

# Everware - effortless research booster

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## Intro

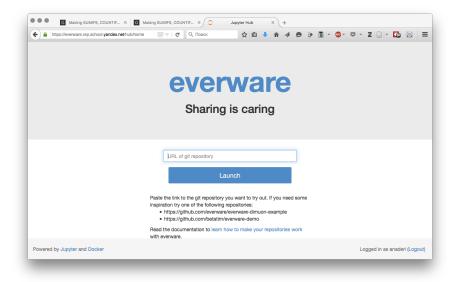
```
> 2013 - rootnotes.py
https://gist.github.com/mazurov/6194738
> 2014 - reproducible experiment platform
https://github.com/yandex/rep
> 2015 - everware
```

https://github.com/everware

http://everware.xyz

## **Everware**

- > simplify sharing of your ideas & code
  - > jupyterhub + docker (swarm)
- > re-think collaborative patterns
  - > reproduce
  - learn
  - > reuse



https://everware.rep.school.yandex.net

#### Use-case

- > develop your analysis in a comfortable environment, e.g.
  - > notebook + plane
  - > ipad/smartphone
  - > server-based
- > sync with github + Dockerfile
- > impress / present slides
- > share single link with your peers to have it running &
  - > behave in expected way
  - > get same result
  - > ready for reuse

# **Contexts**

- > education
- > hackathon
- > research

## Behind the scenes

- > Docker (+swarm)
  - > docker swarm spawner based on dockerspawner https://github.com/everware/dockerspawner
  - > containers https://github.com/everware/container-tools
- > JupyterHub
- > GitHub
- > tools & docs to simplify docker image creation & playing with analysis locally

# Ideas for the future, roadmap

- > attach custom CPU & Disk storage, e.g.
  - > e.g. DigitalOcean or Amazon AWS
  - > university clusters
  - > Rackspace Carina
- > transparent parallel execution
  - > ipyparallel, CERN grid, HPC(?)
- integrate with disk storage
  - > CERN arid
  - > dropbox/Google drive/CERN EOS/CERN box
- integrate with knowledge exchange platforms
  - > openml.org
  - > peerj.com
  - > open-data CERN portal
    - > docker-compose support

#### Birds of a feather

- > https://cloud.sagemath.com/, http://wakari.io, https://juliabox.org/
  - > limited support for containerization & customization of environment
- > http://mybinder.org
  - > no support for parallel execution
  - some Docker limitations
  - > lack of execution on own hardware
- > http://pachyderm.io
  - > lacks github integration
- > https://www.dominodatalab.com
  - > private, closed platform

# Wish-list for Jupyter team

- > notebook diff (nbdiff?)
- transparent integration with git (merging?) simplify sharing & showing presentation
  - > PDF generation
  - > sockets.io (supported by reveal.js)
- > support for docker swarm for ipyparallel
- > documentation
  - > remove outdated documentation
  - > overall guide on Jupyter family projects for new practitioners (jupyter, kernels, ipyparallel, jupyterhub, tmpnb, nbconvert, Hydrogen, ...)
- > simultaneous notebook editing
  - > keep notebook state to server
- Make JupyterHub a bit more extensible
  - > add attributes to UserObject without modifying code of JupyterHub (by inheritance?)

# Thank you!

# Contacts

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