Introduction to Cloud Native Application and Infrastructure As Code

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145 views Jun 4, 2022 AWS Cloud Development Kit (CDK) crash course
Hello guys,
In this video, I walk through with you guys the need to migrate our system to the cloud, and discuss about the concept of Infrastructure As Code.

Course Pre-requisites:
► AWS Account: https://aws.amazon.com/premiumsupport...
► Install AWS CLI: https://docs.aws.amazon.com/cli/lates...
► Configure the CLI: https://docs.aws.amazon.com/cli/lates...
► Install Typescript: https://www.typescriptlang.org/download
► Install CDK Toolkit: https://docs.aws.amazon.com/cdk/v2/gu...

CDK crash course

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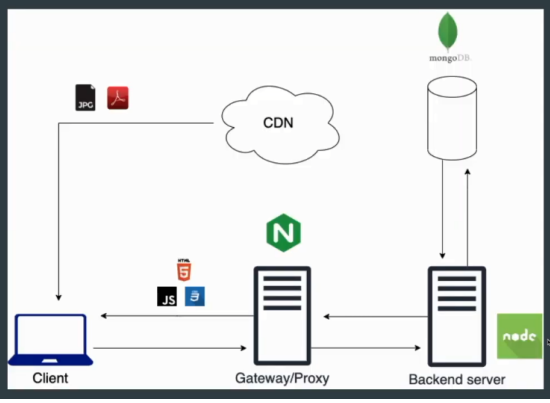
Tutorial 1: Introduction

Content

- Cloud Native Application
- Infrastructure as code

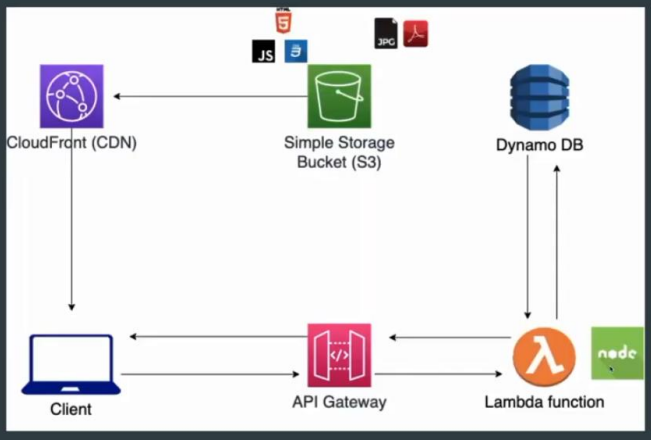
Traditional Backend System



Problems

- Takes quite some time and specific knowledge to set up (purchase hosting, different config on different OS)
- Harder to monitor: when will the RAM ran out? Is CPU strong enough? What if the server went down?
- Harder to scale: What if I need more services? What if I need more instants? How can I scale up my database horizontally? How to setup the network for microservices?

Cloud Native Application



Cloud Native Application

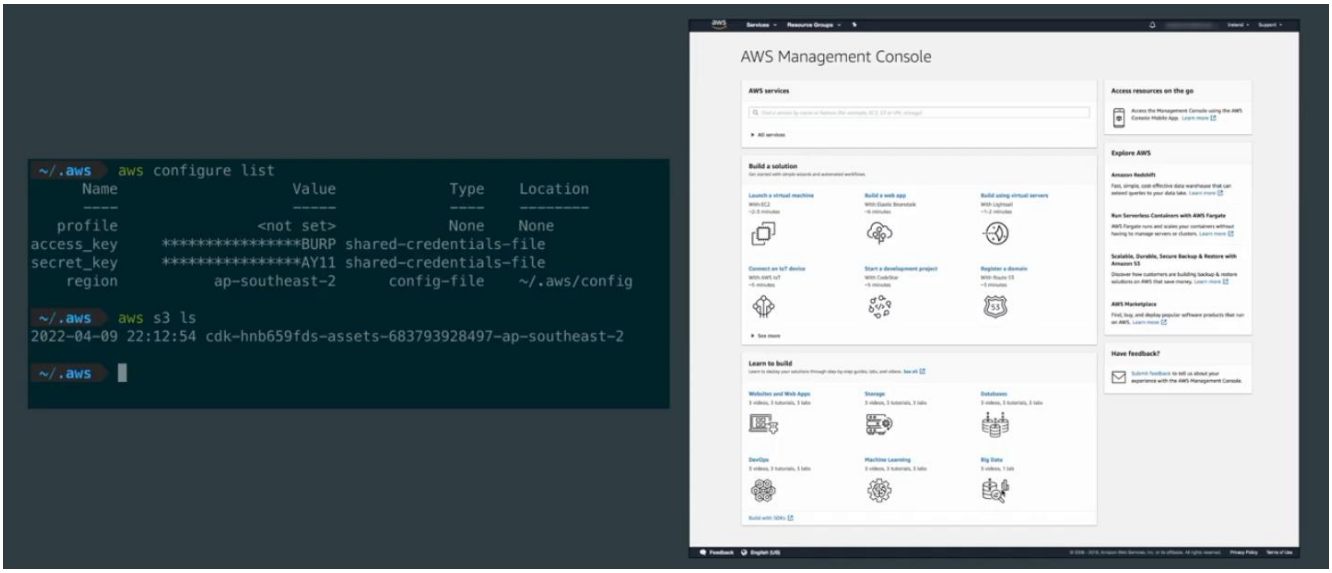
Same components, everything is managed by Cloud Provider

Benefits:

- Easy to set up: Do not require any strong knowledge, quite user friendly and fast to have a system up and running, easy to configure
- There are many services for monitoring (e.g: CloudWatch, X-Ray...)
- All the services are managed by cloud provider
- Easy to scale up: When your application grows bigger, it will take only minutes to have more instance

How to create a Cloud Native Application?

- AWS Console
- AWS CLI
- Infrastructure as Code



Infrastructure as code

Define the Cloud Infrastructure in a declarative manner, without has to go and do it manually via GUI or CLI, we can save all the definitions as a code file, then re-use or edit it whenever you want

Cloudformation is designed for AWS.

- Cloud Formation template
- SAM (Serverless Application Model) template: declarative, use cloudformation under the hood
- CDK (Cloud Development Kit) define Cloud Infrastructure using programming language, e.g: javascript/typescript, python,... => more friendly to developer, add extra logic :D

Pre-requisites

- AWS account
- Aws-cli
- Aws-cdk
- Typescript

(links can be found in the description)