NAME

pbuilder − personal package builder

SYNOPSIS

pbuilder create [*options***]**

pbuilder update [*options***]**

pbuilder build [*options***]** *.dsc-file*

pbuilder clean

pbuilder login [*options***]**

pbuilder execute [*options***] --** *script [***script options***]*

pbuilder dumpconfig

pbuilder debuild [*options***]**

DESCRIPTION

Front end program to the **pbuilder** suite of programs, used for creating and maintaining chroot environment and building Debian package in the chroot environment.

COMMANDS

create

Creates a **base.tgz** for the specified distribution.

update
up
u

Updates the **base.tgz** for the specified distribution. Also, by specifying the **−−override−config** option, it is possible to install a new apt-line using the given options and settings in the configuration file for the base.tgz.

For example, to switch the distribution of an existing base.tgz to sid, specify the **−−distribution sid −−override−config** options to update.

build
b

Builds the package specified by *.dsc-file* in the chroot environment created using the **base.tgz**

clean

Cleans up the directory specified by the configuration **BUILDPLACE** and **APTCACHE** specified in */etc/pbuilderrc*

login
l

Logs into the chroot, and cleaned up afterwards. Any changes you make will not be kept. Only use this for temporary and debugging purposes. Do not bind-mount filesystems directly inside the chroot. Use **−−bindmounts** option to mount.

execute
e

Execute a script or command inside the chroot, in a similar manner to **login**

The file specified in the command-line argument will be copied into the chroot, and invoked.

The remaining arguments are passed on to the script.

dumpconfig
Dumps configuration information, used for debugging.

debuild
Builds a Debian package from the Debian source directory. The current directory should have the usual *debian/* directory.

Same as **pdebuild --use-pdebuild-internal**

OPTIONS

The command is followed by options of the form **−−***option name* which will modify the semantics as explained below. They are applied from left-to-right, and when there are conflicting options, the rightmost options will have effect.

−−basetgz [*basetgz-location*]
Specifies the location of **base.tgz**

This option will define the default distribution and apt-lines when used in **pbuilder update** and **pbuilder create**

−−buildplace [*location of build*]
Specifies the location where building and **base.tgz** updating and creation takes place. This is a temporary work directory.

A subdirectory of that directory using the current PID of the process is used.

−−buildresult [*location to put build result*]
Specifies the location the build result gets into after building. The deb files and other files that have resulted from build is copied there. Note that the default value is not the current directory, or **..** but another place, **/var/cache/pbuilder/result** This is to avoid overwriting already existing deb files with the newly generated ones.

−−mirror [*mirror location*]
Specifies the URL of Debian mirror to be specified in **sources.list** inside the chroot. This option is only valid when distribution is being specified, for **update** and **build** targets. The format is something like: *http://http.us.debian.org/debian* which should point to your favourite mirror.

This option can optionally be omitted, and left blank, in which case, this part is skipped.

Note that these URLs specified to pbuilder will be used from within the chroot, and specifying **file:/somewhere/** will most probably fail.

−−othermirror [*deb http://xxx/xxx/ ./* **|** *other deb lines...*]
The lines which is added to the sources.list, delimited with **|** Like **deb http://local/mirror stable main|deb file:/usr/local/mirror ./**

The deb lines here are the ones that will appear at the top of the **sources.list** inside the chroot. Be sure to follow the syntax rules of **sources.list**(5). These lines appear at the beginning of the constructed sources file, so this is the place to list your **local** mirror sites; apt will then use them in preference to the ones listed in **−−mirror .**

−−distribution [*distribution***]**

Specifies the distribution used. The supported values are the ones debootstrap supports, plus experimental which is special cased in pbuilder. For instance you may use: **sid** or **experimental .**

−−architecture [*architecture***]**

Specifies the **build architecture** (as described in **dpkg−architecture**(1)). It'll be the architecture used when creating the chroot, defaults to the system one. The supported values are the ones debootstrap supports.

−−host-arch [*architecture***]**

Specifies the **host architecture** (as described in **dpkg−architecture**(1)). Defaults to the build architecture. Use this flag if you are interested in doing a cross architecture build. pbuilder will make sure the environment is correctly set up, including adding *nocheck* to **DEB_BUILD_OPTIONS** and **DEB_BUILD_PROFILES**.

−−no−auto−cross

Suppress automatic addition of *nocheck* to **DEB_BUILD_OPTIONS** and **DEB_BUILD_PROFILES** in case of cross-building. All the other configuration (adding the architecture to dpkg, updating the apt cache, installing the cross toolchain, passing −−host−arch to dpkg-buildpackage, etc) is done nonetheless; specify this flag twice to prevent that from happening too.

