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How to: Recompiling / Rebuild Debian / Ubuntu Linux Binary Source File Packages

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Q. I'd like to rebuild a Debian / Ubuntu package called foo with additional option. How do I recompile .deb packages?



[1]

A. To build a Debian package, you need the following packages / software installed on system

[a] **fakeroot** : fakeroot package - runs a command in an environment wherein it appears to have root privileges for file manipulation. This is useful for allowing users to create archives (tar, ar, .deb etc.) with files in them with root permissions/ownership.

[b] **dpkg-dev** : package building tools for Debian

[c] **Development environment** - You need gcc, make and all other compiler collection installed on system. Under Debian / Ubuntu package build-essential takes care of everything.

Step #1: Install required packages

Type the following command

```
$ sudo apt-get install build-essential fakeroot dpkg-dev
```

Step #2: Install source code package

First, create a directory to store source package, enter:

```
$ mkdir build
$ cd build
```

Use apt-get command to install source code for a package called foo

```
$ sudo apt-get source foo
```

Install all build-dependencies, enter:

```
$ sudo apt-get build-dep foo
```

Unpacks Debian / Ubuntu source archives with Debian source package (.dsc) manipulation tool, enter:

```
$ dpkg-source -x foo_version-revision.dsc
```

To just compile the package, you need cd into foo-version directory and issue the command

```
$ dpkg-buildpackage -rfakeroot -b
```

If you want to pass custom additional options to configure, you can set up the DEB_BUILD_OPTIONS environment variable. For instance, if you want pass option called --enable-radio --enable-gui, enter:

```
$ DEB_BUILD_OPTIONS="--enable-gui --enable-radio" fakeroot debian/rules binary
```

You can also pass some variables to the Makefile. For example, if you want to compile with gcc v3.4, enter:

```
$ CC=gcc-3.4 DEB_BUILD_OPTIONS="--enable-gui --enable-radio" fakeroot debian/rules binary
```

A complete example - mplayer

Let us see how to rebuild mplayer media player package with --enable-radio --disable-ivt

options:

```
# sudo apt-get source mplayer
# sudo apt-get build-dep mplayer
# dpkg-source -x mplayer_version-revision.dsc
# DEB_BUILD_OPTIONS="--enable-gui --enable-radio --disable-ivt" fakeroot
debian/rules binary
```

Now wait for some time as compile procedure going to take its own time. To install the newly-built package, enter:

```
# dpkg -i ../mplayer_version-revision_arch.deb
```

Further readings:

- [Debian Binary Package Building HOWTO](#) ^[2]
- [Debian New Maintainers' Guide](#) ^[3]
- Man pages - dpkg-source, apt-get, dpkg, dpkg-buildpackage, fakeroot

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[2] Debian Binary Package Building HOWTO: http://tldp.org/HOWTO/html_single/Debian-Binary-Package-Building-HOWTO/

[3] Debian New Maintainers' Guide: <http://www.debian.org/doc/manuals/maint-guide/index.en.html>