

# Лабораторная работа 4

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## Задача

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1. Изучите, как и в каких файлах подключаются репозитории для установки программного обеспечения; изучите основные возможности (поиск, установка, обновление, удаление пакета, работа с историей действий) команды `dnf` (см. раздел 4.4.1).

1. Изучите, как и в каких файлах подключаются репозитории для установки программного обеспечения; изучите основные возможности (поиск, установка, обновление, удаление пакета, работа с историей действий) команды `dnf` (см. раздел 4.4.1).
2. Изучите и повторите процесс установки/удаления определённого пакета с использованием возможностей `dnf` (см. раздел 4.4.1).

1. Изучите, как и в каких файлах подключаются репозитории для установки программного обеспечения; изучите основные возможности (поиск, установка, обновление, удаление пакета, работа с историей действий) команды `dnf` (см. раздел 4.4.1).
2. Изучите и повторите процесс установки/удаления определённого пакета с использованием возможностей `dnf` (см. раздел 4.4.1).
3. Изучите и повторите процесс установки/удаления определённого пакета с использованием возможностей `rpm` (см. раздел 4.4.2).

## Выполнение

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# Список репозиториев

```
[root@dmgeneralov ~]# cd /etc/yum.repos.d
[root@dmgeneralov yum.repos.d]# ls
rocky-addons.repo rocky-devel.repo rocky-extras.repo rocky.repo
[root@dmgeneralov yum.repos.d]# cat rocky.repo | head -n 30
# rocky.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.

[baseos]
name=Rocky Linux $releasever - BaseOS
mirrorlist=https://mirrors.rockylinux.org/mirrorlist?arch=$basearch&repo=BaseOS-$releasever$rltype
#baseurl=http://dl.rockylinux.org/$contentdir/$releasever/BaseOS/$basearch/os/
gpgcheck=1
enabled=1
countme=1
metadata_expire=6h
gpgkey=file:///etc/pki/rpm-gpg/RPM-GPG-KEY-Rocky-9

[baseos-debug]
name=Rocky Linux $releasever - BaseOS - Debug
mirrorlist=https://mirrors.rockylinux.org/mirrorlist?arch=$basearch&repo=BaseOS-$releasever-debug$rltype
#baseurl=http://dl.rockylinux.org/$contentdir/$releasever/BaseOS/$basearch/debug/tree/
gpgcheck=1
enabled=0
metadata_expire=6h
gpgkey=file:///etc/pki/rpm-gpg/RPM-GPG-KEY-Rocky-9

[baseos-source]
[root@dmgeneralov yum.repos.d]# _
```

Рис. 1: repo

```
(root@dmgeneralov yum.repos.d)# dnf repolist
```

```
repo id
```

```
appstream
```

```
baseos
```

```
extras
```

```
(root@dmgeneralov yum.repos.d)#
```

```
repo name
```

```
Rocky Linux 9 - AppStream
```

```
Rocky Linux 9 - BaseOS
```

```
Rocky Linux 9 - Extras
```

Рис. 2: repolist



## Пакеты с “user”

```
[root@dmgeneralov yum.repos.d]# dnf search user | head -n 40
Last metadata expiration check: 0:12:49 ago on Sat 19 Nov 2022 03:02:02 PM MSK.
===== Name & Summary Matched: user =====
gnome-user-docs.noarch : GNOME User Documentation
libuser.x86_64 : A user and group account administration library
libuser.i686 : A user and group account administration library
perl-User-pwent.noarch : By-name interface to Perl built-in user name resolver
usermode.x86_64 : Tools for certain user account management tasks
usermode-gtk.x86_64 : Graphical tools for certain user account management tasks
userspace-rcu.x86_64 : RCU (read-copy-update) implementation in user-space
userspace-rcu.i686 : RCU (read-copy-update) implementation in user-space
util-linux-user.x86_64 : libuser based util-linux utilities
xdg-user-dirs.x86_64 : Handles user special directories
===== Name Matched: user =====
anaconda-user-help.noarch : Content for the Anaconda built-in help system
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
clutter.x86_64 : Open Source software library for creating rich graphical user interfaces
clutter.i686 : Open Source software library for creating rich graphical user interfaces
cockpit-machines.noarch : Cockpit user interface for virtual machines
cockpit-packagekit.noarch : Cockpit user interface for packages
cockpit-storage.noarch : Cockpit user interface for storage, using udisks
console-login-helper-messages.noarch : Combines motd, issue, profile features to show system information to the user before/on login
criu.x86_64 : Tool for Checkpoint/Restore in User-space
environment-modules.x86_64 : Provides dynamic modification of a user's environment
exfatprogs.x86_64 : Userspace utilities for exFAT filesystems
flatpak-session-helper.x86_64 : User D-Bus service used by flatpak and others
fltk.x86_64 : C++ user interface toolkit
fltk.i686 : C++ user interface toolkit
fuse.x86_64 : File System in Userspace (FUSE) v2 utilities
fuse-common.x86_64 : Common files for File System in Userspace (FUSE) v2 and v3
fuse-libs.x86_64 : File System in Userspace (FUSE) v2 libraries
fuse-libs.i686 : File System in Userspace (FUSE) v2 libraries
fuse3.x86_64 : File System in Userspace (FUSE) v3 utilities
[root@dmgeneralov yum.repos.d]# _
```

