

Session 02

DevOps basics

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Housekeeping

- Please keep yourself muted unless you are participating in the conversation, so we can have a more clear recording.

Quick recap

- DevOps is about collaboration
- Waste removal exercise to prioritize implementation
- Measuring your success

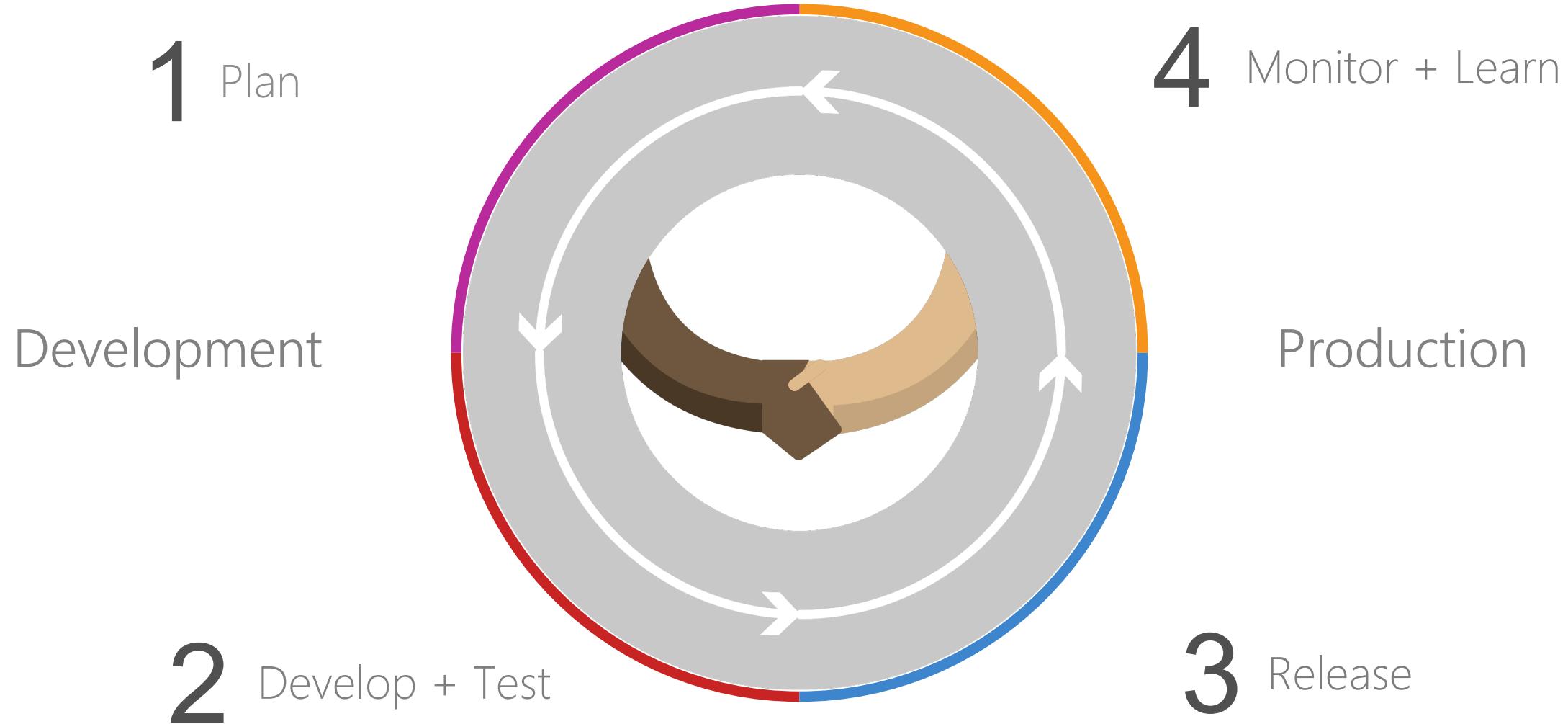
Enabling DevOps Practices

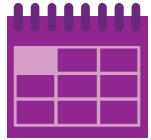


"If you can
show me how
to do it in CLI, I
will show you
how to
automate in a
pipeline."



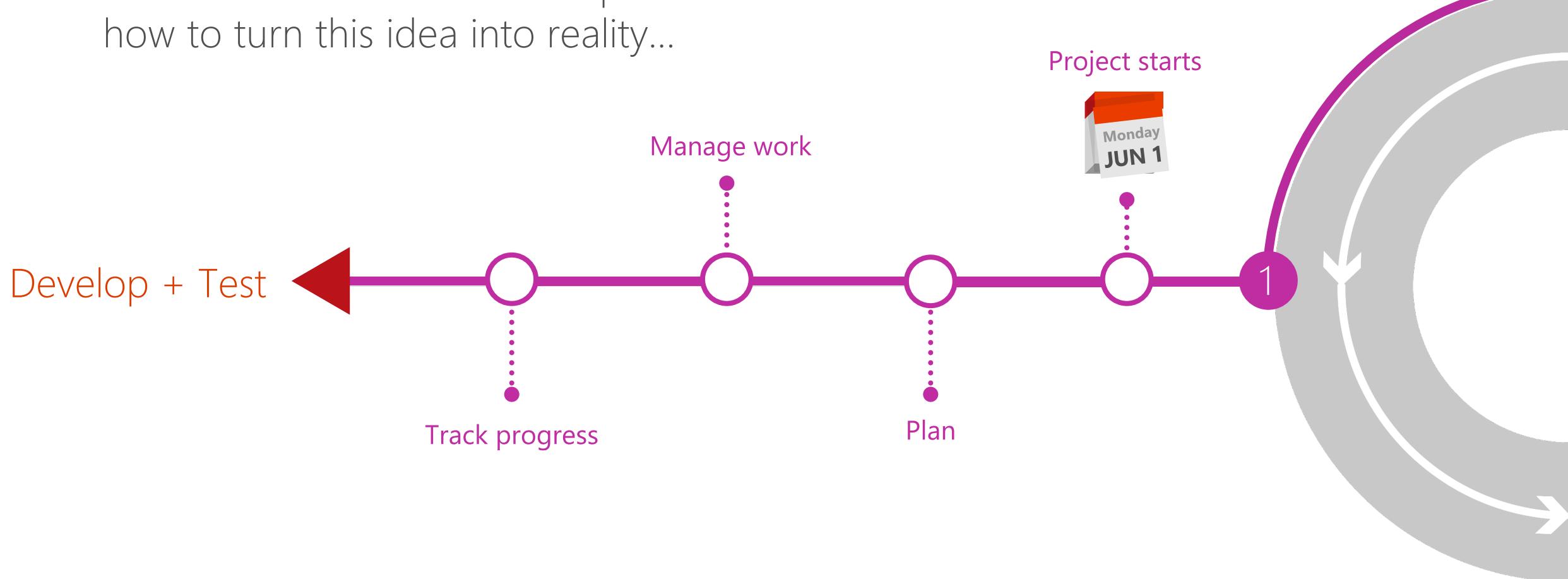
DevOps





Plan

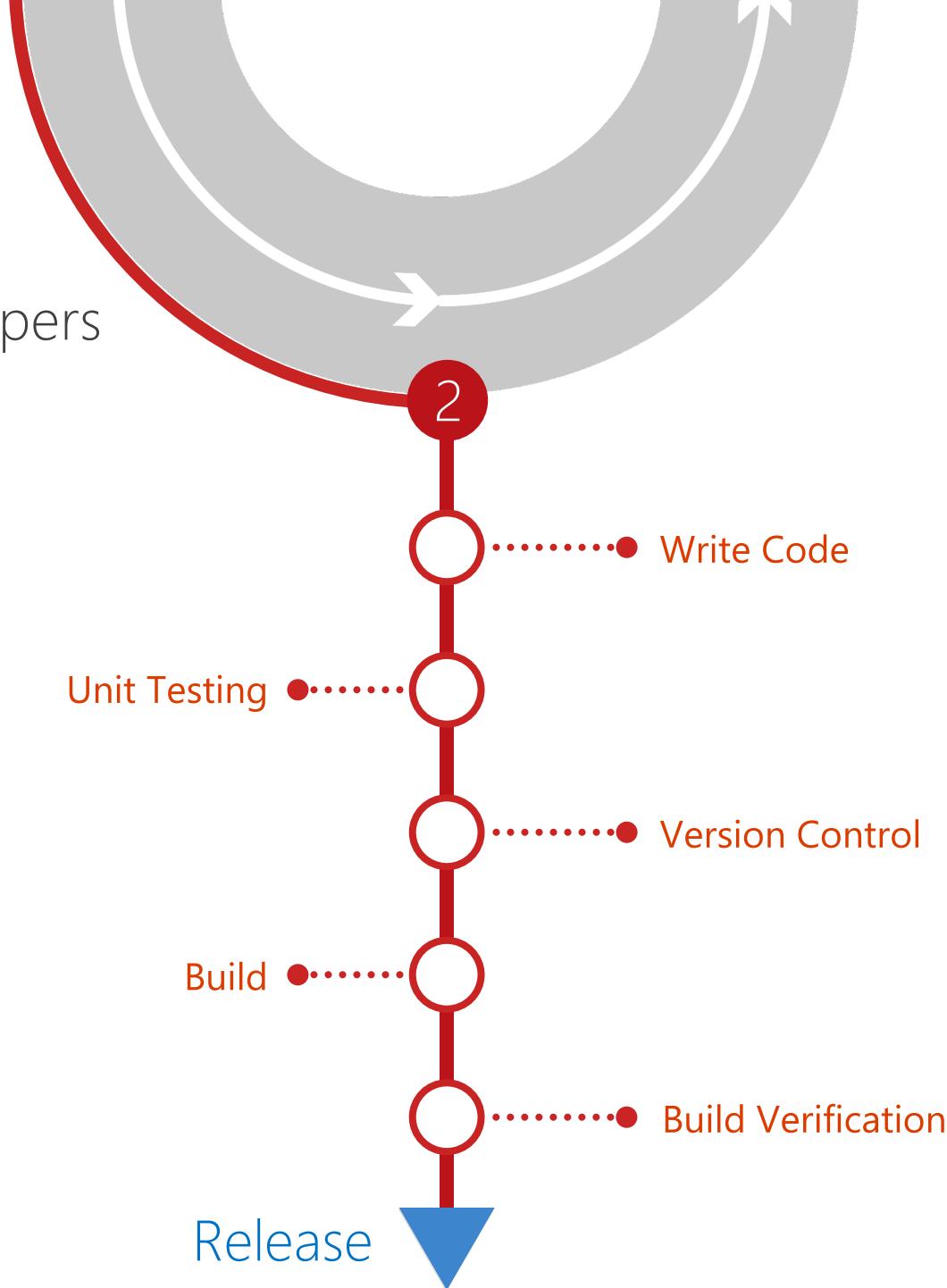
It starts with an idea – and a plan
how to turn this idea into reality...



