



Solutions Architect – Associate

Batch-1011 | Moon International Karachi Pakistan

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Lesson Plan

1. Introduction & Overview

- 1.1. Group Introduction
- 1.2. Course Introduction
- 1.3. Who is Solution Architect?
- 1.4. About Us
- 1.5. Course Prerequisites
- 1.6. Eligibility Criteria
- 1.7. Passing Criteria
- 1.8. After completing this course
- 1.9. The History Of AWS
- 1.10. AWS General Overview
- 1.11. How To Sign Up To AWS.
- 1.12. Introduction & Overview Quiz

1.1 Group Introduction

1. Name
2. Organization
3. Last Education
4. Why you want to learn this course
5. Your Expectations from us



1.1.1 About Us

1. About Me
2. About Institute
3. Other Courses



1.2 Course Introduction

Total Sessions	:	10
Class Days	:	Saturday / Sunday
Class Time	:	2:00 PM to 5:00 PM
Reference Material	:	https://docs.aws.amazon.com
Outline	:	Attached

1.2.1 Course Prerequisites

AWS Account : Free Trial Account (Credit Card Required)

Computer : PC / MAC / Laptop

Operating System : Linux / Mac / Windows

Ram : Min 2 GB

Internet

Your own domain name (optional, but recommended)

1.2.2 Eligibility Criteria

AWS Absolute Beginners. No prior AWS experience necessary

Existing Solutions Architects

Programmers Interested in Deploying Applications on AWS

People interested in hosting highly scalable, fault tolerant applications (such as Wordpress and Joomla) on the AWS cloud.

Programming Experience : Not required

System Engineer Experience : Not required

1.2.3 Passing Criteria

Final Exam : 75% Marks Min

Quiz : 70% Marks

Attendance : 80%

Lab performance : 50%

1.2.4 After completing this course

- Pass the AWS Certified Solutions Architect - Associate Exam
- Become Intimately Familiar With The AWS Platform
- Become A Cloud Guru
- Design Highly Resilient and Scalable Websites on AWS
- Become Amazon Certified



1.2.5 Who is Solution Architect?

Solution architecture is a practice of defining and describing an architecture of a system delivered in context of a specific solution and as such it may encompass description of an entire system or only its specific parts.

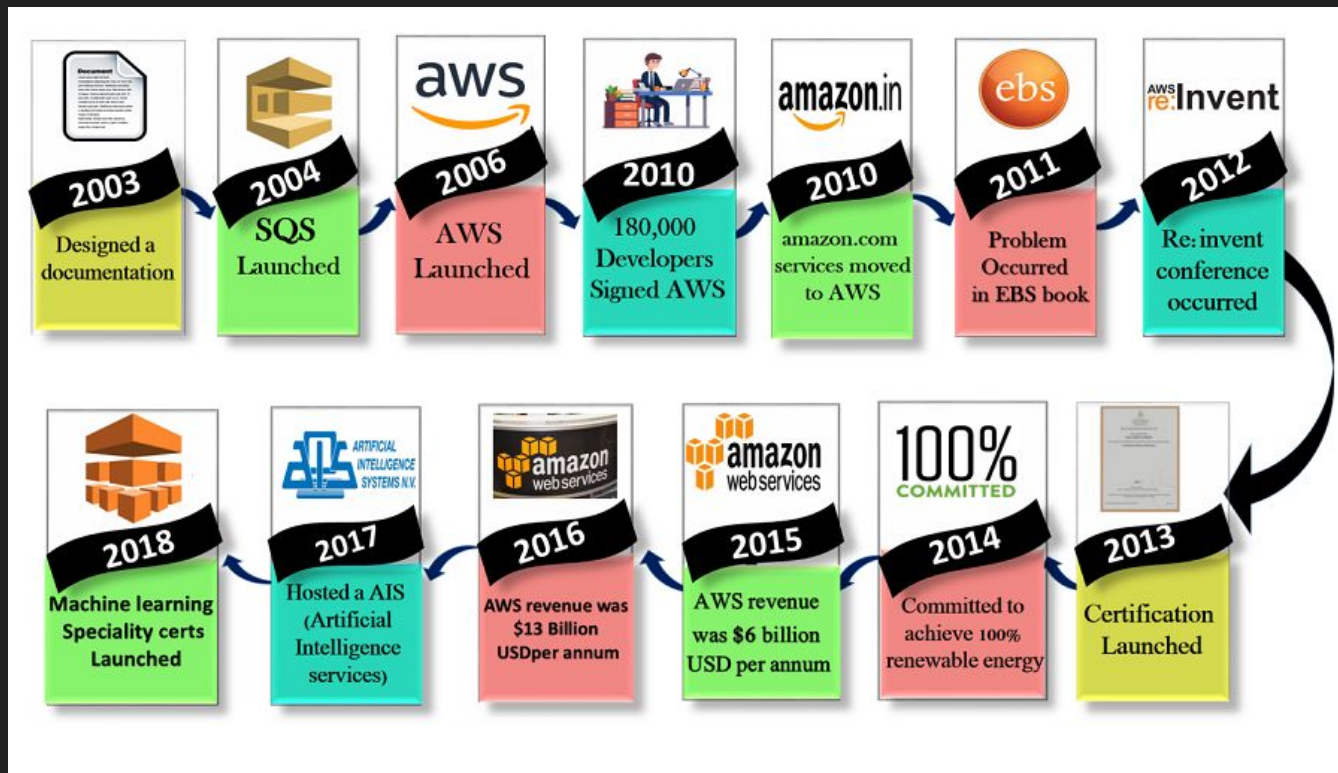
Definition of a solution architecture is typically led by a solution architect

