

PART 6

## Introduction

Continuous Integration

Infrastructure + CDNs

Image Media

# Quick revision

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- No-one really knows

# Quick revision

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- Customer satisfaction from frequent delivery
- Welcome changing requirements
- Close co-operation of all units of the business
- Regular team reflection for improvement

# Introduction

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- The driver is performance, cost and also the agile methodology

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# In a nutshell

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- Continuous integration (CI) refers to the practice of integrating developer work into the mainline regularly

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- With each integration the system is built and, if tests all pass, is ready for deployment

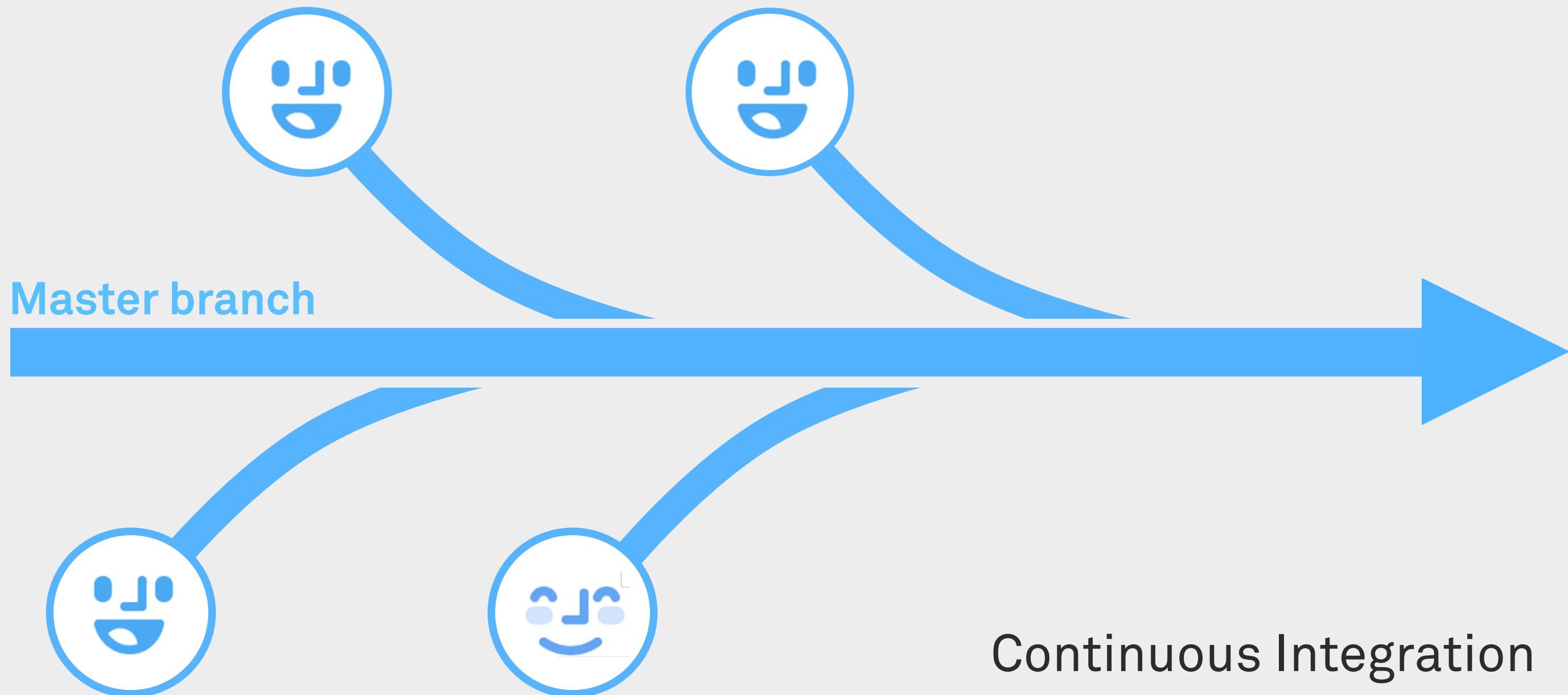
# CI as a concept vs CI the server

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- The CI concept shouldn't be confused with our CI server that everyone talks about

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- The CI concept shouldn't be confused with our CI server that everyone talks about
- Usually when someone mentions CI they're talking about something that's going on with the TeamCity CI server



# CI Server

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- The CI server refers to the deployment pipeline of the application, from test all the way to production

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- The CI server refers to the deployment pipeline of the application, from test all the way to production
- Related to the concept of continuous integration is ‘continuous deployment’ which marries the agile concept of short release cycles.



