Лабораторная работа №4

Работа с программными пакетами (DNF и RPM)

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Цель работы

Получить навыки работы с репозиториями и менеджерами пакетов в Rocky Linux.

Ход выполнения работы

```
root@ivschemelev:/home/ivschemelev# cd /etc/yum.repos.d/
root@ivschemelev:/etc/yum.repos.d# ls
rocky-addons.repo  rocky-devel.repo  rocky-extras.repo  rocky.repo
root@ivschemelev:/etc/yum.repos.d# cat rocky.repo
# 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-10
```

Рис. 1: Просмотр содержимого репозитория rocky.repo

```
root@ivschemelev:/etc/yum.repos.d#
root@ivschemelev:/etc/yum.repos.d# dnf repolist
repo id                                    repo name
appstream                                  Rocky Linux 10 - AppStream
baseos                                     Rocky Linux 10 - BaseOS
extras                                     Rocky Linux 10 - Extras
root@ivschemelev:/etc/yum.repos.d# dnf search user
Last metadata expiration check: 0:45:39 ago on Thu 15 Jan 2026 12:08:56 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 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
```

```
root@ivschemelev:/etc/yum.repos.d#
root@ivschemelev:/etc/yum.repos.d# dnf search nmap
Last metadata expiration check: 0:46:00 ago on Thu 15 Jan 2026 12:08:56 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@ivschemelev:/etc/yum.repos.d# dnf info nmap
Last metadata expiration check: 0:46:11 ago on Thu 15 Jan 2026 12:08:56 PM MSK.
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@ivschemelev:/etc/yum.repos.d#
```

```
is this ok [y/N]: y
Downloading Packages:
nmap-7.92-3.el10.x86_64.rpm                                        7.2 MB/s | 5.6 MB    00:00
------------------------------------------------------------------------------------------------
Total                                                              5.4 MB/s | 5.6 MB    00:01
Rocky Linux 10 - AppStream                                         1.6 MB/s | 1.6 kB    00:00
Importing GPG key 0x6FEDFC85:
 Userid     : "Release Engineering (Rocky Linux 10) <releng@rockylinux.org>"
 Fingerprint: FC22 6859 C086 0BF0 DDB9 5B08 5B10 6C73 6FED FC85
 From       : /etc/pki/rpm-gpg/RPM-GPG-KEY-Rocky-10
Is this ok [y/N]: y
Key imported successfully
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@ivschemelev:/etc/yum.repos.d# dnf install nmap\*
Last metadata expiration check: 0:46:40 ago on Thu 15 Jan 2026 12:08:56 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@ivschemelev:/etc/yum.repos.d# ▮
```

```
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-4:7.92-3.el10.x86_64                                          1/1
  Running scriptlet: nmap-4:7.92-3.el10.x86_64                                          1/1

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

Complete!
root@ivschemelev:/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

Freed space: 470 k
Is this ok [y/N]: y
Running transaction check
Transaction check succeeded.
```

Рис. 5: Удаление пакета nmap и связанных компонентов

```
root@ivschemelev:/etc/yum.repos.d# dnf groups list
Last metadata expiration check: 0:47:31 ago on Thu 15 Jan 2026 12:08:56 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@ivschemelev:/etc/yum.repos.d#
```

```
root@ivschemelev:/etc/yum.repos.d# dnf groups info "RPM Development Tools"
Last metadata expiration check: 0:48:17 ago on Thu 15 Jan 2026 12:08:56 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@ivschemelev:/etc/yum.repos.d# dnf groupinstall "RPM Development Tools"
Last metadata expiration check: 0:48:28 ago on Thu 15 Jan 2026 12:08:56 PM MSK.
Dependencies resolved.
================================================================================
 Package                     Architecture   Version                Repository      Size
================================================================================
Upgrading:
 python3-rpm                 x86_64         4.19.1.1-20.el10       baseos          64 k
 redhat-rpm-config           noarch         293-1.el10.rocky.0.2   appstream       78 k
 rpm                         x86_64         4.19.1.1-20.el10       baseos         543 k
 rpm-build                   x86_64         4.19.1.1-20.el10       appstream       76 k
 rpm-build-libs              x86_64         4.19.1.1-20.el10       baseos          93 k
 rpm-libs                    x86_64         4.19.1.1-20.el10       baseos         309 k
 rpm-plugin-audit            x86_64         4.19.1.1-20.el10       baseos          17 k
 rpm-plugin-selinux          x86_64         4.19.1.1-20.el10       baseos          17 k
 rpm-plugin-systemd-inhibit  x86_64         4.19.1.1-20.el10       appstream       17 k
 rpm-sequoia                 x86_64         1.9.0.3-1.el10_1       baseos         968 k
 rpm-sign                    x86_64         4.19.1.1-20.el10       baseos          21 k
 rpm-sign-libs               x86_64         4.19.1.1-20.el10       baseos          23 k
Installing group/module packages:
```

