

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

LINUX COMMANDS



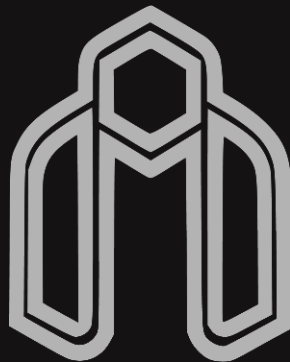
Feel free

Description of some Linux commands – Part V

OS Laboratory – Exercise 5

Collected and Written by Mostafa Fazli

23 November 2021



deb

rpm

dpkg

gdebi

apt-get

apt-key

echo

DNS

deb



deb is the format, as well as extension of the software package format for the Debian Linux distribution and its derivatives.

Debian packages are standard Unix "ar" archives that include two tar archives. One archive holds the control information and another contains the installable data.

Debian packages are used in distributions based on Debian, such as Ubuntu and many others.

deb File Format

Package Section

Control Section

Data Section

deb

archive file signature

!
0 < a r c h > \n

file identifier

d e b i a n - b i n a r y

file modification timestamp

1 3 4 2 9 4 3 8 1 6

owner ID

0

group ID

0

file mode

1 0 0 6 4 4

file size in bytes (decimal)

4

end char

\n

version

2 . 0 \n

file identifier

c o n t r o l . t a r . g z

file modification timestamp

1 3 4 2 9 4 3 8 1 6

owner ID

0

group ID

0

file mode

1 0 0 6 4 4

file size in bytes (decimal)

9 2 7

end char

\n

~ control.tar.gz data ~

file identifier

d a t a . t a r . g z

file modification timestamp

1 3 4 2 9 4 3 8 1 6

owner ID

0

group ID

0

file mode

1 0 0 6 4 4

file size in bytes (decimal)

2 3 9 8 9

end char

\n

~ data.tar.gz data ~

deb



We 3 Ways to Install Deb Files:

Method 1: Use the default Software Center (GUI)

Method 2: Use Gdebi application for installing deb packages with dependencies

Method 3: Install with apt command

rpm



RPM command is used for installing, uninstalling, upgrading, querying, listing, and checking RPM packages on your Linux system.

RPM stands for **R**ed **H**at **P**ackage **M**anager.

With root privilege, you can use the rpm command with appropriate options to manage the RPM software packages.

Structure:

rpm [OPTION] [FILE_OR_PACKAGE]

rpm



Options:

- i => install a package
- v => verbose
- h => print hash marks as the package archive is unpacked.
- q => query operation
- a => queries all installed packages
- f => file name
- i => view information about an rpm
- p => specify a package name

dpkg



In Debian and its derivatives like Ubuntu and Linux Mint, the dpkg package manager is used for managing the packages.

Dpkg, which is installed by default on the Debian and its derivatives can be used to install, build, and remove .deb packages.

Install dpkg Package

(sudo) apt-get install dpkg

Structure:

dpkg [OPTION] FILE_NAME

OR

dpkg ACTION

dpkg



Options:

- i => install package
- r => remove package
- l => list of all installed packages
- s => check if a package is installed or not
- configure => Reconfigure a Unpacked Package

