
Doing a TUF

Secure any Shared Storage

About Me

Software Engineer @ Oracle Cloud Infrastructure

Open Source Maintainer of a few Software Bill of Materials projects

General Inconvenient Question Asker

Been around TUF but not directly involved in TUF

Socials:

Mastodon: @nisha@social.afront.org

Twitter: [@_ctlfsh](https://twitter.com/_ctlfsh)

Bluesky: [@ctlfsh](https://bsky.app/profile/_ctlfsh)



Non-FOSSY things

- Slides created in Google Slides
- Slides and demo artifacts hosted on GitHub
- Slides presented on someone else's property

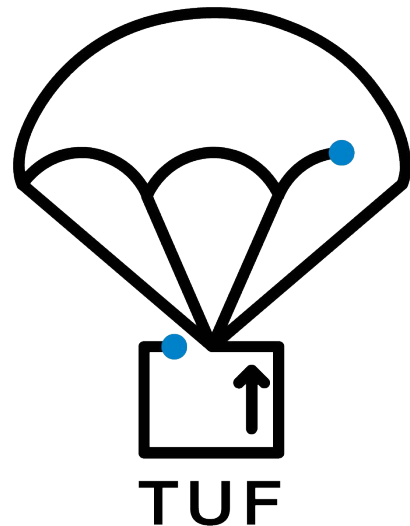
What is TUF?

The Update Framework secures trusted files

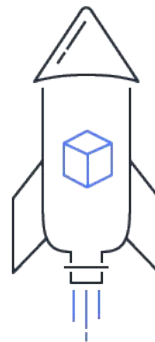
- Predecessor to Thandy (Tor's update system)
- Assumes you **WILL** be hacked
- Doesn't require you to change much*

The Framework requires the following:

- Several roles with minimal permissions
- When “fetching” files, make required security checks first

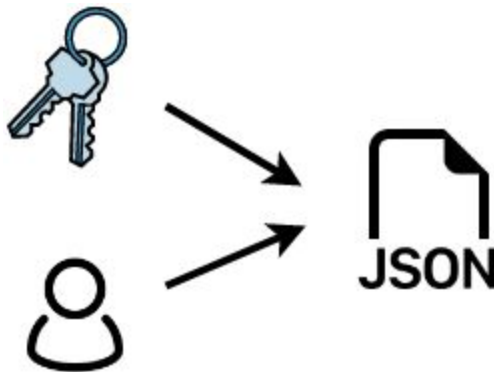


Who Uses TUF?



