AWS Code{Commit,Deploy,Pipeline}

Based on DVO202 from AWS re:Invent 2015

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AWS User Group Turkey

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amazon web services

What to expect from the session

The Amazon DevOps story

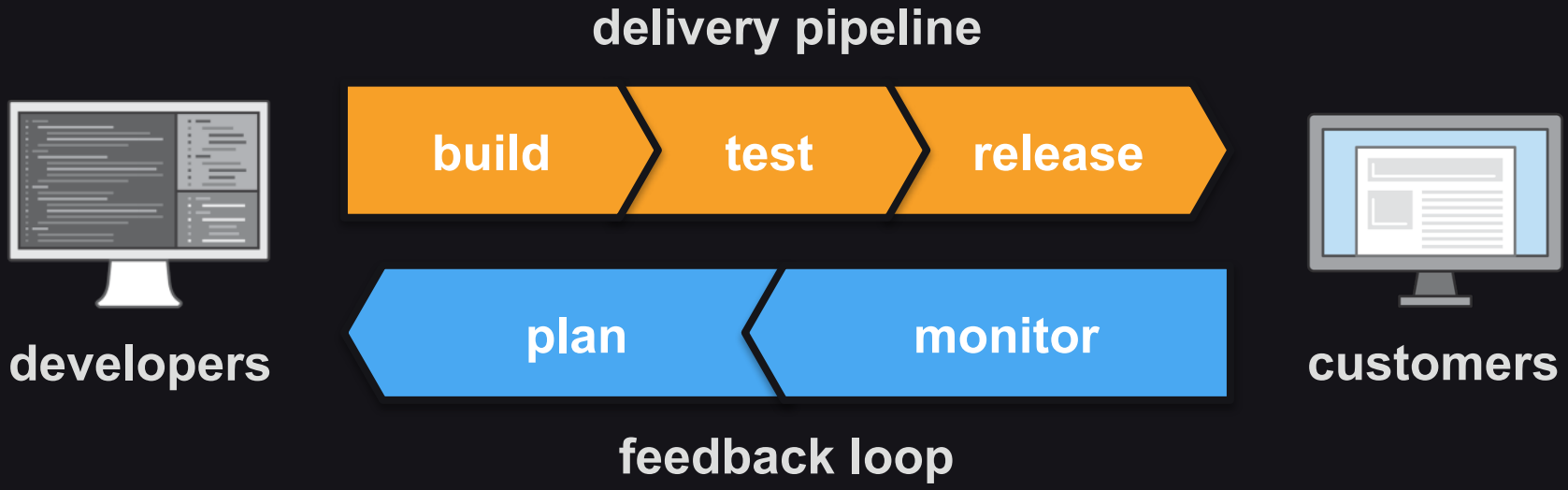
Developer tools for everyone

- AWS CodeDeploy
- AWS CodePipeline
- AWS CodeCommit

End-to-end demo with a simple web application

What is DevOps?

