

# Лабораторная работа №4

Работа с программными пакетами

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28 сентября 2024

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Получить навыки работы с репозиториями и менеджерами пакетов.

# Выполнение лабораторной работы

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# Работа с репозиториями

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```
root@ankomyagin:/etc/yum.repos.d

[ankomyagin@ankomyagin ~]$ su -
Password:
[root@ankomyagin ~]# cd /etc/yum.repos.d
[root@ankomyagin yum.repos.d]# ls
epel-cisco-openh264.repo  epel-testing.repo  rocky-devel.repo  rocky.repo
epel.repo                 rocky-addons.repo  rocky-extras.repo
```

# содержимое файла репозитория

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

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

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

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

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

## список репозиториев

```
epel.repo                                rocky-addons.repo rocky-extras.repo
[root@ankomyagin yum.repos.d]# dnf repolist
repo id                                repo name
appstream                             Rocky Linux 9 - AppStream
baseos                                Rocky Linux 9 - BaseOS
epel                                   Extra Packages for Enterprise Linux 9 - x86_64
epel-cisco-openh264                   Extra Packages for Enterprise Linux 9 openh264 (From Cisco) - x86_64
extras                                Rocky Linux 9 - Extras
[root@ankomyagin yum.repos.d]# dnf search nmap
Last metadata expiration check: 19 days, 17:25:25 ago on Sat 07 Sep 2024 07:50:10 PM MSK.
```

# установка nmap

```
[root@ankomyagin yum.repos.d]# dnf search nmap
Last metadata expiration check: 19 days, 17:25:25 ago on Sat 07 Sep 2024 07:50:10 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@ankomyagin yum.repos.d]# dnf info nmap
Extra Packages for Enterprise Linux 9 - x86_64                45 kB/s | 31 kB    00:00
Extra Packages for Enterprise Linux 9 - x86_64                5.2 MB/s | 23 MB   00:04
Extra Packages for Enterprise Linux 9 openh264 (From Cisco) - x86_64 2.5 kB/s | 993 B   00:00
Rocky Linux 9 - BaseOS                                         5.2 kB/s | 4.1 kB   00:00
Rocky Linux 9 - BaseOS                                         2.6 MB/s | 2.3 MB   00:00
Rocky Linux 9 - AppStream                                       10 kB/s | 4.5 kB    00:00
Rocky Linux 9 - AppStream                                       3.6 MB/s | 8.0 MB   00:02
Rocky Linux 9 - Extras                                         5.0 kB/s | 2.9 kB    00:00
Available Packages
Name       : nmap
Epoch     : 3
Version    : 7.92
Release    : 1.el9
Architecture : x86_64
Size       : 5.4 M
Source     : nmap-7.92-1.el9.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@ankomyagin yum.repos.d]# dnf install nmap
```



# Удаление nmap

```
[root@ankomyagin yum.repos.d]# dnf remove nmap
```

```
Dependencies resolved.
```

Package	Architecture	Version	Repository	Size
=====				
Removing:				
nmap	x86_64	3:7.92-1.el9	@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-3:7.92-1.el9.x86_64		1/1
Running scriptlet:	:	nmap-3:7.92-1.el9.x86_64		1/1
Verifying	:	nmap-3:7.92-1.el9.x86_64		1/1

```
Removed:
```

```
nmap-3:7.92-1.el9.x86_64
```

```
Complete!
```

```
[root@ankomyagin yum.repos.d]# dnf remove nmap\*
```

```
Dependencies resolved.
```

Package	Architecture	Version	Repository	Size
=====				
Removing:				
nmap-ncat	x86_64	3:7.92-1.el9	@AppStream	469 k

```
Transaction Summary
```

## Список групп пакетов

---

# Список групп пакетов

```
Last metadata expiration check: 0:02:16 ago on Fri 27 Sep 2024 01:16:07 PM MSK.
Available Environment Groups:
  Server
  Minimal Install
  Workstation
  KDE Plasma Workspaces
  Custom Operating System
  Virtualization Host
Installed Environment Groups:
  Server with GUI
Installed Groups:
  Container Management
  Development Tools
  Headless Management
Available Groups:
  Fedora Packager
  VideoLAN Client
  Xfce
  Legacy UNIX Compatibility
  Console Internet Tools
  .NET Development
  Graphical Administration Tools
  Network Servers
  RPM Development Tools
  Scientific Support
  Security Tools
  Smart Card Support
  System Tools
[root@ankomyagin yum.repos.d]# LANG=C dnf groups list
Last metadata expiration check: 0:02:37 ago on Fri Sep 27 13:16:07 2024.
Available Environment Groups:
  Server
  Minimal Install
  Workstation
  KDE Plasma Workspaces
  Custom Operating System
  Virtualization Host
Installed Environment Groups:
  Server with GUI
Installed Groups:
  Container Management
  Development Tools
  Headless Management
Available Groups:
  Fedora Packager
  VideoLAN Client
  Xfce
  Legacy UNIX Compatibility
  Console Internet Tools
  .NET Development
  Graphical Administration Tools
```

# установка RPM Development Tools

