

Proposal of Building Python Wheels

Background

From beam-2.4.0, we began building [python wheels](#) as distributions. We plan to build python wheels and stage them directly into [dist.apache.org](#) for next upcoming release. Then we need to design a process to build python wheels as convenient as possible.

Process of 2.4.0

Builder: Robert Bradshaw

Builder tools: [travis](#), [Matthew Brett's build scripts](#)

Wrapper repo: <https://github.com/robertwb/apache-beam-wheels>

Deploy destination: <https://test.pypi.org/project/apache-beam/>

Process of 2.5.0

Builder: Boyuan Zhang

Builder tools: [travis](#), [Matthew Brett's build scripts](#)

Wrapper repo: <https://github.com/boyuanzz/apache-beam-wheels>

Deploy destination: [Google Storage](#)

Historical Process

- Before building wheels, make sure apache-beam-{RELEASE_VERSION}-python.zip has been staged in <https://dist.apache.org>
- Fork <https://github.com/robertwb/apache-beam-wheels>
- git clone your apache-beam-wheels repo
- In apache-beam-wheels/.travis.yml file:
 - Change RC=current rc
 - Change VERSION=current release version
- Change deployment options:
 - All deploy options can be found in [travis-ci](#).
 - For 2.4.0, we chose to deploy to test.pypi
 - All configurations are in [robertwb/apache-beam-wheels/.travis.yml](#)
 - [WHEELHOUSE_UPLOADER_USERNAME](#) defined username we are using
 - You need to delete [secret](#) line
 - Generate your secret using
travis encrypt -r your_account/apache-beam-wheels
WHEELHOUSE_UPLOADER_SECRET=\$WHEELHOUSE_UPLOADER_SECRET
 - For 2.5.0, we deployed to Google Storage

- All configurations can be found in [boyuanzz/apache-beam-wheels/.travis.yml](https://github.com/boyuanzz/apache-beam-wheels/blob/master/.travis.yml)
 - Create a bucket in Google Storage console
 - Setup GS config following <https://docs.travis-ci.com/user/deployment/gcs/>
- Commit and push your changes.
- Trigger build:
 - Sign up [Travis CI](https://travis-ci.com/) with your github account
 - Choose 'apache-beam-wheels' to build
 - In 'More options', click 'Trigger build'
- Upload python wheels into <https://dist.apache.org/>

Design Plan For Upcoming Release

- Problem clarifications
 - We want to build multi-platforms python wheels during release process
 - Destination to stage artifacts:
 - <https://dist.apache.org/> using svn

Asked for a credential from an ASF committer
- Decisions need to be made
 - We need to create a wrapper repo under apache, similar to beam
 - e.g. apache/beam-python-wheels
 - For ASF credentials, we have 2 options
 1. Setup a specific account for release process

Pros: easy for a non-committer to perform release process

Cons: need to create pull request against master and wait for a committer to review & merge to trigger build
 2. We request every release manager to use his own ASF credential

Pros: release manager can perform all operations in his own repo forked from root repo, no waiting time for PR review and merge.

Cons: only beam committer can do this.
 - Ways of store credential in travis
 - Using `travis encrypt -r apache/beam-python-wheels WHEELHOUSE_UPLOADER_SECRET=$WHEELHOUSE_UPLOADER_SECRET -add` to add encrypted credentials into `.travis.yml`
 - In <https://travis-ci.com/>, setup WHEELHOURS_UPLOADER_SECRET in More Options > Settings > Environment Variables with 'display value in build log' disabled
- Implementation Example
 - <https://github.com/boyuanzz/apache-beam-wheels/tree/svn>
 - [.travis.yml](#)
 - [deploy_travis.sh](#)