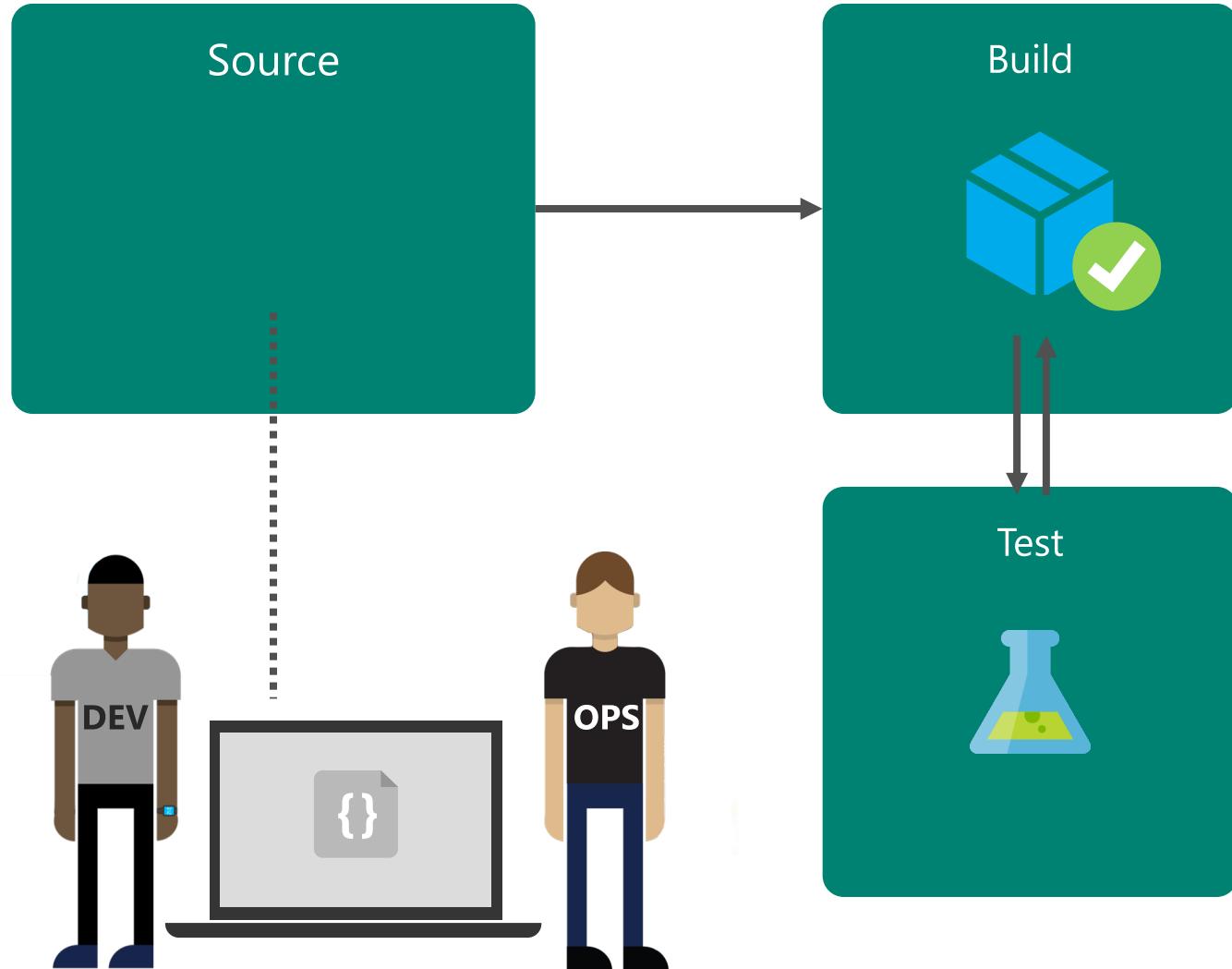


Develop + Test

Once the iteration starts, developers turn great ideas into features...



