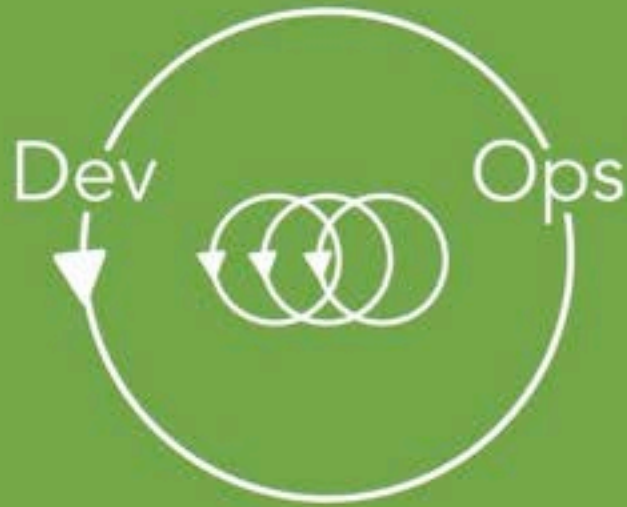


# DevOps Fundamentals

with **Ernest Mueller**  
and **James Wickett**



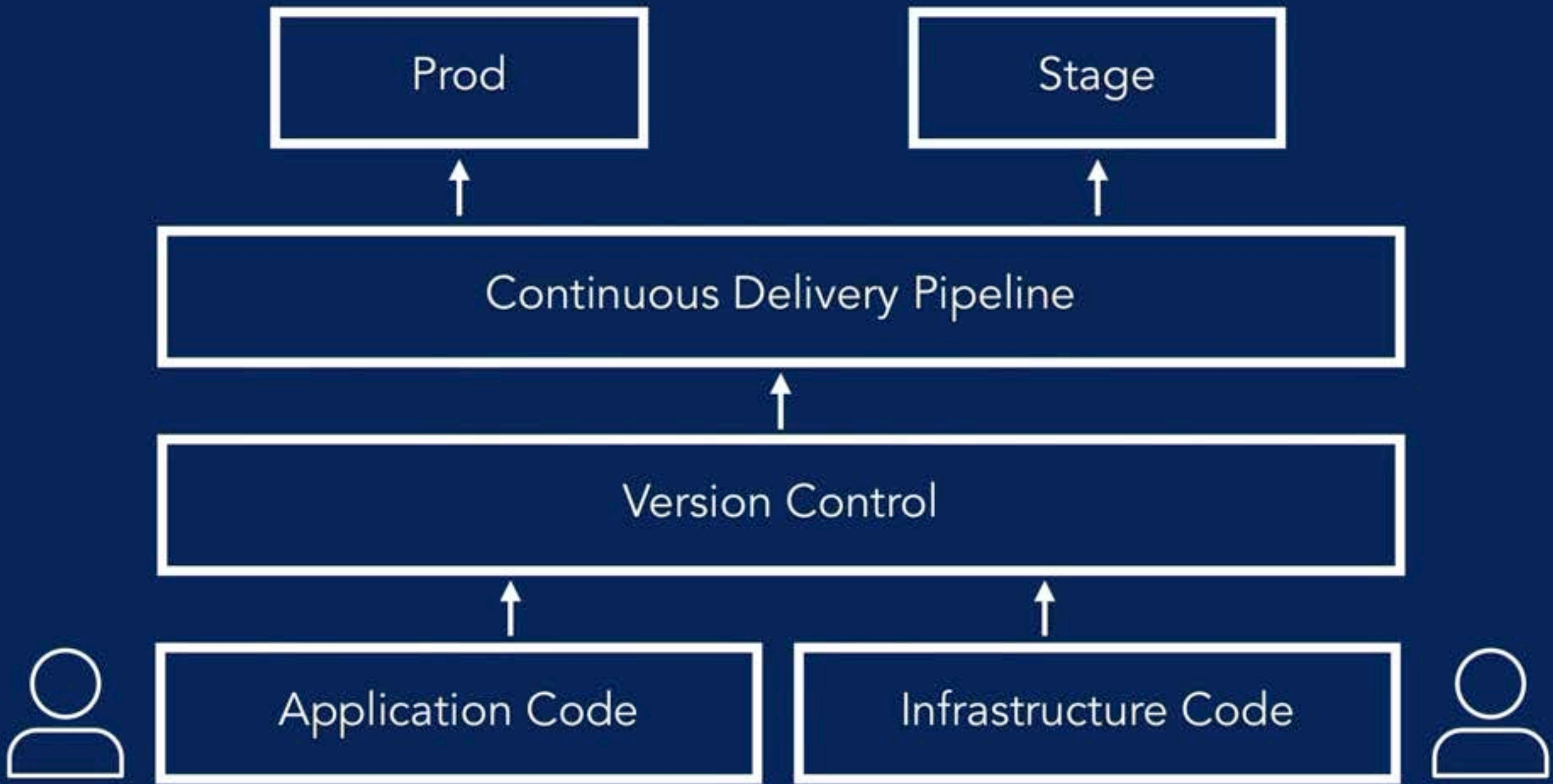


# Use

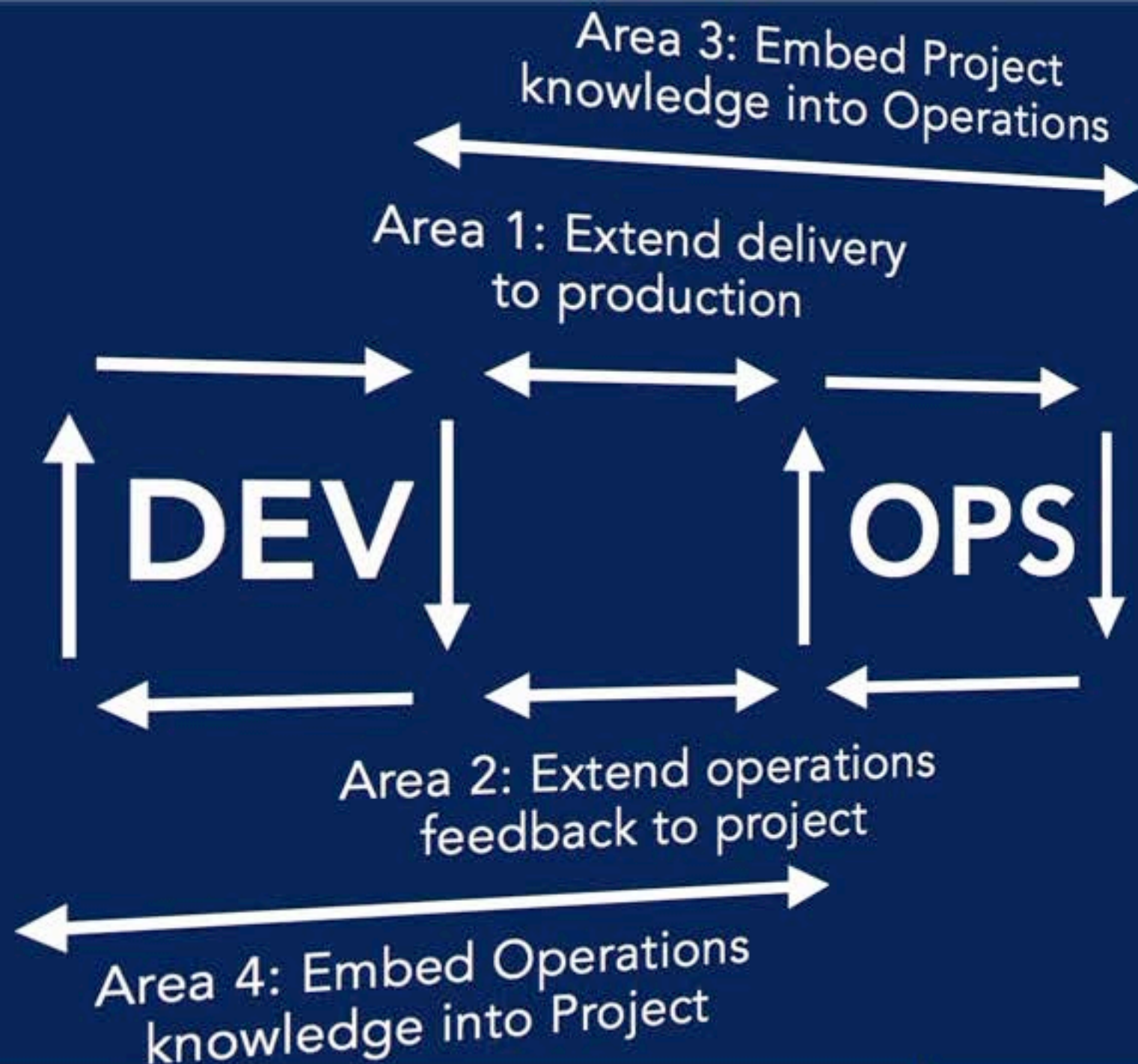
To create team processes

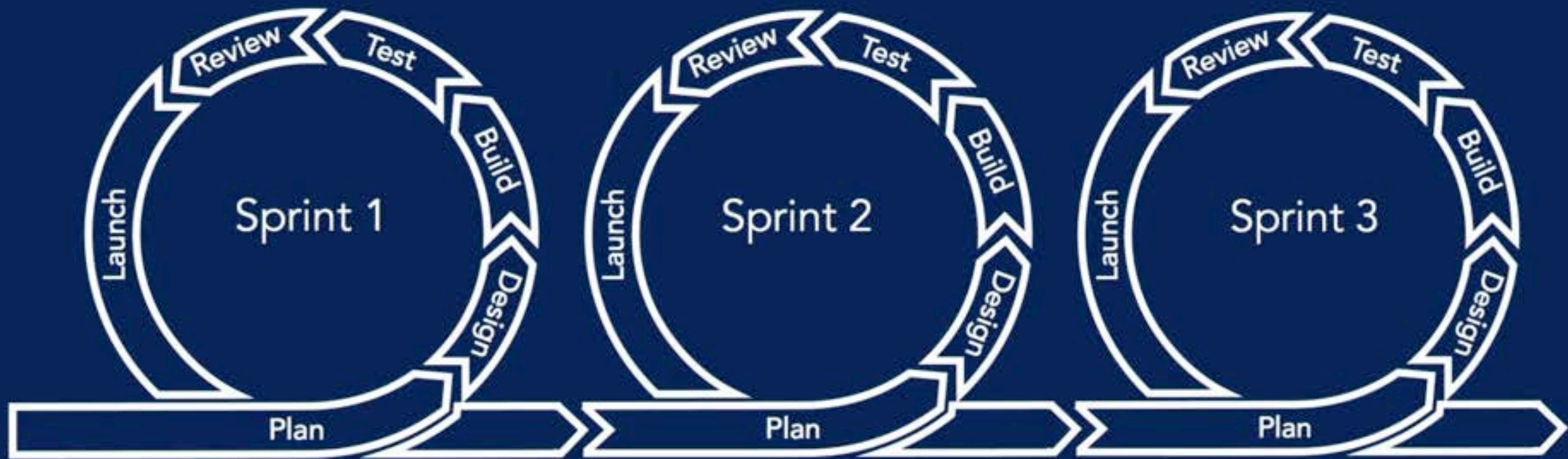
To create team standards

As part of management style









[Get started](#)[Download](#)

### Monitoring as Code

Icinga is a resilient, open source monitoring and metric solution. Lay a monitoring foundation based on our new object-based, rule-driven configuration format with unseen flexibility and performance.