# Пакеты nmap

```
root@dmgeneralov yum.repos.d# dnf search nmap
Last metadata expiration check: 0:14:33 ago on Sat 19 Nov 2022 03:02:02 PM MSK.
===== 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@dmgeneralov yum.repos.d# dnf info nmap
Last metadata expiration check: 0:14:42 ago on Sat 19 Nov 2022 03:02:02 PM MSK.
Available Packages
Name           : nmap
Epoch         : 3
Version        : 7.91
Release        : 10.e19
Architecture   : x86_64
Size           : 5.4 M
Source         : nmap-7.91-10.e19.src.rpm
Repository     : appstream
Summary        : Network exploration tool and security scanner
URL            : http://nmap.org/
License        : 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@dmgeneralov yum.repos.d# dnf install nmap
Last metadata expiration check: 0:14:47 ago on Sat 19 Nov 2022 03:02:02 PM MSK.
Dependencies resolved.
=====
Package                Architecture      Version           Repository        Size
=====
Installing:
nmap                   x86_64           3:7.91-10.e19    appstream         5.4 M
Installing dependencies:
nmap-ncat              x86_64           3:7.91-10.e19    appstream         223 k
=====
Transaction Summary
=====
Install 2 Packages

Total download size: 5.6 M
Installed size: 24 M
Is this ok [y/N]: _
```

Рис. 4: nmap

# Удаление пакетов

```
(root@mgeneralov yum.repos.d) # dnf remove nmap
Dependencies resolved.
=====
Package                               Architecture             Version                   Repository                Size
Removing:
nmap                                  x86_64                   3:7.91-18.e19            @appstream                24 M
Transaction Summary
=====
Remove 1 Package

Freed space: 24 M
Is this ok [y/N]: y
Running transaction check
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
Running transaction
  Preparing      :                                1/1
  Erasing       : nmap-3:7.91-18.e19.x86_64      1/1
  Running scriptlet: nmap-3:7.91-18.e19.x86_64    1/1
  Verifying      : nmap-3:7.91-18.e19.x86_64      1/1

Removed:
  nmap-3:7.91-18.e19.x86_64

Complete!
(root@mgeneralov yum.repos.d) # dnf remove nmap-ncat
Dependencies resolved.
=====
Package                               Architecture             Version                   Repository                Size
Removing:
nmap-ncat                             x86_64                   3:7.91-18.e19            @appstream                478 k
Transaction Summary
=====
Remove 1 Package

Freed space: 478 k
Is this ok [y/N]:
```

## Группы пакетов

---

```
root@dmzgeneralov yum.repos.d]# dnf groups list
Last metadata expiration check: 0:20:51 ago on Sat 19 Nov 2022 03:02:02 PM MSK.
Available Environment Groups:
  Server with GUI
  Server
  Workstation
  Custom Operating System
  Virtualization Host
Installed Environment Groups:
  Minimal Install
Available Groups:
  Legacy UNIX Compatibility
  Console Internet Tools
  Container Management
  Development Tools
  .NET Development
  Graphical Administration Tools
  Headless Management
  Network Servers
  RPM Development Tools
  Scientific Support
  Security Tools
  Smart Card Support
  System Tools
root@dmzgeneralov yum.repos.d]# dnf groups info "RPM Development Tools"
Last metadata expiration check: 0:20:53 ago on Sat 19 Nov 2022 03:02:02 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
Optional Packages:
  rpmlint
root@dmzgeneralov yum.repos.d]# dnf groupinstall "RPM Development Tools"
```

