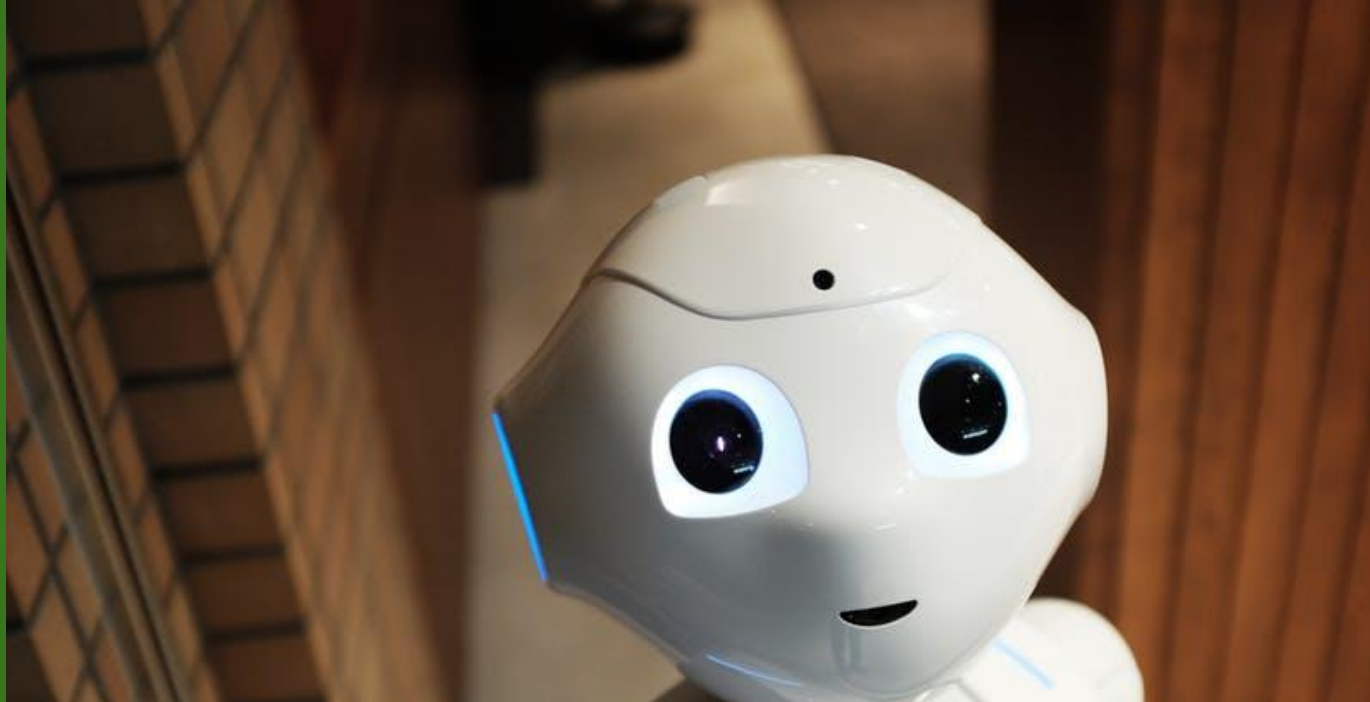




Introduction to automation

Philippe COLLET, Mathias COUSTÉ
06.02.2020

1



What is automation?

A little history

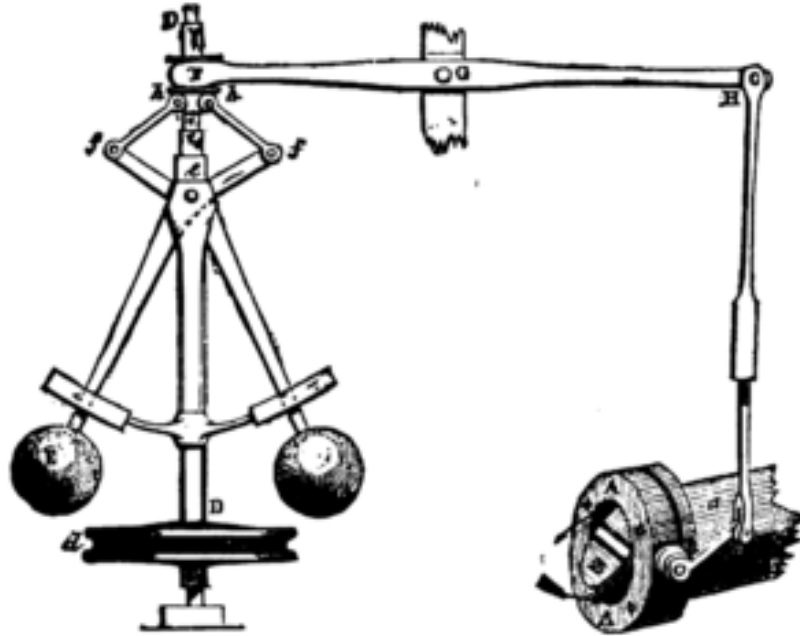


FIG. 4.—Governor and Throttle-Valve.

James Watt - 1788

What can we automate?

How to know if something should be automated ?

- Is it done by a human?
- Is it expensive?
- Is it recurrent?



What about computer sciences?



- If something is hard to do, do it often.
- Our job is to automate things for others but we sometimes forget to do it for ourselves.
- With good automation a developer will spend more time delivering value.