```
[root@ankomyagin yum.repos.d]# dnf groups info "RPM Development Tools"
Last metadata expiration check: 0:03:12 ago on Fri 27 Sep 2024 01:16:07 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@ankomyagin yum.repos.d]# dnf groupinstall "RPM Development Tools"
Last metadata expiration check: 0:03:21 ago on Fri 27 Sep 2024 01:16:07 PM MSK.
Dependencies resolved.
=====I=====
Package                        Architecture      Version           Repository        Size
=====
Installing group/module packages:
  rpmdevtools                 noarch            9.5-1.el9         appstream         75 k
Installing dependencies:
  python3-argcomplete          noarch            1.12.0-5.el9      appstream         61 k
Installing Groups:
  RPM Development Tools

Transaction Summary
=====
Install 2 Packages

Total download size: 135 k
Installed size: 414 k
Is this ok [y/N]:
```

# Просмотр истории и отмена действия

```
[root@ankomyagin yum.repos.d]# dnf history
```

ID	Command line	Date and time	Action(s)	Altered
10	groupremove RPM Development Tools	2024-09-27 13:19	Removed	3
9	groupinstall RPM Development Tools	2024-09-27 13:19	Install	3
8	remove nmap*	2024-09-27 13:17	Removed	1
7	remove nmap	2024-09-27 13:17	Removed	1
6	install nmap	2024-09-27 13:16	Install	1
5		2024-09-14 15:34	I, U	16
4	-y install pandoc	2024-09-07 19:50	Install	2 <
3	-y install epel-release	2024-09-07 19:49	Install	1 >E
2	-y update	2024-09-07 19:25	I, U	164 E<
1		2024-09-07 19:04	Install	1293 >E

```
[root@ankomyagin yum.repos.d]# dnf history undo 10
Last metadata expiration check: 0:04:44 ago on Fri 27 Sep 2024 01:16:07 PM MSK.
Dependencies resolved.
```

Двойной щелчок для перехода в полноэкранный режим, CTRL+щелчок для приведения размера экрана к размеру видео

```
=====
Installing group/module packages:
  rpmdevtools                noarch                9.5-1.el9                appstream                75 k
Installing dependencies:
  python3-argcomplete         noarch                1.12.0-5.el9             appstream                61 k
Installing Groups:
  RPM Development Tools

Transaction Summary
=====
Install 2 Packages

Total download size: 135 k
Installed size: 414 k
Is this ok [y/N]:
```

# Использование grt

---

**Предположим, что требуется  
установить текстовый браузер  
lynx из rpm-пакета**

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# установка lynx из rpm-пакета

```
[root@ankomyagin yum.repos.d]# dnf list lynx
Last metadata expiration check: 0:05:09 ago on Fri 27 Sep 2024 01:16:07 PM MSK.
Available Packages
lynx.x86_64                                2.8.9-20.el9                                appstream
[root@ankomyagin yum.repos.d]# dnf install lynx --downloadonly
Last metadata expiration check: 0:05:21 ago on Fri 27 Sep 2024 01:16:07 PM MSK.
Dependencies resolved.
=====
Package                Architecture      Version           Repository        Size
=====
Installing:
lynx                   x86_64            2.8.9-20.el9      appstream          1.5 M
Transaction Summary
=====
Install 1 Package

Total download size: 1.5 M
Installed size: 6.1 M
DNF will only download packages for the transaction.
Is this ok [y/N]: y
Downloading Packages:
lynx-2.8.9-20.el9.x86_64.rpm                1.7 MB/s | 1.5 MB    00:00
-----
Total                                        1.2 MB/s | 1.5 MB    00:01
Complete!
The downloaded packages were saved in cache until the next successful transaction.
You can remove cached packages by executing 'dnf clean packages'.
[root@ankomyagin yum.repos.d]# find /var/cache/dnf/ -name lynx*
/var/cache/dnf/appstream-25485261a76941d3/packages/lynx-2.8.9-20.el9.x86_64.rpm
[root@ankomyagin yum.repos.d]# cd /var/cache/dnf/appstream-25485261a76941d3/packages/
[root@ankomyagin packages]# rpm -Uvh lynx-2.8.9-20.el9.x86_64.rpm
Verifying...                               ##### [100%]
Preparing...                               ##### [100%]
Updating / installing...
 1:lynx-2.8.9-20.el9                        ##### [100%]
[root@ankomyagin packages]# which lynx
/usr/bin/lynx
```



## доп информация об lynx

