Micro Service and Continuous Delivery

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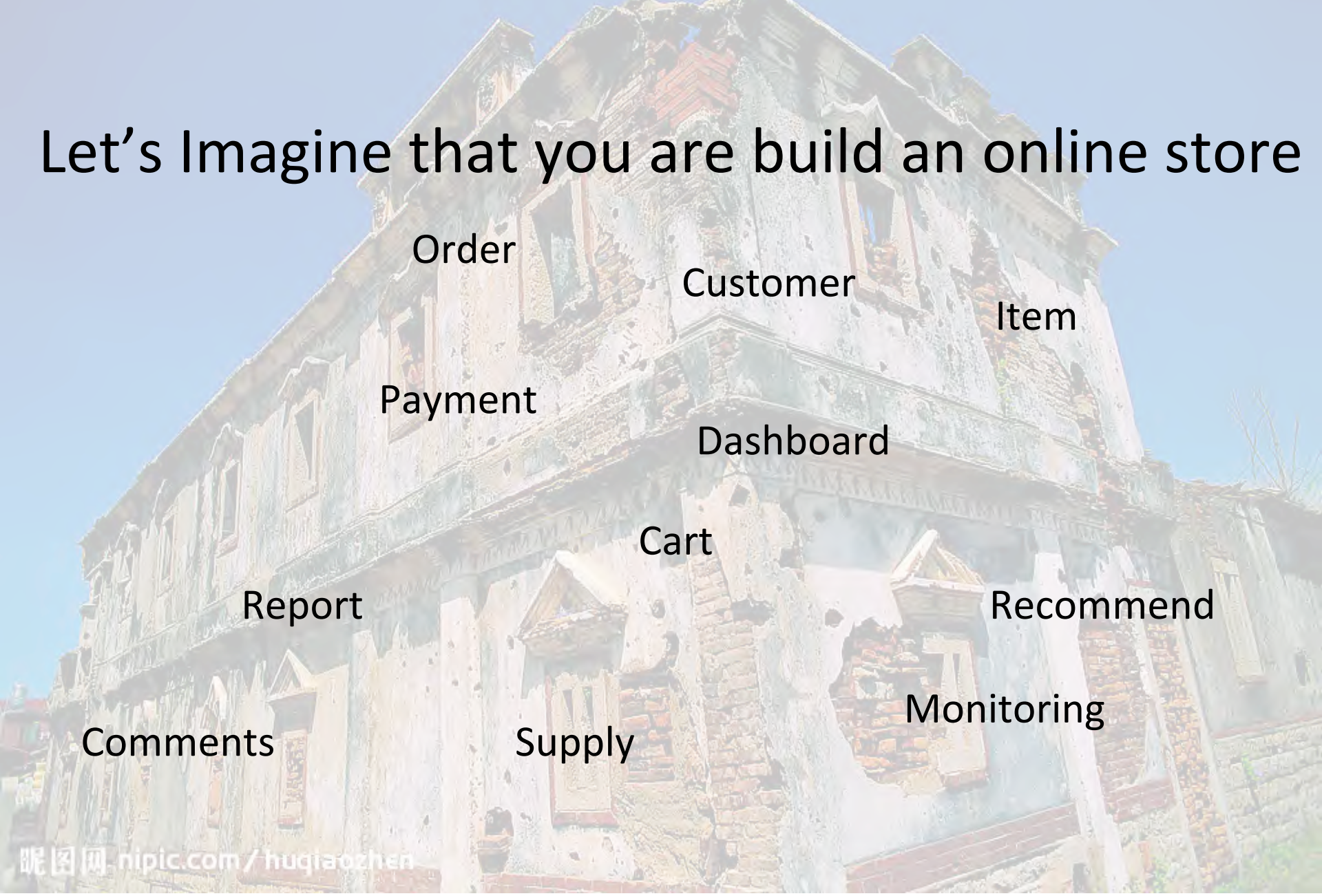
