Why use Docker and Compose in your CI?

Carla Suárez | @carlast22

Why use **Docker** and **Compose** in your **CI**?

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Hi! / Oi!

Ecuatoriana

Journalist | Developer

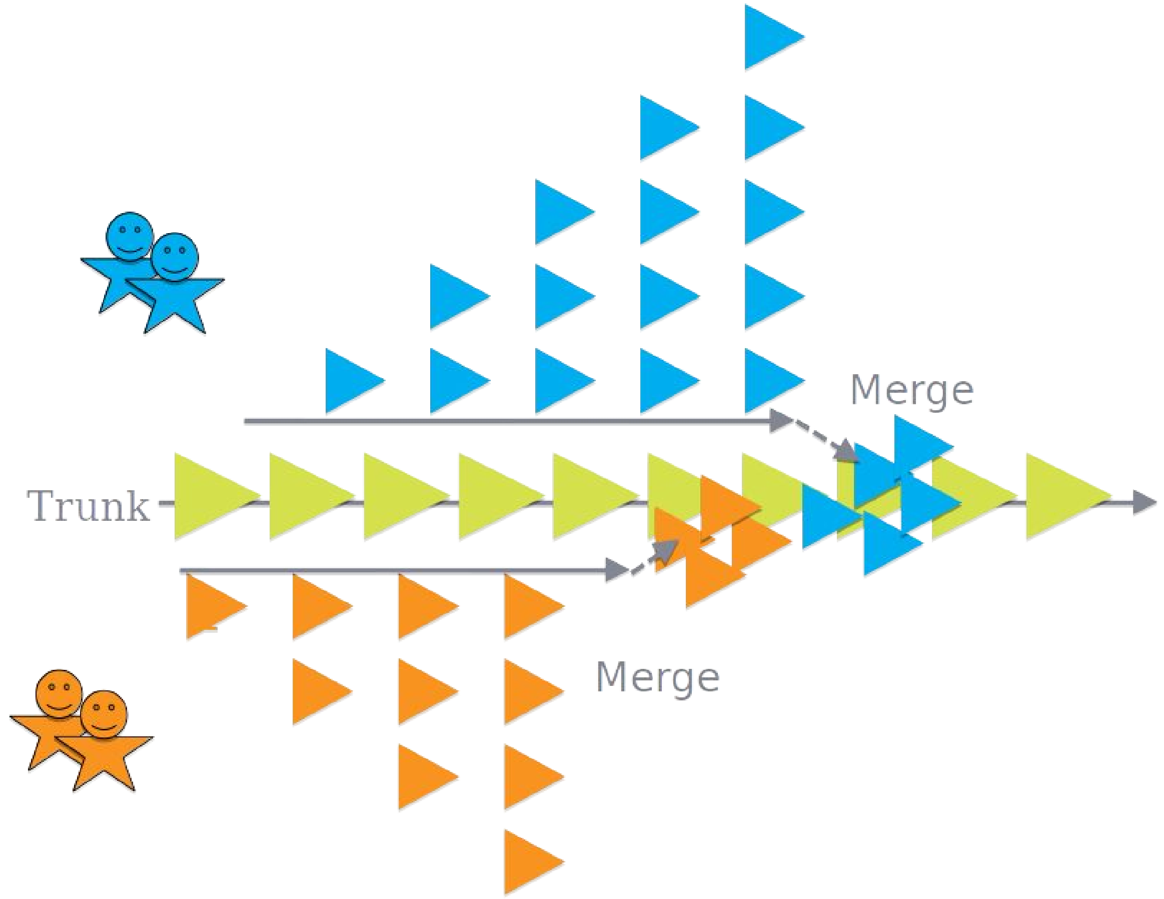
Python, Ruby, HTML, CSS

Learning about Devops

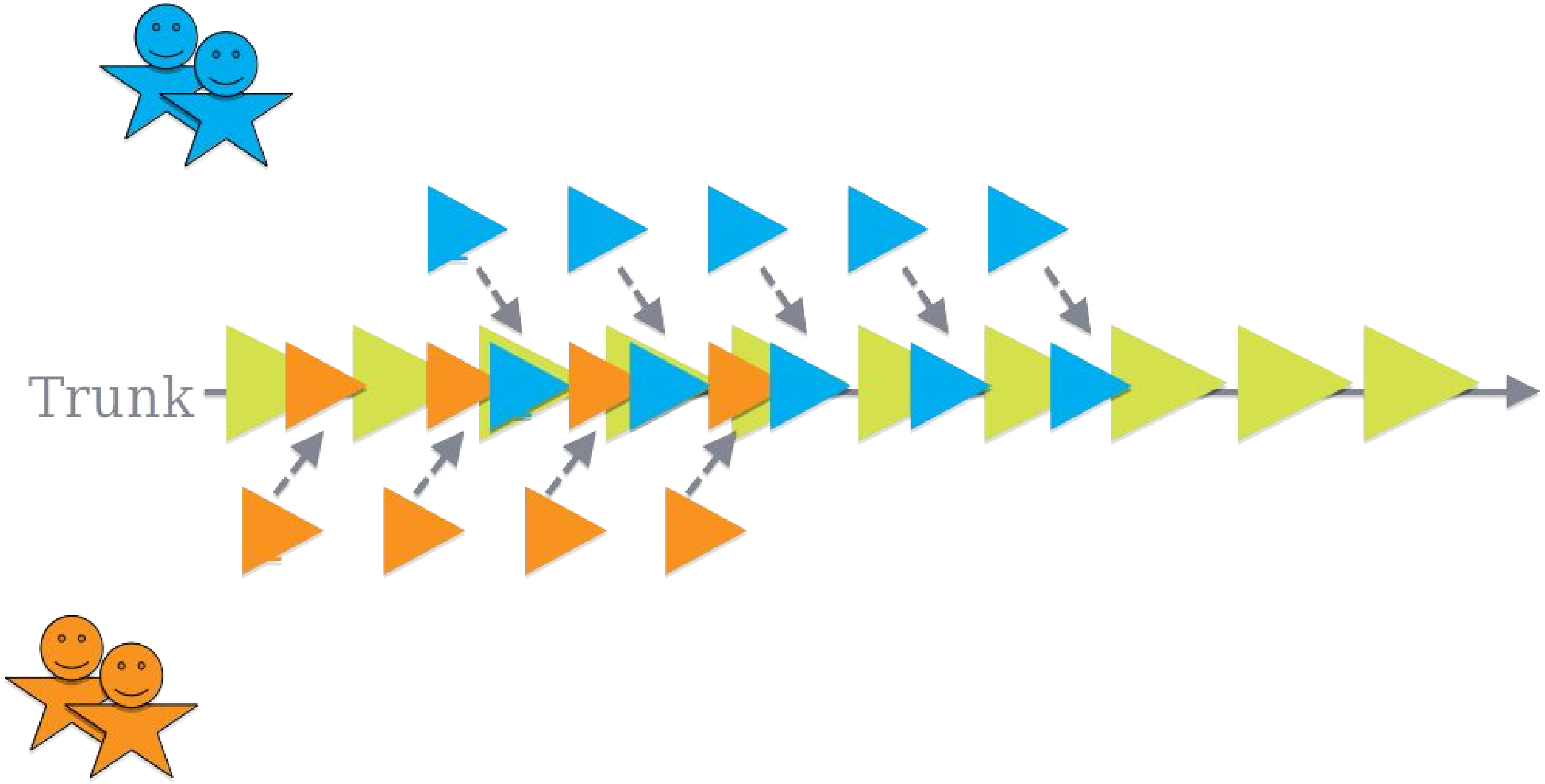
ThoughtWorks®

CI and CD?