Continuous Integration

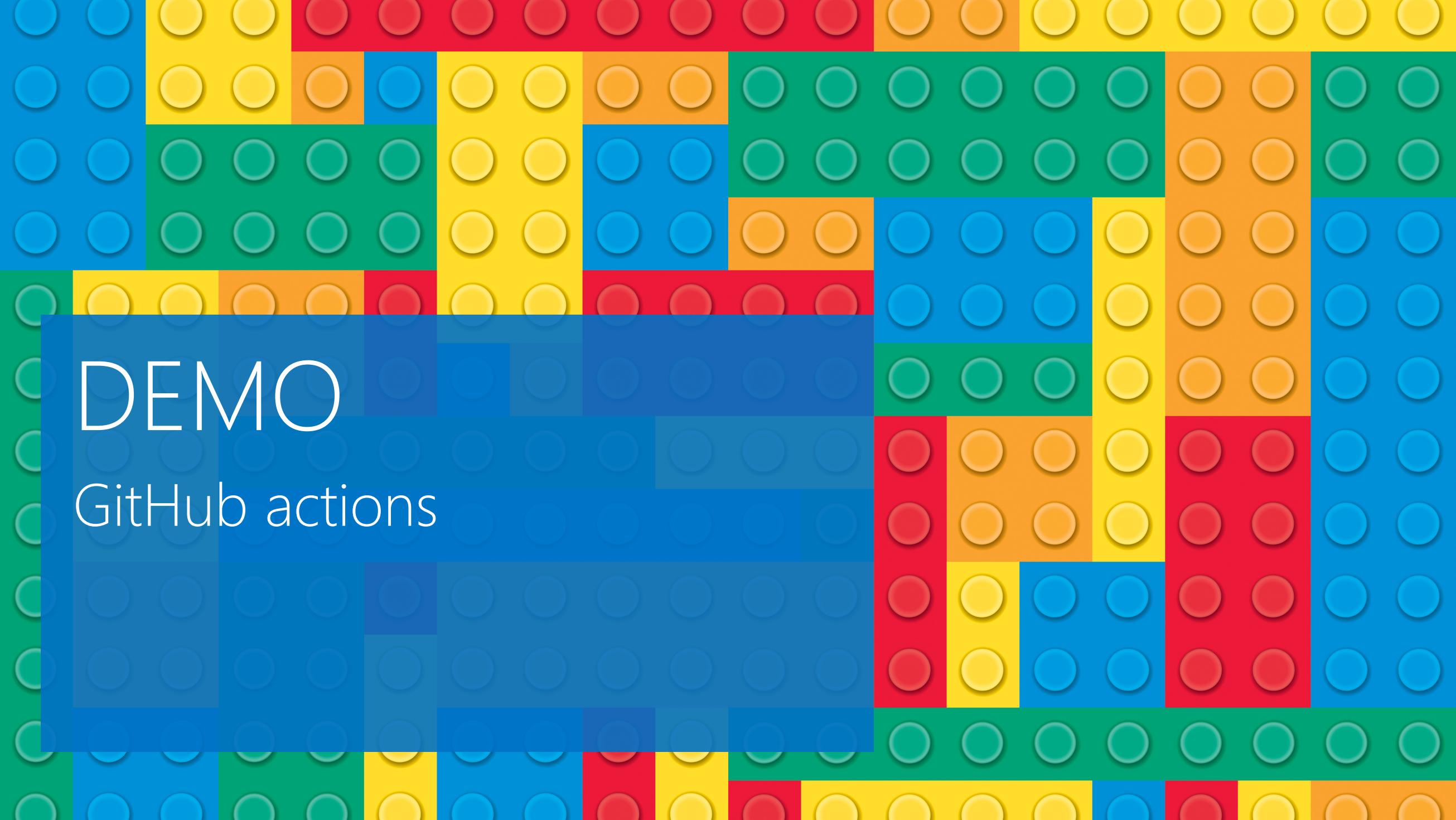


Value

- Accelerate Delivery
- Repeatability
- Optimized Resources

Measure

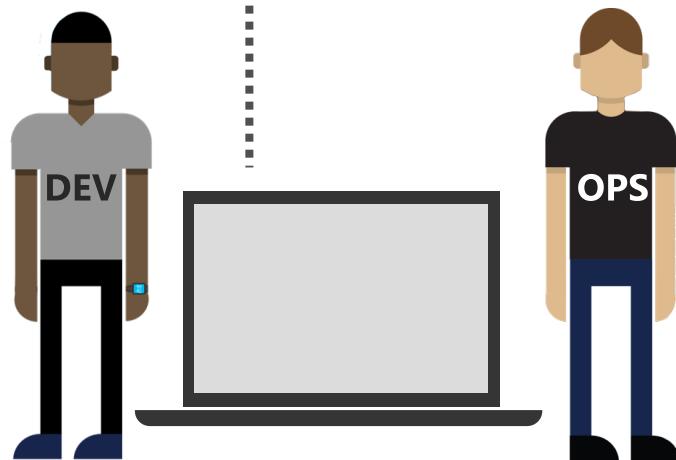
- Deployment Lead Time
- MTTR
- MTTD



DEMO

GitHub actions

Automated Testing



Value

- Accelerate Delivery
- Repeatability
- Optimized Resources

Measure

- Deployment Lead Time
- MTTR
- MTTD



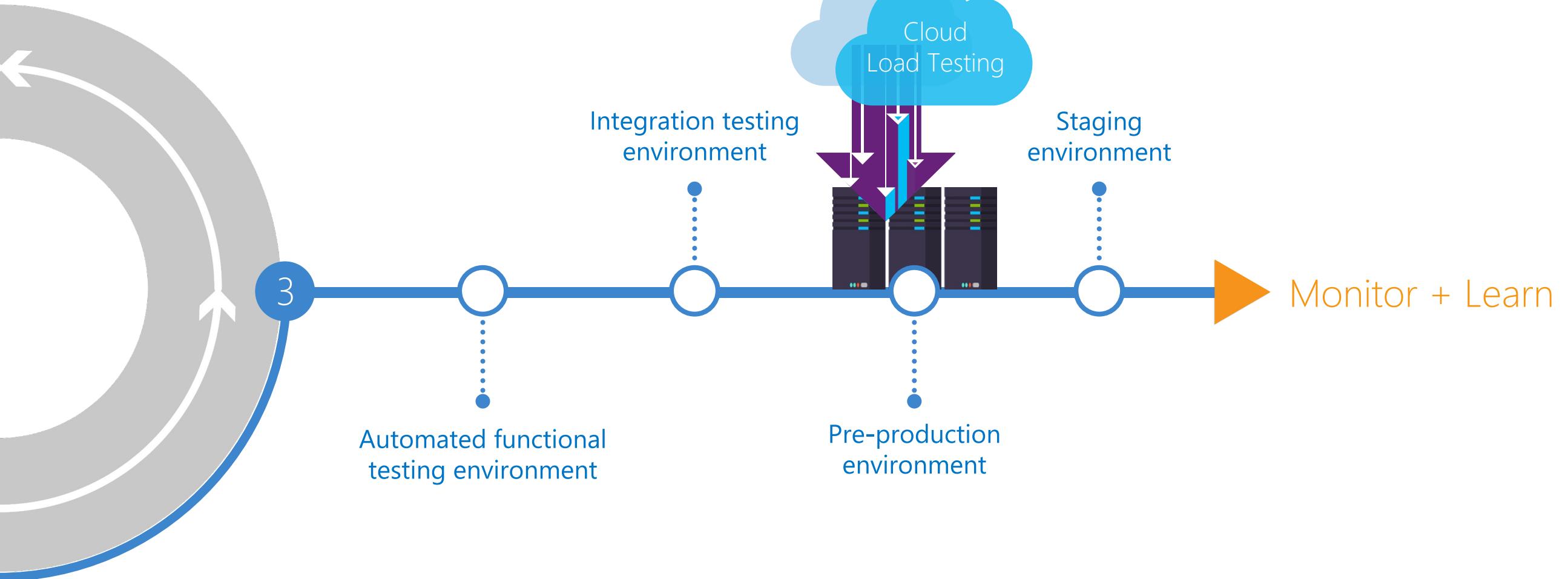
DEMO

Azure DevOps pipelines

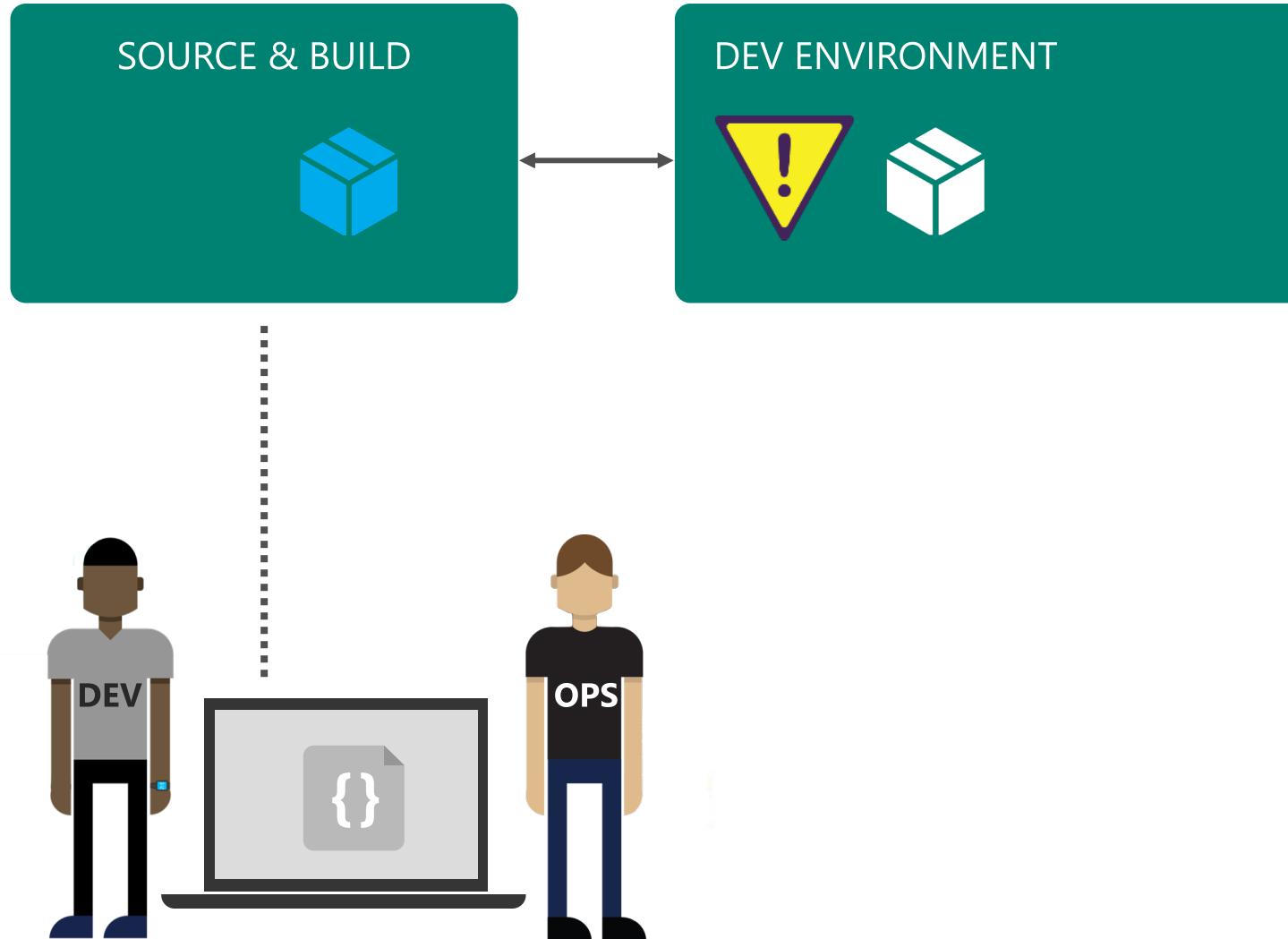


Release

When all tests pass, the build is deployed to testing environments for each stage in the release process



