

Linux exercise 9 - Package management

1. At first, update package repositories. Then check the available commands for apt using command help. What commands are used to perform the following tasks with apt:

```
menom@ab0208:~$ sudo apt update
```

```
Most used commands:
  list - list packages based on package names
  search - search in package descriptions
  show - show package details
  install - install packages
  reinstall - reinstall packages
  remove - remove packages
  autoremove - Remove automatically all unused packages
  update - update list of available packages
  upgrade - upgrade the system by installing/upgrading packages
  full-upgrade - upgrade the system by removing/installing/upgrading packages
  edit-sources - edit the source information file
  satisfy - satisfy dependency strings
```

- Upgrading installed packages in the system

```
menom@ab0208:~$ sudo apt-get upgrade
```

- Removing unused packages from the system

```
menom@ab0208:~$ sudo apt autoremove
```

2. Check the information for the package called figlet and answer the following questions:

```
menom@ab0208:~$ apt show figlet
```

- What is the size of the package?

```
Installed-Size: 752 kB
```

- What is the newest version available for the package?

```
Version: 2.2.5-3
```

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- Check the package description → What does the program do?

```
Description: Make large character ASCII banners out of ordinary text
FIGlet (Frank, Ian & Glenn's Letters) is a program that creates large
characters out of ordinary screen characters.

It can create characters in many different styles and can
kern and "smush" these characters together in various ways.  FIGlet
output is generally reminiscent of the sort of "signatures" many people
like to put at the end of e-mail, Usenet and MOTD messages.
```

3. Install the figlet package and verify it works.

```
menom@ab0208:~$ sudo apt install figlet
```

```
menom@ab0208:~$ dpkg -s figlet
Package: figlet
Status: install ok installed
```

4. Remove figlet from the system with all configuration files. Check that program cannot be run after the removal.

```
menom@ab0208:~$ sudo apt purge figlet
```

```
menom@ab0208:~$ sudo apt purge figlet
Reading package lists... Done
Building dependency tree
Reading state information... Done
Package 'figlet' is not installed, so not removed
```

5. In this task you must install Python3 by compiling it from the source code.

Download the package from the

url <http://student.labranet.jamk.fi/~hantt/os/Python-3.7.4.tgz>.

```
menom@ab0208:~$ wget http://student.labranet.jamk.fi/~hantt/os/Python-3.7.4.tgz
```

- Before the compilation process, install the following packages with apt:

- libffi-dev

```
menom@ab0208:~$ sudo apt-get install libffi-dev
```

- zlib1g-dev

```
menom@ab0208:~$ sudo apt-get install zlib1g-dev
```

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- If you cannot start your newly installed Python3 fix the symbolic link to point for the *python3.7* executable.

```
menom@ab0208:~$ tar -xzvf Python-3.7.4.tgz
```

```
menom@ab0208:~$ rm Python-3.7.4.tgz
```

- Verify the operation of Python3 by starting the shell with command *python3*. You should now see the version 3.7.4 at the start of your Python shell.

```
menom@ab0208:~$ python3
Python 3.8.10 (default, Sep 28 2021, 16:10:42)
[GCC 9.3.0] on linux
```

```
menom@ab0208:~$ ls
dataset  menom.txt          sqlite-autoconf-3360000.tar.gz
exm.txt  Python-3.7.4       tmp
home     sqlite-autoconf-3360000  users.txt
```