```
[root@ankomyagin packages]# rpm -qf $(which lynx)
lynx-2.8.9-20.el9.x86_64
[root@ankomyagin packages]# rpm -qi lynx
Name       : lynx
Version    : 2.8.9
Release    : 20.el9
Architecture: x86_64
Install Date: Fri 27 Sep 2024 01:22:49 PM MSK
Group      : Unspecified
Size       : 6356615
License    : GPLv2
Signature  : RSA/SHA256, Tue 16 Apr 2024 02:13:04 AM MSK, Key ID 702d426d350d275d
Source RPM : lynx-2.8.9-20.el9.src.rpm
Build Date : Tue 16 Apr 2024 02:10:31 AM MSK
Build Host : pb-abd37acc-ala8-4064-a86c-09fcc75626b8-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@ankomyagin packages]#
```

11:33

## список файлов пакета

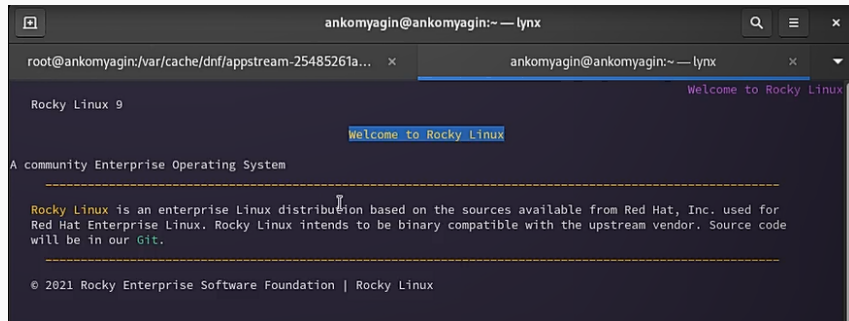
```
[root@ankomyagin packages]# rpm -ql lynx
/etc/lynx-site.cfg
/etc/lynx.cfg
/etc/lynx.lss
/usr/bin/lynx
/usr/lib/.build-id
/usr/lib/.build-id/5a
/usr/lib/.build-id/5a/06d3c4e1a8f4e4a2a1a5305737084bab728b85
/usr/share/doc/lynx
/usr/share/doc/lynx/INSTALLATION
/usr/share/doc/lynx/README
/usr/share/doc/lynx/docs
/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
```

# файлы документации пакета

```
/usr/share/man/man1/lynx.1.gz
[root@ankomyagin packages]# rpm -qd lynx
/usr/share/doc/lynx/INSTALLATION
/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/pdcursets.key
/usr/share/doc/lynx/docs/slang.key
/usr/share/doc/lynx/docs/win-386.announce
/usr/share/doc/lynx/lynx.hlp
/usr/share/doc/lynx/lynx_help/Lynx_users_guide.html
/usr/share/doc/lynx/lynx_help/about_lynx.html
/usr/share/doc/lynx/lynx_help/help_files.txt
/usr/share/doc/lynx/lynx_help/keystrokes/alt_edit_help.html
/usr/share/doc/lynx/lynx_help/keystrokes/bashlike_edit_help.html
/usr/share/doc/lynx/lynx_help/keystrokes/bookmark_help.html
/usr/share/doc/lynx/lynx_help/keystrokes/cookie_help.html
/usr/share/doc/lynx/lynx_help/keystrokes/dired_help.html
/usr/share/doc/lynx/lynx_help/keystrokes/edit_help.html
/usr/share/doc/lynx/lynx_help/keystrokes/environments.html
/usr/share/doc/lynx/lynx_help/keystrokes/follow_help.html
/usr/share/doc/lynx/lynx_help/keystrokes/gopher_types_help.html
/usr/share/doc/lynx/lynx_help/keystrokes/history_help.html
/usr/share/doc/lynx/lynx_help/keystrokes/keystroke_help.html
/usr/share/doc/lynx/lynx_help/keystrokes/movement_help.html
/usr/share/doc/lynx/lynx_help/keystrokes/option_help.html
/usr/share/doc/lynx/lynx_help/keystrokes/option_help.html
```

```
[root@ankomyagin packages]# rpm -qc lynx
/etc/lynx-site.cfg
/etc/lynx.cfg
/etc/lynx.lss
[root@ankomyagin packages]# rpm -q --scripts lynx
[root@ankomyagin packages]#
```

# пробный запуск



The screenshot shows a terminal window titled "ankomyagin@ankomyagin:~ — lynx". The terminal content displays the Rocky Linux 9 welcome message, which includes the text "Welcome to Rocky Linux" in purple, followed by "Rocky Linux 9" and another "Welcome to Rocky Linux" in yellow. Below this, it states "A community Enterprise Operating System" and provides a detailed description of Rocky Linux as an enterprise Linux distribution based on Red Hat sources. The message concludes with "© 2021 Rocky Enterprise Software Foundation | Rocky Linux".

