

# A (BRIEF) TOUR OF JENKINS

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# WHO IS JENKINS?



**Jenkins** enables automated 'jobs' run via 'triggers' configured via user-interface.

# WHY USE JENKINS? WHY NOT GITHUB ACTIONS/GITLAB CI/CD?

- Jenkins runs behind the VPN.

**NOTE: On-Premises GitLab could run behind the VPN**

# WHO IS USING JENKINS?

- Dev-Docs
- Pyregence (Dev + Prod + GeoServers)
- CEO (Dev + Prod)
- COMIMO (Dev + Prod)
- Behave (Prod)

# WHAT DOES JENKINS DO?

- Performs automated deployments.

# WHAT COULD JENKINS DO?

- Run tests (prior to deployment).
- Perform DB migrations
- Provision resources (e.g. servers, cloud buckets, etc.).
- Build UberJARs.
- Compile CLJS/JS artifacts.
- Send artifacts to a CDN.
- Make regular backups of databases/files.

# JENKINS TERMINOLOGY

Term

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Definition

Agent

typically a machine, or container, which connects to a Jenkins controller and executes tasks when directed by the controller.

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Controller

The central, coordinating process which stores configuration, loads plugins, and renders the various user interfaces for Jenkins.

Job  
(Project)

A user-configured description of work which Jenkins should perform, such as building a piece of software, etc.

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Trigger

A criteria for triggering a new Pipeline run or job.



Upstream

A configured Pipeline or job which triggers a separate Pipeline or Job as part of its execution.

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Downstream

A configured Pipeline or job which is triggered as part of the execution of a separate Pipeline or Job.

**Build** Result of a single execution of a job

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**Artifact** An immutable file generated during a Build or Pipeline run which is archived onto the Jenkins Controller for later retrieval by users.

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**Fingerprint** A hash considered globally unique to track the usage of an Artifact or other entity across multiple Pipelines or jobs.

# HOW TO CREATE AN AUTO-DEPLOY JENKINS JOB

# CREATE & UPLOAD DEPLOY KEY

- Create it `ssh-keygen . . .`
- Add public key to Github/Gitlab
- Add public key to `sig-app` user's Authorized Keys file (`/home/sig-app/.ssh/authorized_keys`)
- Add private key to Jenkins

# ENABLE SYSTEMD VIA TRIANGULUM

- See [github.com/sig-gis/triangulum](https://github.com/sig-gis/triangulum)

```
clojure -M:systemd enable -r <REPO> -u <USER>
```

## **ADD THE BABASHKA TASKS (BB.EDN)**

- See [Dev-Docs Operations/Tools](#)

# ADD THE AUTO-DEPLOY JENKINS JOB

- Use Pyregence Dev as a template
- Replace:
  - Repository info
  - Branch to poll
  - SSH key
- Modify the Build Script:
  - Directory
  - VM IP Address

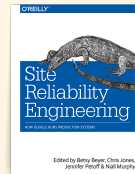
**WHAT'S NEXT?**



## **CRON-ABILITY ON EVERY VM**

- Avoid storing cron-jobs on each VM. Let Jenkins handle it.

# ELIMINATE TOIL



- "If a human operator needs to touch your system during normal operations, you have a bug."
- Ask yourself: what **toil** can be eliminated?

## REGULAR, IRREGULAR JOBS

- Tasks that are regular, but require a previous **context** to perform that job effectively that is quickly forgotten.

# Q & A