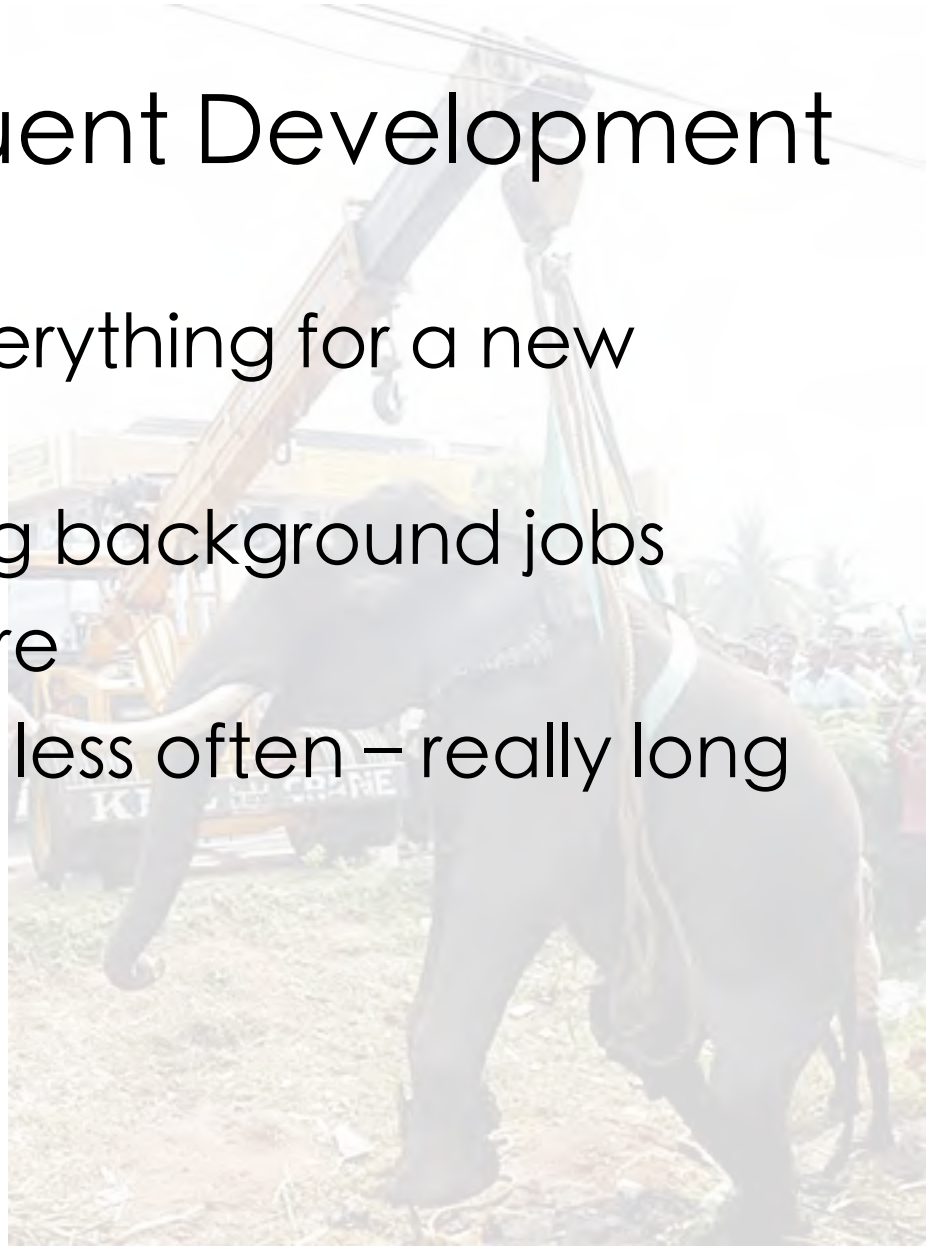
Let’s Imagine that you are build an online store