Рис. 7: Установка групп пакетов

```
root@ivschemelev:/etc/yum.repos.d#
root@ivschemelev:/etc/yum.repos.d# dnf groupremove "RPM Development Tools"
Traceback (most recent call last):
  File "/usr/bin/dnf", line 61, in <module>
    from dnf.cli import main
  File "/usr/lib/python3.12/site-packages/dnf/__init__.py", line 30, in <module>
    import dnf.base
  File "/usr/lib/python3.12/site-packages/dnf/base.py", line 29, in <module>
    import libdnf.transaction
  File "/usr/lib64/python3.12/site-packages/libdnf/__init__.py", line 14, in <module>
    from . import conf
  File "/usr/lib64/python3.12/site-packages/libdnf/conf.py", line 10, in <module>
    from . import _conf
ImportError: /lib64/librpm_sequoia.so.1: undefined symbol: EVP_PKEY_verify_message_init, version OPENSSL_3.4.0
root@ivschemelev:/etc/yum.repos.d#
```

Рис. 8: Ошибка библиотеки при удалении группы пакетов

Рис. 9: Ошибка при выполнении dnf history

- Операционная система **переустановлена**
- Выполнено **полное обновление системы**
- После этого действия лабораторной работы повторены

Рис. 10: Просмотр истории использования DNF

Рис. 11: Проверка наличия lynx и загрузка RPM-пакета без установки

```
root@ivschemelev:/var/cache/dnf/appstream-8f18e4146890fdfc/packages# rpm -Uhv lynx-2.9.0-6.el10.x86_64.rpm
Verifying...                          ################################# [100%]
Preparing...                          ################################# [100%]
Updating / installing...
   1:lynx-2.9.0-6.el10                 ################################# [100%]
root@ivschemelev:/var/cache/dnf/appstream-8f18e4146890fdfc/packages# which lynx
/usr/bin/lynx
root@ivschemelev:/var/cache/dnf/appstream-8f18e4146890fdfc/packages# rpm -qf $(which lynx)
lynx-2.9.0-6.el10.x86_64
root@ivschemelev:/var/cache/dnf/appstream-8f18e4146890fdfc/packages# rpm -qi lynx
Name        : lynx
Version     : 2.9.0
Release     : 6.el10
Architecture: x86_64
Install Date: Thu 15 Jan 2026 01:33:08 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@ivschemelev:/var/cache/dnf/appstream-8f18e4146890fdfc/packages# █
```

```
root@ivschemelev:/var/cache/dnf/appstream-8f18e4146890fdfc/packages#
root@ivschemelev:/var/cache/dnf/appstream-8f18e4146890fdfc/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/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
```

```
root@ivschemelev:/var/cache/dnf/appstream-8f18e4146890fdfc/packages# 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
```

```
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,
Manual page lynx(1) line 1 (press h for help or q to quit)
```
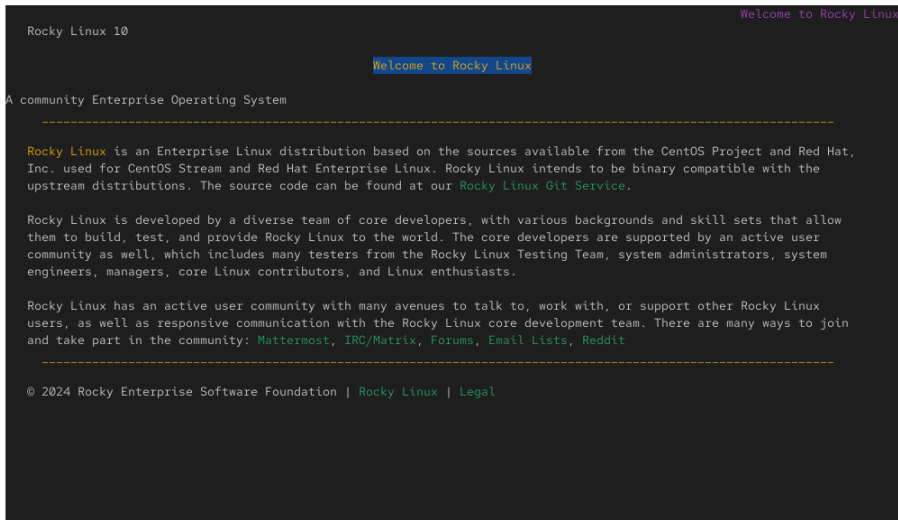
Рис. 16: Проверка запуска lynx под обычной учётной записью

