

# Администрирование сетевых подсистем

Настройка POP3/IMAP сервера (Лабораторная работа №9)

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## Цели и задачи работы

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## Цель лабораторной работы

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Приобретение практических навыков по установке и конфигурированию POP3/IMAP-сервера на базе Postfix и Dovecot.

## Выполнение лабораторной работы

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## Установка Dovecot

```
root@server:~ - sudo -i
=====
Package      Architecture 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): telnet-0.17-94.el10.x86_64.rpm      1.9 MB/s |  62 kB   00:00
(2/2): dovecot-2.3.21-16.el10.x86_64.rpm    14 MB/s | 4.9 MB   00:00
-----
Total                                         8.5 MB/s | 5.0 MB   00:00

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.zmustafaev.net ~]#
```

# Настройка протоколов

```
dovecot.conf      [----] 21 L:[ 1+24 25/103] *(1177/4317b) 0010 0x00A [*][X]
## 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. Use it
# instead of copy&pasting files when posting to the Dovecot mailing list.

# '#' character and everything after it is treated as comments. Extra spaces
# and tabs are ignored. If you want to use either of these explicitly, put the
# value inside quotes, eg.: key = "# char and trailing whitespace"

# Most (but not all) settings can be overridden by different protocols and/or
# 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. 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

# 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 = *, ::

1Help   2Save   3Mark   4Replac   5Copy   6Move   7Search   8Delete   9PullDn   10Quit
```

# Настройка аутентификации

The screenshot shows a terminal window titled "root@server:~ - sudo -i". The window contains the configuration file for Dovecot's authentication mechanism, specifically the "auth.conf" file. The file includes various parameters such as "auth\_ssl\_require\_client\_cert", "auth\_ssl\_username\_from\_cert", and "auth\_mechanisms". It also defines sections for password and user databases, including "passdb" and "userdb" settings. The configuration is heavily commented with "#". The terminal interface at the bottom includes standard navigation keys like Help, Save, Replace, Copy, Move, Search, Delete, Pull Down, and Quit.

```
root@server:~ - sudo -i
[10-auth.conf      [---]  0 L:[ 89+30 119/128] *(4996/5248b)  0035  0x023 [*][X]
#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

##
## Password and user databases
##


#
# Password database is used to verify user's password (and nothing more).
# You can have multiple passdbs and userdbs. This is useful if you want to
# allow both system users (/etc/passwd) and virtual users to login without
# duplicating the system users into virtual database.
#
# <doc/wiki/PasswordDatabase.txt>
#
# User database specifies where mails are located and what user/group IDs
# own them. For single-UID configuration use "static" userdb.
#
# <doc/wiki/UserDatabase.txt>

#!include auth-deny.conf.ext
1Help   2Save   3Mark   4Replac  5Copy   6Move   7Search  8Delete  9PullDn  10Quit
```

## Настройка PAM и passwd

```
root@server:~ - sudo -i

auth-system.conf.ext  [---]  0 L:[ 1+16 17/ 35] *(446 /1127b) 0125 0x07D
# 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
}

userdb
    driver = passwd
}

# Static settings generated from template <doc/wiki/UserDatabase.Static.txt>
#userdb {
#    #driver = static
#    # Can return anything a userdb could normally return. For example:
#
#    # args = uid=500 gid=500 home=/var/mail/%u
#
#    # LDA and LMTP needs to look up users only from the userdb. This of course
#    # doesn't work with static userdb because there is no list of users.
#    # Normally static userdb handles this by doing a passdb lookup. This works
#    # with most passdbs, with PAM being the most notable exception. If you do
#    # the user verification another way, you can add allow_all_users=yes to
#    # the args in which case the passdb lookup is skipped.

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

# Настройка почтового хранилища

The screenshot shows a terminal window titled "root@server:~ - sudo -i". The window contains the configuration file for Dovecot's mail\_location setting. The configuration includes comments explaining the use of variables like %u, %n, %d, and %h, and examples of different mail\_location settings. The terminal has a standard Linux-style command-line interface with a menu bar at the bottom.