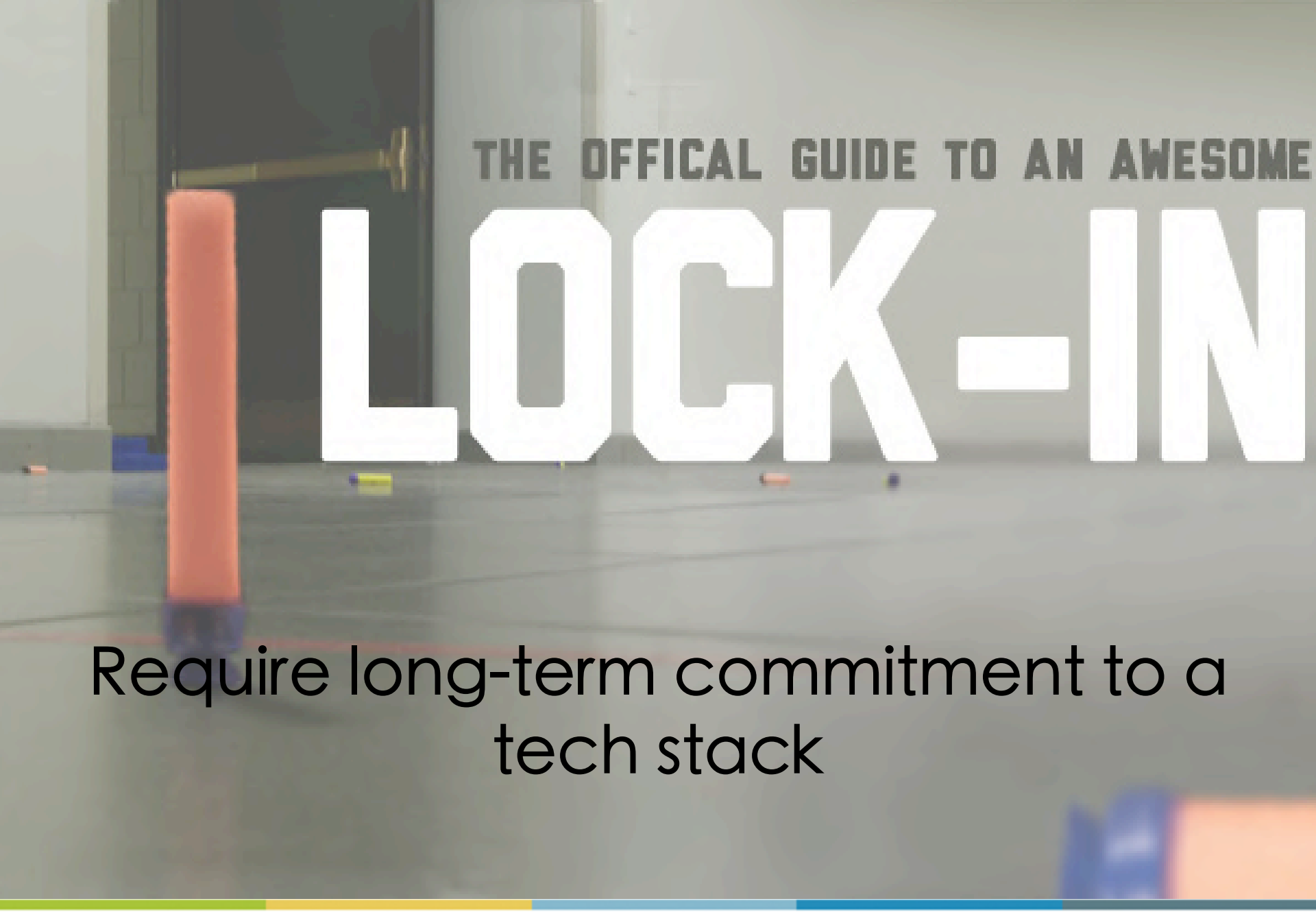
Intimidate Developers

Obstacle to Frequent Development

- Need to redeploy everything for a new feature
- Interrupts long running background jobs
- Increasing risk of failure
- Updates will happen less often – really long QA cycles



Overloads Your IDE and Container



Require long-term commitment to a tech stack

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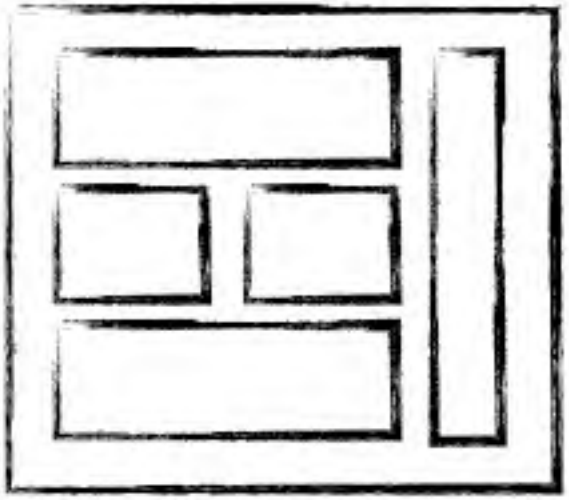
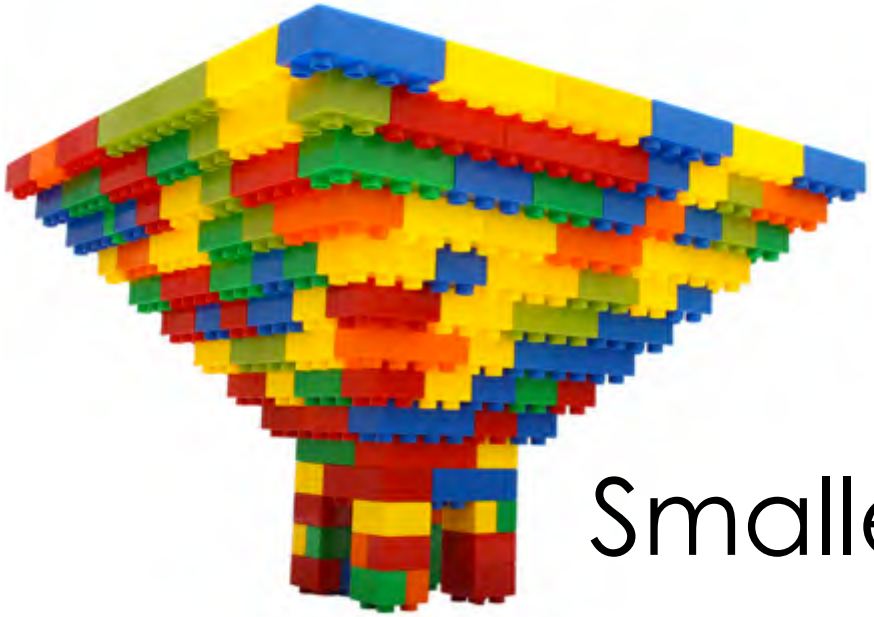


MONOLITHIC/LAYERED

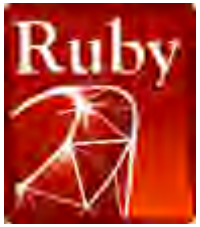
MICRO SERVICES



Smaller, simpler apps

- Easy to understand and develop
- Less dependences
- Faster to build and deploy
- Even, Failure faster