Examples:

```
sudo dpkg -i telegram.deb
```

```
root@pop-os: /home/mostafafazli/Downloads

Setting up libgcc1 (1:10.3.0-1ubuntu1~20.04) ...
Processing triggers for libc-bin (2.31-0ubuntu9.2) ...
(Reading database ... 208290 files and directories currently installed.)
Preparing to unpack google-chrome-stable_current_amd64.deb ...
Unpacking google-chrome-stable (96.0.4664.45-1) over (96.0.4664.45-1) ...
Setting up google-chrome-stable (96.0.4664.45-1) ...
Processing triggers for gnome-menus (3.36.0-1ubuntu1) ...
Processing triggers for desktop-file-utils (0.24-1ubuntu3) ...
Processing triggers for mime-support (3.64ubuntu1) ...
Processing triggers for man-db (2.9.1-1) ...
root@pop-os:/home/mostafafazli/Downloads# sudo dpkg -r google-chrome-stable_current_amd64.deb

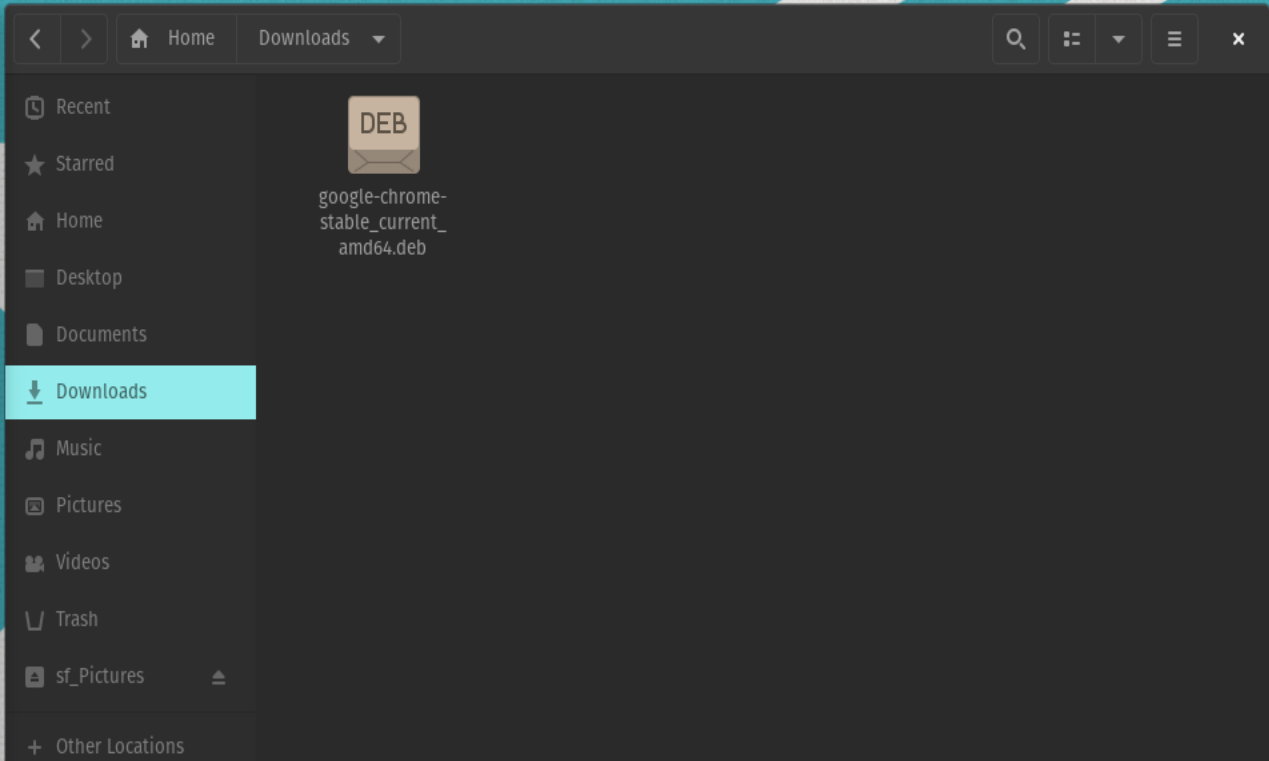
dpkg: error: you must specify packages by their own names, not by quoting the names of the files they come in

Type dpkg --help for help about installing and deinstalling packages [*];
Use 'apt' or 'aptitude' for user-friendly package management;
Type dpkg -Dhelp for a list of dpkg debug flag values;
Type dpkg --force-help for a list of forcing options;
Type dpkg-deb --help for help about manipulating *.deb files;

Options marked [*] produce a lot of output - pipe it through 'less' or 'more' !
root@pop-os:/home/mostafafazli/Downloads# sudo dpkg -i google-chrome-stable_current_amd64.deb

(Reading database ... 208290 files and directories currently installed.)
Preparing to unpack google-chrome-stable_current_amd64.deb ...
Unpacking google-chrome-stable (96.0.4664.45-1) over (96.0.4664.45-1) ...
Setting up google-chrome-stable (96.0.4664.45-1) ...
Processing triggers for gnome-menus (3.36.0-1ubuntu1) ...
Processing triggers for desktop-file-utils (0.24-1ubuntu3) ...
Processing triggers for mime-support (3.64ubuntu1) ...
Processing triggers for man-db (2.9.1-1) ...
root@pop-os:/home/mostafafazli/Downloads# sudo dpkg -i google-chrome-stable_current_amd64.deb

(Reading database ... 208290 files and directories currently installed.)
Preparing to unpack google-chrome-stable_current_amd64.deb ...
Unpacking google-chrome-stable (96.0.4664.45-1) over (96.0.4664.45-1) ...
Setting up google-chrome-stable (96.0.4664.45-1) ...
Processing triggers for gnome-menus (3.36.0-1ubuntu1) ...
Processing triggers for desktop-file-utils (0.24-1ubuntu3) ...
Processing triggers for mime-support (3.64ubuntu1) ...
Processing triggers for man-db (2.9.1-1) ...
root@pop-os:/home/mostafafazli/Downloads#
```



