

Continuous Integration

IMC, Thailand

February 20, 2018



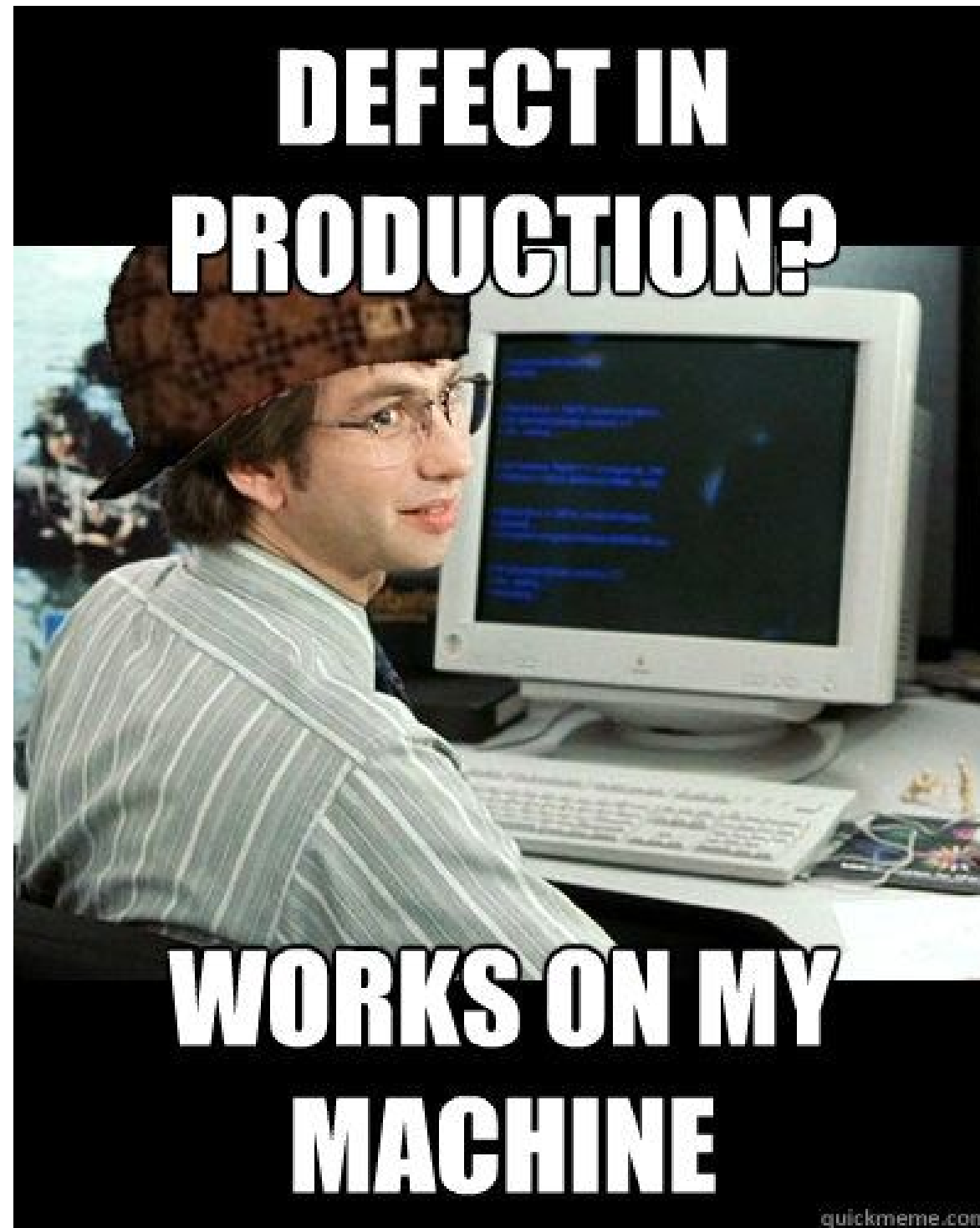
Pain points



What's your pain point?



Works on my machine



Fear to merge

TODAY

WE MERGE THE CODE

memegenerator.net



Merge phase



These are risks!