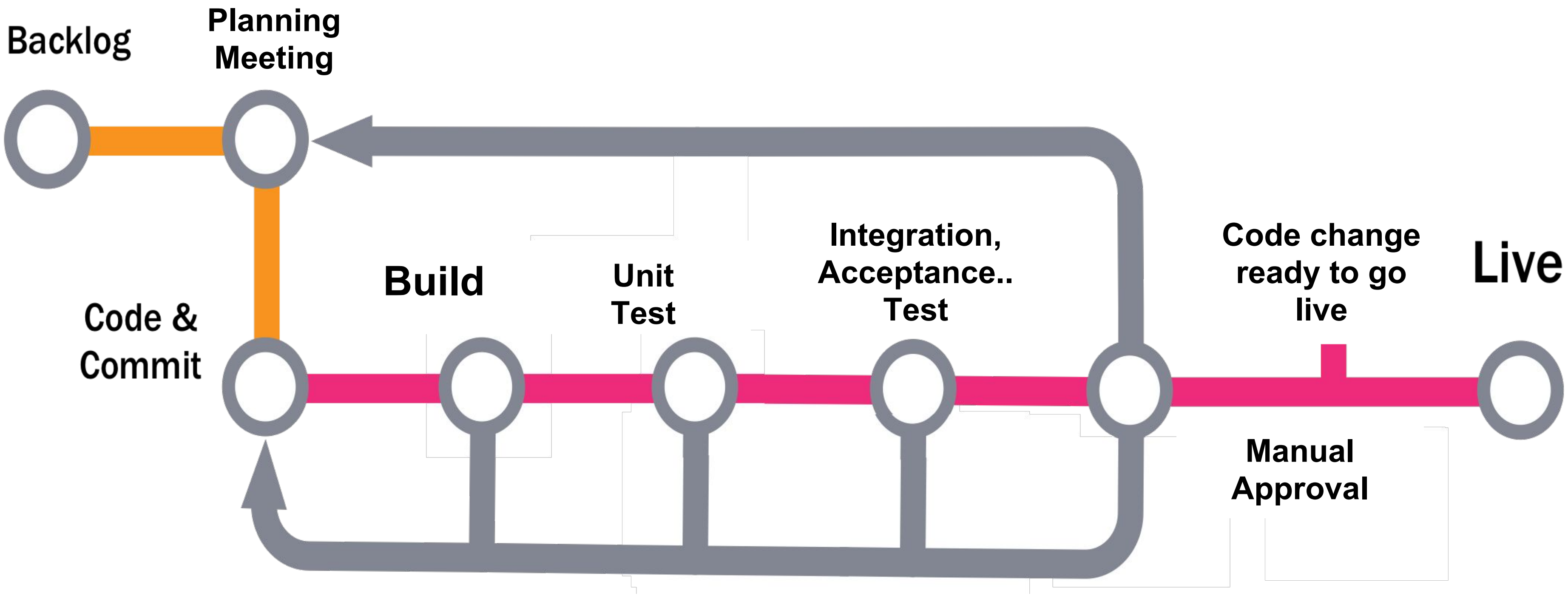
What is this? Concepts and importance in deployment


Merge
Trunk
Merge

Trunk based development



Here is where CI go into scene



The practices for CI

- Maintain a single source repository
- Automate the build
- Make your build self-testing
- Every commit should build on an integration machine
- Keep the build fast
- Test in a clone of the production environment
- Everyone can see what is happening
- Make it easy for anyone to get the latest executable
- Automate deployment

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Continuous Deployment is closely related to Continuous Integration and refers to the release into production of software that passes the automated tests.

“Continuous Delivery is a software development discipline where you build software in such a way that the software can be released to production at any time”

Martin Fowler

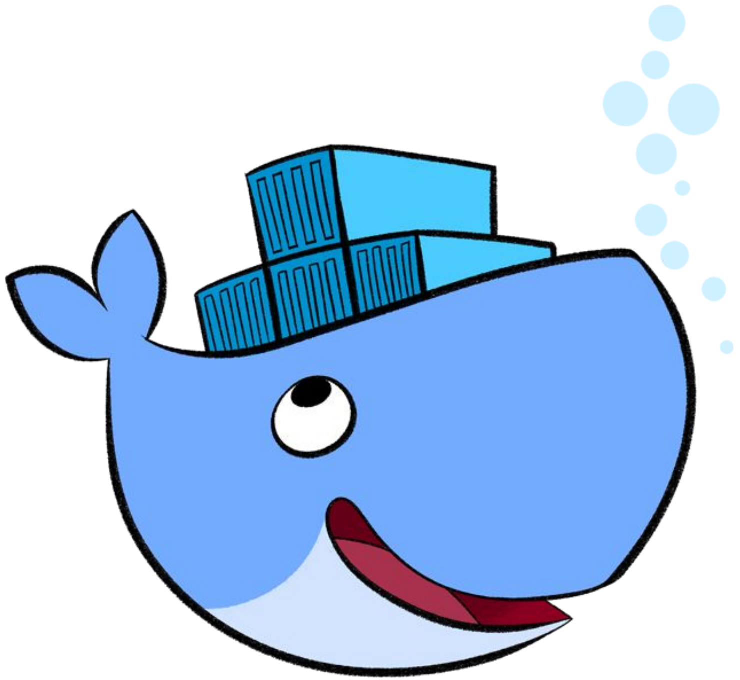
Main principles and practices

- Create a repeatable, reliable way to release software
- Everybody is responsible for the delivery process
- Automate almost everything