Software development lifecycle



DevOps = anything that automates, accelerates, strengthens this lifecycle

The Amazon DevOps story

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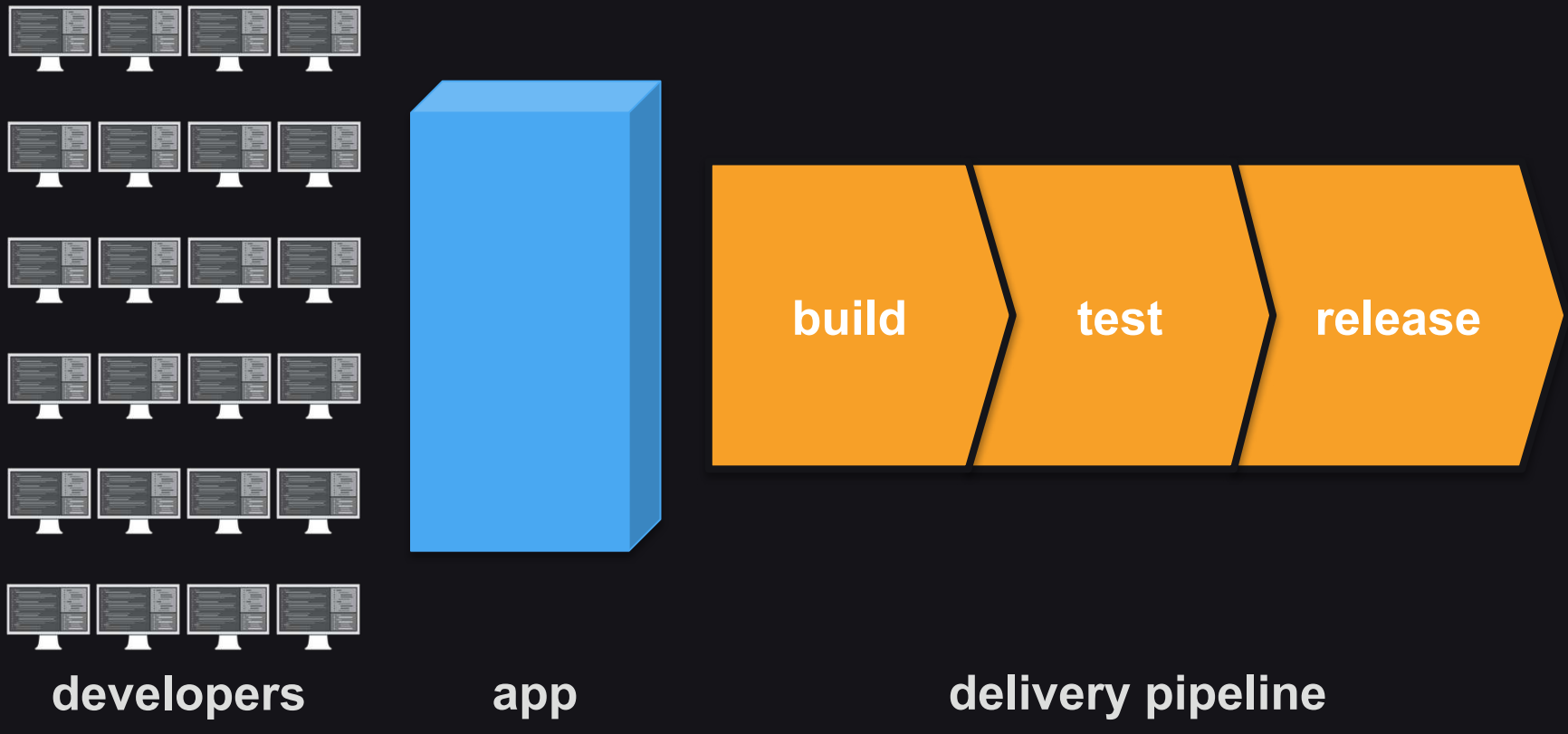
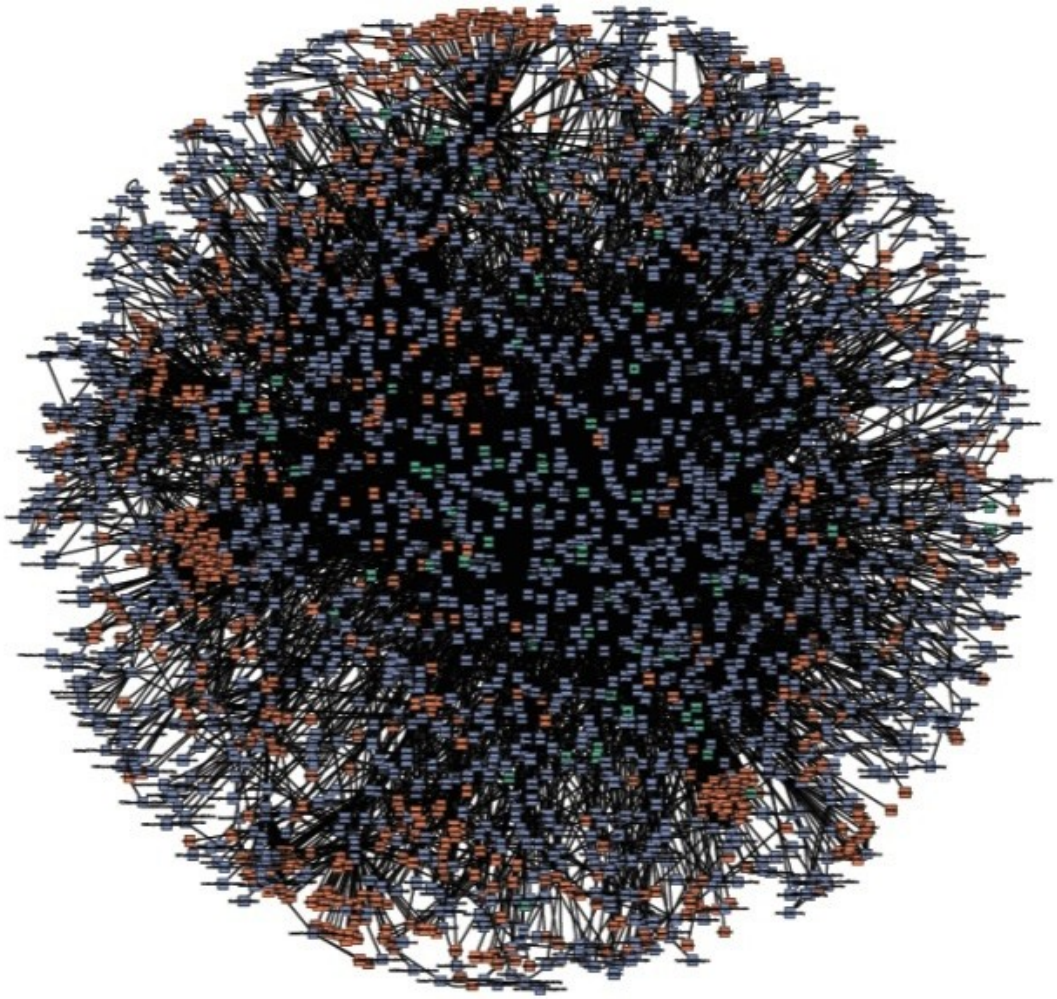
Monolith development lifecycle