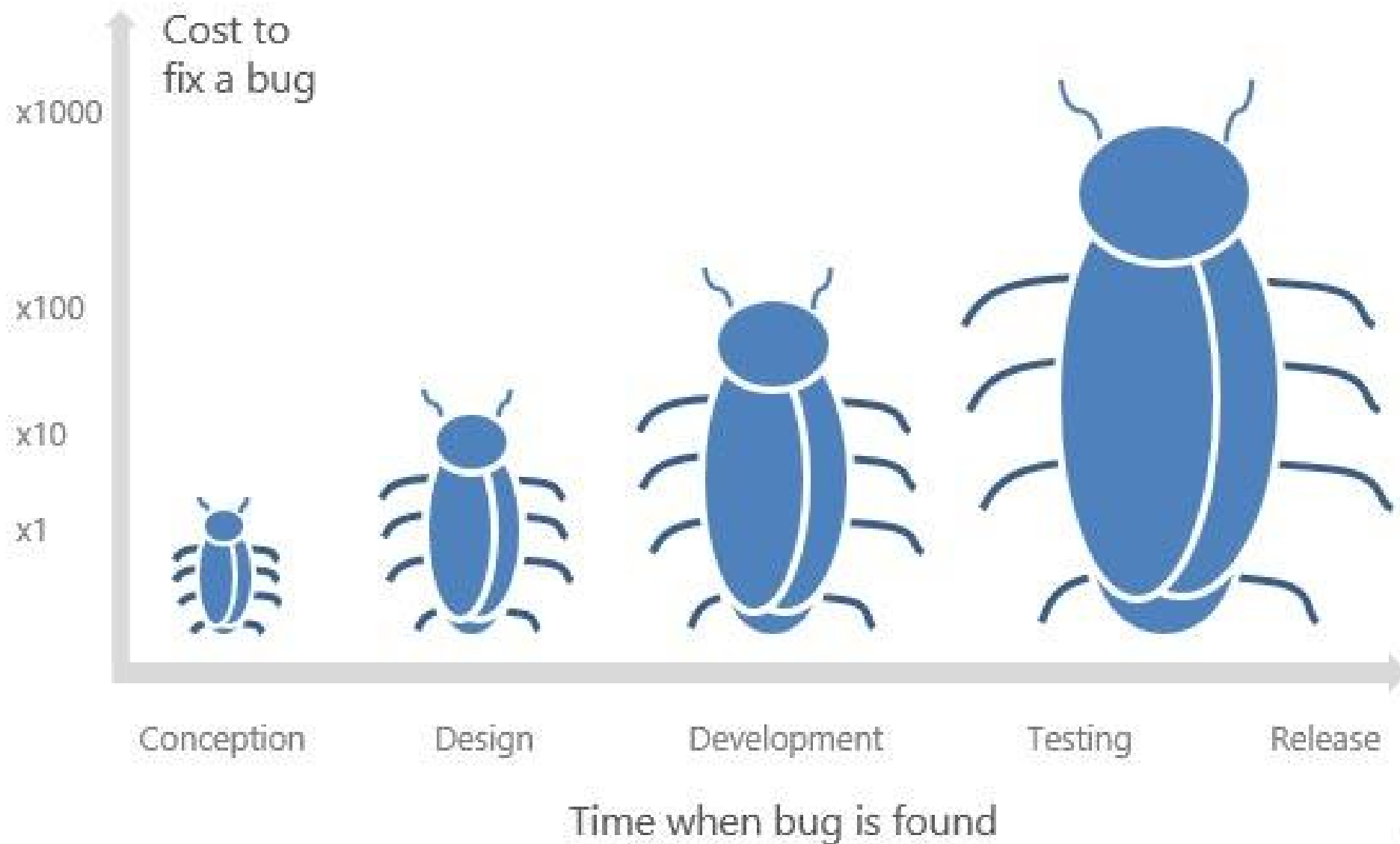


Lack of deployable software

- Fast to pick
- Easy installation
- Accuration



Late discovery of defects



Project visibility



Low quality software

**WORKING
SOFTWARE**



If we can



Small change



Often

QUESTIONNAIRE

Very often ☐

Often ☒

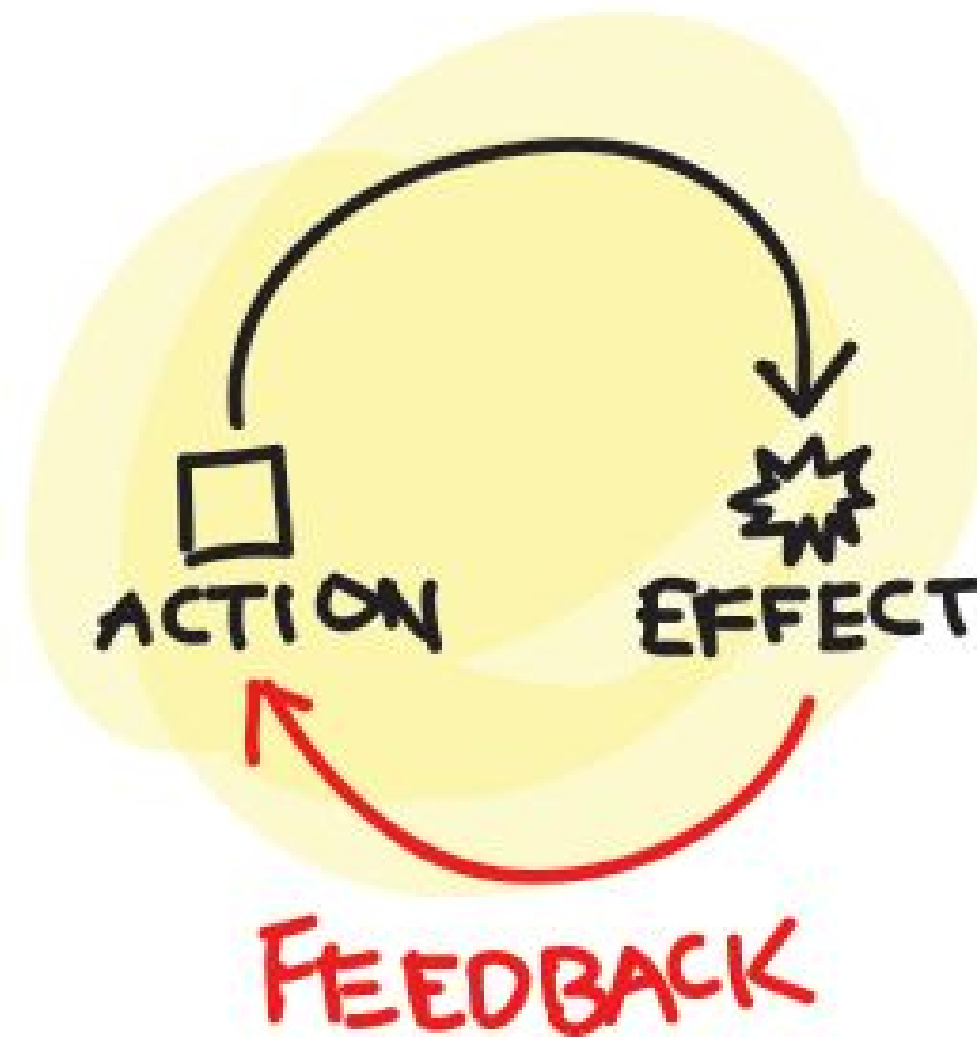
Sometimes ☐

Rarely ☐

☐

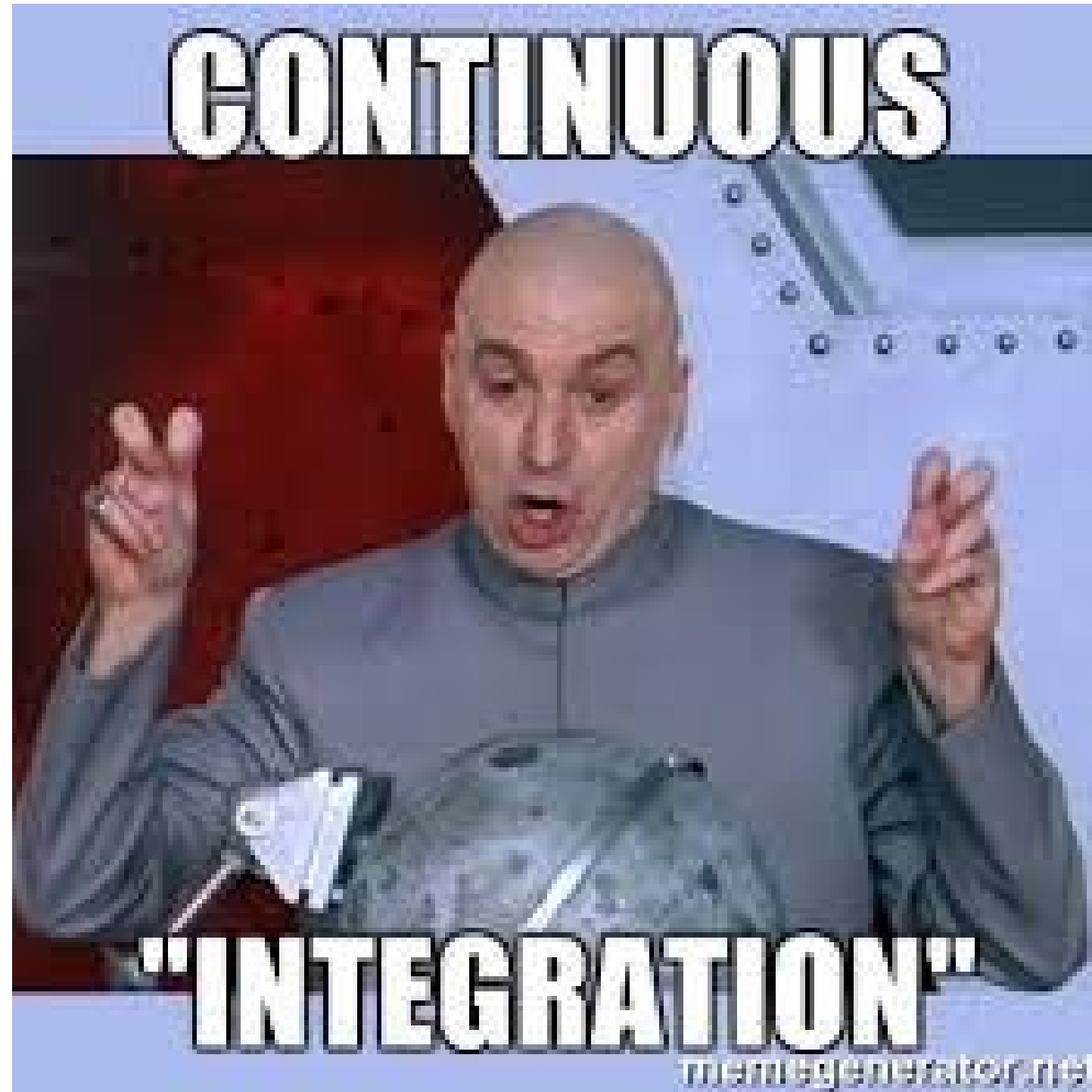