Рис. 6: group

# Удаление группы

```

perl-Pod-Usage          noarch          4:2.01-4.e19          @appstream          85 k
perl-Scalar-List-Utils  x86_64          4:1.56-461.e19        @appstream          148 k
perl-SelectSaver        noarch          1.82-479.e19          @appstream          3.1 k
perl-Socket             x86_64          4:2.031-4.e19         @appstream          122 k
perl-Storable           x86_64          1:3.21-468.e19        @appstream          223 k
perl-Symbol            noarch          1.00-479.e19          @appstream          7.7 k
perl-Term-ANSIColor     noarch          5.01-461.e19          @appstream          98 k
perl-Term-Cap           noarch          1.17-468.e19          @appstream          29 k
perl-Text-Farseconds    noarch          3.30-468.e19          @appstream          13 k
perl-Text-Tabs+Wrap     noarch          2013.0523-468.e19     @appstream          24 k
perl-Time-Local         noarch          2:1.300-7.e19         @appstream          66 k
perl-URI               noarch          5.09-3.e19            @appstream          212 k
perl-base              noarch          2.27-479.e19          @appstream          13 k
perl-constant          noarch          1.33-461.e19          @appstream          26 k
perl-if                noarch          0.60.000-479.e19      @appstream          6.7 k
perl-Interpreter       x86_64          4:5.32.1-479.e19      @appstream          110 k
perl-libnet            noarch          3.13-4.e19            @appstream          292 k
perl-libwww            x86_64          4:5.32.1-479.e19      @appstream          8.5 M
perl-mro               x86_64          1.23-479.e19          @appstream          43 k
perl-overload          noarch          1.31-479.e19          @appstream          71 k
perl-overloading        noarch          0.02-479.e19          @appstream          5.0 k
perl-parent            noarch          1:0.230-468.e19       @appstream          9.3 k
perl-podlators         noarch          1:4.14-468.e19        @appstream          282 k
perl-rpms-macros       noarch          1-41.e19              @appstream          862
perl-subs              noarch          1.03-479.e19          @appstream          3.0 k
perl-urs               noarch          1.05-479.e19          @appstream          4.8 k
pkgconf               x86_64          1.7.3-9.e19           @baseos             77 k
pkgconf-m4            noarch          1.7.3-9.e19           @baseos             14 k
pkgconf-pkg-config    x86_64          1.7.3-9.e19           @baseos             1.2 k
python-rpms-macros     noarch          3.9-52.e19            @appstream          36 k
python3-argcomplete    noarch          1.12.0-5.e19          @appstream          219 k
python3-charidot       noarch          4.0-0-5.e19           @baseos             1.4 M
python3-idna           noarch          2.10-7.e19            @baseos             488 k
python3-pynocks        noarch          1.7.1-12.e19          @baseos             88 k
python3-requests       noarch          2.25.1-6.e19          @baseos             309 k
python3-urllib3        noarch          1.26.5-3.e19          @baseos             728 k
qt5-rpms-macros       noarch          5.15.2-9.e19          @appstream          492
rust-rpms-macros       noarch          17-4.e19              @appstream          2.4 k
tar                   x86_64          2:1.34-3.e19          @baseos             3.0 M
unzip                 x86_64          6.0-56.e19            @baseos             392 k
zip                   x86_64          3.0-33.e19            @baseos             634 k

Removing Groups:
RPM Development Tools

Transaction Summary
=====
Remove 96 Packages

Freed space: 81 M
Is this ok [y/N]: _

