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

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

ebuildtester.main.**main**()
The main function.

3.5 ebuildtester.options module

Options and some initializations.

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

3.6 ebuildtester.parse module

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

3.7 ebuildtester.utils module

ebuildtester.utils.**massage_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]
                    [--manual] --portage-dir PORTAGE_DIR [--overlay-dir OVERLAY_DIR]␣
↪[--update]
                    [--install-basic-packages] [--threads N] [--use USE [USE ...]]
                    [--global-use GLOBAL_USE [GLOBAL_USE ...]] [--unmask ATOM] [--
↪unstable]
                    [--gcc-version VER] [--python-single-target PYTHON_SINGLE_TARGET]
                    [--python-targets PYTHON_TARGETS] [--rm] [--storage-opt STORAGE_
↪OPT [STORAGE_OPT ...]]
                    [--with-X] [--with-vnc] [--profile PROFILE] [--features FEATURES␣
↪[FEATURES ...]]
                    [--docker-image DOCKER_IMAGE] [--docker-command DOCKER_COMMAND] [-
↪-pull]
                    [--show-options] [--ccache CCACHE_DIR]

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
```

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