gdebi



gdebi lets you install local deb packages resolving and installing its dependencies.
apt does the same, but only for remote (http, ftp) located packages.
It can also resolve build-depends of debian/control files.

Structure:

gdebi [PACKAGE]

ارسال پاسخ
جلسه پنجم
از سیستم عامل

زمان مجاز ارسال پاسخ ۱۴۰۰/۰۸/۲۵, ۱۷:۰۰ - ۱۴۰۰/۰۹/۰۲, ۱۵:۳۰

دستورات جلسه پنجم را اجرا نموده، خروجی هر دستور با سوییچ های مختلف را به همراه توضیحات در قالب فایل پی دی اف ارسال نمایید. دستورات: apt-get apt-key

امکان ارسال چند فایل

پاسخی ثبت نشده است

عنوان و توضیحات

انتخاب فایل

توجه!بعد از انتخاب فایل حتما دکمه ذخیره و ارسال فایل را کلیک کنید تا فایل شما ذخیره شود.

فایل ها را در اینجا بگذارید

gdebi



Options:

- `--version` => Show program's version number and exit.
- `-h, --help` => Show this help message and exit.
- `--n, --non-interactive` => Run non-interactive (dangerous!).
- `--o , --option` => Set an APT configuration option.
- `--q, --quiet` => Do not show progress information.

Examples:

`gdebi google-chrome.deb`

*This command is privilege command.

apt

The apt command is a advanced command-line tool, which offers new software package installation, existing software package upgradation, updating of the package list index, and even upgrading the whole **Ubuntu** or **Linux Mint** or **Others Debian distribution** system.

apt-get

apt-get is a command-line tool which helps in handling packages in Linux. Its main task is to retrieve the information and packages from the authenticated sources for installation, upgrade and removal of packages along with their dependencies.

Structure:

apt-get [OPTION] COMMAND

*This command is privilege command.

apt-get



Commands:

update => This command is used to synchronize the package index files from their sources again. You need to perform an update before you upgrade or dist-upgrade.

upgrade => This command performs the function of upgrade, and also handles changing dependencies with new versions of packages.

Install => This command is used to install or upgrade packages. It is followed by one or more package names the user wishes to install.

remove => This command is used to uninstall packages.

check => This command is used to update the package cache and checks for broken dependencies.