Build &amp; Unit Test



UAT



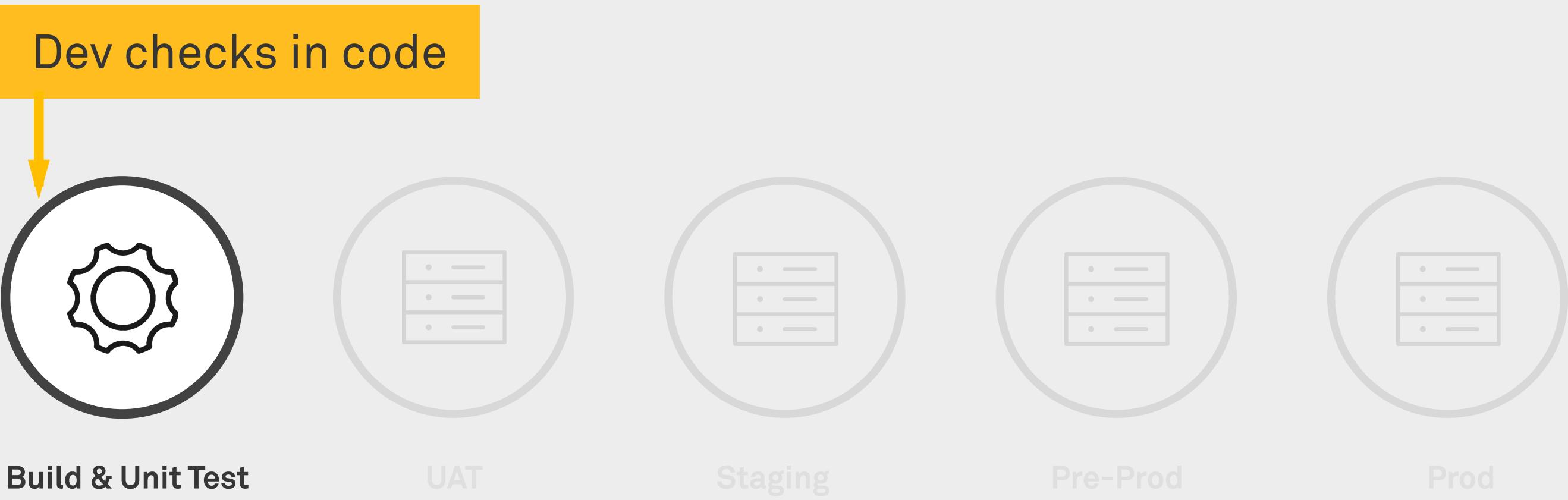
Staging

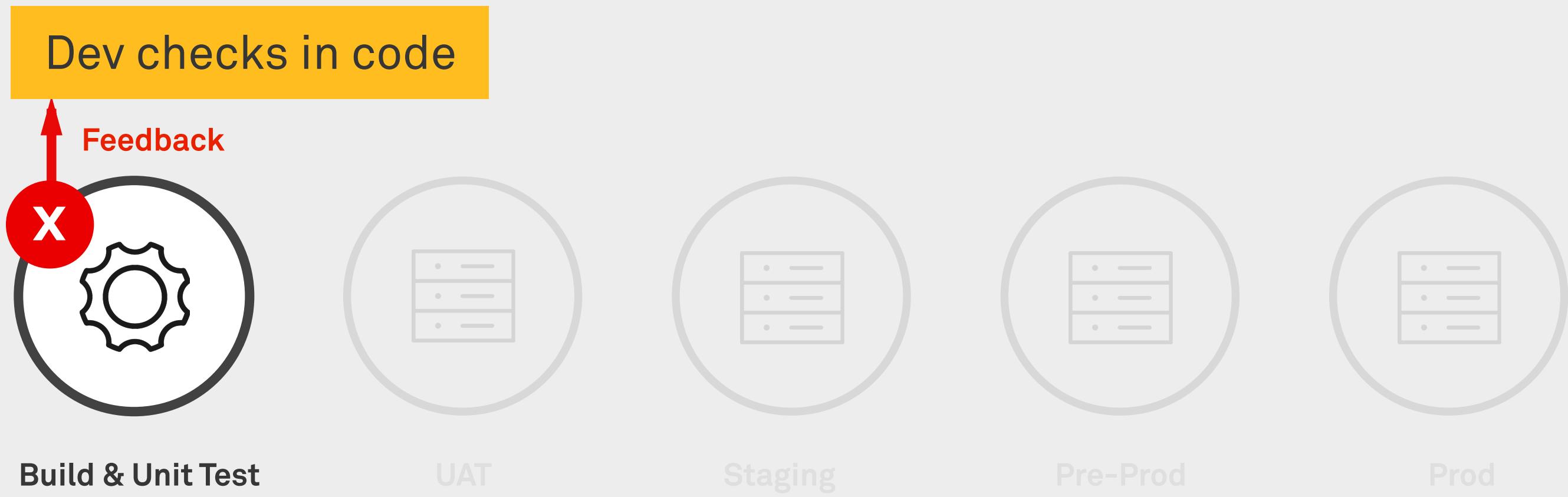


Pre-Prod



Prod





**Scenario 1: Build / Unit Tests fail**



Build &amp; Unit Test



UAT



Staging



Pre-Prod

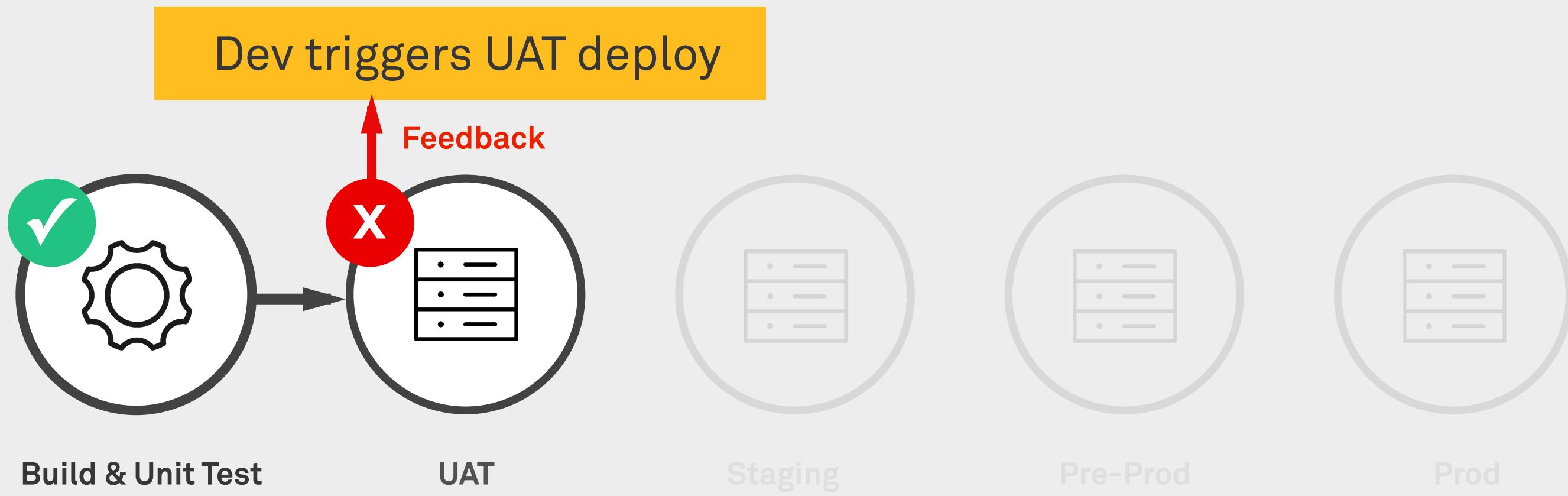


Prod

**Scenario 2: Build / Unit Tests Pass**

Dev triggers UAT deploy



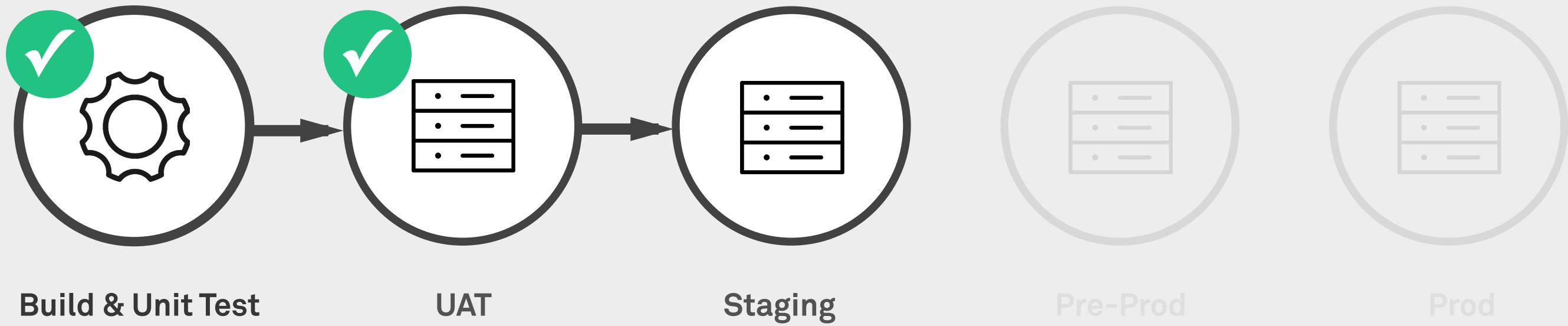


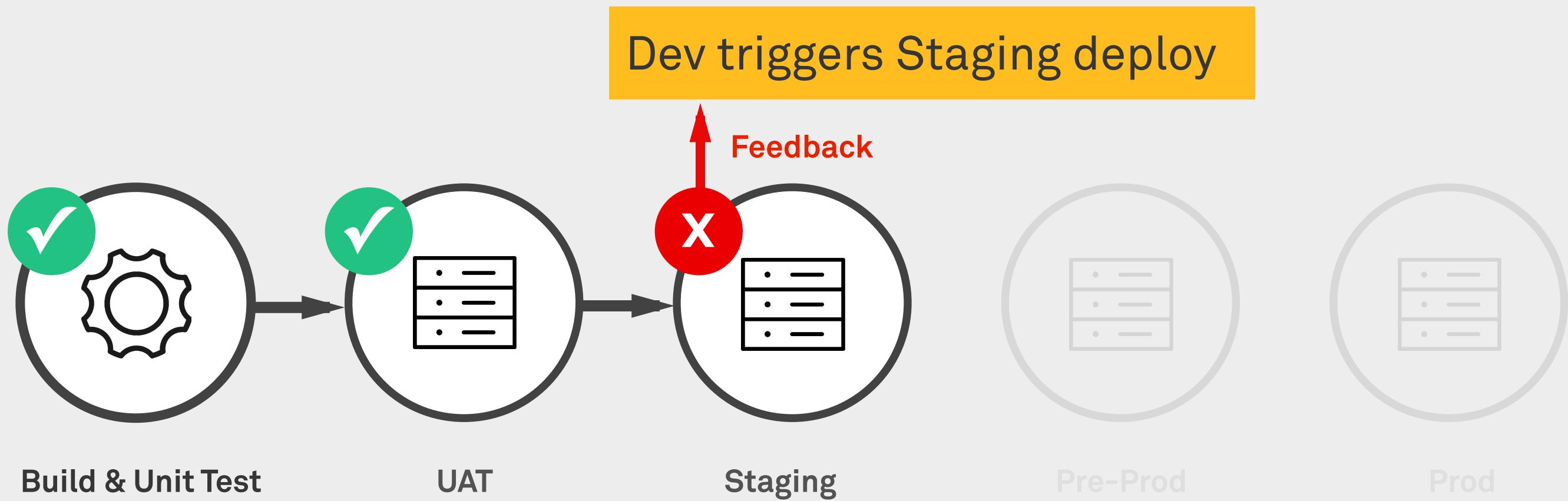
Scenario 1: Deploy fails



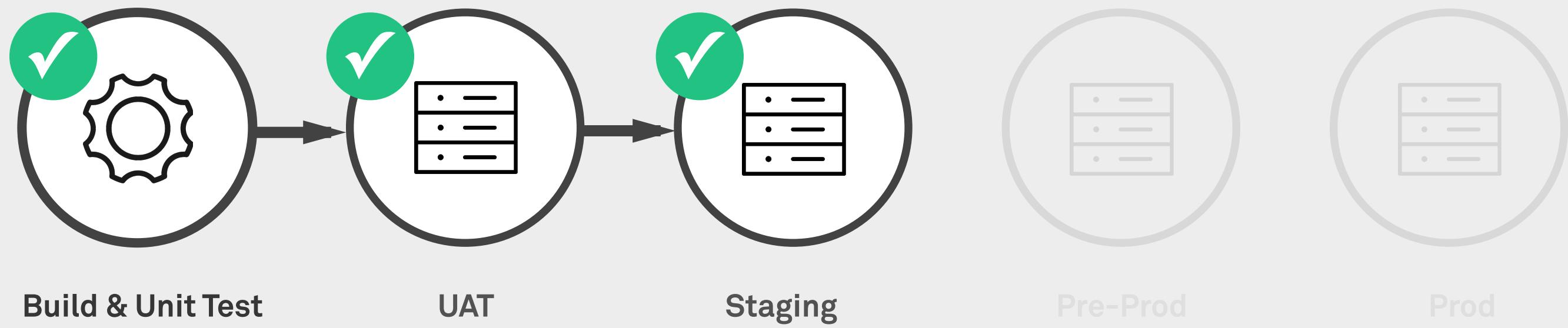
**Scenario 2: Deploy succeeds**

Dev triggers Staging deploy



