

# Лабораторная работа №4

## Работа с программными пакетами

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## Цель работы

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## Основная цель

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Получить практические навыки работы с репозиториями и менеджерами пакетов **dnf** и **rpm** в операционной системе Rocky Linux.

## Ход выполнения работы

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## Переход в режим суперпользователя и просмотр репозиториев

```
mlabsi@mlabsi:~$ su
Password:
root@mlabsi:/home/mlabsi# cd /etc/yum.repos.d/
root@mlabsi:/etc/yum.repos.d# ls
rocky-addons.repo  rocky-extras.repo  Rocky-SIG-Core-Common.repo
rocky-devel.repo   rocky.repo        Rocky-SIG-Core-Infra.repo
root@mlabsi:/etc/yum.repos.d# cat rocky-extras.repo
# rocky-extras.repo
#
# The mirrorlist system uses the connecting IP address of the client and the
# update status of each mirror to pick current mirrors that are geographically
# close to the client. You should use this for Rocky updates unless you are
# manually picking other mirrors.
#
# If the mirrorlist does not work for you, you can try the commented out
# baseurl line instead.

[extras]
name=Rocky Linux $releasever - Extras
mirrorlist=https://mirrors.rockylinux.org/mirrorlist?arch=$basearch&repo=extras-$releasever$rltype
#baseurl=http://dl.rockylinux.org/$contentdir/$releasever/extras/$basearch/os/
gpgcheck=1
enabled=1
countme=1
metadata_expire=6h
gpgkey=file:///etc/pki/rpm-gpg/RPM-GPG-KEY-Rocky-10
```

Рис. 1: Просмотр каталога /etc/yum.repos.d и файла репозитория

## Список активных репозиториев

```
root@mlabsi:/etc/yum.repos.d# dnf repolist
repo id                                repo name
appstream                               Rocky Linux 10 - AppStream
baseos                                  Rocky Linux 10 - BaseOS
core-common                            Rocky Linux 10 - SIG Core Common
extras                                   Rocky Linux 10 - Extras
root@mlabsi:/etc/yum.repos.d# dnf search user
Last metadata expiration check: 4 days, 5:59:20 ago on Mon 08 Dec 2025 01:05:55 PM MSK.
=====
===== Name & Summary Matched: user =====
gnome-user-docs.noarch : GNOME User Documentation
libuser.x86_64 : A user and group account administration library
perl-User-pwent.noarch : By-name interface to Perl built-in user name resolver
samba-usershares.noarch : Provides support for non-root user shares
usermode.x86_64 : Tools for certain user account management tasks
userspace-rcu.x86_64 : RCU (read-copy-update) implementation in user-space
xdg-user-dirs.x86_64 : Handles user special directories
=====
===== Name Matched: user =====
gnome-shell-extension-user-theme.noarch : Support for custom themes in GNOME Shell
xdg-user-dirs-gtk.x86_64 : Gnome integration of special directories
=====
===== Summary Matched: user =====
NetworkManager.x86_64 : Network connection manager and user applications
PackageKit-command-not-found.x86_64 : Ask the user to install command line programs automatically
accountsservice.x86_64 : D-Bus interfaces for querying and manipulating user account information
anaconda-gui.x86_64 : Graphical user interface for the Anaconda installer
anaconda-tui.x86_64 : Textual user interface for the Anaconda installer
audit.x86_64 : User space tools for kernel auditing
cachefilesd.x86_64 : CacheFiles user-space management daemon
cockpit-machines.noarch : Cockpit user interface for virtual machines
cockpit-ostree.noarch : Cockpit user interface for rpm-ostree
cockpit-packagekit.noarch : Cockpit user interface for packages
cockpit-storaged.noarch : Cockpit user interface for storage, using udisks
console-login-helper-messages.noarch : Combines motd, issue, profile features to show system information to the
```

