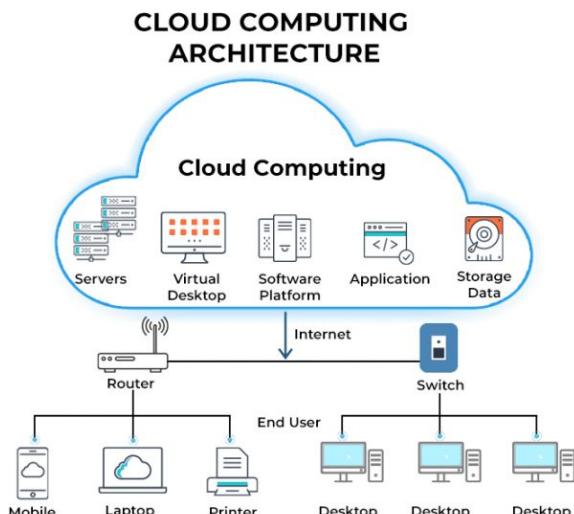


# Getting Started with AWS

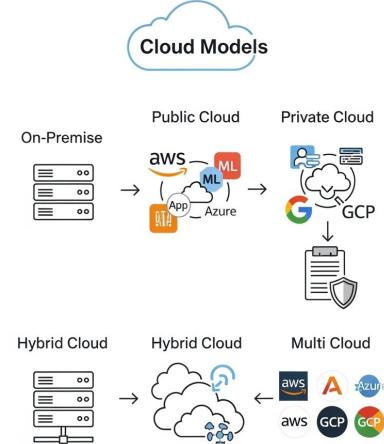
- Introduce and communication
- AWS Region, Availability Zone, Edge Location
- Create AWS Free Tier and MFA
- Support service, Setup cost and alert
- AWS Services overview
- Testing 01



## Cloud and Service model

### Cloud models

- On-Premise => self-host
- Public Cloud => AWS (Apps), Azure (ML), GCP (Data)
- Private Cloud => Governance
- Hybrid Cloud
- Multi Cloud



### Service models

- Infrastructure as a Service (IaaS) : Server, Storage, Networking, Security
  - EC2, S3, VPC
- Platform as a Service (PaaS): Azure App Service, Google App Engine, Heroku
  - Elastic Beanstalk, Lambda
- Software as a Service SaaS: Google workspace, Office 365, Salesforce CRM, Jira
  - Simple email service (SES), Amazon WorkMail