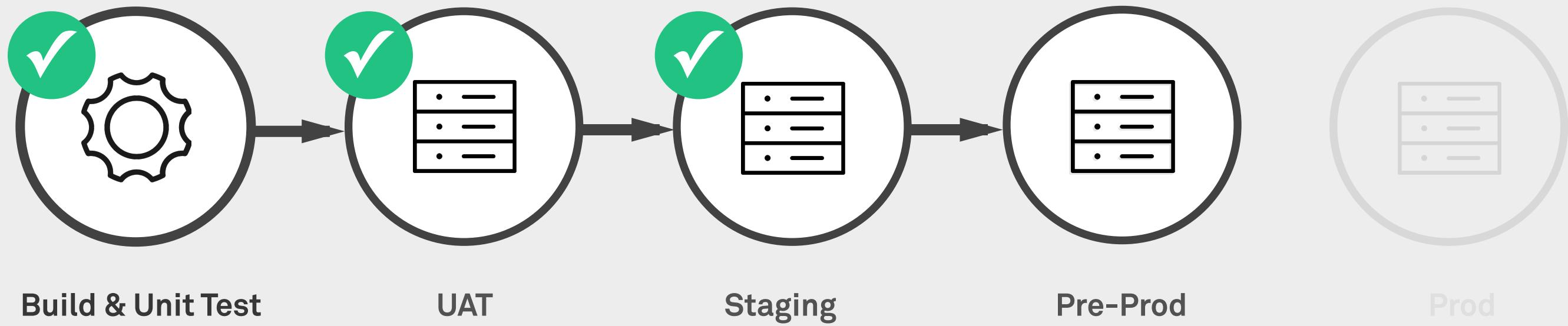


**Scenario 1: Deploy fails**

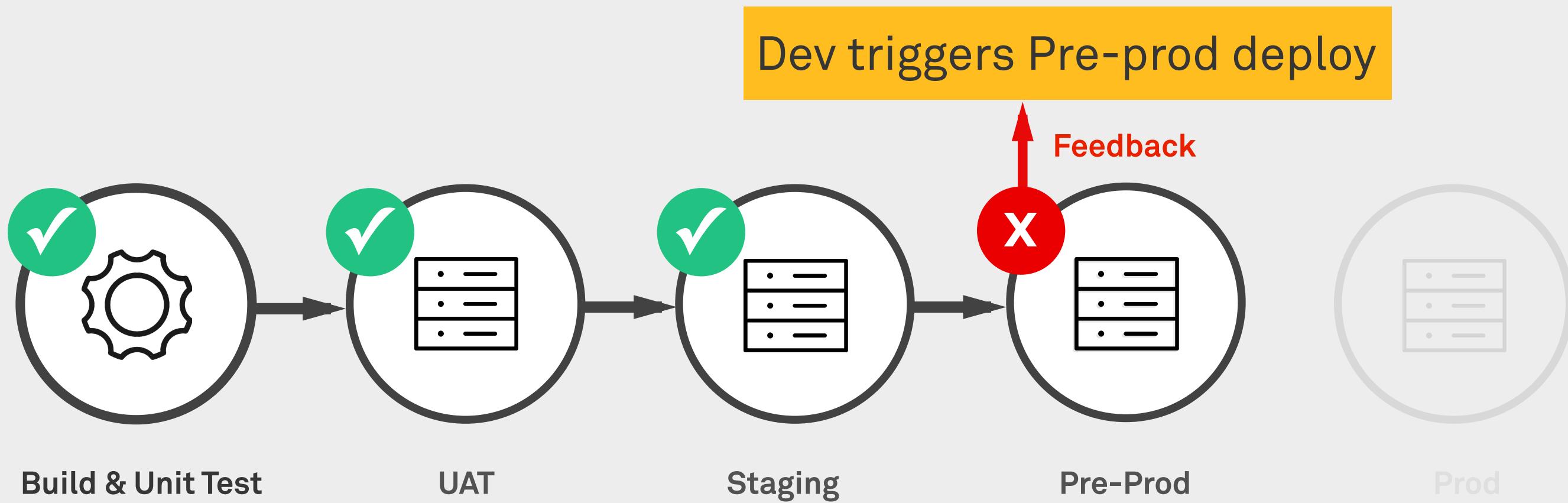


**Scenario 2: Deploy succeeds**

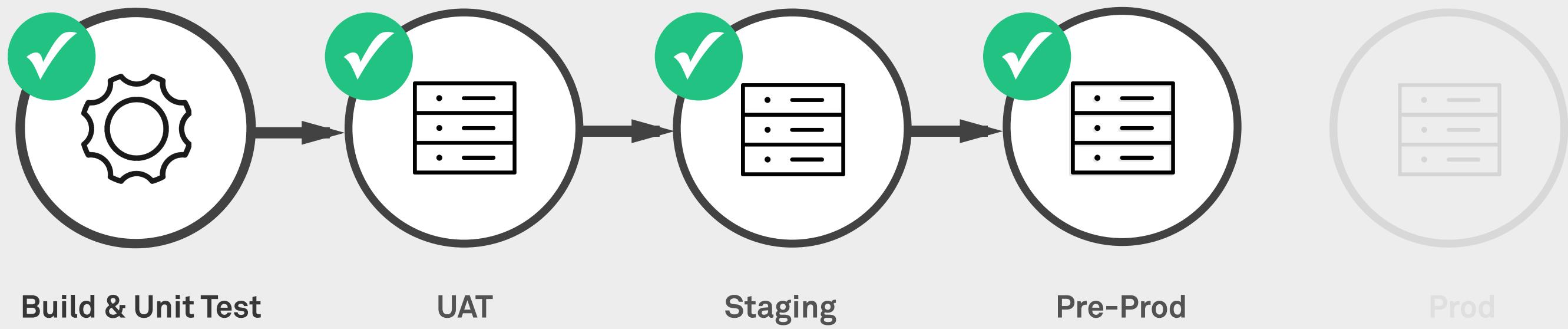
Dev triggers Pre-prod deploy



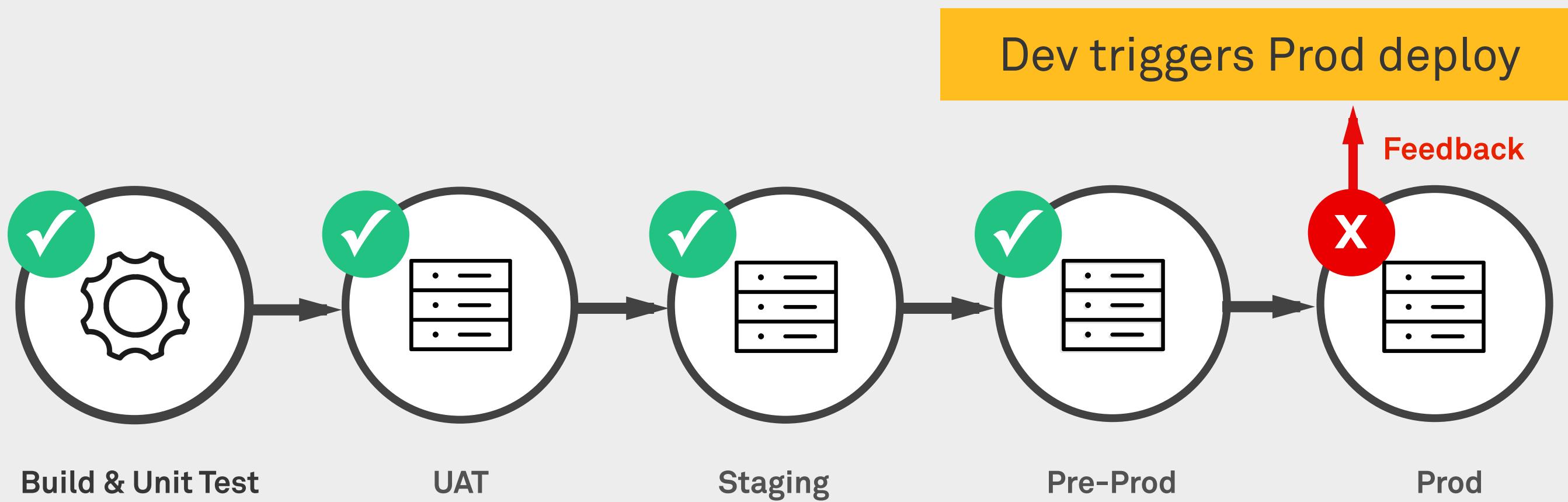
Scenario 1: Build fails



Scenario 1: Deploy fails

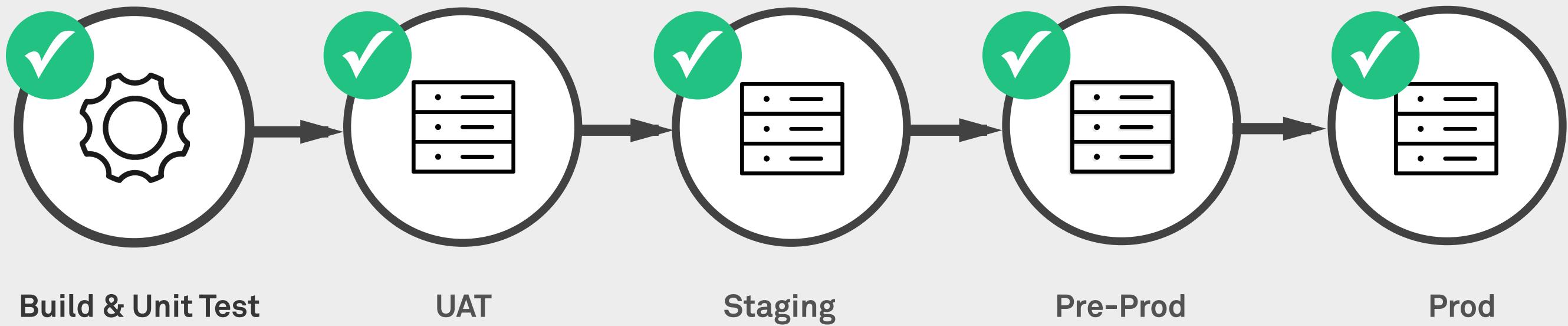


**Scenario 2: Deploy succeeds**

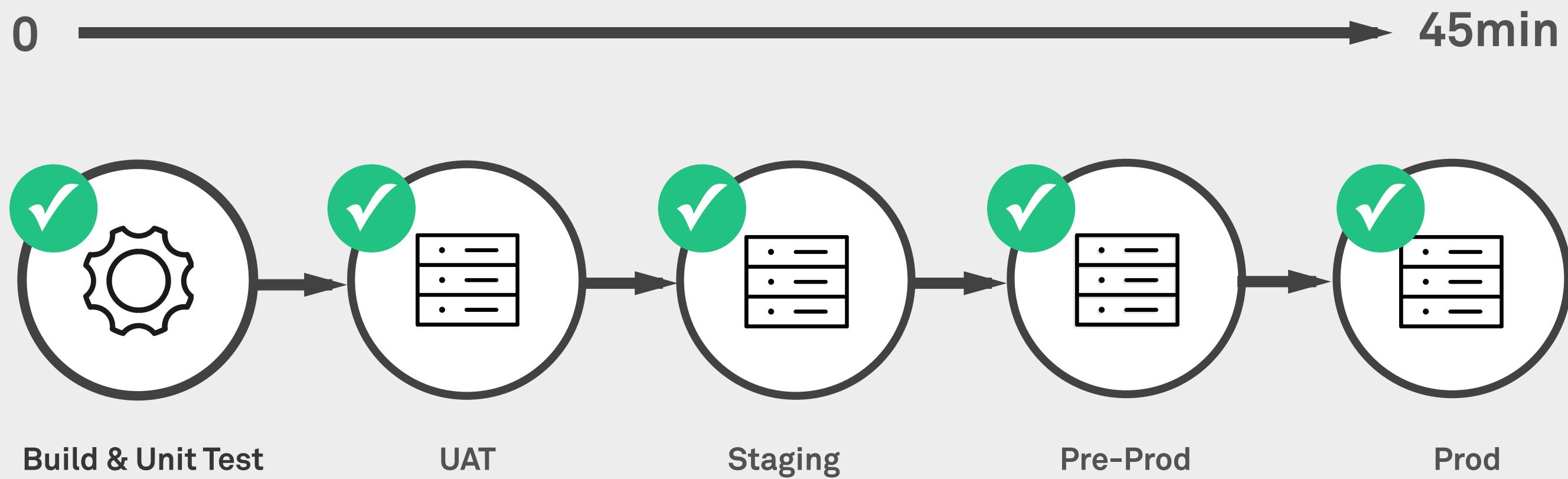


Scenario 1: Deploy fails

Dev triggers Prod deploy



Scenario 2: Deploy succeeds **Application is live**



