Deploying Angular to AWS

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Agenda

- AWS

- Quick and Dirty

- Smart and Repeatable

- CodeBuild

- CloudFormation/CodePipeline

- A Few Tips

What We Won't Cover

- CloudFront

- EC2, ECS, Elastic Beanstalk

- Elastic Load Balancing

- Back end services

My Versions

app	command	my version
git	git —version	2.15.0
node.js	node -v	v8.11.1
npm	npm —v	5.6.0
angular cli	ng -v	1.7.4

AWS Documentation Warning

- AWS moves faster than its documentation

- Features added faster than book or videos

- Or even online docs

- The current console may not match images

Quick and Dirty

Q&D Demo

The Dirty Steps

- Build app for production

- Create a bucket

- Make it a website

- Upload the files from the **dist** folder

- Make them public

Even Faster

- Use AWS Route 53 as your DNS provider

- Set up AWS CloudFront as CDN

- Point CloudFront to your static site

- Point Route 53 to CloudFront

Not Recommend

- Never manually push code to production

- It is too easy to make a mistake

- And finding your mistake can be a pain

- Not even recommend for toy sites

Smart and Repeatable

Code Deployment

- Deploying code should always be an automated process

- Write a code deploy early in the dev cycle

- Add tasks like linters and testers to it

The 5 CodeBuild Questions

- Where is the source code?

- Which build commands do you need to run and in what order?

- Which runtimes and tools do you need to run the build?

- Do you need AWS resources that aren't provided automatically by AWS CodeBuild?

- Do you want AWS CodeBuild to work with your VPC?

CodeBuild

- We will first explore CodeBuild by itself

- Before we move onto CodePipeline

- You must have a buildspec.yml file in the app root

CodeBuild Steps

- Create a buildspec.yml file in app root

- Create an output S3 bucket

- Go to AWS CodeBuild

- Follow the steps

AWS S3

- Simple Storage Service

- Cloud-based object storage

- Used to hold our site and data

Build Phases

phase	what
install	commands ran during installation
pre_build	commands ran before the build
build	commands ran during the build
post_build	commands ran after the build
artifacts	where build output is located

CodePipeline

- The CodePipeline stages and actions are defined in a CloudFormation template.

- This includes CodePipeline's integration with CodeCommit, CodeBuild, and CloudFormation

- Think of it as a factory that builds your app

Where does CodeBuild run?

- CodeBuild uses Docker

- It spins up a server

- Install software on it

- Runs your build

- Moves the artifacts

- Destroys the server

Gotchas

- Change takes time to propagate thru AWS

- The AWS console will log you after about 12 hours

- Use a system to name things

- Keep asking yourself, how much does this cost?

A Few Tips

- Create a Docker container that has everything

- Servers are no longer sacred

- Get your hands dirty

- Use tools like Terraform

- Be very careful with your AWS credentials

- Use bash scripts to simulate code deploys

Some useful links

- https://stelligent.com/2017/09/05/continuous-delivery-to-s3-via-codepipeline-and-codebuild/

- https://docs.aws.amazon.com/codebuild/latest/userguide/build-env-ref-available.html

Questions?