API Engineering

Yin Hua Li

Centennial College

Week#1 2018 Fall

Topic: AWS Overview

What is Amazon Web Services (AWS)?

web services are really the same as cloud services, simply our defn of them differs
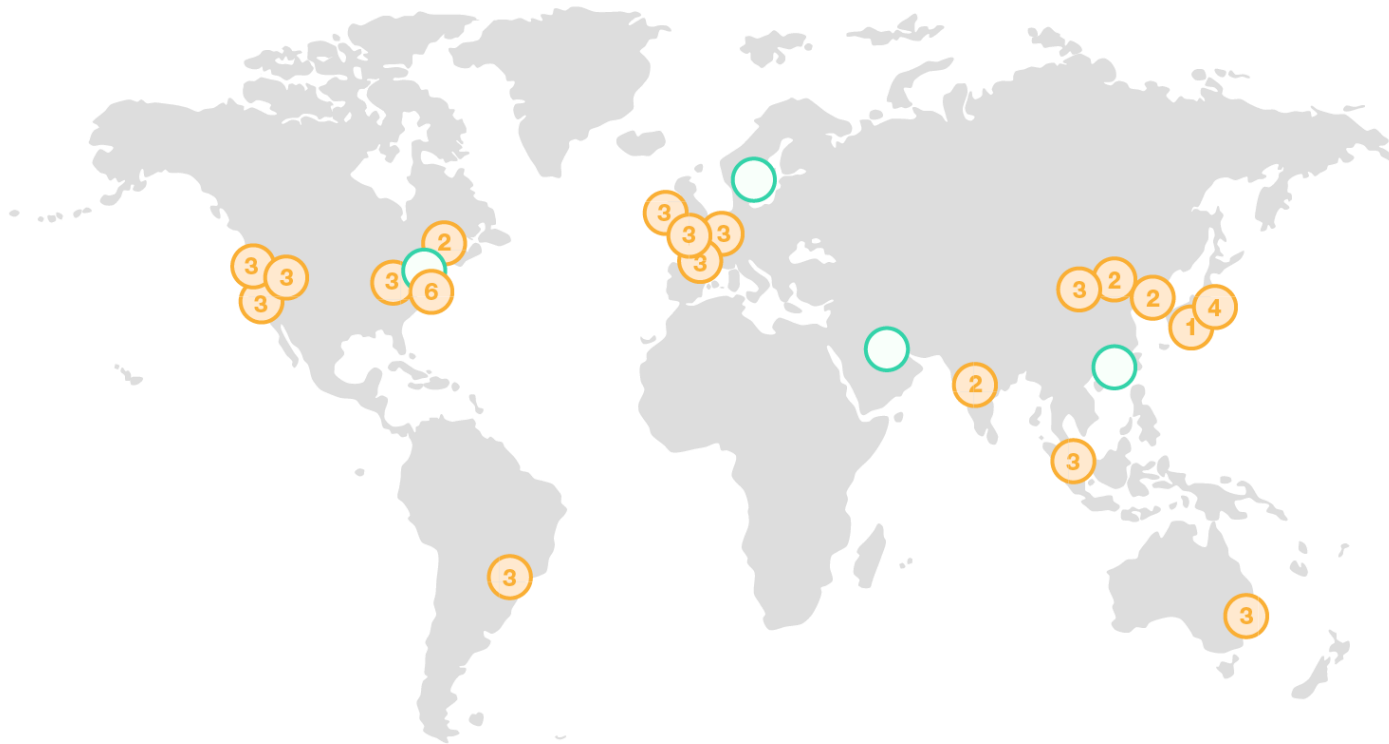
- In 2006, AWS began offering IT infrastructure services to businesses as web services, now commonly known as cloud computing
- Now, AWS provides a highly reliable, scalable, low-cost infrastructure platform in the cloud that powers hundreds of thousands of businesses in 190 countries around the world
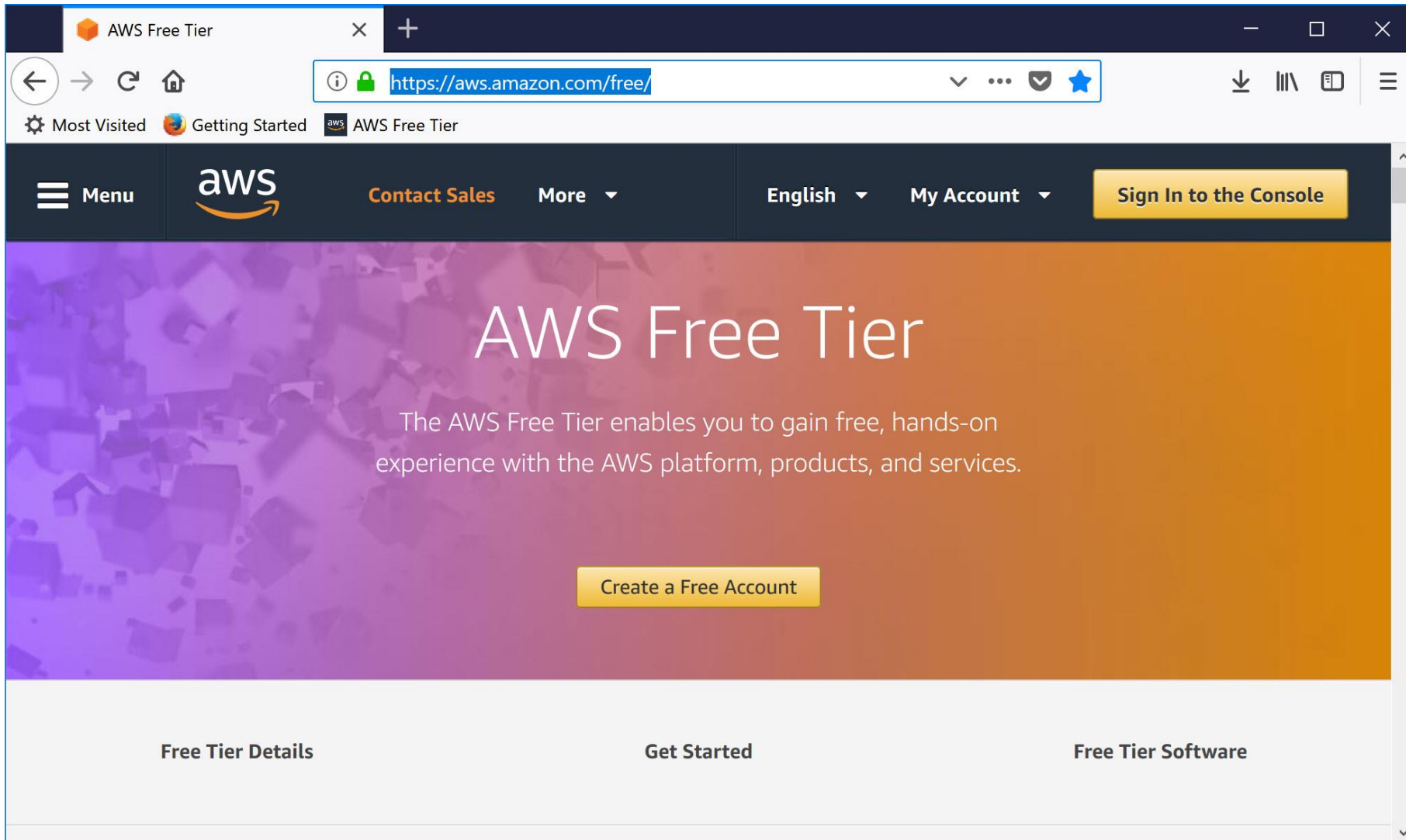
AWS Global Infrastructure(1/2)

