

LESSONS FROM LEADING A "YOU BUILD IT, YOU RUN IT" TEAM

YOU BUILD IT YOU RUN IT

Can a bank adopt DevOps?

COVERED TODAY

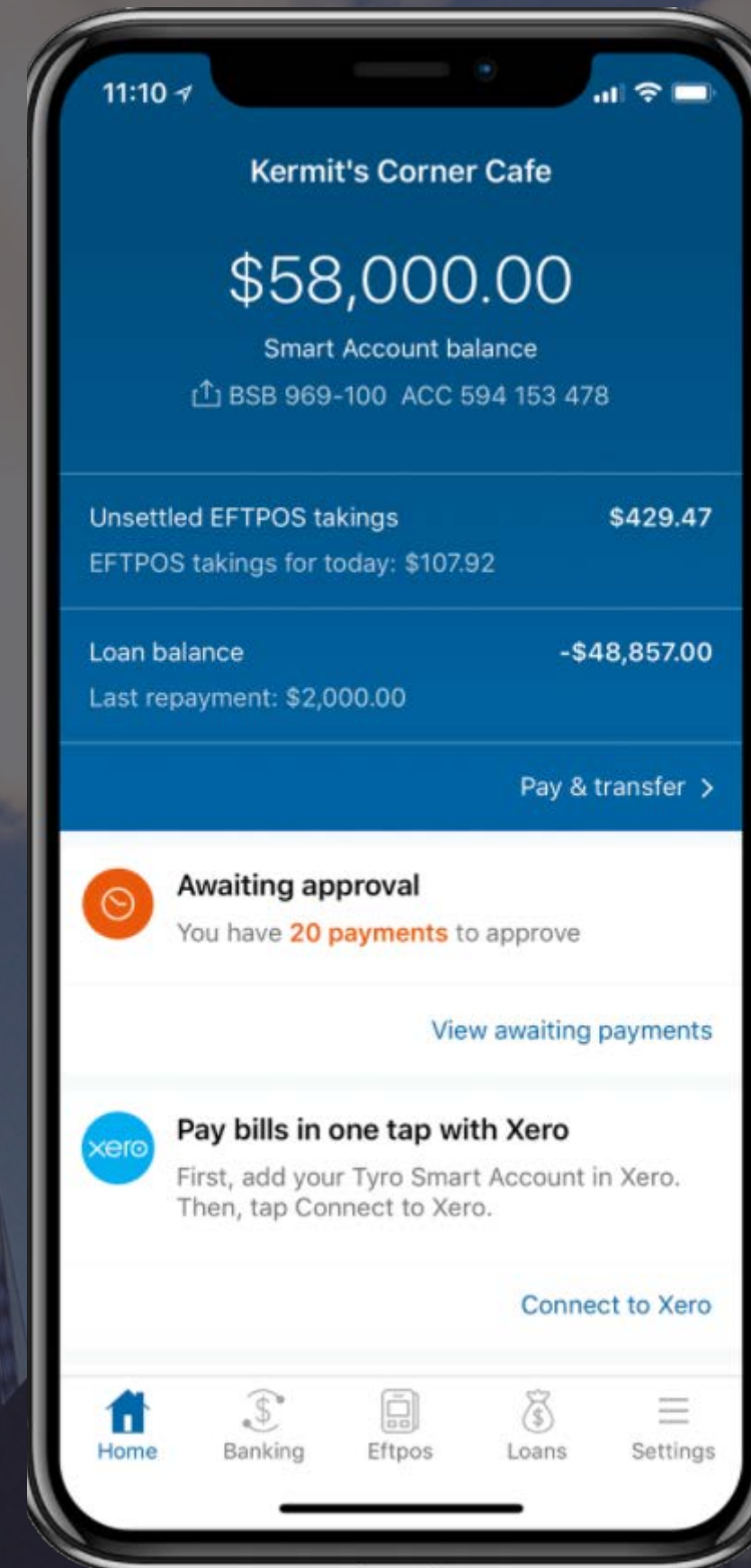


A BRIEF OUTLINE

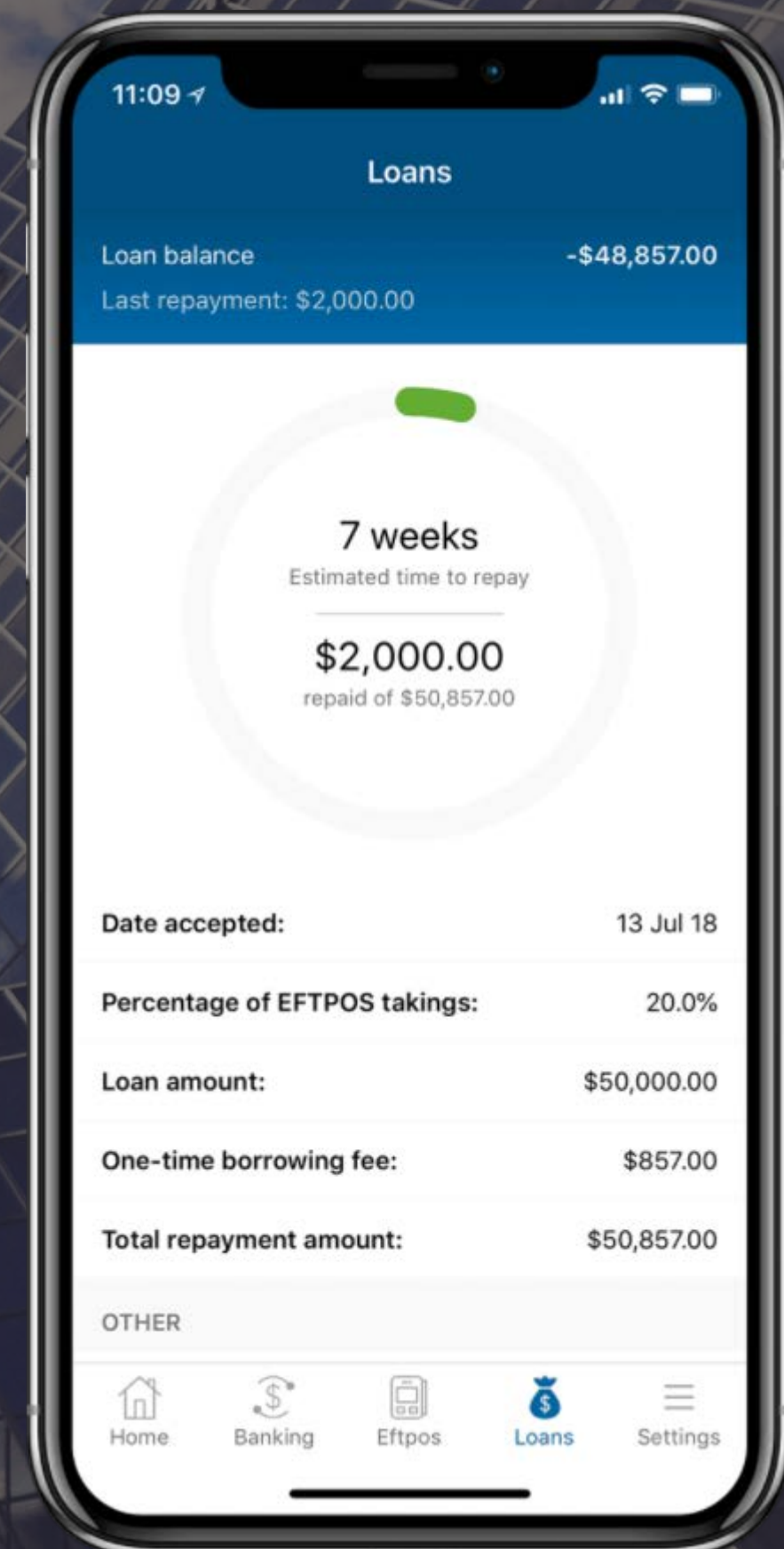
- DevOps challenges for a bank
- Code Review
- Segregation of duties
- Risk Management
 - Security
 - Monitoring & Alerting
 - Support



EFTPOS



Banking



Lending

DevOps

**You Build it,
You Run it**

- **Breaking Silos**
 - **Dev – Ops**
 - **Sec – Dev – Ops**
 - **Auditing...**
 - **Risk...**
 - **Compliance...**

