



PDPM

**Institute of Information Technology,
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CS303L Professional Lab Project

Package Manager

Group 16

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Overview: This project is aimed at creating an application which can help administrators to manage the packages installed in their Linux distributions.

Files: pm_ubuntu.sh and pm_redhat.sh are two script files which are used to manage packages in respective Linux distributions.

Workings: First and foremost, both the script files are menu driven and any root user can make complete use of each of the functionalities included in the scripts.

REDHAT package manager (File: pm_redhat.sh)

The options presented within this package manager are

1. Display list of installed packages.
2. Checking RPM signature of a package.
3. Install a package.
4. Check dependencies of a package.
5. Install a package without dependencies.
6. Check an installed RPM package.
7. Upgrade a package.
8. Remove a package.
9. Remove a package without dependencies.
10. List all files of an installed RPM package.
11. Find information about a particular package.
12. Display recently installed packages.
13. Export list of packages.
14. Import list of packages.
15. Find the owner of a file.
16. Query documentation of an installed package.
17. Verify a package against the RPM database.
18. Verify all RPM packages.
19. Import GPG key.
20. List all imported GPG keys.
21. Rebuild Corrupted RPM Database.
22. List the configuration files for a package.
23. List the configuration files for a command.
24. Reset the screen.
25. Exit

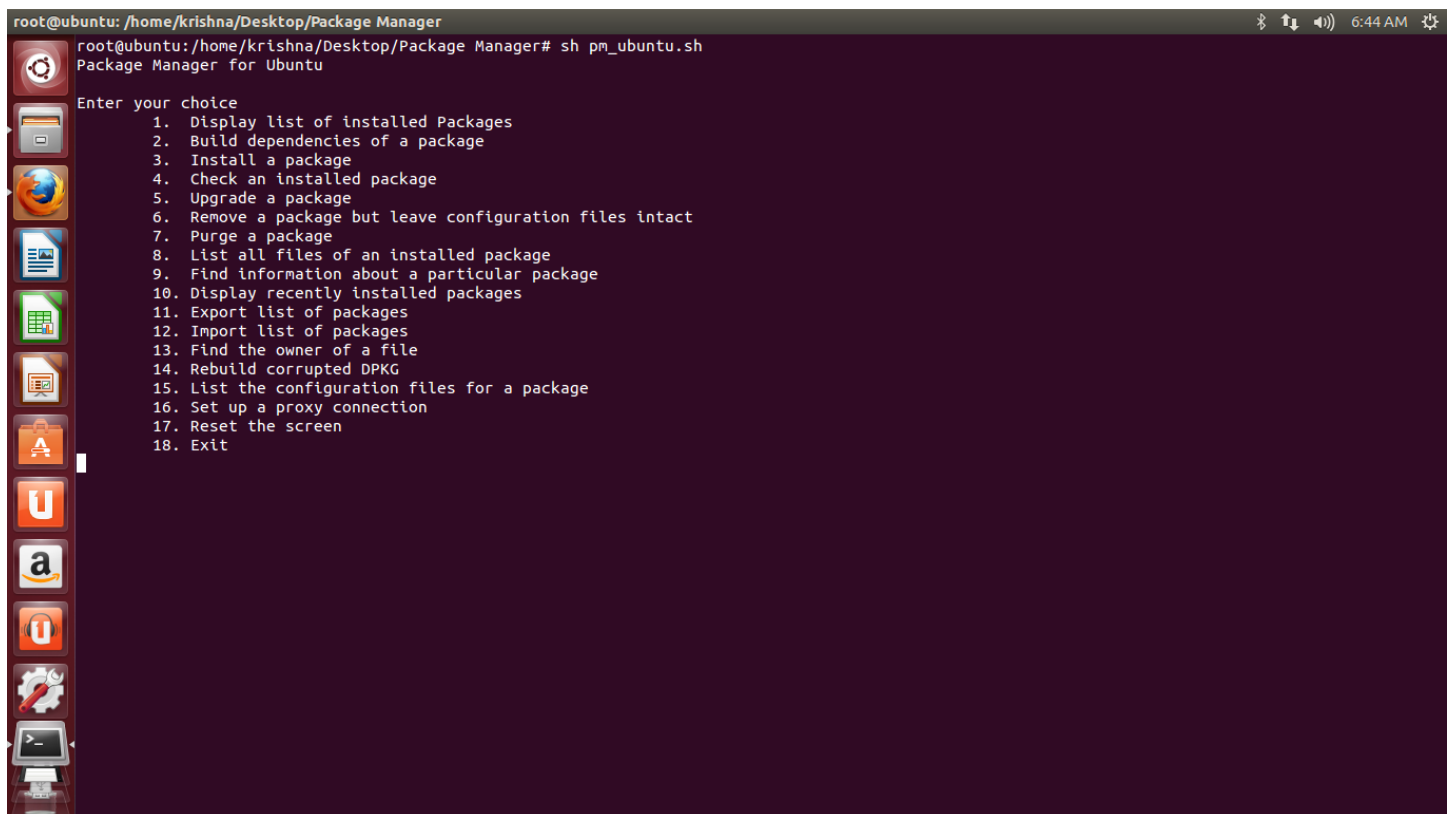
Ubuntu package manager (File: pm_ubuntu.sh)