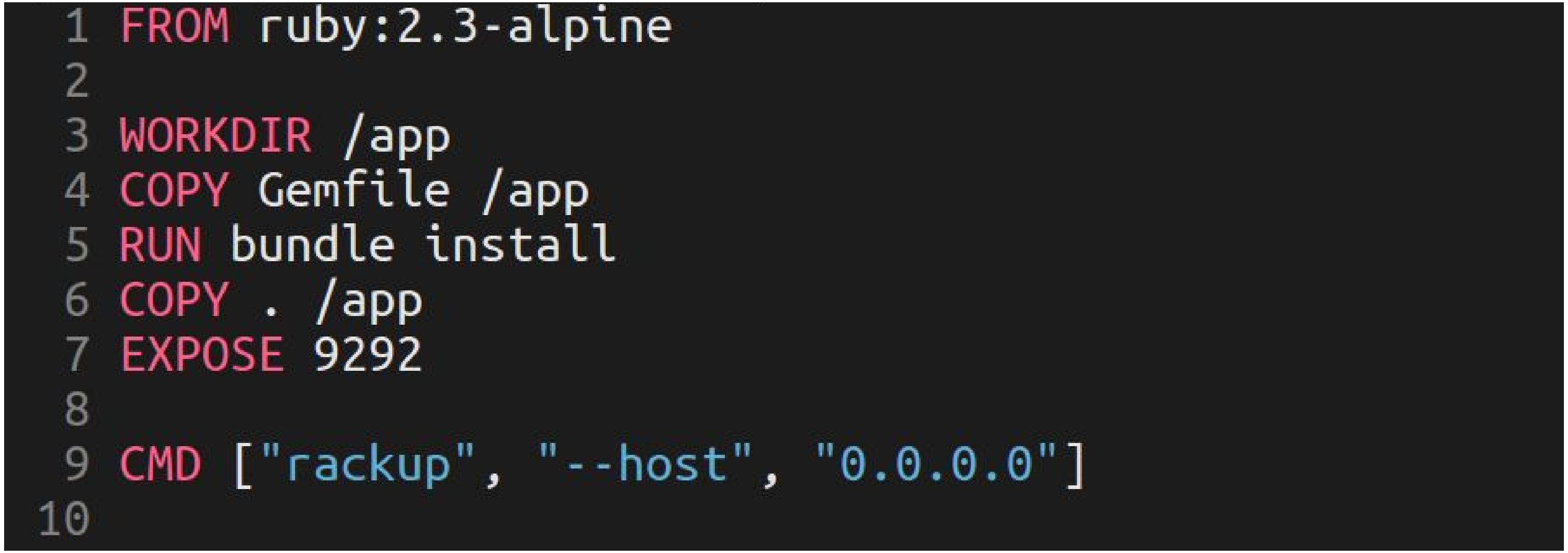
Docker and Compose

What are and how can it help you in CD?

Do you already meet Docker?

