

NAME

debrepo – reproducibility tester for Debian packages

SYNOPSIS

debrepo [*OPTIONS*] [*SOURCEDIR*]

DESCRIPTION

debrepo will build a given source directory twice, with a set of variations between the first and the second build, and compare the produced binary packages. If **diffoscope** is installed, it is used to compare non-matching binaries. If **disorderfs** is installed, it is used during the build to inject non-determinism in filesystem listing operations.

SOURCEDIR must be a directory containing an unpacked Debian source package. If *SOURCEDIR* is omitted, the current directory is assumed.

OUTPUT DIRECTORY

At the very end of a build, **debrepo** will inform the location of the output directory where the build artifacts can be found. In that directory, you will find:

\$OUTPUTDIR/first

Contains the results of the first build, including a copy of the source tree, and the resulting binary packages.

\$OUTPUTDIR/first/build.sh

Contains the exact build script that was used in the first build.

\$OUTPUTDIR/second

Contains the results of the second build, including a copy of the source tree, and the resulting binary packages.

\$OUTPUTDIR/second/build.sh

Contains the exact build script that was used in the second build.

Taking a **diff(1)** between *\$OUTPUTDIR/first/build.sh* and *\$OUTPUTDIR/second/build.sh* is an excellent way of figuring out exactly what changed between the two builds.

SUPPORTED VARIATIONS**user**

The *\$USER* environment variable will contain different values between the first and second builds.

path

During the second build, a fake, non-existing directory will be appended to the *\$PATH* environment variable.

umask

The builds will use different umask settings.

locale

Both *\$LC_ALL* and *\$LANG* will be different across the two builds.

timezone

\$TZ will be different across builds.

filesystem-ordering

If **disorderfs** is installed, both builds will be done under a disorderfs overlay directory. This will cause filesystem listing operations to be return items in a non-deterministic order.

time

The second build will be executed 213 days, 7 hours and 13 minutes in the future with regards to the current time (using **faketime(1)**).

OPTIONS

-s VARIATION, **—skip** VARIATION

Don't perform the named VARIATION. Variation names are the ones used in their description in section **SUPPORTED VARIATIONS**.

-b COMMAND, **--before-second-build** COMMAND

Run COMMAND before performing the second build. This can be used for example to apply a patch to a source tree for the second build, and check whether (or how) the resulting binaries are affected.

Examples:

```
$ debrepro --before-second-build "git checkout branch-with-changes"
```

```
$ debrepro --before-second-build "patch -p1 < /path/to/patch"
```

-h, --help

Display this help message and exit.

EXIT STATUS

0 Package is reproducible.

Reproducible here means that the two builds produced the exactly the same binaries, under the set of variations that **debprepro** tests. Other sources of non-determinism in builds that are not yet tested might still affect builds in the wild.

1 Package is not reproducible.

2 The given input is not a valid Debian source package.

3 Required programs are missing.

SEE ALSO

diffoscope (1), disorderfs (1),

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