The options presented within this package manager are

1. Display list of installed packages.
2. Build dependencies of a package.
3. Install a package.
4. Check an installed package.
5. Upgrade a package.
6. Remove a package but leave configuration files intact.
7. Purge a package.
8. List all files of an installed package.
9. Find information about a particular package.
10. Display recently installed packages.
11. Export list of packages.
12. Import list of packages.
13. Find the owner of a file.
14. Rebuild corrupted DPKG.
15. List the configuration files for a package.
16. Set up a proxy connection.
17. Reset the screen.
18. Exit.

Individual run of all the options

The script file is executed using the command **sh pm_redhat.sh** and **sh pm_ubuntu.sh**. On doing so we obtain the following results



```
root@ubuntu: /home/krishna/Desktop/Package Manager
root@ubuntu: /home/krishna/Desktop/Package Manager# sh pm_ubuntu.sh
Package Manager for Ubuntu
Enter your choice
1. Display list of installed Packages
2. Build dependencies of a package
3. Install a package
4. Check an installed package
5. Upgrade a package
6. Remove a package but leave configuration files intact
7. Purge a package
8. List all files of an installed package
9. Find information about a particular package
10. Display recently installed packages
11. Export list of packages
12. Import list of packages
13. Find the owner of a file
14. Rebuild corrupted DPKG
15. List the configuration files for a package
16. Set up a proxy connection
17. Reset the screen
18. Exit
```

On pressing 1: List of installed packages displayed

```
root@ubuntu: /home/krishna/Desktop/Package Manager
xserver-xorg-video-sis          install
xserver-xorg-video-sisusb       install
xserver-xorg-video-tdfx         install
xserver-xorg-video-trident      install
xserver-xorg-video-vesa        install
xserver-xorg-video-vmware      install
xterm                           install
xul-ext-ubufox                  install
xul-ext-unity                    install
xul-ext-webaccounts             install
xul-ext-websites-integration    install
xz-utils                        install
yelp                            install
yelp-xsl                        install
zeitgeist                       install
zeitgeist-core                  install
zeitgeist-datahub               install
zenity                          install
zenity-common                   install
zip                             install
zlib1g:amd64                   install
Enter your choice
1. Display list of installed Packages
2. Build dependencies of a package
3. Install a package
4. Check an installed package
5. Upgrade a package
6. Remove a package but leave configuration files intact
7. Purge a package
8. List all files of an installed package
9. Find information about a particular package
10. Display recently installed packages
11. Export list of packages
12. Import list of packages
13. Find the owner of a file
14. Rebuild corrupted DPKG
15. List the configuration files for a package
16. Set up a proxy connection
17. Reset the screen
18. Exit
```

