

# **Лабораторная работа**

Номер 9

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01 января 1970

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## Информация

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## Докладчик

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## Цель работы

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

# Установка dovecot и telnet

```
[root@server.dmmosharov.net ~]# dnf -y install dovecot telnet
Last metadata expiration check: 1:06:30 ago on Thu 29 Jan 2026 08:16:13
PM UTC.
Dependencies resolved.
=====
 Package      Arch      Version           Repository      Size
=====
Installing:
dovecot      x86_64    1:2.3.21-16.el10   appstream      4.9 M
telnet       x86_64    1:0.17-94.el10    appstream      62 k
Transaction Summary
=====
Install 2 Packages

Total download size: 5.0 M
Installed size: 18 M
Downloading Packages:
(1/2): dovecot-2.3.21-16.el10.x86_64.rpm 20 MB/s | 4.9 MB  00:00
(2/2): telnet-0.17-94.el10.x86_64.rpm 137 kB/s | 62 kB   00:00
Total                                         518 kB/s | 5.0 MB  00:09
Running transaction check
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
Running transaction
  Preparing :                                                 1/1
  Installing : telnet-1:0.17-94.el10.x86_64                1/2
  Running scriptlet: dovecot-1:2.3.21-16.el10.x86_64        2/2
  Installing : dovecot-1:2.3.21-16.el10.x86_64              2/2
  Running scriptlet: dovecot-1:2.3.21-16.el10.x86_64        2/2

Installed:
dovecot-1:2.3.21-16.el10.x86_64    telnet-1:0.17-94.el10.x86_64

Complete!
[root@server.dmmosharov.net ~]#
```

Рис. 1: Установка dovecot и telnet

# Задавание протоколов для dovecot

```
## Dovecot configuration file

# If you're in a hurry, see http://wiki2.dovecot.org/QuickConfiguration

# "doveconf -n" command gives a clean output of the changed settings. >
# instead of copy&pasting files when posting to the Dovecot mailing list
# ' #' character and everything after it is treated as comments. Extra #
# and tabs are ignored. If you want to use either of these explicitly, put
# value inside quotes, eg.: key = "# char and trailing whitespace. "

# Most (but not all) settings can be overridden by different protocols
# source/destination IPs by placing the settings inside sections, for example:
# 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. namespaces)
# 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 config
# options. The paths listed here are for configure --prefix=/usr
# --sysconfdir=/etc --localstatedir=/var

# Protocols we want to be serving.
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,
# edit conf.d/master.conf.
listen = *, ::

# Base directory where to store runtime data.
base_dir = /var/run/dovecot

# Name of this instance. In multi-instance setup dovecadm and other commands
# can use -i <instance_name> to select which instance is used (an alternative
# name for dovecot).
```

Рис. 2: Задавание протоколов для dovecot

## /etc/conf.d/10-auth.conf

```
# 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
```

**Рис. 3:** /etc/conf.d/10-auth.conf

## /etc/conf.d/auth-system.conf.ext, driver для passwd

```
GNU nano 8.1      /etc/dovecot/conf.d/auth-system.conf.ext
# Authentication for system users. Included from 10-auth.conf.
#
# <doc/wiki/PasswordDatabase.txt>
# <doc/wiki/UserDatabase.txt>

# 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=<>]
    # [cache_key=<key>] [<service name>]
    #args = dovecot
}
```

Рис. 4: /etc/conf.d/auth-system.conf.ext, driver для passwd

## /etc/conf.d/auth-system.conf.ext, driver для userdb

```
##  
## User databases  
##  
  
# System users (NSS, /etc/passwd, or similar). In many systems nowadays  
# 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  
}
```

**Рис. 5:** /etc/conf.d/auth-system.conf.ext, driver для userdb

## /etc/dovecot/conf.d/10-mail.conf

```
GNU nano 8.1          /etc/dovecot/conf.d/10-mail.conf      Modified .  
##  
## Mailbox locations and namespaces  
##  
  
# Location for users' mailboxes. The default is empty, which means tha>  
# tries to find the mailboxes automatically. This won't work if the us>  
# doesn't yet have any mail, so you should explicitly tell Dovecot the>  
# location.  
#  
# If you're using mbox, giving a path to the INBOX file (eg. ./var/mail/>  
# isn't enough. You'll also need to tell Dovecot where the other mailb>  
# kept. This is called the "root mail directory", and it must be the fo>  
# path given in the mail_location setting.  
#  
# There are a few special variables you can use, eg.:  
#  
# %u - username  
# %n - user part in user@domain, same as %u if there's no domain  
# %d - domain part in user@domain, empty if there's no domain  
# %h - home directory  
#  
# See doc/wiki/Variables.txt for full list. Some examples:  
#  
#   mail_location = maildir:~/Maildir  
#   mail_location = mbox:~/mail:INBOX=/var/mail/%u  
#   mail_location = mbox:/var/mail/%d/%n:INDEX=/var/indexes/%d/%n>  
#  
# <doc/wiki/MailLocation.txt>  
#  
mail_location = maildir:~/Maildir
```