```
i0-mail.conf      [-M--]  0 L:[ 1+26 27/419] *(888 /17793b) 0035 0x023
##
## Mailbox locations and namespaces
##

# Location for users' mailboxes. The default is empty, which means that Dovecot
# tries to find the mailboxes automatically. This won't work if the user
# doesn't yet have any mail, so you should explicitly tell Dovecot the full
# location.
#
# If you're using mbox, giving a path to the INBOX file (eg. /var/mail/%u)
# isn't enough. You'll also need to tell Dovecot where the other mailboxes are
# kept. This is called the "root mail directory", and it must be the first
# 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/%n
#
# <doc/wiki/MailLocation.txt>
#
```

1Help 2Save 3Mark 4Replac 5Copy 6Move 7Search 8Delete 9PullDn 10Quit

## Настройка межсетевого экрана

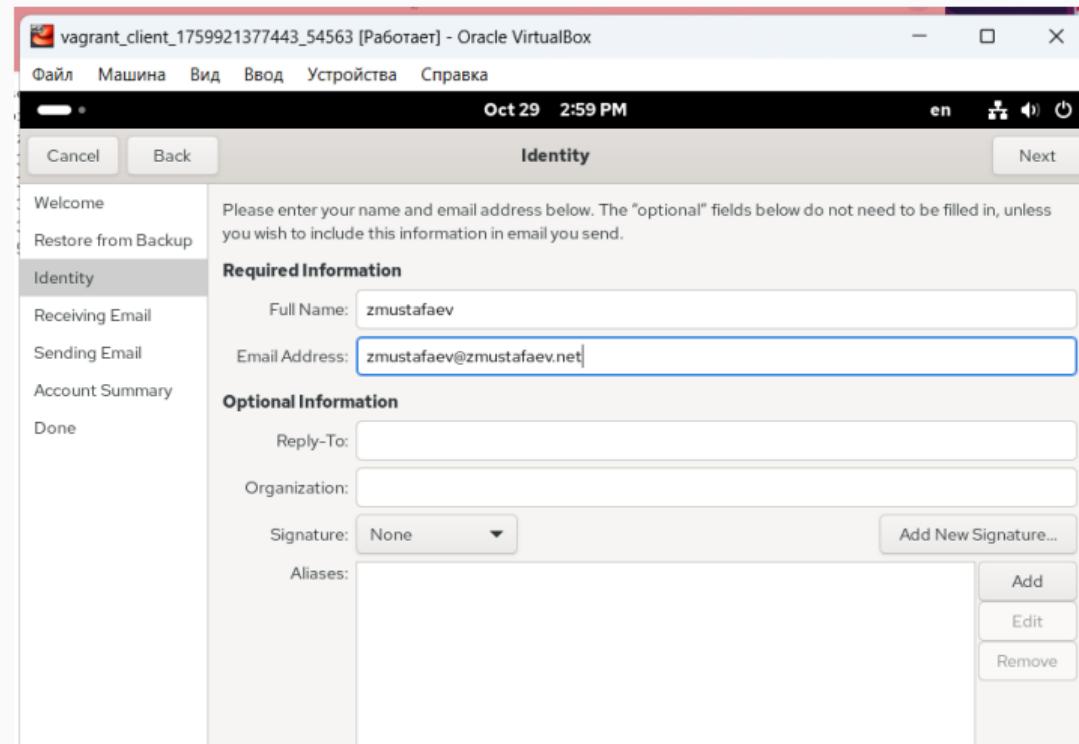