```

# Отмена действия dnf

```
root@dmgeneralov yum.repos.d]# dnf history
ID      | Command line                                     | Date and time | Action(s) | Altered
-----|-----
13 | groupremove RPM Development Tools               | 2022-11-19 15:25 | Removed   | 97
12 | groupinstall RPM Development Tools              | 2022-11-19 15:24 | Install   | 1
11 | groupinstall RPM Development Tools              | 2022-11-19 15:23 | I, U     | 185
10 | remove nmap*                                    | 2022-11-19 15:22 | Removed   | 1
9 | remove nmap*                                    | 2022-11-19 15:20 | Removed   | 1
8 | install nmap*                                    | 2022-11-19 15:20 | Install   | 2
7 | remove nmap*                                    | 2022-11-19 15:20 | Removed   | 1
6 | remove nmap*                                    | 2022-11-19 15:20 | Removed   | 1
5 | install nmap*                                    | 2022-11-19 15:19 | Install   | 2
4 | remove nmap*                                    | 2022-11-19 15:19 | Removed   | 2
3 | install nmap*                                    | 2022-11-19 15:17 | Install   | 2
2 | install vim                                     | 2022-11-12 12:16 | Install   | 4
1 |                                                  | 2022-11-10 22:05 | Install   | 335
root@dmgeneralov yum.repos.d]# dnf history undo 6
Last metadata expiration check: 0:23:52 ago on Sat 19 Nov 2022 03:02:02 PM MSK.
Dependencies resolved.
=====
Package                               Architecture      Version           Repository        Size
-----
Installing:
nmap                                  x86_64            3:7.91-10.el9    appstream         5.4 M
Installing dependencies:
nmap-ncat                             x86_64            3:7.91-10.el9    appstream         223 k
Transaction Summary
-----
Install 2 Packages

Total download size: 5.6 M
Installed size: 24 M
Is this ok [y/N]:
```

Рис. 8: history

# Установка пакета с помощью rpm

```
root@dmgeneralov yun.repos.d]# dnf list lynx
last metadata expiration check: 0:25:34 ago on Sat 19 Nov 2022 03:02:02 PM MSK.
Available Packages
lynx.x86_64                                2.8.9-18.el9                                appstream

root@dmgeneralov yun.repos.d]# dnf install lynx --downloadonly
last metadata expiration check: 0:25:41 ago on Sat 19 Nov 2022 03:02:02 PM MSK.
Dependencies resolved.
=====
Package                                Architecture      Version                                Repository      Size
=====
Installing:
lynx                                    x86_64            2.8.9-18.el9                                appstream       1.5 M
rocky-indexdhtml                       noarch            9.0-2.el9                                appstream       263 k
Transaction Summary
=====
Install 2 Packages

Total download size: 1.8 M
Installed size: 6.6 M
DNF will only download packages for the transaction.
Is this ok [y/N]: y
Downloading Packages:
(1/2): rocky-indexdhtml-9.0-2.el9.noarch.rpm              749 kB/s | 263 kB  00:00
(2/2): lynx-2.8.9-18.el9.x86_64.rpm                     2.9 MB/s | 1.5 MB  00:00
-----
Total                                                    1.8 MB/s | 1.8 MB  00:00
Complete!
The downloaded packages were saved in cache until the next successful transaction.
You can remove cached packages by executing 'dnf clean packages'.
root@dmgeneralov yun.repos.d]# find /var/cache/dnf -name lynx*
/var/cache/dnf/appstream-25405261a76941d3/packages/lynx-2.8.9-18.el9.x86_64.rpm
root@dmgeneralov yun.repos.d]# cd /var/cache/dnf/appstream-25405261a76941d3/packages/
root@dmgeneralov packages]# rpm -Uvh lynx-2.8.9-18.el9.x86_64.rpm
error: Failed dependencies:
    redhat-indexdhtml is needed by lynx-2.8.9-18.el9.x86_64
root@dmgeneralov packages]#
```