Service-Oriented Architecture (SOA)

Single-purpose

Connected through APIs

Highly decoupled

“Microservices”

Two-pizza teams

Full ownership

Full accountability

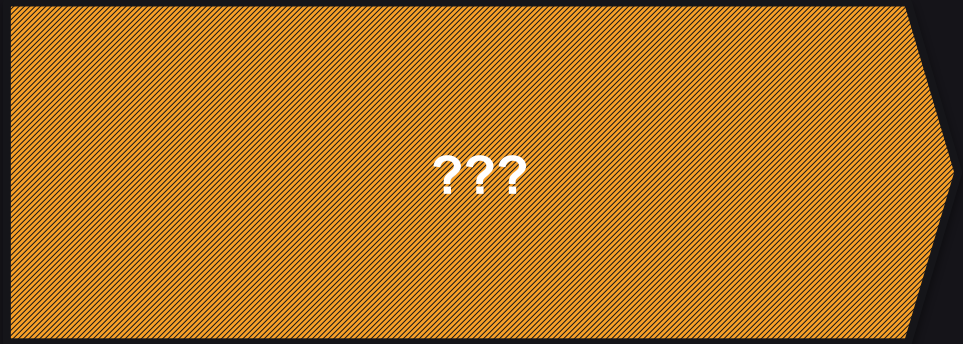
Aligned incentives

“DevOps”