```
ankomyagin@ankomyagin:~ — lynx
root@ankomyagin:/var/cache/dnf/appstream-25485261a... x ankomyagin@ankomyagin:~ — lynx x
Welcome to Rocky Linux
Rocky Linux 9
Welcome to Rocky Linux
A community Enterprise Operating System
-----
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.
-----
© 2021 Rocky Enterprise Software Foundation | Rocky Linux
```

**Предположим, что требуется из  
rpm-пакетов установить dnsmasq**

---

# установка dnsmasq

```
[root@ankomyagin packages]# dnf list dnsmasq
Last metadata expiration check: 0:11:38 ago on Fri 27 Sep 2024 01:16:07 PM MSK.
Installed Packages
dnsmasq.x86_64                                2.85-16.el9_4                                @AppStream
[root@ankomyagin packages]# dnf install dnsmasq
Last metadata expiration check: 0:11:45 ago on Fri 27 Sep 2024 01:16:07 PM MSK.
Package dnsmasq-2.85-16.el9_4.x86_64 is already installed.
Dependencies resolved.
Nothing to do.
Complete!
[root@ankomyagin packages]#
```

# информация о dnsmasq

```
complete.  
[root@ankomyagin packages]# which dnsmasq  
/usr/sbin/dnsmasq  
[root@ankomyagin packages]# rpm -qf $(which dnsmasq)  
dnsmasq-2.85-16.el9_4.x86_64  
[root@ankomyagin packages]# rpm -qi dnsmasq  
Name       : dnsmasq  
Version    : 2.85  
Release    : 16.el9_4  
Architecture: x86_64  
Install Date: Sat 07 Sep 2024 07:07:44 PM MSK  
Group      : Unspecified  
Size       : 718654  
License    : GPLv2 or GPLv3  
Signature  : RSA/SHA256, Wed 24 Apr 2024 08:07:47 AM MSK, Key ID 702d426d350d275d  
Source RPM : dnsmasq-2.85-16.el9_4.src.rpm  
Build Date : Wed 24 Apr 2024 08:06:41 AM MSK  
Build Host : pb-2b53df02-b46e-4235-9c27-8fc7c2aded81-b-x86-64  
Packager   : Rocky Linux Build System (Peridot) <releng@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.
```



# список файлов в пакете

```
[root@ankomyagin packages]# rpm -ql dnsmasq
/etc/dbus-1/system.d/dnsmasq.conf
/etc/dnsmasq.conf
/etc/dnsmasq.d
/usr/lib/.build-id
/usr/lib/.build-id/f0
/usr/lib/.build-id/f0/9a26532944eaa77f523aeaa8b091bbb7c5ae67
/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@ankomyagin packages]# 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@ankomyagin packages]#
```

```
root@ankomyagin:/var/cache/dnf/appstream-25485261a76941d3/packages
DNSMASQ(8) System Manager's Manual DNSMASQ(8)

NAME
  dnsmasq - A lightweight DHCP and caching DNS server.

SYNOPSIS
  dnsmasq [OPTION]...

DESCRIPTION
  dnsmasq 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.

OPTIONS
  Note that in general missing parameters are allowed and switch off functions, for instance "--pid-file" dis-
```

# конфигурационные файлы, скрипт

```
[root@ankomyagin packages]# rpm -qc dnsmasq
/etc/dbus-1/system.d/dnsmasq.conf
/etc/dnsmasq.conf
[root@ankomyagin 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 '/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@ankomyagin packages]#
```

## **Контрольные вопросы**

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**1. Какая команда позволяет вам искать пакет rpm, содержащий файл useradd?**

**rpm -qf \$(which useradd)**

2. Какие команды вам нужно использовать, чтобы показать имя группы `dnf`, которая содержит инструменты безопасности и показывает, что находится в этой группе?

`dnf group list` `dnf group info` “Имя группы”

**3. Какая команда позволяет вам установить rpm, который вы загрузили из Интернета и который не находится в репозиториях?**

**`rpm -ivh имя_пакета.rpm`**

4. Вы хотите убедиться, что пакет rpm, который вы загрузили, не содержит никакого опасного кода сценария. Какая команда позволяет это сделать?

`rpm -K имя_пакета.rpm`



## 5. Какая команда показывает всю документацию в rpm?

`rpm -qd имя_пакета`

## 6. Какая команда показывает, какому пакету rpm принадлежит файл?

**rpm -qf /путь/к/файлу**

## Вывод

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В ходе выполнения лабораторной работы я получил навыки работы с репозиториями и менеджерами пакетов.