## Поиск и информация о пакете nmap

```
root@mlabsi:/etc/yum.repos.d# dnf search nmap
=====
Name Exactly Matched: nmap =====
nmap.x86_64 : Network exploration tool and security scanner
=====
Name & Summary Matched: nmap =====
nmap-ncat.x86_64 : Nmap's Netcat replacement
root@mlabsi:/etc/yum.repos.d# dnf info nmap
Rocky Linux 10 - SIG Core Common                                1.5 kB/s | 2.9 kB   00:01
Rocky Linux 10 - BaseOS                                         8.0 kB/s | 4.3 kB   00:00
Rocky Linux 10 - AppStream                                       12 kB/s | 4.3 kB   00:00
Rocky Linux 10 - Extras                                         6.7 kB/s | 3.1 kB   00:00
Available Packages
Name      : nmap
Epoch     : 4
Version   : 7.92
Release   : 3.el10
Architecture : x86_64
Size      : 5.6 M
Source    : nmap-7.92-3.el10.src.rpm
Repository : appstream
Summary   : Network exploration tool and security scanner
URL       : http://nmap.org/
License   : LicenseRef-Nmap
Description: Nmap is a utility for network exploration or security auditing. It supports
            ping scanning (determine which hosts are up), many port scanning techniques
            (determine what services the hosts are offering), and TCP/IP fingerprinting
            (remote host operating system identification). Nmap also offers flexible target
            and port specification, decoy scanning, determination of TCP sequence
            predictability characteristics, reverse-identd scanning, and more. In addition
            to the classic command-line nmap executable, the Nmap suite includes a flexible
            data transfer, redirection, and debugging tool (netcat utility ncat), a utility
            for comparing scan results (ndiff), and a packet generation and response
            analysis tool (nping).
root@mlabsi:/etc/yum.repos.d#
```

Рис. 3: Поиск и информация о пакете nmap

## Установка пакета nmap

```
Total download size: 5.6 M
Installed size: 24 M
Is this ok [y/N]: y
Downloading Packages:
nmap-7.92-3.el10.x86_64.rpm                                         11 MB/s | 5.6 MB   00:00
-----
Total                                                               5.6 MB/s | 5.6 MB   00:01

Running transaction check
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
Running transaction
    Preparing          :                                         1/1
    Installing       : nmap-4:7.92-3.el10.x86_64             1/1
    Running scriptlet: nmap-4:7.92-3.el10.x86_64             1/1

Installed:
  nmap-4:7.92-3.el10.x86_64

Complete!
root@mlabsi:/etc/yum.repos.d# dnf install nmap\*
Last metadata expiration check: 0:00:41 ago on Fri 12 Dec 2025 07:05:55 PM MSK.
Package nmap-4:7.92-3.el10.x86_64 is already installed.
Package nmap-ncat-4:7.92-3.el10.x86_64 is already installed.
Dependencies resolved.
Nothing to do.
Complete!
root@mlabsi:/etc/yum.repos.d#
```

Рис. 4: Установка пакета nmap

## Удаление пакета nmap

```
Removed:
nmap-4:7.92-3.el10.x86_64

Complete!
root@mlabsi:/etc/yum.repos.d# dnf remove nmap\*
Dependencies resolved.
=====
 Package          Architecture      Version       Repository      Size
=====
 Removing:
 nmap-ncat        x86_64          4:7.92-3.el10  @AppStream    470 k

Transaction Summary
=====
 Remove 1 Package

Freeed space: 470 k
```

Рис. 5: Удаление пакета nmap

# Список и информация о группах пакетов

```
root@mlabsi:/etc/yum.repos.d# dnf groups list
Last metadata expiration check: 0:01:43 ago on Fri 12 Dec 2025 07:05:55 PM MSK.
Available Environment Groups:
  Server
  Minimal Install
  Workstation
  Custom Operating System
  Virtualization Host
Installed Environment Groups:
  Server with GUI
Installed Groups:
  Container Management
  Development Tools
  Headless Management
Available Groups:
  Legacy UNIX Compatibility
  Smart Card Support
  Console Internet Tools
  .NET Development
  Graphical Administration Tools
  Network Servers
  RPM Development Tools
  Scientific Support
  Security Tools
  System Tools
root@mlabsi:/etc/yum.repos.d# dnf groups info "RPM Development Tools"
Last metadata expiration check: 0:02:13 ago on Fri 12 Dec 2025 07:05:55 PM MSK.
Group: RPM Development Tools
  Description: Tools used for building RPMs, such as rpmbuild.
  Mandatory Packages:
    redhat-rpm-config
    rpm-build
  Default Packages:
    rpmdevtools
root@mlabsi:/etc/yum.repos.d#
```