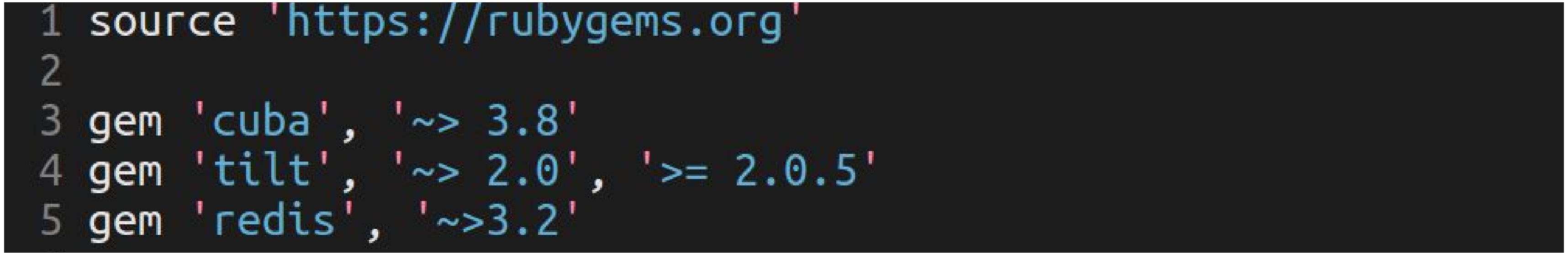


Dockerfile

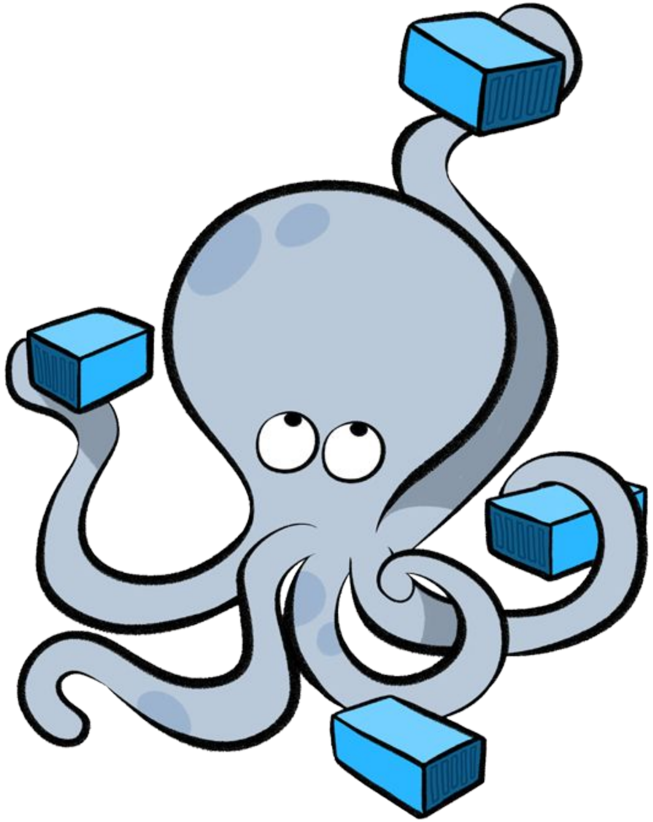


```
FROM ruby:2.3-alpine

WORKDIR /app
COPY Gemfile /app
RUN bundle install
COPY . /app
EXPOSE 9292

CMD ["rackup", "--host", "0.0.0.0"]

```

Gemfile



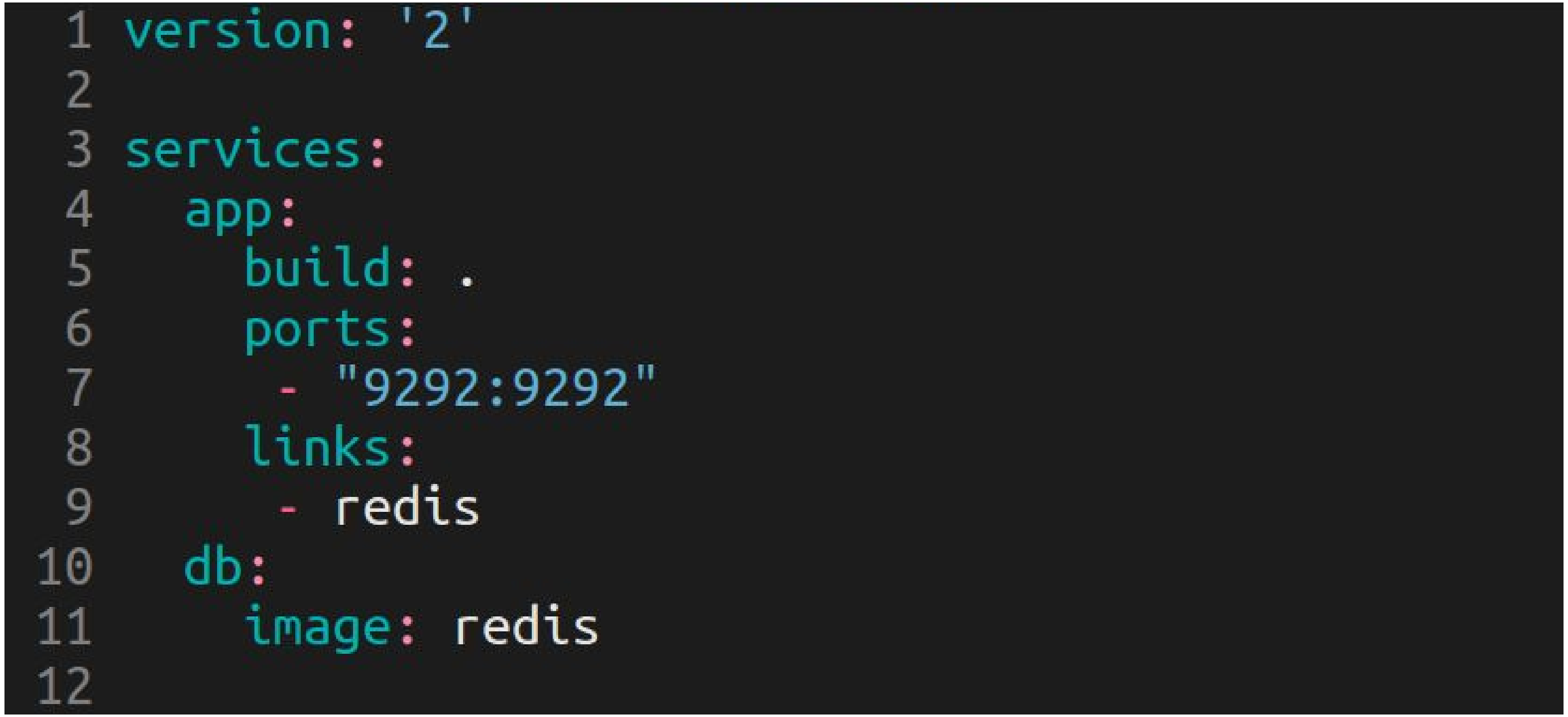
```
source 'https://rubygems.org'

gem 'cuba', '~> 3.8'
gem 'tilt', '~> 2.0', '>= 2.0.5'
gem 'redis', '~>3.2'
```



