
Thumbtack Documentation

Release 0.3.3

The MITRE Corporation

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Thumbtack is a [Flask](#) powered web front-end providing a REST-ful API to mount and unmount forensic disk images, built on top of the [imagemounter](#) library. It supports the mounting of many [disk image file types](#), depending on which supporting libraries are installed.

Note: Though [imagemounter](#) will work on any Unix- or Linux-based OS that has support for the underlying mounting utilities, only the Ubuntu Linux distribution has been used to test Thumbtack.

Warning: DO NOT USE THIS TOOL IN A PRODUCTION SETTING! Due to the user restrictions of most disk-mounting utilities, you will have more success with Thumbtack when it is run as root. For more information on deploying Flask applications, please refer to Flask's [deployment documentation](#).

TUTORIAL

This document presents a short walkthrough on how to use Thumbtack. Please refer to the links throughout the document for further information.

If you only want to test Thumbtack out, using the Flask development server will suffice.

1.1 Installation

In order to install Thumbtack, you should use a virtual environment, which will allow you to keep Thumbtack dependencies separate from system Python packages. There are [multiple ways](#) to use virtual environments these days, but we recommend the use of [virtualenvwrapper](#). In the future we may update this to use [Pipenv](#) instead.

Install `virtualenvwrapper` on Ubuntu:

```
sudo apt install virtualenvwrapper
mkvirtualenv -p /usr/bin/python3 thumbtack
```

Once you have a virtual environment created and activated, use `pip` to install the Thumbtack server.

```
pip3 install thumbtack
```

1.2 Create Directory of Disk Images

You will need to have a directory of disk images that Thumbtack will be configured to monitor. Thumbtack will automatically assume that every file in this directory is a disk image, so be advised that other filetypes will automatically fail to mount. You may use the following script from the Thumbtack repository to download some test images from [DFTT](#) or [Digital Corpora](#). The script will give estimated download size and ask permission before downloading.

```
mkdir disk_images
cd disk_images
wget https://raw.githubusercontent.com/mitre/thumbtack/master/tests/download-test-
↳images.py
python download_test_images.py
```

1.3 Run the Server

Here's the easy part! Just make sure to be in the directory where your disk images are as mentioned above in the Create Directory of Disk Images section.

```
thumbtack
```

The Thumbtack server is now listening on port 8208, and can be accessed from a web browser at <http://127.0.0.1:8208>

There are a few options that the *thumbtack* command can take, allowing you to change the host, port, image directory, and sqlite database file. See them below.

```
$ thumbtack --help
Usage: thumbtack [OPTIONS]

Options:
  -d, --debug           Run the Thumbtack server in debug mode
  -h, --host TEXT      Host to run Thumbtack server on [default: 127.0.0.1]
  -p, --port TEXT      Port to run Thumbtack server on [default: 8208]
  -m, --mount-dir TEXT Directory to mount disk images [Default:
                        /mnt/thumbtack]

  -i, --image-dir TEXT Directory of disk images for Thumbtack server to
                        monitor [Default: $PWD]

  --db TEXT            SQLite database to store mount state
  -b, --base-url TEXT  Base URL where Thumbtack is hosted on the server
                        [default: /]

  --help              Show this message and exit.
```

1.4 Development Environment

If you are planning to contribute to the development of Thumbtack, you should clone the repository from GitHub rather than installing a released version from PyPI. Vagrant is recommended and a fully functioning *Vagrantfile* is provided at the top level of the repo. It will install an Ubuntu 16.04 VirtualBox VM locally with all libraries required as well as Thumbtack.

```
# Install Vagrant
# Install VirtualBox
git clone https://github.com/mitre/thumbtack.git
cd thumbtack
vagrant up
vagrant ssh

# inside Vagrant machine
cd /vagrant/tests
python download_test_images.py
cd test_images
thumbtack -h 0.0.0.0
```

The Vagrant VM will be running the Thumbtack server on port 8208, and is set up to automatically forward the port to your localhost. You should be able to access the web interface via <http://127.0.0.1:8208> now.