Missing tools

developers

services



delivery pipeline

Self-service

Technology-agnostic

Encourage best practices

Single-purpose services

Deployment service

No downtime deployments

Health tracking

Versioned artifacts and rollbacks

Pipelines

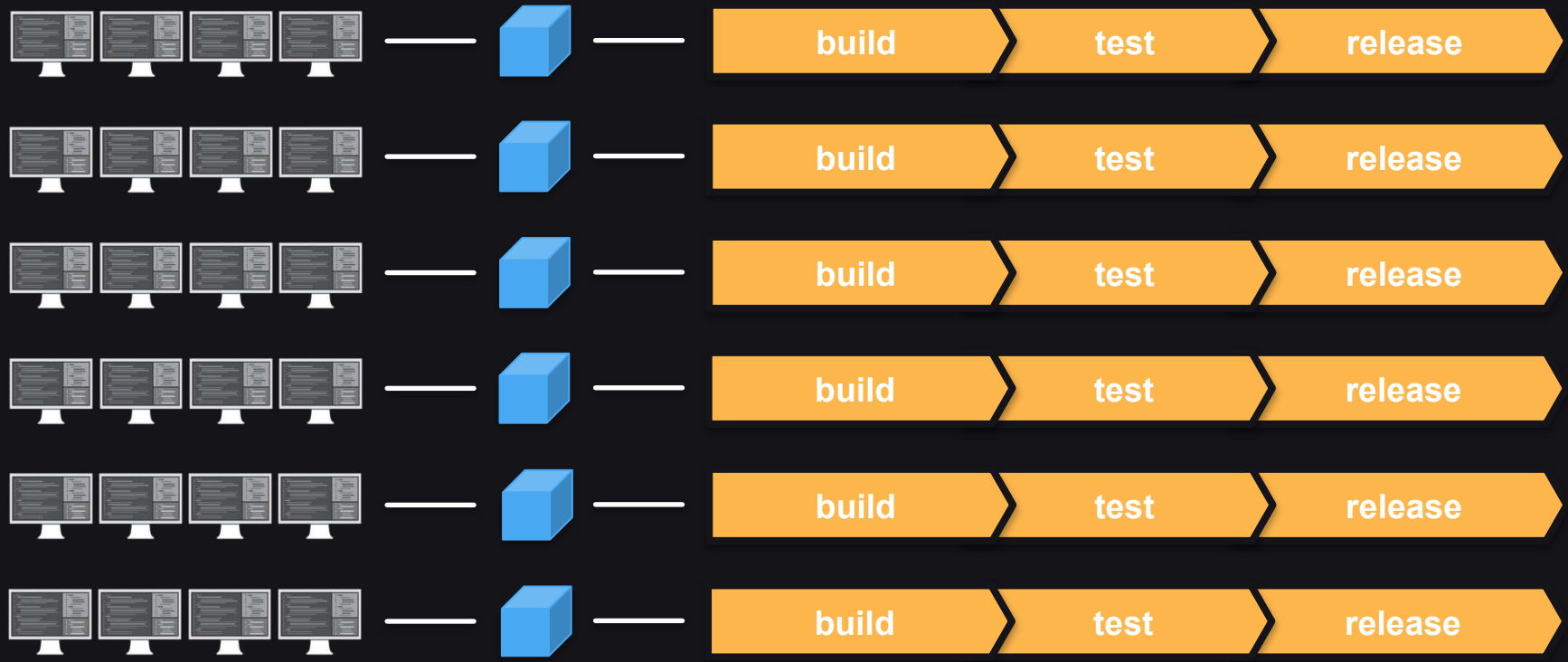
Continuous delivery

Automated release process

Faster and more reliable releases

>90% of teams

