

Apache Beam Repository Deletion Postmortem

<https://s.apache.org/beam-repo-deletion-postmortem>

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Overview

This document is to outline how the Beam repository was temporarily deleted on the master branch during the 2.47.0 release process as well as how this issue can be avoided in the future.

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Timeline

While starting the Beam 2.47.0 release process, the `cut_release_branch.sh` script was run to create a release branch from the master branch of the Apache GitBox repository. The script first updated the master branch with the latest development version, and then pushed the release branch to the remote repository.

During the push process, the script asked for Apache GitBox authentication twice. The first time was to update the master branch, and the second time was to push the release branch. The password was mistyped on the second authentication attempt, and the script would not advance past the master branch update step on subsequent attempts. The script also did not push the versioning updates to the TypeScript configuration file despite making the change.

The next approach was to revert the first commit made, which would restore the repository to its previous state. The command `git revert 5982025` was used to create a revert commit, with the argument being the shortened form of the commit's SHA1 hash; however, the created commit deleted all files in the repository. This was not caught until after the revert commit had been pushed to the remote repository, as the generated commit message did read as though it was reverting the previous commit; however, this was not the case. The revert commit deleted the entire repository, and each file now has a deletion and a restoration in its history.

Danny McCormick stepped in and reverted the revert commit, which restored the repository but caused problems with the commit history. Each file now has a deletion and a restoration in its history. No one had permission to force the master branch back to the prior state, as force push permissions were held only by Apache Infra. A ticket was filed on April 5th with infra for help as [INFRA-24433](#) and the history was corrected on April 6th to re-enable the use of tools like `git blame`.

Friction Points

The major issues with this process are as follows:

1. The script as written could not be re-run if there was an issue, as the script exits if the first push to master is a no-op rather than allowing the user to still create a release branch
2. The script did not push the TypeScript SDK's version update, which made it appear as though there were issues with the first push as well.
3. Having a human performing steps that interact directly with master is a clear potential point of failure
4. In the event that something like this happens, we have to rely on Apache Infra to fully recover and that can be a slower process.

Action Items

- Improve cut_release_branch.sh
 - Add the TypeScript SDK's configuration into the version update push
 - <https://github.com/apache/beam/pull/26148>
- Automate the script as much as possible
 - Move the cut_release_branch.sh script into a GitHub Action workflow
 - <https://github.com/apache/beam/pull/26434>
- Set branch protection rules in .asf.yaml
 - <https://github.com/apache/beam/issues/26721>