Building Cloud Native Applications

4 Sessions

- 7th Feb - Cloud Platforms
- 14th Feb - DevOps
- 28th Feb - Uptime
- 7th March - Continuous Improvement

Hello!

I AM ED SHEE

Developer Advocate at IBM

You can find me at @ukcloudman

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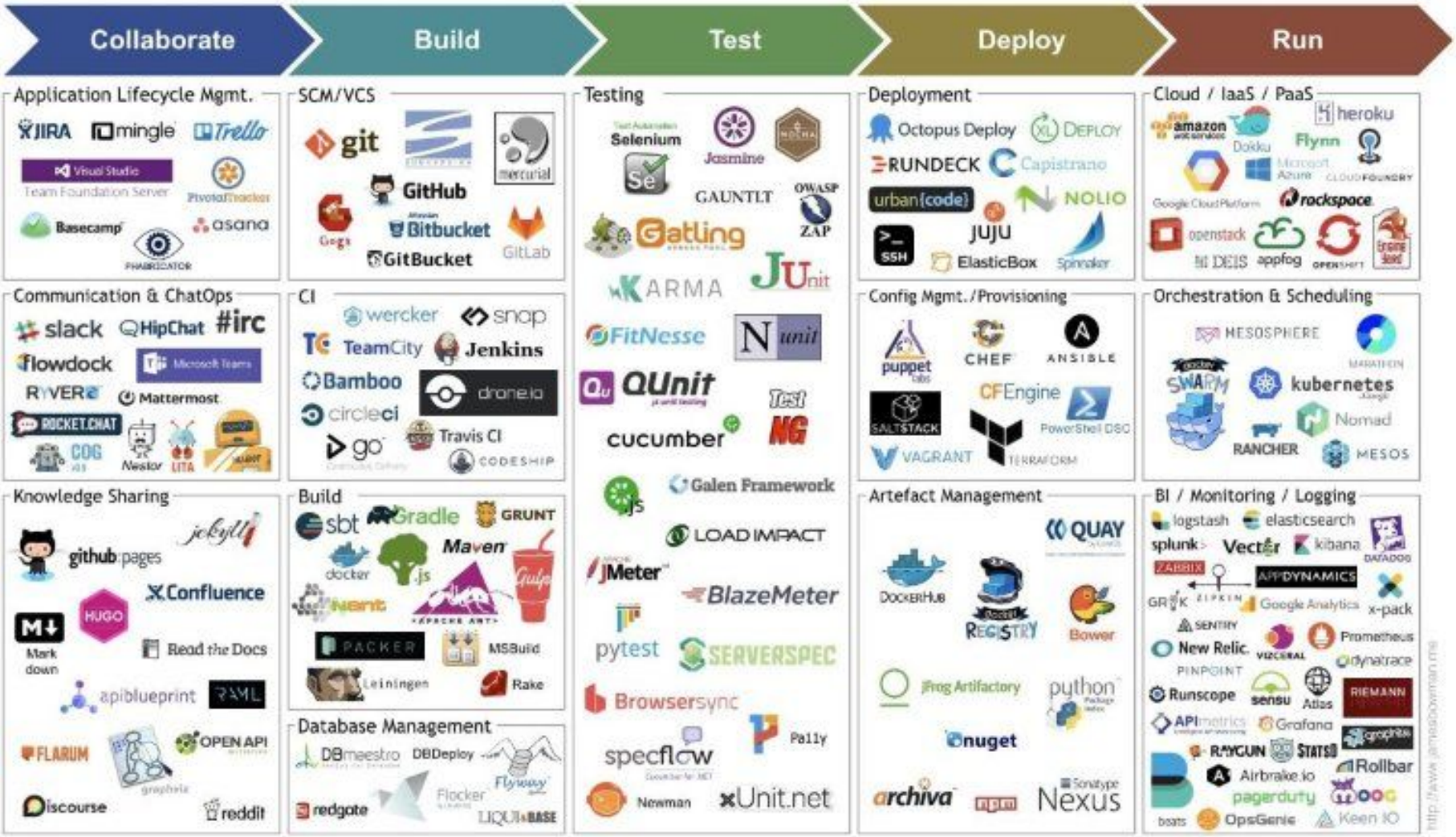
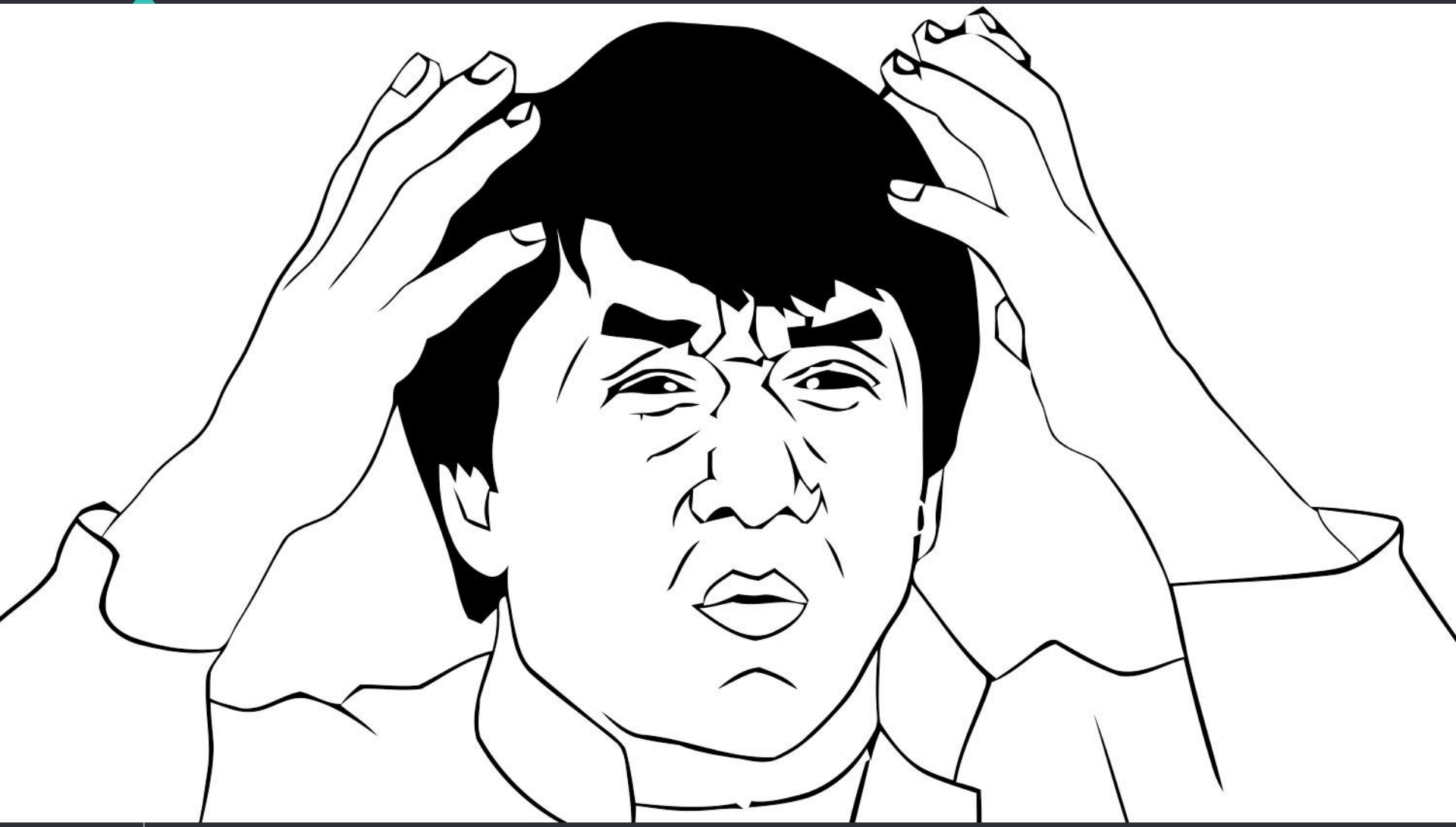
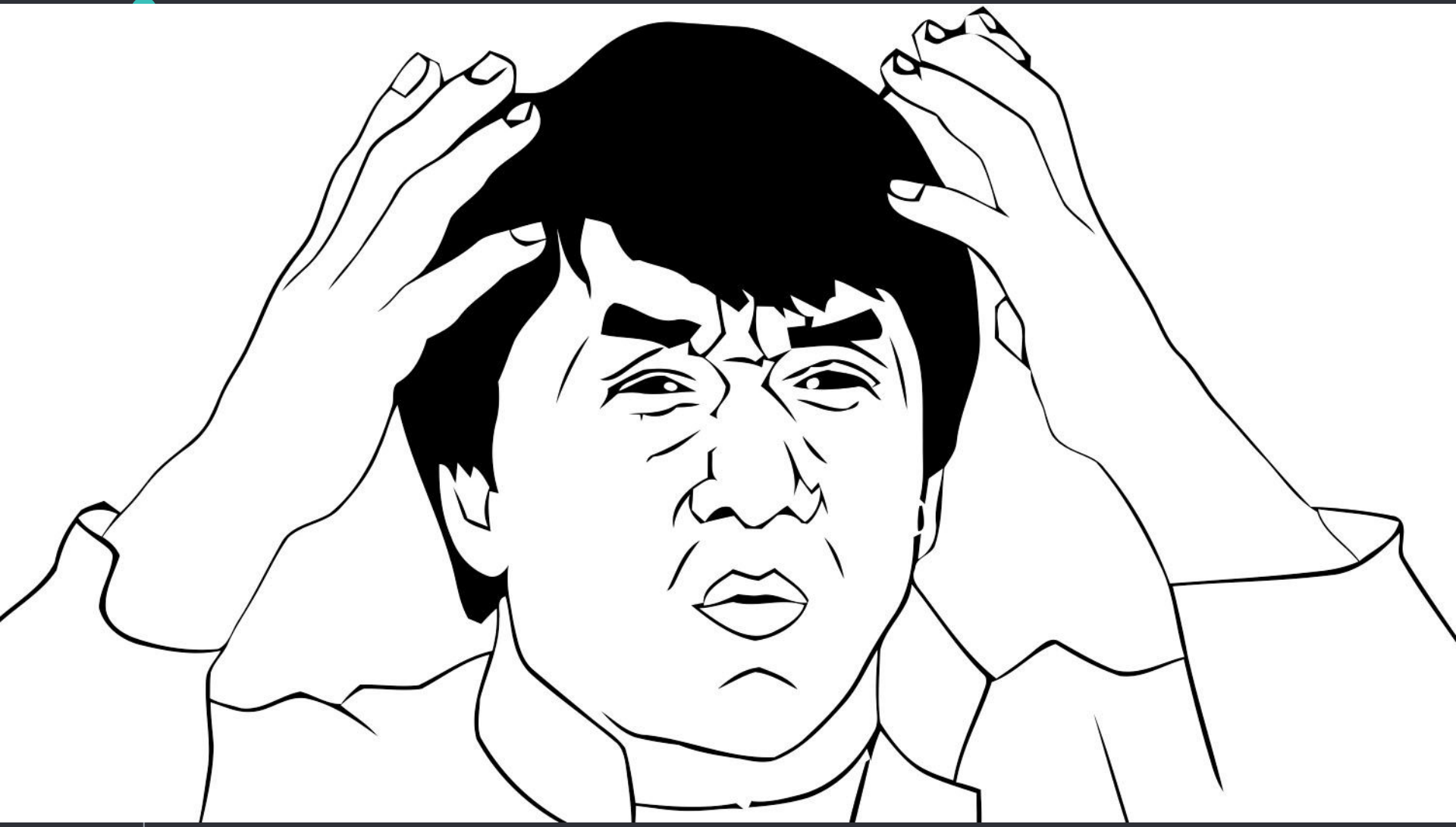
DevOps