Рис. 9: rpm



```
root@dmgeneralov packages1# which lynx
usr/bin/lynx
root@dmgeneralov packages1# rpm -qf $(which lynx)
lynx-2.8.9-18.el9.x86_64
root@dmgeneralov packages1# rpm -qi lynx
Name       : lynx
Version    : 2.8.9
Release    : 18.el9
Architecture: x86_64
Install Date: Sat 19 Nov 2022 03:32:09 PM MSK
Group      : Unspecified
Size       : 6357335
License    : GPLv2
Signature  : RSA/SHA256, Thu 26 May 2022 05:49:04 AM MSK, Key ID 702d426d350d275d
Source RPM : lynx-2.8.9-18.el9.src.rpm
Build Date : Wed 25 May 2022 11:26:16 PM MSK
Build Host : pb-3b6cf428-3a50-41d4-a8c1-07b0601a9918-b-x86-64
Packager   : Rocky Linux Build System (Peridot) <releng@rockylinux.org>
Vendor     : Rocky Enterprise Software Foundation
URL        : http://lynx.browser.org/
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@dmgeneralov packages1# _
```

```
/usr/share/doc/lynx/samples/jumpslnix.html
/usr/share/doc/lynx/samples/jumpsURL.html
/usr/share/doc/lynx/samples/keepviewer
/usr/share/doc/lynx/samples/lynx-demo.cfg
/usr/share/doc/lynx/samples/lynx-keymaps
/usr/share/doc/lynx/samples/lynx.com
/usr/share/doc/lynx/samples/lynx.ico
/usr/share/doc/lynx/samples/lynx.lss
/usr/share/doc/lynx/samples/lynx_bookmarks.htm
/usr/share/doc/lynx/samples/lynxdump
/usr/share/doc/lynx/samples/mailcap
/usr/share/doc/lynx/samples/mailto-form.pl
/usr/share/doc/lynx/samples/midnight.lss
/usr/share/doc/lynx/samples/mild-colors.lss
/usr/share/doc/lynx/samples/mime.types
/usr/share/doc/lynx/samples/oldlynx
/usr/share/doc/lynx/samples/opaque.lss
/usr/share/doc/lynx/test/ALT88592.html
/usr/share/doc/lynx/test/ISO_LATIN1_test.html
/usr/share/doc/lynx/test/README.txt
/usr/share/doc/lynx/test/TestComment.html
/usr/share/doc/lynx/test/bad.html.html
/usr/share/doc/lynx/test/c1.html
/usr/share/doc/lynx/test/circle.html
/usr/share/doc/lynx/test/cp-1252.html
/usr/share/doc/lynx/test/cp-1252a.html
/usr/share/doc/lynx/test/image.jpg
/usr/share/doc/lynx/test/iso-8859-1.html
/usr/share/doc/lynx/test/iso-8859-1a.html
/usr/share/doc/lynx/test/iso-8859-2.html
/usr/share/doc/lynx/test/iso-8859-2a.html
/usr/share/doc/lynx/test/ko18-r.html
/usr/share/doc/lynx/test/quickbrown.html
/usr/share/doc/lynx/test/raw0bit.html
/usr/share/doc/lynx/test/sgml.html
/usr/share/doc/lynx/test/spaces.html
/usr/share/doc/lynx/test/special_urls.html
/usr/share/doc/lynx/test/square.html
/usr/share/doc/lynx/test/tabtest.html
/usr/share/doc/lynx/test/tags.html
/usr/share/doc/lynx/test/test-styles.html
/usr/share/doc/lynx/test/triangle.html
/usr/share/doc/lynx/test/unicode.html
/usr/share/doc/lynx/test/utf-8-demo.html
/usr/share/man/man1/lynx.1.gz
[root@dmgeneralov packages]# rpm -qc lynx
/etc/lynx-site.cfg
/etc/lynx.cfg
/etc/lynx.lss
```