−−components [*components***]**

Specifies the default distribution components to use. eg. "main contrib non-free". Default is "main".

−−override−config

Specify to use different apt set up inside the chroot than it was used for creating the base.tgz. Specify this when you want to do **pbuilder update** with a different distribution target set up.

--distribution , --components , --mirror , --othermirror options are only valid when **−−override−config** option is specified in **update** target, or when **pbuilder create** is being called.

−−http−proxy [*proxy***]**

Specifies the http proxy URL. Something like **http://xxx.xxx.xxx.xxx:8080/** should do.

−−use−network [*yes***|***no***]**

Specify **yes** when you do not want to disable network access during build. Network is not available on a Debian buildd, so you might want to keep the default of **no**. Disabling network access currently only works on Linux.

−−aptcache [*location of retrieved package files***]**

Specifies the location where the packages downloaded by apt should be cached. Use **−−aptcache ""** if you want caching to be turned off.

−−debdelta

This option is used in the **update** target, and enable the use of debdelta (if it is already installed, otherwise will be installed the first time this option is used).

−−configfile [*configuration file to load*]

Additional configuration file to read after all other configuration files have been read.

−−hookdir [*location of user scripts*]

Specifies the location where scripts for user intervention during the **create** and **update** process are stored. Scripts are executed inside the chroot. The script names must be in the form **X<digit><digit><whatever-else-you-want>** much like boot scripts. The scripts must be executable and may be either binaries or interpreted scripts. If it is a script in other than Bourne Shell or Perl, it is up to the user to ensure the interpreter was previously installed in the chrooted environment. Files ending in ˜ or .bak are ignored.

Although it may not seem necessary, **pbuilder --update** does not invoke the hooks if **−−hookdir** is empty, so if you want to avoid running hooks, run pbuilder with **−−hookdir ""**

If there is a distribution hook, for example, if there was a file **sid** inside the hook directory, and the script was creating the chroot for **sid** distribution, pbuilder will call debootstrap with that as the 4th parameter in the chroot creation process. This allows for use of custom debootstrap hook script.

A<digit><digit><whatever-else-you-want> is for **build** target. It is executed before build starts; after unpacking the build system, and unpacking the source, and satisfying the build-dependency.

B<digit><digit><whatever-else-you-want> is executed after build system finishes building, successfully, before copying back the build result.

C<digit><digit><whatever-else-you-want> is executed after build failure, before cleanup.

D<digit><digit><whatever-else-you-want> is executed before unpacking the source inside the chroot, after setting up the chroot environment. Create $TMP, and $TMPDIR if necessary.

This is called before build-dependency is satisfied. Also useful for calling **apt-get update**

E<digit><digit><whatever-else-you-want> is executed after **pbuilder update**
and **pbuilder create** finishes apt-get work with the chroot, before umounting kernel file systems (/proc) and creating the tarball from the chroot.

F<digit><digit><whatever-else-you-want> is executed just before user logs in, or program starts executing, after chroot is created in **login** or **execute** target.

G<digit><digit><whatever-else-you-want> is executed just after debootstrap finishes, and configuration is loaded, and pbuilder starts mounting /proc and invoking **apt-get install** in **create** target.

H<digit><digit><whatever-else-you-want> is executed just after unpacking the chroot, mounting proc and any bind mount specified in BINDMOUNTS. It's executed for every target that requires the unpacked chroot. It's useful if you want to dynamically change the chroot guts before anything starts using it.

I<digit><digit><whatever-else-you-want> is executed after build system finishes building, successfully, after copying back the build results.

In your hook the following environment variables are available:
PBUILDER_OPERATION a string indicating which of the pbuilder command has been called. Possible values are **build**, **clean**, **create**, **debuild**, **dumpconfig**, **execute**, **login**, **update**.

BUILDDIR the place where the build happens, the sources are inside a directory named **<package>-<version>**.
DISTRIBUTION the name of the used distribution, as provided by the DISTRIBUTION config value, or the −−distribution command line flag.
BUILD_ARCH contains the build architecture, the architecture the package is building on.
HOST_ARCH contains the host architecture, the architecture the package is building for.

−−debbuildopts [*options*]

List of options that are passed on to dpkg-buildpackage. Multiple flags are additive and are appended to the value of DEBBUILDOPTS as specified in pbuilderrc. To clear the list of options, pass the empty string, e.g. −−debbuildopts "".