Microservice development lifecycle



Thousands of teams

× Microservice architecture

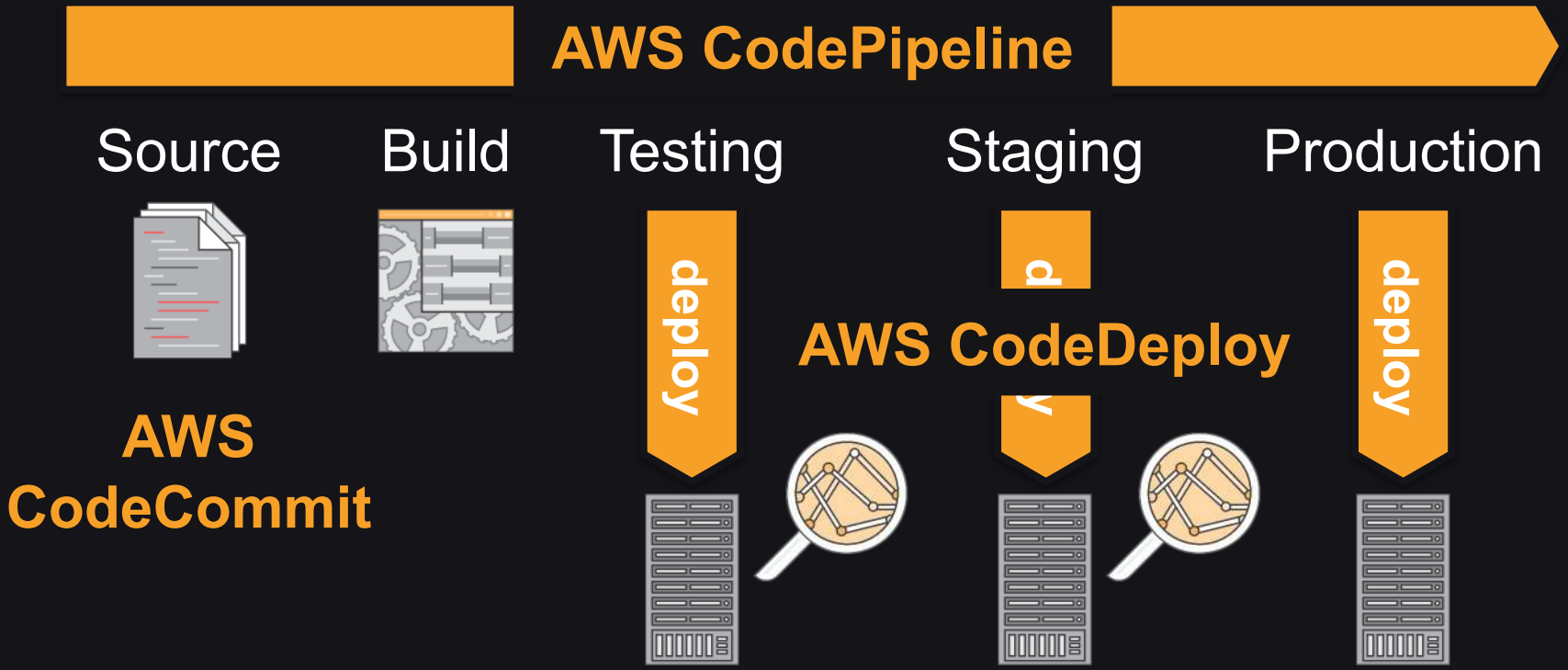
× Continuous delivery

× Multiple environments

= 50 million deployments a year
(1.5 deployment every second)

How can others do this?

Setting up a delivery pipeline



AWS Code Services

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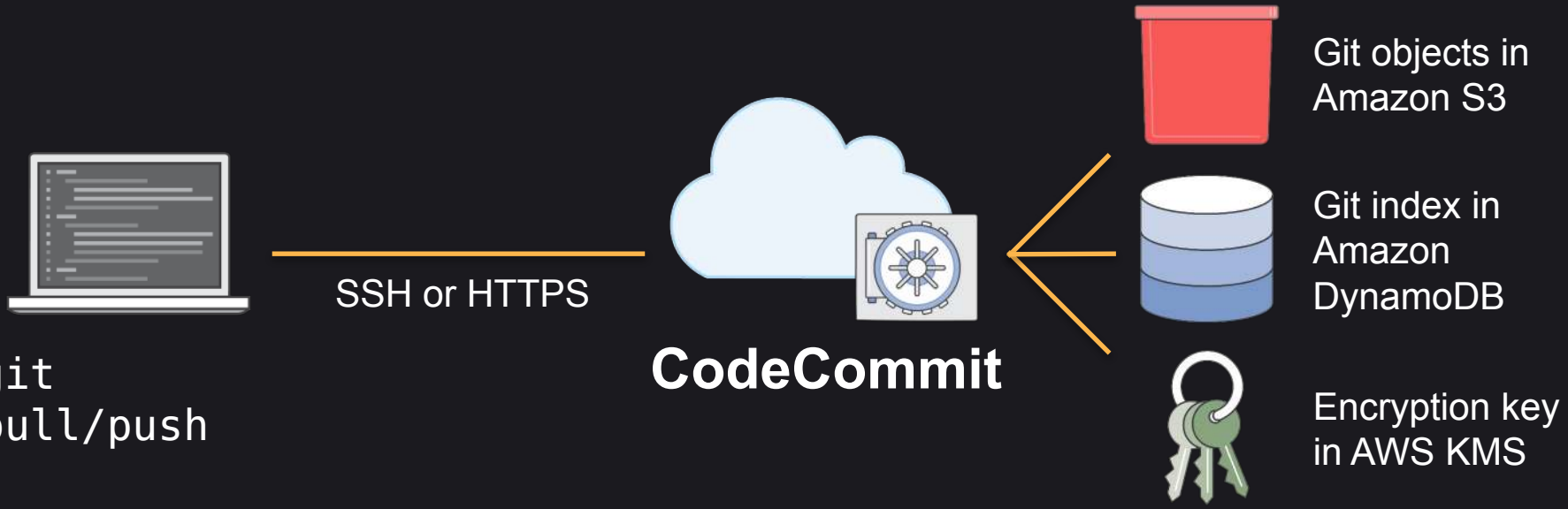
AWS CodeCommit