[Learn More ...](#)

### Discover your IT

Icinga Web 2 is built on a solid foundation and provides everything you need for a great monitoring interface. Interact with services, discover metrics, or report your availability is just a click away.

[Learn More ...](#)

### Extend to your needs

Even Icinga Web 2 provides everything you need to start your infrastructure monitoring there.



### Join a community

Icinga is not just software, it's a whole community of users and developers who do monitoring



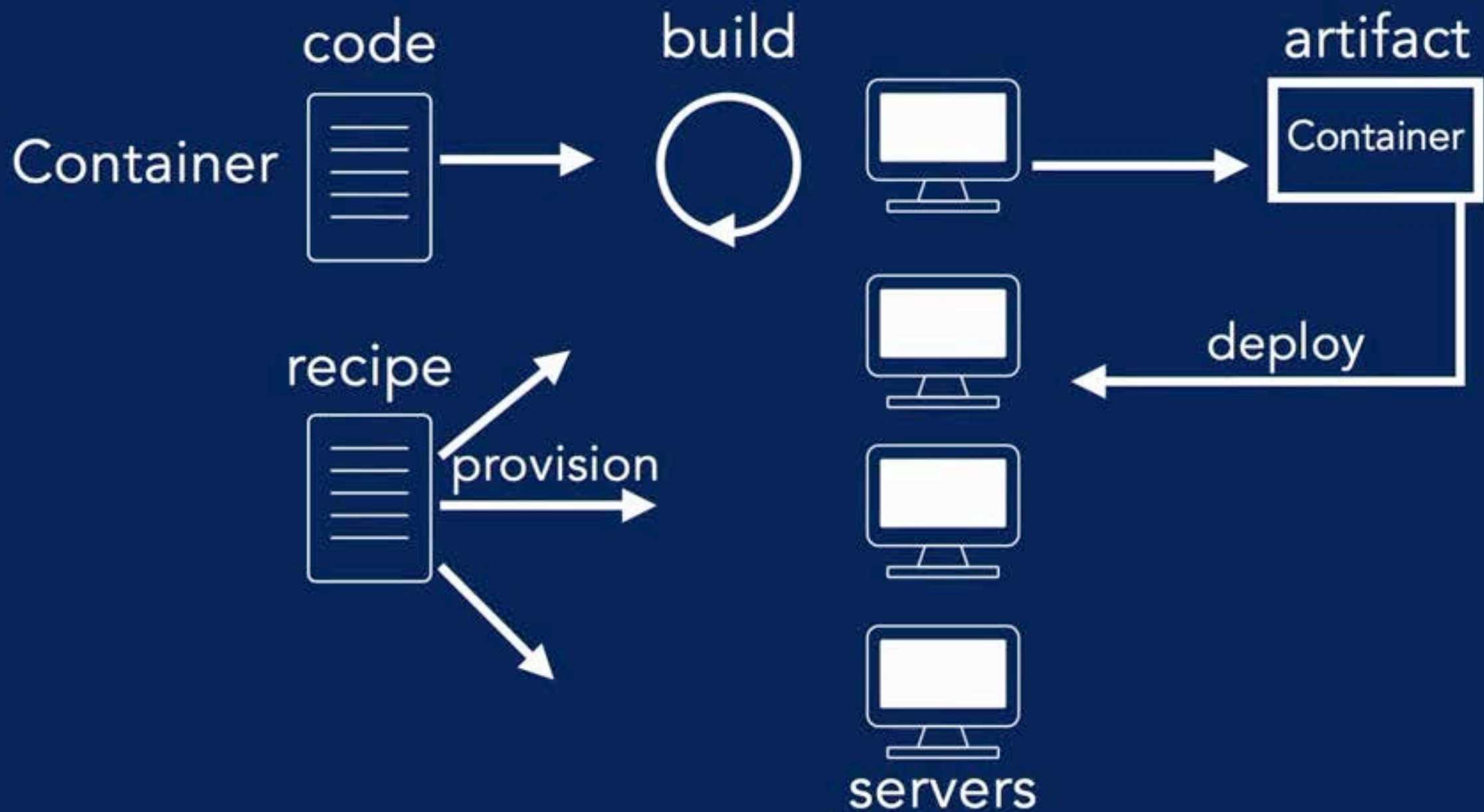
# sensu

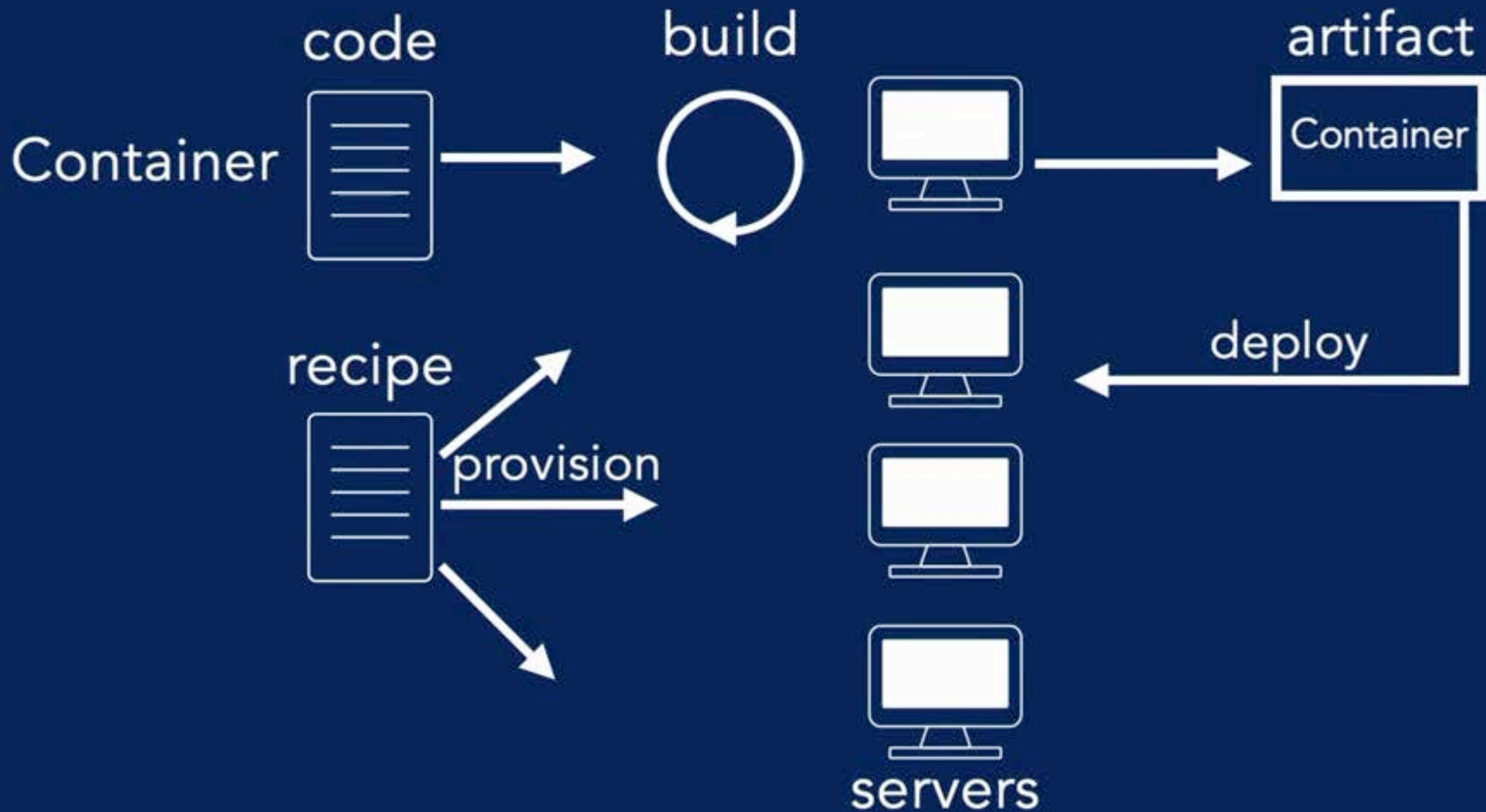
## Monitoring that doesn't suck.

Monitor servers, services, application health, and business KPIs. Collect and analyze custom metrics. Get notified about failures before your users do. Give your business the competitive advantage it deserves.

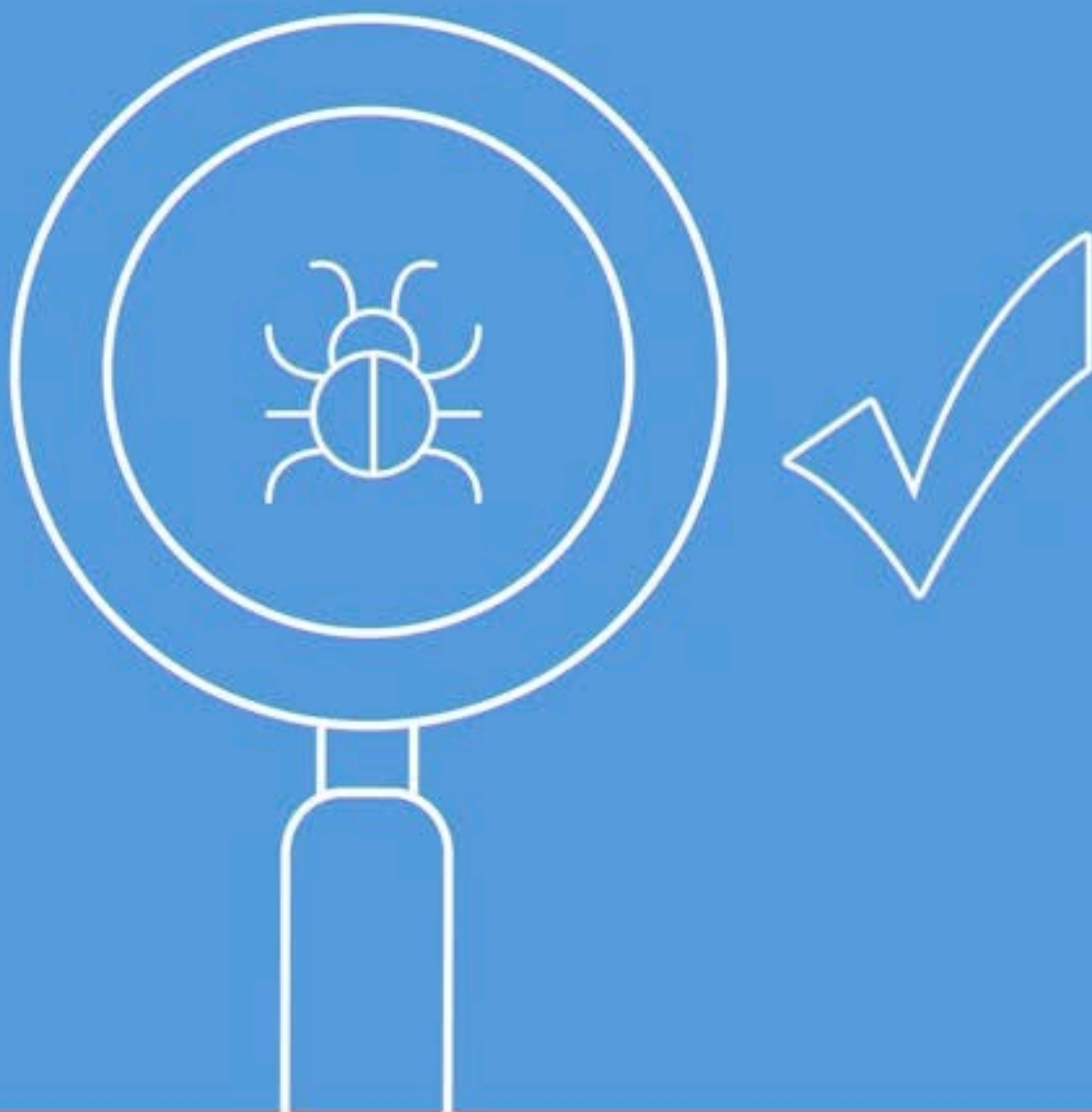
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# **Dev Ops Fundamentals**