Multiple options are delimited with spaces, like −−debbuildopts "−j100 −E"

−−profiles [*profile1[,profile2]*]

Comma-separated list of build profiles to use during the build. It overrides a possible *DEB_BUILD_PROFILES* environment variable already defined.

−−logfile [*file to log*]

Specifies the logfile to create. The messages generated during execution will be written to the specified file, and the standard output.

−−loglevel *I*

Specify how much output you want from pbuilder, valid values are **E** (errors only), **W** (errors and warnings), **I** (errors, warnings and informational) and **D** (everything including some debug messages).

−−binary−arch

Specify to build only architecture specific targets instead of all targets. This instructs pbuilder to respect only Build-Depends, Build-Depends-Arch, Build-Conflicts, Build-Conflicts-Arch source relationships, and calls *dpkg-buildpackage* with **−B**.

Setting **−−debbuildopts** after this option will re-set some parts of the effects.

Use this option rather than using **−−debbuildopts −B**.

−−binary−indep

Specify to build only architecture independent targets instead of all targets. This instructs pbuilder to respect only Build-Depends, Build-Depends-Indep, Build-Conflicts, Build-Conflicts-Indep source relationships, and calls *dpkg-buildpackage* with **−A**.

Setting **−−debbuildopts** after this option will re-set some parts of the effect.

Use this option rather than using **−−debbuildopts −A**.

−−source−only−changes, **−−no−source−only−changes**

Specify whether or not to generate an additional .changes file for a source-only upload, whilst still producing a full .changes file for any binary packages built.

−−bin−nmu [*changelog message*]
Specify to build a binary-NMU instead of a standard package. This option takes the changelog message to pass to the binary-NMU package as parameter.

−−bin−nmu−maintainer [*maintainer*]
Specify the maintainer name and email address to be displayed in the changes file. If no maintainer is provided, it defaults to the last uploader.

−−bin−nmu−version [*version number*]
Specify the number to append to the version in the binary-NMU package. If no number is provided, it defaults to 1.

−−bin−nmu−timestamp [*timestamp*]
Specify the timestamp to use in the generated chagnelog entry. If no timestamp is provided, it defaults to current time. If you want to specify the time as a number of seconds since 1970-01-01 00:00:00 UTC, prepend an at sign (@) like **@1478786376**.

−−bindmounts *bind-mount-points*
Bind-mount the specified directories to inside the chroot. *bind-mount-points* is a space-delimited list of directories to bind-mount which should be specified in a space-delimited manner, surrounded in double quotations, like: **"/srv /somedir /someotherdir"**

−−debootstrapopts *−−variant=buildd −−keyring /usr/share/keyrings/debian−archive−keyring.gpg*
Add extra command-line options to debootstrap.

Specify multiple options through multiple instance of this option, for example:

--debootstrapopts --arch=arm --debootstrapopts --variant=buildd

−−debootstrap *debootstrap*
Use specified debootstrap implementation as debootstrap. Known implementations are **cdebootstrap**, **qemu-debootstrap** and **debootstrap** and default is to use **debootstrap.**

−−allow−untrusted
Allow untrusted (no key installed) and unsigned repositories. **Warning:** Enabling this option may allow remote attackers to compromise the system. Better use signed repositories and **−−keyring** to add the key(s).

−−keyring *path/to/keyring*
Additional keyrings to use for package verification with apt, not used for debootstrap (use **−−debootstrapopts**). Use this to add (local) signed repositories. By default the debian-archive-keyring package inside the chroot is used. Can be specified multiple times.

Keyrings are copied into */etc/apt/trusted.gpg.d* in the chroot. APT supports it since version 0.7.25.1, firstly available in the Debian release codenamed "squeeze" (released on 2011). For older chroots, use a **G** hook to run **apt−key** manually.

−−save−after−login

−−save−after−exec

Save the chroot image after exiting from the chroot instead of deleting changes. Effective for **login** and **execute** session.

−−autocleanaptcache

Clean apt cache automatically, to run apt-get autoclean to only keep the packages which are required for the version of Debian. This is useful when you keep a aptcache directory for each distribution and want to keep the size of the aptcache down.

−−help

Show a brief help message.

MORE SPECIFIC OPTIONS

Some options are more involved to pbuilder internal than others. The following options are available.

−−removepackages [*packages to remove***]**

Removes the packages on creating the **base.tgz**. Use this option to remove potentially dangerous or undesirable packages, like **lilo** which nobody will need to have inside a chroot.