And Docker Compose?

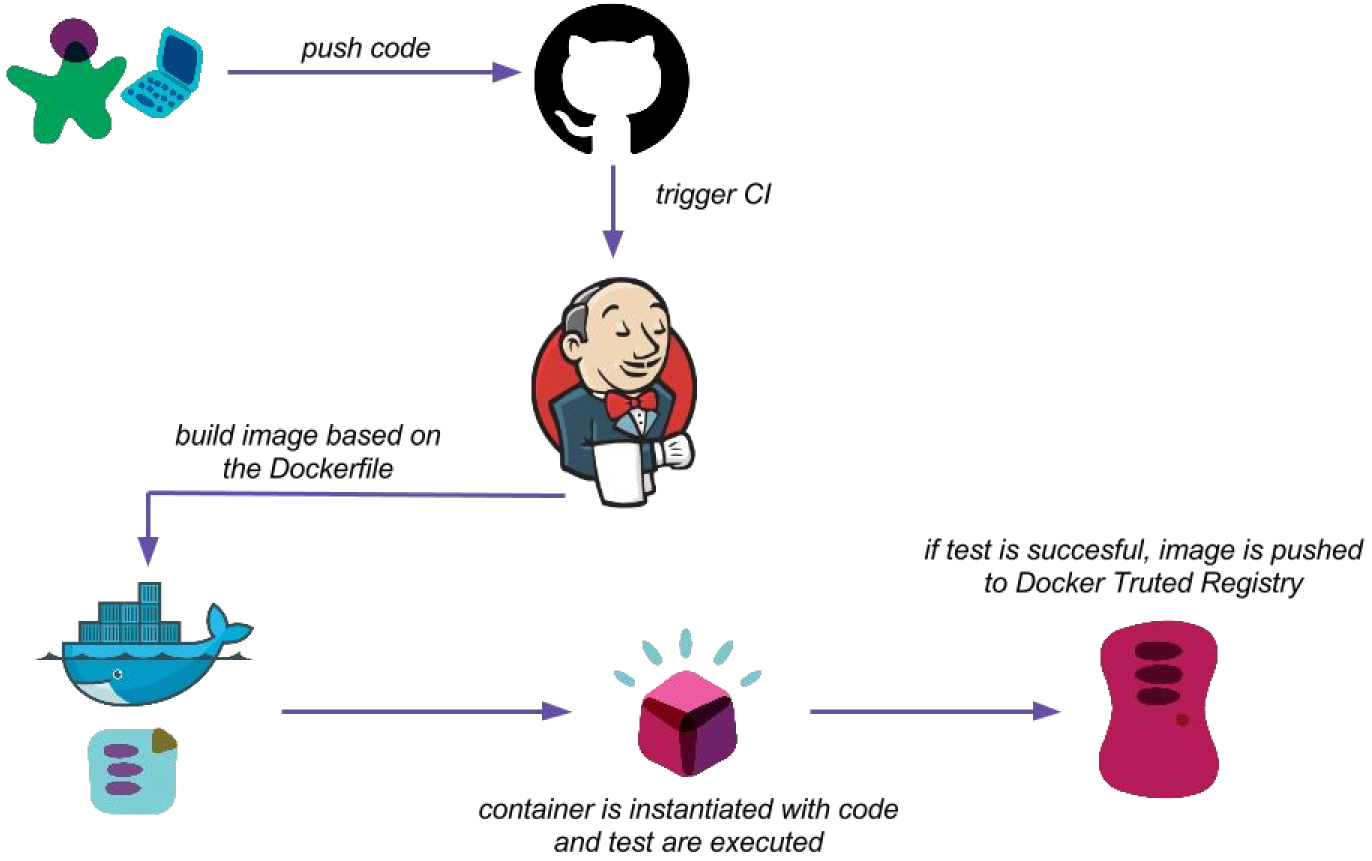
Docker's friend

docker-compose.yml



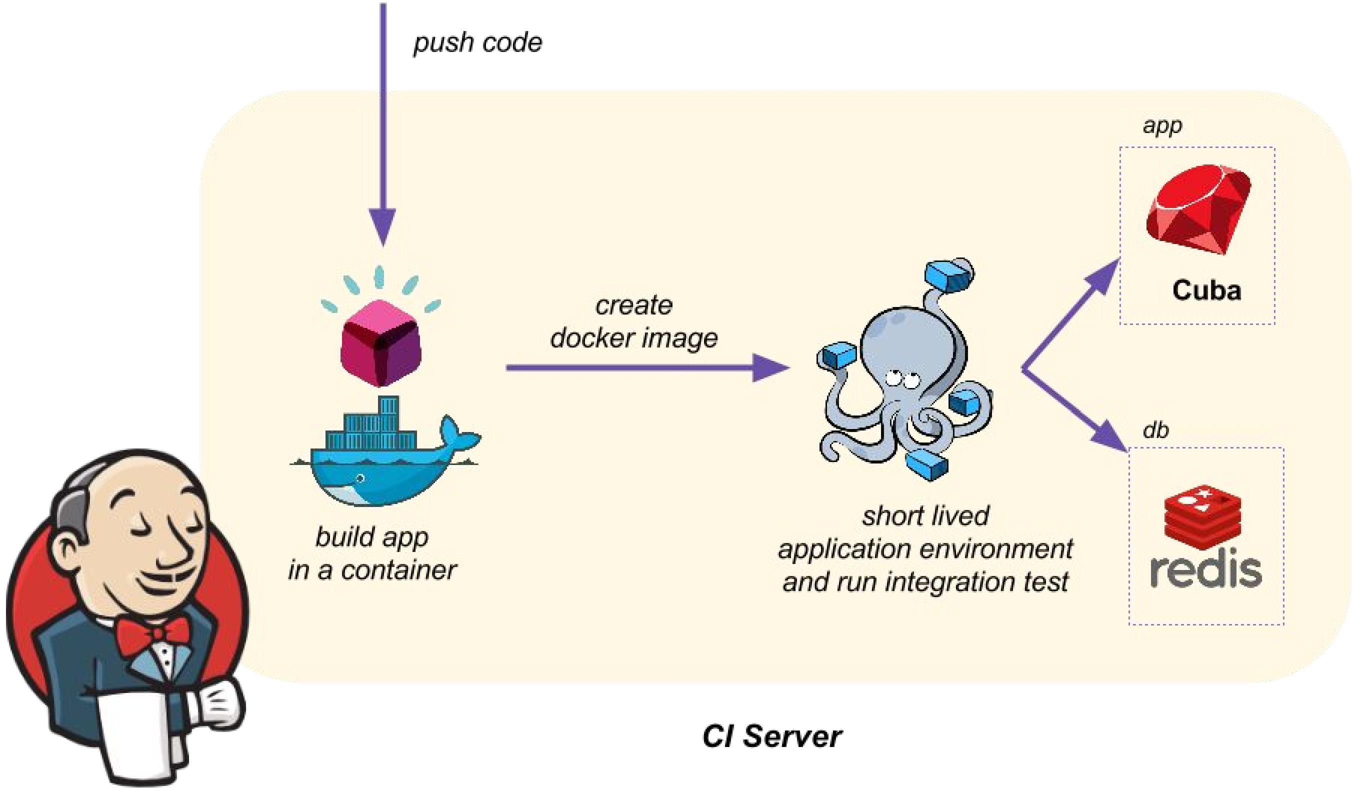
```yaml
version: '2'

services:
  app:
    build: .
    ports:
     - "9292:9292"
    links:
     - redis
  db:
    image: redis