- AWS cloud infrastructure is build around Regions and Availability Zones
  - An AWS Region is a physical location in the world where AWS provides multiple, physically separated and isolated Availability Zones
  - Availability Zones consist of one or more discrete data centers, each with redundant power, networking, and connectivity, housed in separate facilities
  - Each Availability Zone is isolated, but the Availability Zones in a Region are connected through low-latency links
  - AWS provides customers with the flexibility to place instances and store data within multiple geographic regions as well as across multiple Availability Zones within each ASW Region
- An AWS Local Region is a single datacenter designed to complement an existing AWS Region, and it completely isolated from other AWS Regions

AWS Global Infrastructure

- The AWS Cloud spans 55 Availability Zones within 18 geographic Regions and 1 Local Region around the world, with announced plans for 12 more Availability Zones and 4 more Regions in Bahrain, Hong Kong SAR, Sweden, and a second AWS GovCloud Region in the US.

From https://aws.amazon.com/about-aws/global-infrastructure/

Subscription

Services Offered by AWS

Compute
Amazon EC2
Amazon EC2 Auto Scaling
Amazon Elastic Container Service
Amazon Elastic Container Service for Kubernetes
Amazon Elastic Container Registry
Amazon Lightsail
AWS Batch
AWS Elastic Beanstalk
AWS Fargate
AWS Lambda
AWS Serverless Application Repository
Elastic Load Balancing
VMware Cloud on AWS

Storage
Amazon Simple Storage Service (S3)
Amazon Elastic Block Store (EBS)
Amazon Elastic File System (EFS)
Amazon Glacier
AWS Storage Gateway
AWS Snowball
AWS Snowball Edge
AWS Snowmobile

Database
Amazon Aurora
Amazon RDS

Networking & Content Delivery
Amazon VPC
Amazon VPC PrivateLink
Amazon CloudFront
Amazon Route 53
Amazon API Gateway
AWS Direct Connect
Elastic Load Balancing

Developer Tools
AWS CodeStar
AWS CodeCommit
AWS CodeBuild
AWS CodeDeploy
AWS CodePipeline
AWS Cloud9
AWS X-Ray
AWS Tools & SDKs