## Скрипты пакета

```
[root@dmgeneralov packages]# rpm -q --scripts lynx
[root@dmgeneralov packages]# rpm -q --scripts rpm
posttrans scriptlet (using /bin/sh):
if [ -f /var/lib/rpm/Packages ]; then
    touch /var/lib/rpm/.rebuildb
fi
[root@dmgeneralov packages]# rpm -q --scripts ssh
package ssh is not installed
[root@dmgeneralov packages]# rpm -q --scripts openssh-server
preinstall scriptlet (using /bin/sh):
getent group sshd >/dev/null || groupadd -g 74 -r sshd || :
getent passwd sshd >/dev/null || \
    useradd -c "Privilege-separated SSH" -u 74 -g sshd \
    -s /sbin/nologin -r -d /usr/share/empty.sshd sshd 2> /dev/null || :
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 sshd.service sshd.socket || :
fi

# Migration scriptlet for Fedora 31 and 32 installations to sshd_config
# drop-in directory (in F32+).
# Do this only if the file generated by anaconda exists, contains our config
# directive and sshd_config contains include directive as shipped in our package
test -f /etc/sysconfig/sshd-permitrootlogin && \
    test ! -f /etc/ssh/sshd_config.d/01-permitrootlogin.conf && \
    grep -q "PERMITROOTLOGIN=" -o PermitRootLogin=yes" /etc/sysconfig/sshd-permitrootlogin && \
    grep -q "^Include /etc/ssh/sshd_config.d/*.conf" /etc/ssh/sshd_config && \
    echo "PermitRootLogin yes" >> /etc/ssh/sshd_config.d/25-permitrootlogin.conf && \
    rm /etc/sysconfig/sshd-permitrootlogin || :
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 sshd.service sshd.socket || :
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 sshd.service || :
fi
[root@dmgeneralov packages]# _
```

```
Rocky Linux 9Welcome to Rocky Linux

Welcome to Rocky Linux

A community Enterprise Operating System

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Rocky Linux is an enterprise Linux distribution based on the sources available from Red Hat, Inc. used for Red Hat Enterprise Linux. Rocky Linux
intends to be binary compatible with the upstream vendor. Source code will be in our Git.
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Commands: Use arrow keys to move, '?' for help, 'q' to quit, '<-' to go back.
Arrow keys: Up and Down to move, Right to follow a link: Left to go back.
H?elp O?ptions P?rint G?o M?ain screen Q?uit /?search [delete]=history list
```

Рис. 13: lynx

# Информация о пакете dnsmasq

```
(root@dmgeneralov packages) # dnf list dnsmasq
last metadata expiration check: 0:41:23 ago on Sat 19 Nov 2022 03:02:02 PM MSK.
Available Packages
dnsmasq.x86_64                                2.85-3.e19
(root@dmgeneralov packages) # dnf install dnsmasq -y &&/dev/null
[ 3333.898622] systemd-rc-local-generator(7778): /etc/rc.d/rc.local is not marked executable, skipping.
(root@dmgeneralov packages) # which dnsmasq
/usr/sbin/dnsmasq
(root@dmgeneralov packages) # rpm -qf $(which dnsmasq)
dnsmasq-2.85-3.e19.x86_64
(root@dmgeneralov packages) # rpm -qi dnsmasq
Name           : dnsmasq
Version        : 2.85
Release        : 3.e19
Architecture   : x86_64
Install Date   : Sat 19 Nov 2022 03:43:41 PM MSK
Group          : Unspecified
Size           : 715155
License        : GPLv2 or GPLv3
Signature      : RSA/SHA256, Mon 13 Jun 2022 04:32:44 AM MSK, Key ID 702d426d350d275d
Source RPM     : dnsmasq-2.85-3.e19.src.rpm
Build Date     : Tue 10 May 2022 06:00:13 PM MSK
Build Host     : pb-822b63bd-b6df-4f0e-bbd4-e27c5d13cc7c-b-x86-64
Packager       : Rocky Linux Build System (Peridot) <releeng@rockylinux.org>
Vendor         : Rocky Enterprise Software Foundation
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 diskless
machines.
(root@dmgeneralov packages) # rpm -ql dnsmasq | head -3
/etc/dbus-1/system.d/dnsmasq.conf
/etc/dnsmasq.conf
/etc/dnsmasq.d
(root@dmgeneralov packages) # rpm -qd dnsmasq | head -3
/usr/share/doc/dnsmasq-CHANGELOG
/usr/share/doc/dnsmasq/DBus-interface
/usr/share/doc/dnsmasq/FAQ
(root@dmgeneralov packages) # rpm -qc dnsmasq | head -3
/etc/dbus-1/system.d/dnsmasq.conf
/etc/dnsmasq.conf
(root@dmgeneralov packages) # _
```

appstream

Рис. 14: dnsmasq

# Скрипты пакета dnsmasq

```
[root@dmgeneralov packages]# 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 '/usr/lib/dnsmasq' -s '/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@dmgeneralov packages]# rpm -e dnsmasq
[root@dmgeneralov packages]#
```

Рис. 15: scripts

Я получил опыт работы с пакетами в RPM-основанных дистрибутивах Linux.