```

CI Workflow


push code
trigger CI
build image based on the Dockerfile
container is instantiated with code and test are executed
if test is succesful, image is pushed to Docker Truted Registry

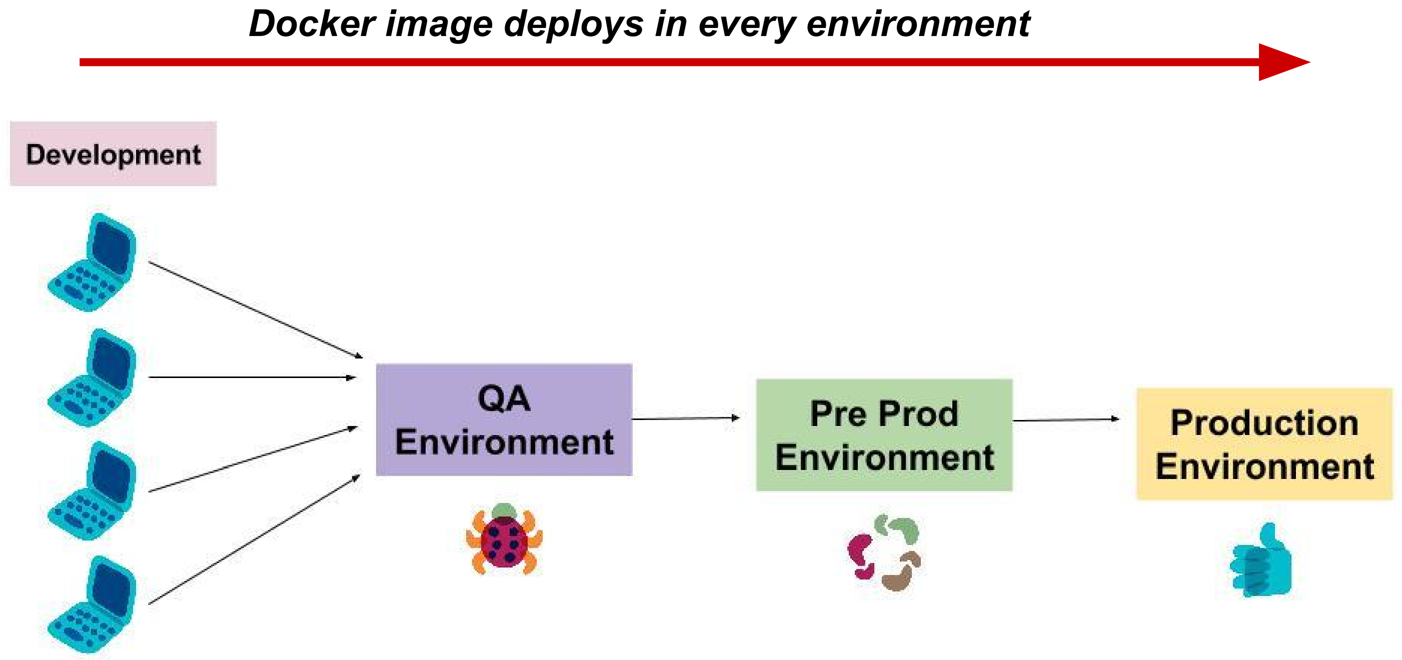
What is Registry?

And Docker Compose?



Using Docker and Compose

The same in different environments



Deploy all your application needs

Automated testing

Dedicated container for each application

Reduce time and cost

Stability and resilience

snap

circleci

go®

CODESHIP

VM’s vs. Containers

- **VM** is a completely virtualized environment that only abstracts the physical hardware.

- **VM** comes with its own BIOS, virtualized network adapters, disk storage, CPU and a complete operating system.

- **Container** abstraction happens at the operating system level.

- Each **container** user shares the same operating system, kernel instance, network connection and base file system, each instance of the application will run within a separate user space.

Let’s use Docker!

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Is it the best for your project requirements?

Spike before choosing

Do CD, if you are not doing it yet

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Obrigada!

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