- **Amazon**
- **Dev Teams,
operating
products**
- **Alternative: SRE**

CHAOS MONKEYS



CHAOS MONKEYS



Reporting

TRANSACTIONS

> **1M/Day**

VOLUME



CHAOS MONKEYS



On-prem



Cloud

- **You build it, you run it**
- **24/7 support**
- **99.9% Availability**

CHAOS MONKEYS

2018

Accelerate:
State of DevOps
Strategies for a New Economy

Deployment Frequency

6/week

Multiples per
day

Lead Time for Change

< 20 min

< 1 hour

Time to restore service

< 30 min

< 1 hour

Change Fail Rate

< 5%

0-15%

BANKING CHALLENGES

**Aren't you a
bank?**

BANKING CHALLENGES

HIGHLY REGULATED



CHALLENGES

- Risk management
- Compliance
- Security
- Audit

INDUSTRY RESISTANCY

Have you ever seem cool tech coming from a bank?

A silhouette of a person stands on a dark rock, arms raised in a gesture of triumph or achievement. The background is a vibrant sunset sky with streaks of orange, red, and purple. The word "Lessons" is written in a large, white, sans-serif font across the middle of the image. The letter "L" is enclosed in a red rectangular border.

Lessons



It is about people

When we failed

- Ops and Dev together
- Dev writing puppet
- Ops were the only people with access
- All the Devs left

When we succeeded

- Ops and Dev together
- Equals
- Adopt new tech stack



PAIR PROGRAMMING

CODE REVIEW MOMENTS

PAIR PROGRAMMING

The background image shows two people working at a desk in a pair programming setup. One person, wearing a red shirt, is in the foreground, focused on a laptop screen displaying code. The other person, wearing a dark blue shirt, is seated next to them, looking at the same screen. There are multiple monitors on the desk, some showing code editors and others showing web applications. The desk is cluttered with various items like a water bottle, a mouse, and some papers. The overall atmosphere is professional and collaborative.

- HISTORICALLY WAY TO DO CODE REVIEW
- DNA
- CODE REVIEW IS MANDATORY, PAIRING IS OPTIONAL

PAIR PROGRAMMING

```
commit fd79b2057dcb5aebdb9e8569dcb3b68e94529387 (HEAD -> master, tag: 100.774.0, origin/master, origin/HEAD)
```

```
Author: Mathew Johnson and Robbie Gong <just-dev+mjohnson+rgong@tyro.com>
```

```
Date:   Wed Apr 10 15:54:56 2019
```

```
BOC-1147: Move configuration up in dockerfile-maven plugin
```

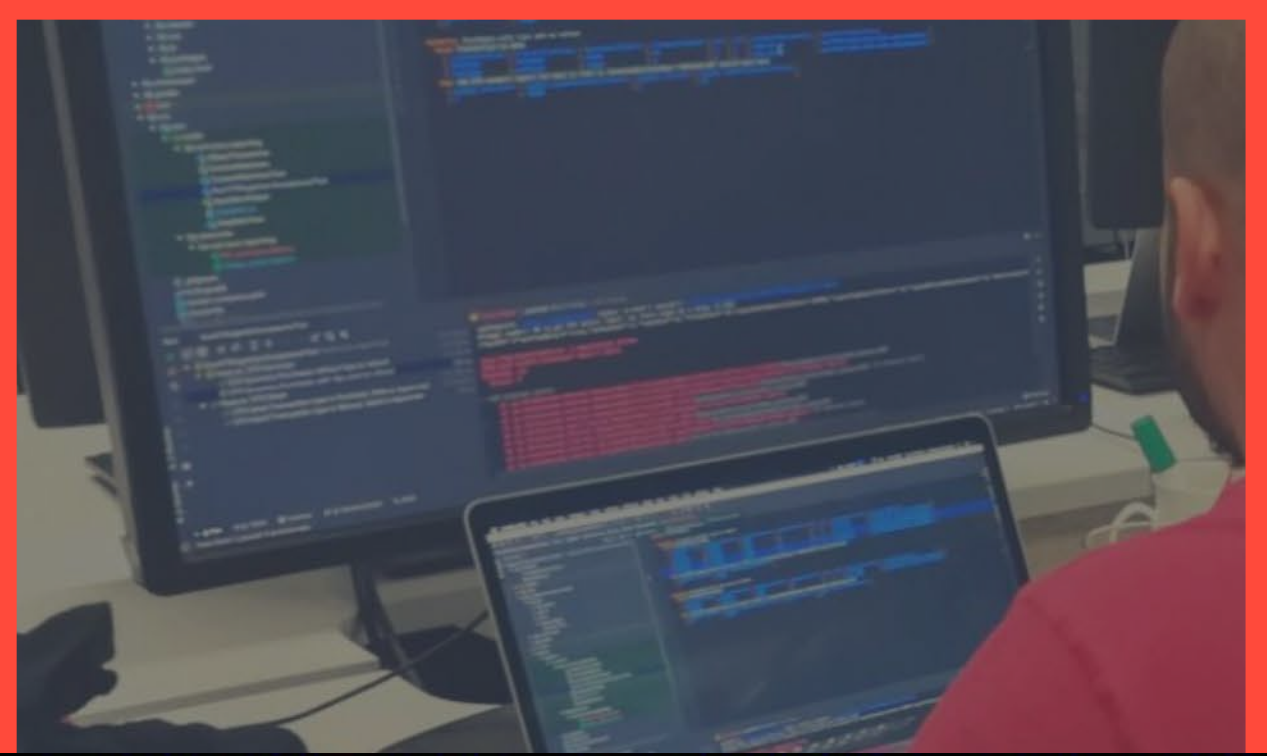
```
commit 2b1d86c0576ea910f2c2cf093b9a1680a8befb0b
```

```
Author: Mathew Johnson and Robbie Gong <just-dev+mjohnson+rgong@tyro.com>
```

```
Date:   Wed Apr 10 15:10:53 2019
```

```
BOC-1147: Remove push goal dockerfile-maven plugin
```