Overview


Collaborate
Build
Test
Deploy
Run
Application Lifecycle Mgmt.
JIRA
mingle
Trello
Visual Studio
Team Foundation Server
PivotalTracker
Basecamp
asana
PHABRICATOR
SCM/VCS
git
mercurial
GitHub
Bitbucket
Gogs
GitBucket
GitLab
Testing
Selenium
Jasmine
GAUNTLT
OWASP ZAP
Gatling
KARMA
JUnit
FitNesse
NUnit
QUnit
Test NG
cucumber
Galen Framework
LOAD IMPACT
JMeter
BlazeMeter
pytest
SERVERSPEC
Browsersync
Pally
specflow
Newman
xUnit.net
Deployment
Octopus Deploy
DEPLOY
RUNDECK
Capistrano
urbancode
NOLIO
SSH
JUJU
ElasticBox
Spinnaker
Cloud / IaaS / PaaS
amazon web services
Dokku
heroku
Flynn
Microsoft Azure
CLOUD FOUNDRY
Google Cloud Platform
rackspace
openstack
appfog
OPENSHIFT
Communication & ChatOps
slack
HipChat
#irc
flowdock
Microsoft Teams
RIVER
Mattermost
ROCKET.CHAT
COG
Nestor
LITA
CI
wercker
snap
TeamCity
Jenkins
Bamboo
drone.io
circleci
Travis CI
go
CODESHIP
Config Mgmt./Provisioning
puppet labs
CHEF
ANSIBLE
SALTSTACK
CFEngine
PowerShell DSC
VAGRANT
TERRAFORM
Orchestration & Scheduling
MESOSPHERE
MARATHON
SWARM
kubernetes
Nomad
RANCHER
MESOS
Knowledge Sharing
github pages
jekyll
Confluence
HUGO
Mark down
Read the Docs
apiblueprint
RAML
FLARUM
OPEN API
graphviz
Discourse
reddit
Build
sbt
Gradle
GRUNT
docker
Maven
.js
Gulp
Nant
PACKER
MSBuild
Leiningen
Rake
Artefact Management
QUAY
DockerHub
Nexus Repository
Bower
JFrog Artifactory
python
nuget
archiva
npm
Sonatype Nexus
BI / Monitoring / Logging
logstash
elasticsearch
splunk
Vector
kibana
DATADOG
ZABBIX
APPDYNAMICS
GROK
ZIPKIN
Google Analytics
x-pack
SENTRY
New Relic
VIZCERAL
Prometheus
dynatrace
PINPOINT
Runscope
sensu
Atlas
RIEMANN
APImetrics
Grafana
graphite
RAYGUN
STATSD
Airbrake.io
Rollbar
pagerduty
boats
OpsGenie
Keen IO
Database Management
DBmaestro
DBDeploy
Flyway
Flocker
redgate
LIQUIBASE



DevOps (a clipped compound of "development" and "operations") is a software engineering culture and practice that aims at unifying software development (Dev) and software operation (Ops).



DevOps is really, really broad...

DEVOPS HISTORY

The “DevOps” movement has been caused by three major factors:

- Agile Development Practices
- Cloud Computing
- Increased Automation

EXAMPLE DEVOPS PRACTICES

- Development Methods
- Build
- Test
- Deployment
- Infrastructure
- Logging
- Code/Release Management
- Configuration
- Virtualisation
- Monitoring

Extreme Programming

extremeprogramming.org

PLANNING

- Customer creates user stories
- Divide projects in to small iterations
- Planning starts each iteration
- Frequent and small releases

MANAGING

- Use open work spaces
- Set an achievable pace
- “Stand up” meeting every day
- Measure project velocity
- Move people around

DESIGNING

- Do the simplest thing that works
- Never add functionality early
- Create spike solutions
- Refactor whenever possible

CODING

- The customer is always available
- Write tests before code
- Pair programming
- Collective ownership
- Integrate often