# Cloud vs Hosting

## Cloud Provider



Pricing



Flexibility



Scalability



## Hosting Service



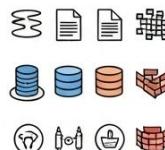
Standard Pre-Dedicated Cost



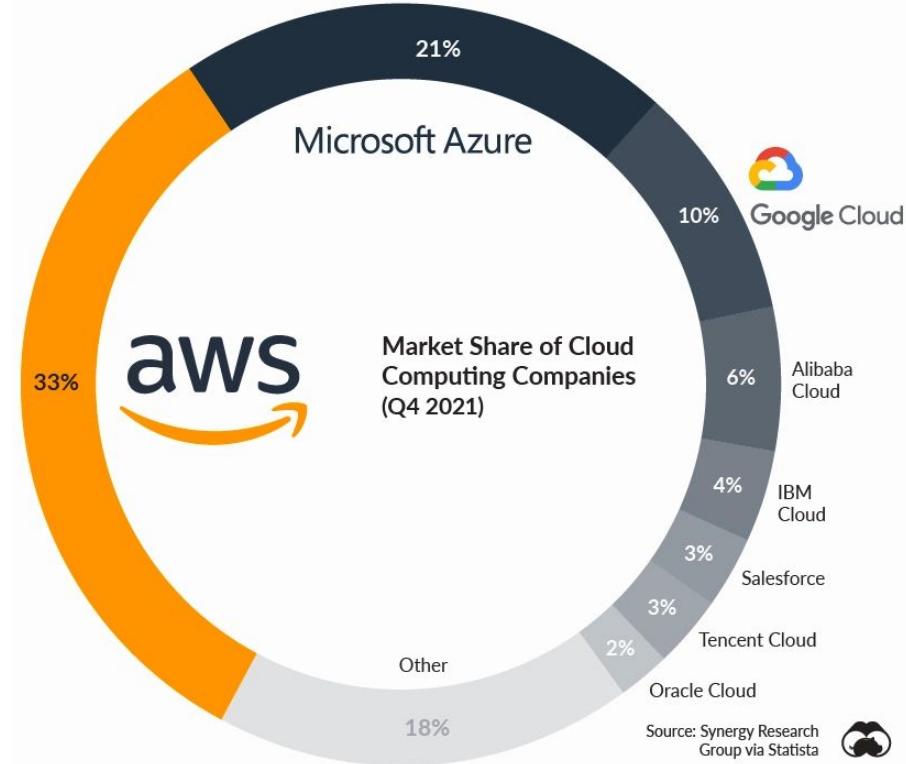
Limited configuration options



Services



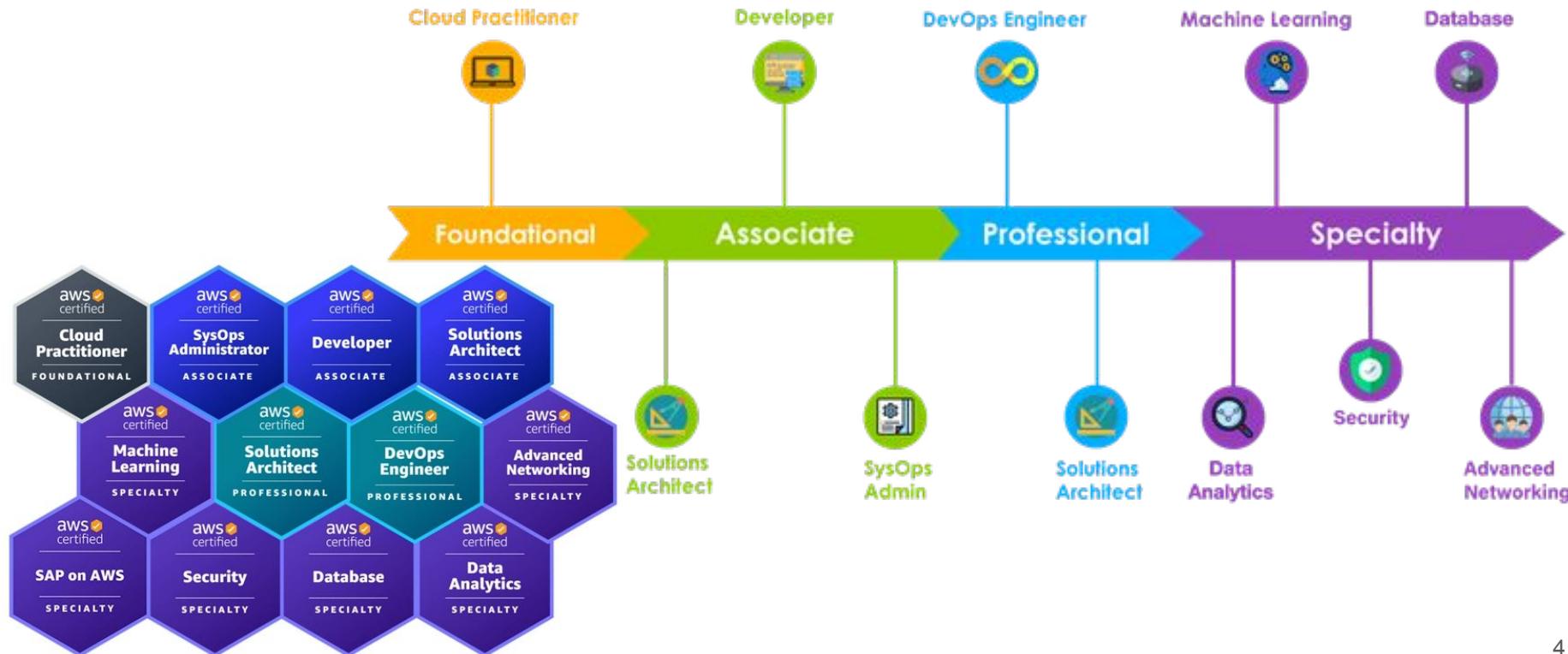
VS



Source: Synergy Research Group via Statista



## Types of AWS Certifications



## What is AWS?

AWS provides a highly reliable, scalable, low-cost infrastructure platform in the cloud that powers millions of businesses in over 190 countries around the world.

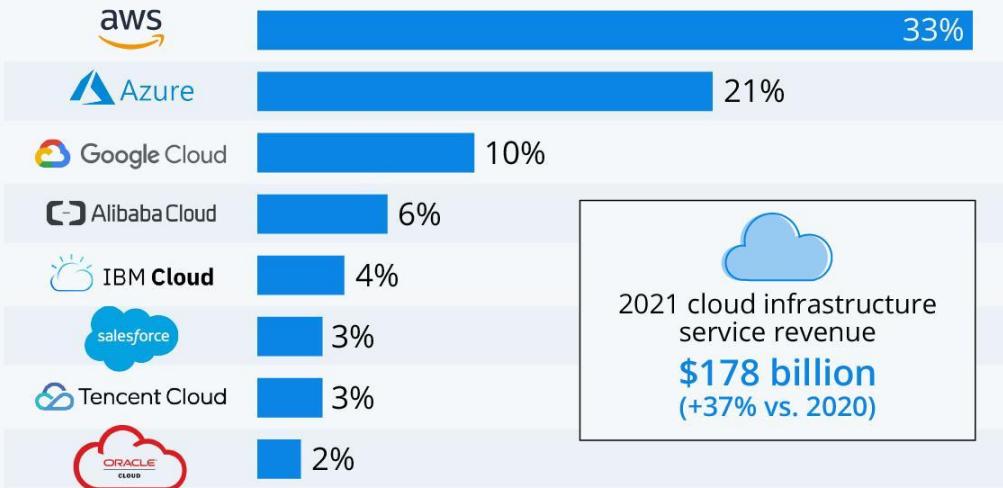
- Benefits

- Low Cost
- Elasticity & Agility
- Open & Flexible
- Secure
- Global Reach
- Pay as you go



# Amazon Leads \$180-Billion Cloud Market

Worldwide market share of leading cloud infrastructure service providers in Q4 2021\*



\* includes platform as a service (PaaS) and infrastructure as a service (IaaS)  
as well as hosted private cloud services

Source: Synergy Research Group



statista

AWS Recognized as a Cloud Leader from 2006



Dr Werner Vogels

# TECHNICAL & BUSINESS SUPPORT

- Support
- Professional Services
- Optimization Guidance
- Partner Ecosystem
- Training & Certification
- Solutions Management
- Account Management
- Security & Billing Reports
- Personalized Dashboard

