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SUBJECT: 6OSAPP DATE: 08-15-25 SECTION: NW-201

# OUTPUT SCREENSHOT 1 (Step 1 - Verify DNF):

```
shen@vbox:~$ dnf --version
4.20.0
   Installed: dnf-0:4.20.0-13.el10.noarch at Fri 11 Jul 2025 03:03:03 AM GMT
   Built : builder@centos.org at Wed 12 Mar 2025 02:16:40 PM GMT

   Installed: rpm-0:4.19.1.1-14.el10.x86_64 at Fri 11 Jul 2025 03:01:49 AM GMT
   Built : builder@centos.org at Mon 28 Apr 2025 09:22:58 AM GMT
   shen@vbox:~$ ■
```

## OUTPUT SCREENSHOT 2 (Step 2 - Search for Packages):

```
hen@vbox:~$ dnf search htop
Last metadata expiration check: 0:50:52 ago on Fri 15 Aug 2025 11:25:11 AM PST.
No matches found.
shen@vbox:~$ dnf search nano
Last metadata expiration check: 0:50:56 ago on Fri 15 Aug 2025 11:25:11 AM PST.
nano.x86_64 : A small text editor
shen@vbox:~$ dnf search tree
Last metadata expiration check: 0:50:59 ago on Fri 15 Aug 2025 11:25:11 AM PST.
tree.x86_64 : File system tree viewer
ostree.x86_64 : Tool for managing bootable, immutable filesystem trees
ostree-grub2.x86_64 : GRUB2 integration for OSTree
ostree-libs.x86_64 : C shared libraries ostree
subscription-manager-plugin-ostree.x86_64 : A plugin for handling OSTree content.
texlive-pst-tree.noarch : Trees, using pstricks
git-subtree.noarch : Git tools to merge and split repositories
libtree-sitter.x86_64 : Incremental parsing library for programming tools
baobab.x86_64 : A graphical directory tree analyzer
cscope.x86_64 : C source code tree search and browse tool
dtc.x86_64 : Device Tree Compiler
golang-src.noarch : Golang compiler source tree
libfdt.x86_64 : Device tree library
python3-lxml.x86_64 : XML processing library combining libxml2/libxslt with the ElementTree API
shen@vbox:~$ dnf search wget
Last metadata expiration check: 0:51:03 ago on Fri 15 Aug 2025 11:25:11 AM PST.
------ Name Exactly Matched: wget ------
wget.x86_64 : A utility for retrieving files using the HTTP or FTP protocols
```

```
shen@vbox:~$ dnf search curl
Last metadata expiration check: 0:51:08 ago on Fri 15 Aug 2025 11:25:11 AM PST.
curl.x86_64 : A utility for getting files from remote servers (FTP, HTTP, and others)
------ Name & Summary Matched: curl
libcurl-devel.x86_64 : Files needed for building applications with libcurl
libcurl-minimal.x86_64 : Conservatively configured build of libcurl for minimal installations
nbdkit-curl-plugin.x86_64 : HTTP/FTP (cURL) plugin for nbdkit
qemu-kvm-block-curl.x86_64 : QEMU CURL block driver
------ Name Matched: curl -------
libcurl.x86_64 : A library for getting files from web servers
shen@vbox:~$ dnf search zip
Last metadata expiration check: 0:51:12 ago on Fri 15 Aug 2025 11:25:11 AM PST.
zip.x86_64 : A file compression and packaging utility compatible with PKZIP
bzip2-devel.x86_64 : Libraries and header files for apps which will use bzip2
bzip2-libs.x86_64 : Libraries for applications using bzip2
libzip.x86_64 : C library for reading, creating, and modifying zip archives
libzip-tools.x86_64 : Command line tools from libzip
pbzip2.x86_64 : Parallel implementation of bzip2
perl-Archive-Zip.noarch : Perl library for accessing Zip archives
perl-Compress-Bzip2.x86_64 : Interface to Bzip2 compression library
perl-Compress-Raw-Bzip2.x86_64 : Low-level interface to bzip2 compression library
php-pecl-zip.x86_64 : A ZIP archive management extension
qatzip.x86_64 : Intel QuickAssist Technology (QAT) QATzip Library
qatzip-libs.x86_64 : Libraries for the qatzip package
unzip.x86_64 : A utility for unpacking zip files
zziplib.x86_64 : Lightweight library to easily extract data from zip files
zziplib-utils.x86_64 : Utilities for the zziplib library
bzip2.x86 64 : File compression utility
qzip.x86_64 : GNU data compression program
java-21-openjdk-javadoc-zip.x86_64 : OpenJDK 21 API documentation compressed in a single archive
nbdkit-xz-filter.x86_64 : XZ and lzip filters for nbdkit
pigz.x86_64 : Parallel implementation of gzip
shen@vbox:~$ dnf search unzip
Last metadata expiration check: 0:51:31 ago on Fri 15 Aug 2025 11:25:11 AM PST.
unzip.x86_64 : A utility for unpacking zip files
shen@vbox:~$ dnf search httpd
Last metadata expiration check: 0:51:35 ago on Fri 15 Aug 2025 11:25:11 AM PST.
httpd.x86_64 : Apache HTTP Server
centos-logos-httpd.noarch : CentOS-related icons and pictures used by httpd
httpd-core.x86_64 : httpd minimal core
python3-keycloak-httpd-client-install.noarch : Tools to configure Apache HTTPD as Keycloak client
httpd-devel.x86_64 : Development interfaces for the Apache HTTP Server
httpd-filesystem.noarch : The basic directory layout for the Apache HTTP Server
httpd-tools.x86_64 : Tools for use with the Apache HTTP Server
libmicrohttpd.x86\_64 : Lightweight library for embedding a webserver in applications
mod_dav_svn.x86_64 : Apache httpd module for Subversion server
mod_proxy_cluster.x86_64 : JBoss mod_proxy_cluster for Apache httpd
shen@vbox:~$ dnf search neofetch
Last metadata expiration check: 0:51:44 ago on Fri 15 Aug 2025 11:25:11 AM PST.
```

```
hen@vbox:~$ dnf search git
Last metadata expiration check: 0:51:49 ago on Fri 15 Aug 2025 11:25:11 AM PST.
git.x86_64 : Fast Version Control System
git-all.noarch : Meta-package to pull in all git tools
git-clang-format.x86_64 : Integration of clang-format for git
git-core.x86_64 : Core package of git with minimal functionality
git-credential-libsecret.x86_64 : Git helper for accessing credentials via libsecret
git-daemon.x86_64 : Git protocol daemon
git-email.noarch : Git tools for sending patches via email
git-gui.noarch : Graphical interface to Git
git-instaweb.noarch : Repository browser in gitweb
git-lfs.x86_64 : Git extension for versioning large files
git-subtree.noarch : Git tools to merge and split repositories
git-svn.noarch : Git tools for interacting with Subversion repositories
gitweb.noarch : Simple web interface to git repositories
perl-Git-SVN.noarch : Perl interface to Git::SVN
------ Summary Matched: git ------
dcraw.x86_64 : Tool for decoding raw image data from digital cameras
glibc-langpack-sgs.x86_64 : Locale data for Samogitian
libgphoto2.x86_64 : Library for accessing digital cameras
sane-backends-drivers-cameras.x86_64 : Scanner backend drivers for digital cameras
```