Continuous Deployment



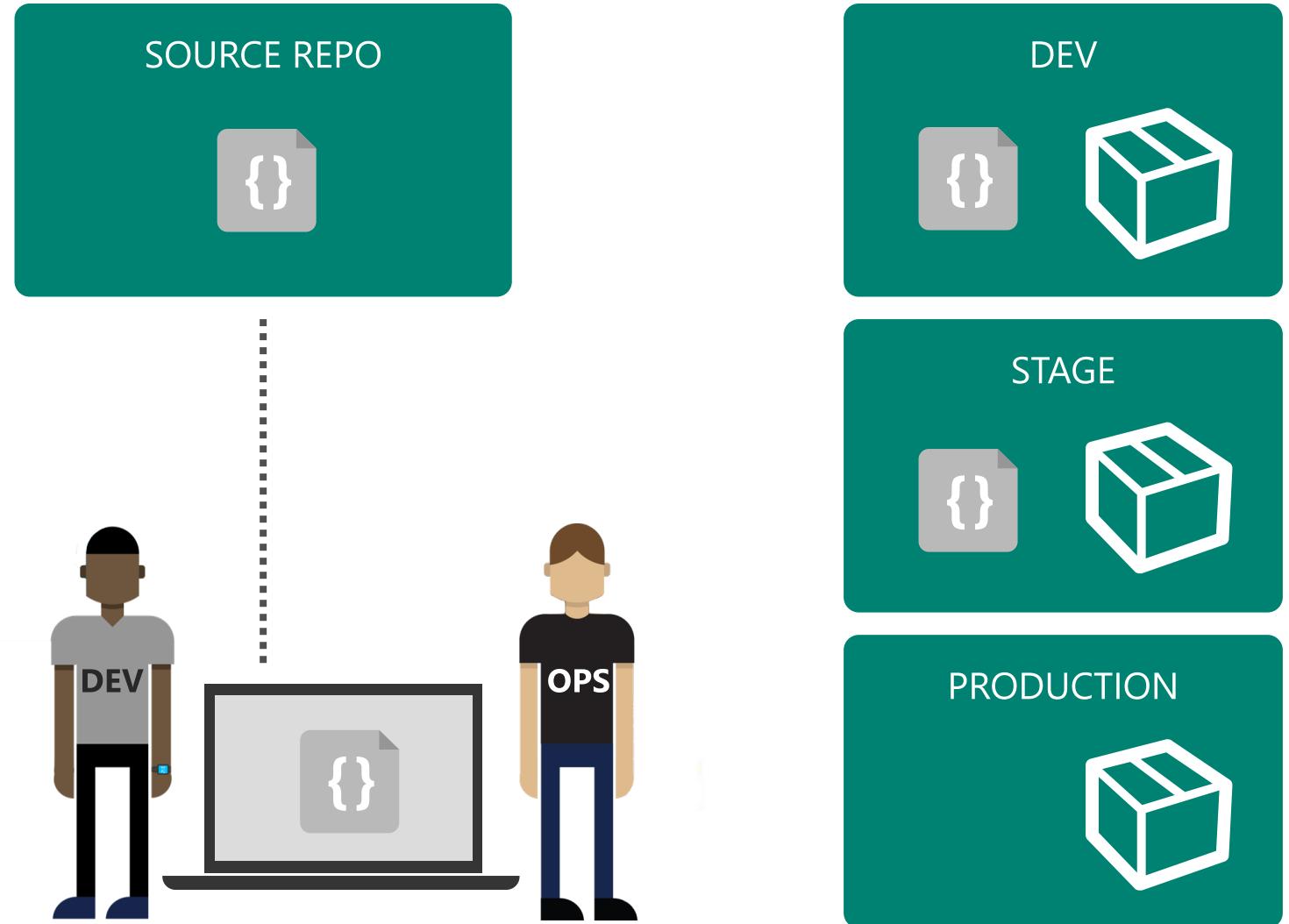
Value

- Optimized Resources
- Accelerate Delivery

Measure

- Deployment Frequency
- MTTR
- Availability

Release Management



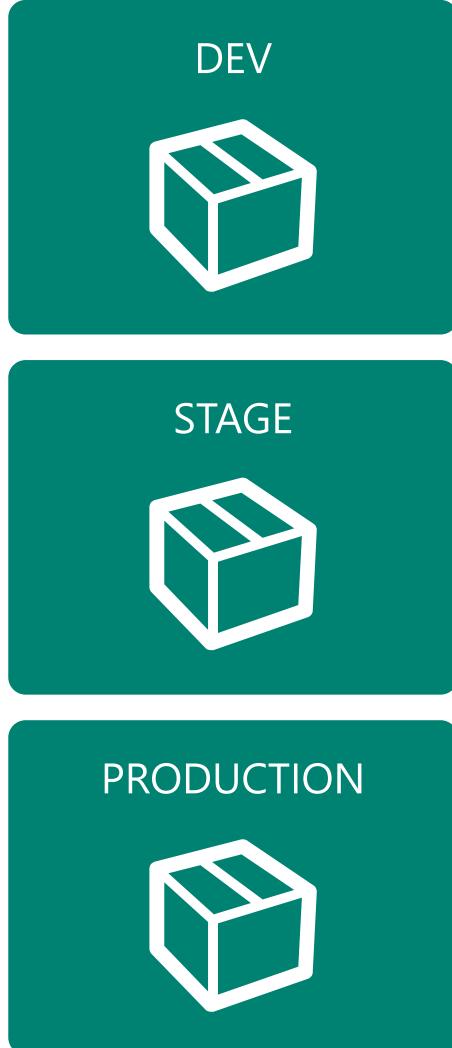
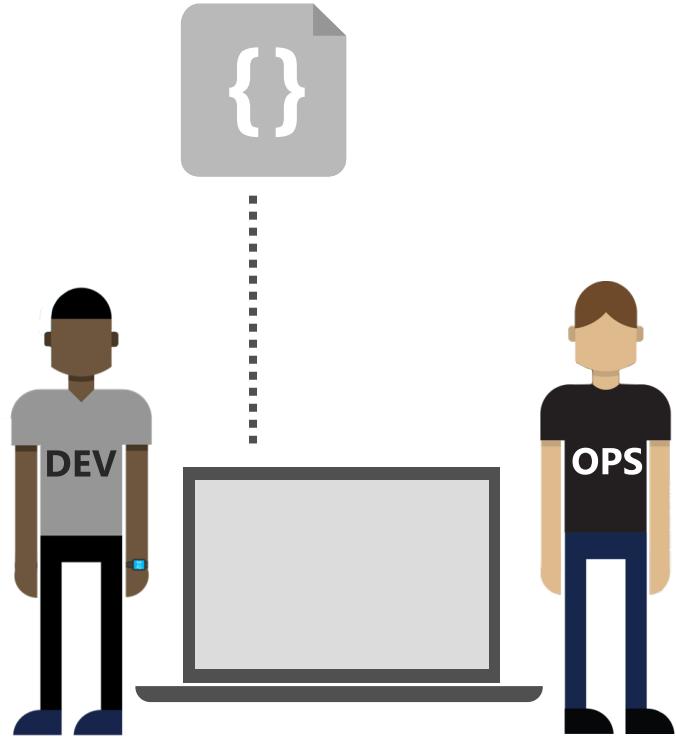
Value

- Optimized Resources
- Accelerate Delivery

Measure

- Deployment Frequency
- MTTR
- Availability

Infrastructure as Code



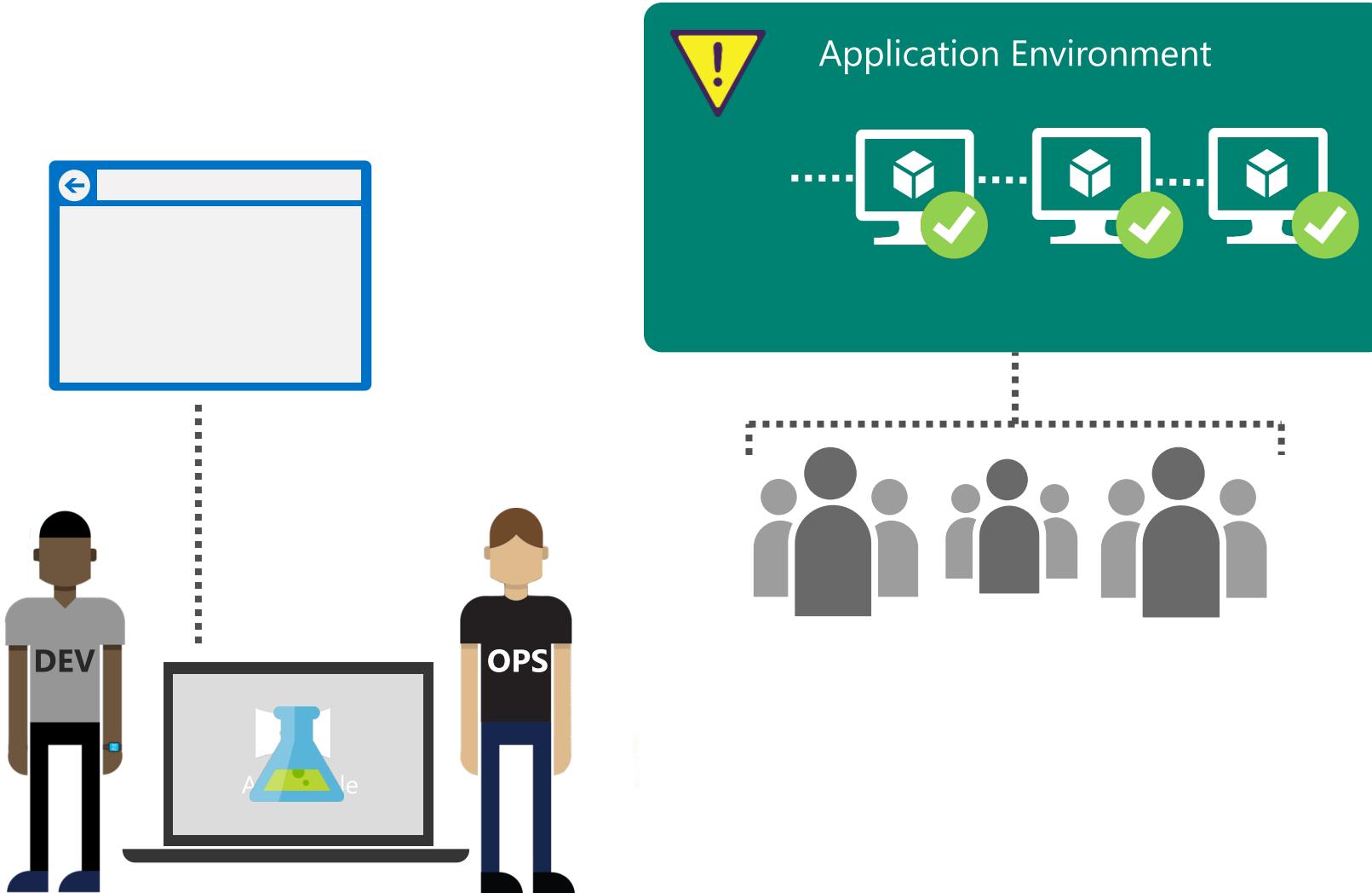
Value

- Optimized Resources
- Accelerate Delivery

Measure

- Deployment Rate
- MTTR

Load Testing and Auto Scale



Value

- Improve deployment quality
- Find performance bottlenecks
- Cater for demand
- Maintain application quality