## MARKETPLACE

Business Apps	Business Intelligence	DevOps Tools	Security	Networking	Databases	Storage
<b>ANALYTICS</b>	<b>DEV/OPS</b>	<b>MOBILE</b>	<b>IoT</b>	<b>ML / IA</b>	<b>ENTERPRISE</b>	<b>HYBRID</b>
Data Warehousing Business Intelligence Hadoop/Spark Streaming Data Analysis Streaming Data Collection	Elasticsearch Data Pipelines Interactive SQL Queries ETL	One-click App Deployment Resource Templates Build and Test Application Lifecycle Management DevOps Resource Management Triggers Containers Analyze and Debug Patching	API Gateway Single Integrated Console Identity Sync Mobile Analytics Mobile App Testing Targeted Push Notifications	Rules Engine Device Shadows Device SDKs Device Gateway Registry Local Compute	Custom Model Training & Hosting Image & Scene Recognition Facial Recognition & Analysis Facial Search Text to Speech Conversational Chatbots Deep Learning (Apache MXNet, TensorFlow, & others)	Virtual Desktops Sharing & Collaboration Corporate Email App Streaming Communications Contact Center
<b>APP SERVICES</b>						<b>Migration</b>
Queuing & Notifications Workflow Search						Schema Conversion Exabyte-Scale Data Migration Application Migration Database Migration Server Migration
<b>INFRA</b>	<b>CORE SERVICES</b>		<b>SECURITY &amp; COMPLIANCE</b>		<b>MANAGEMENT TOOLS</b>	
Regions Availability Zones Points of Presence	Compute Vms, Auto-scaling, Load Balancing, Containers, Virtual Private Servers, Batch Computing, Cloud Functions, Elastic GPUs, Edge	Storage Object, Blocks, File, Archivals, Import/Export, Exabyte-scale data transfer	Databases Relational, NoSQL, Caching, Migration, PostgreSQL compatible	Identity Management Access Control Configuration Compliance Key Management & Storage	Monitoring & Logs Assessment & Reporting Resource & Usage Auditing DDOS Protection	Web Application Firewall
				Account Grouping Resource & Usage Auditing DDOS Protection		Manage Resources Service Catalogue Configuration Tracking
						Monitoring Server Management Resource Templates