```
[root@server.zmustafaev.net ~]# firewall-cmd --add-service=pop3 --permanent
success
[root@server.zmustafaev.net ~]# firewall-cmd --add-service=pop3s --permanent
success
[root@server.zmustafaev.net ~]# firewall-cmd --add-service=imap --permanent
success
[root@server.zmustafaev.net ~]# firewall-cmd --add-service=imaps --permanent
success
[root@server.zmustafaev.net ~]# firewall-cmd --reload
success
[root@server.zmustafaev.net ~]# firewall-cmd --list-services
cockpit dhcp dhcpcv6-client dns http imap imaps pop3 pop3s smtp ssh ssh-custom
[root@server.zmustafaev.net ~]# systemctl restart postfix
[root@server.zmustafaev.net ~]# systemctl enable dovecot
Created symlink '/etc/systemd/system/multi-user.target.wants/dovecot.service' → '/usr/lib/systemd/system/dovecot.service'.
[root@server.zmustafaev.net ~]# systemctl start dovecot
[root@server.zmustafaev.net ~]# █
```

Рис. 6: Настройка правил firewall для POP3 и IMAP

## Проверка работы Dovecot

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# Мониторинг почтовых логов



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

# Настройка клиента Evolution

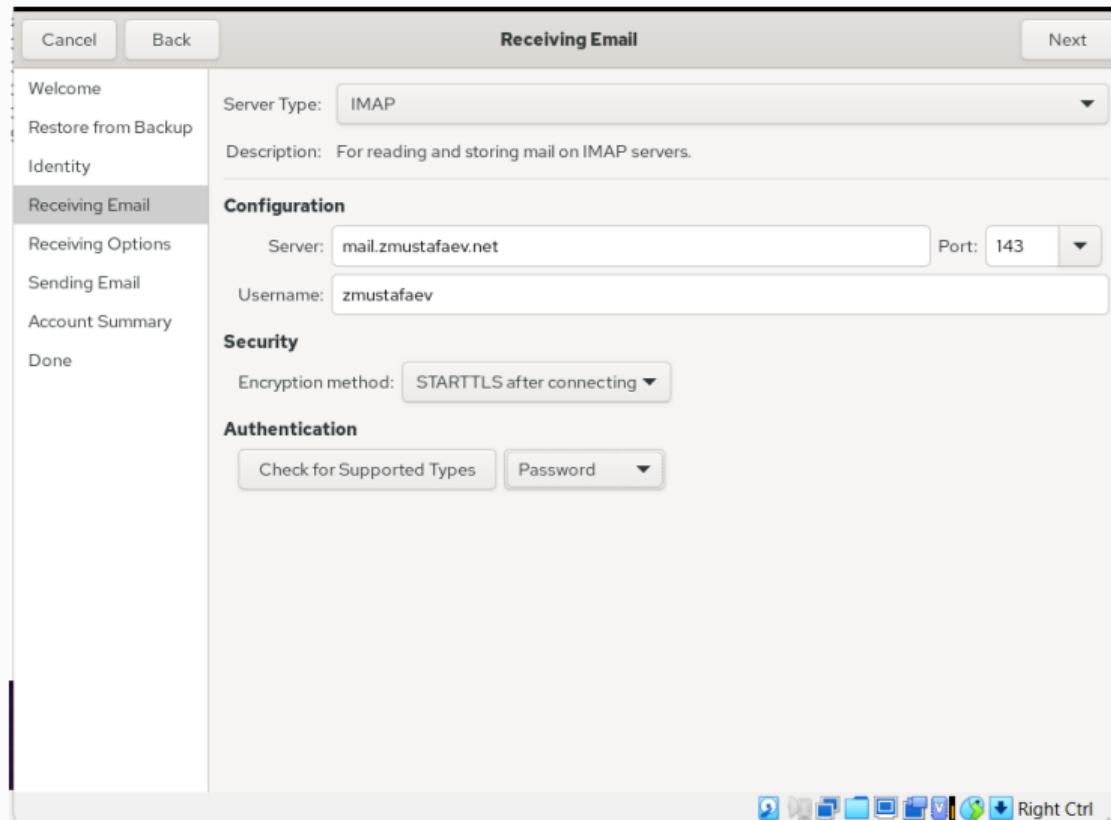


Рис. 8: Настройка данных пользователя в Evolution

# Настройка входящей почты IMAP

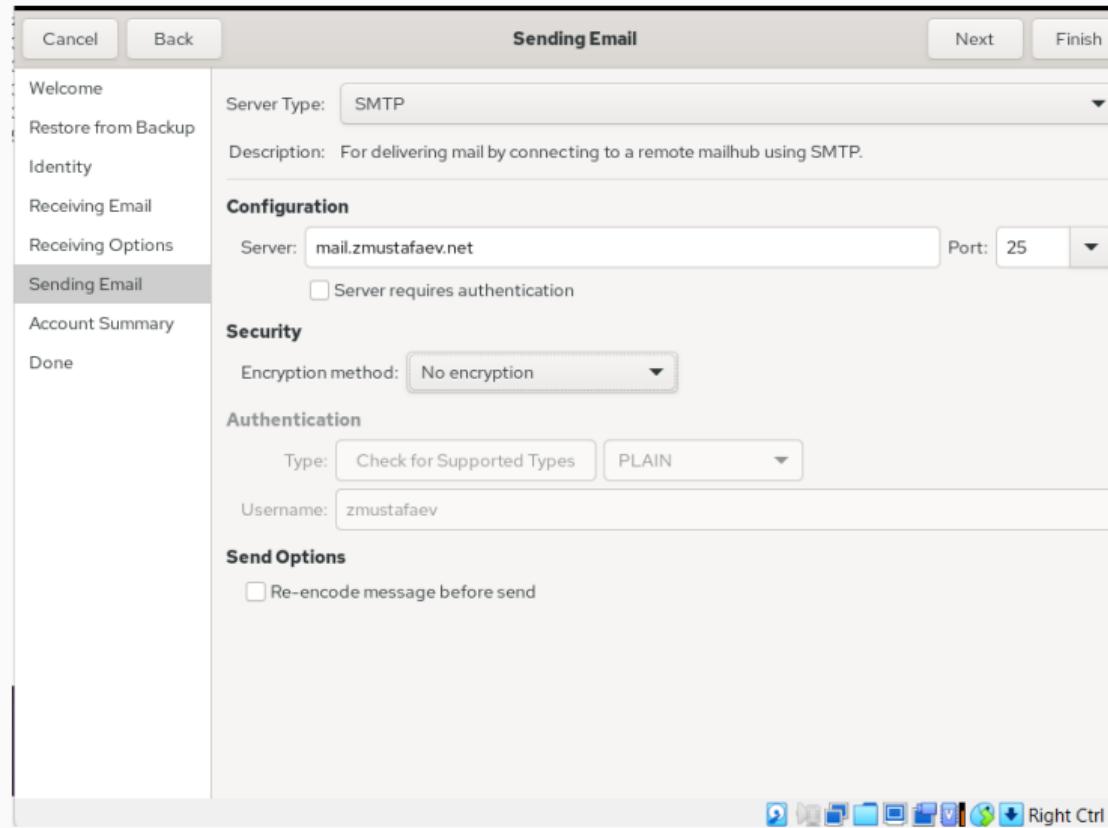


Рис. 9: Настройка входящей почты IMAP

## Настройка исходящей почты SMTP

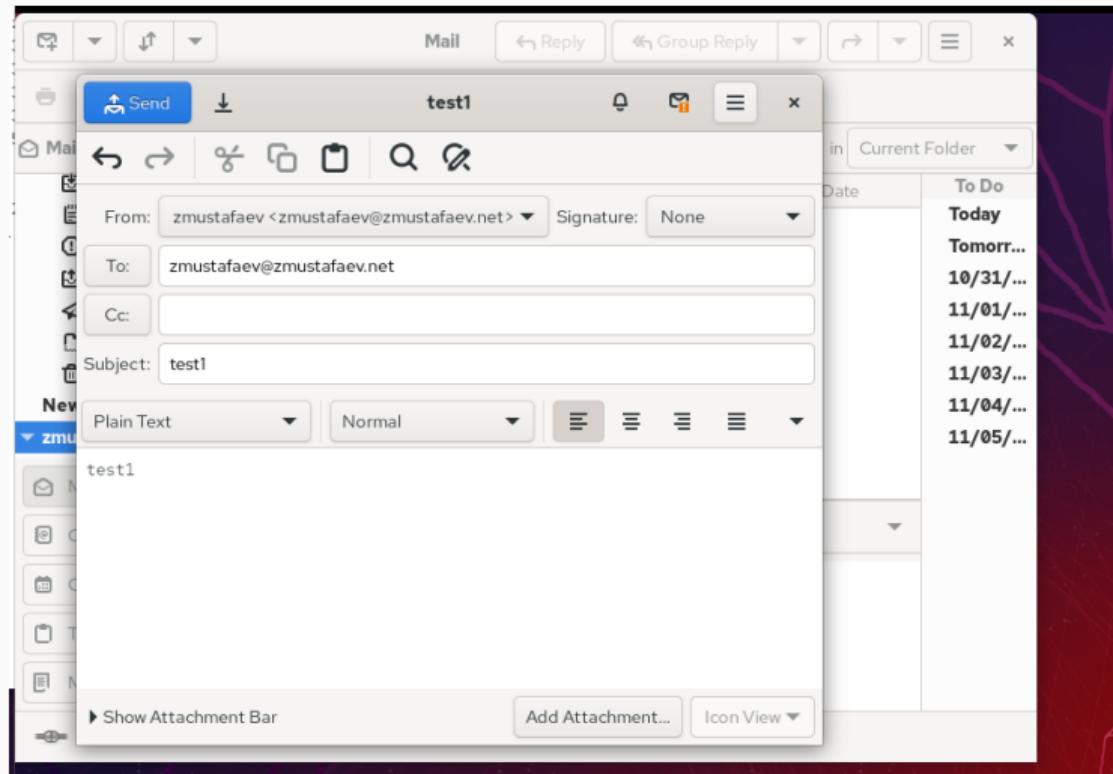
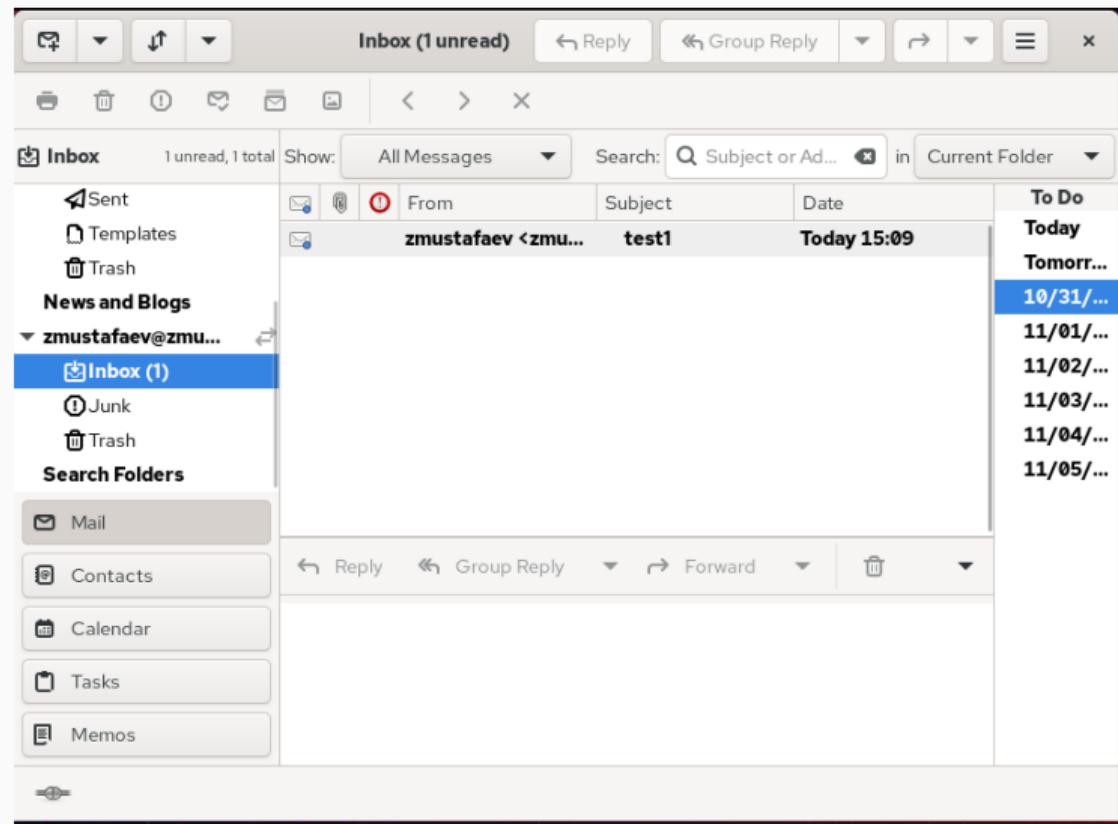


Рис. 10: Настройка исходящей почты SMTP

## Отправка тестового письма



## Получение письма во входящих