PAIR PROGRAMMING



```
commit fd70b2057dcb5eebcb0e8560dcb2b68e04520287 (HEAD -> master, tag: 100.774.0, origin/master, origin/HEAD)
Author: Mathew Johnson and Robbie Gong <just-dev+mjohnson+rgong@tyro.com>
Date:   Wed Apr 10 15:07:50 2019
```

BOC-1147: Move configuration up in dockerfile-maven plugin



```
commit 2b1d86c0576ee010f2c2cf002b0e1680e8b0fb0b
Author: Mathew Johnson and Robbie Gong <just-dev+mjohnson+rgong@tyro.com>
Date:   Wed Apr 10 15:10:55 2019
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PAIR PROGRAMMING

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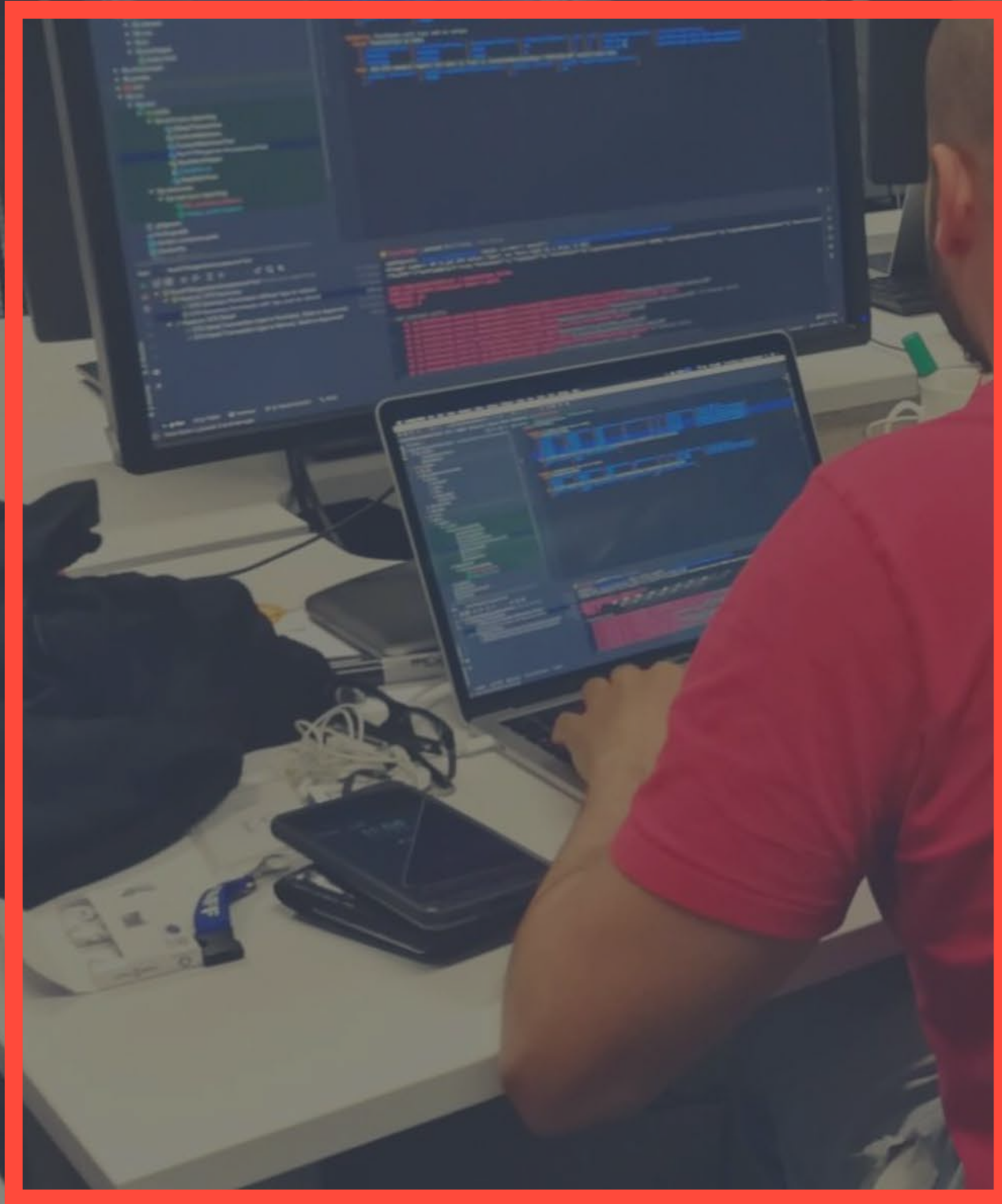
commit 2b1d86c0576ea910f2c2cf093b9a1680a8befb0b

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Date: Wed Apr 10 15:10:53 2019

BOC-1147: Remove push goal dockerfile-maven plugin

PAIR PROGRAMMING



CP-1579: Fix kiali grafanaURL #256