# DevOps

The practice of operations and development engineers participating together in the entire service lifecycle, from design through the development process to production support

<https://theagileadmin.com/what-is-devops>





**1** Code



**2** Test



**3** Deploy



**4** Operate

**5** Strikeout

# The Five Levels of DevOps

- ① Values
- ② Principles
- ③ Methods
- ④ Practices
- ⑤ Tools

puppet labs®

# 2015 STATE OF DevOps REPORT

- 1 High-performing IT organizations deploy more frequently, fail less, and recover faster.
- 2 Lean management and continuous delivery practices help deliver value faster.
- 3 High performance is achievable whether your apps are greenfield, brownfield, or legacy.

<https://puppet.com/resources/white-paper/2015-state-devops-report>



**Dev**



"code"

**Ops**



"systems"

# DevOps Core Values: CAMS

- ① Culture
- ② Automation
- ③ Measurement
- ④ Sharing

<https://goo.gl/iDhWiD>



“That the word DevOps gets reduced to technology is a manifestation of how badly we need a cultural shift.”

—Patrick DeBois

<http://itrevolution.com/devops-culture-part-1>

Hoohack



Development



TikTok



Operations

IT





# Automation











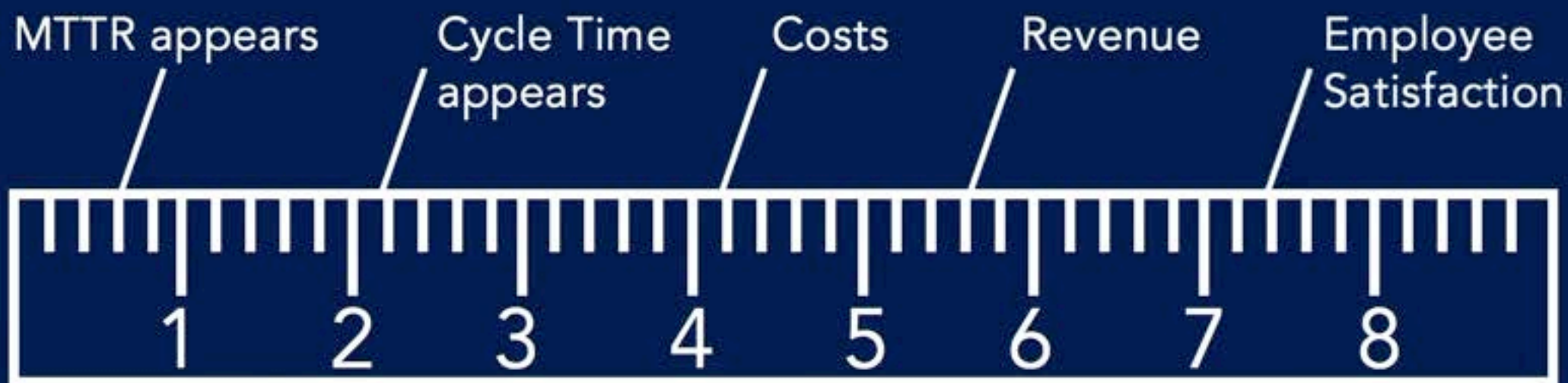
<http://dev2ops.org/2010/02/people-over-process-over-tools>



# Measurement









# Sharing



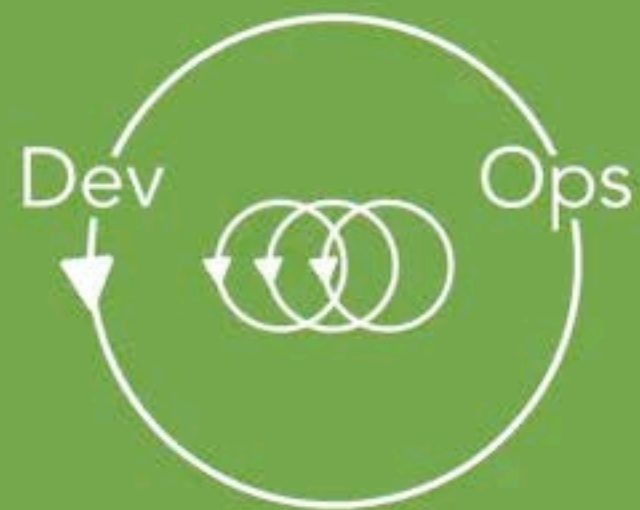
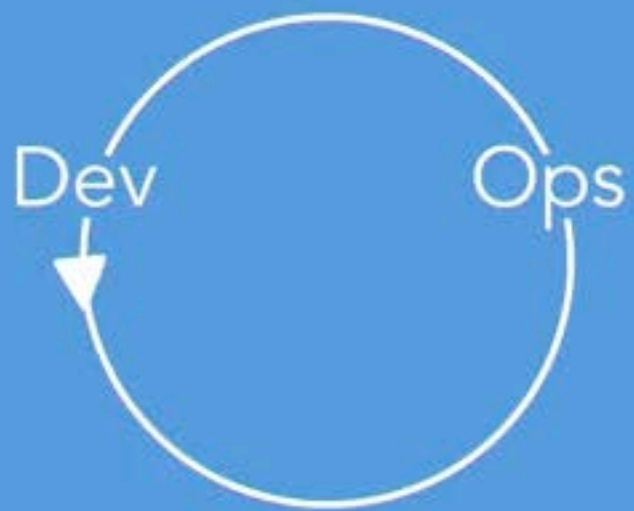
# **Kaizen**