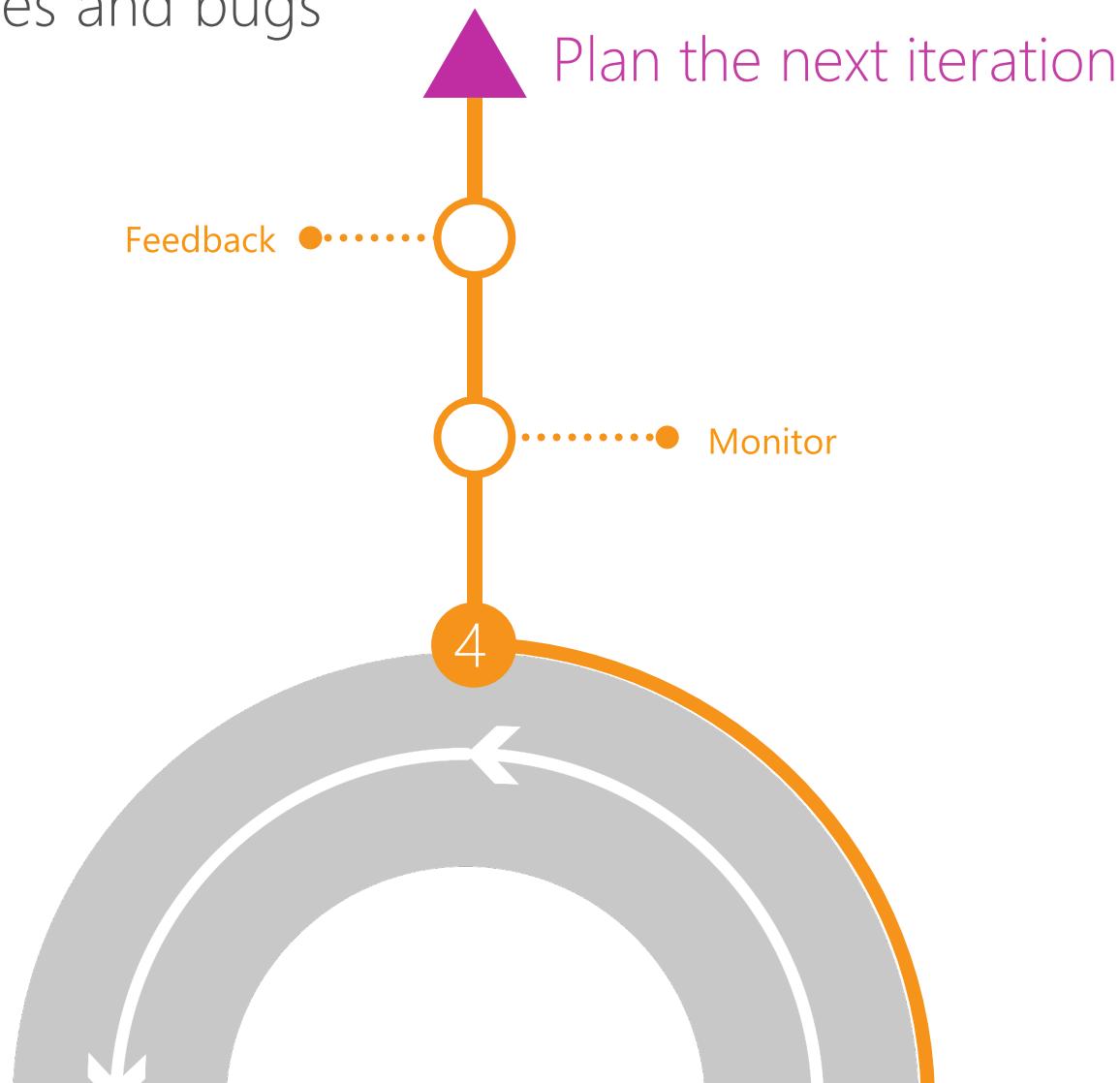
Measure

- Availability
- MTTD
- MTTR

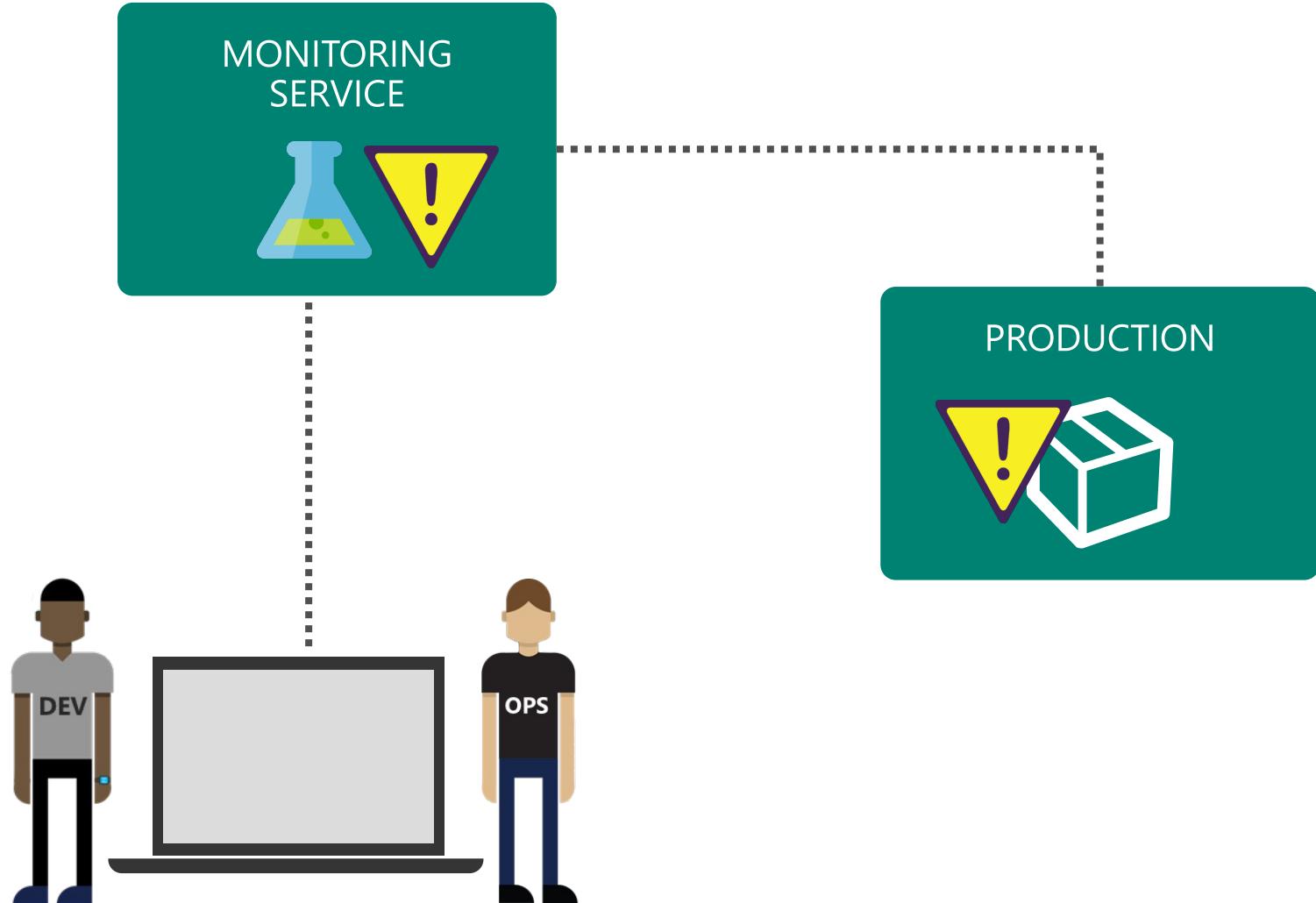


Monitor + Learn

Learn and understand how users use your app, how it reacts and quickly fix issues and bugs