Pressing 2: Building dependencies of a package

```
root@ubuntu: /home/krishna/Desktop/Package Manager
5. Upgrade a package
6. Remove a package but leave configuration files intact
7. Purge a package
8. List all files of an installed package
9. Find information about a particular package
10. Display recently installed packages
11. Export list of packages
12. Import list of packages
13. Find the owner of a file
14. Rebuild corrupted DPKG
15. List the configuration files for a package
16. Set up a proxy connection
17. Reset the screen
18. Exit
2
Building dependencies of a package
vi
Reading package lists... Done
Building dependency tree
Reading state information... Done
E: You must put some 'source' URIs in your sources.list
Enter your choice
1. Display list of installed Packages
2. Build dependencies of a package
3. Install a package
4. Check an installed package
5. Upgrade a package
6. Remove a package but leave configuration files intact
7. Purge a package
8. List all files of an installed package
9. Find information about a particular package
10. Display recently installed packages
11. Export list of packages
12. Import list of packages
13. Find the owner of a file
14. Rebuild corrupted DPKG
15. List the configuration files for a package
16. Set up a proxy connection
17. Reset the screen
18. Exit
```

Pressing 3: Installing a package

```
root@ubuntu: /home/krishna/Desktop/Package Manager 6:46 AM
6. Remove a package but leave configuration files intact
7. Purge a package
8. List all files of an installed package
9. Find information about a particular package
10. Display recently installed packages
11. Export list of packages
12. Import list of packages
13. Find the owner of a file
14. Rebuild corrupted DPKG
15. List the configuration files for a package
16. Set up a proxy connection
17. Reset the screen
18. Exit
3
Installing package. Enter package name
python
Reading package lists... Done
Building dependency tree
Reading state information... Done
python is already the newest version.
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
Enter your choice
1. Display list of installed Packages
2. Build dependencies of a package
3. Install a package
4. Check an installed package
5. Upgrade a package
6. Remove a package but leave configuration files intact
7. Purge a package
8. List all files of an installed package
9. Find information about a particular package
10. Display recently installed packages
11. Export list of packages
12. Import list of packages
13. Find the owner of a file
14. Rebuild corrupted DPKG
15. List the configuration files for a package
16. Set up a proxy connection
17. Reset the screen
18. Exit
```

Pressing 4: Checking if a package is installed or not

```
root@ubuntu: /home/krishna/Desktop/Package Manager 6:47 AM
7. Purge a package
8. List all files of an installed package
9. Find information about a particular package
10. Display recently installed packages
11. Export list of packages
12. Import list of packages
13. Find the owner of a file
14. Rebuild corrupted DPKG
15. List the configuration files for a package
16. Set up a proxy connection
17. Reset the screen
18. Exit
4
Checking installed package. Enter package name
python
python:
Installed: 2.7.4-0ubuntu1
Candidate: 2.7.4-0ubuntu1
Version table:
*** 2.7.4-0ubuntu1 0
100 /var/lib/dpkg/status
Enter your choice
1. Display list of installed Packages
2. Build dependencies of a package
3. Install a package
4. Check an installed package
5. Upgrade a package
6. Remove a package but leave configuration files intact
7. Purge a package
8. List all files of an installed package
9. Find information about a particular package
10. Display recently installed packages
11. Export list of packages
12. Import list of packages
13. Find the owner of a file
14. Rebuild corrupted DPKG
15. List the configuration files for a package
16. Set up a proxy connection
17. Reset the screen
18. Exit
```

Pressing 5: Upgrading a package to its latest version

```
root@ubuntu: /home/krishna/Desktop/Package Manager
6. Remove a package but leave configuration files intact
7. Purge a package
8. List all files of an installed package
9. Find information about a particular package
10. Display recently installed packages
11. Export list of packages
12. Import list of packages
13. Find the owner of a file
14. Rebuild corrupted DPKG
15. List the configuration files for a package
16. Set up a proxy connection
17. Reset the screen
18. Exit
5
Upgrading package. Enter package name
python
Reading package lists... Done
Building dependency tree
Reading state information... Done
python is already the newest version.
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
Enter your choice
1. Display list of installed Packages
2. Build dependencies of a package
3. Install a package
4. Check an installed package
5. Upgrade a package
6. Remove a package but leave configuration files intact
7. Purge a package
8. List all files of an installed package
9. Find information about a particular package
10. Display recently installed packages
11. Export list of packages
12. Import list of packages
13. Find the owner of a file
14. Rebuild corrupted DPKG
15. List the configuration files for a package
16. Set up a proxy connection
17. Reset the screen
18. Exit
```

