

Amazon Web Services (AWS)

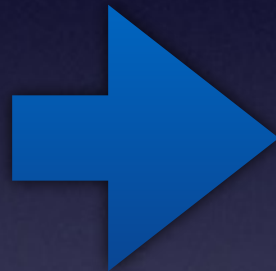
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What is it?

- IT Infrastructure Business
 - Cloud computing infrastructure for hosting web-scale solutions
 - Resources provided: computing, storage, DB, networking, deployment, messaging, security
 - Hundreds of thousands of registered customers in over 190 countries

Why?

- Variable costs, uncertain scale
- Compute-intensive operations, brief spurts
- Especially for new businesses
 - uncertain user base, uncertain business model



- AWS is...
- Reliable
- Scalable
- Low-Latency
- Easy to Use
- Inexpensive

Computing

- EC2 - Elastic Compute Cloud
 - On-Demand
 - Reserved
 - Spot
- EMR - Elastic MapReduce
 - Hadoop cluster
- Amazon Kinesis
 - Scaling streaming solution
 - Kinesis Client Library



Networking

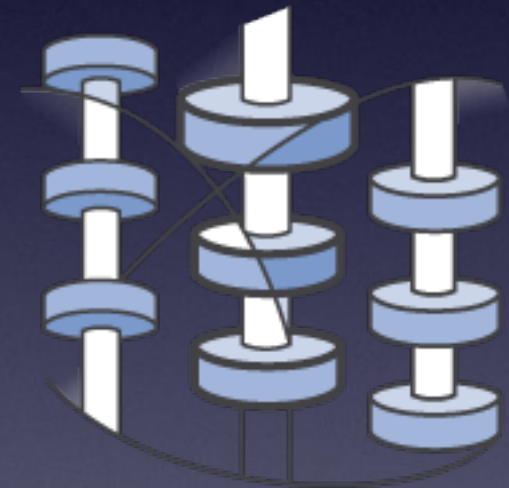
- Amazon Route 53 - DNS
 - Highly available & scalable Domain Name System
 - Extremely reliable & cost effective
- VPC - Virtual Private Cloud
 - Private, isolated section of AWS Cloud Launch resources in a virtual network that you define complete control over your virtual networking environment
- Amazon DirectConnect
 - dedicated connection between your IT infrastructure & AWS data centers

Storage

- S3 - Simple Storage Solution
 - Buckets act like drives, folder structures within
- EBS - Elastic Block Store
 - High performance block-level storage
- Glacier

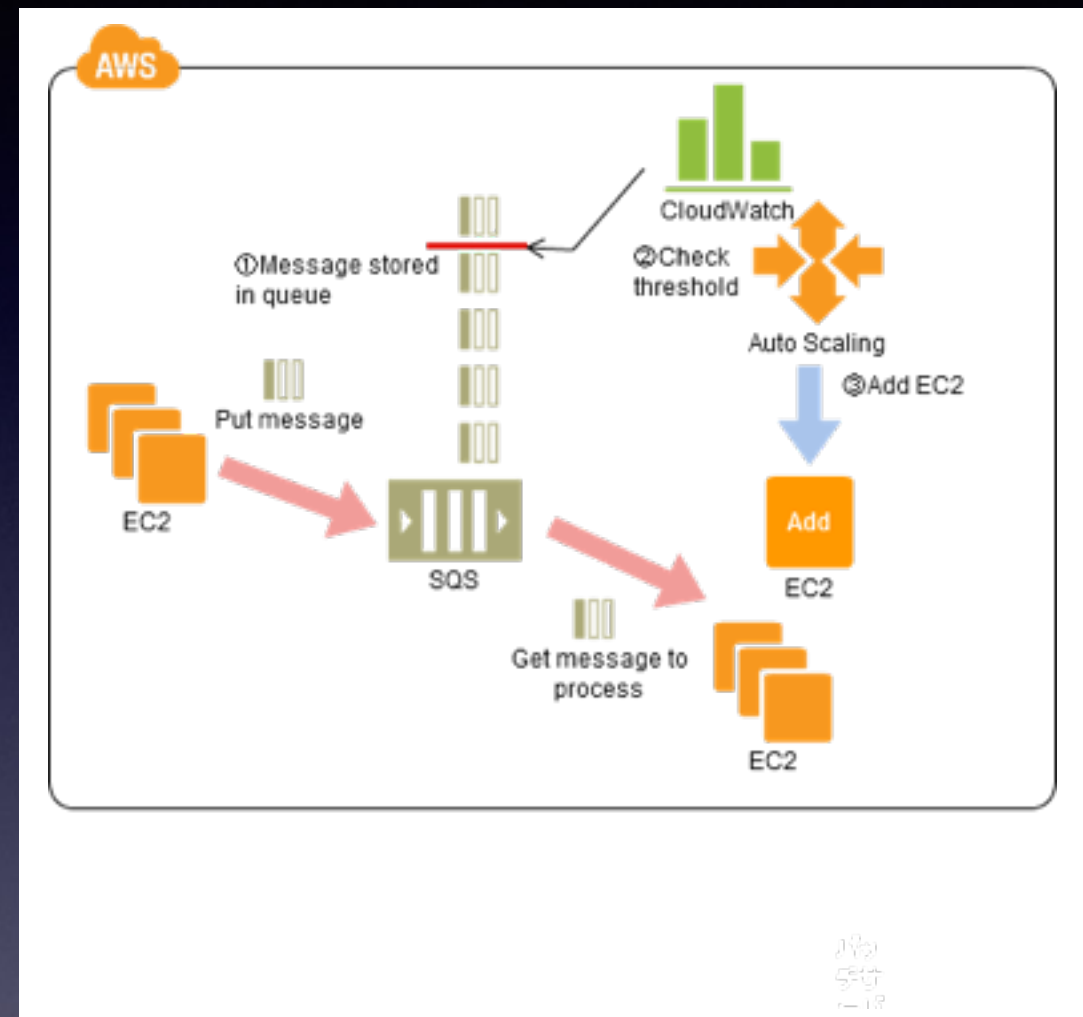
Database

- DynamoDB
 - NoSQL Database
 - Fully distributed
- ElastiCache
 - In-memory caching for Web apps
- RDS - Relational Database Service
 - Database as a service
 - Oracle, MySQL, SQL Server
- RedShift
 - Petabyte column based data storage



Application Services

- CloudSearch
 - Text search
- ElasticTranscoder
 - On-the-fly video transcoding
- Flexible Payments Service
- Micropayment backend
 - Simple Email Service
- Simple Queue Service (SQS)
 - Scalable, queue service for storing messages as they travel between instances
- Simple Notification Service
 - Push based service for mobile applications



Advantages

- On-Demand (per hour)
- Highly Available - If designed correctly
- Region and Availability Zone
- API

Disadvantages

- Single instances are NOT highly available
 - Availability Zone failure
 - Region failure (rare)
- Instance failure
- “Noisy Neighbor”
- Network congestion