SOLUTION ARCHITECT ROLE

Responsibilities	<ul style="list-style-type: none">✓ Analyzing technology environment✓ Analyzing enterprise specifics✓ Analyzing requirements✓ Setting collaboration framework✓ Creating a solution prototype✓ Participating in technology selection✓ Solution development control✓ Project management support
Experience	<ul style="list-style-type: none">✓ At least eight years of working experience in one or multiple IT areas✓ IT infrastructure and cloud development✓ Engineering and software architecture design✓ Business analysis✓ DevOps✓ Project and product management
Personal Attributes	<ul style="list-style-type: none">✓ Excellent communication skills✓ Deep analytical skills✓ Project and resource management skills✓ Work collaboratively✓ Influence and negotiate

1.3 AWS History

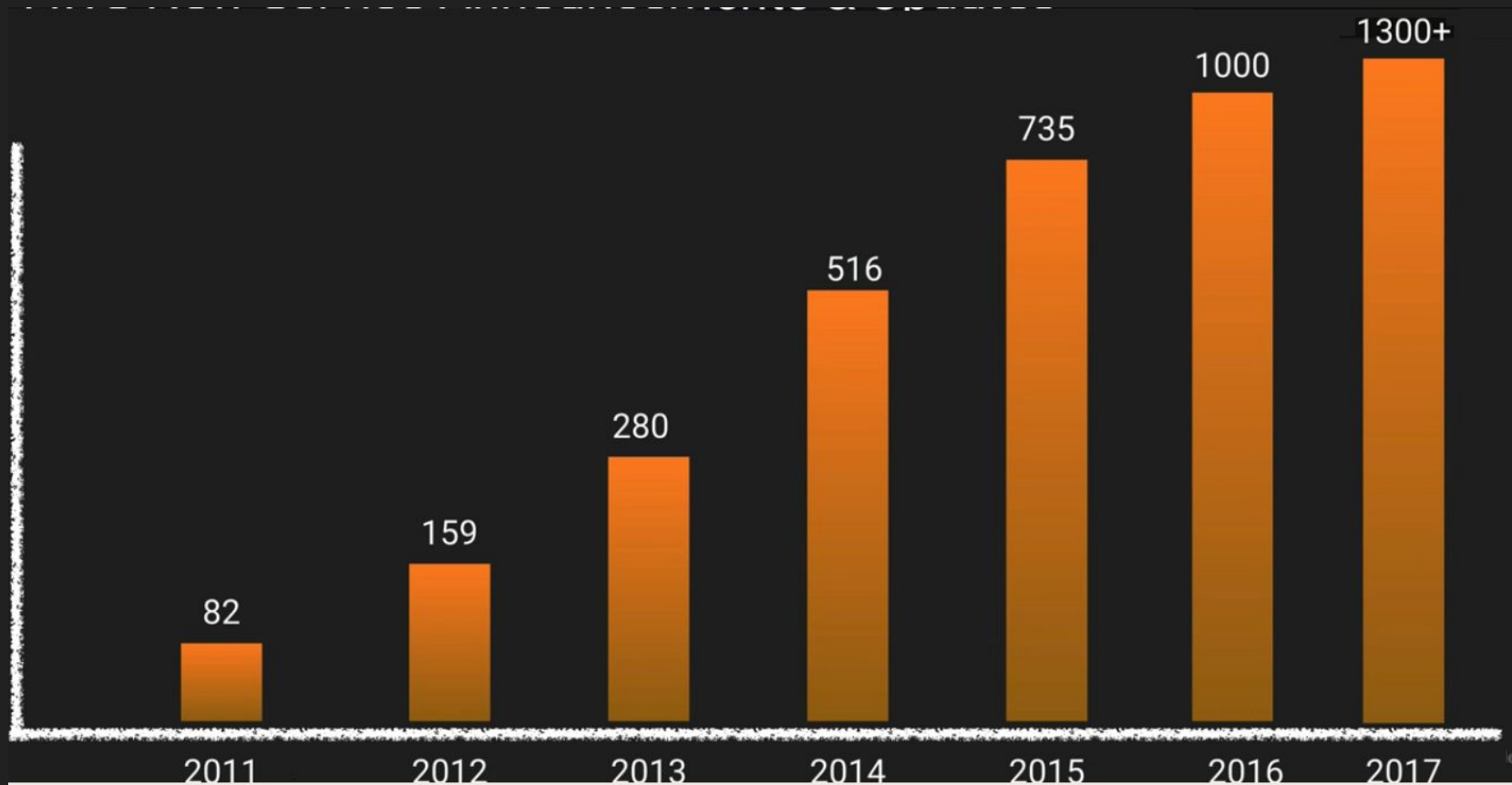
- What is AWS



