
ebuildtester Documentation

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This project supports Python 3.7, 3.8, 3.9, and 3.10. Other Python versions might work as well but are not regularly tested.

For locally testing changes it is very handy to install *tox* which automates the creation of Python virtual environments.

CHAPTER 1

Dependencies

- *docker*
- *fuse*

CHAPTER 2

Setting up a developer environment

```
$ python -m virtualenv venv  
$ source venv/bin/activate  
$ (venv) pip install -r requirements.txt
```

Install *ebuildtester* in the *virtualenv*:

```
$ (venv) python setup.py install
```

Run the development version:

```
$ (venv) ebuildtester ...
```


CHAPTER 3

ebuildtester package

3.1 Submodules

3.2 ebuildtester.atom module

An Atom.

```
class ebuildtester.atom.Atom(atom)
    Bases: object

exception ebuildtester.atom.AtomException
    Bases: Exception
```

An exception in this class.

3.3 ebuildtester.docker module

The Docker backend.

```
class ebuildtester.docker.Docker(local_portage, overlay_dirs)
    Bases: object

The Docker class.

cleanup()
    Clean up.

execute(cmd)
    Execute command in container.

cmd is a list of strings or a simple string with a command that is executed within a bash shell.

remove()
    Remove the docker container.
```

```
shell()
    Run an interactive shell in container.

exception ebuildtester.docker.ExecuteFailure
    Bases: Exception

    Failure to execute command.
```

3.4 ebuildtester.main module

The main function.

```
ebuildtester.main.main()
    The main function.
```

3.5 ebuildtester.options module

Options and some initializations.

```
ebuildtester.options.set_debugLogLevel()
    Set logging level.

ebuildtester.options.set_logfile(logfile)
    Add a logfile to logging.
```

3.6 ebuildtester.parse module

Parse command line options.

```
ebuildtester.parse.parse_commandline(args)
    Parse the command line.
```

3.7 ebuildtester.utils module

```
ebuildtester.utils.message_string(string)
    Return a string.
```

3.8 Module contents

CHAPTER 4

Introduction

This is a tool to test a Gentoo ebuild and its dependencies. The idea is that the ebuild is emerged in a clean (and current) stage3 Docker container.

4.1 Requirements

Using require Docker and FUSE. Docker must be configured to use the devicemapper storage driver. This can be achieved with the following inside /etc/docker/daemon.json:

```
{  
    "storage-driver": "devicemapper"  
}
```

4.2 Usage

We are going to assume that the user has a local git clone of the portage tree in

```
/usr/local/git/gentoo
```

We have added a new ebuild and would like to verify that the build dependencies are all correct. We can build the package (ATOM) with:

```
ebuildtester --portage-dir /usr/local/git/gentoo \
--atom ATOM \
--use USE1 USE2
```

where we have specified two USE flags, USE1 and USE2. The *ebuildtester* command will now create a docker container and start installing the ATOM. All specified dependencies will be installed as well.

4.3 Command line arguments

The command understands the following command line arguments:

```
usage: ebuildtester [-h] [--version] [--atom ATOM [ATOM ...]] [--binhost BINHOST] [--live-ebuild] [--update] [--unstable] [--OPT [STORAGE_OPT ...]] [--[FEATURES ...]] [--pull] [--show-options] [--ccache CCACHE_DIR] [--batch] [--manual] --portage-dir PORTAGE_DIR [--overlay-dir OVERLAY_DIR] [--install-basic-packages] [--threads N] [--use USE [USE ...]] [--global-use GLOBAL_USE [GLOBAL_USE ...]] [--unmask ATOM] [--gcc-version VER] [--python-single-target PYTHON_SINGLE_TARGET] [--python-targets PYTHON_TARGETS] [--rm] [--storage-opt STORAGE_OPT] [--with-X] [--with-vnc] [--profile PROFILE] [--features FEATURES] [--docker-image DOCKER_IMAGE] [--docker-command DOCKER_COMMAND] [-]
```

A dockerized approach to test a Gentoo package within a clean stage3.

```
options:
-h, --help            show this help message and exit
--version           show program's version number and exit
--atom ATOM [ATOM ...]
                    The package atom(s) to install
--binhost BINHOST    Binhost URI
--live-ebuild        Unmask the live ebuild of the atom
--manual             Install package manually
--portage-dir PORTAGE_DIR
                    The local portage directory
--overlay-dir OVERLAY_DIR
                    Add overlay dir (can be used multiple times)
--update              Update container before installing atom
--install-basic-packages
                    Install basic packages after container starts
--threads N          Use N (default 8) threads to build packages
--use USE [USE ...]   The use flags for the atom
--global-use GLOBAL_USE [GLOBAL_USE ...]
                    Set global USE flag
--unmask ATOM         Unmask atom (can be used multiple times)
--unstable            Globally 'unstable' system, i.e. ~amd64
--gcc-version VER    Use gcc version VER
--python-single-target PYTHON_SINGLE_TARGET
                    Specify a PYTHON_SINGLE_TARGET
--python-targets PYTHON_TARGETS
                    Specify a PYTHON_TARGETS
```

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```
--rm                  Remove container after session is done
--storage-opt STORAGE_OPT [STORAGE_OPT ...]
                      Storage driver options for all volumes (same as Docker param)
--with-X              Globally enable the X USE flag
--with-vnc             Install VNC server to test graphical applications
--profile PROFILE      The profile to use (default = default/linux/amd64/17.1)
--features FEATURES   [FEATURES ...]
                      Set FEATURES, see https://wiki.gentoo.org/wiki/FEATURES_
→(default = ['-sandbox',
              '-usersandbox', 'userfetch'])
--docker-image DOCKER_IMAGE
                      Specify the docker image to use (default = gentoo/stage3)
--docker-command DOCKER_COMMAND
                      Specify the docker command
--pull                Download latest docker image
--show-options         Show currently selected options and defaults
--ccache CCACHE_DIR    Path to mount that contains ccache cache
--batch               Do not drop into interactive shell
```

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