**The whole process can take up to 45 minutes from the last commit to deployment (without any fails)**

# Environments

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- Staging: More stable environment, deployed less frequently. Used to bug test / show stakeholders.
- Preview: Uses real production data and is used prior to deploying to production.

# Going LIVE



# Going LIVE

- Deploying to production uses a blue / green technique that eliminates down time.

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- Deploying to production uses a blue / green technique that eliminates down time.
- Blue / green means there are two instances running and all traffic is routed to either

# Green / Blue be like



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## Continuous Integration

## Infrastructure + CDNs

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## Image Media

# On performance

Speed and responsiveness are crucial for successful web applications.

# On performance

“ For every 1 second of improvement Walmart experienced up to a 2% increase in conversions

# On performance

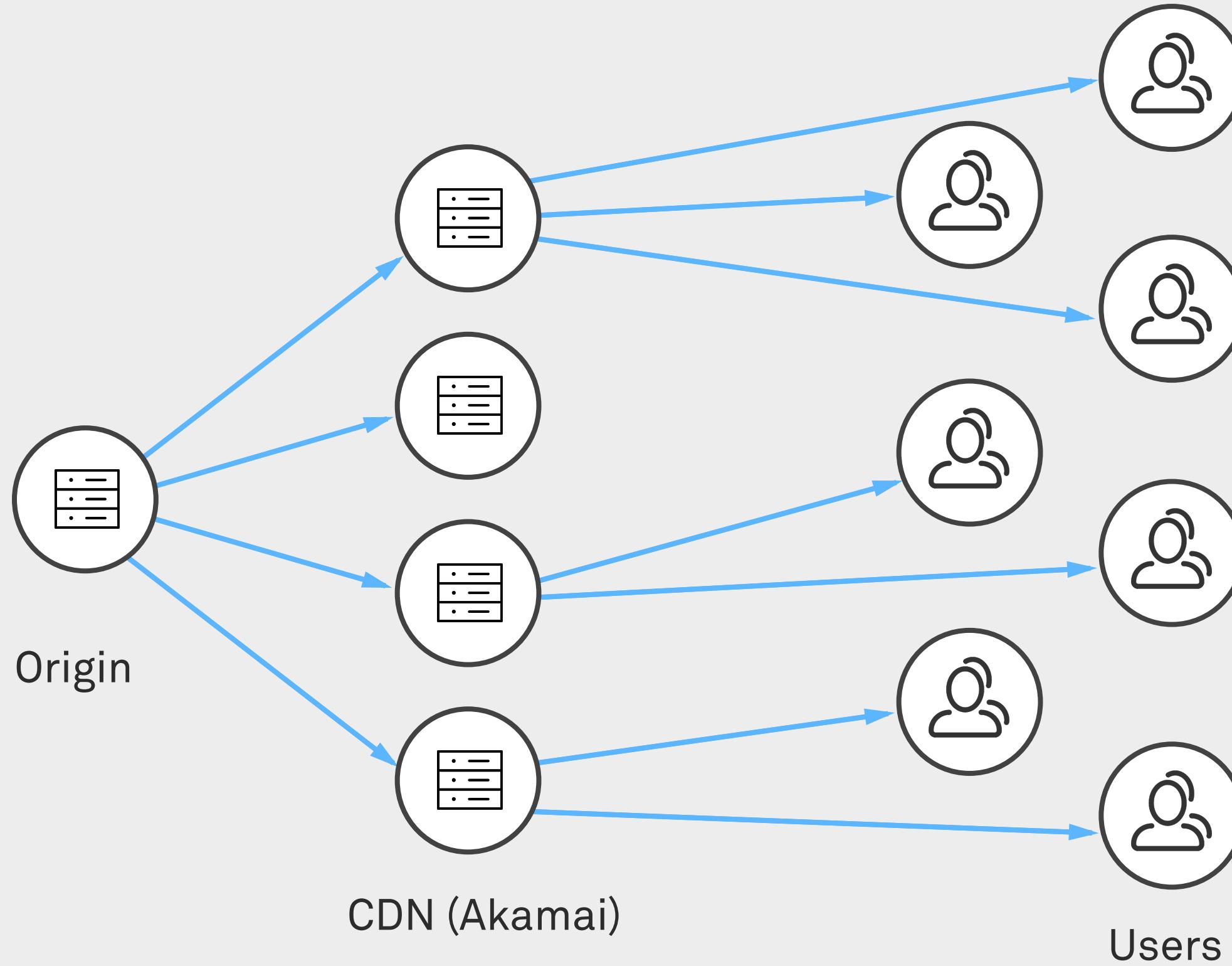
“ Google’s traffic dropped 20 percent on pages that loaded in an additional half second.