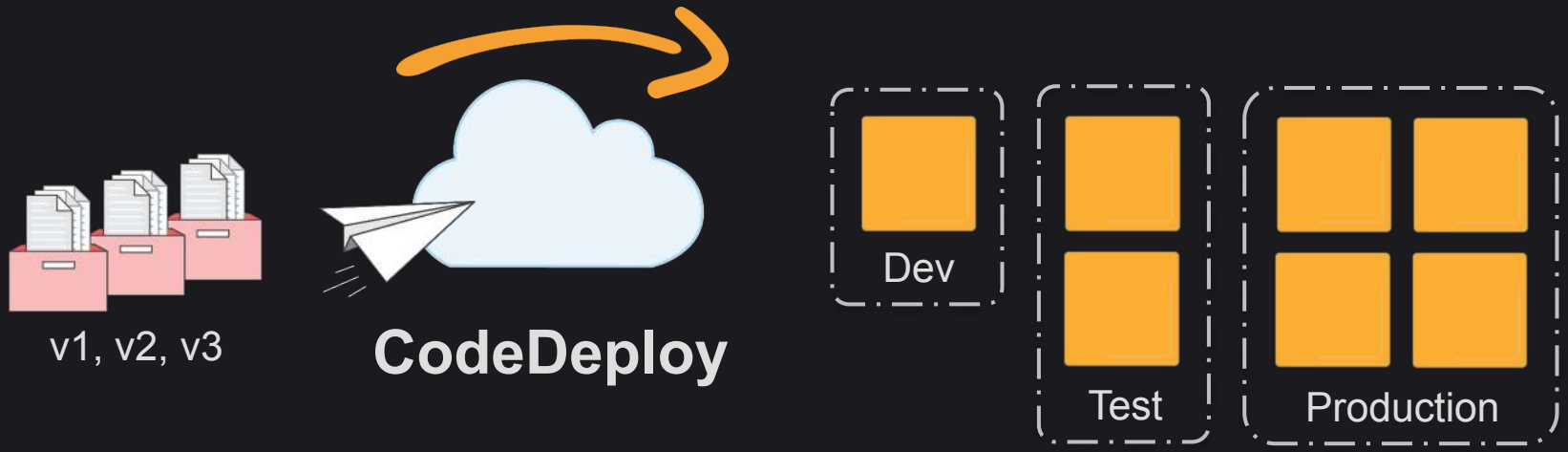


Use standard Git tools

Scalability, availability, and durability of Amazon S3

Encryption at rest with customer-specific keys

AWS CodeDeploy



Easy and reliable deployments (zero downtime)

Scale with ease

Deploy to any server

AWS CodeDeploy and EC2 Instances

- CodeDeploy requires an agent, available for Linux and Windows

- CodeDeploy can deploy to:
  - On-premise instances (configuration required)
  - Existing EC2 instances (configuration required)
  - New EC2 instances pre-configured for CodeDeploy thanks to a CloudFormation templates (no configuration required)

AWS CodeDeploy Key Components

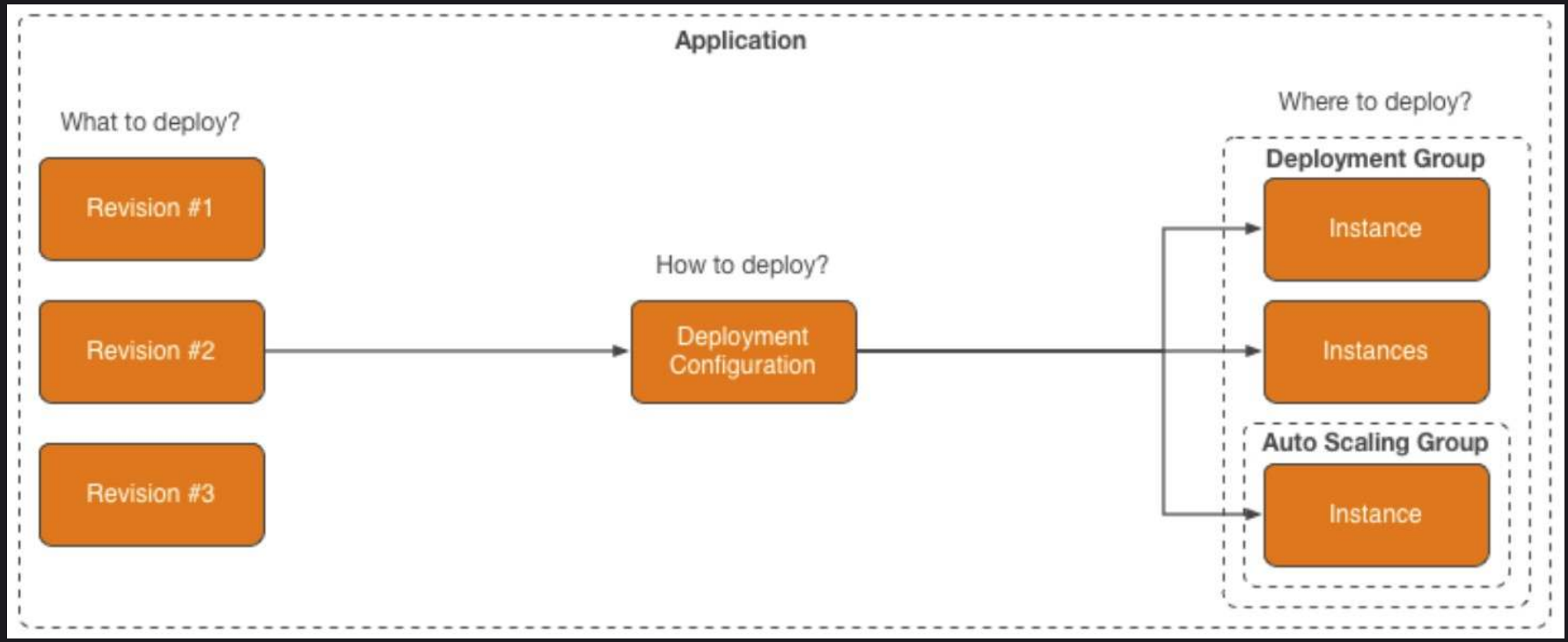
Revision: versioned code + application specification file (AppSpec)