Рис. 6: /etc/dovecot/conf.d/10-mail.conf

## postconf

```
[root@server.dmmosharov.net ~]# postconf -e 'home_mailbox = Maildir/'
```

Рис. 7: postconf

# Настройка firewall

```
er-secure kube-worker kubelet kubelet-readonly kubelet-worker ldap ldap-
s libvirt libvirt-tls lightning-network linnr linnr-client linnr-tcp ll-
nnr-uds managesieve matrix mdns memcache minecraft mindlns mongodb
mosh mounted mpt mqtt mqtt-tls ns-wbt mssql murmur mysql nbd nebulas ne-
ed-for-speed-most-wanted netbios-ns netdata-dashboard nfs nfs3 nmea-018
nrpe ntp nut opentelemetry openvpn ovirt-imageio ovirt-storageconsole
ovirt-vmconsole plex pncd pmproxy pmwebapi pmwebapis pop3 pop3s postgr
esql privoxy prometheus prometheus-node-exporter proxy-dhcp ps2link ps3
netcrv ppt pulseaudio puppetmaster quassel radius radsec rdp redis redi-
s-sentinel rootd rpc-bind rquotad rsh rsyncd rtsp salt-master samba sam-
ba-client samba-dc sanc settlers-history-collection sip sips slinerv sl-
p smtp smtp-submission smtps snmp snmpfis snmpfis-trap snmptrap spidero
ak-lansync spotify-sync squid ssdp ssh ssh-custon statsrv steam-lan-tra-
nsfer steam-streaming stellaris stronghold-crusader stun stuns submissi-
on supertuxkart svdrp svn syncthing-gui syncthing-relay syner-
gy syscomlan syslog syslog-tls telnet tentacle terraria tftp tile38 tin-
c tor-socks transmission-client turn turns upnp-client vdsm vnc-server
vrarp warpinator wbem-http wbem-https wireguard ws-discovery ws-discover
y-client ws-discovery-host ws-discovery-tcp ws-discovery-udp wsdd wsdd-
http wsman wsman xdmcp xmpp-bosh xmpp-client xmpp-local xmpp-server za-
abbix-agent zabbix-java-gateway zabbix-server zabbix-trapper zabbix-web-
service zero-k zeotier
[root@server.dmmosharov.net ~]# firewall-cmd --add-service=pop3 --perma-
nent
success
[root@server.dmmosharov.net ~]# firewall-cmd --add-service=pop3s --perm-
anent
success
[root@server.dmmosharov.net ~]# firewall-cmd --add-service=imap --perm-
anent
success
[root@server.dmmosharov.net ~]# firewall-cmd --add-service=imaps --perm-
anent
success
[root@server.dmmosharov.net ~]# firewall-cmd --reload
success
[root@server.dmmosharov.net ~]# firewall-cmd --list-services
cockpit dhcpc dhcpcv6-client dms http https imap imaps pop3 pop3s smtp ss-
h ssh-custom
[root@server.dmmosharov.net ~]#
```

Рис. 8: Настройка firewall

## Запуск служб

```
[root@server.dmmosharov.net ~]# restorecon -vR /etc
[root@server.dmmosharov.net ~]# systemctl restart postfix
[root@server.dmmosharov.net ~]# systemctl enable dovecot
Created symlink '/etc/systemd/system/multi-user.target.wants/dovecot.service' → '/usr/lib/systemd/system/dovecot.service'.
[root@server.dmmosharov.net ~]# systemctl start dovecot
[root@server.dmmosharov.net ~]# █
```

**Рис. 9:** Запуск служб

## Лог /var/log/maillog

```
[dmmosharov@server.dmmosharov.net ~]$ sudo -i
[sudo] password for dmmosharov:
[root@server.dmmosharov.net ~]# tail -f /var/log/maillog
Jan 29 20:54:26 server postfix/cleanup[163131]: C2F4223CFFB8: message-i
d=<2026012905426.B00129071B@client.dmmosharov.net>
Jan 29 20:54:26 server postfix/smtpd[163127]: disconnect from unknown[1
92.168.1.30] ehlo=2 starttls=1 mail=1 rcpt=1 data=1 quit=1 commands=7
Jan 29 20:54:26 server postfix/qmgr[162971]: C2F4223CFFB8: from=<vagran
t@client.dmmosharov.net>, size=540, nrcpt=1 (queue active)
Jan 29 20:54:26 server postfix/local[163132]: C2F4223CFFB8: to=<dmmosha
rov@dmmosharov.net>, relay=local, delay=0.02, delays=0.01/0.01/0/0, dsn
=2.0.0, status=sent (delivered to mailbox)
Jan 29 20:54:26 server postfix/qmgr[162971]: C2F4223CFFB8: removed
Jan 29 21:29:59 server postfix/postfix-script[168090]: stopping the Pos
tfix mail system
Jan 29 21:29:59 server postfix/master[160843]: terminating on signal 15
Jan 29 21:30:00 server postfix/postfix-script[168168]: starting the Pos
tfix mail system
Jan 29 21:30:00 server postfix/master[168170]: daemon started -- versio
n 3.8.5, configuration /etc/postfix
Jan 29 21:30:11 server dovecot[168363]: master: Dovecot v2.3.21 (47349e
2482) starting up for imap, pop3
```