Pressing 6: Removing a package but not its configuration files (So that local reinstall is possible)

```
root@ubuntu: /home/krishna/Desktop/Package Manager
Enter your choice
1. Display list of installed Packages
2. Build dependencies of a package
3. Install a package
4. Check an installed package
5. Upgrade a package
6. Remove a package but leave configuration files intact
7. Purge a package
8. List all files of an installed package
9. Find information about a particular package
10. Display recently installed packages
11. Export list of packages
12. Import list of packages
13. Find the owner of a file
14. Rebuild corrupted DPKG
15. List the configuration files for a package
16. Set up a proxy connection
17. Reset the screen
18. Exit
6
Removing package and leaving config files intact. Enter package name
wamerican
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following packages will be REMOVED:
  wamerican
0 upgraded, 0 newly installed, 1 to remove and 0 not upgraded.
After this operation, 1,014 kB disk space will be freed.
Do you want to continue [Y/n]?
```

Pressing 7: Purging or completely deleting a package

```
root@ubuntu: /home/krishna/Desktop/Package Manager
Enter your choice
1. Display list of installed Packages
2. Build dependencies of a package
3. Install a package
4. Check an installed package
5. Upgrade a package
6. Remove a package but leave configuration files intact
7. Purge a package
8. List all files of an installed package
9. Find information about a particular package
10. Display recently installed packages
11. Export list of packages
12. Import list of packages
13. Find the owner of a file
14. Rebuild corrupted DPKG
15. List the configuration files for a package
16. Set up a proxy connection
17. Reset the screen
18. Exit
7
Purging package. Enter package name
wamerican
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following packages will be REMOVED:
  wamerican*
0 upgraded, 0 newly installed, 1 to remove and 0 not upgraded.
After this operation, 1,014 kB disk space will be freed.
Do you want to continue [Y/n]? Y
```

Pressing 8: Listing all the files of an installed package

```
root@ubuntu: /home/krishna/Desktop/Package Manager
8. List all files of an installed package
9. Find information about a particular package
10. Display recently installed packages
11. Export list of packages
12. Import list of packages
13. Find the owner of a file
14. Rebuild corrupted DPKG
15. List the configuration files for a package
16. Set up a proxy connection
17. Reset the screen
18. Exit
8
Listing all files of an installed package. Enter package name
wamerican
/.
/usr
/usr/share
/usr/share/dict
/usr/share/dict/american-english
/usr/share/doc
/usr/share/doc/wamerican
/usr/share/doc/wamerican/wamerican.scowl-word-lists-used
/usr/share/doc/wamerican/README.Debian
/usr/share/doc/wamerican/copyright
/usr/share/doc/wamerican/changelog.Debian.gz
/usr/share/man
/usr/share/man/man5
/usr/share/man/man5/american-english.5.gz
/var
/var/lib
/var/lib/dictionaries-common
/var/lib/dictionaries-common/wordlist
/var/lib/dictionaries-common/wordlist/wamerican
/usr/share/dict/words
diverted by dictionaries-common to: /usr/share/dict/words.pre-dictionaries-common
Enter your choice
1. Display list of installed Packages
2. Build dependencies of a package
3. Install a package
4. Check an installed package
5. Upgrade a package
```


Pressing 9: Finding out information about a package

```
root@ubuntu: /home/krishna/Desktop/Package Manager 6:53 AM
9. Find information about a particular package
10. Display recently installed packages
11. Export list of packages
12. Import list of packages
13. Find the owner of a file
14. Rebuild corrupted DPKG
15. List the configuration files for a package
16. Set up a proxy connection
17. Reset the screen
18. Exit

9
Finding information about package. Enter package name
wamerican
Package: wamerican
Status: install ok installed
Priority: standard
Section: text
Installed-Size: 990
Maintainer: Ubuntu Developers <ubuntu-devel-discuss@lists.ubuntu.com>
Architecture: all
Source: scowl
Version: 7.1-1
Provides: wordlist
Depends: debconf (>= 0.5) | debconf-2.0
Description: American English dictionary words for /usr/share/dict
This package provides the file /usr/share/dict/american-english
containing a list of English words with American spellings.
This list can be used by spelling checkers, and by programs such
as look(1).
.
There are also -small, -large, and -huge versions of this word list,
and there are wbritish* and wcanadian* packages as well.
Original-Maintainer: Don Armstrong <don@debian.org>
Homepage: http://wordlist.sourceforge.net/

Enter your choice
1. Display list of installed Packages
2. Build dependencies of a package
3. Install a package
4. Check an installed package
5. Upgrade a package
```