Рис. 17: Удаление пакета lynx и проверка файлов в каталоге

```
root@ivschemelev:/var/cache/dnf/appstream-8f18e4146890fdfc/packages# dnf list dnsmasq
Last metadata expiration check: 0:11:09 ago on Thu 15 Jan 2026 01:24:54 PM MSK.
Installed Packages
dnsmasq.x86_64                                    2.90-4.el10                              @AppStre
root@ivschemelev:/var/cache/dnf/appstream-8f18e4146890fdfc/packages# dnf install dnsmasq
Last metadata expiration check: 0:11:16 ago on Thu 15 Jan 2026 01:24:54 PM MSK.
Package dnsmasq-2.90-4.el10.x86_64 is already installed.
Dependencies resolved.
Nothing to do.
Complete!
root@ivschemelev:/var/cache/dnf/appstream-8f18e4146890fdfc/packages# which dnsmasq
/usr/sbin/dnsmasq
root@ivschemelev:/var/cache/dnf/appstream-8f18e4146890fdfc/packages# rpm -qf $(which dnsmasq)
dnsmasq-2.90-4.el10.x86_64
```

Рис. 18: Проверка наличия и установка пакета dnsmasq, определение пути к исполняемому файлу

```
root@ivschemelev:/var/cache/dnf/appstream-8f18e4146890fdfc/packages#
root@ivschemelev:/var/cache/dnf/appstream-8f18e4146890fdfc/packages# rpm -qi dnsmasq
Name         : dnsmasq
Version      : 2.90
Release      : 4.el10
Architecture: x86_64
Install Date: Thu 15 Jan 2026 01:21:21 PM 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.
root@ivschemelev:/var/cache/dnf/appstream-8f18e4146890fdfc/packages#
```

```
root@ivschemelev:/var/cache/dnf/appstream-8f18e4146890fdfc/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/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@ivschemelev:/var/cache/dnf/appstream-8f18e4146890fdfc/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@ivschemelev:/var/cache/dnf/appstream-8f18e4146890fdfc/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, recur-
       sive, 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 sen-
       sible default set of DHCP options, and can be configured to send any desired set of DHCP options, including  ven-
       dor-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  autocon-
       figuration  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 compati-
       ble 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"  disables
Manual page dnsmasq(8) line 1 (press h for help or q to quit)
```

```
root@ivschemelev:/var/cache/dnf/appstream-8f18e4146890fdfc/packages#
root@ivschemelev:/var/cache/dnf/appstream-8f18e4146890fdfc/packages# rpm -qc dnsmasq
/etc/dbus-1/system.d/dnsmasq.conf
/etc/dnsmasq.conf
root@ivschemelev:/var/cache/dnf/appstream-8f18e4146890fdfc/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@ivschemelev:/var/cache/dnf/appstream-8f18e4146890fdfc/packages# rpm -e dnsmasq
root@ivschemelev:/var/cache/dnf/appstream-8f18e4146890fdfc/packages# █
```

Итоги работы

Заключение

- Изучены принципы управления пакетами в Rocky Linux с помощью **dnf** и **rpm**
- Отработаны операции: поиск, установка, удаление пакетов и групп, анализ состава пакетов
- Рассмотрена установка из локального RPM-файла
- Выявлена и устранена проблема совместимости библиотек RPM и OpenSSL путём переустановки и обновления системы
- После исправления подтверждена корректная работа DNF и механизма отката транзакций