Fast feedback



Reduce risks and improve quality





Continuous Integration



Continuous **Integration**

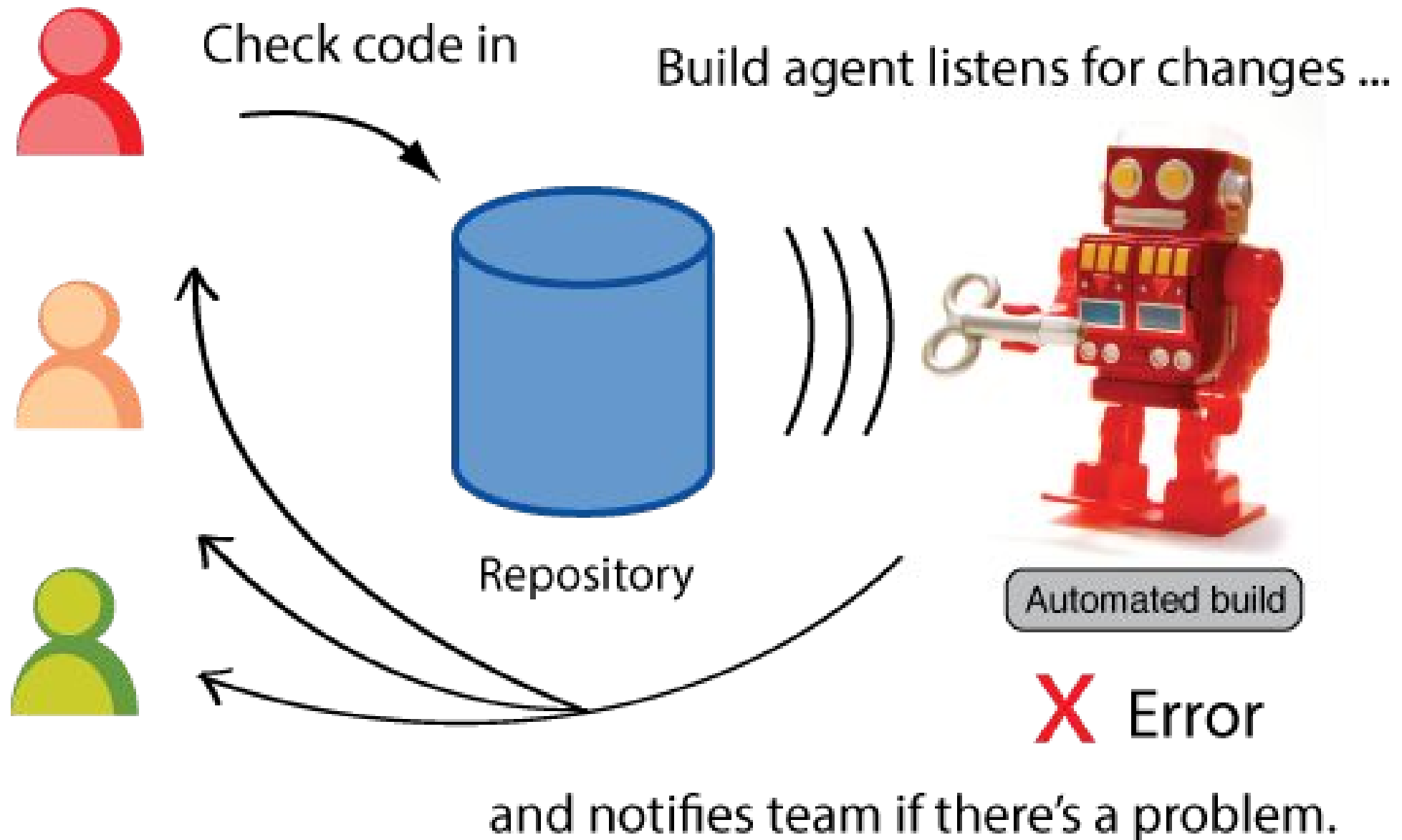


รวม ... กันเรื่อย ๆ อย่างต่อเนื่อง

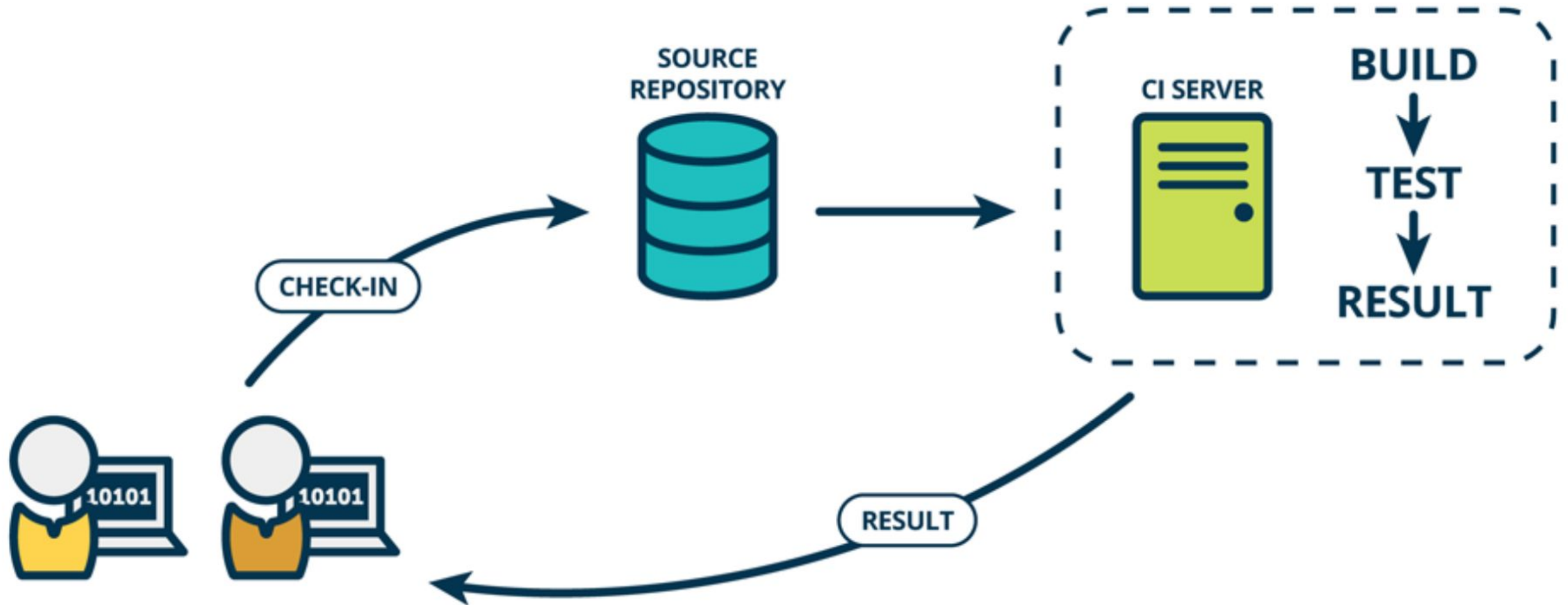


CI

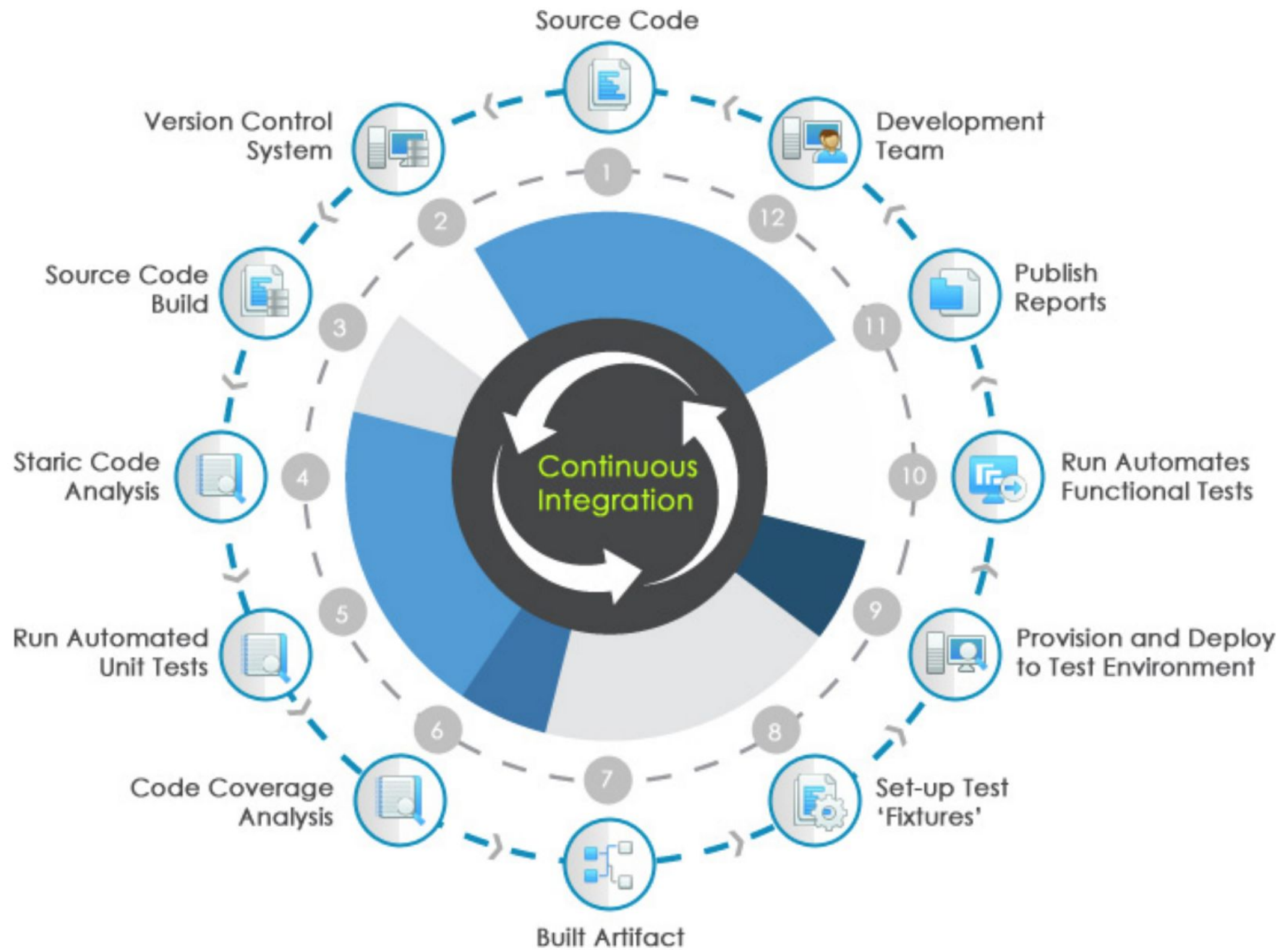
Developers



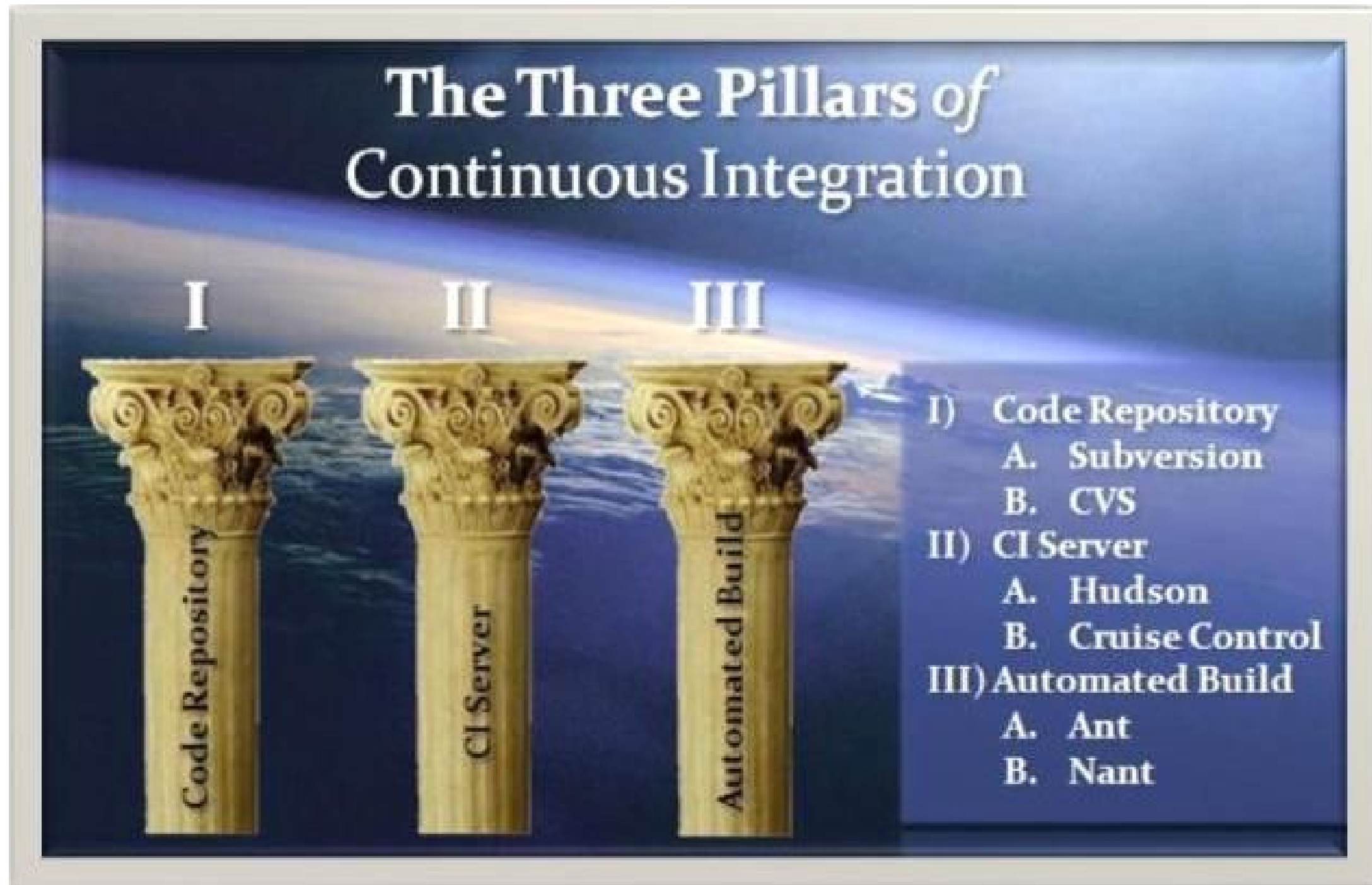
CI



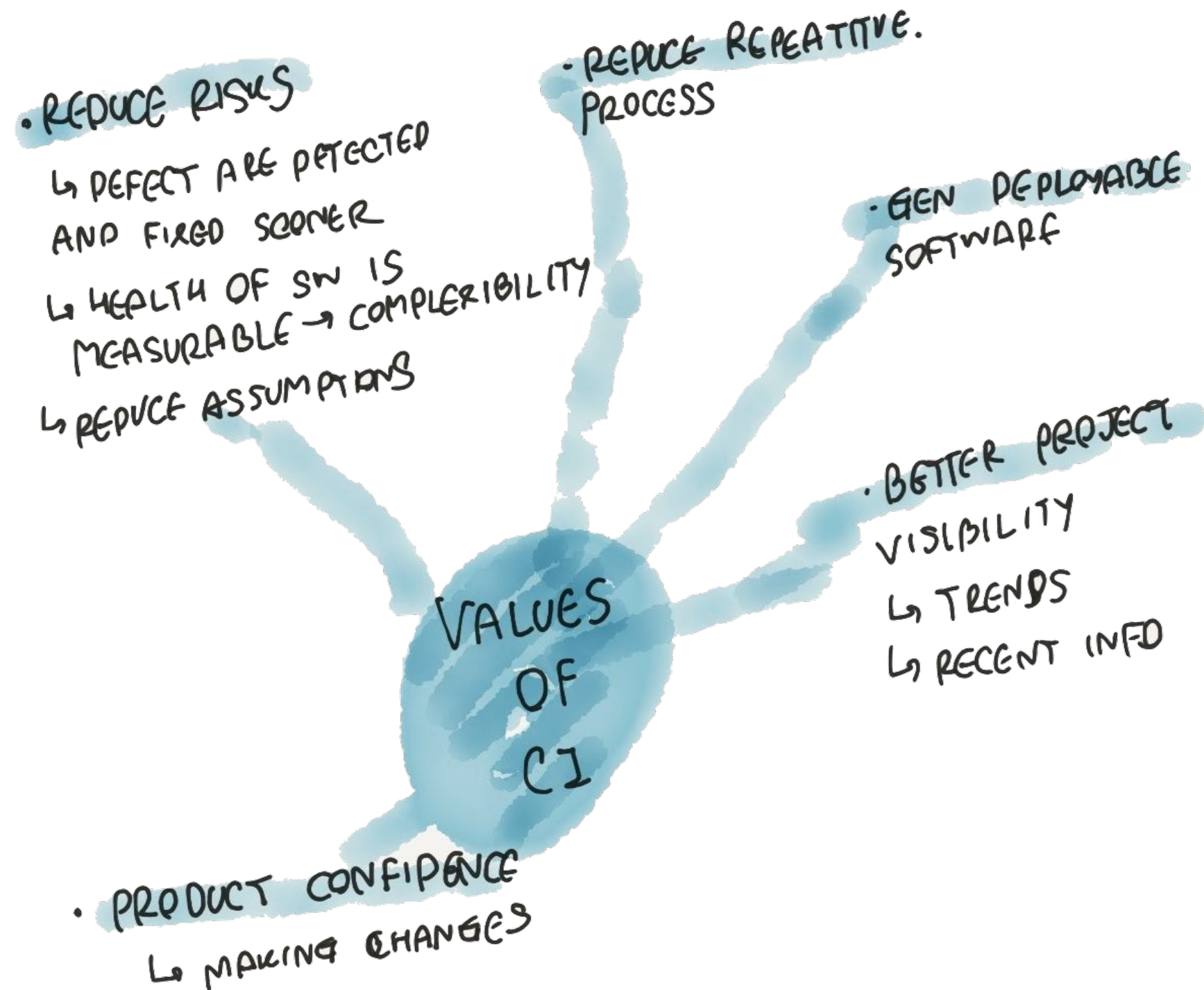
CI



3 Pillars of CI