Pressing 10: Displaying recently installed packages

```
root@ubuntu: /home/krishna/Desktop/Package Manager 6:53 AM
2013-04-24 17:06:35 install sbsigntool:amd64 <none> 0.6-0ubuntu2
2013-04-24 17:06:35 install linux-signed-image-3.8.0-19-generic:amd64 <none> 3.8.0-19.29
2013-04-24 17:06:35 install linux-signed-image-generic:amd64 <none> 3.8.0.19.35
2013-04-24 17:06:35 install linux-signed-generic:amd64 <none> 3.8.0.19.35
2013-04-24 17:06:36 install localechooser-data:all <none> 2.49ubuntu4
2013-04-24 17:06:36 install watershed:amd64 <none> 7
2013-04-24 17:06:36 install lvm2:amd64 <none> 2.02.95-6ubuntu4
2013-04-24 17:06:36 install metacity:amd64 <none> 1:2.34.13-0ubuntu1
2013-04-24 17:06:36 install python3-pyicu:amd64 <none> 1.4-1ubuntu3
2013-04-24 17:06:36 install rdate:amd64 <none> 1:1.2-5
2013-04-24 17:06:36 install reiserfsprogs:amd64 <none> 1:3.6.21-1build2
2013-04-24 17:06:36 install ubiquity-frontend-gtk:amd64 <none> 2.14.6
2013-04-24 17:06:36 install ubiquity-ubuntu-artwork:all <none> 2.14.6
2013-04-24 17:06:36 install ubiquity-casper:all <none> 1.331
2013-04-24 17:06:36 install apt-clone:all <none> 0.3.1-ubuntu4
2013-04-24 17:06:36 install ubiquity:amd64 <none> 2.14.6
2013-04-24 17:06:36 install ubiquity-slideshow-ubuntu:all <none> 70
2013-04-24 17:06:36 install xfsprogs:amd64 <none> 3.1.9
2013-04-24 17:06:37 install user-setup:all <none> 1.47ubuntu1
2013-04-24 17:06:37 install casper:amd64 <none> 1.331
2013-04-24 17:06:37 install lupin-casper:all <none> 0.53

Enter your choice
1. Display list of installed Packages
2. Build dependencies of a package
3. Install a package
4. Check an installed package
5. Upgrade a package
6. Remove a package but leave configuration files intact
7. Purge a package
8. List all files of an installed package
9. Find information about a particular package
10. Display recently installed packages
11. Export list of packages
12. Import list of packages
13. Find the owner of a file
14. Rebuild corrupted DPKG
15. List the configuration files for a package
16. Set up a proxy connection
17. Reset the screen
18. Exit
```


Pressing 11: Exporting the list of packages to a user specified file

```
root@ubuntu: /home/krishna/Desktop/Package Manager
Enter your choice
1. Display list of installed Packages
2. Build dependencies of a package
3. Install a package
4. Check an installed package
5. Upgrade a package
6. Remove a package but leave configuration files intact
7. Purge a package
8. List all files of an installed package
9. Find information about a particular package
10. Display recently installed packages
11. Export list of packages
12. Import list of packages
13. Find the owner of a file
14. Rebuild corrupted DPKG
15. List the configuration files for a package
16. Set up a proxy connection
17. Reset the screen
18. Exit
11
Exporting list of packages. Specify export file name
exportfile.txt
Exported to exportfile.txt
Enter your choice
1. Display list of installed Packages
2. Build dependencies of a package
3. Install a package
4. Check an installed package
5. Upgrade a package
6. Remove a package but leave configuration files intact
7. Purge a package
8. List all files of an installed package
9. Find information about a particular package
10. Display recently installed packages
11. Export list of packages
12. Import list of packages
13. Find the owner of a file
14. Rebuild corrupted DPKG
15. List the configuration files for a package
16. Set up a proxy connection
17. Reset the screen
```