TESTING

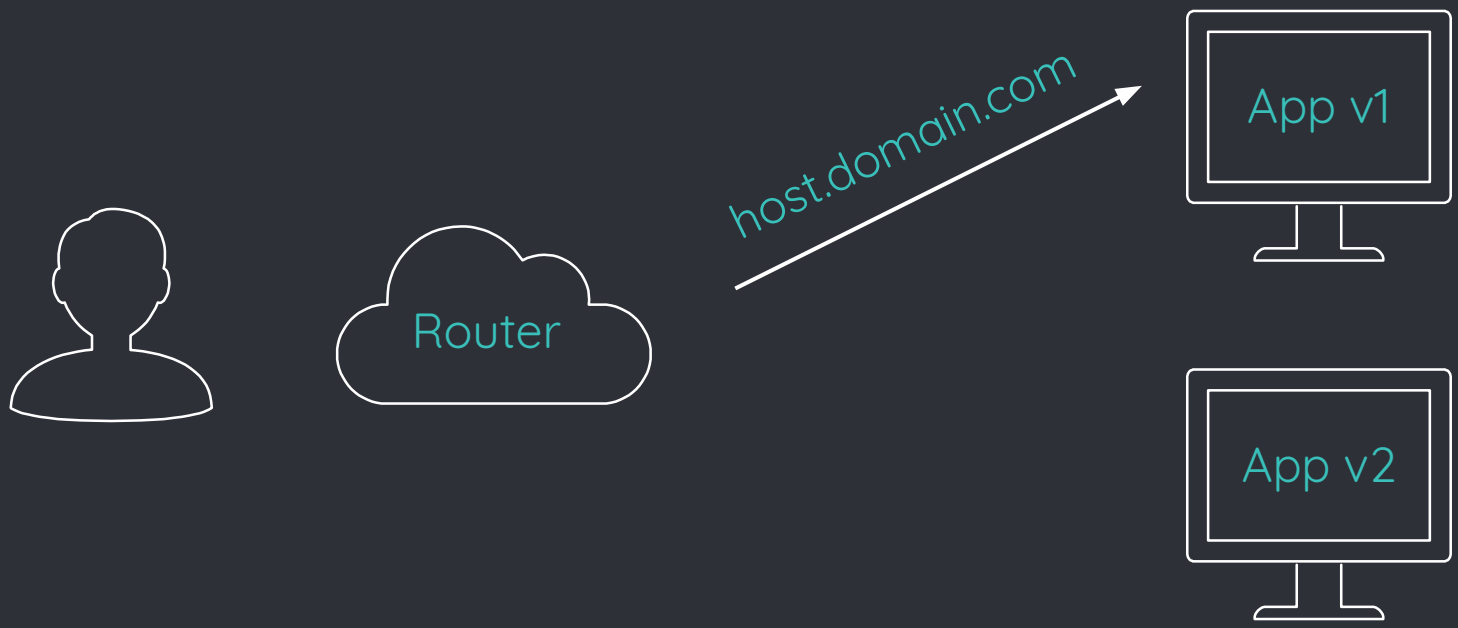
- All code must have unit tests
- All code must pass unit tests
- Write tests when a bug is found
- Acceptance tests are run often