Best Technology for Each Service




Develop Deploy Scale
INDEPENDENT
BUT NOT ALONE

There are Drawbacks

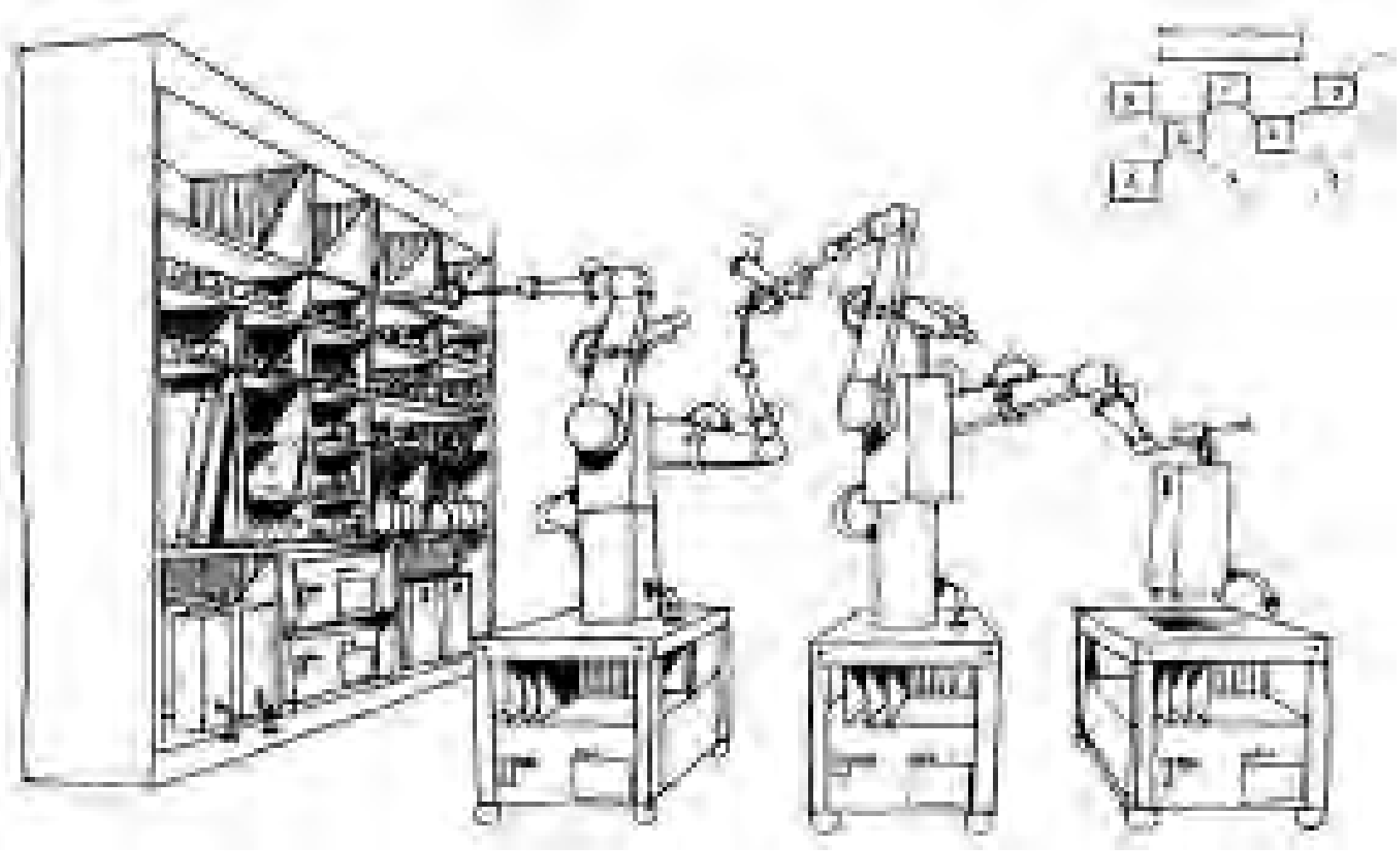
Complexities on

Develop

Test

Deploy

A Distributed System

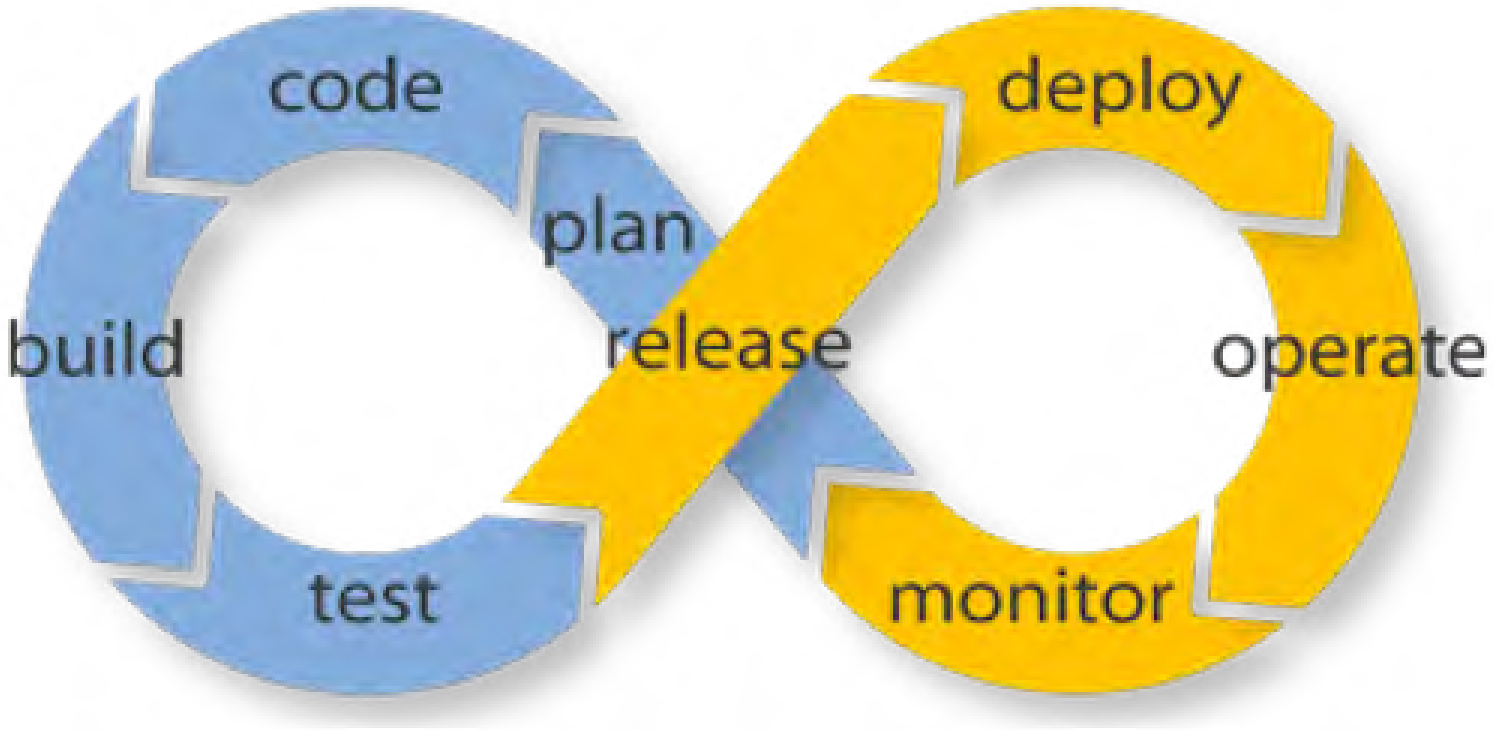


