "Configure firewall"
firewall-cmd --add-service=smtp --permanent
firewall-cmd --add-service=pop3 --permanent
firewall-cmd --add-service=pop3s --permanent
firewall-cmd --add-service=imap --permanent
firewall-cmd --add-service=imaps --permanent
firewall-cmd --reload

restorecon -vR /etc

echo "Start postfix service"
systemctl enable postfix
systemctl start postfix

echo "Configure postfix"
postconf -e 'mydomain = mrshcherbak.net'
postconf -e 'myorigin = $mydomain'

1Help 2UnWrap 3Quit 4Hex
```

```
mc [root@server.mrshcherbak.net]:/vagrant/provision/... x mrshcherbak@server:~
/vagrant/provision/server/mail.sh
firewall-cmd --add-service=pop3s --permanent
firewall-cmd --add-service=imap --permanent
firewall-cmd --add-service=imaps --permanent
firewall-cmd --reload

restorecon -vR /etc

echo "Start postfix service"
systemctl enable postfix
systemctl start postfix

echo "Configure postfix"
postconf -e 'mydomain = mrshcherbak.net'
postconf -e 'myorigin = $mydomain'
postconf -e 'inet_protocols = ipv4'
postconf -e 'inet_interfaces = all'
postconf -e 'mydestination = $myhostname, localhost.$mydomain,localhost, $mydomain'
postconf -e 'mynetworks = 127.0.0.0/8, 192.168.0.0/16'
postconf -e 'home_mailbox = Maildir/'

postfix set-permissions

restorecon -vR /etc

systemctl stop postfix
systemctl start postfix
systemctl restart postfix
systemctl enable dovecot
systemctl start dovecot

1Help 2UnWrap 3Quit 4Hex 5Goto 6
```

```
/vagrant/provision/client/mail.sh
#!/bin/bash

echo "Provisioning script $0"

echo "Install needed packages"
dnf -y install postfix
dnf -y install s-nail
dnf -y install evolution

echo "Configure postfix"
postconf -e 'inet_protocols = ipv4'

echo "Start postfix service"
systemctl enable postfix
systemctl start postfix
```

Вывод: таким образом, в ходе выполнения л/р №9, я приобрела практические навыки по установке и простейшему конфигурированию POP3/IMAP-сервера.