# On performance

“ A \$100k / day ecommerce site would lose \$2.5 million / year for each 1 second performance drop

# What's a CDN?

A content delivery network is a way to allow content to be accessed from multiple servers around the world. These CDN servers get their content from an ‘origin’ server and users get their content from the CDN servers.



# Why a CDN?

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- Performance: Users get content from the closest geographical region. This lowers latency.

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- Performance: Users get content from the closest geographical region. This lowers latency.
- Stability: By dispersing content across multiple servers there is no single point of failure. Also, if origin crashes the CDN will continue serving the last good copy of the content.

# Limitations

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As the origin server is only being accessed by the CDN we cannot use the CDN for dynamic content i.e. all content must be static content

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nine.com.au example

**But it's good for us**

# But it's good for us

As our network is almost entirely static content we can take advantage of CDNs for performance, stability and cost savings.

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Image Media

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# Why are images so important

Images are the mainstay of engagement on the web.

# Why are images so important

“ Content with relevant images gets 94% more views than content without relevant images

# Why are images so important

Image size also comprises the majority of weight for page content across our sites. Therefore optimising images is key to improving performance.

# Enter image resizer

The network image resizer is the backbone for serving our all-important image media across the network.

# Enter image resizer



Image uploaded  
to Sitecore

# Enter image resizer



Image uploaded  
to Sitecore

```
width: 4000px  
height: 3000px  
size: 2.1Mb
```

# Enter image resizer

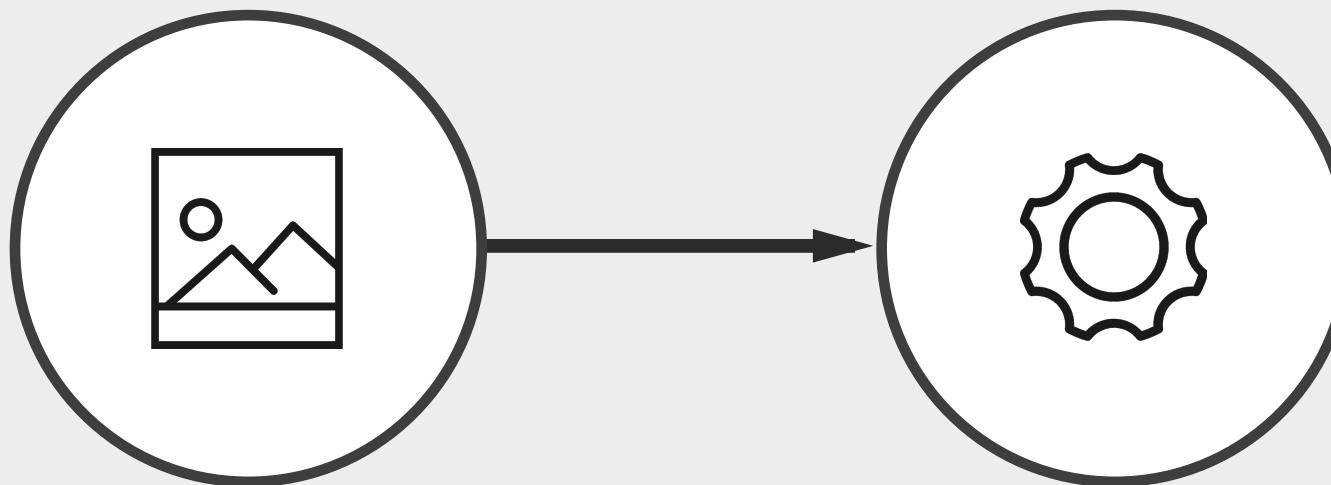


Image uploaded  
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Image resizer  
called via application

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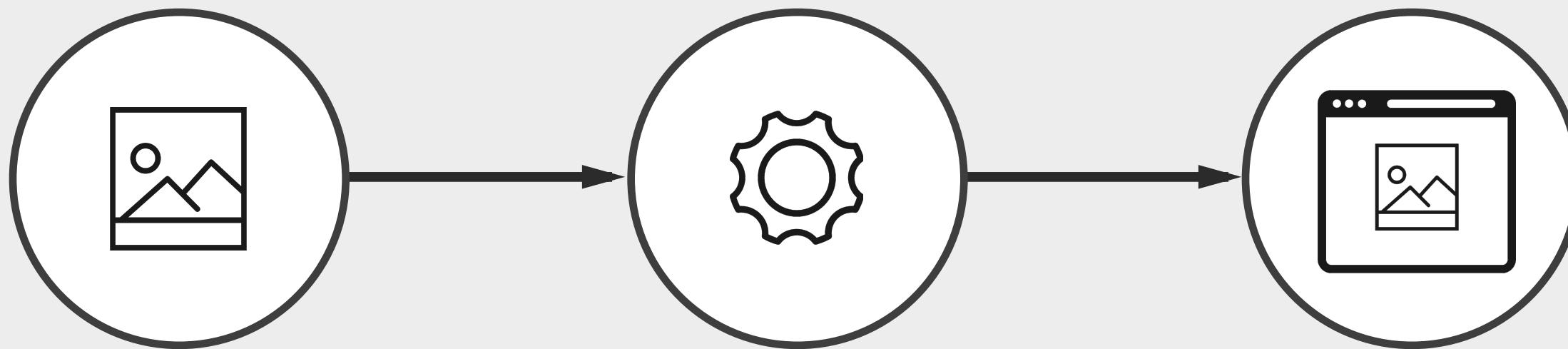