Zero Downtime Deployments

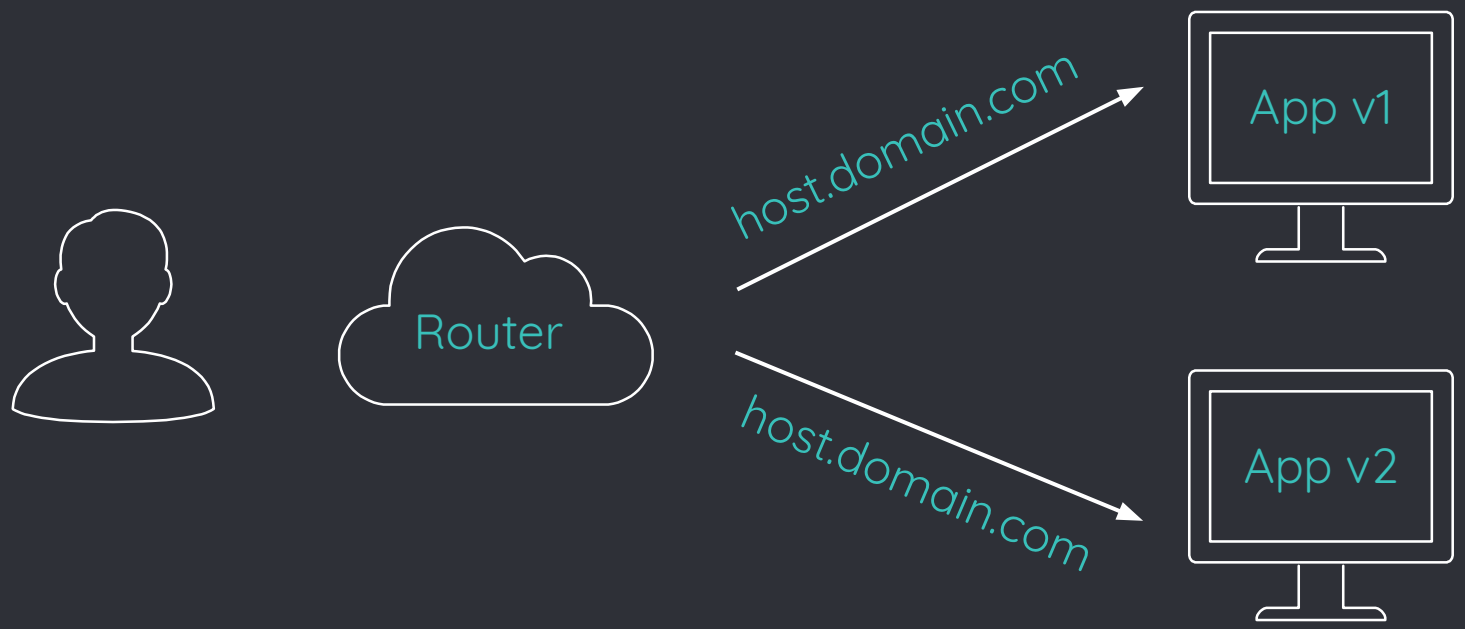
Blue/Green cloud deployments

BLUE/GREEN DEPLOYMENTS

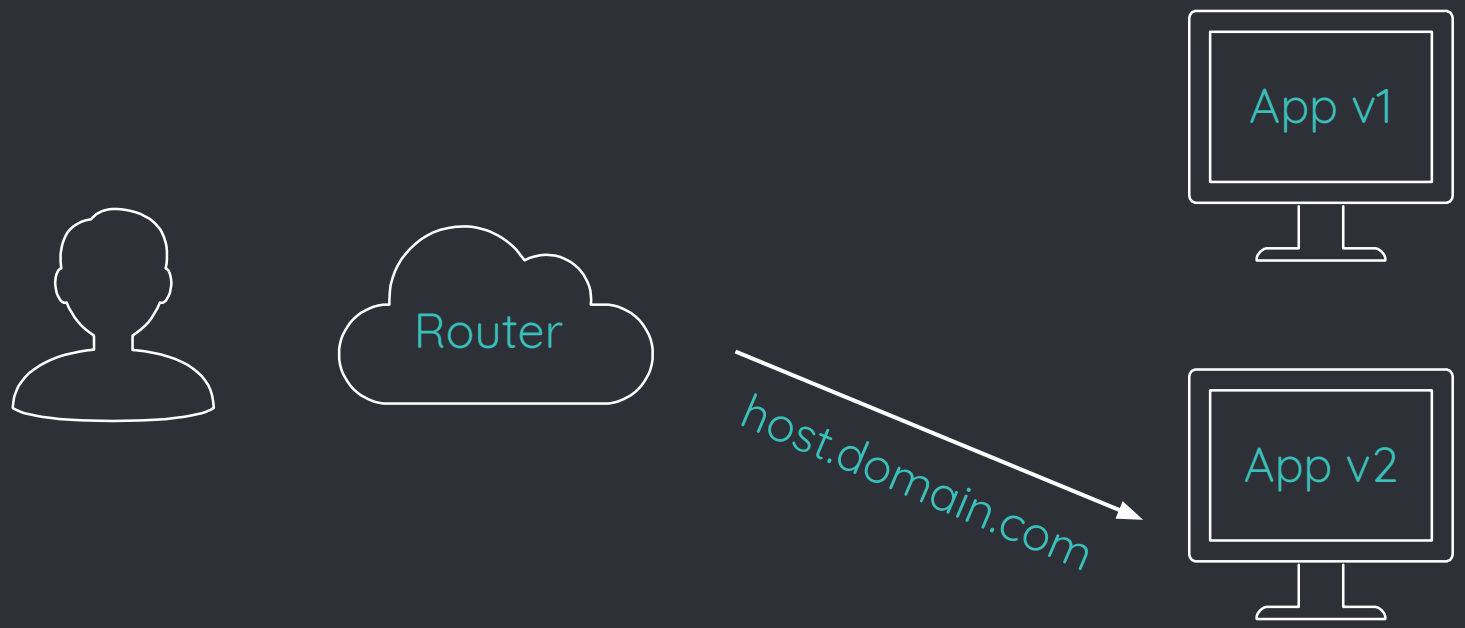
BLUE/GREEN DEPLOYMENTS



BLUE/GREEN DEPLOYMENTS



BLUE/GREEN DEPLOYMENTS



BLUE/GREEN DEPLOYMENTS

Workshop - Working with DevOps Services

https://github.com/edshee/cndworkshops

Thanks!

ANY QUESTIONS?

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