**Рис. 10:** Лог /var/log/maillog

## mail и doveadm

```
[dmmosharov@server.dmmosharov.net ~]$ MAIL=~/Maildir mail
s-nail: No mail for dmmosharov at /home/dmmosharov/Maildir
s-nail: /home/dmmosharov/Maildir: No such entry, file or directory
[dmmosharov@server.dmmosharov.net ~]$ sudo doveadm mailbox list -u dmmo
sharov
[sudo] password for dmmosharov:
INBOX
[dmmosharov@server.dmmosharov.net ~]$
```

**Рис. 11:** mail и doveadm

# Установка evolution

```
root@client: # dnf -y install evolution
Last metadata expiration check: 1:01:53 ago on Thu 29 Jan 2026 08:31:50 PM UTC.
Dependencies resolved.
=====
 Package          Architecture Version      Repository    Size
=====
Installing:
 evolution        x86_64      3.52.4-2.el10_1      epel       4.6 M
Installing dependencies:
 czmq-libs        x86_64      0.30.3-5.el10_0      epel       96 k
 cpufreq          x86_64      24.09.26-1.gittle83a2f.el10_1.1  epel      42 k
 evolution-langpacks noarch     3.52.4-2.el10_1      epel      6.0 M
 flite             x86_64      2.2-10.el10_0      epel      12 M
 gspell            x86_64      1.14.0-1.el10_0      epel      111 k
 harfbuzz-icu     x86_64      8.4.0-6.el10      appstream  15 k
 highlight          x86_64      4.17-1.el10_1      epel      948 k
 highway            x86_64      1.2.0-7.el10_1      epel      470 k
 hyphen             x86_64      2.8.8-26.el10      appstream  29 k
 javascriptcoregtk4.1 x86_64      2.58.4-2.el10_1      epel      8.6 M
 libbam             x86_64      3.13.1-1.el10_1      epel      1.8 M
 libavif            x86_64      1.0-4.7.el10_0      epel      89 k
 libdav1d          x86_64      1.5.2-1.el10_1      epel      638 k
 libjxl             x86_64      1:0.10.4-1.el10_1      epel      1.2 M
 libmanette         x86_64      0.2.9-2.el10_0      epel      58 k
 libvmaf            x86_64      3.0.0-2.el10_0      epel      194 k
 openexr-libs       x86_64      3.1.10-6.el10      appstream  1.1 M
 svt-av1-libs       x86_64      2.3.0-1.el10_0      epel      2.0 M
 webkit2gtk4.1     x86_64      2.50.4-2.el10_1      epel      27 M
 woff2              x86_64      1.0.2-21.el10      appstream  63 k
Installing weak dependencies:
 jxl-pixbuf-loader x86_64      1:0.10.4-1.el10_1      epel      19 k
=====
Transaction Summary
=====
Install 22 Packages
=====
Total download size: 67 M
```

Рис. 12: Установка evolution

# Заполнение вкладки identity

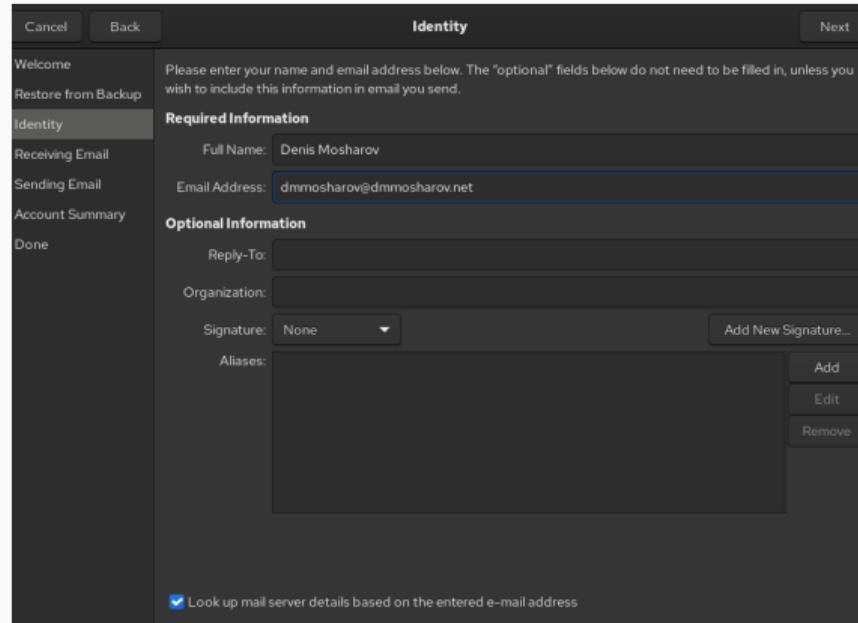
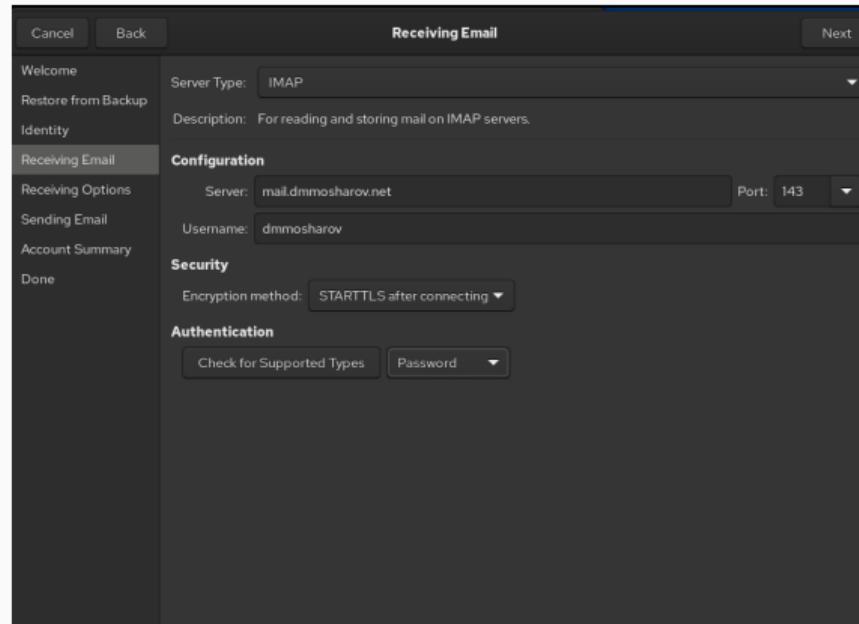