[Open](#) fredmtyro wants to merge 1 commit into `master` from `CP-1579_Fix_kiali_grafanaURL`

Conversation 0 Commits 1 Checks 1 Files changed 1

fredmtyro commented 29 days ago • edited

Why

- ✓ All new test cases added
- ✓ No dependencies on downstream pipelines (eg. k8s-monitoring)
- ✓ Safe to be deployed to production

CP-1579: Fix kiali grafanaURL 64742a1

Add more commits by pushing to the `CP-1579_Fix_kiali_grafanaURL` branch on `tyro-private/k8s-tyro-platform`.

Review required [Add your review](#)
At least 1 approving review is required by reviewers with write access. [Learn more.](#)

All checks have passed [Show all checks](#)
3 successful checks

This branch has conflicts that must be resolved [Resolve conflicts](#)
[Use the command line](#) to resolve conflicts before continuing.

Conflicting files
helm/istio/environments/pit.yaml

[Squash and merge](#) You can also [open this in GitHub Desktop](#) or view [command line instructions](#).



THE PLATFORM PATTERN

HOW WE HANDLE SEGREGATION OF DUTIES



DELIVERY TEAM

- Service Ownership
- Implement Infosec controls
- Comply with regulations



PLATFORM TEAM

- Enables InfoSec controls
- Enforces required measures
- Access control



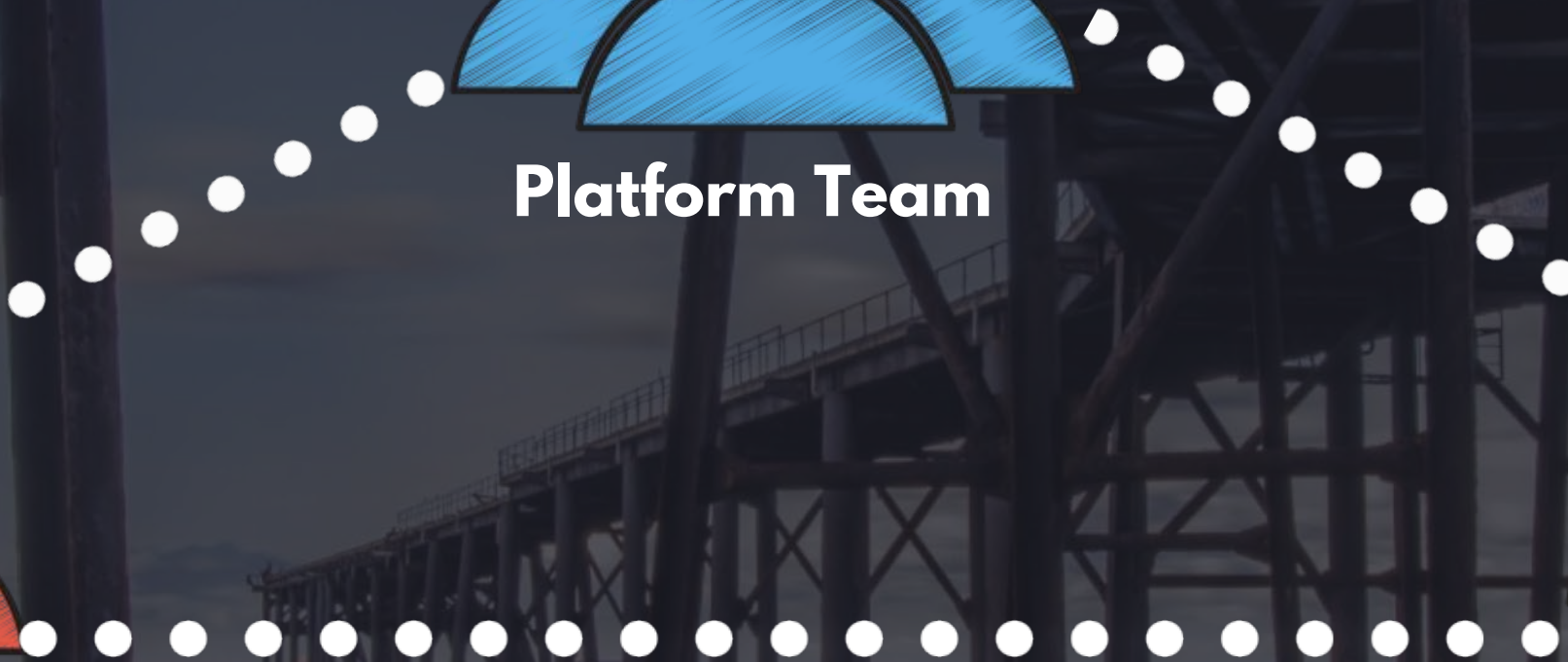
InfoSec Team



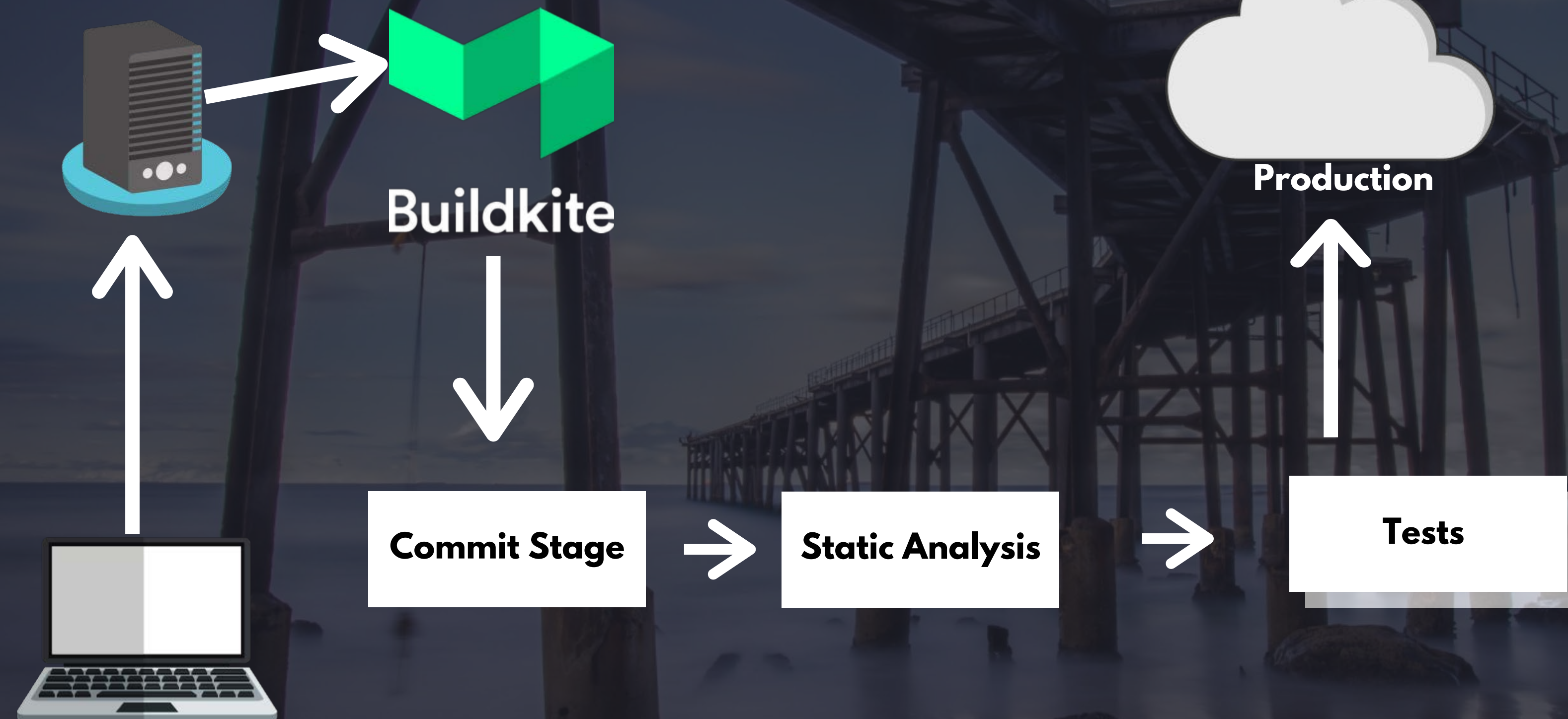
Platform Team



Delivery Team



Build Pipeline





Delivery Team

- **Containers**
- **Pipelines**
- **Monitoring/Alerting**



Platform Team

- **VPCs**
- **Access Controls (IAM)**
- **PaaS (EKS, ECS)**



InfoSec Team

- **Policies**
- **Attack Trees**
- **Security Reviews**

A row of various padlocks is attached to a thick metal cable. The padlocks are of different shapes, sizes, and materials, some showing signs of rust. The word "SECURITY" is