# Установка и удаление группы RPM Development Tools

```
Upgraded:
crypto-policies-20250905-2.gitc7eb7b2.el10.noarch
openssl-1:3.5.1-4.el10_1.x86_64
openssl-libs-1:3.5.1-4.el10_1.x86_64
redhat-rpm-config-293-1.el10.noarch
rpm-build-4.19.1.1-20.el10.x86_64
rpm-libs-4.19.1.1-20.el10.x86_64
rpm-plugin-selinux-4.19.1.1-20.el10.x86_64
rpm-sequoia-1.9.0.3-1.el10_1.x86_64
rpm-sign-libs-4.19.1.1-20.el10.x86_64
crypto-policies-scripts-20250905-2.gitc7eb7b2.el10.noarch
openssl-devel-1:3.5.1-4.el10_1.x86_64
python3-rpm-4.19.1.1-20.el10.x86_64
rpm-4.19.1.1-20.el10.x86_64
rpm-build-libs-4.19.1.1-20.el10.x86_64
rpm-plugin-audit-4.19.1.1-20.el10.x86_64
rpm-plugin-systemd-inhibit-4.19.1.1-20.el10.x86_64
rpm-sign-4.19.1.1-20.el10.x86_64
Installed:
openssl-fips-provider-1:3.5.1-4.el10_1.x86_64    python3-argcomplete-3.2.2-4.el10.noarch    rpmdevtools-9.6-9.el10.noarch
Complete!
root@mlabsi:/etc/yum.repos.d#
```

Рис. 7: Установка и удаление группы пакетов

## Дополнительные операции с группами пакетов

```
Freed space: 472 k
Is this ok [y/N]: y
Running transaction check
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
Running transaction
  Preparing : 
  Erasing   : rpmdevtools-9.6-9.el10.noarch
  Erasing   : python3-argcomplete-3.2.2-4.el10.noarch
  Running scriptlet: python3-argcomplete-3.2.2-4.el10.noarch

Removed:
  python3-argcomplete-3.2.2-4.el10.noarch                         rpmdevtools-9.6-9.el10.noarch

Complete!
root@mlabsi:/etc/yum.repos.d#
```

Рис. 8: Удаление группы пакетов и освобождение места

## Просмотр истории операций dnf

```

root@mlabsi:/etc/yum.repos.d#
root@mlabsi:/etc/yum.repos.d# dnf history
ID | Command line                                | Date and time | Action(s) | Altered
---+-------------------------------------+-----+-----+-----+
12 | groupremove RPM Development Tools          | 2025-12-12 19:09 | Removed | 3
11 | groupinstall RPM Development Tools         | 2025-12-12 19:08 | I, U   | 21
10 | remove nmap*                             | 2025-12-12 19:07 | Removed | 1
  9 | remove nmap                            | 2025-12-12 19:07 | Removed | 1
  8 | install nmap                           | 2025-12-12 19:06 | Install  | 1
  7 | install --enablerepo=core-infra gdisk -y | 2025-11-11 14:09 | Install  | 1 <
  6 | install rocky-release-core -y            | 2025-11-11 14:08 | Install  | 1 >
  5 |
  4 | upgrade --refresh                      | 2025-10-28 09:43 | Install  | 237 EE
  3 | -y install httpd lynx                  | 2025-10-14 16:14 | Install  | 1
  2 | -y install httpd                      | 2025-10-11 11:51 | Install  | 11 <
  1 |
root@mlabsi:/etc/yum.repos.d# dnf history undo 12
Last metadata expiration check: 0:03:54 ago on Fri 12 Dec 2025 07:05:55 PM MSK.
Dependencies resolved.

=====
Package           Architecture      Version       Repository      Size
=====
Installing group/module packages:
  rpmdevtools      noarch        9.6-9.el10    appstream     87 k
Installing dependencies:
  python3-argcomplete  noarch        3.2.2-4.el10  appstream     88 k
Installing Groups:
```