Availability Monitoring



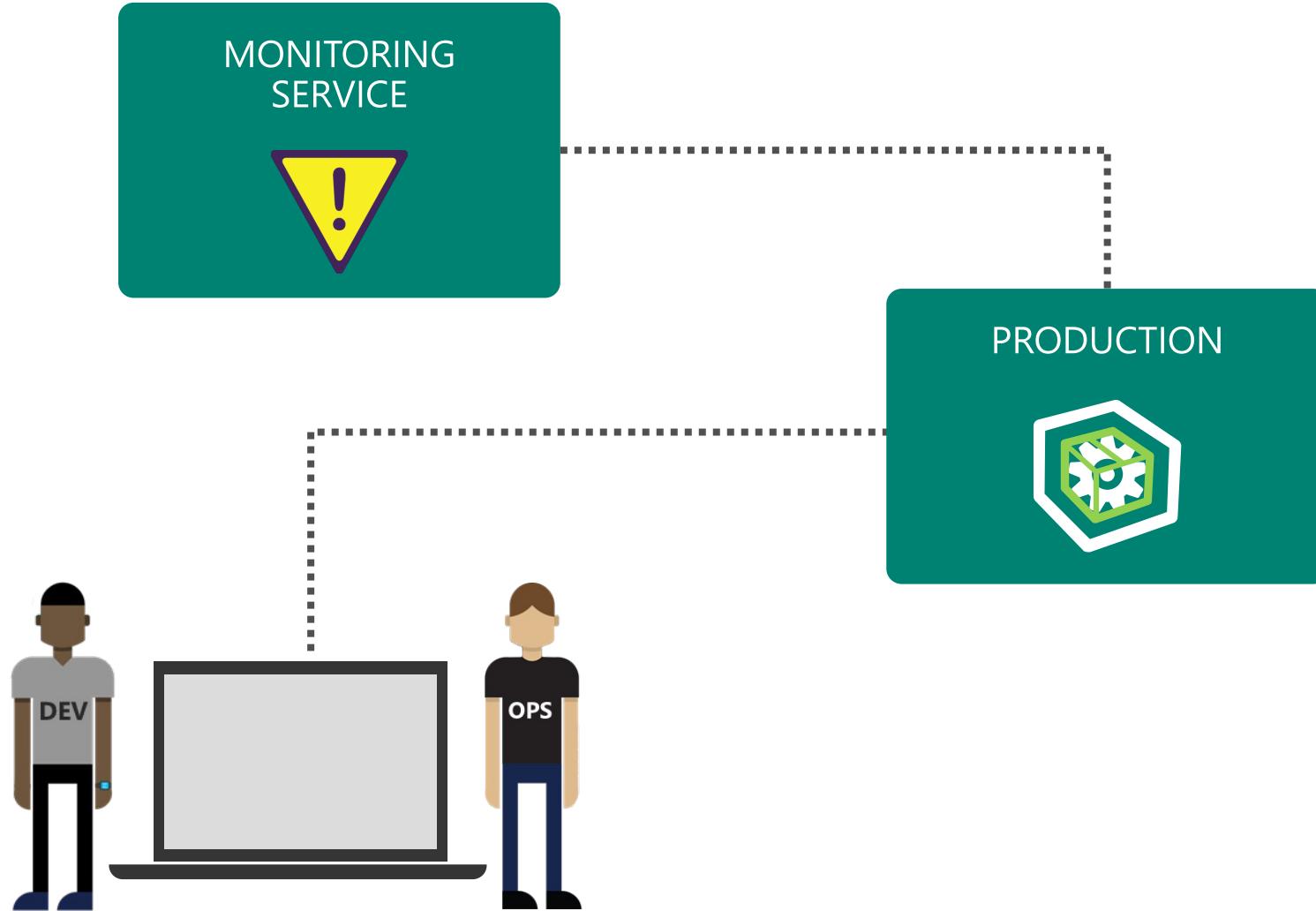
Value

- Faster Detection & Remediation

Measure

- MTTD
- MTTR
- Availability

Application Performance Monitoring



Value

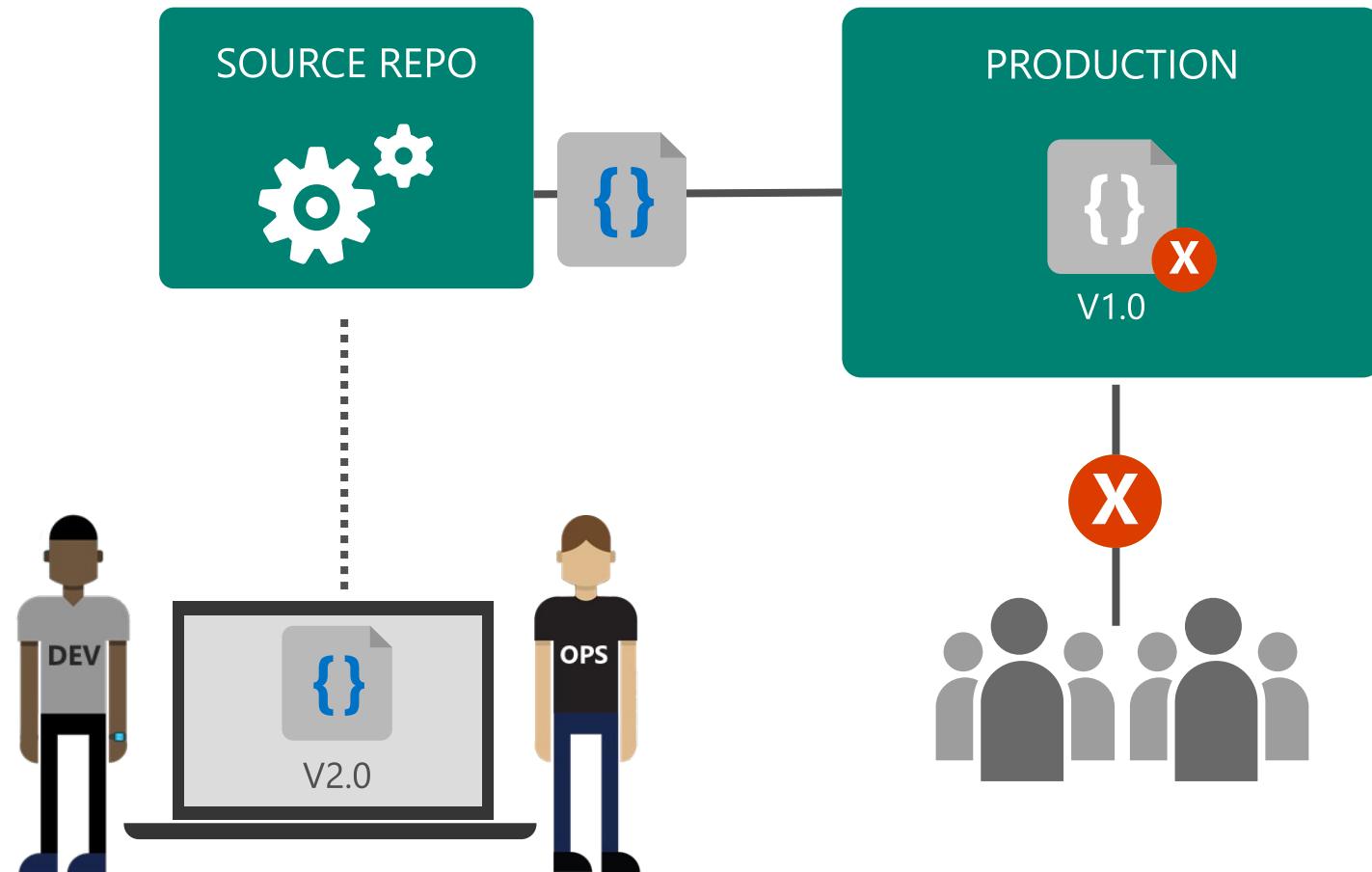
- Faster Detection & Remediation
- Optimized Resources
- More Resilience

Measure

- MTTD
- MTTR
- Availability

Automated Recovery

Rollback



Value

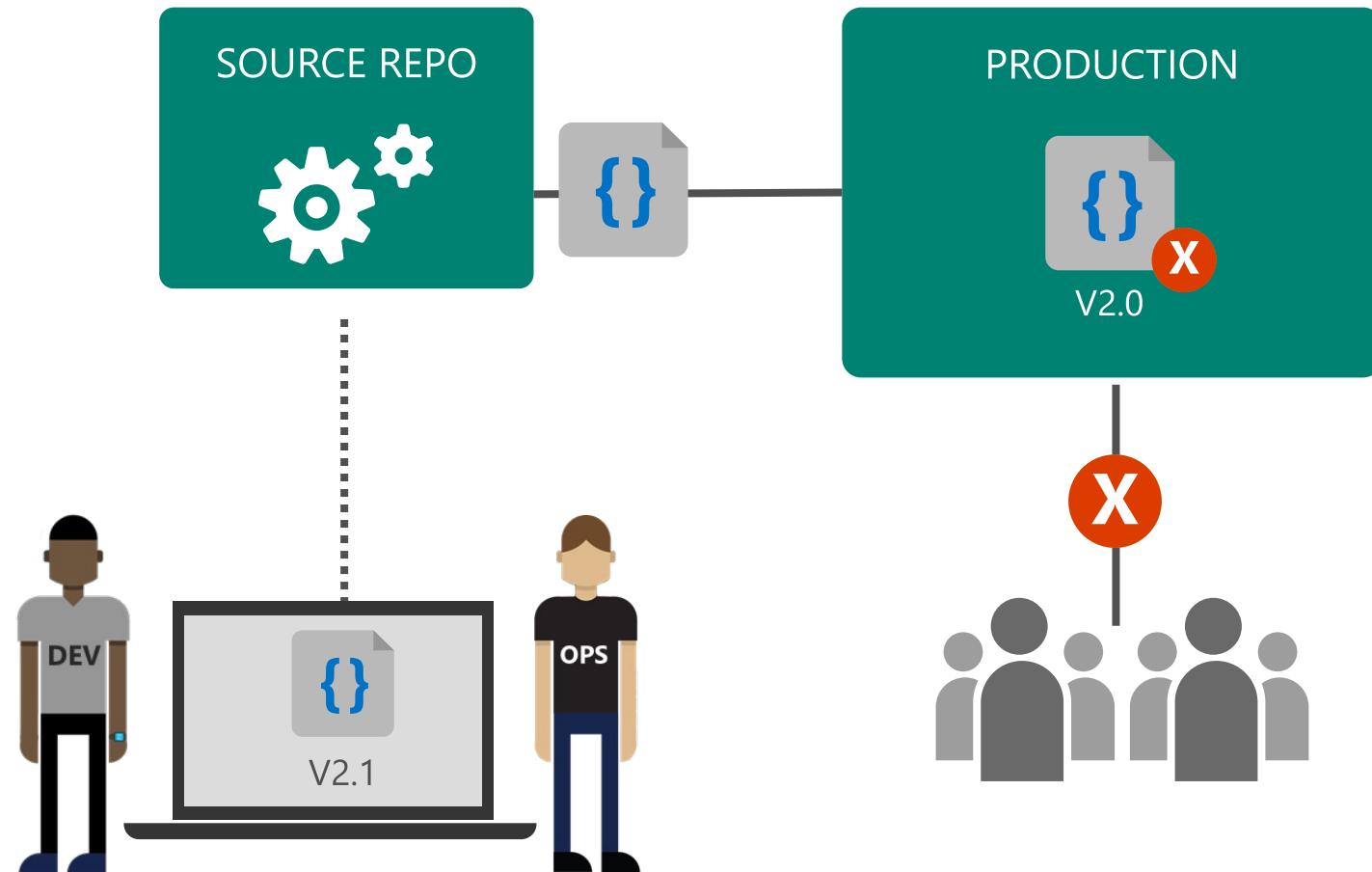
- Minimal/No business impact
- Minimal/No manual intervention