Values of CI



Practices



Continuous Integration is a Software development **practices**



What's practice



1. Single source of repository



Repository = code + build
script + config files + data
manipulate



Build script = Convert manual step to automate

1. CLEAN
2. COMPILE
3. INIT DATA
4. RUN TEST
5. RUN INSPECTION
6. DEPLOY SOFTWARE



2. Commit discipline

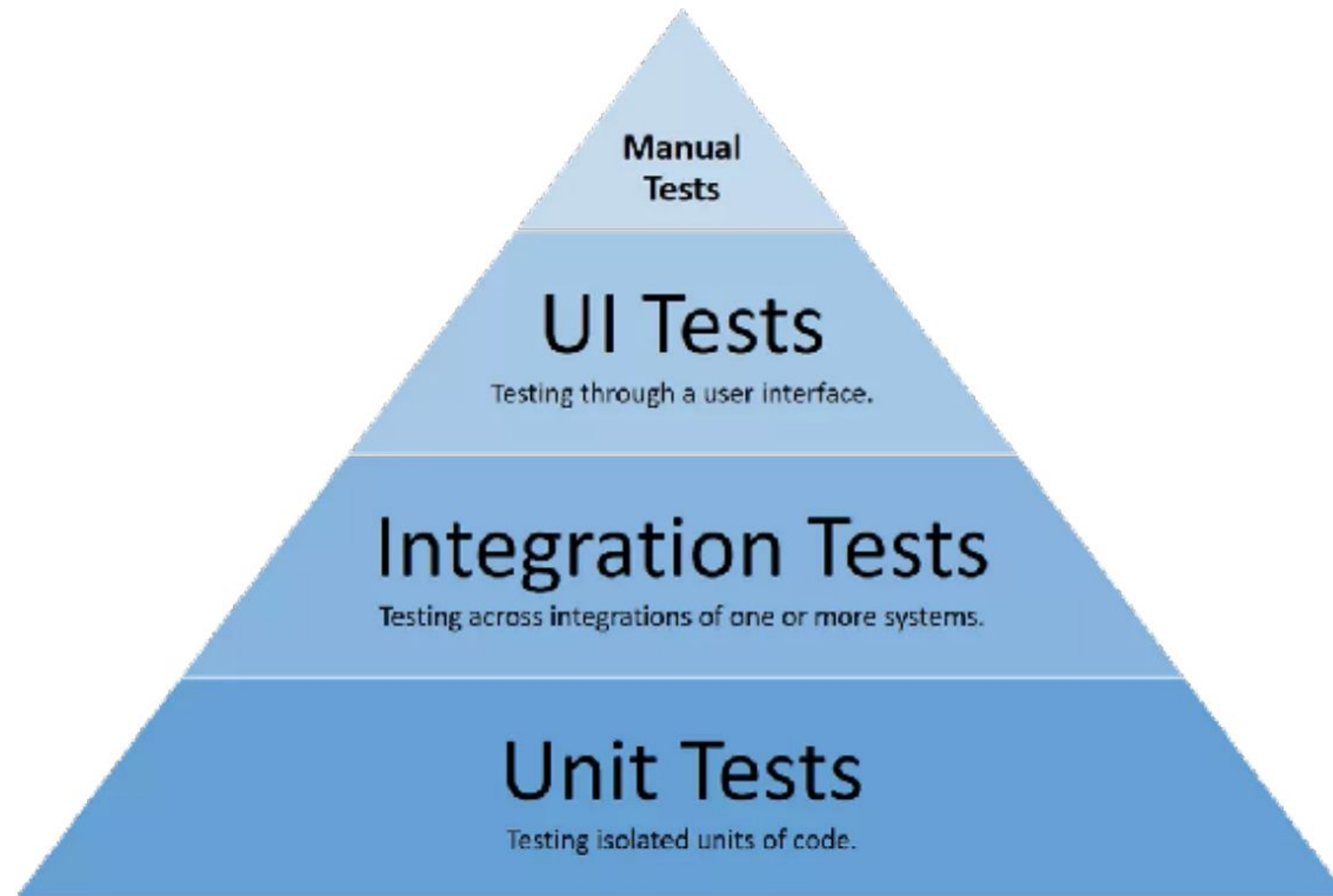




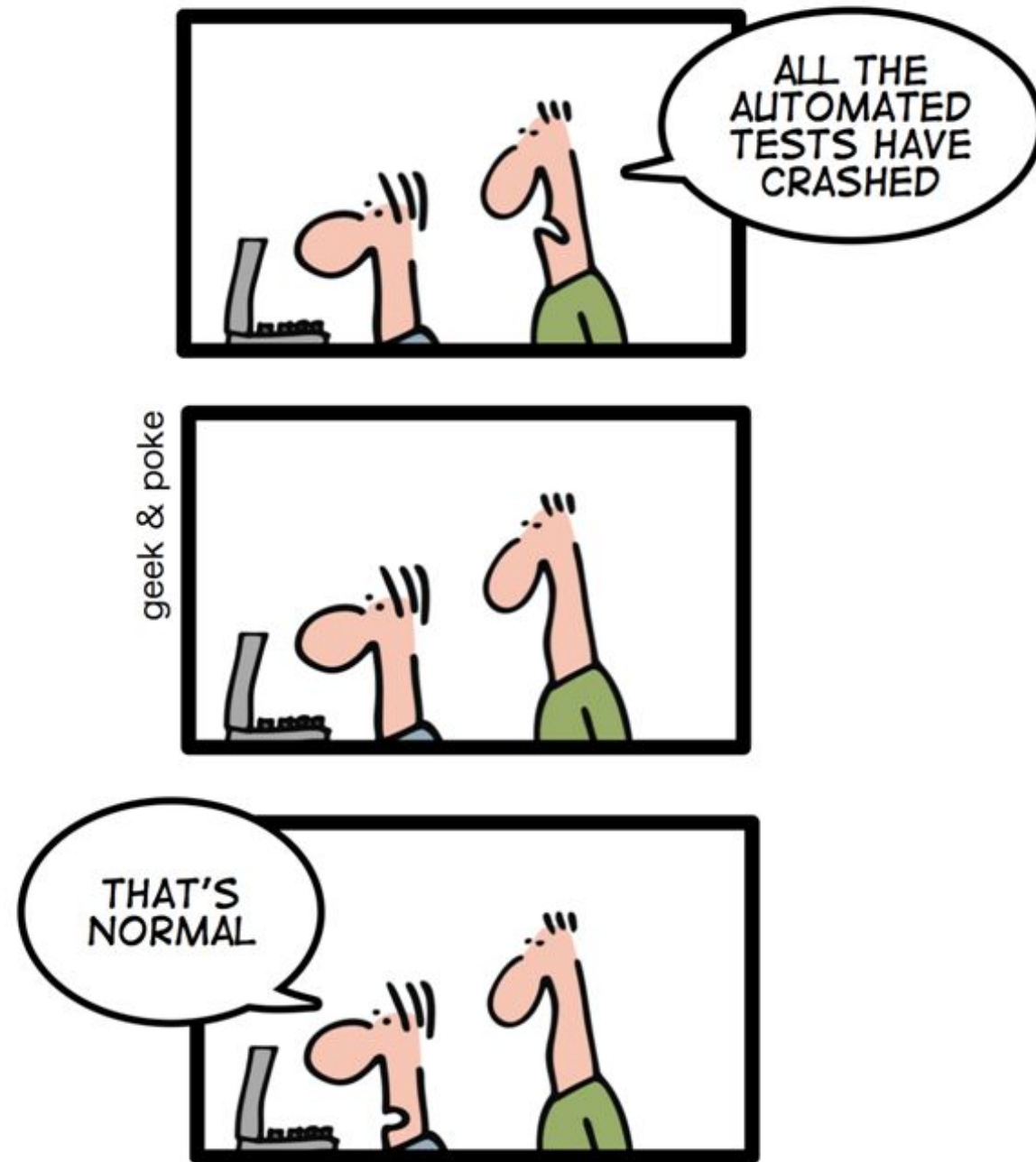
DANGER

**UNTESTED
SOFTWARE**

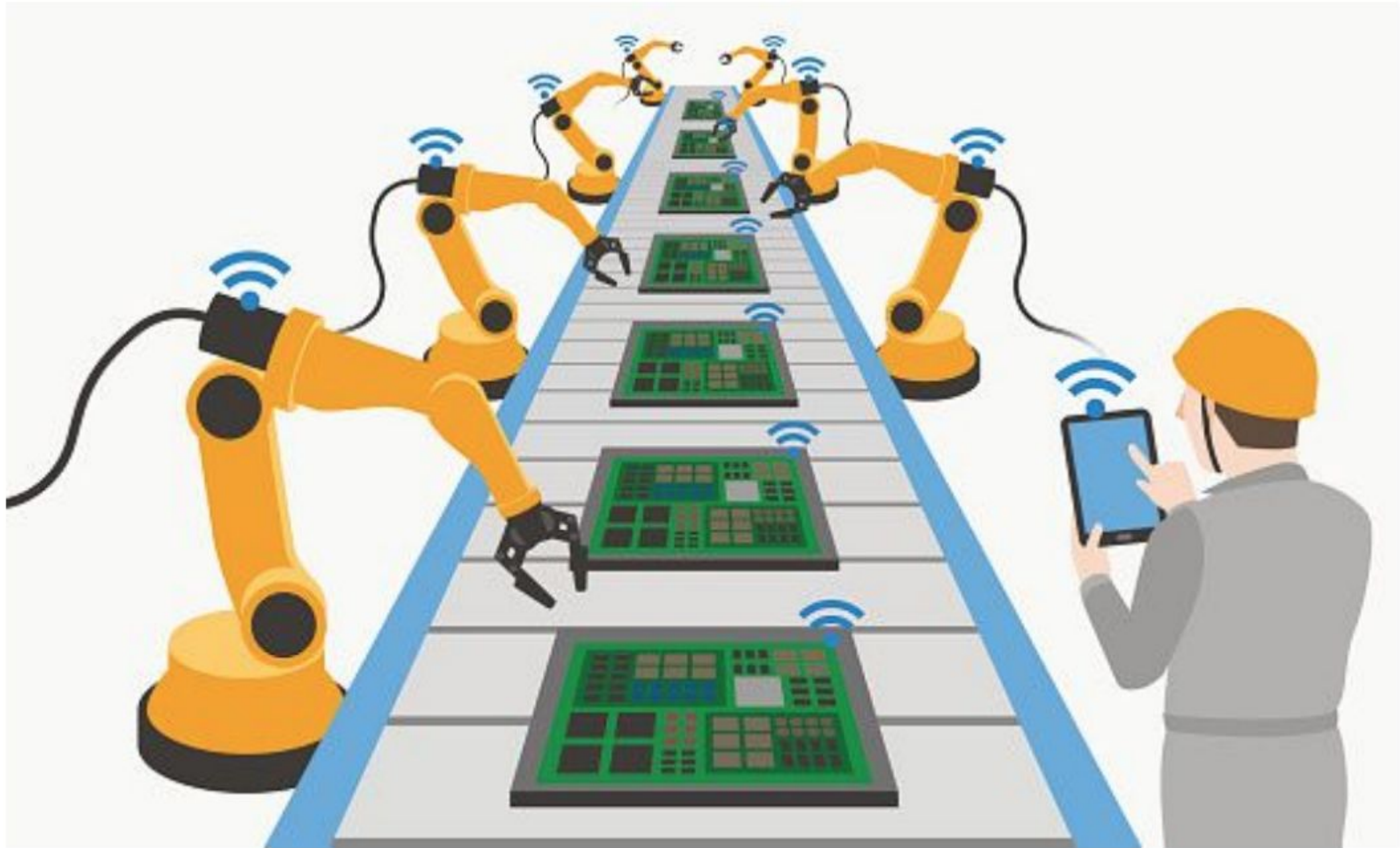
3. Self-testing



4. Fix broken immediately



5. Move to automation



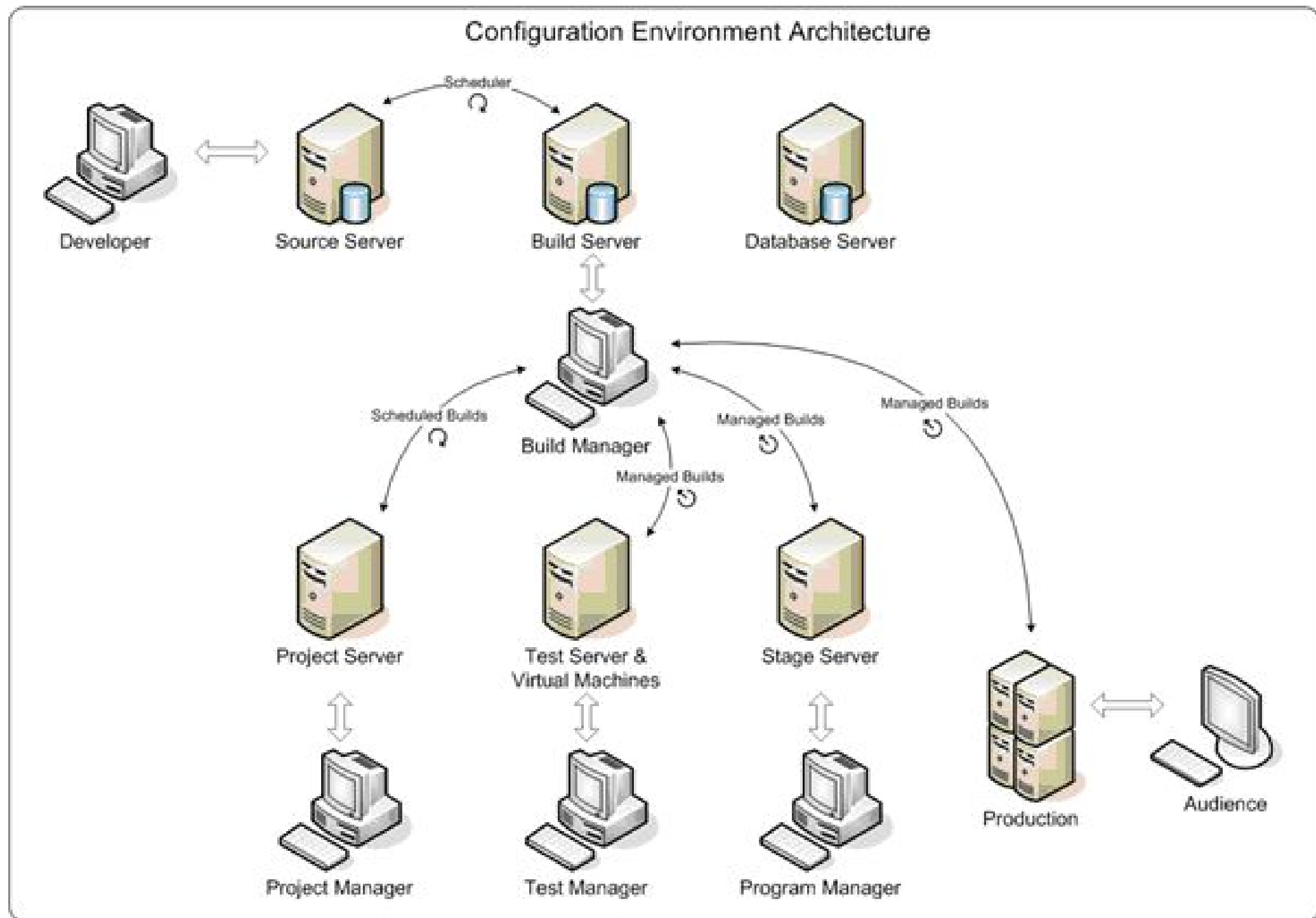
The Twelve-Factor app



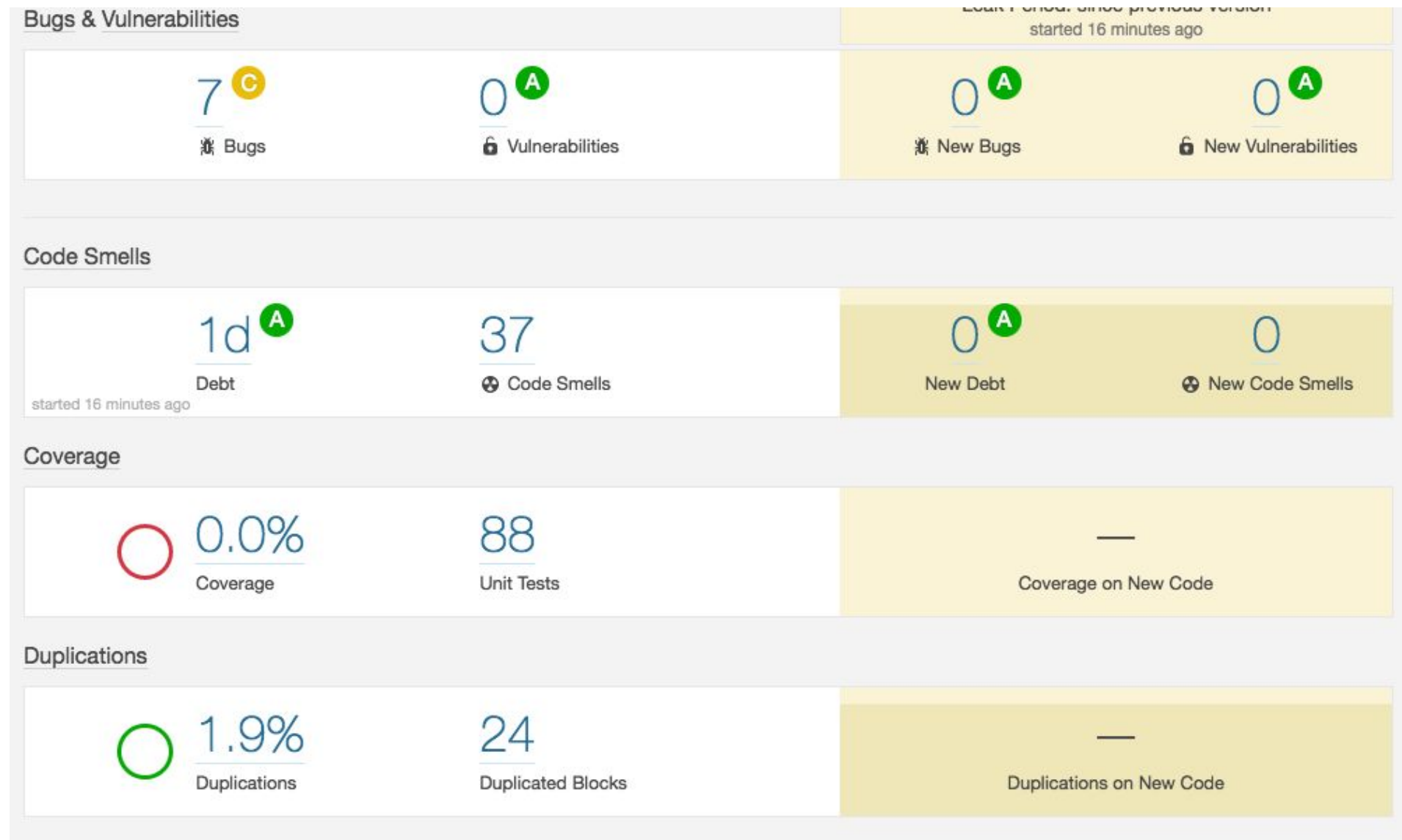
THE TWELVE-FACTOR APP

<https://12factor.net>





6. Inspection





Jenkins