Рис. 9: История операций dnf

## Проверка пакета lynx и загрузка rpm

```
root@mlabsi:/etc/yum.repos.d#  
root@mlabsi:/etc/yum.repos.d# dnf list lynx  
Last metadata expiration check: 0:05:15 ago on Fri 12 Dec 2025 07:05:55 PM MSK.  
Installed Packages  
lynx.x86_64          2.9.0-6.el10  
root@mlabsi:/etc/yum.repos.d# dnf install lynx --downloadonly  
Last metadata expiration check: 0:05:33 ago on Fri 12 Dec 2025 07:05:55 PM MSK.  
Package lynx-2.9.0-6.el10.x86_64 is already installed.  
Dependencies resolved.  
Nothing to do.  
Complete!
```

Рис. 10: Проверка и загрузка пакета lynx

## Расположение исполняемого файла lynx

```
root@mlabsi:/etc/yum.repos.d#  
root@mlabsi:/etc/yum.repos.d# which lynx  
/usr/bin/lynx  
root@mlabsi:/etc/yum.repos.d# rpm -qf $(which lynx)  
lynx-2.9.0-6.el10.x86_64  
root@mlabsi:/etc/yum.repos.d# rpm -qi lynx  
Name        : lynx  
Version     : 2.9.0  
Release     : 6.el10  
Architecture: x86_64  
Install Date: Tue 14 Oct 2025 04:14:30 PM MSK  
Group       : Unspecified  
Size        : 6283241  
License     : GPL-2.0-only  
Signature   :  
              RSA/SHA256, Thu 22 May 2025 11:34:29 PM MSK, Key ID 5b106c736fedfc85  
Source RPM  : lynx-2.9.0-6.el10.src.rpm  
Build Date  : Fri 01 Nov 2024 01:03:33 PM MSK  
Build Host  : pb-913aa2bb-e2a2-4928-a48c-b613e15933c9-b-x86-64  
Packager    : Rocky Linux Build System (Peridot) <releng@rockylinux.org>  
Vendor      : Rocky Enterprise Software Foundation  
URL         : https://lynx.invisible-island.net/  
Summary     : A text-based Web browser  
Description :  
Lynx is a text-based Web browser. Lynx does not display any images,  
but it does support frames, tables, and most other HTML tags. One  
advantage Lynx has over graphical browsers is speed; Lynx starts and  
exits quickly and swiftly displays web pages.  
root@mlabsi:/etc/yum.repos.d#
```

## Состав пакета lynx

```
root@mlabsi:/etc/yum.repos.d# rpm -ql lynx
/etc/lynx-site.cfg
/etc/lynx.cfg
/etc/lynx.lss
/usr/bin/lynx
/usr/lib/.build-id
/usr/lib/.build-id/69
/usr/lib/.build-id/69/febb96205311acd4b77a65d52b8e6f7eea76c3
/usr/share/doc/lynx
/usr/share/doc/lynx/README
/usr/share/doc/lynx/docs
/usr/share/doc/lynx/docs/CHANGES2.3
/usr/share/doc/lynx/docs/CHANGES2.4
/usr/share/doc/lynx/docs/CHANGES2.5
/usr/share/doc/lynx/docs/CHANGES2.6
/usr/share/doc/lynx/docs/CHANGES2.7
/usr/share/doc/lynx/docs/CHANGES2.8
/usr/share/doc/lynx/docs/CRAWL.announce
/usr/share/doc/lynx/docs/FM.announce
/usr/share/doc/lynx/docs/IBMPC-Charsets.announce
/usr/share/doc/lynx/docs/README.TRST
/usr/share/doc/lynx/docs/README.chartrans
/usr/share/doc/lynx/docs/README.cookies
/usr/share/doc/lynx/docs/README.defines
/usr/share/doc/lynx/docs/README.metrics
/usr/share/doc/lynx/docs/README.options
/usr/share/doc/lynx/docs/README.release
/usr/share/doc/lynx/docs/README.rootcerts
```