2



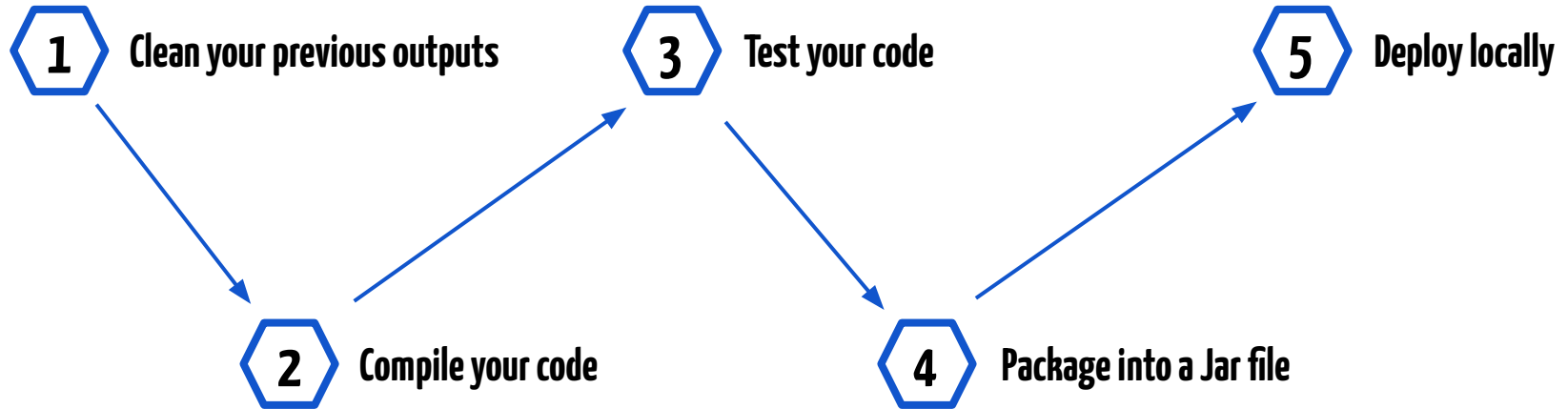
Automation you already know

Coding = Automating

```
private static void setupFolder(AppConfig config, TeamPool pool) {  
    // Create pool folder  
    File poolFolder = FileUtils.getFile(config.getWorkspaceFolder(), POOL_FOLDER_NAME_PREFIX + pool.getId());  
    if (!poolFolder.exists()) {  
        poolFolder.mkdir();  
    }  
  
    pool.setPoolFolder(poolFolder);  
  
    // Create teams config file  
    File teamsConfig = FileUtils.getFile(poolFolder, POOL_TEAMCONFIG_FILENAME);  
    try {  
        Files.writeString(Paths.get(teamsConfig.toURI()), pool.toConfigFile(), StandardOpenOption.CREATE,  
            StandardOpenOption.APPEND);  
    } catch (IOException e) {  
        e.printStackTrace();  
    }  
    pool.setTeamsConfigFile(teamsConfig);  
}
```

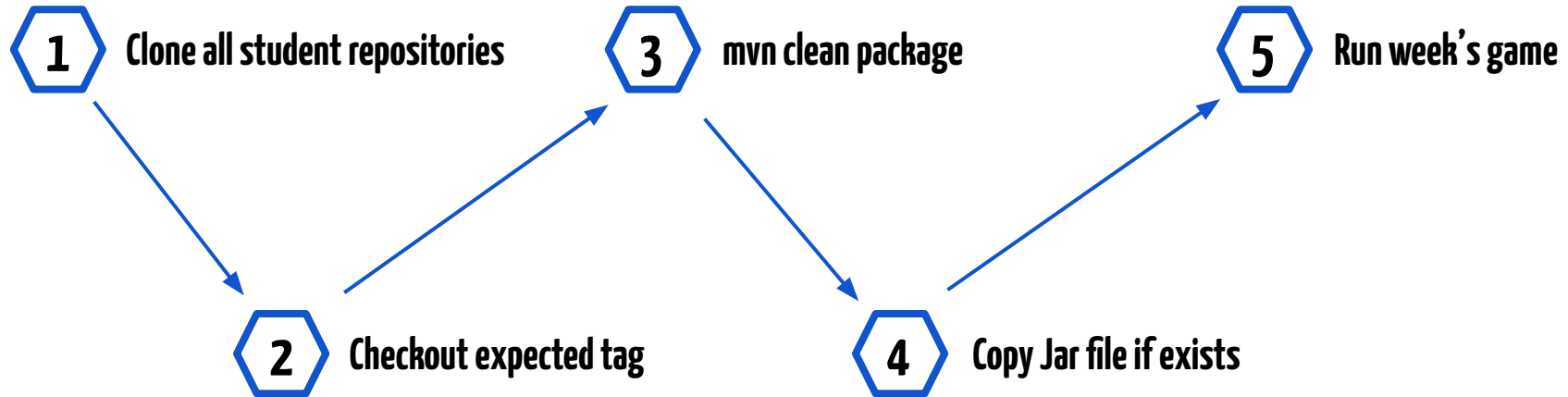
Maven

```
user ~ $ > mvn clean install
```



QGL weekly retrieve script

```
user ~ $ > ./retrieve.SH WEEK2
```

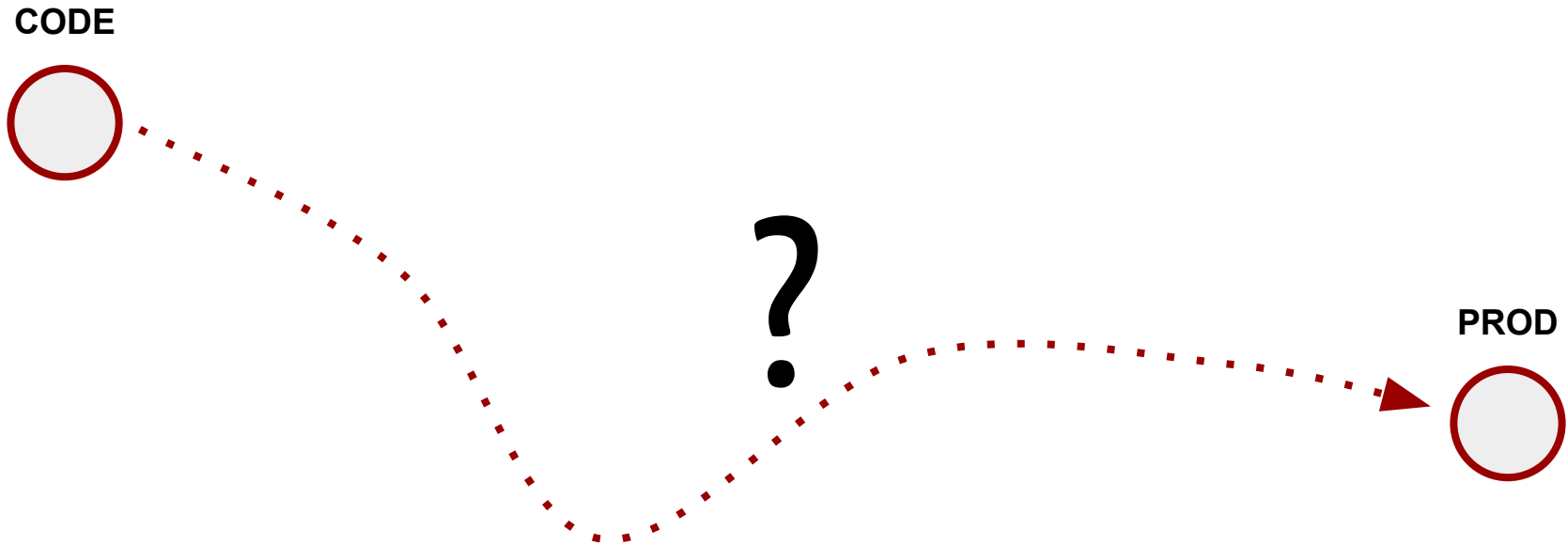


3



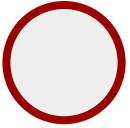
From code to prod !