```
Oct 29 15:09:05 server postfix/smtpd[13659]: connect from client.zmustafaev.net[192.168.1.30]
Oct 29 15:09:05 server postfix/smtpd[13659]: A68DC20F6B87: client=client.zmustafaev.net[192.168.1.30]
Oct 29 15:09:05 server postfix/cleanup[13663]: A68DC20F6B87: message-id=<70e3dde61326c295eb101db970fa065fee68af5e.camel@zmustafaev.net>
Oct 29 15:09:05 server postfix/qmgr[13397]: A68DC20F6B87: from=<zmustafaev@zmustafaev.net>, size=559, nrcpt=1 (queue active)
Oct 29 15:09:05 server postfix/smtpd[13659]: disconnect from client.zmustafaev.net[192.168.1.30] ehlo=1 mail=1 rcpt=1 data=1 quit=1 commands=5
Oct 29 15:09:05 server postfix/local[13664]: A68DC20F6B87: to=<zmustafaev@zmustafaev.net>, relay=local, delay=0.01, delays=0/0/0/0, dsn=2.0.0, status=sent (delivered to maildir)
Oct 29 15:09:05 server postfix/qmgr[13397]: A68DC20F6B87: removed
Oct 29 15:09:09 server dovecot[13580]: imap-login: Login: user=<zmustafaev>, method=PLAIN, rip=192.168.1.30, lip=192.168.1.1, mpid=13672, TLS, session=<r0eog01CBojAqAEe>
```

Рис. 12: Получение тестового письма во входящих

# Лог успешной доставки

