AWS On Tap

Publishing AMIs
with
AWS CodeBuild
&
AWS CodePipeline

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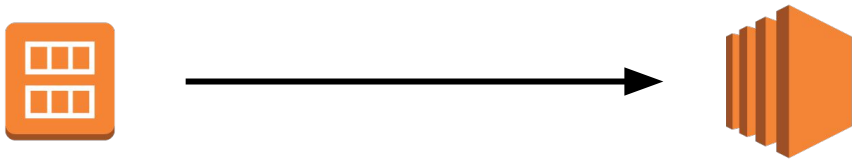
Today's Agenda

- Talk about AMIs, Packer, CodeBuild, CodePipeline, and other AWS services
- More talking about DevOps, Infrastructure as Code, and Continuous Delivery
- Show you lots of code
- Show you a (hopefully) working demo
- Talk to you!
- Not necessarily in that order

AMI: Amazon Machine Image

A template and metadata for launching one or more ec2 instances.



http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/AMIs.html

AMI Concepts

- EBS-Backed vs. Instance Store-Backed AMIs
- What goes in an AMI?
- Windows vs. Linux AMIs

Building an AMI

- You could do it yourself...

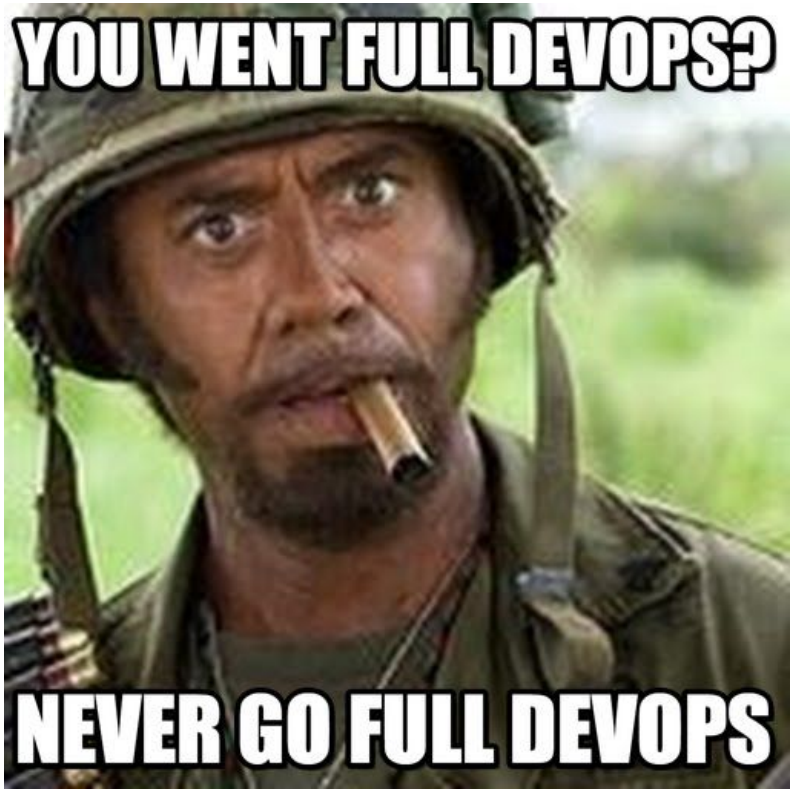
Or you could...