Рис. 13: Заполнение вкладки identity

# Заполнение вкладки recieving email



**Рис. 14:** Заполнение вкладки recieving email

# Заполнение вкладки sending email

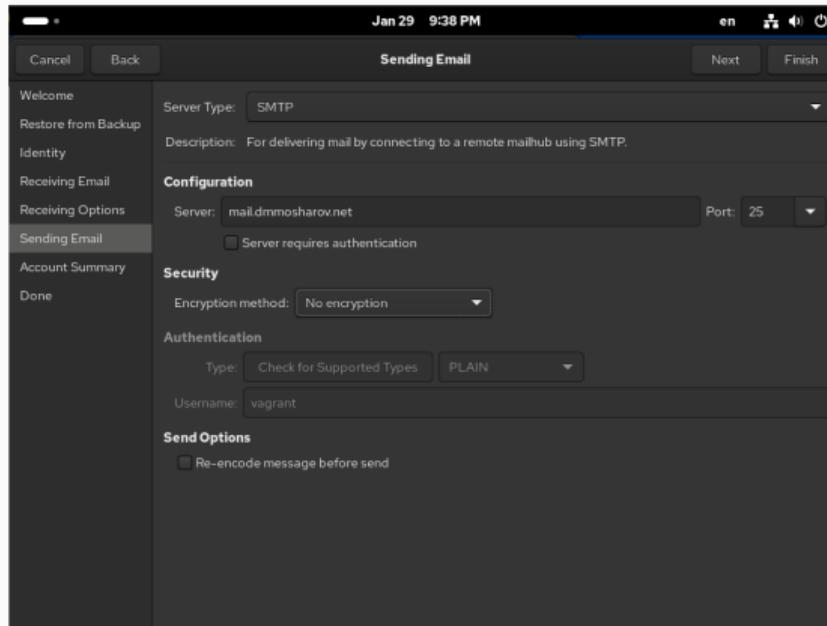
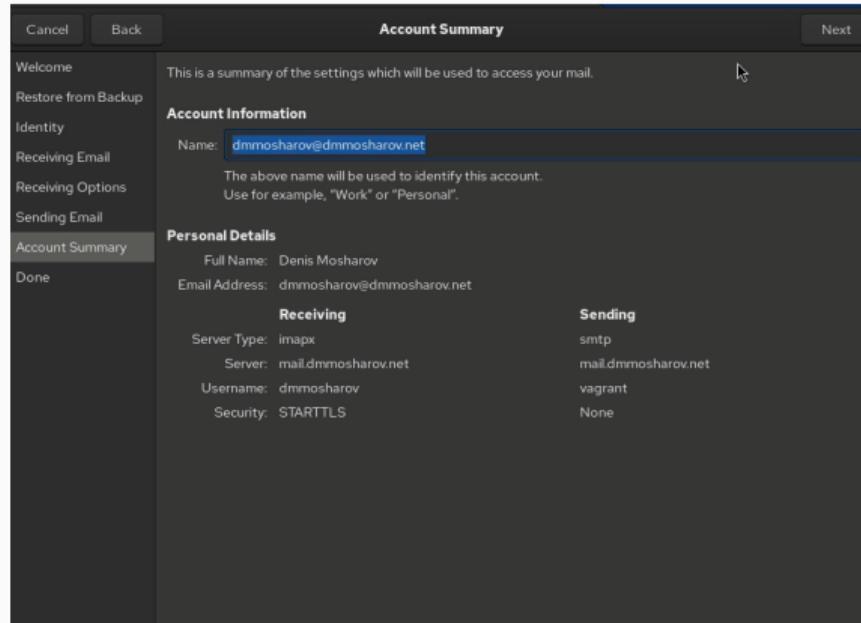


