



AWS  
re:Invent

**MOB313-R1**

# Testing mobile applications on real devices with AWS Device Farm

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# CI/CD and mobile apps

Mobile apps present a unique challenge for CI/CD pipelines:

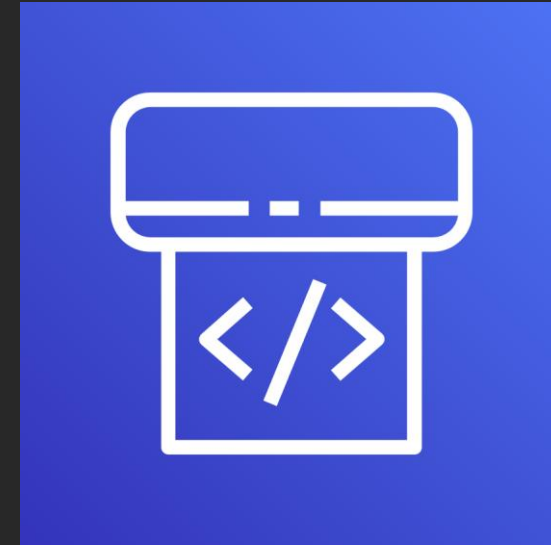
- Fragmented device ecosystem
- Maintaining a test device fleet
- Difficulty of automating tests
- Limited integration with existing CI/CD tools



# AWS Device Farm + AWS CodePipeline



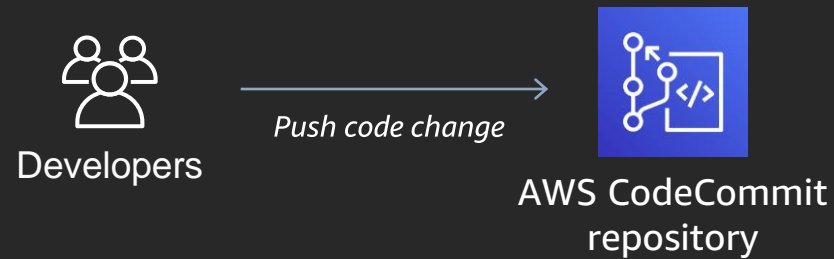
**Device Farm** is an app testing service that lets you test and interact with your Android, iOS, and web apps on many devices at once, or reproduce issues on a device in real time



**CodePipeline** is a fully managed continuous delivery service that helps you automate your release pipelines for fast and reliable application updates

# Workshop: Mobile app CI/CD on AWS

# Architecture: Mobile CI/CD on AWS



Developers push their code change into a source repository

We are pushing changes to our Android APK into a managed repository on CodeCommit

**CodeCommit** is a fully managed source control service that makes it easy for teams to collaborate on code in a secure and git-compatible ecosystem

# Architecture: Mobile CI/CD on AWS

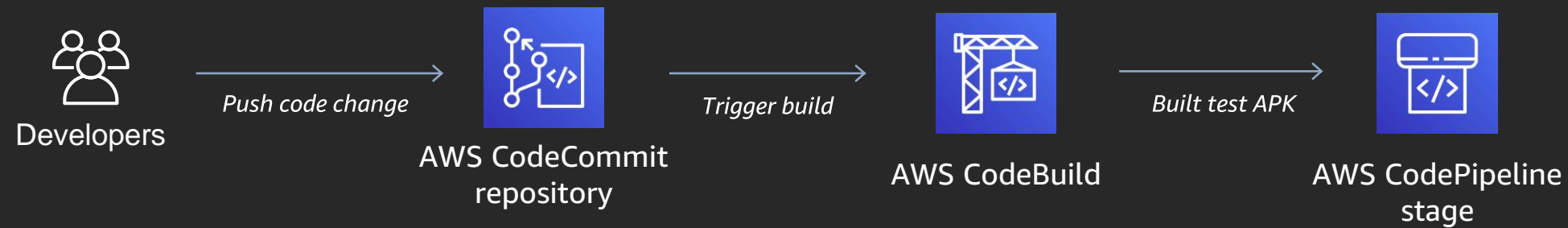


Each commit to our repository triggers a CodeBuild job to build our Android APK for testing

**CodeBuild** is a fully managed continuous integration service that compiles source code, runs tests, and produces software packages that are ready to deploy



# Architecture: Mobile CI/CD on AWS



Once built, CodeBuild will pass the test APK and test bundle as build artifacts to the next CodePipeline stage

CodePipeline passes our APK to our Jenkins server



# Architecture: Mobile CI/CD on AWS

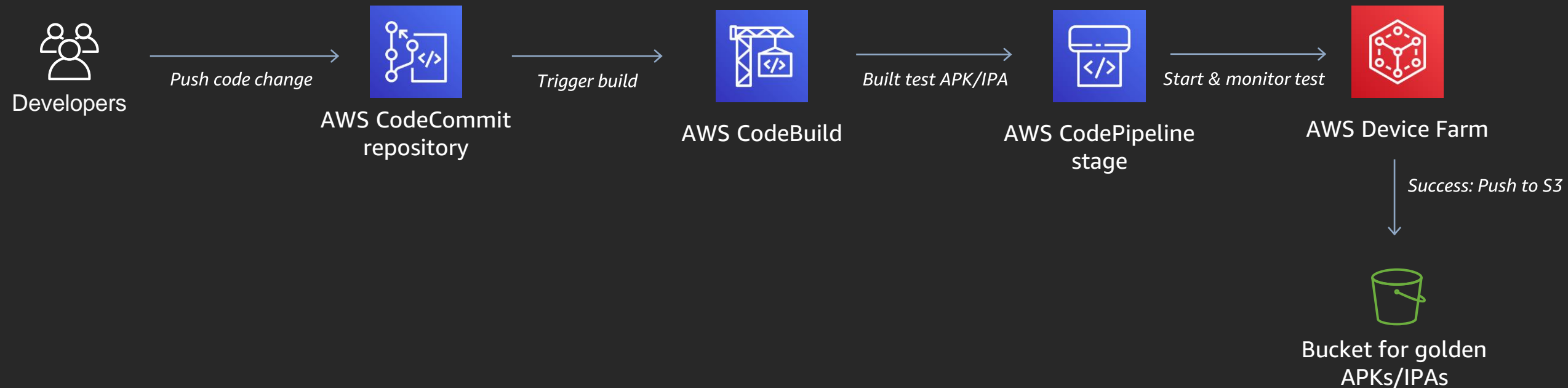


Once built, CodeBuild will pass the test APK and test bundle as build artifacts to the next CodePipeline stage

CodePipeline passes our APK to Device Farm for testing

If our automated tests fail, the pipeline fails

# Architecture: Mobile CI/CD on AWS



Once built, CodeBuild will pass the test APK and test bundle as build artifacts to the next CodePipeline stage

CodePipeline passes our APK to Device Farm for testing

If our automated tests fail, the pipeline fails

# Hands-on: Let's build it!

# Taking it further

- Automate submission to App Store/Google Play once app hits Amazon S3
- Automatically build applications with specific assets (i.e., white-labeling for specific customers)

# Thank you!

**Mike Apted**

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