Use Packer

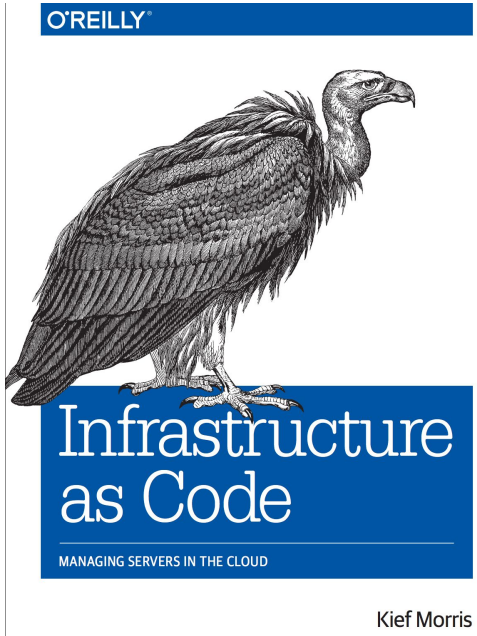
- **Machine Images as Code**
  A single JSON file describes how to build, configure, and publish your AMI
- **Supports more than EC2 Images**
  VirtualBox, VMware, Docker, etc.
- **Integrates with config management tools**
  Ansible, Chef, or even Windows and Linux Shells - if that's your thing

https://www.packer.io

While we're on the subject...

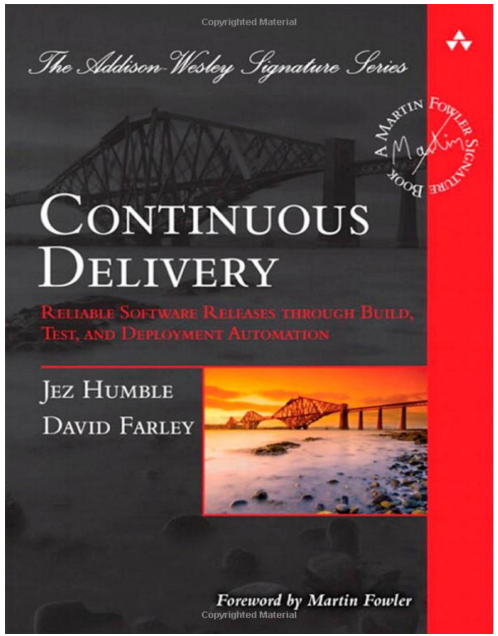


Infrastructure as Code



Infrastructure as code is an approach to infrastructure automation based on practices from software development. It emphasizes consistent, repeatable routines for provisioning and changing systems and their configuration. ***Changes are made to definitions and then rolled out to systems through unattended processes that include thorough validation.***

Continuous Delivery



...to build software so that it is always in a state where it could be put into production. We call this Continuous Delivery because we are ***continuously running a deployment pipeline that tests if this software is in a state to be delivered***.

AWS CodePipeline

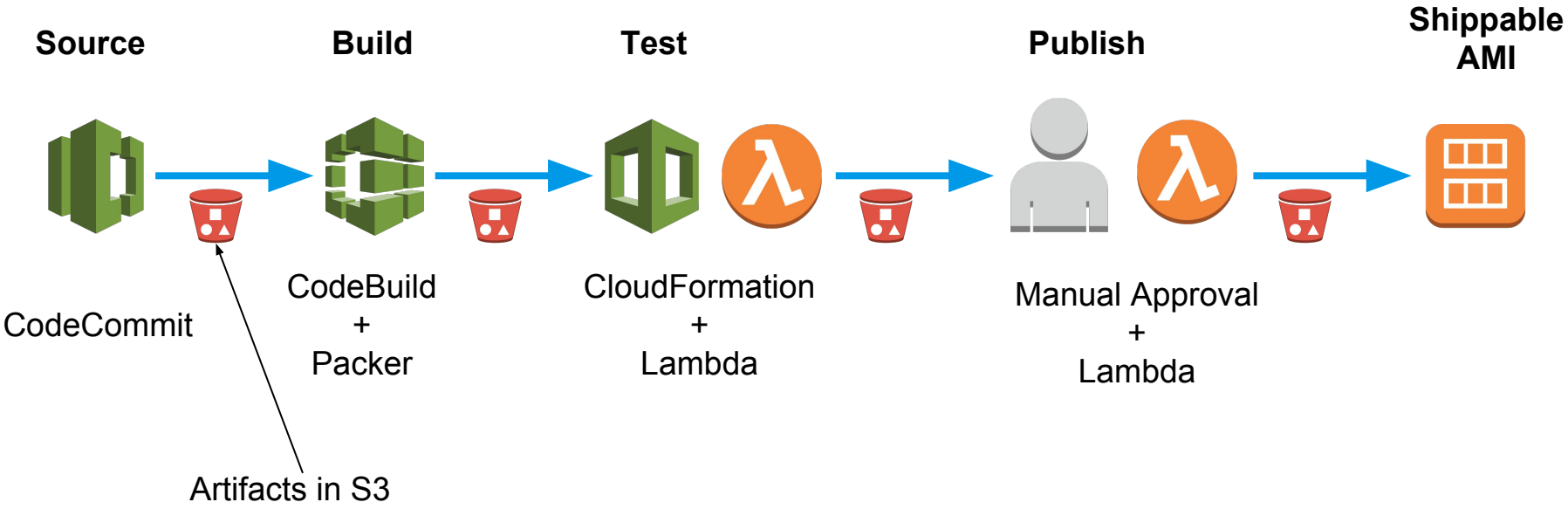
AWS CodePipeline is a continuous integration and continuous delivery service for fast and reliable application and infrastructure updates. ***CodePipeline builds, tests, and deploys your code every time there is a code change***, based on the release process models you define.