written in large, white, bold, sans-serif capital letters. It is enclosed within a thin red rectangular border. The background is a dark, slightly blurred image of the padlocks and cable.

SECURITY

HOW DO WE SECURE THE ENVIRONMENT

Security

EVERYBODY RESPONSIBILITY

All team members
must care about
security.

TRAINING

100% of engineering
are trained on OWASP
top 10 vulnerability.

DEFENSE IN DEPTH

Security controls at
every layer.

SECURITY TESTS

Attack trees, security
reviews, scan,
penetration tests,
InfoSec to the left.



MONITORING & ALERTING

HOW TO WE KEEP OUR SERVICE LEVELS

Monitoring & Alerting

□ SERVICE LEVEL INDICATORS

- Availability
- Response time
- Data Durability
- Latency

□ SERVICE LEVEL OBJECTIVES

- 99.9%
- 90th < 1 sec, 95th < 10sec, 99th < 1 min
- 5 years
- < 30 minutes

□ MONITORING



□ ALERTING

- Near to broke a SLO
- Key indicator is broken
- Too much alerting, is equal to no alerting

Drills - Chaos Engineering

Drills - Chaos Engineering

... **experimenting on a system**
in order to **build confidence** in the system's capability
to withstand **turbulent conditions in**
production

<https://principlesofchaos.org/>

Drills - Chaos Engineering

TDD for the operational requirements

SUPPORT

HOW DO WE GET THERE?

Support

ON-CALL

Team members on-call for their services.

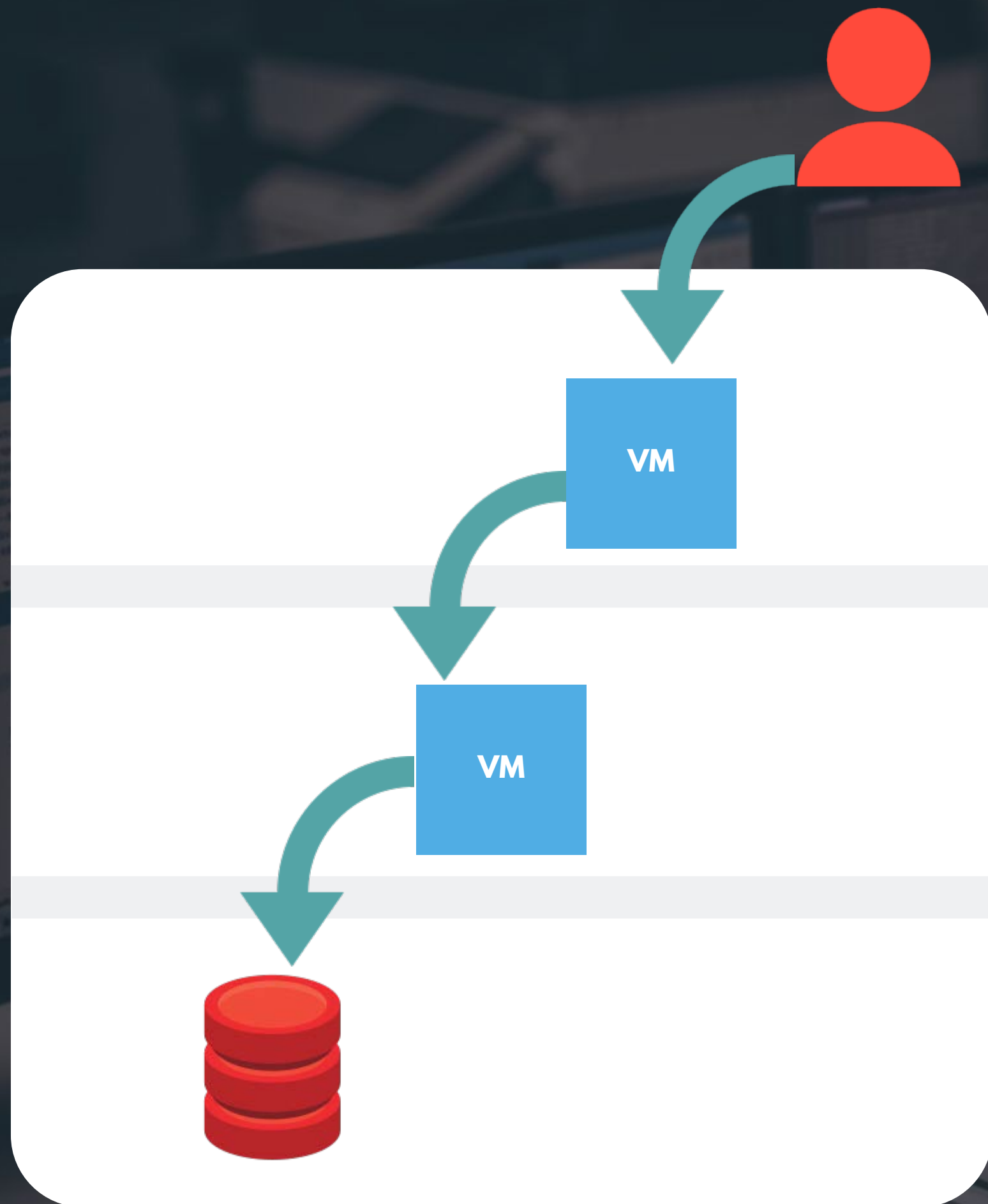
ESCALATION POLICY

Make sure alerts will be acted.

Get the right people involved.

BREAK GLASS

How to access an locked environment.



KEY TAKE AWAYS



Regulation are not
blockers



Empower the individuals



Turn gatekeepers into
collaborators



It is about people

Thank You

Keep in touch



@ROGERALMEIDACOM



ROGER-ALMEIDA.COM



 /IN/ROGER-ALMEIDA

Roger Almeida - www.roger-almeida.com