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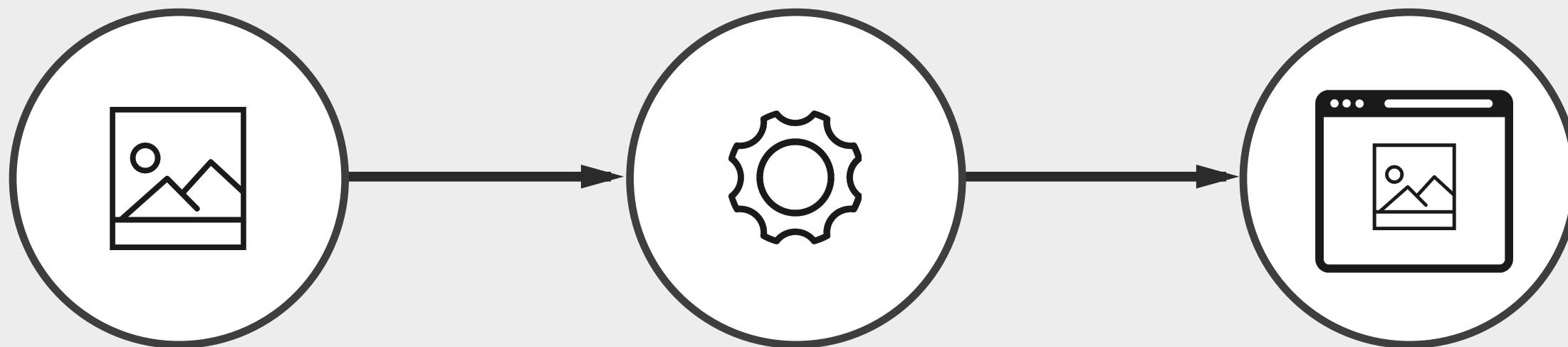


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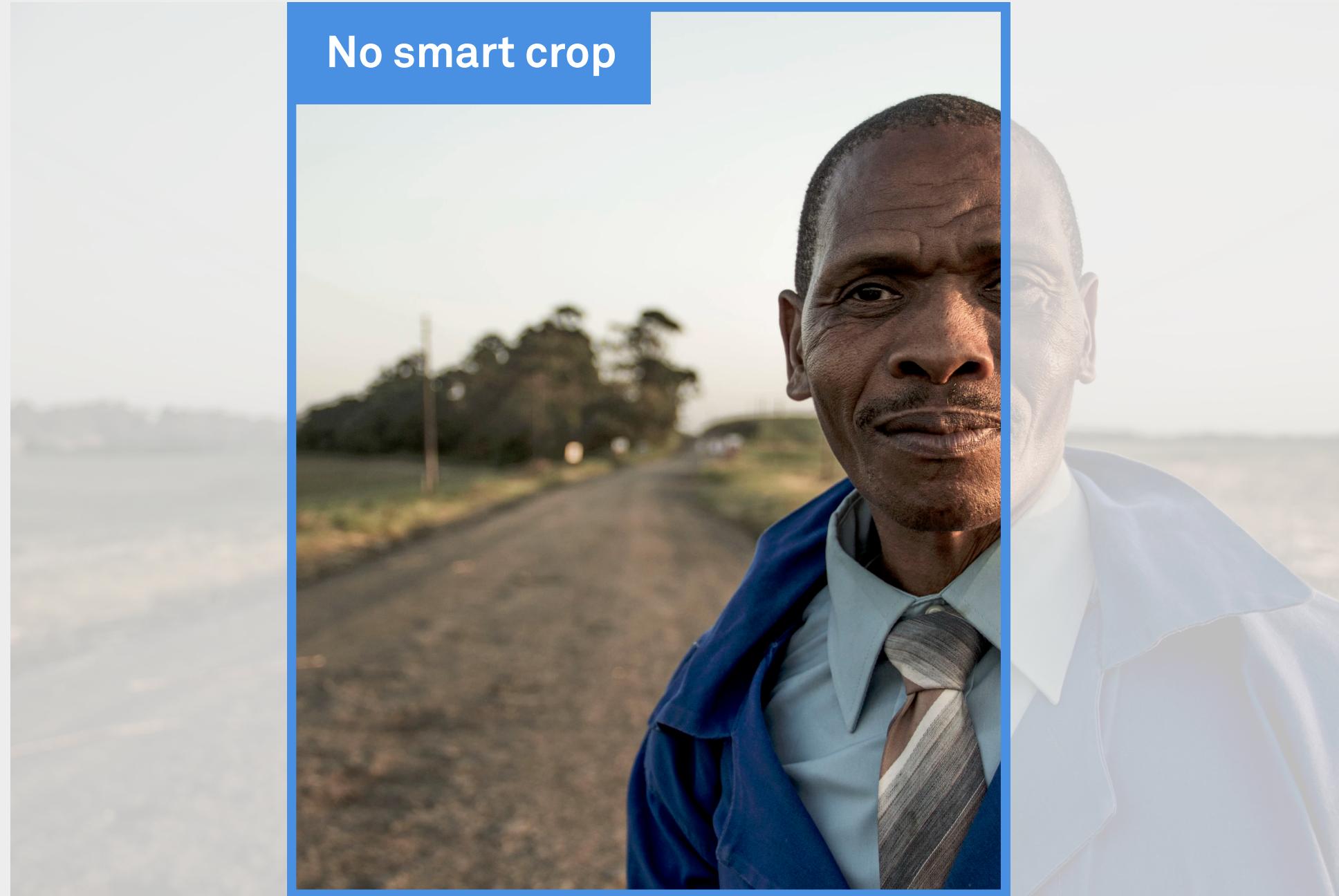
```
width: 200px  
height: 150px  
size: 15kb
```