Packages should be specified in a space-delimited manner, surrounded in double quotations, like **"lilo gcc mawk"**

−−extrapackages [*packages to add***]**

Adds packages specified as an addition to the default, which is **build-essential** by default. This is used in **build** and **create** (after successfully creating the initial chroot) and **update**.

The packages should be specified as a space-delimited list, or by specifying −−extrapackages multiple times.

−−debemail [*maintainer-name <email-address>***]**

Specifies that dpkg-buildpackage be called with **-m***maintainer-name <email-address>* instead of default value specified in the environment variable, or pbuilderrc

This option is almost obsolete, use −−debbuildopts instead

−−pkgname−logfile

Alternative option to **−−logfile** option. Automatically creates a logfile that is named by the .dsc file name, only really applicable for **build** target.

The file extension is specified by **PKGNAME_LOGFILE_EXTENSION** in **pbuilderrc**

−−aptconfdir [*APT configuration directory to use***]**

Uses the apt configuration file found in the specified directory as the chroot configuration. **/etc/apt** is one example, so that the same configuration can be used inside the chroot.

This option overrides other options, and may cause some inconsistency problems.

−−timeout [*timeout in sleep time*]

Time out building after sleeping set time. Specify something like **−−timeout 10h** in the command line. Default is no timeout.

−−no−targz

Not using base.tgz for operation. The **−−buildplace** will not be deleted and reconstructed from a **.tar.gz** file. Also, **pbuilder** will not add its process ID to the **−−buildplace** as it usually would.

Useful when experimenting with chroots, or trying to create chroots outside control of **pbuilder.**

−−compressprog

Program to use for compression of the base.tgz. The default is to use gzip, and any program that can be used to compress data using a pipe can be used.

If set to "pigz", compression and decompression is gzip compatible but will use all available CPUs.
If set to "cat", there will be no compression at all (so compression/decompression will be a lot faster but takes much more space on the disk).

−−twice

Build the package twice in a row. Useful to ensure the package cleans up properly. The resulting packages are the ones from the second build.

−−preserve−buildplace

Do not clean the **−−buildplace** if it has the same contents as the **.tar.gz** file, and no modifications are done.

For preserving the build place for **create** and **update** targets, see **debug** option.

As with **−−no−targz**, suppresses appending **pbuilder**'s process ID to the **−−buildplace**.

This is useful if you want to attempt to build a large number of packages successively, but you expect that many of them cannot have their build dependencies satisfied.

It will clean up the build place on failure, or after a successful build.

−−debug

Turn on Debug mode of pbuilder, to be verbose about errors, and try to avoid cleanup processing when error happens in **update** and **create** targets.

−−inputfile *filename*

Add extra file to be copied to *BUILDDIR* inside the build environment.

available in **build** and **login** and **execute** targets.

FILES

/etc/pbuilderrc

The system-wide configuration file for pbuilder.

/usr/share/pbuilder/pbuilderrc

The default settings for pbuilder, used as fallback for all values that is not specified in **/etc/pbuilderrc.**

${HOME}/.pbuilderrc

The personal configuration file for pbuilder, which overrides settings set in other configuration files.

Note that ${HOME} is usually /root (if you are running pbuilder through sudo).

EXAMPLES

pbuilder create

```
# pbuilder create
Distribution is sid.
Building the build environment
 -> running debootstrap
/usr/sbin/debootstrap
I: Retrieving Release
I: Retrieving Packages
I: Validating Packages
        .
        .
```

pbuilder update

```
# pbuilder update
W: /home/dancer/.pbuilderrc does not exist
Building the build Environment
 -> extracting base tarball [/var/cache/pbuilder/base.tgz]
        .
        .
```

pbuilder build

```
# pbuilder build dsh_*.dsc
I: using fakeroot in build.
Current time: Sat Jan 20 12:03:34 JST 2007
pbuilder-time-stamp: 1169262214
Building the build Environment
 -> extracting base tarball [/home/dancer/DEBIAN/pbuilder/pbuilder/testsuite/tmp.FeeAX18779/testimage]
 -> creating local configuration
        .
        .
```

BUGS

This program is starting to have too many options already.

AUTHOR

Initial coding, and main maintenance is done by Junichi Uekawa <dancer@debian.org>. User hooks code added by Dale Amon <amon@vnl.com>

The homepage is available at **https://pbuilder.alioth.debian.org**

SEE ALSO

/usr/share/doc/pbuilder/pbuilder-doc.html, **pdebuild**(1), **pbuilderrc**(5)