1.3.1 AWS History | Timeline of AWS

- 2003 - Chris Pinkhan & Benjamin Black present a paper on what Amazon's own internal infrastructure should look like
- Suggested selling it as a service and prepared a business case.
- SQS officially launched in 2004
- AWS Officially launched in 2006
- 2007 over 180,000 developers on the platform
- 2010 all of amazon.com moved over
- 2012 First re:Invent Conference
- 2013 Certifications Launched
- 2014 Committed to achieve 100% renewable energy usage for its global footprint
- 2015 AWS breaks out its revenue: \$6 Billion USD per annum and growing close to 90% year on year
- 2016 Run rate of \$13 billion USD.
- 2017 AWS re:invent releases a host of Artificial Intelligent Services as well as Virtual Reality services.

1.3.2 AWS History | Service Announcements



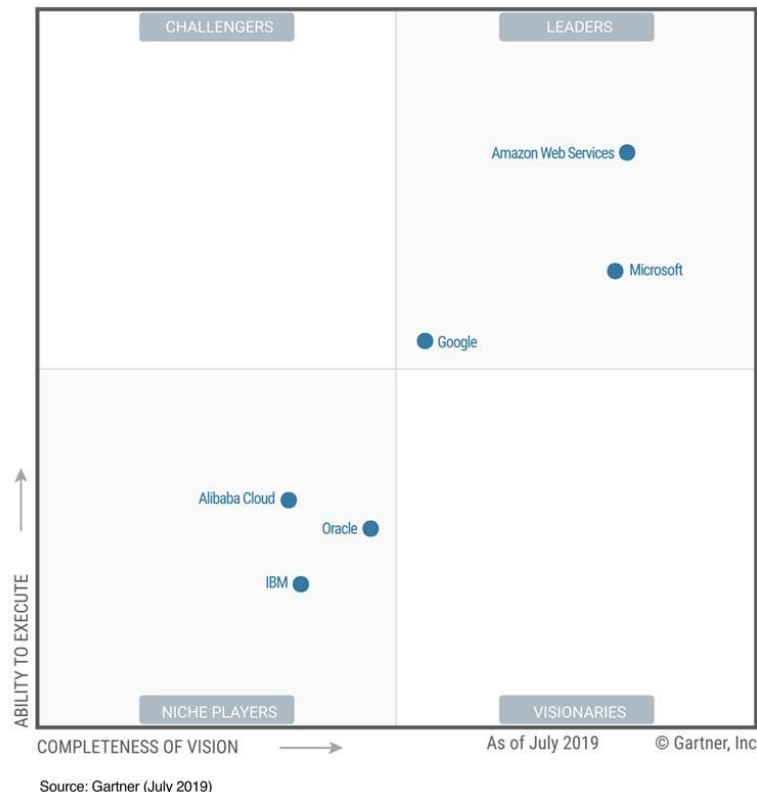
1.3.3 AWS Overview | Gartner Magic Quadrant