TUF ingredients

- An online repository
- Some TUF metadata
- Signing Keys

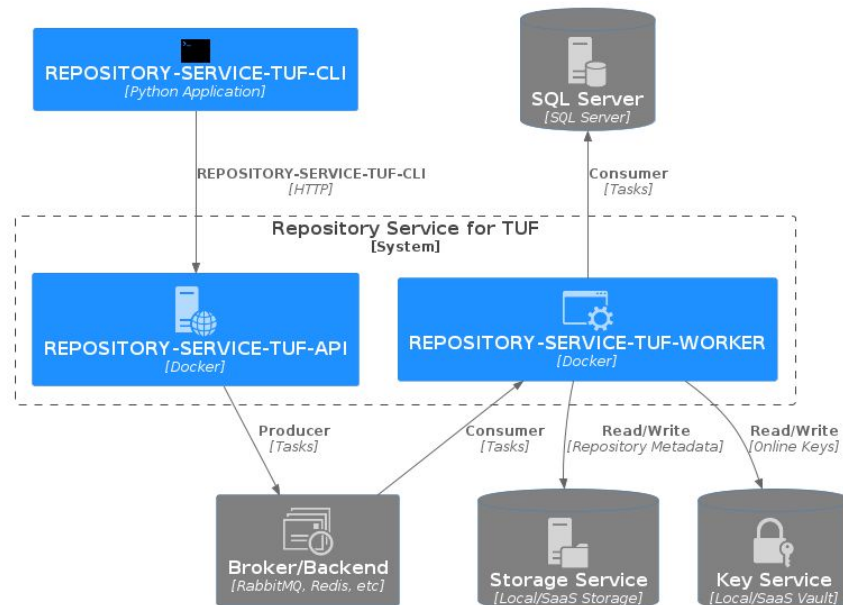




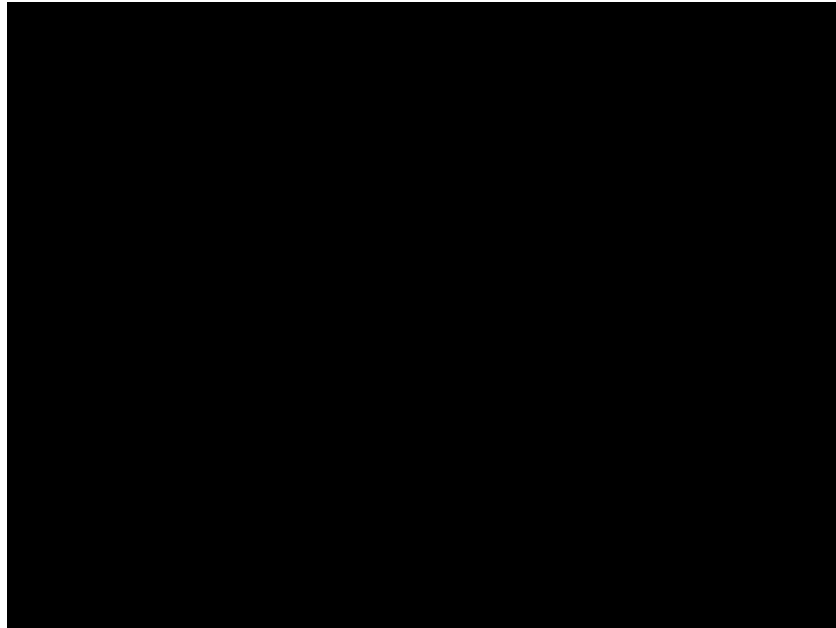
Academic Treatment

- [Talking TUF: Securing Software Distribution](#)
- [Latest talk on youtube \(Marina Moore, Justin Cappos, NYU\)](#)
- [Specification](#)
- [Publications](#)

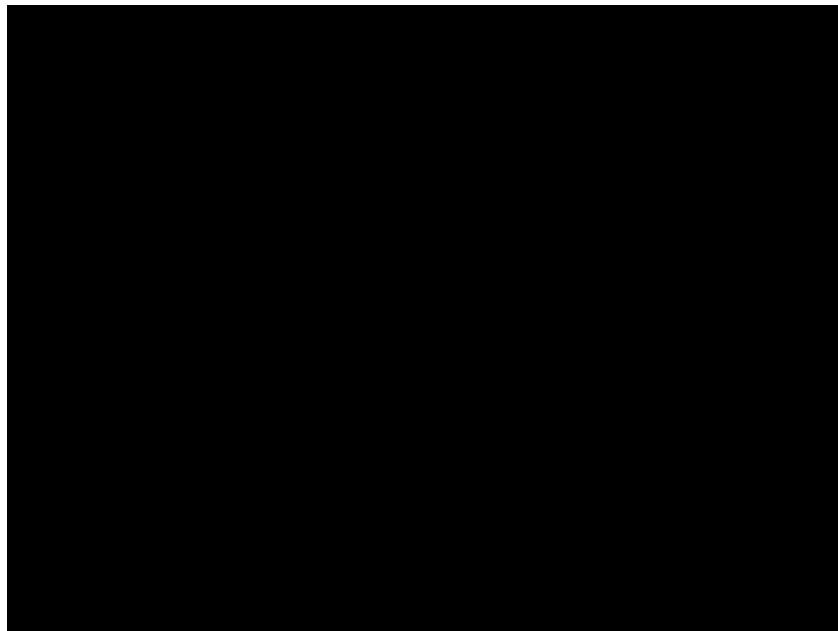
Repository Service for TUF (RSTUF)