Bamboo



TeamCity



Visual Studio

Team Foundation Server

Hudson



ravis



wercker



circleci





Jenkins



Bamboo

CI is about what people do
not about what tools they use



Visual Studio

Team Foundation Server

Hudson



ravis



wercker

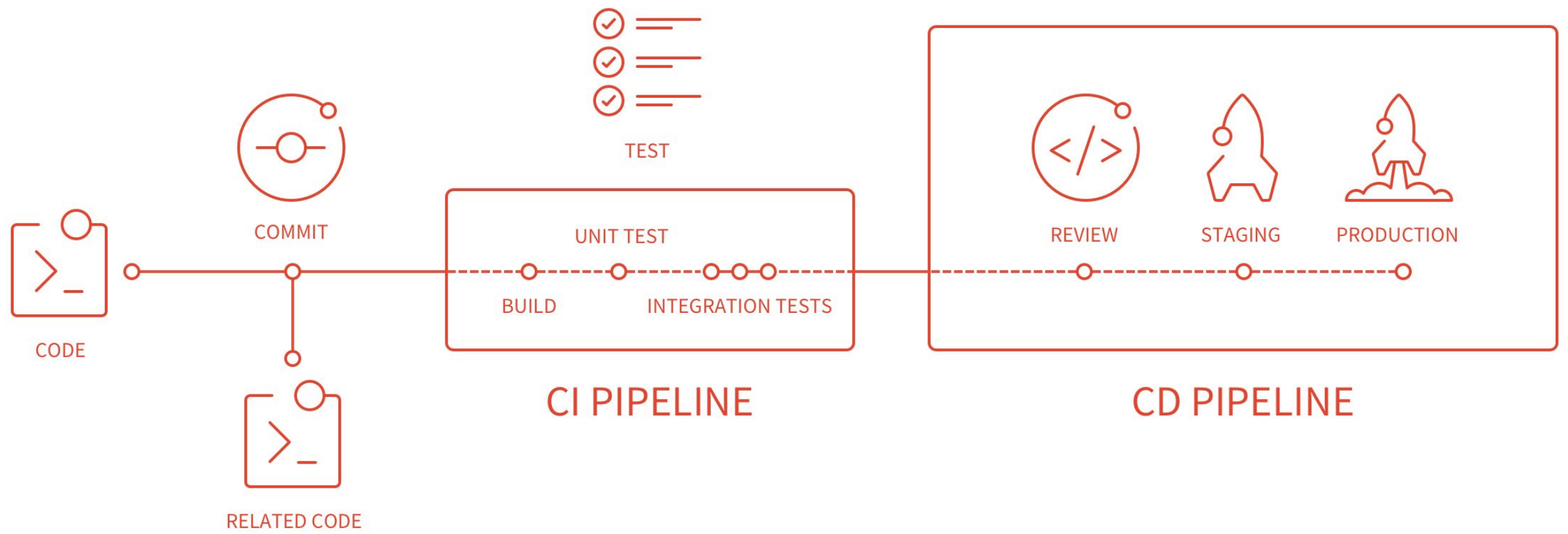


circleci



What's your build pipeline?

Which tasks can be automated?



Who's maintain?



How we start?