Automation is Implicit

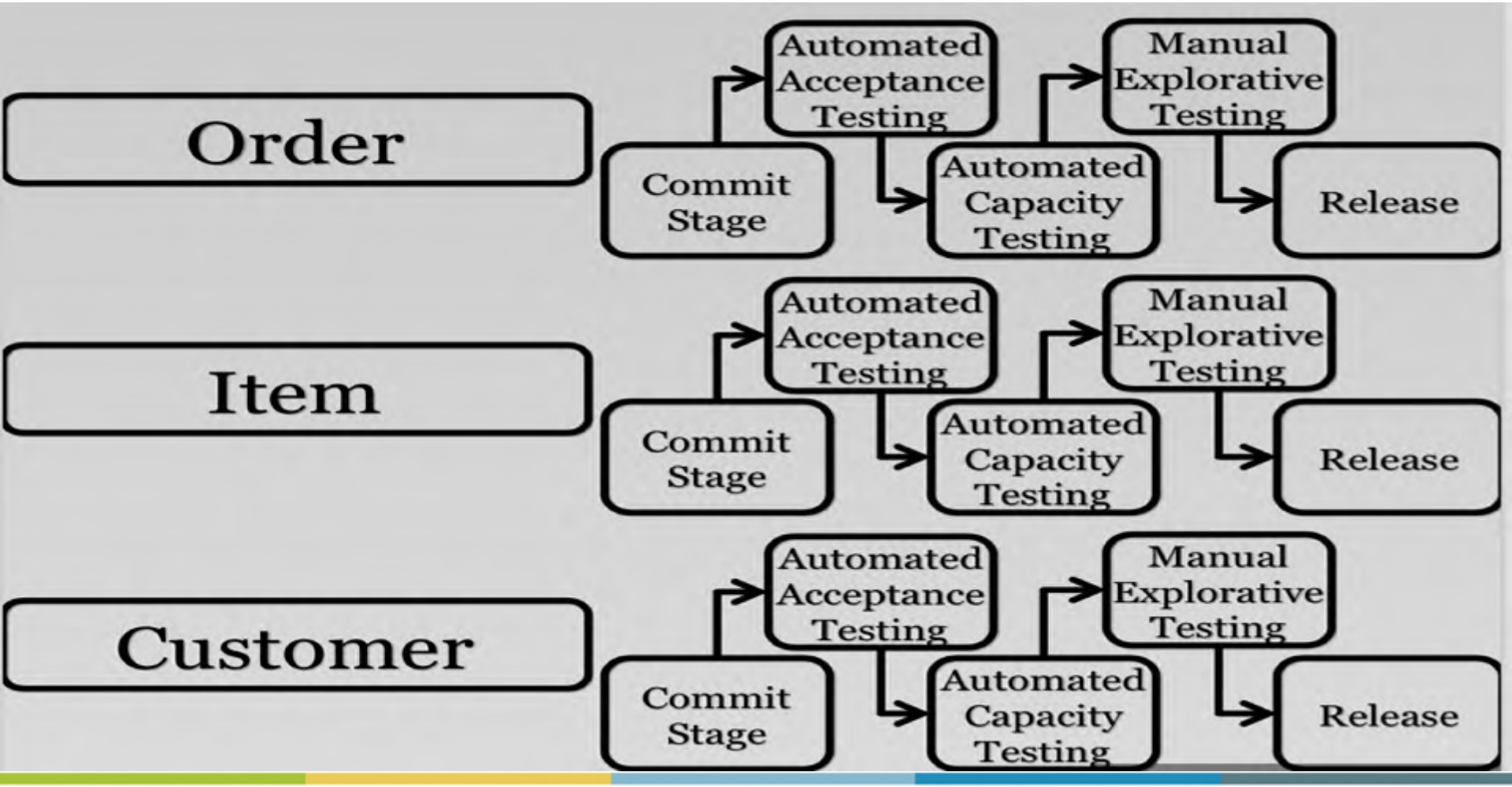
Continuous Integration

Continuous Integration is the practice of integrating early and often, so as to avoid the pitfalls of "Integration Hell".