https://aws.amazon.com/codepipeline/

CodePipeline Concepts

- Pipelines
- Stages
- Actions
- Transitions
- Artifacts

Our AMI Pipeline



AWS CodeBuild

AWS CodeBuild is a fully managed build service that compiles source code, runs tests, and produces software packages that are ready to deploy. With CodeBuild, **you don’t need to provision, manage, and scale your own build servers.** CodeBuild scales continuously and processes multiple builds concurrently, so your builds are not left waiting in a queue.

https://aws.amazon.com/codebuild/

CodeBuild Concepts

- Build Project
- Build Environment
- Build Spec

Monitoring

- CloudWatch Events
- SNS Notifications
- CloudWatch Logs
- CloudTrail

Security

- AMI security considerations
- IAM service roles and policies
- CodeBuild security considerations
- CodePipeline security considerations

Billing

- **AMIs**
  - EBS-snapshot storage for EBS-backed snapshots
  - S3 storage for instance store-backed snapshots
- **CodePipeline**
  - $1 per active pipeline per month
- **CodeBuild**
  - Pay per build minute - price varies by instance type
- **Underlying services**
  - Additional S3, Lambda, CloudWatch, EC2, and SNS charges may apply

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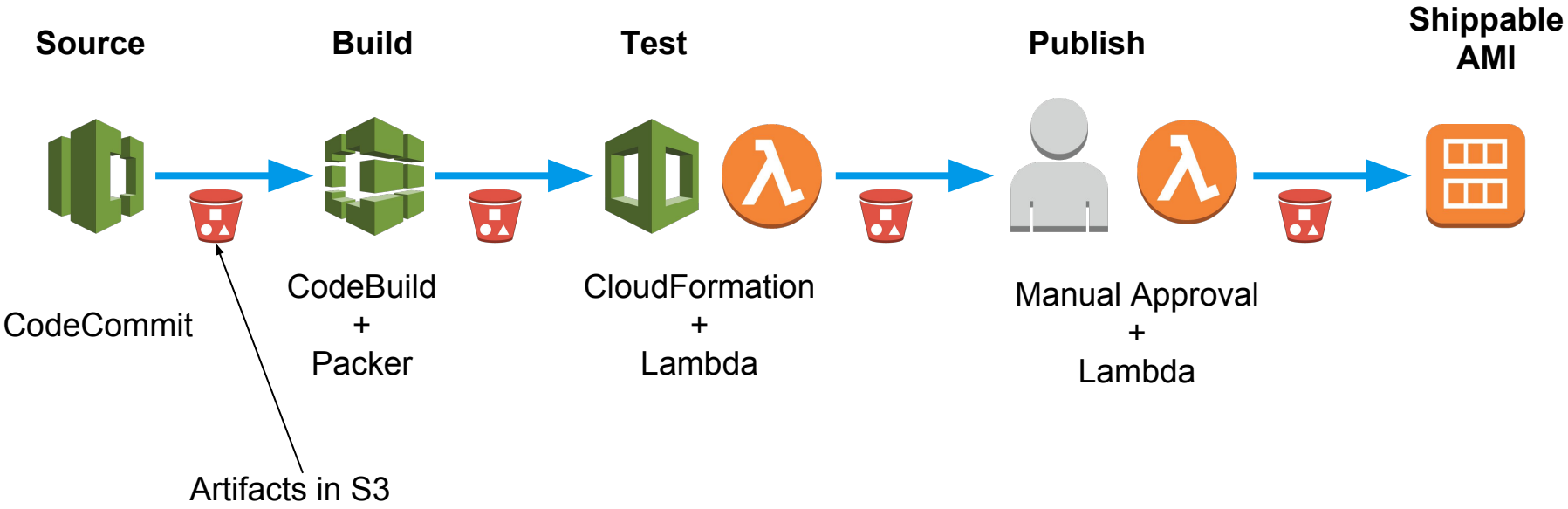