Рис. 15: Заполнение вкладки sending email

# account summary



**Рис. 16:** account summary

# Сертификат

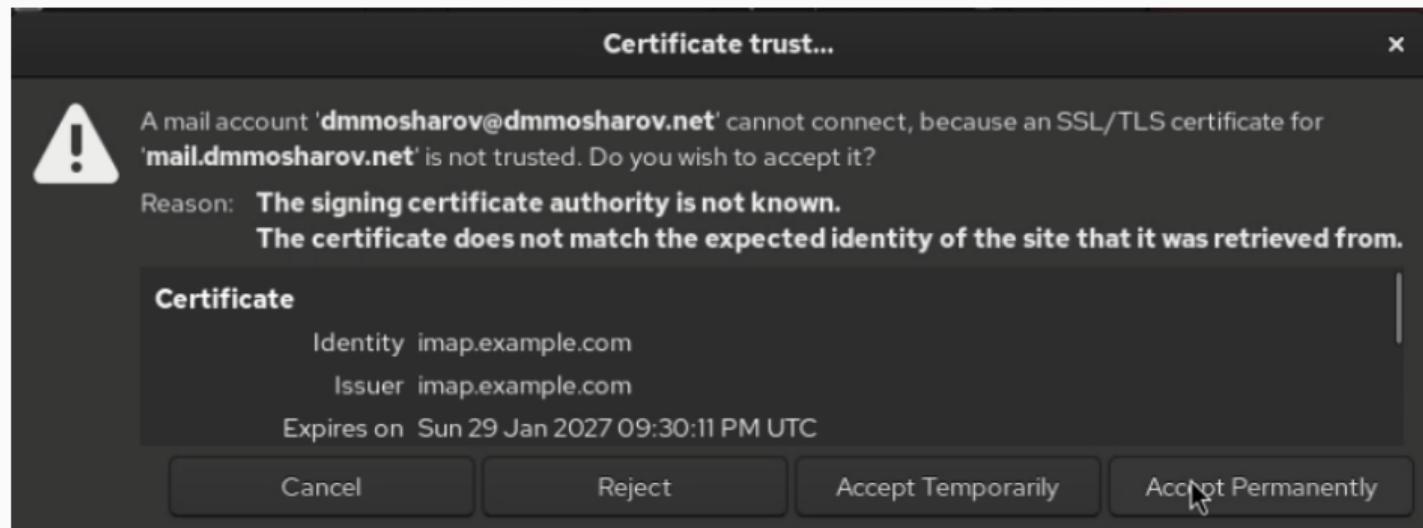
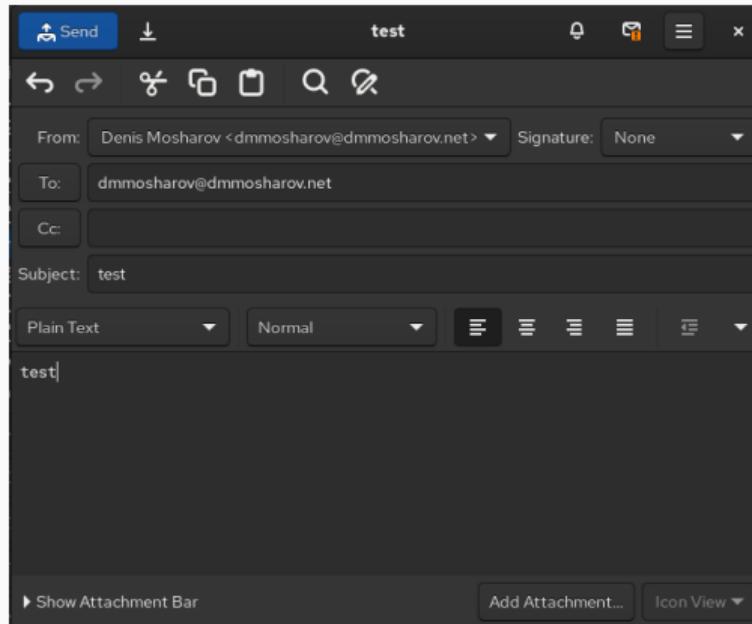