Continuous Integration to Continuous Delivery



Continuous Delivery ?
Continuous Diverse!

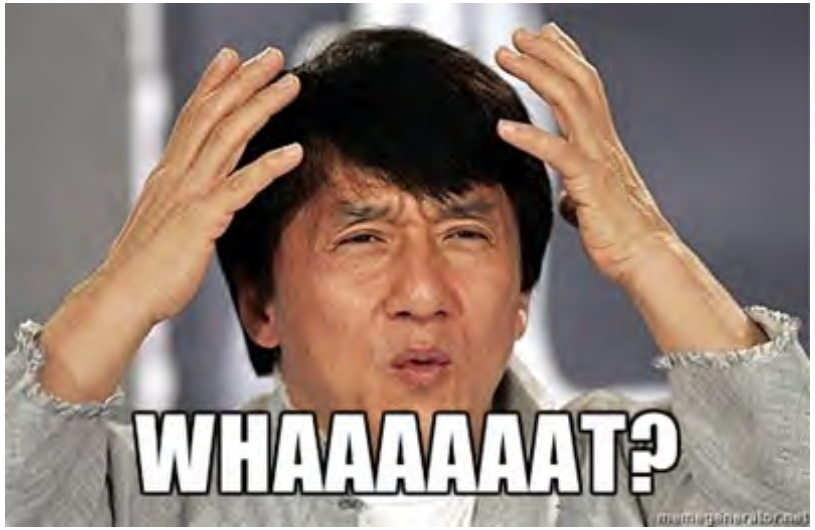


That’s All?

I’m handing tickets for running apps!

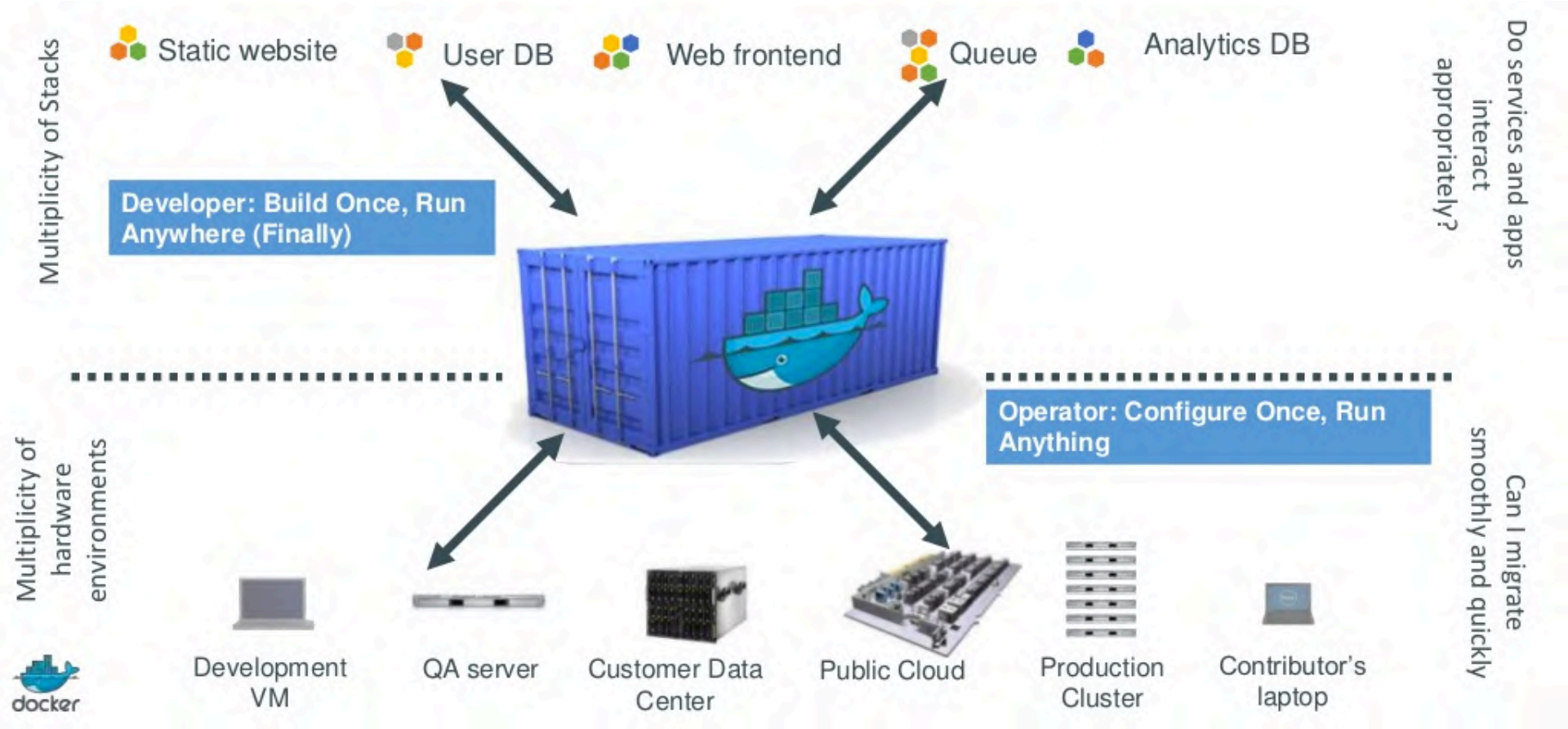
- Node.js
- Python
- Ruby
- Golang
- Java
- PHP
- …