### OUTPUT SCREENSHOT 3 (Step 3 – Install All Packages):

```
shen@vbox:~$ sudo dnf install htop nano tree wget curl zip unzip httpd neofetch git -y
[sudo] password for shen:
Last metadata expiration check: 0:52:48 ago on Fri 15 Aug 2025 11:28:19 AM PST.
No match for argument: htop
Package nano-8.1-3.el10.x86_64 is already installed.
Package tree-2.1.0-8.el10.x86_64 is already installed.
Package wget-1.24.5-5.el10.x86_64 is already installed.
Package curl-8.12.1-2.el10.x86_64 is already installed.
Package zip-3.0-45.el10.x86_64 is already installed.
Package unzip-6.0-69.el10.x86_64 is already installed.
Package httpd-2.4.63-1.el10.x86_64 is already installed.
No match for argument: neofetch
Error: Unable to find a match: htop neofetch
```

#### OUTPUT SCREENSHOT 4 (Step 4 - Verify Installation):

shen@vbox:~\$ dnf list installed   grep nano		
nano.x86_64	8.1-3.el10	@System
shen@vbox:~\$ dnf list installed   grep tree		
ostree-libs.x86_64	2025.4-2.el10	@System
tree.x86_64	2.1.0-8.el10	@System
shen@vbox:~\$ dnf list installed   grep zip		
b <b>zip</b> 2.x86_64	1.0.8-25.el10	@System
b <mark>zip</mark> 2-libs.x86_64	1.0.8-25.el10	@System
g <b>zip</b> .x86_64	1.13-3.el10	@System
un <b>zip</b> .x86_64	6.0-69.el10	@System
<b>zip</b> .x86_64	3.0-45.el10	@System
shen@vbox:~\$ dnf list installed   grep unzip		
unzip.x86_64	6.0-69.el10	@System
shen@vbox:~\$ dnf list installed   grep git		
crontabs.noarch	1.11^20190603git9e74f2d-6.el10	@System
crypto-policies.noarch	20250804-1. <b>git</b> 2ca4115.el10	@System
crypto-policies-scripts.noarch	20250804-1. <b>git</b> 2ca4115.el10	@System
git-core.x86_64	2.47.3-1.el10	@System
hyperv-daemons.x86_64	0-0.50.20220731 <b>git</b> .el10	@System
hyperv-daemons-license.noarch	0-0.50.20220731 <b>git</b> .el10	@System
hypervfcopyd.x86_64	0-0.50.20220731 <b>git</b> .el10	@System
hypervkvpd.x86_64	0-0.50.20220731git.el10	@System
hypervvssd.x86_64	0-0.50.20220731git.el10	@System
iscsi-initiator-utils.x86_64	6.2.1.11-0. <b>git</b> 4b3e853.el10	@System
iscsi-initiator-utils-iscsiuio.x86_64	6.2.1.11-0. <b>git</b> 4b3e853.el10	@System
lockdev.x86_64	1.0.4-0.46.20111007git.el10	@System
net-tools.x86_64	2.0-0.73.20160912git.el10	@System
papers.x86_64	47.0-6.git5de8d26c.el10	@System
papers-libs.x86_64	47.0-6. <b>git</b> 5de8d26c.el10	@System
papers-nautilus.x86_64	47.0-6. <b>git</b> 5de8d26c.el10	@System
papers-previewer.x86_64	47.0-6. <b>git</b> 5de8d26c.el10	@System
papers-thumbnailer.x86_64	47.0-6. <b>git</b> 5de8d26c.el10	@System