```
zmustafaev@server:~  
root@server:~ - sudo -i  
root@server:~ - sudo -i  
zmustafaev@s  
  
+OK  
pass 123456  
+OK Logged in.  
list  
+OK 2 messages:  
1 684  
2 684  
.br/>retr 1  
+OK 684 octets  
Return-Path: <zmustafaev@zmustafaev.net>  
X-Original-To: zmustafaev@zmustafaev.net  
Delivered-To: zmustafaev@zmustafaev.net  
Received: from client.zmustafaev.net (client.zmustafaev.net [192.168.1.30])  
        by server.zmustafaev.net (Postfix) with ESMTP id A68DC20F6B87  
        for <zmustafaev@zmustafaev.net>; Wed, 29 Oct 2025 15:09:05 +0000 (UTC)  
Message-ID: <70e3dde61326c295eb101db970fa065fee68af5e.camel@zmustafaev.net>  
Subject: test1  
From: zmustafaev <zmustafaev@zmustafaev.net>  
To: zmustafaev@zmustafaev.net  
Date: Wed, 29 Oct 2025 15:09:05 +0000  
Content-Type: text/plain  
Content-Transfer-Encoding: 7bit  
User-Agent: Evolution 3.52.4 (3.52.4-2.el10_0)  
MIME-Version: 1.0  
  
test1  
.br/>dele 2  
+OK Marked to be deleted.  
quit
```

## Выводы по проделанной работе

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## Вывод

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В ходе лабораторной работы был установлен и настроен почтовый сервер на базе **Postfix** и **Dovecot**.

Реализованы протоколы **SMTP**, **IMAP** и **POP3**, выполнена проверка передачи и приёма писем с помощью **Evolution** и **telnet**.

Настроены межсетевой экран и автоматизация конфигурации в **Vagrant**.