Duang, Duang…



“Works for me”
“Can’t you reproduce”
“Upgrade to 1.2.5-xx”
“I would appreciate if you could test b/w 3 and 4 am”
“So to trigger the bug you have to install X and Y then configure A, B and C, then download the extra file, put it in this directory.

How Docker Helps



Docker & Micro Service

- ✓ Develop simplest possible solution
- ✓ Configuration is a runtime constraint
- ✓ Not extra-extra-complex application

Dev

```
new WebServer().start(8080);
```

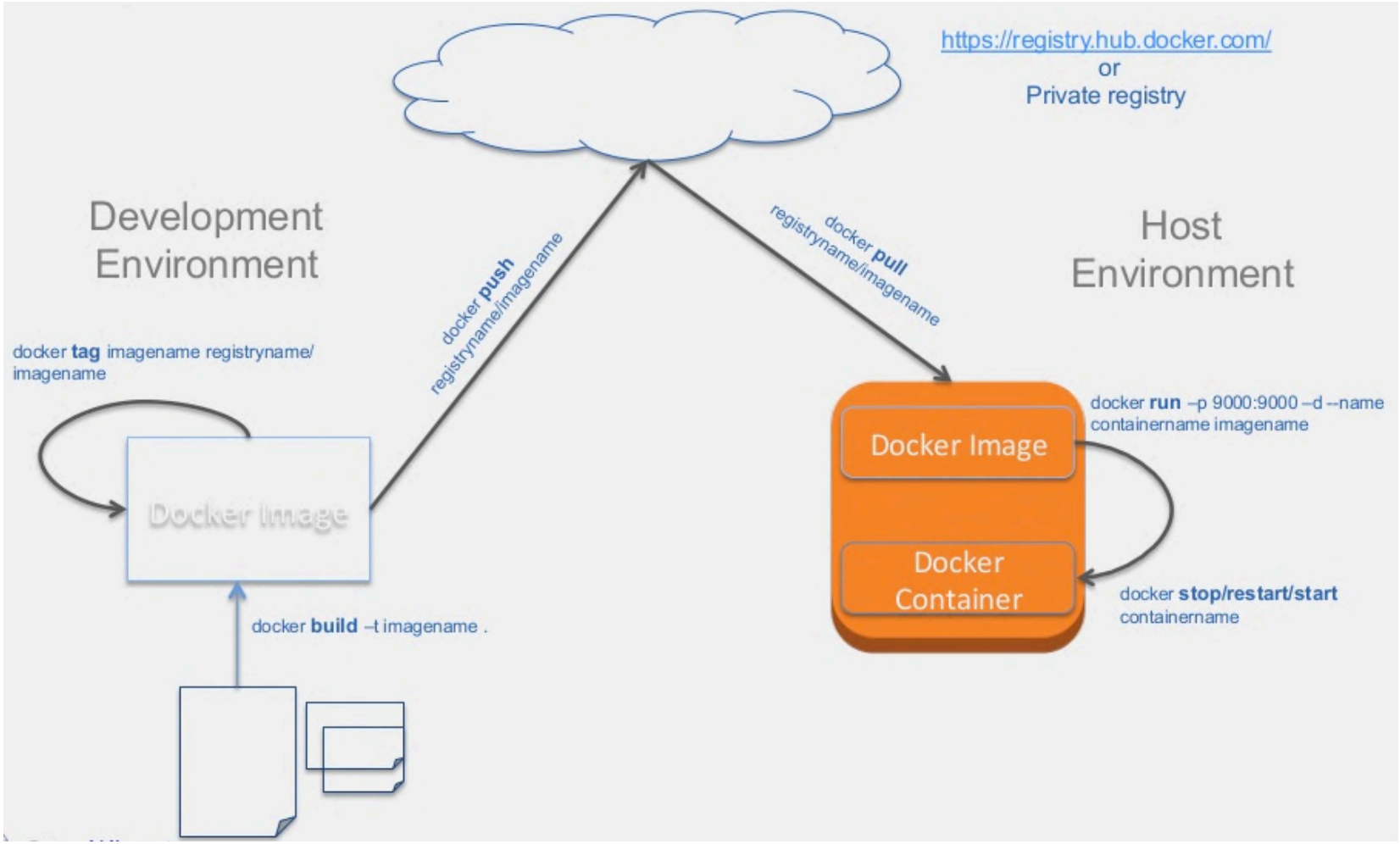
Ops

- ✓ Manage hardware / infrastructure
- ✓ Monitoring / backups
- ✓ Not apps implementation details

Unified Integration

- 100% Reproducible environments
  - « docker build . » to replace « mvn install »

