

Building a Debian Package from Source (Lab)

 coursera.org/learn/linux-tools-for-developers/supplement/yv6ec/building-a-debian-package-from-source-lab

Exercise

Note: If you are on an APT packaging system, you should do this exercise. If you are on a RPM-based system you should do the previous one.

In this exercise, we will build a Debian package from its upstream source **tarball** (of course if you are on a non-Debian based system you can not perform this exercise!). We will use a simple **hello** program package.

[myappdebian-1.0.tar.gz](#)

Before beginning, you may want to make sure you have the necessary utilities installed with:

```
$ sudo apt-get install dh-make fakeroot build-essential
```

The contents are:

```
$ tar xvf myappdebian-1.0.tar.gz
```

```
myappdebian-1.0/
```

```
myappdebian-1.0/Makefile
```

```
myappdebian-1.0/myhello.c
```

```
myappdebian-1.0/README
```

where:

```
$ cat README
```

Some very informative information should go in here :)

```
$ cat myhello.c
```

```
#include <stdio.h>
```

```
#include <stdlib.h>
```

```
char hello_string[] = "hello world";
```

```
int main ()
```

```
{
```

```
    printf ("\n%s\n\n", hello_string);
```

```
    exit (EXIT_SUCCESS);
```

```
}
```

```
$ cat Makefile
```

```
BIN = $(DESTDIR)/usr/bin
```

```
CFLAGS :=
```

```
TARGET=
```

```
SRCFILES=
```

```
all: $(TARGET)
```

```
$(TARGET):    $(SRCFILES)
```

```
    $(CC) $(CFLAGS) -o $(TARGET) $(SRCFILES)
```

```
install: $(TARGET)
```

```
    install -d $(BIN)
```

```
    install $(TARGET) $(BIN)
```

```
clean:
```

```
    rm -f $(TARGET)
```

Note: You can certainly construct a simpler **Makefile**. However, you must have the line:

```
BIN = $(DESTDIR)/usr/bin
```

and point the installation to the **BIN** directory, or the executable will not be installed as part of the package.

The main steps in the following are encapsulated in the **lab_makedeb.sh** file:

lab_makedeb.sh

Make a working directory and put a copy of the source tarball in there:

```
$ rm -rf WORK && mkdir WORK && cd WORK
```

```
$ cp ../myappdebian-1.0.tar.gz .
```

Expand the source tarball:

```
1
```

```
$ tar xvf myappdebian-1.0.tar.gz
```

Go into the expanded directory and build the package, using **dh_make**, one of several possible package builder programs:

```
$ cd myappdebian-1.0
```

```
$ dh_make -f ../myappdebian-1.0.tar.gz
```

```
$ dpkg-buildpackage -uc -us
```

Make sure the program works!

```
$ ./myhello
```

```
hello world
```

Verify its contents:

```
$ dpkg --contents ../*.deb
```

- Take a good look at all the files in the **debian** directory and try to imagine building them all by hand!
- Install the package:

```
$ cd ..
```

```
$ sudo dpkg --install *.deb
```

Verify the installation worked:

```
$ myhello
```

```
hello world
```

You can uninstall the package with:

```
$ sudo dpkg --remove myappdebian
```

Solution

[nomake.sh](#)