Pressing 12: Importing the list of packages from a user specified file

```
root@ubuntu: /home/krishna/Desktop/Package Manager
1. Display list of installed Packages
2. Build dependencies of a package
3. Install a package
4. Check an installed package
5. Upgrade a package
6. Remove a package but leave configuration files intact
7. Purge a package
8. List all files of an installed package
9. Find information about a particular package
10. Display recently installed packages
11. Export list of packages
12. Import list of packages
13. Find the owner of a file
14. Rebuild corrupted DPKG
15. List the configuration files for a package
16. Set up a proxy connection
17. Reset the screen
18. Exit
12
Importing packages. Specify filename containing list of packages.
exportfile.txt
Enter your choice
1. Display list of installed Packages
2. Build dependencies of a package
3. Install a package
4. Check an installed package
5. Upgrade a package
6. Remove a package but leave configuration files intact
7. Purge a package
8. List all files of an installed package
9. Find information about a particular package
10. Display recently installed packages
11. Export list of packages
12. Import list of packages
13. Find the owner of a file
14. Rebuild corrupted DPKG
15. List the configuration files for a package
16. Set up a proxy connection
17. Reset the screen
18. Exit
```

Pressing 13: Finding the owner of a file

```
root@ubuntu: /home/krishna/Desktop/Package Manager 6:55 AM
Enter your choice
1. Display list of installed Packages
2. Build dependencies of a package
3. Install a package
4. Check an installed package
5. Upgrade a package
6. Remove a package but leave configuration files intact
7. Purge a package
8. List all files of an installed package
9. Find information about a particular package
10. Display recently installed packages
11. Export list of packages
12. Import list of packages
13. Find the owner of a file
14. Rebuild corrupted DPKG
15. List the configuration files for a package
16. Set up a proxy connection
17. Reset the screen
18. Exit
13
Finding owner of file. Enter path to file
pm_ubuntu.sh
krishna
Enter your choice
1. Display list of installed Packages
2. Build dependencies of a package
3. Install a package
4. Check an installed package
5. Upgrade a package
6. Remove a package but leave configuration files intact
7. Purge a package
8. List all files of an installed package
9. Find information about a particular package
10. Display recently installed packages
11. Export list of packages
12. Import list of packages
13. Find the owner of a file
14. Rebuild corrupted DPKG
15. List the configuration files for a package
16. Set up a proxy connection
17. Reset the screen
```

Pressing 14: Rebuilding a corrupted DPKG database (Package database)

```
root@ubuntu: /home/krishna/Desktop/Package Manager 7:04 AM
root@ubuntu: /home/krishna/Desktop/Package Manager# sh pm_ubuntu.sh
Package Manager for Ubuntu
Enter your choice
1. Display list of installed Packages
2. Build dependencies of a package
3. Install a package
4. Check an installed package
5. Upgrade a package
6. Remove a package but leave configuration files intact
7. Purge a package
8. List all files of an installed package
9. Find information about a particular package
10. Display recently installed packages
11. Export list of packages
12. Import list of packages
13. Find the owner of a file
14. Rebuild corrupted DPKG
15. List the configuration files for a package
16. Set up a proxy connection
17. Reset the screen
18. Exit
14
Rebuilding Database
mv: cannot stat '/var/lib/dpkg/status': No such file or directory
cp: cannot stat '/var/backups/dpkg.status.#.gz': No such file or directory
gzip: /var/lib/dpkg/dpkg.status.#.gz: No such file or directory
mv: cannot stat '/var/lib/dpkg/dpkg.status.#': No such file or directory
0% [Connecting to us.archive.ubuntu.com (91.189.91.15)] [Connecting to security.ubuntu.com (91.189.88.150)] [Connecting to extras.ubuntu.com (91.189.91.15)]
```