Examples:

```
sudo apt-get install sublime--text
```



```
File Actions Edit View Help
(mosfazli@Knight)-[~]
$ sudo apt-get install gdebi
[sudo] password for mosfazli:
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following packages were automatically installed and are no longer required:
  libdap27 libdapclient6v5 libdavid4 libepsilon1 libgdal28 libgupnp-1.2-0 libidn11 libnetcdf18 libntfs-3g883 libomp-11-dev libomp5-11 liburcu6 libx265-192 libyara4 python3-editor python3-ipython-genutils
Use 'sudo apt autoremove' to remove them.
The following additional packages will be installed:
  diffstat gdebi-core gettext gnome-icon-theme intltool-debian libaliased-perl libarchive-zip-perl libb-hooks-endofscope-perl libb-hooks-op-check-perl libcapture-tiny-perl libclass-data-inheritable-perl libclass-method-modifiers-perl
  libclass-xsaccessor-perl libclone-perl libconfig-tiny-perl libconst-fast-perl libcpanel-json-xs-perl libdata-dpath-perl libdata-messagepack-perl libdata-optlist-perl libdata-validate-domain-perl libdevel-callchecker-perl
  libdevel-size-perl libdevel-stacktrace-perl libdynaloader-functions-perl libemail-address-xs-perl libexception-class-perl libfile-find-rule-perl libfont-ttf-perl libhtml-html5-entities-perl libimport-into-perl libio-interactive-perl
  libio-prompt-tiny-perl libio-string-perl libipc-run3-perl libiterator-perl libiterator-util-perl libjson-maybexs-perl liblist-compare-perl liblist-someutils-perl liblist-someutils-xs-perl liblist-utlsby-perl
  libmodule-implementation-perl libmodule-runtime-perl libmoo-perl libmoox-aliases-perl libmouse-perl libnamespace-clean-perl libnet-domain-tld-perl libnumber-compare-perl libpackage-stash-perl libpackage-stash-xs-perl
  libparams-classify-perl libparams-util-perl libpath-tiny-perl libperl-io-gzip-perl libperl-io-utf8-strict-perl libproc-processtable-perl libreadonly-perl libref-util-perl libref-util-xs-perl librole-tiny-perl libereal-decoder-perl
  libereal-encoder-perl libsort-versions-perl libstructures-perl libsub-exporter-perl libsub-exporter-progressive-perl libsub-identify-perl libsub-install-perl libsub-name-perl libsub-quote-perl libtext-glob-perl
  libtext-levenshteinx-perl libtext-markdown-discount-perl libtext-xslate-perl libtime-duration-perl libtime-moment-perl libtype-tiny-perl libtype-tiny-xs-perl libunicode-utf8-perl libvariable-magic-perl libxml-libxml-perl
  libxml-namespacesupport-perl libxml-sax-base-perl libxml-sax-expat-perl libxml-sax-perl libyaml-libyaml-perl lintian lzip lzop patchutils t1utils
Suggested packages:
  gettext-doc autopoint libasprintf-dev libgettextpo-dev libscalar-number-perl libbareword-filehandles-perl libindirect-perl libmultidimensional-perl libdevel-lexalias-perl libxml-sax-expatxs-perl binutils-multiarch
  libtext-template-perl
Recommended packages:
  libgtk2-perl
The following NEW packages will be installed:
  diffstat gdebi gdebi-core gettext gnome-icon-theme intltool-debian libaliased-perl libarchive-zip-perl libb-hooks-endofscope-perl libb-hooks-op-check-perl libcapture-tiny-perl libclass-data-inheritable-perl libclass-method-modifiers-perl
  libclass-xsaccessor-perl libclone-perl libconfig-tiny-perl libconst-fast-perl libcpanel-json-xs-perl libdata-dpath-perl libdata-messagepack-perl libdata-optlist-perl libdata-validate-domain-perl
  libdevel-callchecker-perl libdevel-size-perl libdevel-stacktrace-perl libdynaloader-functions-perl libemail-address-xs-perl libexception-class-perl libfile-find-rule-perl libfont-ttf-perl libhtml-html5-entities-perl