# AWS GLOBAL INFRASTRUCTURE



REGIONS  
33+



AVAILABILITY ZONES  
105



600+  
EDGE LOCATIONS  
13 REGIONAL  
EDGE CACHES



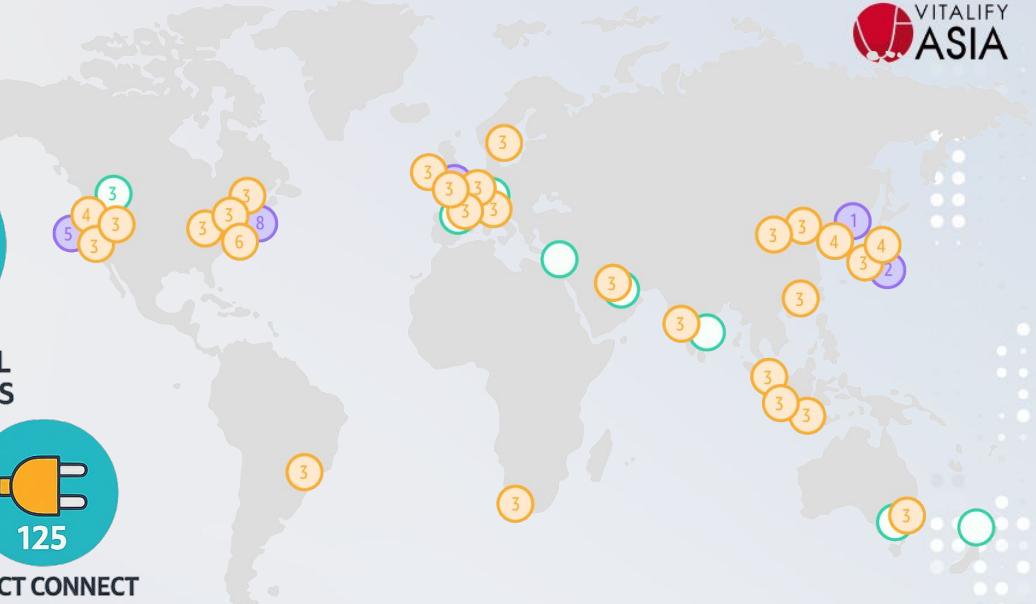
245+  
COUNTRIES



GOUNTA  
COUNTRIES  
245  
COUNTRIES



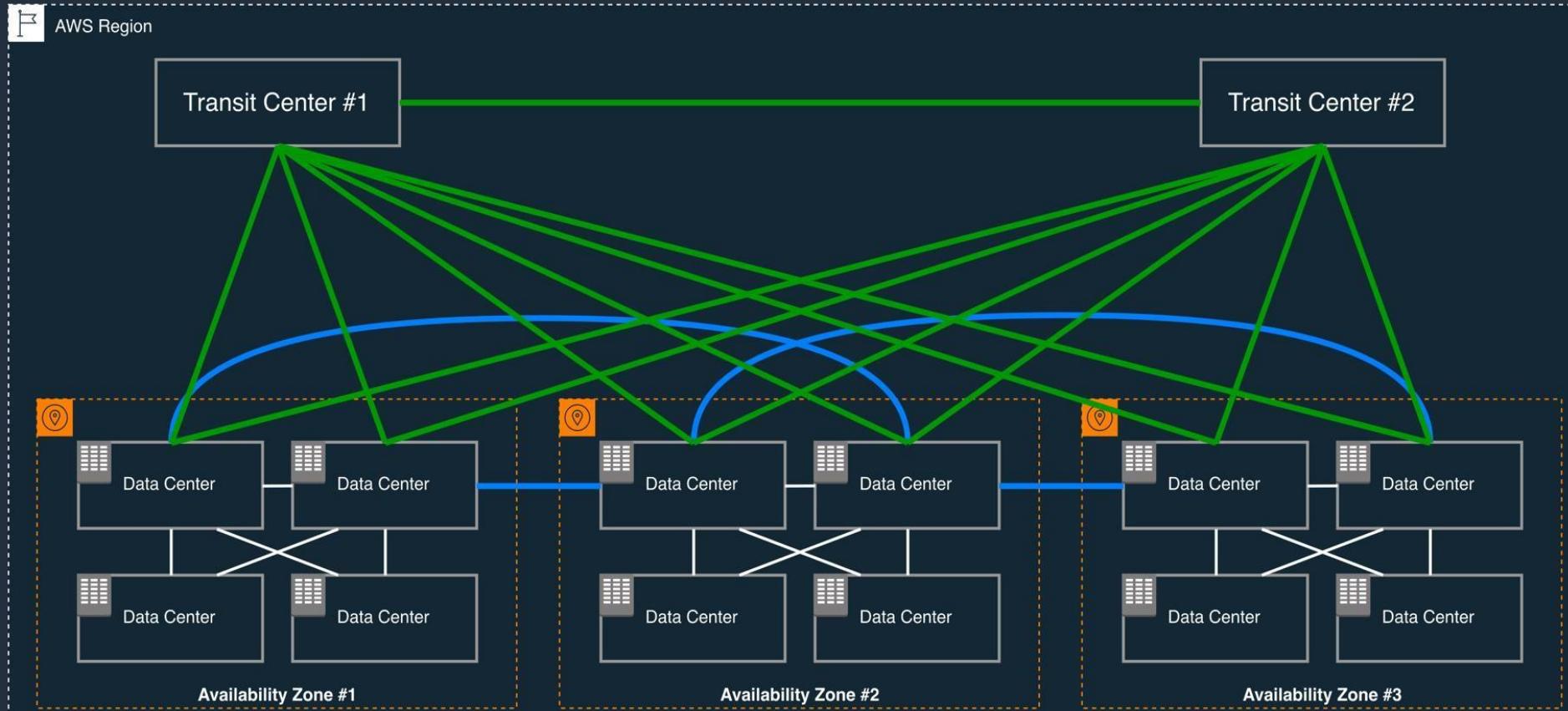
30  
DIRECT CONNECT  
LOCATIONS  
125



- Region, Available Zone, Local Zone
- Edge Location (caching near client)
- Compliance
- Distance and services of region
- Pricing
- Private region