# Документация пакета lynx

```
root@mlabsi:/etc/yum.repos.d# rpm -qd lynx
/usr/share/doc/lynx/README
/usr/share/doc/lynx/docs/CHANGES2.3
/usr/share/doc/lynx/docs/CHANGES2.4
/usr/share/doc/lynx/docs/CHANGES2.5
/usr/share/doc/lynx/docs/CHANGES2.6
/usr/share/doc/lynx/docs/CHANGES2.7
/usr/share/doc/lynx/docs/CHANGES2.8
/usr/share/doc/lynx/docs/CRAWL.announce
/usr/share/doc/lynx/docs/FM.announce
/usr/share/doc/lynx/docs/IBMPC-Charsets.announce
/usr/share/doc/lynx/docs/README.TRST
/usr/share/doc/lynx/docs/README.chartrans
/usr/share/doc/lynx/docs/README.cookies
/usr/share/doc/lynx/docs/README.defines
/usr/share/doc/lynx/docs/README.metrics
/usr/share/doc/lynx/docs/README.options
/usr/share/doc/lynx/docs/README.release
/usr/share/doc/lynx/docs/README.rootcerts
/usr/share/doc/lynx/docs/README.ssl
/usr/share/doc/lynx/docs/README.sslcerts
/usr/share/doc/lynx/docs/SOCKETSHR.announce
/usr/share/doc/lynx/docs/TCPWARE.announce
/usr/share/doc/lynx/docs/VMSWAIS.announce
/usr/share/doc/lynx/docs/djgpp.key
/usr/share/doc/lynx/docs/pdcurses.key
/usr/share/doc/lynx/docs/slang.key
/usr/share/doc/lynx/docs/win-386.announce
```