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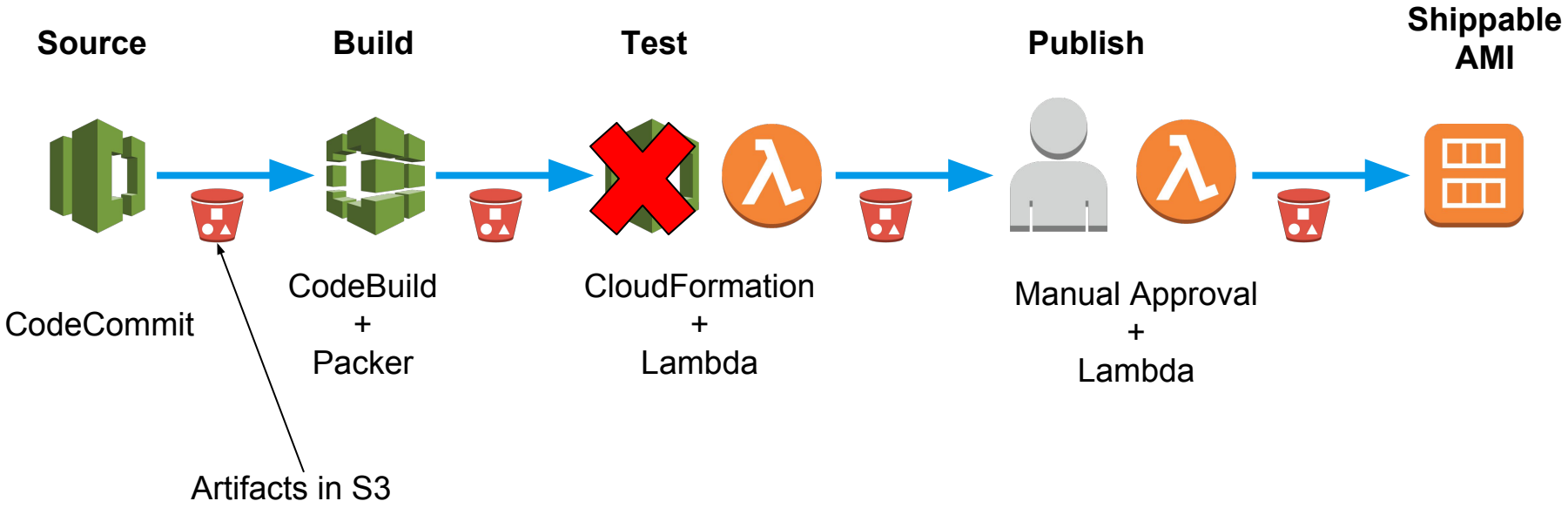