  libimport-into-perl libio-interactive-perl libio-prompt-tiny-perl libio-string-perl libipc-run3-perl libiterator-perl libiterator-util-perl libjson-maybexs-perl liblist-compare-perl liblist-someutils-perl liblist-someutils-xs-perl
  liblist-utlsby-perl libmodule-implementation-perl libmodule-runtime-perl libmoo-perl libmoox-aliases-perl libmouse-perl libnamespace-clean-perl libnet-domain-tld-perl libnumber-compare-perl libpackage-stash-perl
  libpackage-stash-xs-perl libparams-classify-perl libparams-util-perl libpath-tiny-perl libperl-io-gzip-perl libperl-io-utf8-strict-perl libproc-processtable-perl libreadonly-perl libref-util-perl libref-util-xs-perl librole-tiny-perl
  libereal-decoder-perl libereal-encoder-perl libsort-versions-perl libstructures-perl libsub-exporter-perl libsub-exporter-progressive-perl libsub-identify-perl libsub-install-perl libsub-name-perl libsub-quote-perl
  libtext-glob-perl libtext-levenshteinx-perl libtext-markdown-discount-perl libtext-xslate-perl libtime-duration-perl libtime-moment-perl libtype-tiny-perl libtype-tiny-xs-perl libunicode-utf8-perl libvariable-magic-perl
  libxml-libxml-perl libxml-namespacesupport-perl libxml-sax-base-perl libxml-sax-expat-perl libxml-sax-perl libyaml-libyaml-perl lintian lzip lzop patchutils t1utils
0 upgraded, 94 newly installed, 0 to remove and 21 not upgraded.
Need to get 16.6 MB of archives.
After this operation, 40.7 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://kali.download/kali kali-rolling/main amd64 diffstat amd64 1.64-1 [36.6 kB]
Get:2 http://kali.org/kali kali-rolling/main amd64 gdebi-core all 0.9.5.7+nmue6 [130 kB]
Get:3 http://kali.download/kali kali-rolling/main amd64 gnome-icon-theme all 3.12.0-4 [9,869 kB]
Get:4 http://kali.org/kali kali-rolling/main amd64 gdebi all 0.9.5.7+nmue6 [41.2 kB]
Get:5 http://kali.download/kali kali-rolling/main amd64 gettext amd64 0.21-4 [1,311 kB]
Get:6 http://kali.org/kali kali-rolling/main amd64 intltool-debian all 0.35.0+20060710.5 [26.8 kB]
Get:7 http://kali.download/kali kali-rolling/main amd64 libaliased-perl all 0.34-1.1 [14.1 kB]
Get:8 http://kali.download/kali kali-rolling/main amd64 libarchive-zip-perl all 1.68-1 [104 kB]
Get:9 http://kali.org/kali kali-rolling/main amd64 libb-hooks-op-check-perl amd64 0.22-1+b3 [11.3 kB]
Get:10 http://kali.download/kali kali-rolling/main amd64 libdynaloader-functions-perl all 0.003-1.1 [12.7 kB]
Get:11 http://kali.org/kali kali-rolling/main amd64 libdevel-callchecker-perl amd64 0.008-1+b2 [15.9 kB]
Get:12 http://kali.org/kali kali-rolling/main amd64 libparams-classify-perl amd64 0.015-1+b3 [25.7 kB]
Get:13 http://kali.download/kali kali-rolling/main amd64 libmodule-runtime-perl all 0.016-1 [19.4 kB]
Get:14 http://kali.download/kali kali-rolling/main amd64 libmodule-implementation-perl all 0.09-1.1 [12.4 kB]
Get:15 http://kali.download/kali kali-rolling/main amd64 libsub-exporter-progressive-perl all 0.001013-1 [7,588 B]
Get:16 http://kali.org/kali kali-rolling/main amd64 libvariable-magic-perl amd64 0.62-1+b3 [45.7 kB]
Get:17 http://kali.download/kali kali-rolling/main amd64 libb-hooks-endofscope-perl all 0.25-1 [19.5 kB]
Get:18 http://kali.download/kali kali-rolling/main amd64 libcapture-tiny-perl all 0.48-1 [26.0 kB]
Get:19 http://kali.download/kali kali-rolling/main amd64 libclass-data-inheritable-perl all 0.08-3 [8,588 B]
Get:20 http://kali.download/kali kali-rolling/main amd64 libclass-method-modifiers-perl all 2.13-1 [19.2 kB]
Get:21 http://kali.org/kali kali-rolling/main amd64 libclass-xsaccessor-perl amd64 1.19-3+b7 [38.1 kB]
Get:22 http://kali.org/kali kali-rolling/main amd64 libclone-perl amd64 0.45-1+b1 [15.4 kB]
Get:23 http://kali.download/kali kali-rolling/main amd64 libconfig-tiny-perl all 2.27-1 [17.1 kB]
```