# Справочное руководство lynx

The screenshot shows a terminal window with a red header bar. The title bar reads "mlabsi@mlabsi:/etc/yum.repos.d – man lynx" and the path "/etc/yum.repos.d". The window contains the man page for the Lynx web browser. The page is divided into sections: NAME, SYNOPSIS, DESCRIPTION, and OPTIONS. The SYNOPSIS section lists command-line options and examples. The DESCRIPTION section provides a brief history and features of Lynx. The OPTIONS section details how to start the browser and handle URLs. A status bar at the bottom indicates "Manual page lynx(1) line 1 (press h for help or q to quit)".

```
mlabsi@mlabsi:/etc/yum.repos.d – man lynx
/etc/yum.repos.d

LYNX(1)                               Lynx - the text web browser                         LYNX(1)

NAME
lynx - a general purpose distributed information browser for the World Wide Web

SYNOPSIS
lynx [options] [optional paths or URLs]

lynx [options] [path or URL] -get_data
data
--

lynx [options] [path or URL] -post_data
data
--

Use "lynx -help" to display a complete list of current options.

DESCRIPTION
Lynx is a fully-featured World Wide Web (WWW) client for users running cursor-addressable, character-cell display devices (e.g., vt100 terminals, vt100 emulators running on Windows or any POSIX platform, or any other "curses-oriented" display). It will display hypertext markup language (HTML) documents containing links to files residing on the local system, as well as files residing on remote systems running Gopher, HTTP, FTP, WAIS, and NNTP servers.

Lynx has been ported to many systems, including all variants of Unix, Windows (since Windows 95), DOS DJGPP and OS/2, as well as VMS and OS/390.

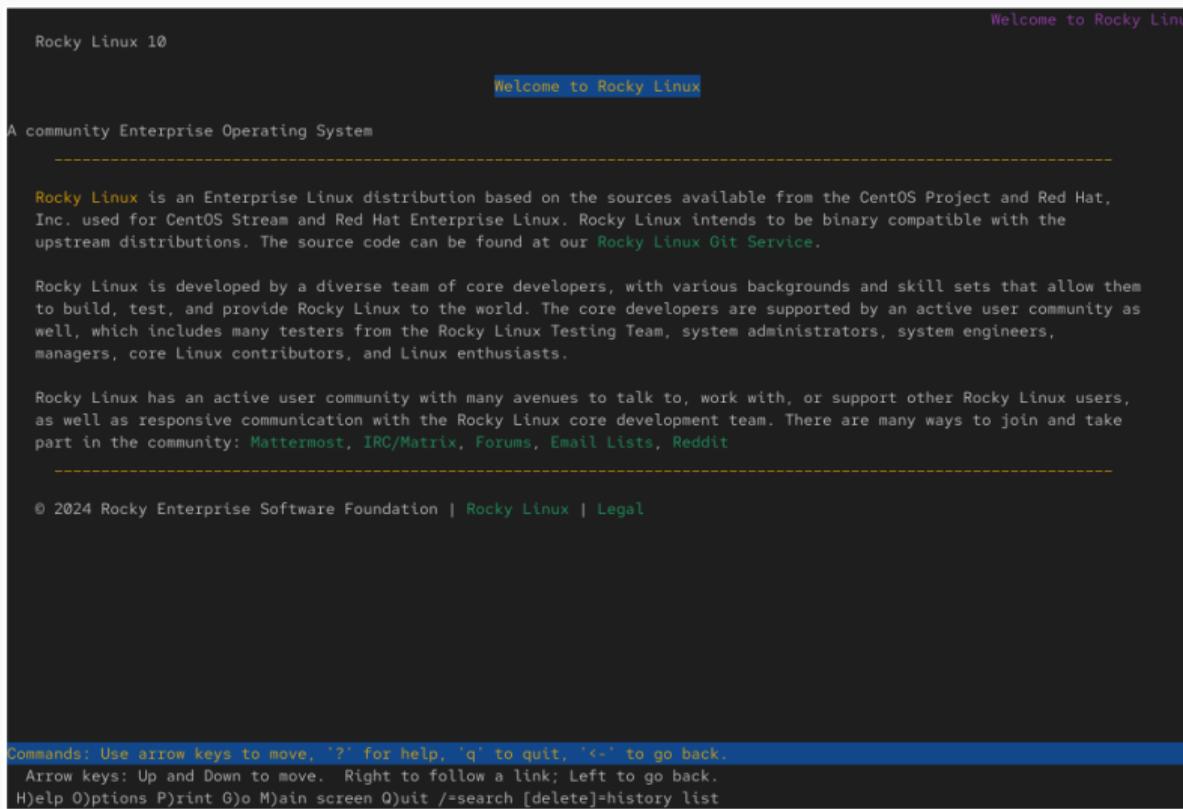
Lynx can be used to access information on the World Wide Web, or to build information systems intended primarily for local access. For example, Lynx has been used to build several Campus Wide Information Systems (CWIS). In addition, Lynx can be used to build systems isolated within a single LAN.

OPTIONS
At start up, Lynx will load any local file or remote URL specified at the command line. For help with URLs, press "?" or "H" while running Lynx. Then follow the link titled, "Help on URLs."

If more than one local file or remote URL is listed on the command line, Lynx will open only the last interactively. All of the names (Local files and remote URLs) are added to the Goto history.

Manual page lynx(1) line 1 (press h for help or q to quit)
```

# Запуск текстового браузера lynx



## Удаление пакета lynx

```
root@mlabsi:/etc/yum.repos.d# rpm -qc lynx
/etc/lynx-site.cfg
/etc/lynx.cfg
/etc/lynx.lss
root@mlabsi:/etc/yum.repos.d# rpm -q --scripts lynx
root@mlabsi:/etc/yum.repos.d# rpm -e lynx
root@mlabsi:/etc/yum.repos.d# █
```

Рис. 16: Удаление пакета lynx

# Установка пакета dnsmasq

```
root@mlabsi:/etc/yum.repos.d#  
root@mlabsi:/etc/yum.repos.d# dnf list dnsmasq  
Last metadata expiration check: 0:10:29 ago on Fri 12 Dec 2025 07:05:55 PM MSK.  
Installed Packages  
dnsmasq.x86_64                                2.90-4.el10                                         @AppStream  
root@mlabsi:/etc/yum.repos.d# dnf install dnsmasq  
Last metadata expiration check: 0:12:19 ago on Fri 12 Dec 2025 07:05:55 PM MSK.  
Package dnsmasq-2.90-4.el10.x86_64 is already installed.  
Dependencies resolved.  
Nothing to do.  
Complete!  
root@mlabsi:/etc/yum.repos.d# which dnsmasq  
/usr/sbin/dnsmasq  
root@mlabsi:/etc/yum.repos.d# rpm -qf $(which dnsmasq)  
dnsmasq-2.90-4.el10.x86_64
```