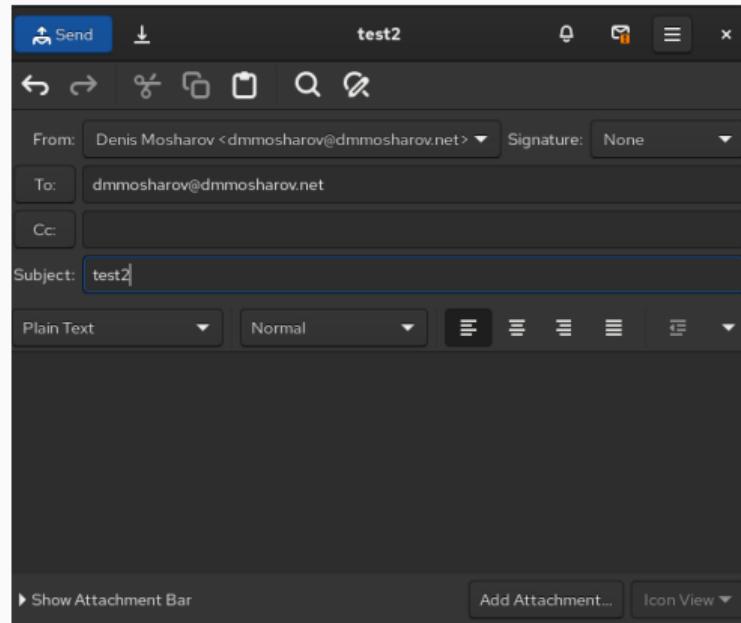
Рис. 17: Сертификат

## Отправка первого письма



**Рис. 18:** Отправка первого письма

## Отправка второго письма



**Рис. 19:** Отправка второго письма

## Проверка отправки

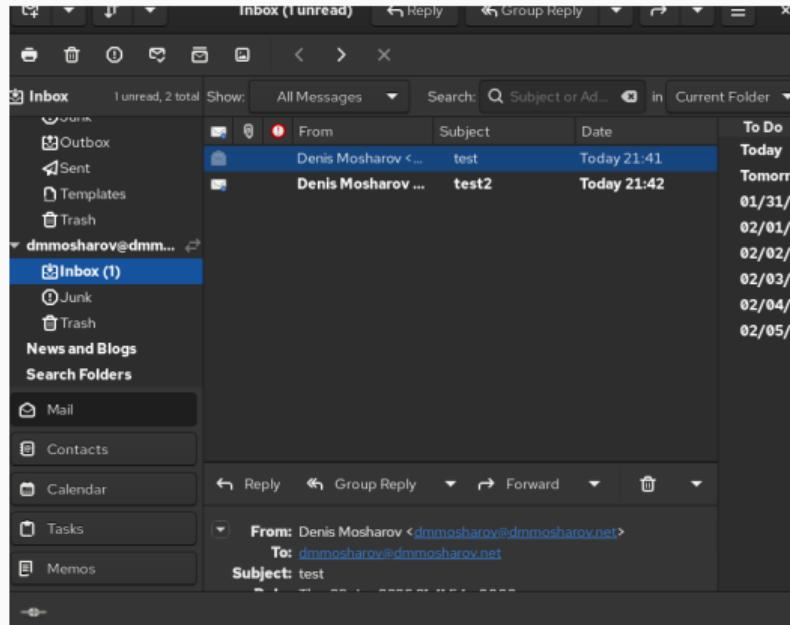


Рис. 20: Проверка отправки

# Почтовый лог сервера

```
Jan 29 21:41:54 server postfix/smtpd[169917]: warning: run-time library
` vs. compile-time header version mismatch: OpenSSL 3.5.0 may not be com-
patible with OpenSSL 3.2.0
Jan 29 21:41:54 server postfix/smtpd[169917]: connect from unknown[192.
168.1.30]
Jan 29 21:41:54 server postfix/smtpd[169917]: 3BA5023B7826: client=unkn
own[192.168.1.30]
Jan 29 21:41:54 server postfix/cleanup[169921]: 3BA5023B7826: message-i
d=<ac6201fdbb559fd4ae06b445bfd3c09b624075e.camel@dmmosharov.net>
Jan 29 21:41:54 server postfix/qmgr[168172]: 3BA5023B7826: from=<dmmosha
rov@dmmosharov.net>, size=547, nrcpt=1 (queue active)
Jan 29 21:41:54 server postfix/smtpd[169917]: disconnect from unknown[1
92.168.1.30] ehlo=1 mail=1 rcpt=1 data=1 quit=1 commands=5
Jan 29 21:41:54 server postfix/local[169922]: 3BA5023B7826: to=<dmmosha
rov@dmmosharov.net>, relay=local, delay=0.02, delays=0.01/0.01/0/0, dsn
=2.0.0, status=sent (delivered to maildir)
Jan 29 21:41:54 server postfix/qmgr[168172]: 3BA5023B7826: removed
Jan 29 21:42:42 server postfix/smtpd[169917]: connect from unknown[192.
168.1.30]
Jan 29 21:42:42 server postfix/smtpd[169917]: 5004423B7826: client=unkn
own[192.168.1.30]
Jan 29 21:42:42 server postfix/cleanup[169921]: 5004423B7826: message-i
d=<cb4f731041e294a48f2b1583545b5680e5468409.camel@dmmosharov.net>
Jan 29 21:42:42 server postfix/qmgr[168172]: 5004423B7826: from=<dmmosha
rov@dmmosharov.net>, size=544, nrcpt=1 (queue active)
Jan 29 21:42:42 server postfix/smtpd[169917]: disconnect from unknown[1
92.168.1.30] ehlo=1 mail=1 rcpt=1 data=1 quit=1 commands=5
Jan 29 21:42:42 server postfix/local[169922]: 5004423B7826: to=<dmmosha
rov@dmmosharov.net>, relay=local, delay=0.01, delays=0/0/0/0, dsn=2.0.0
, status=sent (delivered to maildir)
Jan 29 21:42:42 server postfix/qmgr[168172]: 5004423B7826: removed
```