Build automation



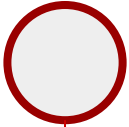
Build automation

CODE

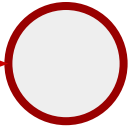


Build automation

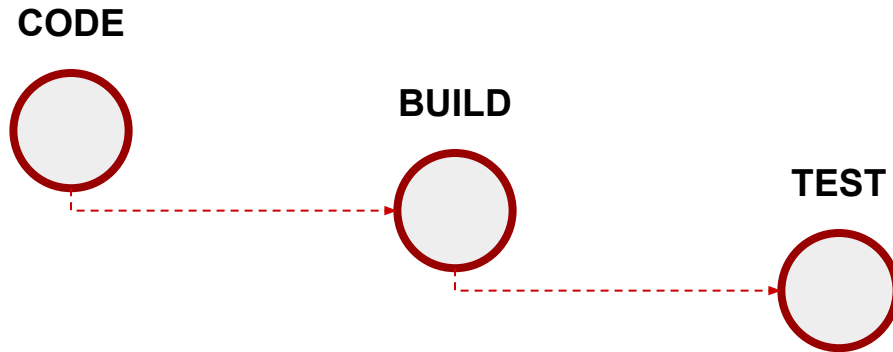
CODE



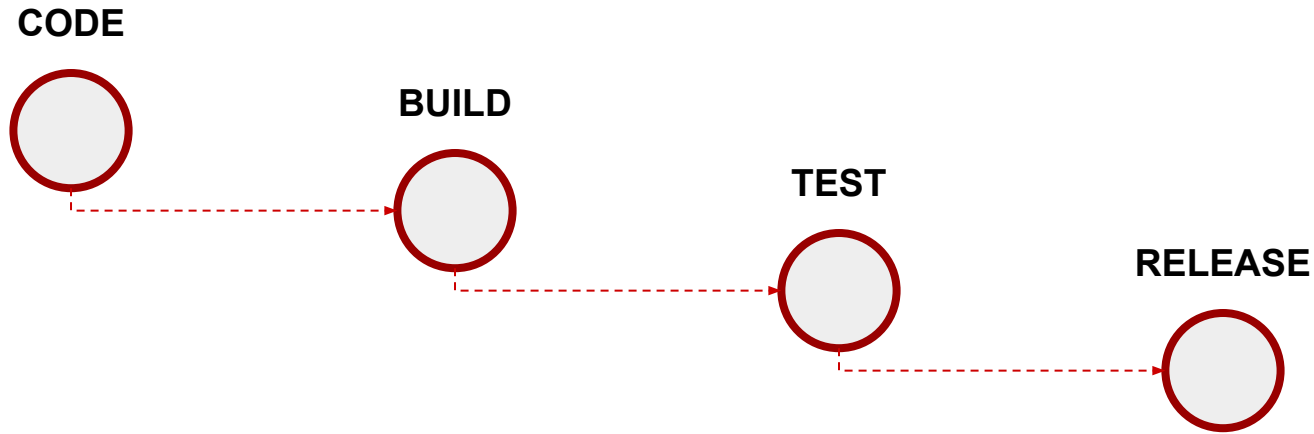
BUILD



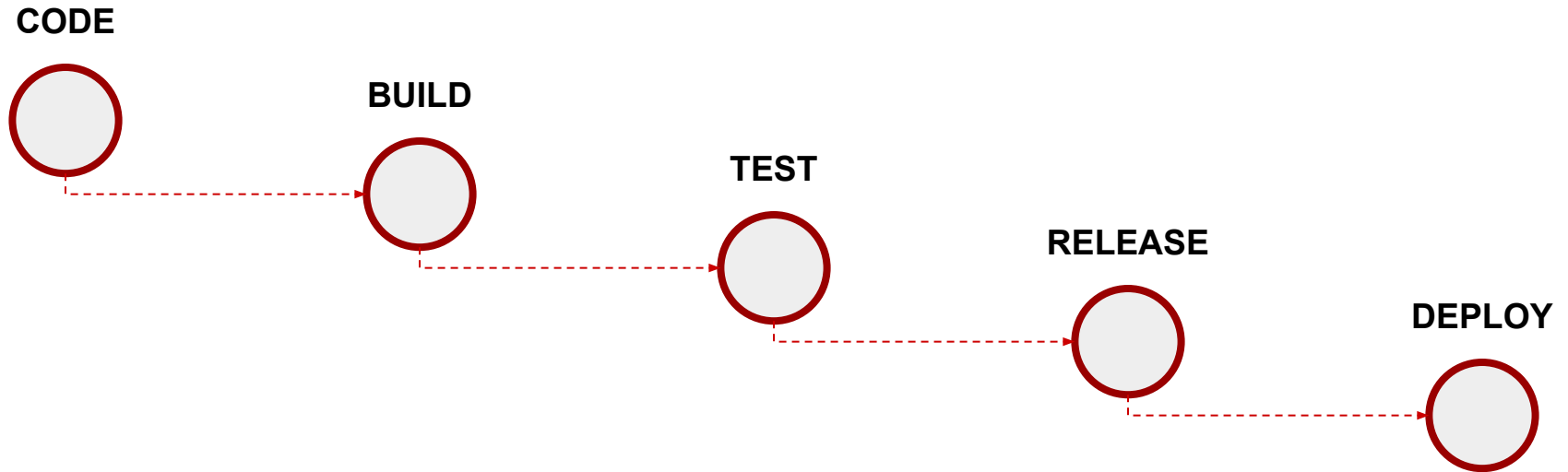
Build automation



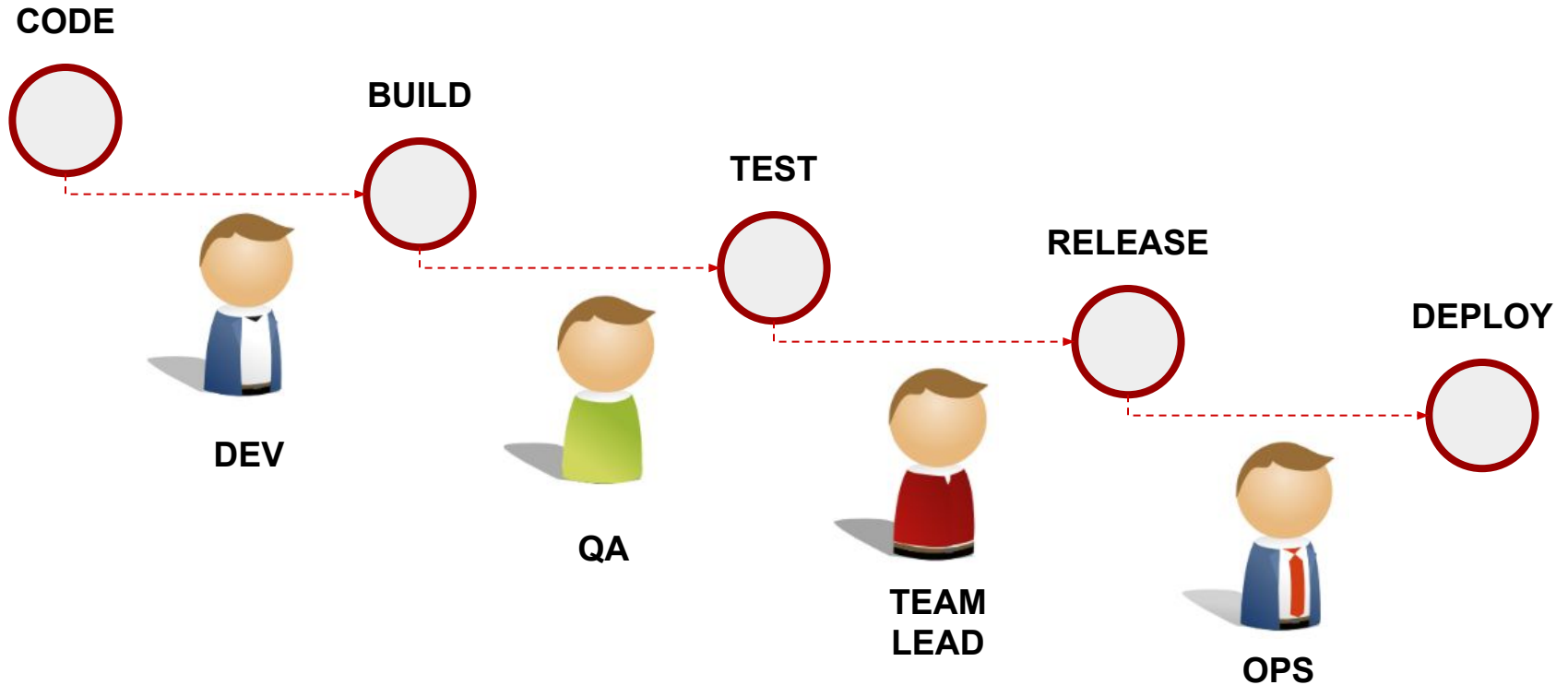
Build automation



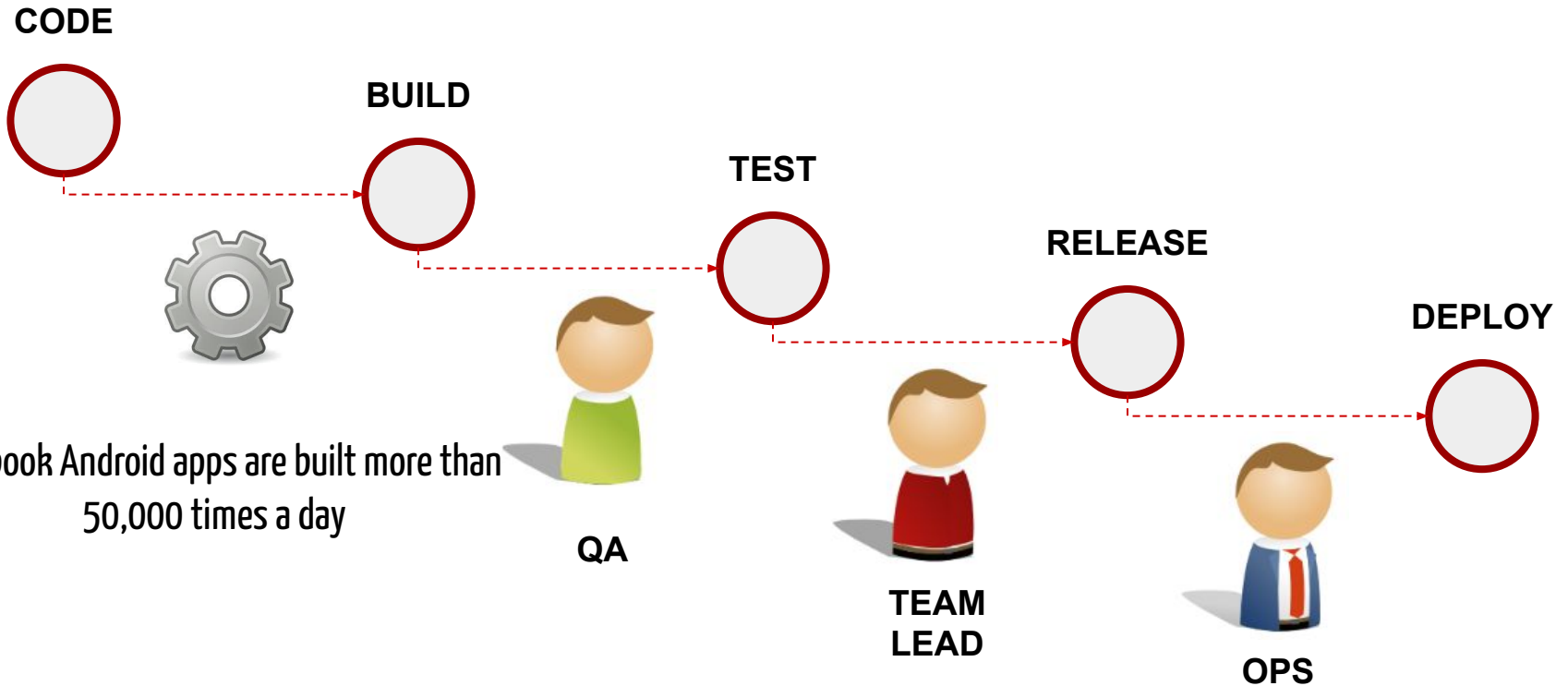
Build automation



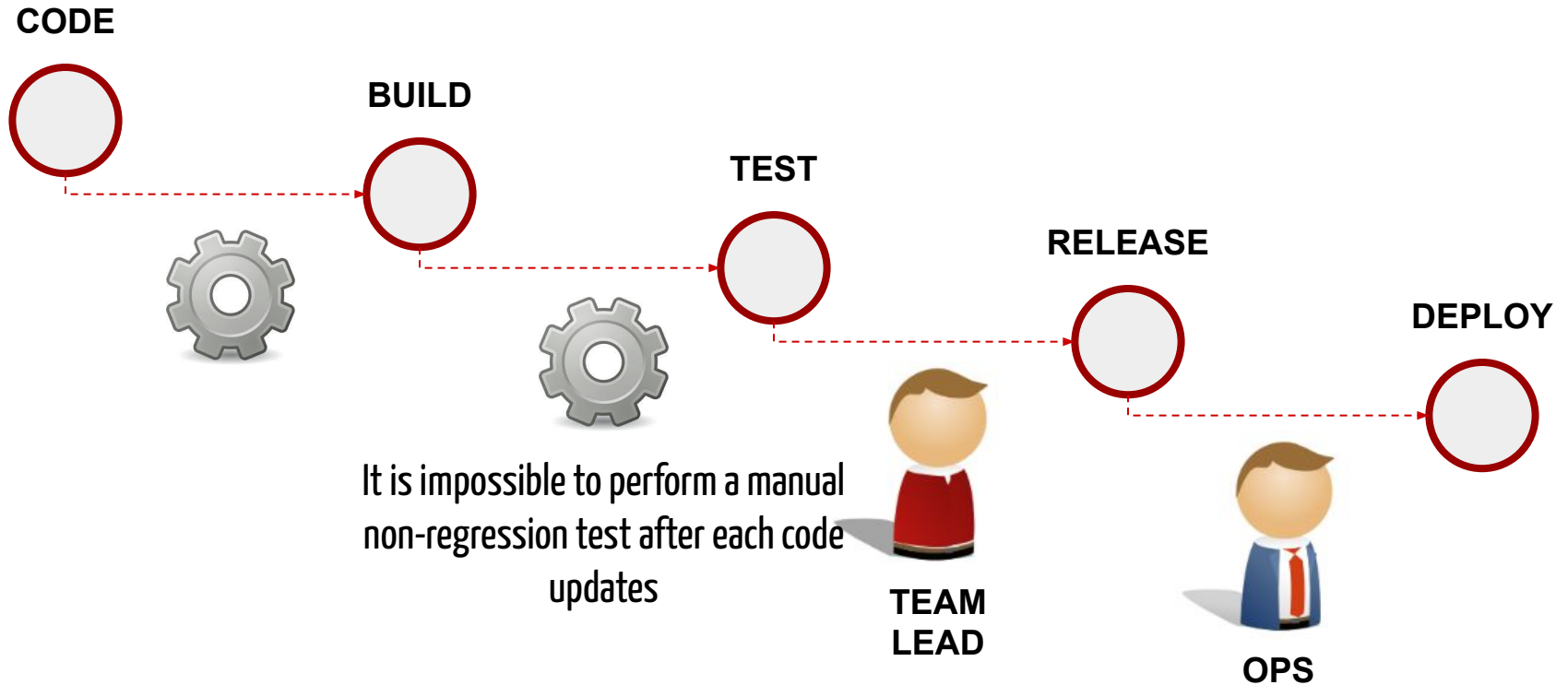
Build automation



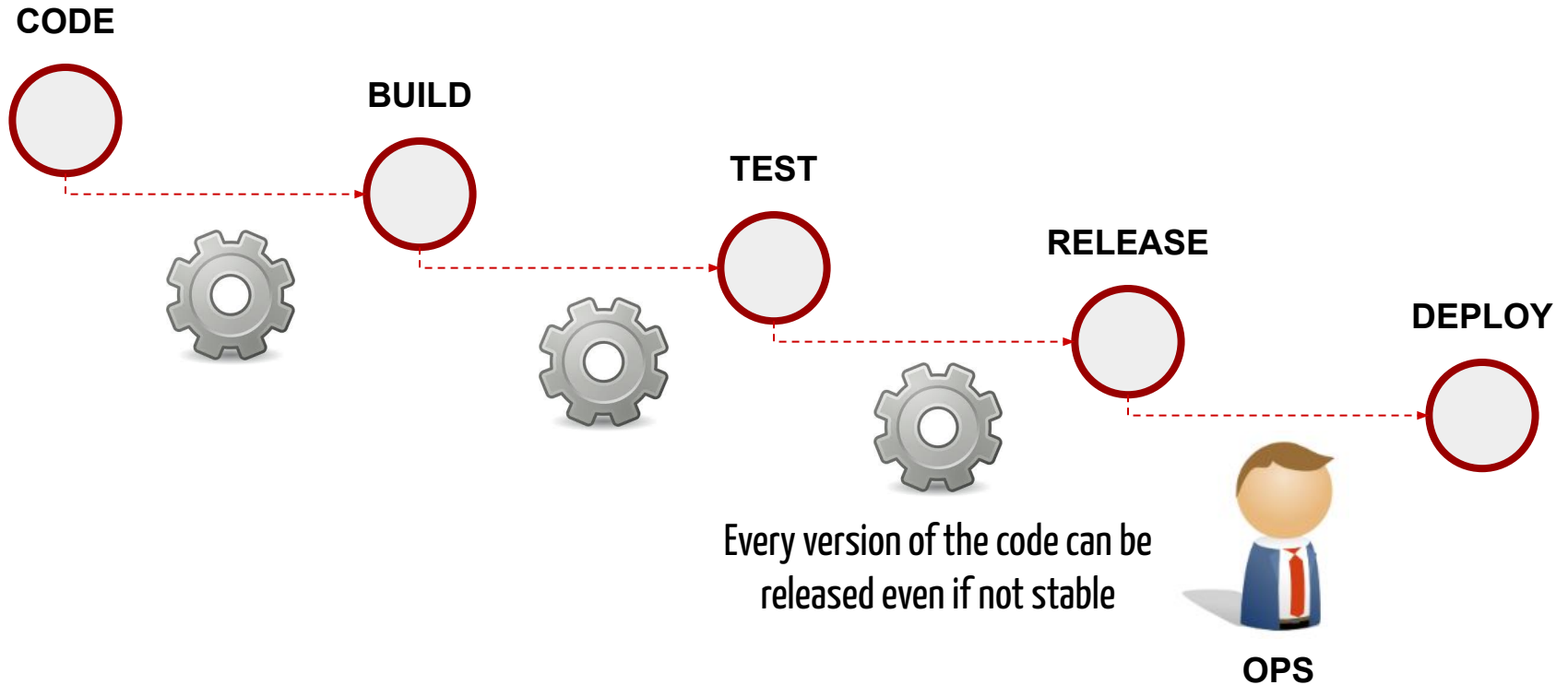
Build automation



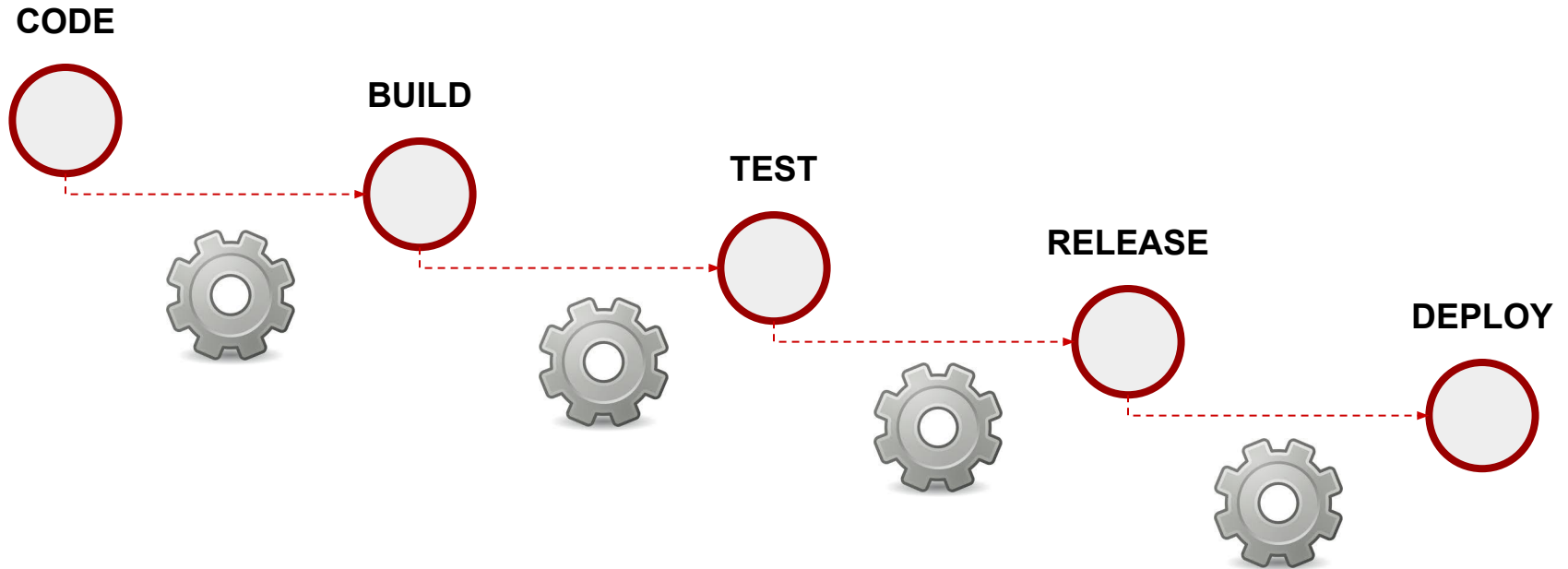