Рис. 17: Проверка и установка dnsmasq

## Информация о пакете dnsmasq

```
root@mlabsi:/etc/yum.repos.d# rpm -qi dnsmasq
Name        : dnsmasq
Version     : 2.90
Release     : 4.el10
Architecture: x86_64
Install Date: Sat 11 Oct 2025 09:22:42 AM MSK
Group       : Unspecified
Size        : 794976
License     : GPL-2.0-only OR GPL-3.0-only
Signature   :
                  RSA/SHA256, Thu 22 May 2025 03:17:11 AM MSK, Key ID 5b106c736fedfc85
Source RPM  : dnsmasq-2.90-4.el10.src.rpm
Build Date  : Thu 31 Oct 2024 02:46:28 PM MSK
Build Host  : pb-6df20f45-04b4-477b-bded-5a041ce1b59d-b-x86-64
Packager    : Rocky Linux Build System (Peridot) <releng@rockylinux.org>
Vendor      : Rocky Enterprise Software Foundation
VCS         : git:git://thekelleys.org.uk/dnsmasq.git
URL         : http://www.thekelleys.org.uk/dnsmasq/
Summary     : A lightweight DHCP/caching DNS server
Description :
Dnsmasq is lightweight, easy to configure DNS forwarder and DHCP server.
It is designed to provide DNS and, optionally, DHCP, to a small network.
It can serve the names of local machines which are not in the global
DNS. The DHCP server integrates with the DNS server and allows machines
with DHCP-allocated addresses to appear in the DNS with names configured
either in each host or in a central configuration file. Dnsmasq supports
static and dynamic DHCP leases and BOOTP for network booting of disk-less
machines.
```

## Состав и документация пакета dnsmasq

```
root@mlabsi:/etc/yum.repos.d# rpm -ql dnsmasq
/etc/dbus-1/system.d/dnsmasq.conf
/etc/dnsmasq.conf
/etc/dnsmasq.d
/usr/lib/.build-id
/usr/lib/.build-id/c9
/usr/lib/.build-id/c9/a4bb4576977dbef150b40955510f869d246b34
/usr/lib/systemd/system/dnsmasq.service
/usr/lib/sysusers.d/dnsmasq.conf
/usr/sbin/dnsmasq
/usr/share/dnsmasq
/usr/share/dnsmasq/trust-anchors.conf
/usr/share/doc/dnsmasq
/usr/share/doc/dnsmasq/CHANGELOG
/usr/share/doc/dnsmasq/DBus-interface
/usr/share/doc/dnsmasq/FAQ
/usr/share/doc/dnsmasq/doc.html
/usr/share/doc/dnsmasq/setup.html
/usr/share/licenses/dnsmasq
/usr/share/licenses/dnsmasq/COPYING
/usr/share/licenses/dnsmasq/COPYING-v3
/usr/share/man/man8/dnsmasq.8.gz
/var/lib/dnsmasq
root@mlabsi:/etc/yum.repos.d# rpm -qd dnsmasq
/usr/share/doc/dnsmasq/CHANGELOG
/usr/share/doc/dnsmasq/DBus-interface
/usr/share/doc/dnsmasq/FAQ
/usr/share/doc/dnsmasq/doc.html
/usr/share/doc/dnsmasq/setup.html
/usr/share/man/man8/dnsmasq.8.gz
root@mlabsi:/etc/yum.repos.d#
```