Discrete continuous improvement

- ① Culture
- ② Automation
- ③ Measurement
- ④ Sharing



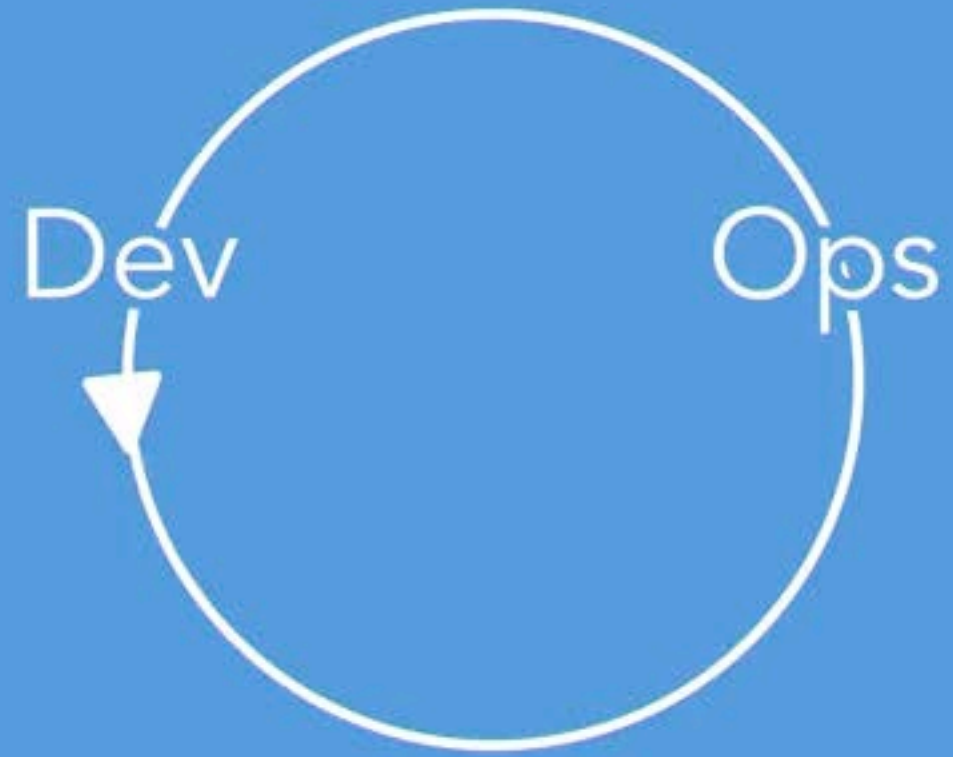
# **Dev Ops Fundamentals**



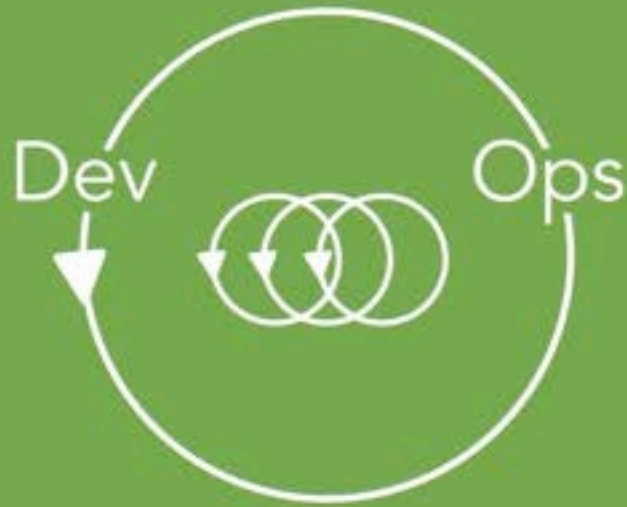


Concept to Cash









# Use

To create team processes

To create team standards

As part of management style

# First Methodology

People

---

Process

---

<http://dev2ops.org/2010/02/people-over-process-over-tools>

# Second Methodology

## Continuous Delivery

Development  
Testing

—  
release

—  
release

—  
release

# Third Methodology

## Lean Management

---

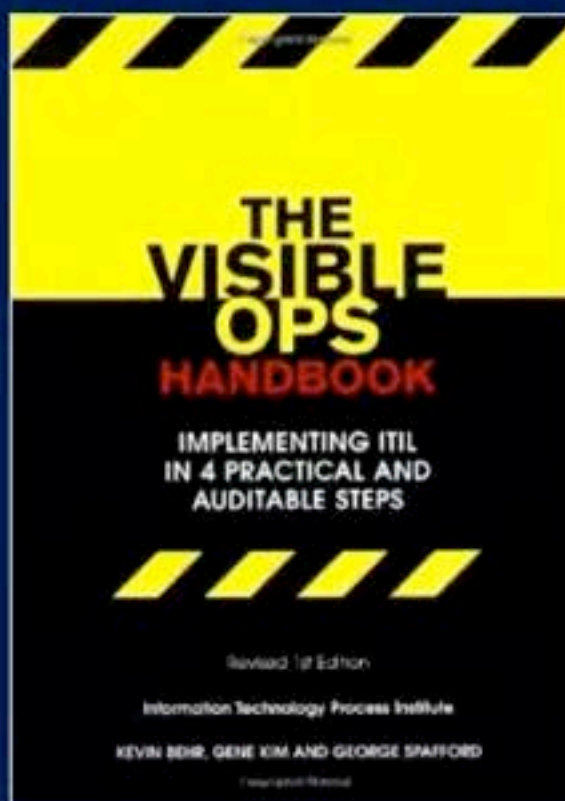
Work in small batches

Work in progress limits

Feedback loops

Visualization





# Fourth Methodology

## Change Control

---

Eliminate fragile artifacts