Build automation



Build automation

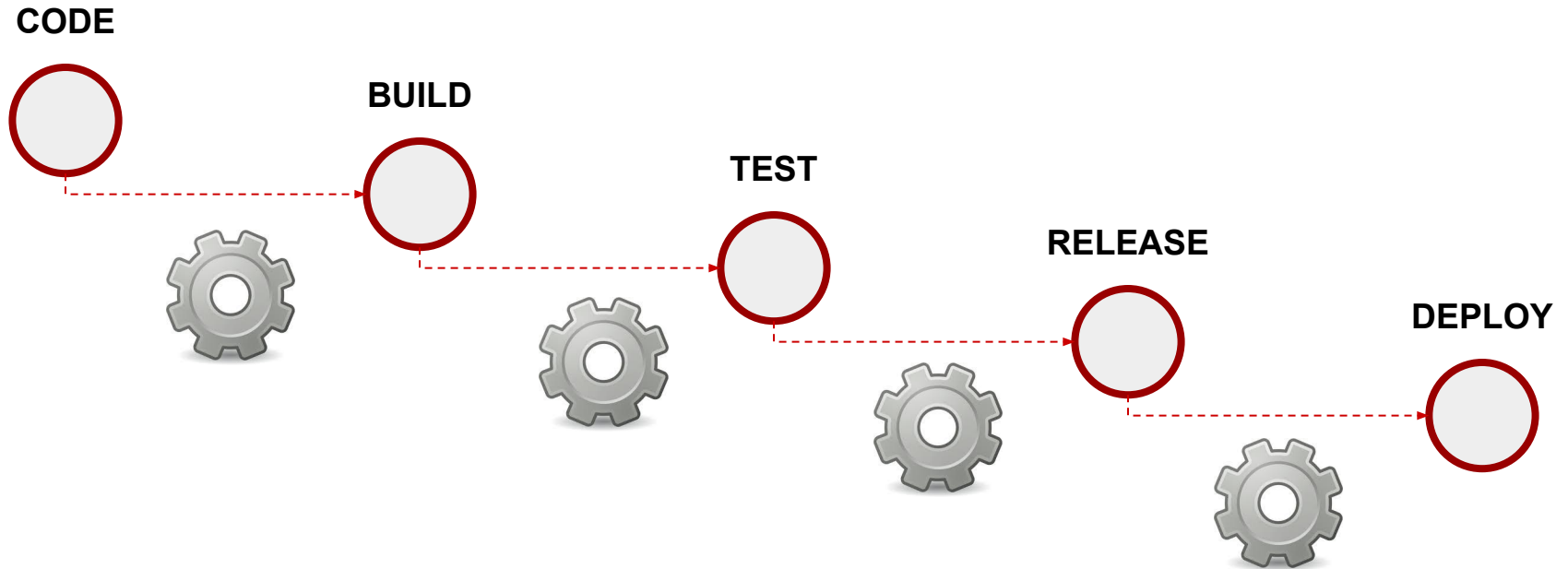


Build automation



Facebook deploy in production multiple times per day
(and you never notice it)

Build automation



Be DevOps



Q&A



Automating your project

Philippe COLLET, Mathias COUSTÉ
06.02.2020

1



Existing tools

Jenkins

 **Jenkins**

2

Mathias Cousté | se déconnecter

Rafraîchissement automatique

-  Nouveau Item
-  Utilisateurs
-  Historique des constructions
-  Relations entre les builds
-  Vérifier les empreintes numériques
-  Administrer Jenkins