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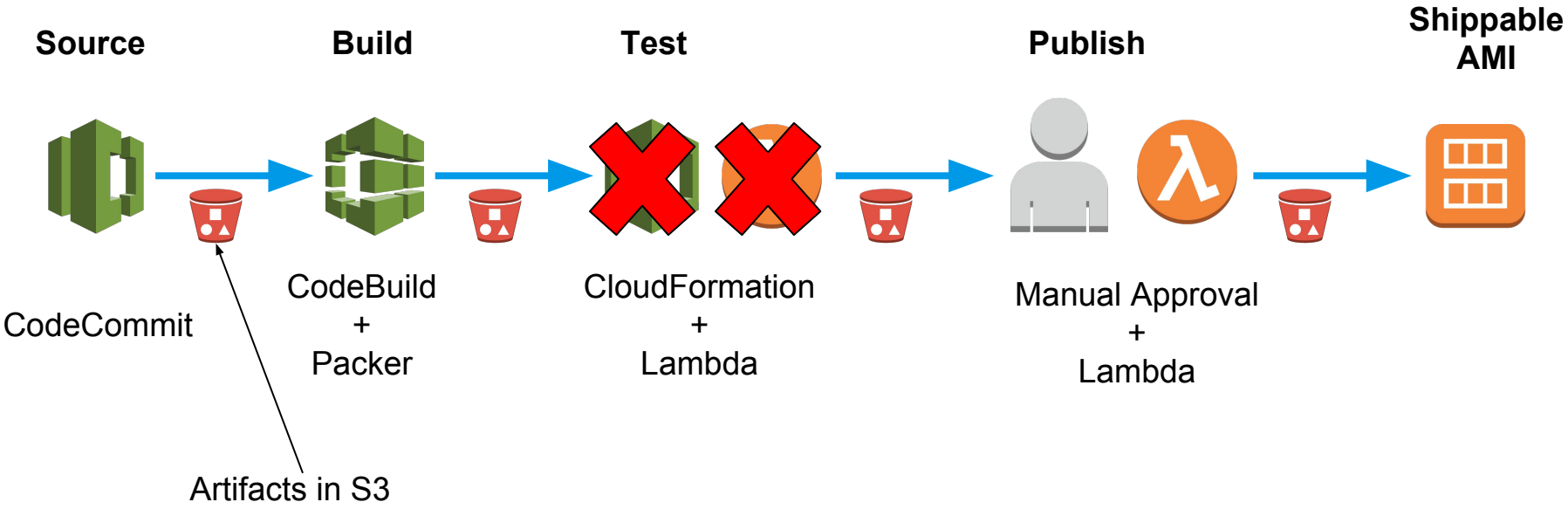

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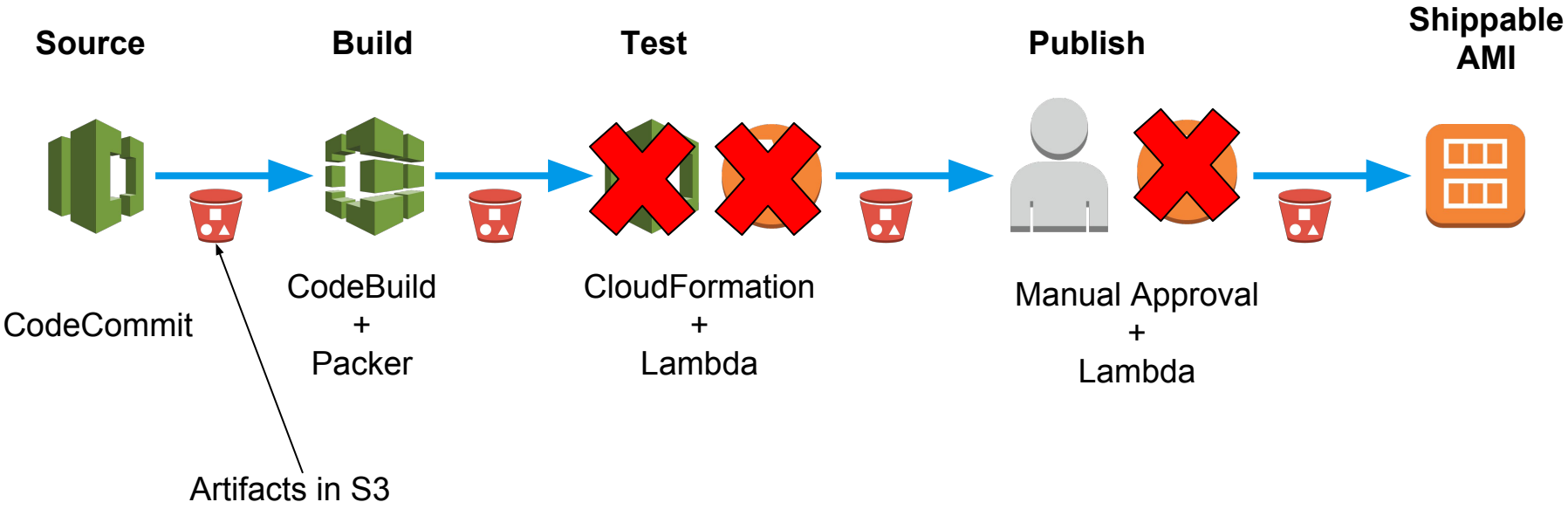