Рис. 21: Почтовый лог сервера

## mail и doveadm

```
[dmmosharov@server.dmmosharov.net ~]$ MAIL=~/Maildir mail
s-nail version v14.9.24. Type `?' for help
/home/dmmosharov/Maildir: 2 messages 1 unread
  1 Denis Mosharov      2026-01-29 21:41  18/656    "test"
▶U 2 Denis Mosharov      2026-01-29 21:42  17/652    "test2"
& Interrupt
& exit
[dmmosharov@server.dmmosharov.net ~]$ sudo doveadm mailbox list -u dmmo
sharov
[sudo] password for dmmosharov:
INBOX
[dmmosharov@server.dmmosharov.net ~]$ █
```

**Рис. 22:** mail и doveadm

# Работа с почтой через telnet

```
[root@server.dmosharov.net ~]# telnet mail.dmosharov.net 110
Trying 192.168.1.1...
Connected to mail.dmosharov.net.
Escape character is '^'.
+OK Dovecot ready.
user dmosharov
+OK
pass 123456
+OK Logged in.
list
+OK 2 messages:
1 672
2 669
.
retr 1
+OK 672 octets
Return-Path: <dmosharov@dmosharov.net>
X-Original-To: dmosharov@dmosharov.net
Delivered-To: dmosharov@dmosharov.net
Received: from client.dmosharov.net (unknown [192.168.1.30])
    by server.dmosharov.net (Postfix) with ESMTP id 38A5@Z3B7826
    for <dmosharov@dmosharov.net>; Thu, 29 Jan 2026 21:41:54 +0000
(UTC)
Message-ID: <ac6201fdbb559ef7d4aa06b445bd93c09b624075e.camel@dmosharov.
net>
Subject: test
From: Denis Mosharov <dmosharov@dmosharov.net>
To: dmosharov@dmosharov.net
Date: Thu, 29 Jan 2026 21:41:54 +0000
Content-Type: text/plain
Content-Transfer-Encoding: 7bit
User-Agent: Evolution 3.52.4 (3.52.4-2.el10_1)
MIME-Version: 1.0

test
.
delete 2
+OK Marked to be deleted.
quit
+OK Logging out, messages deleted.
Connection closed by foreign host.
[root@server.dmosharov.net ~]#
```

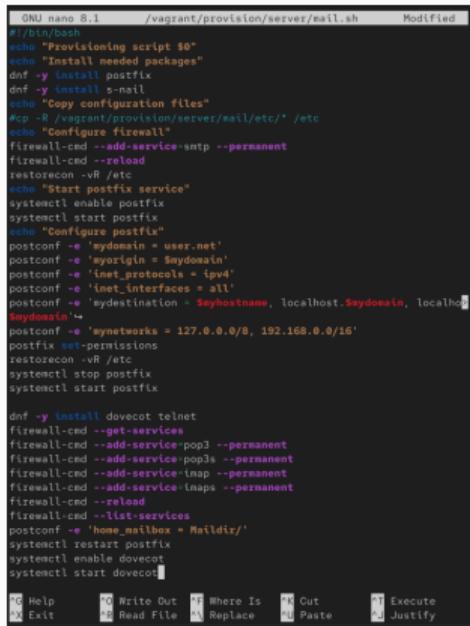
**Рис. 23:** Работа с почтой через telnet

# Сохранение конфигурации на сервере

```
[root@server.dmmosharov.net ~]# cd /vagrant/provision/server
[root@server.dmmosharov.net server]# mkdir -p /vagrant/provision/server
/mail/etc/dovecot/conf.d
[root@server.dmmosharov.net server]# cp -R /etc/dovecot/dovecot.conf /v
agrant/provision/server/mail/etc/dovecot/
[root@server.dmmosharov.net server]# cp -R /etc/dovecot/conf.d/10-auth.
conf /vagrant/provision/server/mail/etc/dovecot/conf.d/
[root@server.dmmosharov.net server]# cp -R /etc/dovecot/conf.d/auth-sys
tem.conf.ext /vagrant/provision/server/mail/etc/dovecot/conf.d/
[root@server.dmmosharov.net server]# cp -R /etc/dovecot/conf.d/10-mail.
conf /vagrant/provision/server/mail/etc/dovecot/conf.d/
[root@server.dmmosharov.net server]# nano /vagrant/provision/server/mai
l.sh
```