-  Mes vues
-  Identifiants
-  New View

 [Ajouter une description](#)

Tous +					
S	M	Nom du projet ↓	Dernier succès	Dernier échec	Dernière durée
		Escape Coding Game	s. o.	s. o.	ND
		leaf	s. o.	s. o.	ND
		MyKitchen	21 j - #4	s. o.	7 mn 28 s 

Icône: [S](#) [M](#) [L](#)

[Légende](#)  [RSS pour tout](#)  [RSS de tous les échecs](#)  [RSS juste pour les dernières compilations](#)

File d'attente des constructions (1) 

leaf » ngleaf 

État du lanceur de compilations 

1 leaf » leaf #20 

2 MyKitchen #5 



Jenkins

Travis CI

Travis CI

Dashboard Changelog Documentation Help

Search all repositories

My Repositories Running (0/0) +

✓ pns-si3-qgl/pns-si3-qgl-reg # 16

Duration: 53 sec
Finished: 3 hours ago

PNS-PS5-1819/baseline
Duration: -

mathiascouste/qgl-template
Duration: -

pns-si3-qgl/pns-si3-qgl-reg
Duration: -

pns-si3-qgl/pns-si3-qgl-reg
Duration: -

pns-si3-qgl/pns-si3-qgl-reg
Duration: -

pns-si3-qgl/pns-si3-qgl-reg

🔒 pns-si3-qgl / pns-si3-qgl-regatta-1920-mugiwara-crew

build unknown

Current Branches Build History Pull Requests

More options

✓ feature/create-regatta-manager #12 Begin to create managers structure and add