Deployment group: a set of individual instances with a specific tag

Deployment configuration: a set of rules and conditions used during a deployment

Application: a name pointing to a revision, a deployment group and a deployment configuration

AWS CodeDeploy Key Components



AWS CodePipeline

Source	Build	Beta	Gamma	Production
1) Pull	1) Build 2) Unit test	1) Deploy 2) UI test	1) Deploy 2) Perf test	1) Deploy canary 2) Deploy region 1 3) Deploy region 2

Connect to best-of-breed tools

Accelerate your release process

Consistently verify each release

AWS CodePipeline Key Components

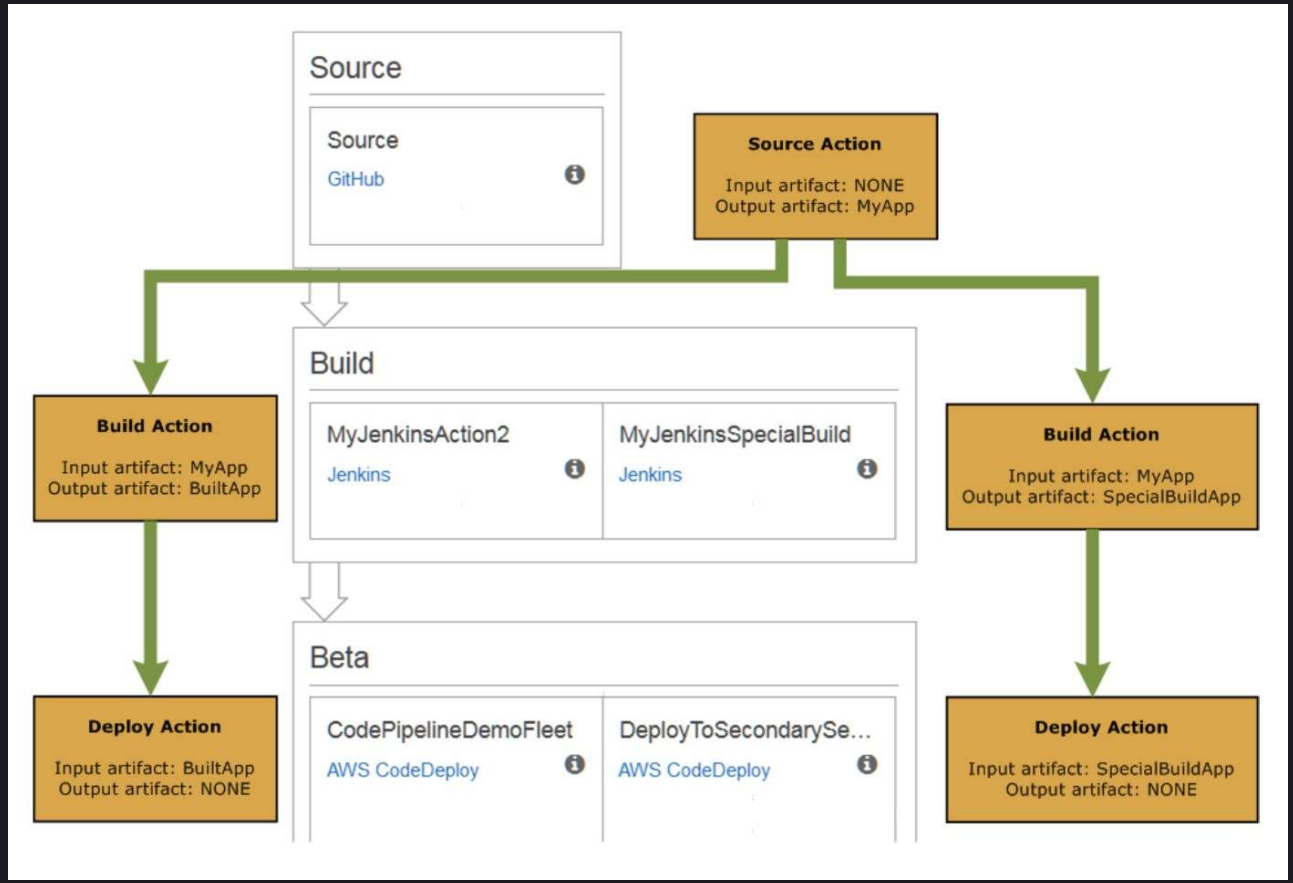
Stage: a specific part of the pipeline (source, build, etc.), containing a sequence of actions