1. Identify
2. Build
3. Share
4. Continuous

Continuous Improvement

LET'S MAKE

IT HAPPEN

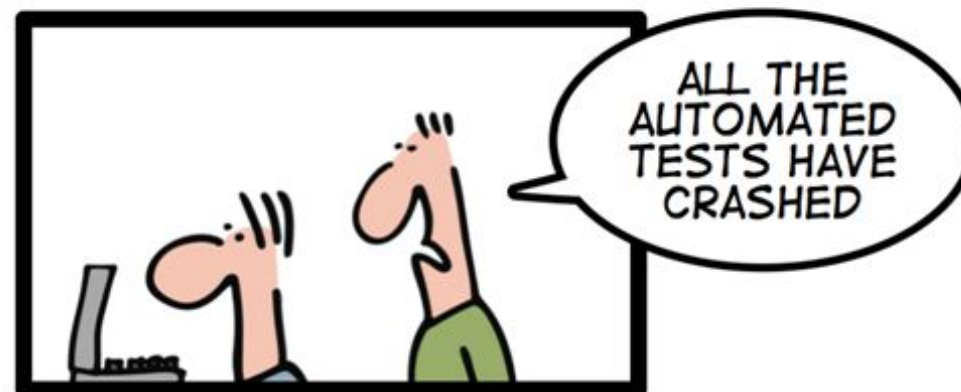
memegen.es



Challenges



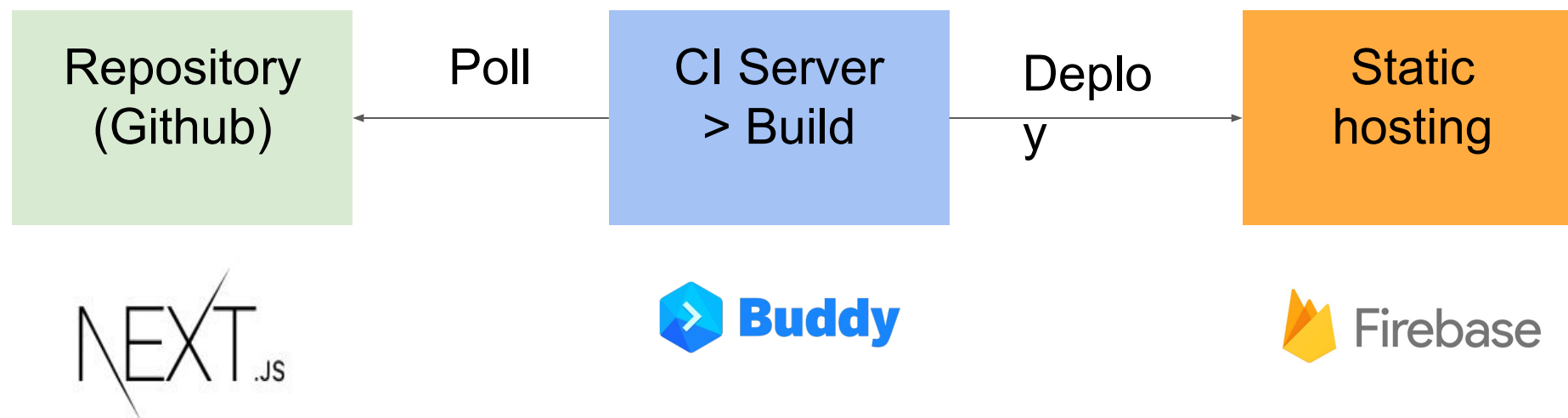









Workshop



Github

 [Features](#) [Business](#) [Explore](#) [Marketplace](#) [Pricing](#) [Sign in](#) or [Sign up](#)

Built for developers

GitHub is a development platform inspired by the way you work. From open source to business, you can host and review code, manage projects, and build software alongside millions of other developers.

Username

Email

Password

Use at least one letter, one numeral, and seven characters.

Sign up for GitHub

By clicking "Sign up for GitHub", you agree to our [terms of service](#) and [privacy policy](#). We'll occasionally send you account related emails.

<https://github.com/nitipatl/ci-cd-course>

Hello world by Next.js

```
git clone
```

```
https://github.com/nitipatl/ci-cd-course
```

```
cd helloworld
```

```
npm install
```

```
npm run dev
```

Hello world by Next.js

```
npm run test
```

```
npm run test -- --coverage
```

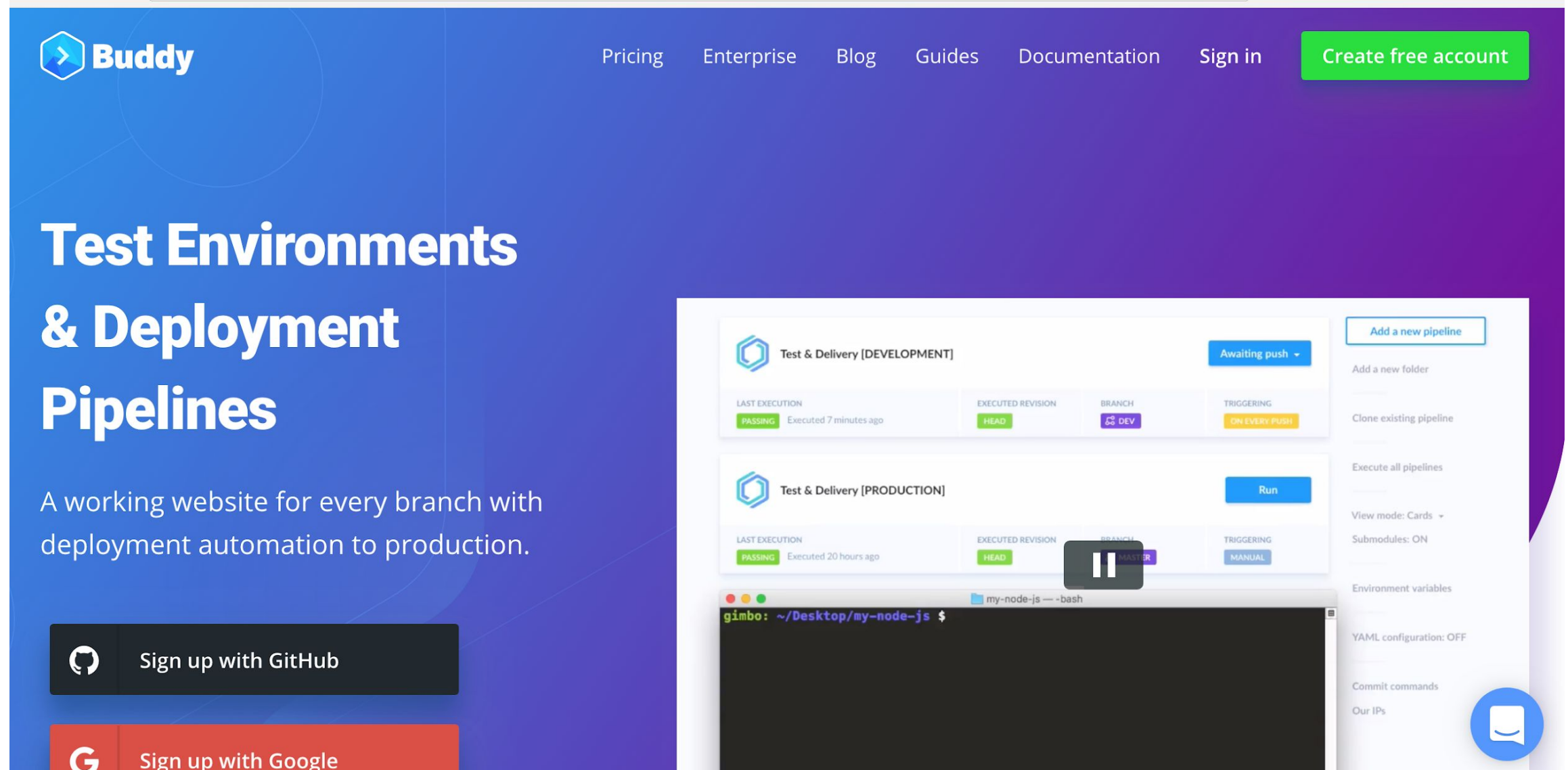
```
ls coverage/
```

Hello world by Next.js

```
npm run static
```

```
ls out/
```

Buddy.works



The image shows the Buddy.works website. The header features the Buddy logo, navigation links (Pricing, Enterprise, Blog, Guides, Documentation, Sign in), and a 'Create free account' button. The main section has a large heading 'Test Environments & Deployment Pipelines' and a subtext 'A working website for every branch with deployment automation to production.' Below this are 'Sign up with GitHub' and 'Sign up with Google' buttons. A video player shows a screenshot of the Buddy dashboard with two pipeline cards: 'Test & Delivery [DEVELOPMENT]' and 'Test & Delivery [PRODUCTION]'. The video player has a pause button and a progress bar. The dashboard also includes a sidebar with options like 'Add a new pipeline', 'Clone existing pipeline', 'Execute all pipelines', 'View mode: Cards', 'Submodules: ON', 'Environment variables', 'YAML configuration: OFF', 'Commit commands', and 'Our IPs'.

Buddy

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Test Environments & Deployment Pipelines

A working website for every branch with deployment automation to production.

[Sign up with GitHub](#)

[Sign up with Google](#)

Test & Delivery [DEVELOPMENT] [Awaiting push](#)

LAST EXECUTION: **PASSING** Executed 7 minutes ago

EXECUTED REVISION: **HEAD**

BRANCH: **DEV**

TRIGGERING: **ON EVERY PUSH**

Test & Delivery [PRODUCTION] [Run](#)

LAST EXECUTION: **PASSING** Executed 20 hours ago

EXECUTED REVISION: **HEAD**

BRANCH: **MASTER**

TRIGGERING: **MANUAL**

[Add a new pipeline](#)

[Add a new folder](#)

[Clone existing pipeline](#)

[Execute all pipelines](#)

[View mode: Cards](#)

[Submodules: ON](#)

[Environment variables](#)

[YAML configuration: OFF](#)

[Commit commands](#)

[Our IPs](#)

Repo linking with Buddy.works




There are no projects in this workspace


Why not create a new project and get something done?


Create new project


Repo linking with Buddy.works


SELECT GIT HOSTING PROVIDER


**GitHub**
Attach existing GitHub repository

**GitHub**
Attach existing GitHub repository

**Bitbucket**
Attach existing Bitbucket repository

**GitLab**
Attach existing GitLab repository

**Buddy Git Hosting**
Create a new repository

**Your Private Git Server**
Attach repository from your own Git server

Repo linking with Buddy.works

NAME YOUR PROJECT

Hello app

REPOSITORY URL

<https://github.com/nitipatl/ci-cd-course.git>

AUTHENTICATION METHOD

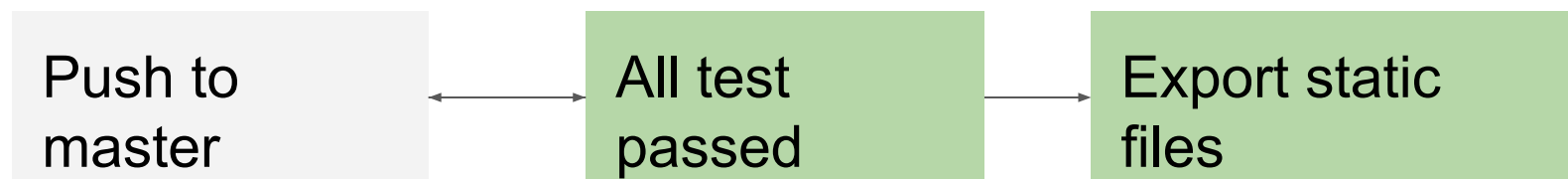


SSH key



Login and password

Own build pipeline



Try to new pipeline

Add a new pipeline ?