Management Tools
Amazon CloudWatch
AWS Auto Scaling
AWS CloudFormation
AWS CloudTrail
AWS Config
AWS OpsWorks
AWS Service Catalog
AWS Systems Manager
AWS Trusted Advisor

Machine Learning
Amazon SageMaker
Amazon Comprehend
Amazon Lex
Amazon Polly
Amazon Rekognition
Amazon Machine Learning
Amazon Translate
Amazon Transcribe
AWS DeepLens
AWS Deep Learning AMIs
Apache MXNet on AWS
TensorFlow on AWS

Analytics
Amazon Athena
Amazon EMR
Amazon CloudSearch
Amazon Elasticsearch Service
Amazon Kinesis
Amazon Redshift
Amazon QuickSight
AWS Data Pipeline
AWS Glue

Security, Identity & Compliance
AWS Identity and Access Management (IAM)
Amazon Cloud Directory

AR & VR
Amazon Sumerian

Application Integration
Amazon MQ
Amazon Simple Queue Service (SQS)
Amazon Simple Notification Service (SNS)
AWS AppSync
AWS Step Functions

Customer Engagement
Amazon Connect
Amazon Pinpoint
Amazon Simple Email Service (SES)

Business Productivity
Alexa for Business
Amazon Chime
Amazon WorkDocs
Amazon WorkMail

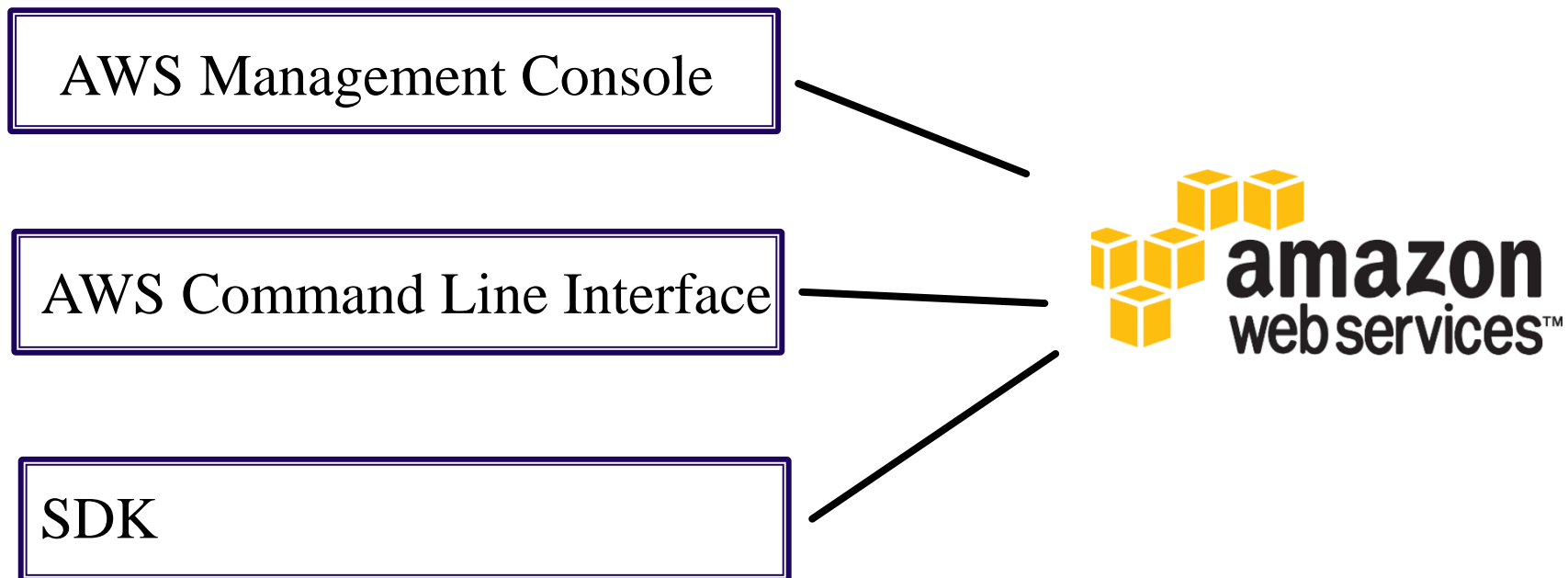## Desktop & App Streaming
Amazon WorkSpaces
Amazon AppStream 2.0

Internet of Things
AWS IoT Core
Amazon FreeRTOS
AWS Greengrass

Interact with AWS

- AWS Management Console – Web user interface
- AWS Command Line Interface (CLI) (command-line interfaces)
- Software Development Kits(SDKs): use AWS services in your apps with an API tailored to programming language or platform

AWS Management Console

AWS Command Line Interface

SDK

amazon
web services™

Reference

- https://aws.amazon.com/education/faqs/