Create a repeatable build process

Manage dependencies

Create an environment of continuous improvement

# Fifth Methodology

## Infrastructure as Code

---

Systems treated like code

Checked into source control

Reviewed, built, and tested

Managed programmatically

# Fifth Methodology

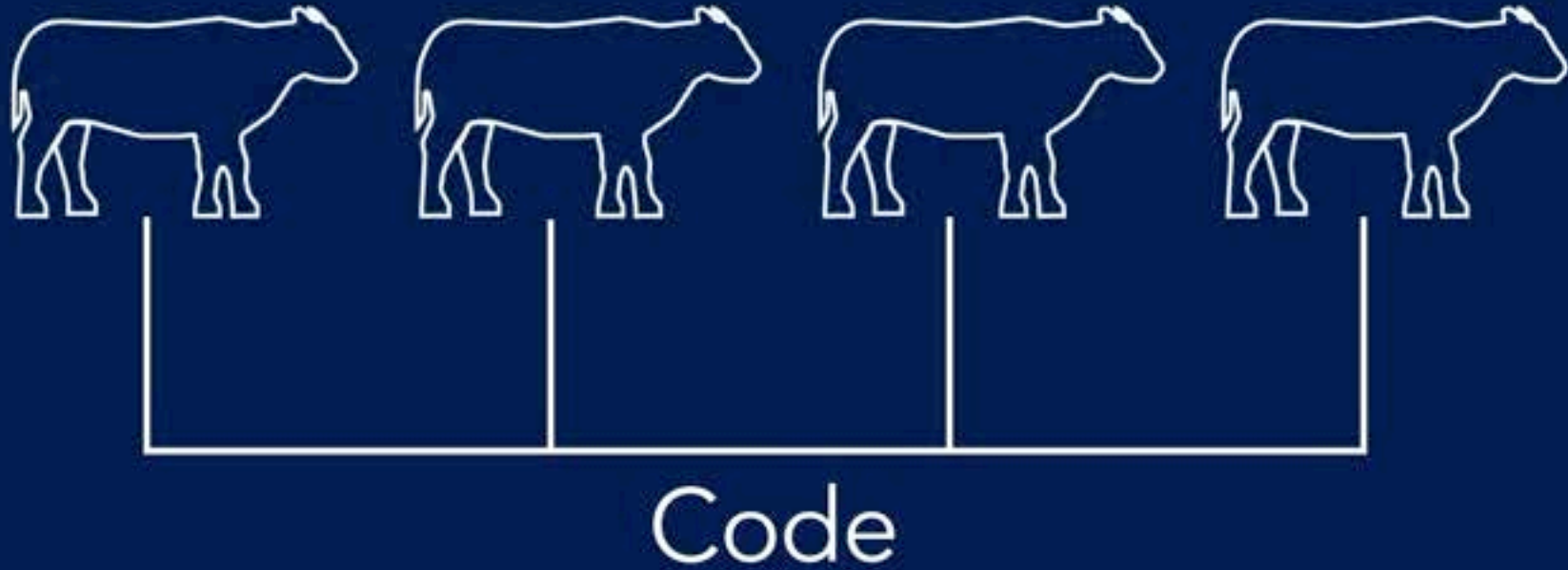
System System System System



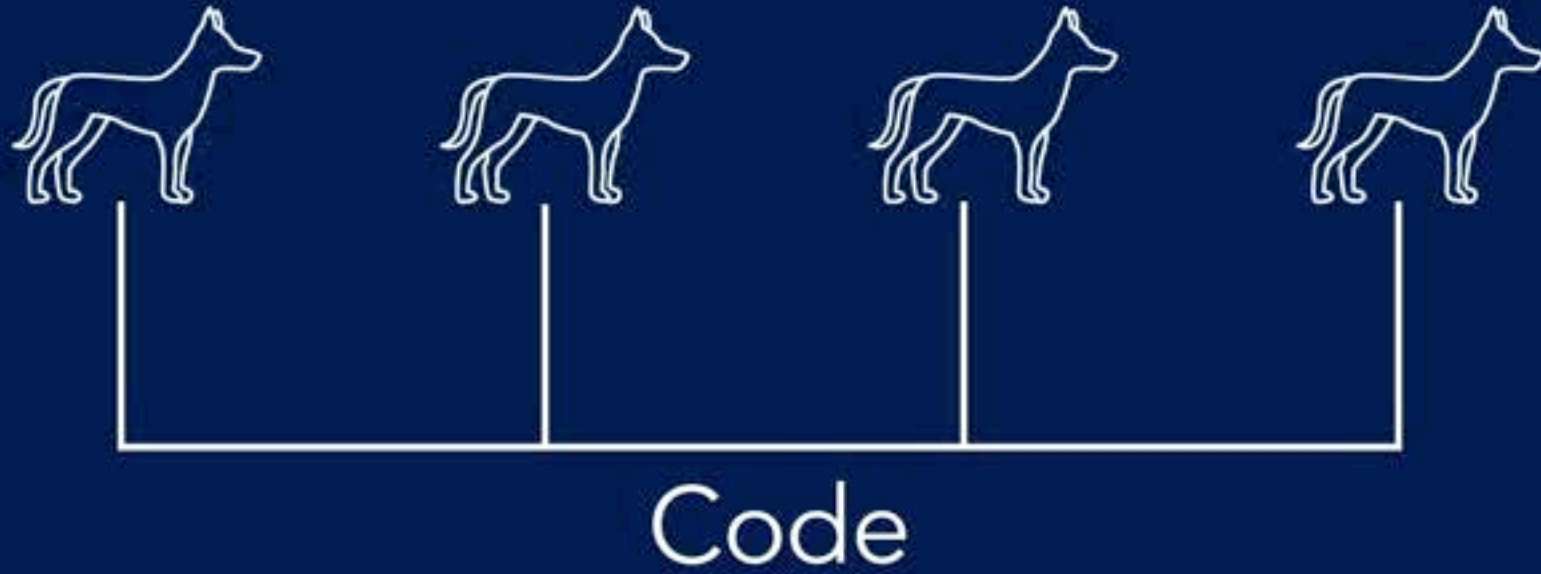
Code



# Fifth Methodology



# Fifth Methodology



- ① People over process over tools
- ② Continuous delivery
- ③ Lean management
- ④ Visible ops change control
- ⑤ Infrastructure as code

# **Dev Ops Fundamentals**

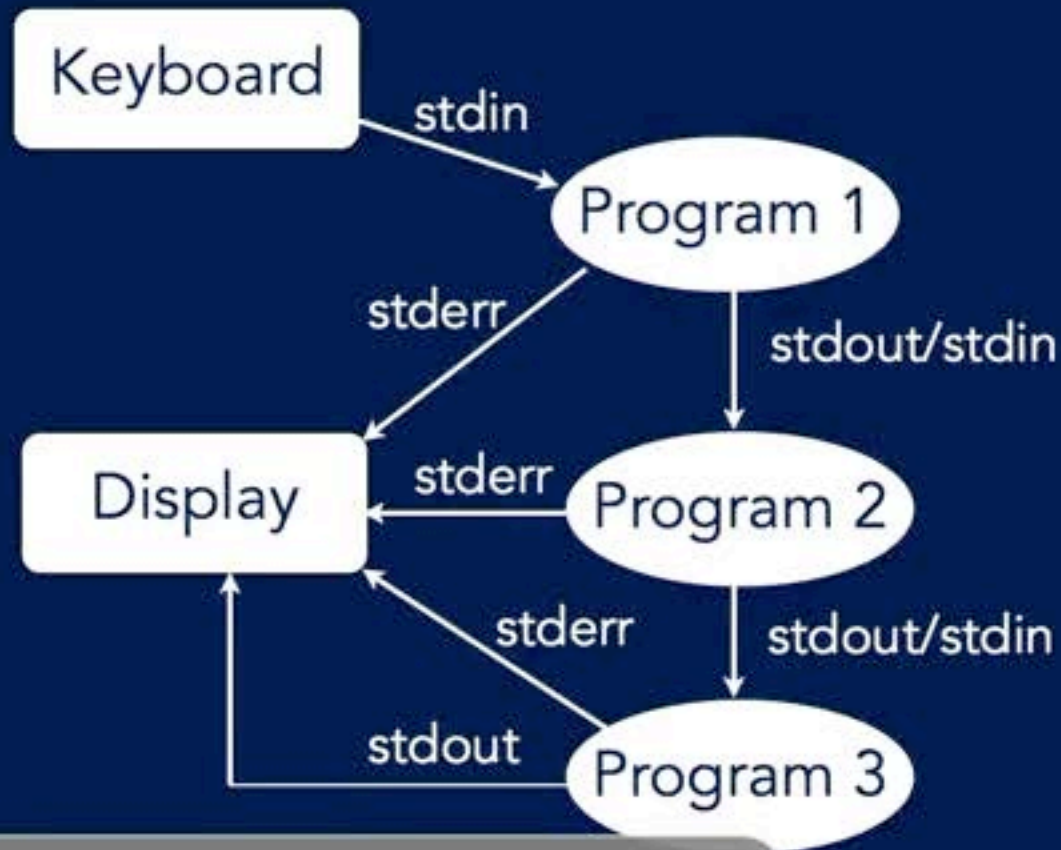


# 10 Practices for DevOps Success

- 1 Chaos Monkey
- 2 Blue/Green Deployment
- 3 Dependency Injection
- 4 Andon Cords
- 5 The Cloud
- 6 Embedded Teams
- 7 Blameless Postmortems
- 8 Public Status Page
- 9 Developers on Call
- 10 Incident Command System

# **DevOps Tools: The Cart or the Horse?**

Weblogic Gradle Jenkins Maven Fai  
Chef Solano memcache RabbitMQ  
Ant Capistrano Cobbler Solaris Containers  
Ansible Docker Linux Windows  
nginx Unix Mac OS X JBoss IIS  
Amazon Web Services Tomcat  
Apache Cloud Foundry OpenStack  
CFEngine Rackspace  
ActiveMQ OpenStack VMware Azure Xen Jetty  
varnish SaltStack LXC KVM VirtualBox Vagrant Glassfish  
squid RANCID Kickstart Puppet / MCollective  
Websphere Ubuntu Juju



[https://en.wikipedia.org/wiki/DevOps#DevOps\\_toolchain](https://en.wikipedia.org/wiki/DevOps#DevOps_toolchain)





# Tool Criteria

- ① Programmable
- ② Verifiable
- ③ Well behaved