Measure

- MTTR
- Availability

Automated Recovery

Roll-forward



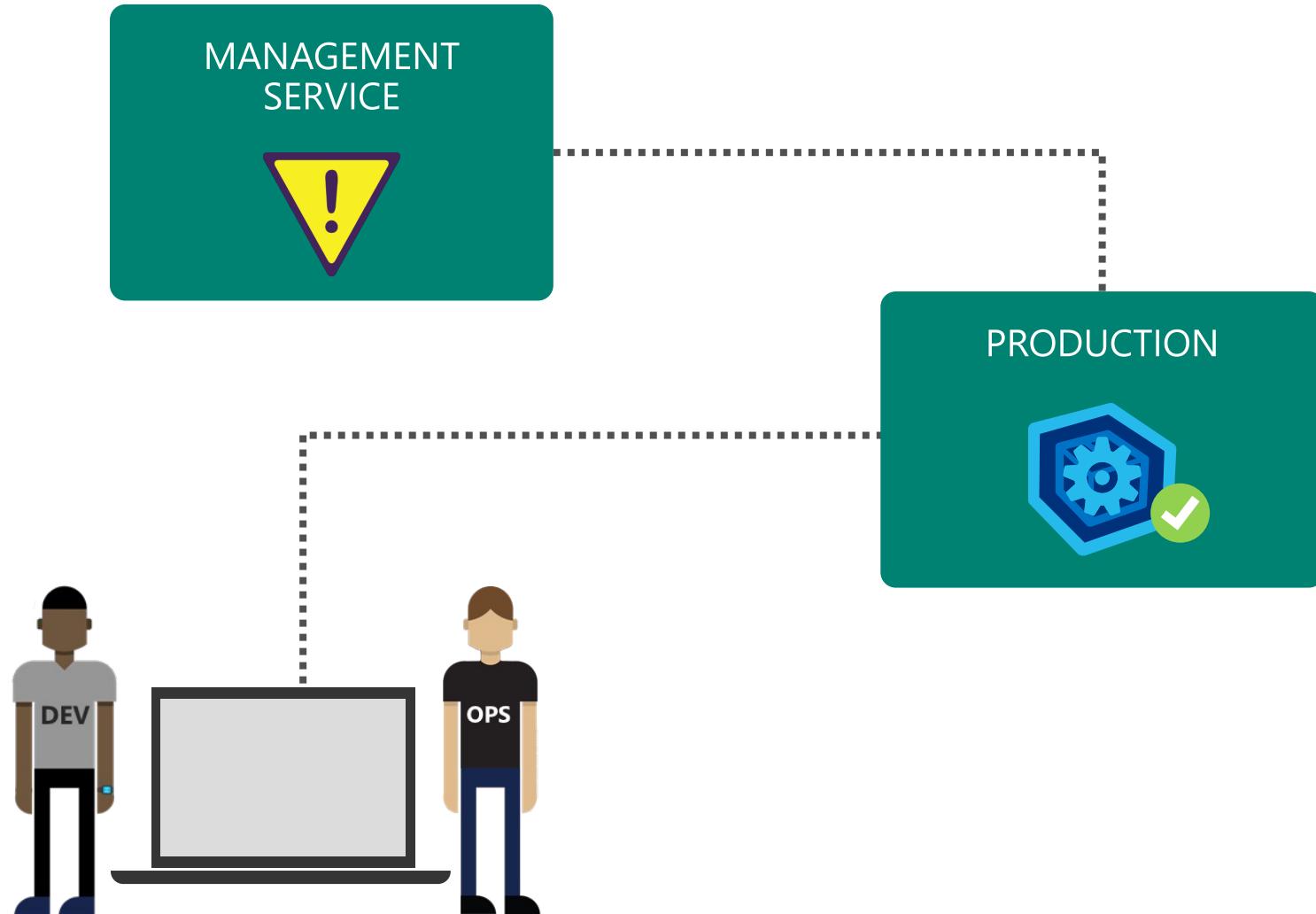
Value

- Minimal/No business impact
- Minimal/No manual intervention

Measure

- MTTR
- Availability

Configuration Management



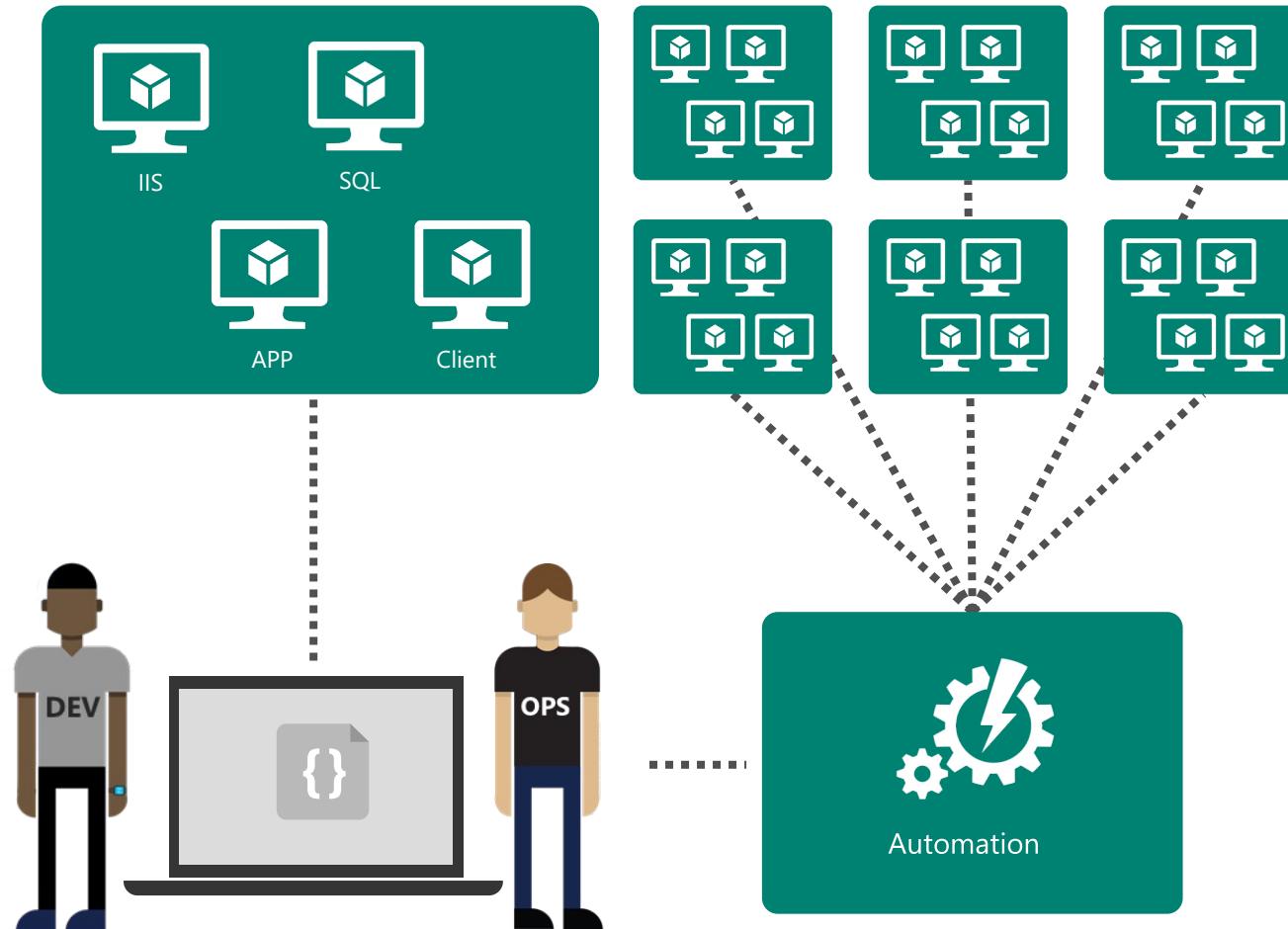
Value

- Faster Detection & Remediation
- Optimized Resources
- More Resilience

Measure

- MTTD
- MTTR
- Availability

Automated environment de-provisioning



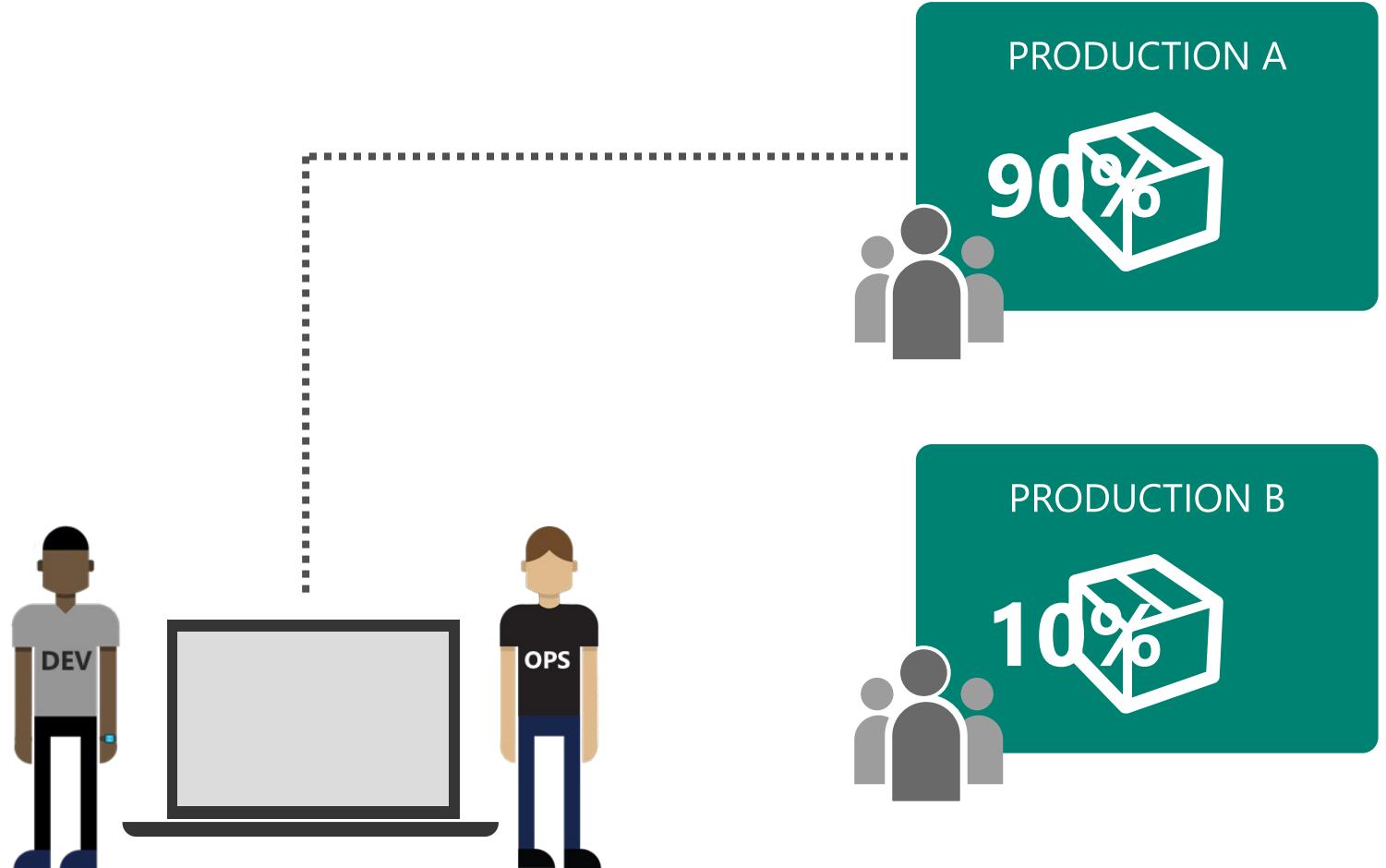
Value

- Optimized Resources
- Inexpensive provisioning
- Rapid response

Measure

- Lower TCO

Testing in Production



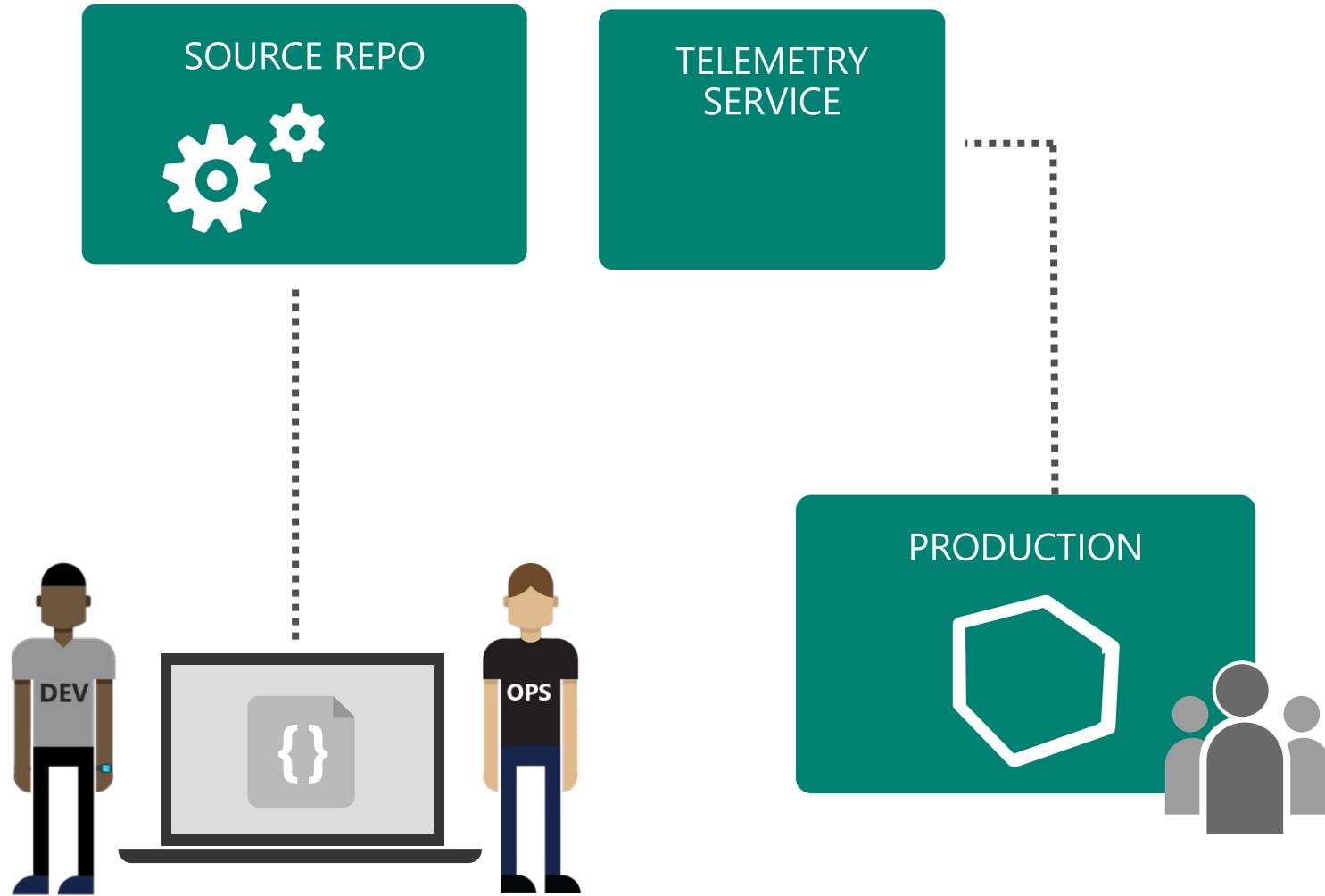
Value

- Experimentation
- More Resilience
- Accelerate Delivery

Measure

- Deployment Rate
- MTTR
- Availability
- Change Lead Time

User Telemetry



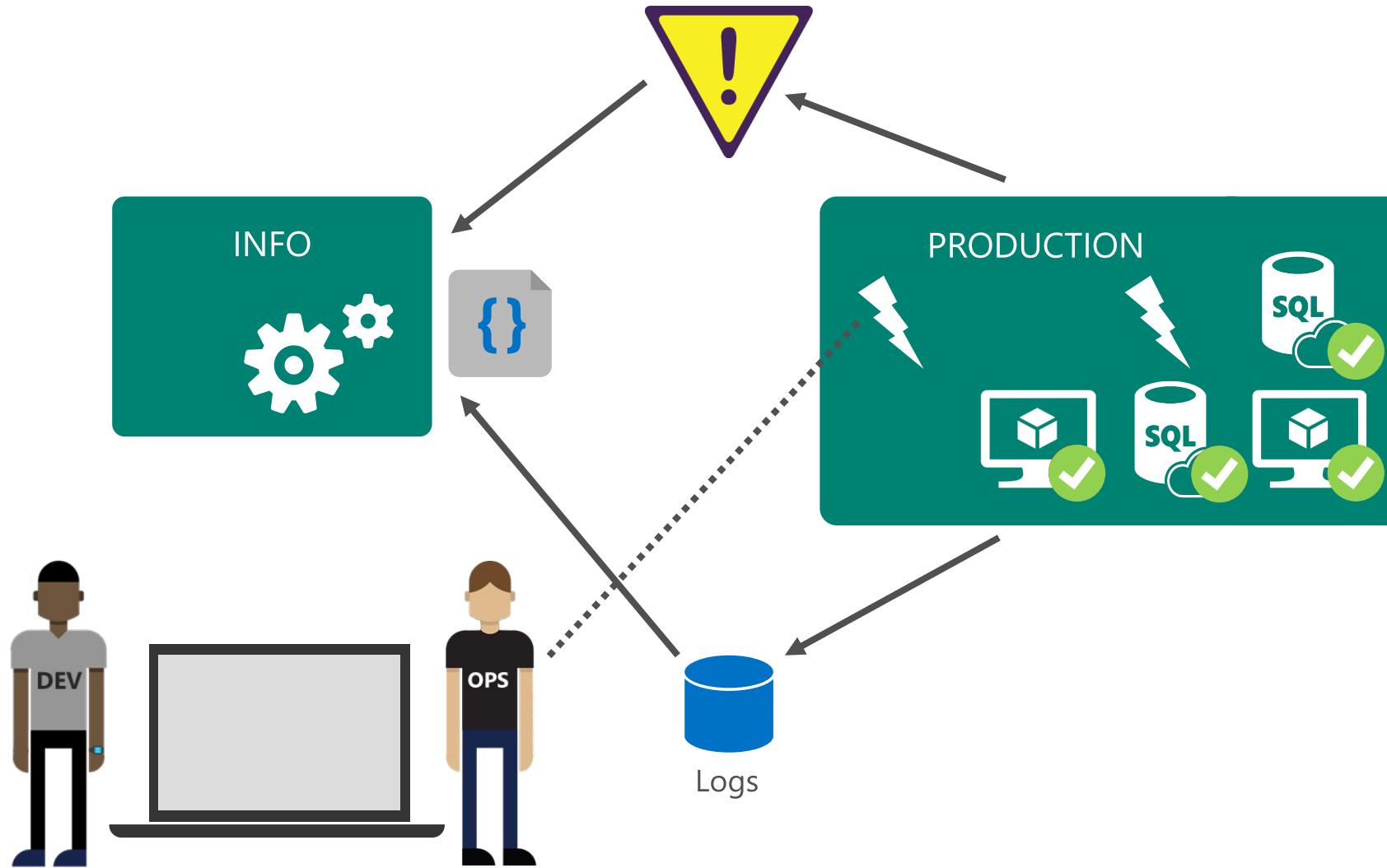
Value

- User engagement
- Focus future app investment

Measure

- User activity
-

Fault Injection



Value

- App Resilience
- Faster Detection & Remediation

Measure

- MTTR
- Availability

Questions?



Homework

Create accounts

- Azure DevOps.

Fill accounts table

The screenshot shows the Microsoft Teams interface with the 'Files' tab selected. A red box highlights the 'General' folder in the left sidebar. Another red box highlights the 'Files' tab in the top navigation bar. A red arrow points from the 'General' folder to the 'Accounts.xlsx' file in the main list. The 'Accounts.xlsx' file is also highlighted with a red box. The file details show it was modified 'About a minute ago' by 'Anton Boyko'. The main list includes other files like 'Sessions', 'Video recordings', 'DevOps intro.pptx', and 'Screenshot (3).png'.