OUTPUT SCREENSHOT 5 (**Step 5 – Test Commands**):

```
hen@vbox:~$ neofetch
                                     shen@vbox
              .PLTJ.
            0000
                                     OS: CentOS Stream 10 (Coughlan) x86_64
   KKSSV' 4KKK LJ KKKL.'VSSKK
                                    Host: Oracle Corporation VirtualBox
   KKV' 4KKKKK LJ KKKKAL 'VKK
                                    Kernel: 6.12.0-80.el10.x86_64
   V' ' 'VKKKK LJ KKKKV' ' 'V
                                    Uptime: 13 mins
    .4MA.' 'VKK LJ KKV' '.4Mb.
                                    Packages: 1260 (rpm)
                                    Shell: bash 5.2.26
.4D KKKKKKKA.'' LJ ''.4KKKKKK FA.
                                    Resolution: 1280x800
DE: GNOME 47.8 (Wayland)
'VD KKKKKKKK'... LJ ...'KKKKKKKK FV
                                    WM: Mutter
  ' VKKKKK'. .4 LJ K. .'KKKKKV '
                                    WM Theme: Adwaita
     'VK'. .4KK LJ KKA. .'KV'
                                    Theme: Adwaita [GTK2/3]
   A. . .4KKKK LJ KKKKA. . .4
                                    Icons: Adwaita [GTK2/3]
        'KKKKK LJ KKKKK' .4KK
                                    Terminal: ptyxis-agent
   KKSSA. VKKK LJ KKKV .4SSKK
                                    CPU: 12th Gen Intel i7-12700 (2) @ 2.111GHz
                                     GPU: VMware SVGA II Adapter
             'MKKM'
                                     Memory: 1728MiB / 3653MiB
```

## OUTPUT SCREENSHOT 6 (Step 5 - Test Commands):

#### OUTPUT SCREENSHOT 7 (Step 6 - Update Packages):

```
shen@vbox:~$ sudo dnf update htop nano httpd -y
[sudo] password for shen:
Last metadata expiration check: 1:01:50 ago on Fri 15 Aug 2025 11:28:19 AM PST.
No match for argument: htop
Dependencies resolved.
Nothing to do.
Complete!
shen@vbox:~$
```

#### OUTPUT SCREENSHOT 8 (Step 7 - Update All Packages):

Last metadata expiration check: 0:46:26 ago on Fri 15 Aug 2025 11:28:19 AM PST. Dependencies resolved. Upgrading: NetworkManager 1:1.54.0-1.el10 1:1.54.0-1.el10 1:1.54.0-1.el10 1:1.54.0-1.el10 1:1.54.0-1.el10 1:1.54.0-1.el10 1:1.54.0-1.el10 1:1.54.0-1.el10 1:1.54.0-1.el10 1:1.150.0-1.el10 1:2.14-1.el10 1:2.14-1.el10 NetworkManager-adsl NetworkManager-bluetooth NetworkManager-config-server NetworkManager-libnm NetworkManager-wifi NetworkManager-wwan 425 k amd-gpu-firmware amd-ucode-firmware 20250708-18.el10 20250708-18.el10 3.2.5-13.el10 2.56.1-1.el10 2.56.1-1.el10 20250708-18.el10 20250708-18.el10 2.56.1-1.el10 0.9-rc2-2.el10 0.9-rc2-2.el10 0.9-rc2-2.el10 32:9.18.33-4.el10 32:9.18.33-4.el10 32:9.18.33-4.el10 x86\_64 x86\_64 x86\_64 baseos appstream 32:9.18.33-4.el10
32:9.18.33-4.el10
2.41-56.el10
5.83-1.el10
5.83-1.el10
7.6.0-2.el10
20250708-18.el10
2:1.41.0-1.el10
10.0-10.el10
10.0-10.el10
3.9-1.el10 bluez bluez-libs x86\_64 x86\_64 x86\_64 x86\_64 noarch x86\_64 baseos appstream baseos baseos x86\_64 x86\_64 20250708-18.el10 343-1.el10 697 k

```
python3-file-segic-5.45-8.eli8.mosch
python3-lide-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-depth-dept
```

## OUTPUT SCREENSHOT 9 (Step 8 - Remove Packages):