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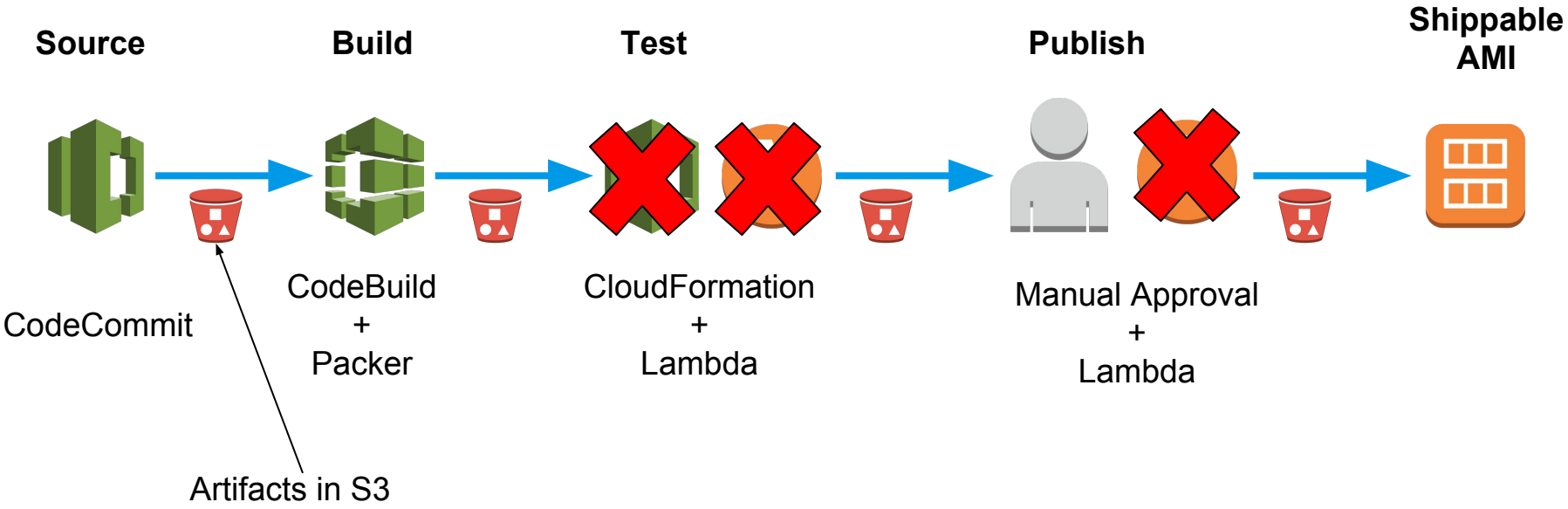

Demo Time!!!

Code: github.com/awsontap/ami-pipeline-example

Questions & Feedback