Name	Modified	Modified By
Sessions	Wednesday at 8:4...	Anton Boyko
Video recordings	Wednesday at 11:1...	Iryna Klymiv
Accounts.xlsx	About a minute ago	Anton Boyko
DevOps intro.pptx	Wednesday at 11:1...	Iryna Klymiv
Screenshot (3).png	Tuesday at 5:24 AM	Aleksandruk, Paweł

Do (1)

- Create a public project within your personal Azure DevOps account, name it "az-and-devops".
- Add me@boykoant.pro (Visual Studio Subscriber) to project administrators list.
- Rename default repo of your project to "static-website-02".
- Install Azure DevOps self-hosted agent in Docker container on your local machine and connect it to your Azure DevOps project.
- Create starter pipeline, name the file "pipeline-starter-01.yml", run it on Azure DevOps managed agent.
- Create starter pipeline, name the file "pipeline-starter-02.yml", run it on your self-hosted agent.

Do (2)

- Install GitHub self-hosted agent to your github-runner-01 VM and connect it to your GitHub organization.
- Create starter pipeline, name the file “action-starter-01.yml”, run it on GitHub managed agent.
- Create starter pipeline, name the file “action-starter-02.yml”, run it on your self-hosted agent.

Deadline

Recommended – by the end of the day 09.08.2022



Maximum – by the end of the day 12.08.2022