# Справочное руководство dnsmasq

DNSMASQ(8)	System Manager's Manual	DNSMASQ(8)
<b>NAME</b>		
dnsmasq - A lightweight DHCP and caching DNS server.		
<b>SYNOPSIS</b>		
<b>dnsmasq</b> [ <u>OPTION</u> ]...		
<b>DESCRIPTION</b>		
<b>dnsmasq</b> is a lightweight DNS, TFTP, PXE, router advertisement and DHCP server. It is intended to provide coupled DNS and DHCP service to a LAN.		
Dnsmasq accepts DNS queries and either answers them from a small, local, cache or forwards them to a real, recursive, DNS server. It loads the contents of /etc/hosts so that local hostnames which do not appear in the global DNS can be resolved and also answers DNS queries for DHCP configured hosts. It can also act as the authoritative DNS server for one or more domains, allowing local names to appear in the global DNS. It can be configured to do DNSSEC validation.		
The dnsmasq DHCP server supports static address assignments and multiple networks. It automatically sends a sensible default set of DHCP options, and can be configured to send any desired set of DHCP options, including vendor-encapsulated options. It includes a secure, read-only, TFTP server to allow net/PXE boot of DHCP hosts and also supports BOOTP. The PXE support is full featured, and includes a proxy mode which supplies PXE information to clients whilst DHCP address allocation is done by another server.		
The dnsmasq DHCPv6 server provides the same set of features as the DHCPv4 server, and in addition, it includes router advertisements and a neat feature which allows naming for clients which use DHCPv4 and stateless autoconfiguration only for IPv6 configuration. There is support for doing address allocation (both DHCPv6 and RA) from subnets which are dynamically delegated via DHCPv6 prefix delegation.		
Dnsmasq is coded with small embedded systems in mind. It aims for the smallest possible memory footprint compatible with the supported functions, and allows unneeded functions to be omitted from the compiled binary.		
<b>OPTIONS</b>		
Note that in general missing parameters are allowed and switch off functions, for instance "--pid-file" disables writing a PID file. On BSD, unless the GNU getopt library is linked, the long form of the options does not work on		
Manual page <b>dnsmasq(8)</b> line 1 (press h for help or q to quit)		

# Скрипты установки и конфигурация dnsmasq

```
root@mlabsi:/etc/yum.repos.d# rpm -qc dnsmasq
/etc/dbus-1/system.d/dnsmasq.conf
/etc/dnsmasq.conf
root@mlabsi:/etc/yum.repos.d# rpm -q --scripts dnsmasq
preinstall scriptlet (using /bin/sh):
#precreate users so that rpm can install files owned by that user

# generated from dnsmasq-systemd-sysusers.conf
getent group 'dnsmasq' >/dev/null || groupadd -r 'dnsmasq' || :
getent passwd 'dnsmasq' >/dev/null || \
    useradd -r -g 'dnsmasq' -d '/var/lib/dnsmasq' -s '/usr/sbin/nologin' -c 'Dnsmasq DHCP and DNS server' 'dnsmasq' || :
postinstall scriptlet (using /bin/sh):

if [ $1 -eq 1 ] && [ -x "/usr/lib/systemd/systemd-update-helper" ]; then
    # Initial installation
    /usr/lib/systemd/systemd-update-helper install-system-units dnsmasq.service || :
fi
preuninstall scriptlet (using /bin/sh):

if [ $1 -eq 0 ] && [ -x "/usr/lib/systemd/systemd-update-helper" ]; then
    # Package removal, not upgrade
    /usr/lib/systemd/systemd-update-helper remove-system-units dnsmasq.service || :
fi
postuninstall scriptlet (using /bin/sh):

if [ $1 -ge 1 ] && [ -x "/usr/lib/systemd/systemd-update-helper" ]; then
    # Package upgrade, not uninstall
    /usr/lib/systemd/systemd-update-helper mark-restart-system-units dnsmasq.service || :
fi
root@mlabsi:/etc/yum.repos.d# rpm -e dnsmasq
root@mlabsi:/etc/yum.repos.d# █
```

Рис. 21: Скрипты и конфигурационные файлы dnsmasq

## Заключение

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В ходе лабораторной работы были изучены инструменты управления программными пакетами в системе Rocky Linux.

Освоены операции работы с репозиториями, пакетами и группами пакетов, а также методы анализа содержимого rpm-пакетов и их документации.