# Availability Zones



# Availability Zones

- A region is comprised of multiple Availability Zones (typically 3)
- Fully independent partitions on isolated fault lines, flood plains, and power grids
- Each AZ: redundant power and redundant dedicated network
- Each AZ: typically multiple data centers
- Between AZs: high throughput, low latency (<10ms) network
- Between AZs: physical separation < 100km (60mi)

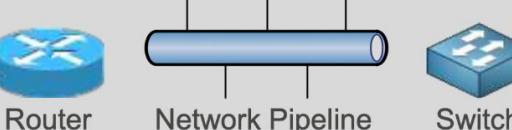


# AWS Core infrastructure and Services

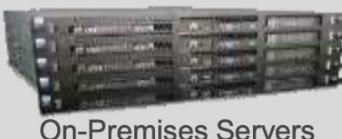
## Traditional Infrastructure



## Security

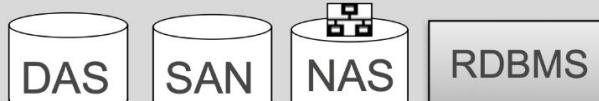


## Networking



On-Premises Servers

## Servers



## Storage and Database

## Amazon Web Services



# AWS Foundation Services

## Computing and Container



Amazon Elastic Compute  
Cloud (Amazon EC2)



AWS Elastic Beanstalk



AWS Lambda



Amazon EC2  
Auto Scaling



VMware Cloud on AWS



Amazon Elastic Container  
Registry (Amazon ECR)



Amazon Elastic Container  
Service (Amazon ECS)



Amazon Elastic Kubernetes  
Service (Amazon EKS)



AWS Fargate



AWS Outposts family

# AWS Foundation Services

## Storage



Amazon Elastic Block Store  
(Amazon EBS)



Amazon Simple Storage  
Service (Amazon S3)



Amazon Elastic File System  
(Amazon EFS)



AWS Storage  
Gateway



Amazon FSx  
for Lustre



Amazon FSx



Amazon FSx for  
Windows File Server



AWS Snowmobile



AWS Snowball



CloudEndure  
Disaster Recovery



AWS Backup

# AWS Foundation Services

## Networking



Amazon Virtual Private Cloud  
(Amazon VPC)



Amazon CloudFront



AWS Cloud Map



AWS Client VPN



AWS Transit Gateway



AWS PrivateLink



Amazon Route 53



Elastic Load Balancing



AWS Global Accelerator



AWS Site-to-Site VPN



AWS Direct Connect

# AWS Foundation Services

## Database



Amazon Aurora



Amazon ElastiCache



Amazon DynamoDB



Amazon Neptune



Amazon Quantum Ledger  
Database (Amazon QLDB)



Amazon Relational Database  
Service (Amazon RDS)



Amazon DocumentDB  
(with MongoDB compatibility)



Amazon MemoryDB  
for Redis



Amazon Keyspaces  
(for Apache Cassandra)

# AWS Foundation Services

## Security and Identity



AWS Identity and Access Management (IAM)



AWS Key Management Service (AWS KMS)



AWS Firewall Manager



AWS Shield



AWS Directory Service



AWS Secrets Manager



Amazon Cognito



Amazon GuardDuty



Amazon Inspector



Amazon Cloud Directory



AWS WAF



AWS Certificate Manager (ACM)