ActivitiesTerminalNov 23 10:45 AMmostafafazli@pop-os: ~

mostafafazli@pop-os:~\$ sudo apt-get install gdebi

[sudo] password for mostafafazli:

Reading package lists... Done

Building dependency tree

Reading state information... Done

The following additional packages will be installed:

diffstat gdebi-core gettext intltool-debian libapt-pkg-perl libarchive-zip-perl libasync-mergepoint-perl libb-hooks-endofscope-perl libb-hooks-op-check-perl libcairo-perl libcapture-tiny-perl libclass-method-modifiers-perl libclass-xsaccessor-perl libclone-perl libcpanel-json-xs-perl libcroco3 libdevel-callchecker-perl libdevel-size-perl libdigest-bubblebabble-perl libdigest-hmac-perl libdynamloader-functions-perl libemail-valid-perl libexporter-tiny-perl libextutils-depends-perl libextutils-pkgconfig-perl libfile-find-rule-perl libfont-ttf-perl libfuture-perl libglib-perl libgtk2-perl libimport-into-perl libio-async-loop-epoll-perl libio-async-perl libio-pty-perl libio-string-perl libipc-run-perl libjson-maybexs-perl liblinux-epoll-perl liblist-compare-perl liblist-moreutils-perl libmodule-implementation-perl libmodule-runtime-perl libmoo-perl libmoox-aliases-perl libnamespace-clean-perl libnet-dns-perl libnet-dns-sec-perl libnet-domain-tld-perl libnet-ip-perl libnet-libidn-perl libnumber-compare-perl libpackage-stash-perl libpackage-stash-xs-perl libpango-perl libparams-classify-perl libpath-tiny-perl libperl4-corelibs-perl libperl-io-gzip-perl libreadonly-perl libref-util-perl libref-util-xs-perl librole-tiny-perl libsereal-decoder-perl libsereal-encoder-perl libsereal-perl libstrictures-perl libstruct-dumb-perl libsub-exporter-progressive-perl libsub-identify-perl libsub-name-perl libsub-quote-perl libtest-fatal-perl libtest-refcount-perl libtext-glob-perl libtext-levenshtein-perl libtype-tiny-perl libtype-tiny-xs-perl libunicode-utf8-perl libvariable-magic-perl libxml-libxml-perl libxml-namespacesupport-perl libxml-sax-base-perl libxml-sax-expat-perl libxml-sax-perl libxml-writer-perl libyaml-libyaml-perl lintian patchutils python3-debian t1utils

Suggested packages:

gettext-doc autopoint libasprintf-dev libgettextpo-dev libfont-freetype-perl libgtk2-perl-doc libscalar-number-perl libbareword-filehandles-perl libindirect-perl libmultidimensional-perl libdevel-lexalias-perl libdevel-stacktrace-perl libxml-sax-expatxs-perl binutils-multiarch libtext-template-perl

The following NEW packages will be installed:

diffstat gdebi gdebi-core gettext intltool-debian libapt-pkg-perl libarchive-zip-perl libasync-mergepoint-perl libb-hooks-endofscope-perl libb-hooks-op-check-perl libcairo-perl libcapture-tiny-perl libclass-method-modifiers-perl libclass-xsaccessor-perl libclone-perl libcpanel-json-xs-perl libcroco3 libdevel-callchecker-perl libdevel-size-perl libdigest-bubblebabble-perl libdigest-hmac-perl libdynamloader-functions-perl libemail-valid-perl libexporter-tiny-perl libextutils-depends-perl libextutils-pkgconfig-perl libfile-find-rule-perl libfont-ttf-perl libfuture-perl libglib-perl libgtk2-perl libimport-into-perl libio-async-loop-epoll-perl libio-async-perl libio-pty-perl libio-string-perl libipc-run-perl libjson-maybexs-perl liblinux-epoll-perl liblist-compare-perl liblist-moreutils-perl libmodule-implementation-perl libmodule-runtime-perl libmoo-perl libmoox-aliases-perl libnamespace-clean-perl libnet-dns-perl libnet-dns-sec-perl libnet-domain-tld-perl libnet-ip-perl libnet-libidn-perl libnumber-compare-perl libpackage-stash-perl libpackage-stash-xs-perl libpango-perl libparams-classify-perl libpath-tiny-perl libperl4-corelibs-perl libperl-io-gzip-perl libreadonly-perl libref-util-perl libref-util-xs-perl librole-tiny-perl libsereal-decoder-perl libsereal-encoder-perl libsereal-perl libstrictures-perl libstruct-dumb-perl libsub-exporter-progressive-perl libsub-identify-perl libsub-name-perl libsub-quote-perl libtest-fatal-perl libtest-refcount-perl libtext-glob-perl libtext-levenshtein-perl libtype-tiny-perl libtype-tiny-xs-perl libunicode-utf8-perl libvariable-magic-perl libxml-libxml-perl libxml-namespacesupport-perl libxml-sax-base-perl libxml-sax-expat-perl libxml-sax-perl libxml-writer-perl libyaml-libyaml-perl lintian patchutils python3-debian t1utils

0 upgraded, 91 newly installed, 0 to remove and 215 not upgraded.

Need to get 6,923 kB of archives.

After this operation, 28.2 MB of additional disk space will be used.

Do you want to continue? [Y/n] y

0% [Connecting to kazooie.canonical.com (91.189.91.39)]

apt-key



apt-key is used to manage the list of keys used by apt to authenticate packages. Packages which have been authenticated using these keys will be considered trusted.

apt-key supports only the binary OpenPGP format (also known as "GPG key public ring") in files with the "gpg" extension.

Folder of this keys is /etc/apt or tmp/apt-key... dir

You can see link of source files or stable files in sources.list.d dir

Examples:

```
apt-key adv --keyserver keyserver.ubuntu.com --recv-key FDC245A5
```

echo



This command used for print a text.

Sometimes this command combine with other commands (pipeline) , for example:

```
echo "deb https://download.telegram.org/apt/...." | sudo tee /etc/apt/sources.list.d/telegram.list
```

Sometimes just for print a text like:

```
echo Hello World!!!
```



mostafafazli@pop-os: ~



```
mostafafazli@pop-os:~$ echo MostafaFazli
```

```
MostafaFazli
```

```
mostafafazli@pop-os:~$
```

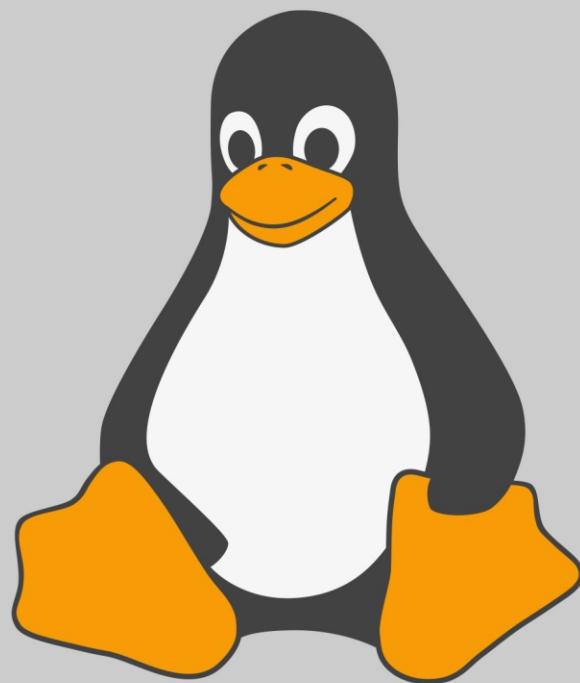
DNS



You can change your DNS for skip country limitation, for example 404 page of Google

Some sites can help you to change your DNS like shecan.ir,

How to work with it on these sites is also explained.



L I N U X