

Exercise sheet 3 – Software packages

Goals:

- Software management
- Create own `deb` packages
- Use and create `flatpak` packages

Exercise 3.1: Software management

- Search for the package `rar` in the package repository.
- Use the command `apt list rar`. What version of `rar` is inside the repository?
- Has the package `rar` any dependencies?
- Install the `rar` package.
- Use the commands `apt search rar` and `apt list rar` again. Are there any differences?
- Test if the `rar` program works.
- Delete the `rar` package.

Exercise 3.2: Build your own `deb` package (optional)

This exercise is loosely based on

https://wiki.ubuntuusers.de/Grundlagen_der_Paketerstellung

Please make sure that the packages `dh-make` and `texinfo` are installed:

```
sudo apt install dh-make texinfo
```

- Create a directory `hello`
- Download `http://ftp.gnu.org/gnu/hello/hello-2.10.tar.gz` into the directory `hello` with: `wget http://ftp.gnu.org/gnu/hello/hello-2.10.tar.gz`
- Extract `hello-2.10.tar.gz` with `tar -xf hello-2.10.tar.gz` and change into the newly created folder.
- Initialize the files for the debian package and change into the newly created folder.
- Remove all files that are not needed (All files ending with `.ex`, `.EX` and the `README.*` file).
- Edit `changelog`: Set the stability to `trusted`. You can set your own comment behind the `*`. At the last line enter your name and e-mail address.
- Edit `control`: Set `Section` to `misc`. Set the `priority` to `optional`. At `Maintainer` enter your name and e-mail address. At the end of the file enter a description of the package.
- Edit `copyright`: Set `Source` to `http://ftp.gnu.org/gnu/hello/hello-2.10.tar.gz`. At the copyright for the `Files: *` set the `Copyright` to
1992-2018 Free Software Foundation, Inc. and the License to `GPL-3+`. At `Files: debian/*` set the `Copyright` to your name and your e-mail, at `License` set the license to `GPL-3+` and change in the following text all occurrences of 2 to 3.



- (i) Go one directory up, configure the build (`./configure`), and build the package.

Exercise 3.3: Use and inspect your own package with dpkg

*Alternatively: You can use the provided deb package from
OS_exercises/sheet_03_sw_package/hello_2.10-1_amd64.deb.*

- (a) List information about the newly generated package.
- (b) List all files which are inside the newly generated package.
- (c) Install the newly generated package into your system.
- (d) Check if the package is now installed (Hint: You can use `grep` to filter the output of `dpkg` if you know the pipe mechanism).
- (e) Run the program.
- (f) Search for all files named `hello` in all installed packages.
- (g) Remove the `hello` package.

Exercise 3.4: Flatpak software management

- (a) List all installed flatpak packages.
- (b) Search for packages containing “pdf”.
- (c) Install the `eu.scarpetta.PDFMixTool` package.
- (d) Run the installed program.
- (e) Print information about the package.
- (f) Remove the `eu.scarpetta.PDFMixTool` package.

Exercise 3.5: Build your own flatpak package (optional)

- (a) Follow the tutorial of <http://docs.flatpak.org/en/latest/first-build.html> and build your own flatpak package.
- (b) Make your own notes on how to build a flatpak package.