1.5 Pseudo-Production Environment

As mentioned on the homepage of the documentation, Thumbtack should not run in a production setting for security reasons. However, if you would like to get Thumbtack to work with a webserver like Nginx or Apache, a *wsgi.py* file is provided at the top level of the repo. Once again, for more information on deploying Flask applications, please refer to Flask's [deployment documentation](#).

2.1 API Endpoints

You can access information regarding images Thumbtack knows about through its API endpoints. Alternately, you can use the *Thumbtack Client*

2.1.1 /mount/

Accessing this endpoint allows you to get information on all of the disk images that are currently mounted.

2.1.2 /mount/<path:image_path>

Gets you information about a specific disk image that is currently mounted. If that disk image is not currently mounted, it returns a 404 error with a message stating that the requested disk image is not mounted.

2.1.3 /supported/

This endpoint returns a JSON object containing information about which supporting libraries are installed and which are not.

THUMBTRACK CLIENT

For full information, see TODO

ABOUT

Thumbtack grew out of a need to be able to manage many disk images at once while maintaining awareness of where they were mounted on disk. We further wanted to be able to automate the mounting/unmounting process for other tools to be able to process files on the images.

- The Thumbtack server provides the backbone to be able to mount/unmount the images.
- The Thumbtack client allows other tools to automate that process.
- And the Thumbtack web interface allows a quick look at the mounted state of the images.

RELEASE NOTES

5.1 0.1.0

5.1.1 Initial Release

Features

- Flask server that manages state of multiple disk images
- Web frontend to show all disk images you are maintaining
- Ability to mount/unmount images from the UI
- Flask RESTful API to view status of disk images, mount, unmount, and show supported libraries on the system
- A python client that interacts directly with the API so you don't have to remember the endpoints

5.2 0.1.1

5.2.1 Overview

This release is hopefully solidifying the details of actually releasing the python source package to PyPI via Travis CI.

Features

- Implementing bumpversion to maintain better version control
- Using Travis CI to deploy as a Github release and to PyPI

5.3 0.1.2

5.3.1 Overview

This release is... actually solidifying the details releasing the python source package to PyPI via Travis CI.

Features

- Using Travis CI to deploy as a Github release and to PyPI

5.4 0.1.3

5.4.1 Overview

This release is adding in the non-code files that were missing in the built package from before.

Bug Fixes

- Add the jinja2 templates into the package file

5.5 0.1.4

5.5.1 Overview

This release is adding Python 2 support.

Bug Fixes

- Allow thumbtack to be installed on Python 2 for backwards compatibility
- Make the `thumbtack` command serve the current working directory

5.6 0.2.0

5.6.1 Overview

This release removes Python 2 support.

Bug Fixes

- The bundled flask server in the `thumbtack` command now allows port forwarding
- The `thumbtack` command now has command line help
- The state of disk images is now tracked in a SQLite database instead of by the client

5.7 0.3.0

5.7.1 Overview

This release includes the undocumented 0.2.1 release which had some very minor bugfixes.

Features

- Includes an option to set up a thumbtack service with a custom `base_url`

5.8 0.3.1

5.8.1 Overview

This is only a release because the deploy key to GitHub was stale in Travis CI

Bug Fixes

- Nothing significant. Hopefully this fix to Travis CI will stick!

5.9 0.3.2

5.9.1 Overview

Minor fixes

Features

- Added a CLI flag to be able to set where the mount directory should be

Bug Fixes

- The release of 0.3.1 introduced a breaking change to the CLI version when a database option was not specified. This release fixes that problem

MODULE REFERENCE

6.1 thumbtack package

6.1.1 Submodules

6.1.2 thumbtack.config module

6.1.3 thumbtack.exceptions module

6.1.4 thumbtack.resources module

6.1.5 thumbtack.views module

6.1.6 Module contents

INDICES AND TABLES

- `genindex`
- `modindex`
- `search`