**Рис. 24:** Сохранение конфигурации на сервере

# mail.sh на сервере



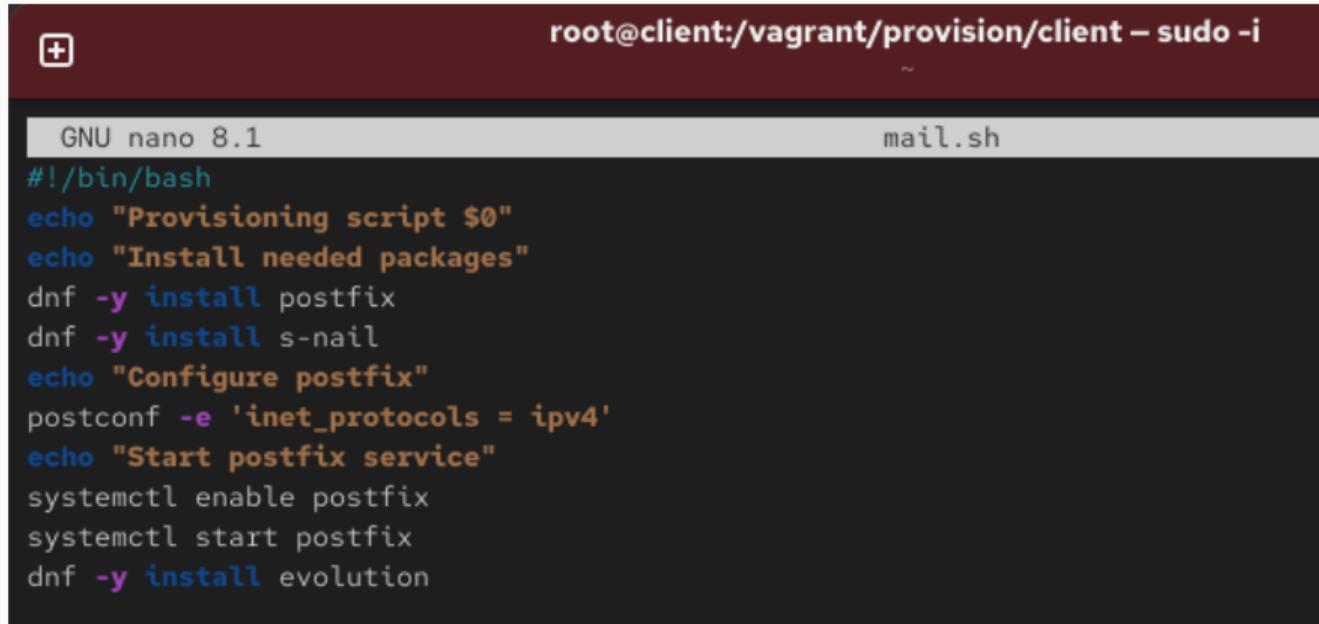
```
GNU nano 8.1      /vagrant/provision/server/mail.sh      Modified
#!/bin/bash
echo "Provisioning script $0"
echo "Install needed packages"
dnf -y install postfix
dnf -y install s-mail
echo "Copy configuration files"
cp -R /vagrant/provision/server/mail/etc/* /etc
echo "Configure firewall"
firewall-cmd --add-service=sntp --permanent
firewall-cmd --reload
restorecon -vR /etc
echo "Start postfix service"
systemctl enable postfix
systemctl start postfix
echo "Configure postfix"
postconf -e 'mydomain = user.net'
postconf -e 'myorigin = $mydomain'
postconf -e 'inet_protocols = ipv4'
postconf -e 'inet_interfaces = all'
postconf -e 'mydestination = $hostname, localhost.$mydomain, localhost'
postconf -e 'mydomain'
postconf -e 'synetworks = 127.0.0.0/8, 192.168.0.0/16'
postfix -vvv -permissions
restorecon -vR /etc
systemctl stop postfix
systemctl start postfix

dnf -y install dovecot telnet
firewall-cmd --get-services
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
firewall-cmd --list-services
postconf -e 'home_mailbox = Maildir/'
systemctl restart postfix
systemctl enable dovecot
systemctl start dovecot

# Help      # Write Out    # Where Is    # Cut      # Execute
# Exit      # Read File   # Replace    # Paste    # Justify
```

Рис. 25: mail.sh на сервере

## mail.sh на клиенте



The screenshot shows a terminal window with a dark background and light-colored text. At the top, it says "root@client:/vagrant/provision/client – sudo -i". Below that, there's a small icon of a plus sign inside a square. The main area of the terminal shows a file named "mail.sh" being edited with "GNU nano 8.1". The script contains the following code:

```
GNU nano 8.1                               mail.sh
#!/bin/bash
echo "Provisioning script $0"
echo "Install needed packages"
dnf -y install postfix
dnf -y install s-nail
echo "Configure postfix"
postconf -e 'inet_protocols = ipv4'
echo "Start postfix service"
systemctl enable postfix
systemctl start postfix
dnf -y install evolution
```

Рис. 26: mail.sh на клиенте

## Выводы

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В результате выполнения лабораторной работы были получены навыки настройки и использования простейшего imap/pop3 сервера