NAME

Ex: Build, Test & Deploy to Stage

TRIGGER MODE



Manual



On push



Recurrently



RECURRENCE SETTINGS

Start date

Today



@

16



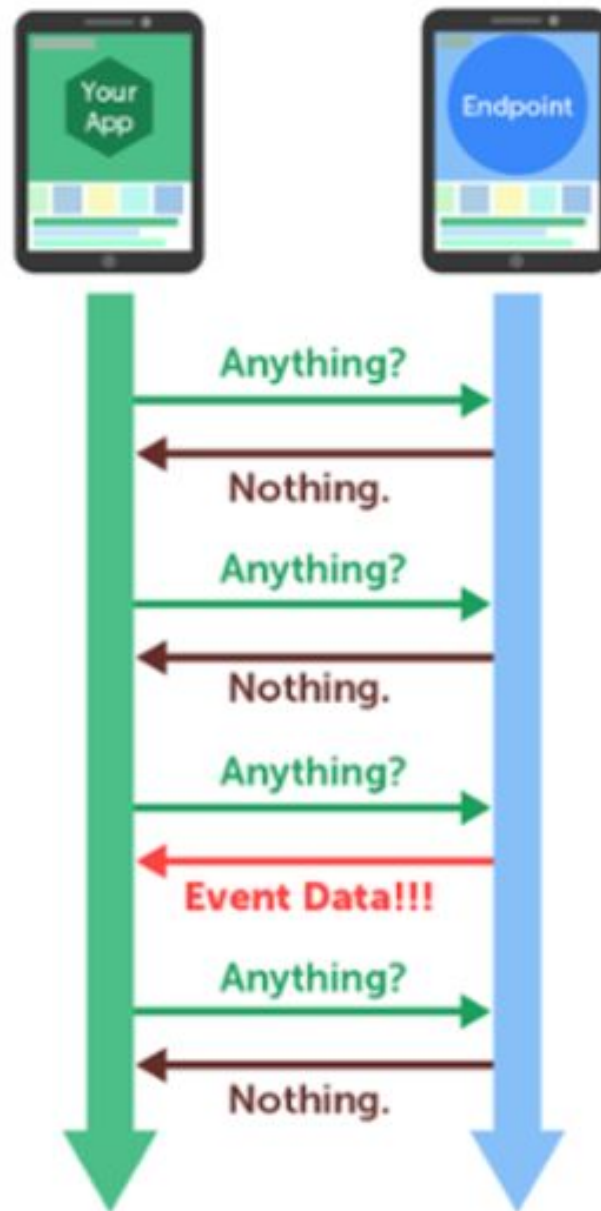
:

40



Interval

Polling



Webhooks



Add first job : test

PRIMARY ACTIONS

These actions are run in sequence on every execution of the pipeline. If one of the actions fails, the release will come to a halt requiring your attention, unless you've set a conditional action down the line.



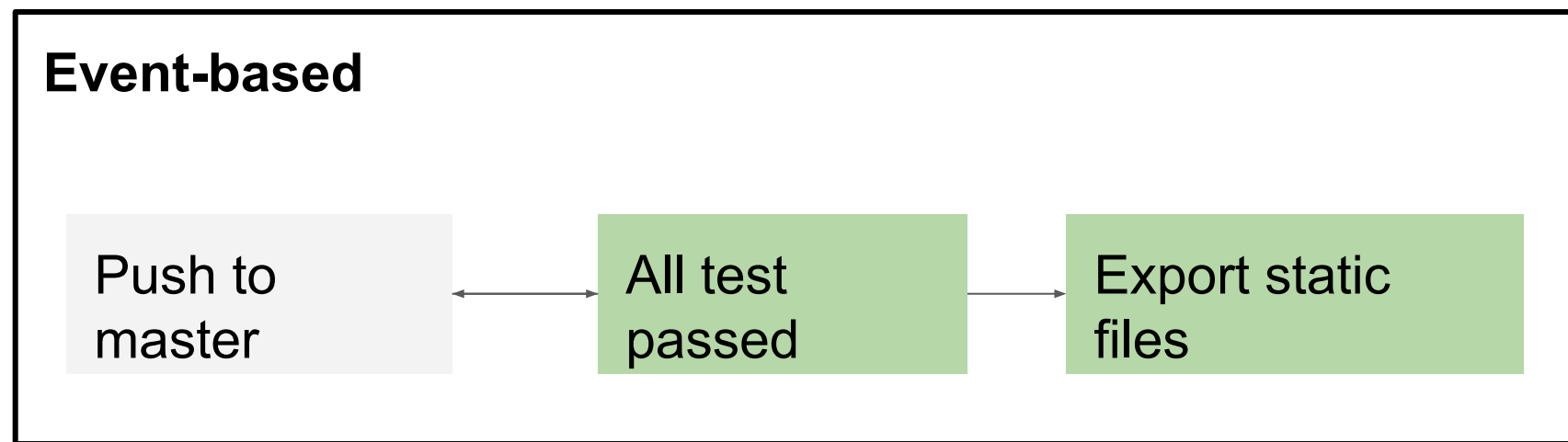
Add second job : export static files

PRIMARY ACTIONS

These actions are run in sequence on every execution of the pipeline. If one of the actions fails, the release will come to a halt requiring your attention, unless you've set a conditional action down the line.



Own build pipeline

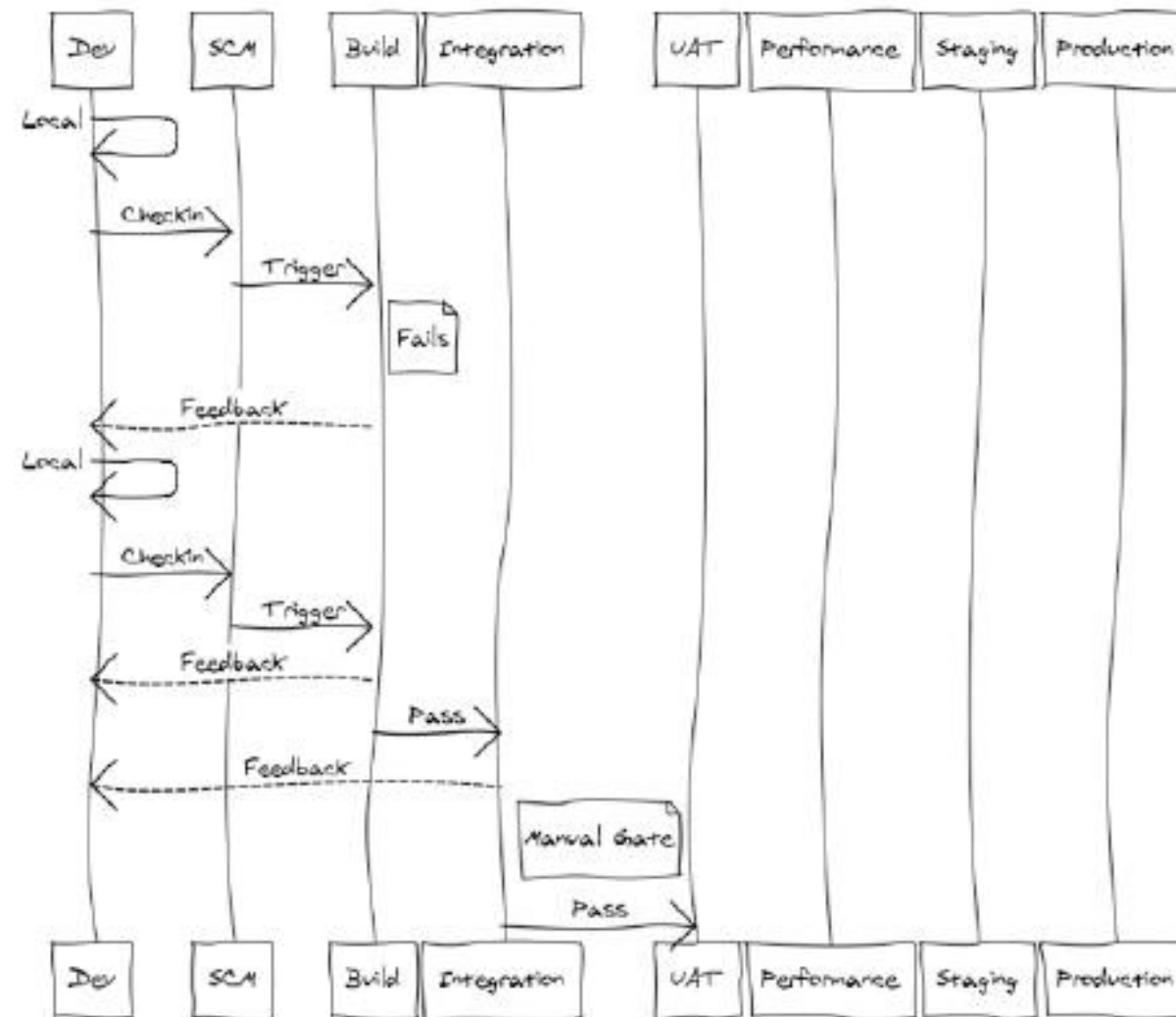


Export code coverage
Scheduled

Analyzing code
Scheduled

Slower testing
Scheduled

Build Pipeline Flow



CONTINUOUS DELIVERY



CONTINUOUS DEPLOYMENT



The Addison-Wesley Signature Series



CONTINUOUS INTEGRATION

IMPROVING SOFTWARE QUALITY
AND REDUCING RISK

PAUL DUVAL
STEPHEN M.
MATYAS III
ANDREW GLOVER



Siam Chamnankit Camp 2017 in CNX.

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