Commit 55a3c4a
Compare 55a3c4a60008
Branch feature/create-regatta-manager
pauldevelopmentfr

#16 passed
Ran for 53 sec
3 hours ago

Restart build
Debug build

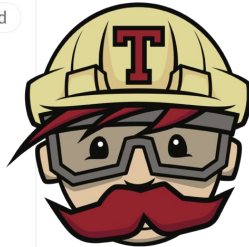
JDK: openjdk11 Java
AMD64

Job log View config

Worker information
Build system information

worker_info system_info docker_info

9.07s 0.01s 2.37s



Travis CI

2



Travis' features

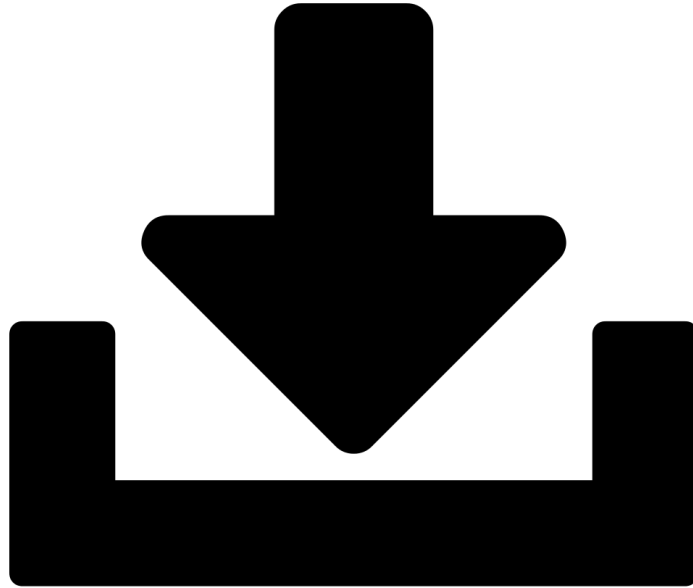
In the cloud



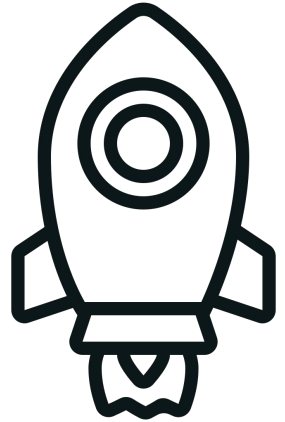
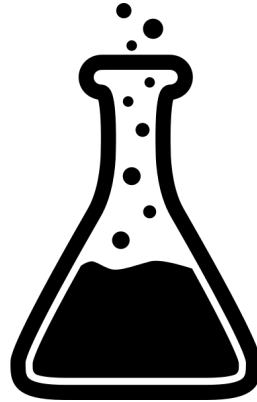
No installation ...

Integration only !