Action: a task performed on an artifact in a stage. Actions occur in a specified order, in sequence or in parallel

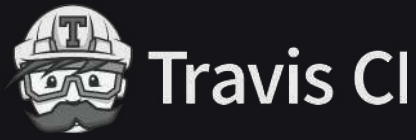
Revision: a change made to a source that is configured in a source action

Transition: moving a revision to the next stage in the pipeline

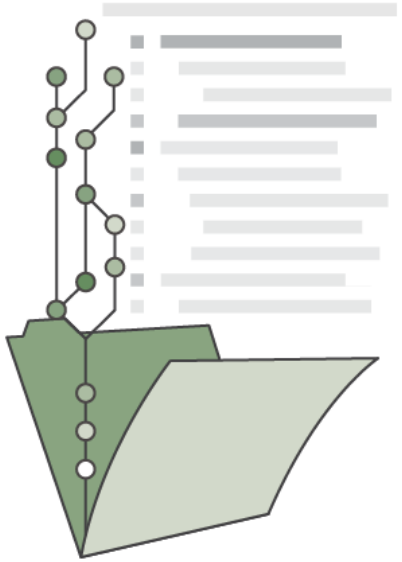
AWS CodePipeline Key Components



AWS Code partners

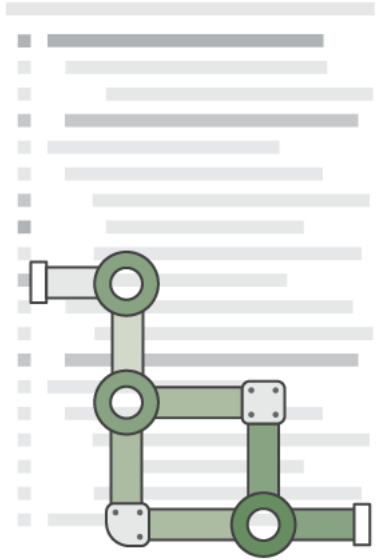


Hands on with the AWS Code services



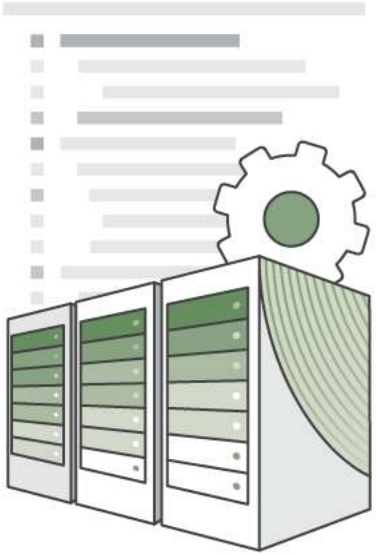
CodeCommit

source control



CodePipeline

continuous delivery



CodeDeploy

automated deployment

https://blogs.aws.amazon.com/application-management/post/Tx2CIB02ZO05ZII/Explore-Continuous-Delivery-in-AWS-with-the-Pipeline-Starter-Kit

Next steps

DEEP DIVE ON CODE DEPLOY @ AWS re:Invent 2015

AWS CodeDeploy: Automating Your Software Deployments (DVO306)

LEARN MORE

aws.amazon.com/awscode

AWS CodeDeploy & CodePipeline User Guides

GET STARTED

console.aws.amazon.com ☺

Thank you!

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