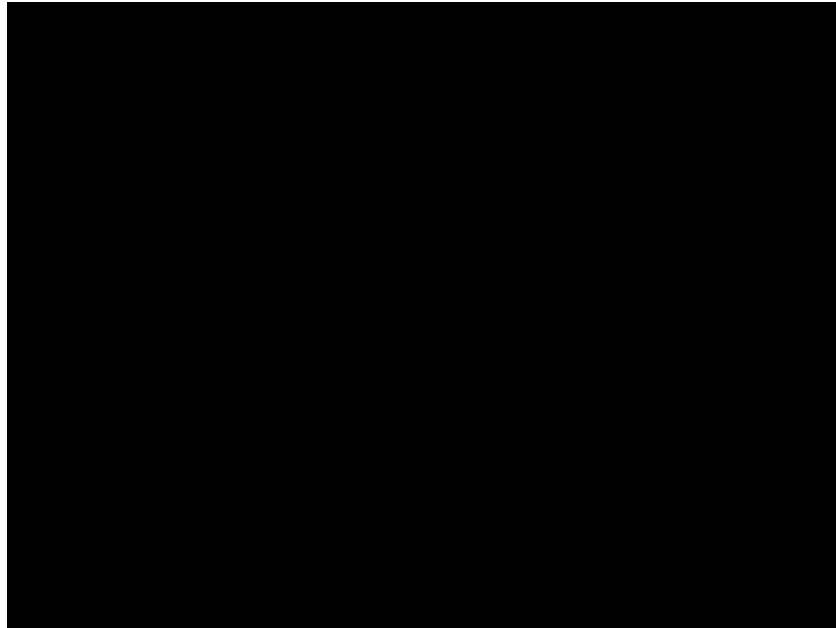
Creating Keys



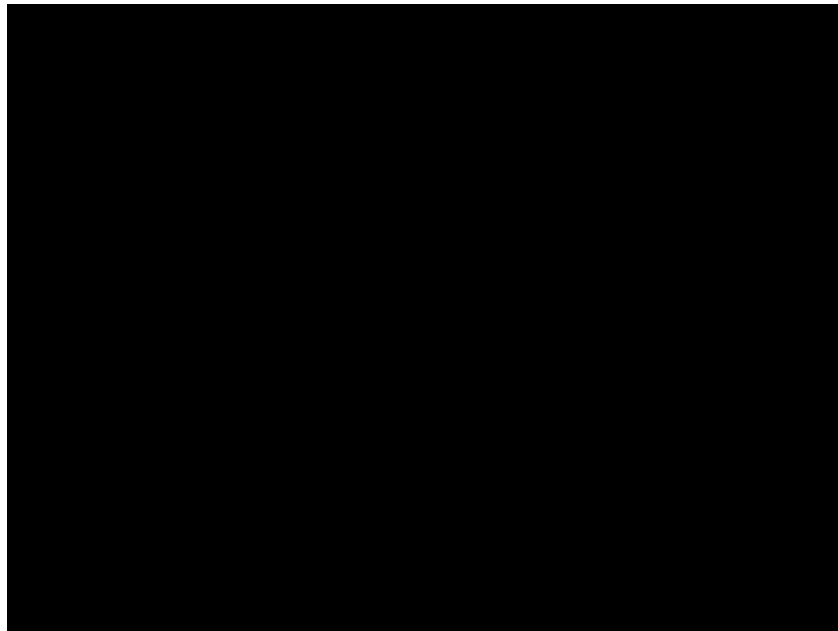
Bootstrapping the TUF server



Adding Target Metadata



Downloading a Target



Downloading a (corrupted) Target

```
nisha@gene:~/tuf $ source rstuf/bin/activate
(rstuf) nisha@gene:~/tuf $ python client.py
Downloading...
Using trusted root in metadata
Target downloaded and available in downloads/myfile.txt
(rstuf) nisha@gene:~/tuf $
```

```
(rstuf) nisha@gene:~/tuf $ cd repo/
(rstuf) nisha@gene:~/tuf/repo $ ls
myfile.txt
(rstuf) nisha@gene:~/tuf/repo $ vim myfile.txt
(rstuf) nisha@gene:~/tuf/repo $ python -m http.server
Serving HTTP on 0.0.0.0 port 8000 (http://0.0.0.0:8000/) ...
127.0.0.1 - - [15/Jul/2023 18:39:02] "GET /myfile.txt HTTP/1
.1" 200 -
```

```
nisha@gene:~/tuf $
```

Recap

- TUF -> secure hosting of files and secure downloads by design
- RSTUF -> generates and hosts metadata and keys
- TUF libraries for writing clients are available in python, go, rust, and javascript
- Some assembly required to run RSTUF

Links and other info

- [RSTUF project needs your help](#)
- [TUF libraries](#)
- Videos created by OBS
- Videos edited in Kdenlive
- These slides and demo artifacts hosted at <https://github.com/nishakm/fossy-2023-tuf>



Thank You!