AWS Artifact



Amazon Macie



AWS CloudHSM

# AWS Foundation Services

## Management and Governance



AWS Config



AWS Management  
Console



AWS CloudTrail



AWS Control Tower



AWS OpsWorks



AWS Systems Manager



AWS Trusted Advisor



AWS Organizations



AWS CloudFormation



AWS Well-Architected Tool



AWS Budgets



AWS Cost Explorer



AWS Cost &  
Usage Report



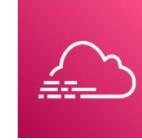
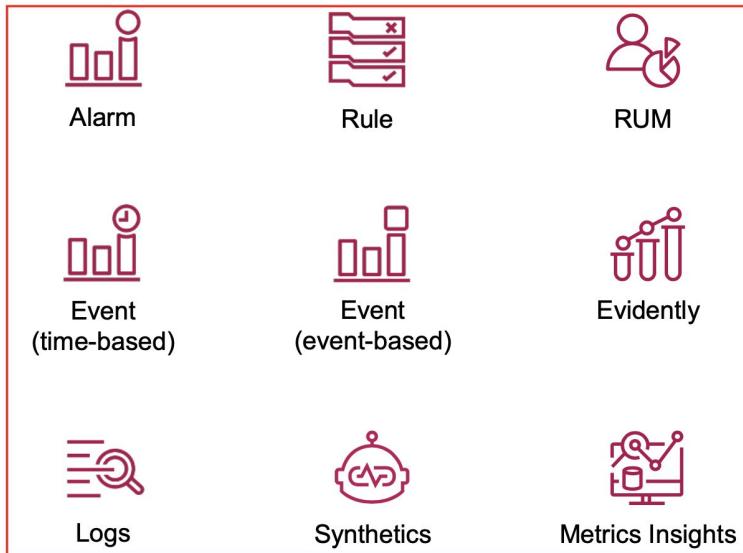
AWS Resource Explorer

# AWS Foundation Services

## Monitoring



Amazon CloudWatch



AWS CloudTrail

# AWS Foundation Services

## Messaging and Application intergration



Amazon Simple Email  
Service (Amazon SES)



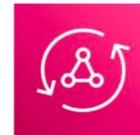
Amazon Simple Notification  
Service (Amazon SNS)



Amazon Simple Queue  
Service (Amazon SQS)



Amazon MQ



AWS AppSync



Amazon EventBridge



Amazon API Gateway

# AWS Foundation Services

## Deployment and Automation



AWS Cloud9



AWS CodeBuild



AWS CodeCommit



AWS CodeDeploy



AWS CodePipeline

**CICD**



AWS X-Ray



AWS Cloud Development Kit  
(AWS CDK)



AWS CodeArtifact



AWS CloudShell

# AWS Foundation Services

## Migration



AWS Database Migration Service (AWS DMS)



AWS Application Discovery Service



AWS Transfer Family



AWS DataSync



AWS Migration Hub



AWS Server Migration Service (AWS SMS)



AWS Application Migration Service



AWS Migration Evaluator



AWS Mainframe Modernization

# AWS Foundation Services

## Big data and analytic



Amazon Redshift



Amazon QuickSight



AWS Lake Formation



AWS Data Pipeline



Amazon Managed Streaming  
for Apache Kafka



AWS Data Exchange



AWS Glue DataBrew



Amazon FinSpace

# AWS Foundation Services

## AI and Machine learning



Amazon Fraud Detector



Amazon Kendra



Amazon CodeGuru



Amazon SageMaker  
Studio Lab



TensorFlow on AWS



Amazon Polly



Amazon Rekognition



Amazon SageMaker



Amazon Translate



AWS DeepComposer



AWS Deep  
Learning AMIs



AWS Deep Learning  
Containers



AWS DeepLens



AWS DeepRacer

# AWS Foundation Services

## Others



IoT



Media Services



Game

Quantum  
Technologies

Robotics



Satellite



Satellite



VR &amp; AR



Blockchain



# Testing 01: Getting Started with AWS

1. Why we choose working with Cloud Computing ?
2. When do we use On-premise, Public, Private and Hybrid cloud?
3. What is the IaaS, PaaS, SaaS ?
4. What is the difference between Public cloud and Hosting services?
5. Which services can use on AWS?
6. What is your certification goal?
7. How much does an AWS account cost?
8. What is the Region on AWS?
9. What is the AZ on AWS?
10. What is the EL on AWS?