Reproducible Delivery



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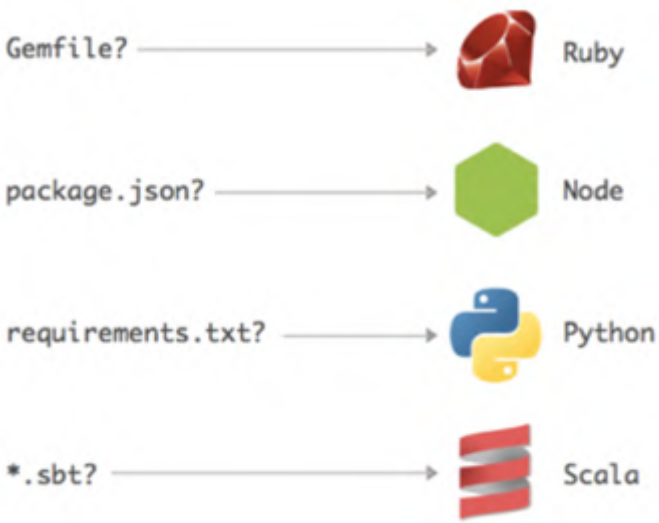
Dockerized Apps



Dockerfile

```
FROM ubuntu:14.04
RUN apt-get update
RUN apt-get install -y libx liby git wget
RUN git clone git://github.com/a/b/c
RUN mkdir -p /extra/dir
RUN wget -O /extra/dir http://extra/file
CMD start-service & sleep 60; \
    stop-service; start-service; sleep 60; \
    stop-service; start-service; sleep 60; \
    start-service
```

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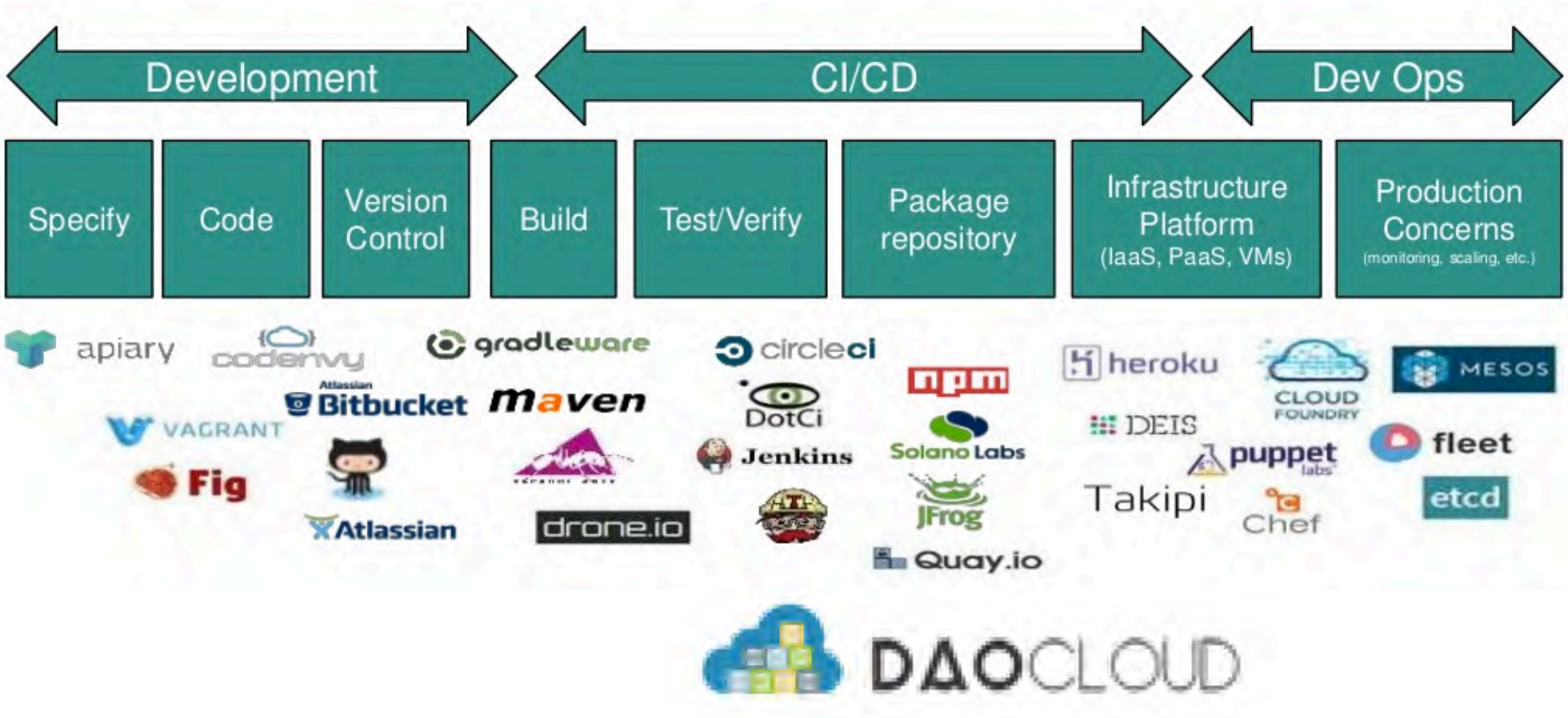
The Landscape with Containers



Q&A

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