Clone your Git repository





Run some specific tasks






PASS or FAIL

DeathStar3 / symfinder-internal  build **passing**





Current Branches Build History Pull Requests More options

✓ **vamos2020** Decorator detection on name + updated README  #66 passed  Restart build





Commit 66acb98  Ran for 29 min 56 sec
Compare vamos2020  Total time 28 min 52 sec
Tag vamos2020  3 months ago
Johann Mortara


Build jobs View config

Unit tests 10 min 24 sec



✓ # 66.1	AMD64		Symfinder engine unit tests	9 min 13 sec	
✓ # 66.2	AMD64		Visualization unit tests	51 sec	




Integration tests 19 min 11 sec

✓ # 66.3	AMD64		Tests on sample projects	12 min 11 sec	
✓ # 66.4	AMD64		Acceptance tests on a pilot project	6 min 37 sec	

DeathStar3-PFE / symfinder-internal  build **unknown**





Current Branches Build History Pull Requests More options

✗ **develop** Merge remote-tracking branch 'origin/develop' into  #64 failed  Restart build





Commit b6aee1d  Ran for 32 min 26 sec
Compare 1c3f883...b6aee1d  Total time 31 min 32 sec
Branch develop  2 months ago
Nathan Strobbe

Build jobs View config

Unit tests 10 min 30 sec

✓ # 64.1	AMD64		Symfinder engine unit tests	9 min 32 sec	
✓ # 64.2	AMD64		Visualization unit tests	40 sec	

Integration tests 21 min 36 sec

✗ # 64.3	AMD64		Tests on sample projects	16 min 1 sec	
✓ # 64.4	AMD64		Acceptance tests on a pilot project	5 min 19 sec	

3

Integration with other tools

Github

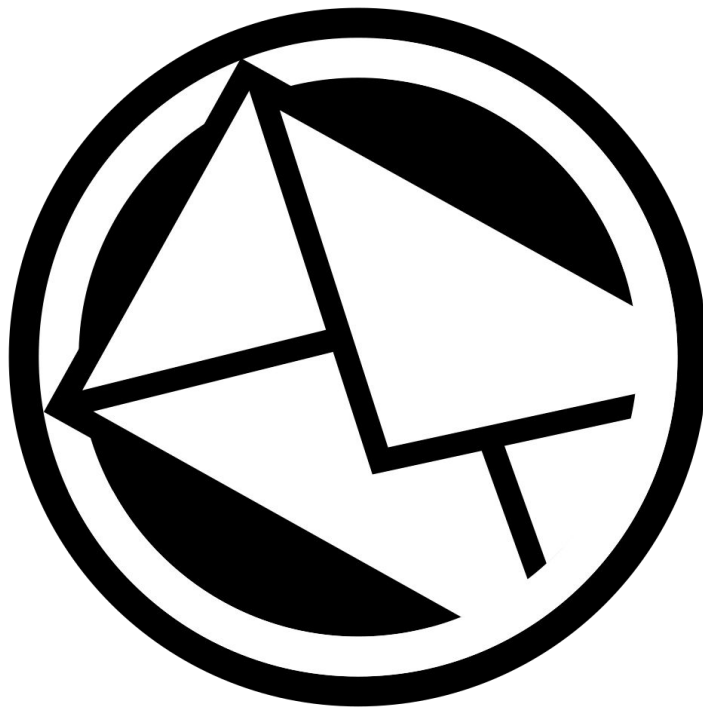


Heroku



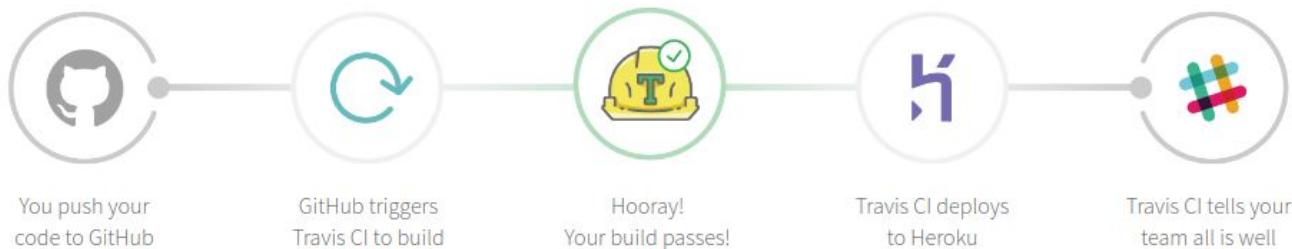
HEROKU

Get an email



Integration chains

Branch build flow



Pull request build flow



4

A close-up photograph of a dartboard. The board has a wooden face with black and white segments. A red and white checkered dart is stuck in the center bullseye. The bullseye is a small red circle in the center of a larger blue circle. The number 15 is visible on the right side of the board.

What do we expect?

Setup 1

1. Signup with your github account
Authorize application within github
2. Add a repository
3. Configure the .travis.yml file
<https://docs.travis-ci.com/user/languages/java/>


Minimal example:

```
.travis.yml
language: java
```

YAML

-
4. Tutorial: <https://docs.travis-ci.com/user/tutorial/>

Setup 2

 build unknown

Current Branches Build History Pull Requests Settings More options

General

☒ Build pushed branches ? ☐ Limit concurrent jobs ?

☒ Build pushed pull requests ?

Auto Cancellation

Auto Cancellation allows you to only run builds for the latest commits in the queue. This setting can be applied to builds for Branch builds and Pull Request builds separately. Builds will only be canceled if they are waiting to run, allowing for any running jobs to finish.

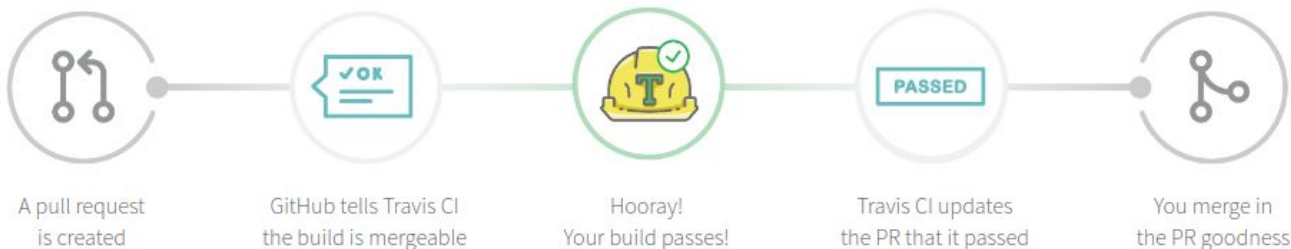
☒ Auto cancel branch builds ☒ Auto cancel pull request builds

Config Import

☐ Allow importing config files from this repository

Increase confidence in your weekly delivery

Pull request build flow



Q&A