Pressing 15: Listing the configuration files of a package

```
root@ubuntu: /home/krishna/Desktop/Package Manager
2. Build dependencies of a package
3. Install a package
4. Check an installed package
5. Upgrade a package
6. Remove a package but leave configuration files intact
7. Purge a package
8. List all files of an installed package
9. Find information about a particular package
10. Display recently installed packages
11. Export list of packages
12. Import list of packages
13. Find the owner of a file
14. Rebuild corrupted DPKG
15. List the configuration files for a package
16. Set up a proxy connection
17. Reset the screen
18. Exit

15
Listing configuration files of package. Enter package name
wget
/etc/wgetrc
Enter your choice
1. Display list of installed Packages
2. Build dependencies of a package
3. Install a package
4. Check an installed package
5. Upgrade a package
6. Remove a package but leave configuration files intact
7. Purge a package
8. List all files of an installed package
9. Find information about a particular package
10. Display recently installed packages
11. Export list of packages
12. Import list of packages
13. Find the owner of a file
14. Rebuild corrupted DPKG
15. List the configuration files for a package
16. Set up a proxy connection
17. Reset the screen
18. Exit
```

Pressing 16: Setting up a proxy connection for the system. The file ~/.bashrc is updated on setting up proxy settings.

```
root@ubuntu: /home/krishna/Desktop/Package Manager
8. List all files of an installed package
9. Find information about a particular package
10. Display recently installed packages
11. Export list of packages
12. Import list of packages
13. Find the owner of a file
14. Rebuild corrupted DPKG
15. List the configuration files for a package
16. Set up a proxy connection
17. Reset the screen
18. Exit

16
Setting Proxy
Enter the host id:
172.27.16.154
Enter the port number:
3128
Enter the username:
userhere
Enter the password:
pwdhere
Enter your choice
1. Display list of installed Packages
2. Build dependencies of a package
3. Install a package
4. Check an installed package
5. Upgrade a package
6. Remove a package but leave configuration files intact
7. Purge a package
8. List all files of an installed package
9. Find information about a particular package
10. Display recently installed packages
11. Export list of packages
12. Import list of packages
13. Find the owner of a file
14. Rebuild corrupted DPKG
15. List the configuration files for a package
16. Set up a proxy connection
17. Reset the screen
18. Exit
```

Pressing 17: Resetting the screen

```
root@ubuntu: /home/krishna/Desktop/Package Manager
root@ubuntu: /home/krishna/Desktop/Package Manager# sh pm_ubuntu.sh
Package Manager for Ubuntu

Enter your choice
1. Display list of installed Packages
2. Build dependencies of a package
3. Install a package
4. Check an installed package
5. Upgrade a package
6. Remove a package but leave configuration files intact
7. Purge a package
8. List all files of an installed package
9. Find information about a particular package
10. Display recently installed packages
11. Export list of packages
12. Import list of packages
13. Find the owner of a file
14. Rebuild corrupted DPKG
15. List the configuration files for a package
16. Set up a proxy connection
17. Reset the screen
18. Exit

17
```

Pressing 18: Exiting the application

```
root@ubuntu: /home/krishna/Desktop/Package Manager
root@ubuntu: /home/krishna/Desktop/Package Manager# sh pm_ubuntu.sh
Package Manager for Ubuntu

Enter your choice
1. Display list of installed Packages
2. Build dependencies of a package
3. Install a package
4. Check an installed package
5. Upgrade a package
6. Remove a package but leave configuration files intact
7. Purge a package
8. List all files of an installed package
9. Find information about a particular package
10. Display recently installed packages
11. Export list of packages
12. Import list of packages
13. Find the owner of a file
14. Rebuild corrupted DPKG
15. List the configuration files for a package
16. Set up a proxy connection
17. Reset the screen
18. Exit

18
Thank you for using Package Manager
root@ubuntu: /home/krishna/Desktop/Package Manager#
```

Conclusion: This application will be extremely useful to beginner as well as expert administrators who intend to attain easy control over management of packages. They simply need to insert a removable drive containing the script files into a computer with root access and start using the options presented within the files.