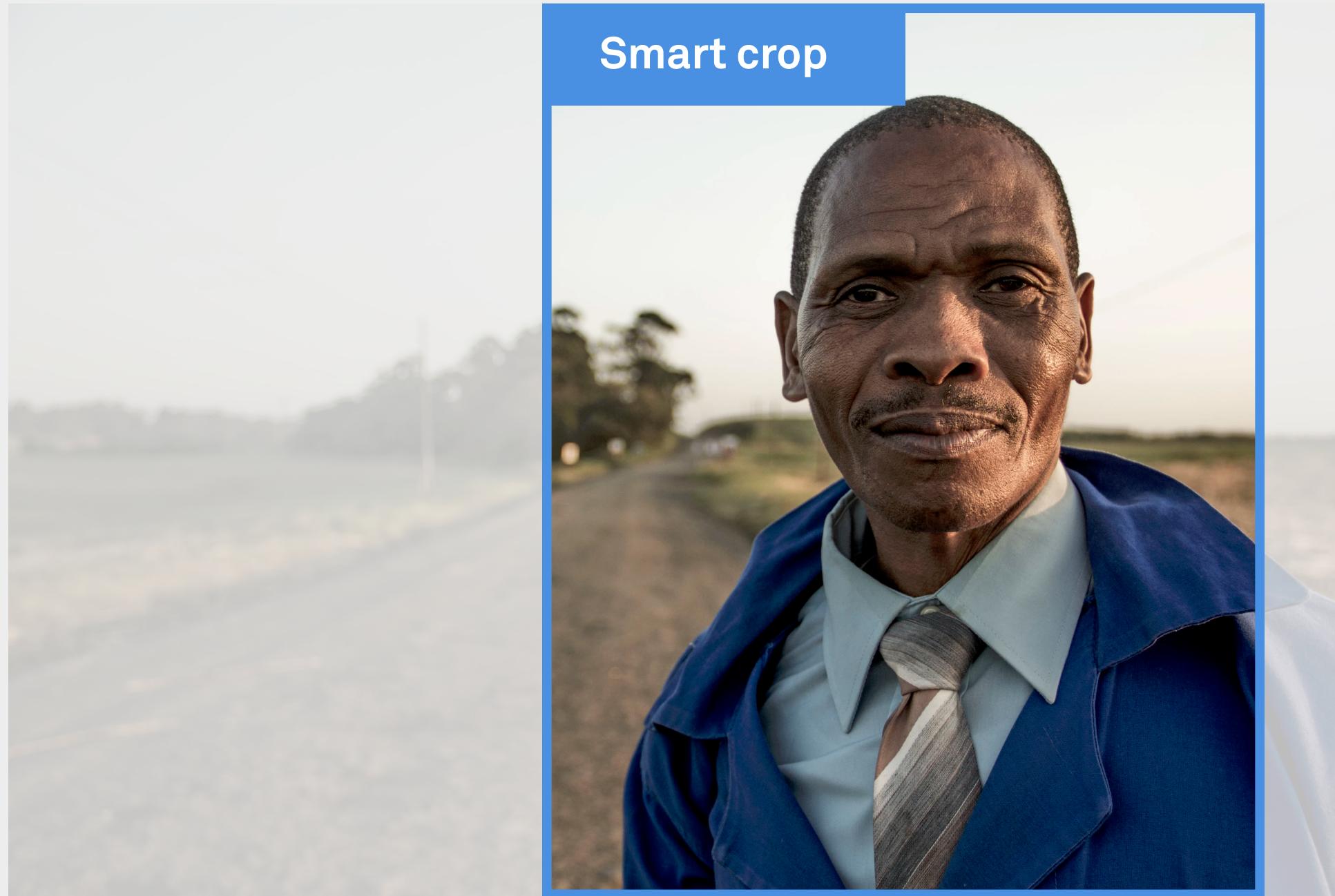
**... and it can smart crop, too**

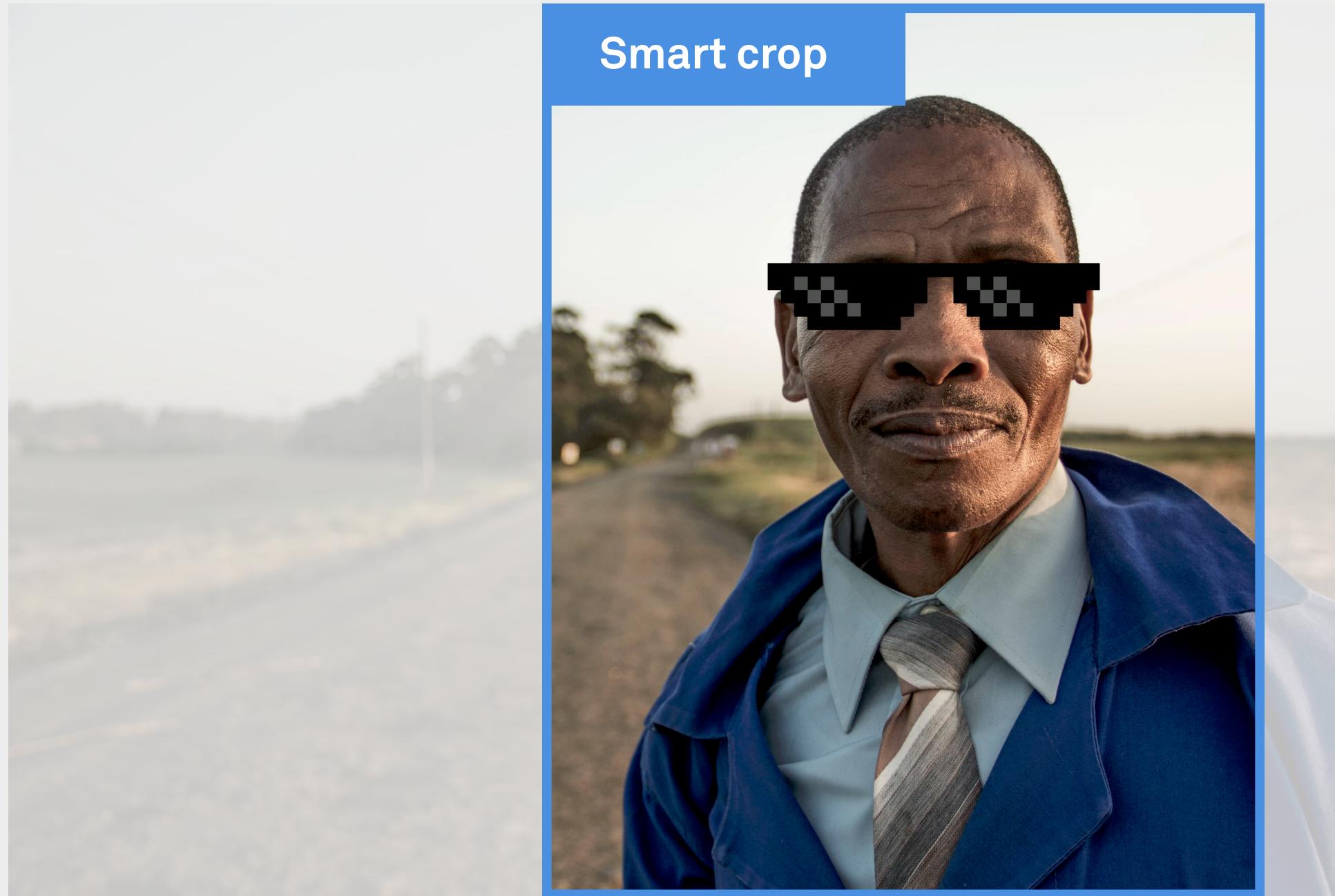
6D

INTRODUCTION / CONTINUOUS INTEGRATION / INFRASTRUCTURE / IMAGE RESIZER









# Image resizer + Picture tag

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Demo time!



Thank you.