Gartner Magic Quadrant 2019

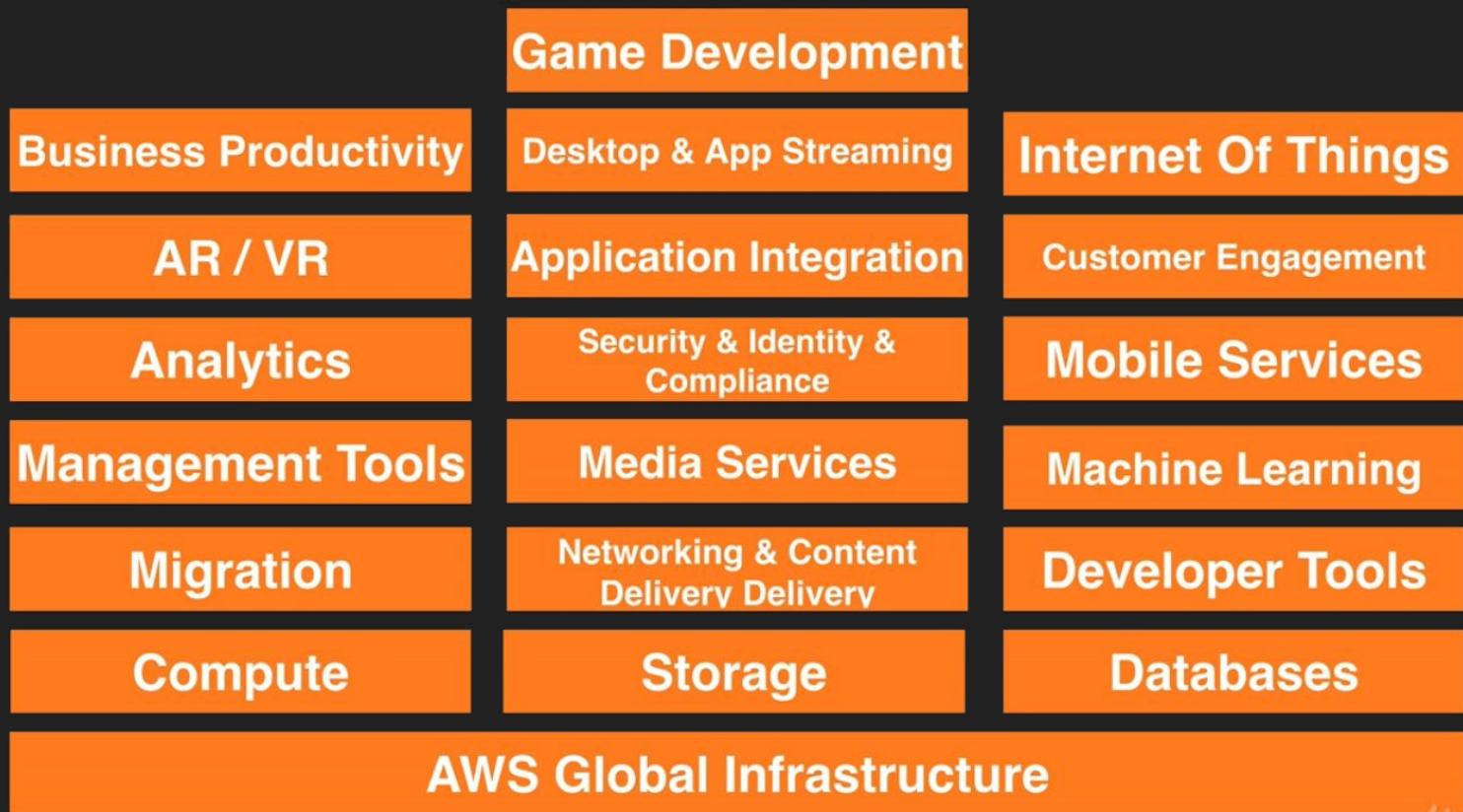
[AWS](#)

[Google Cloud](#)

Figure 1. Magic Quadrant for Cloud Infrastructure as a Service, Worldwide



1.4.1 AWS Overview | The Platform



1.4.2 AWS Overview | Global Infrastructure

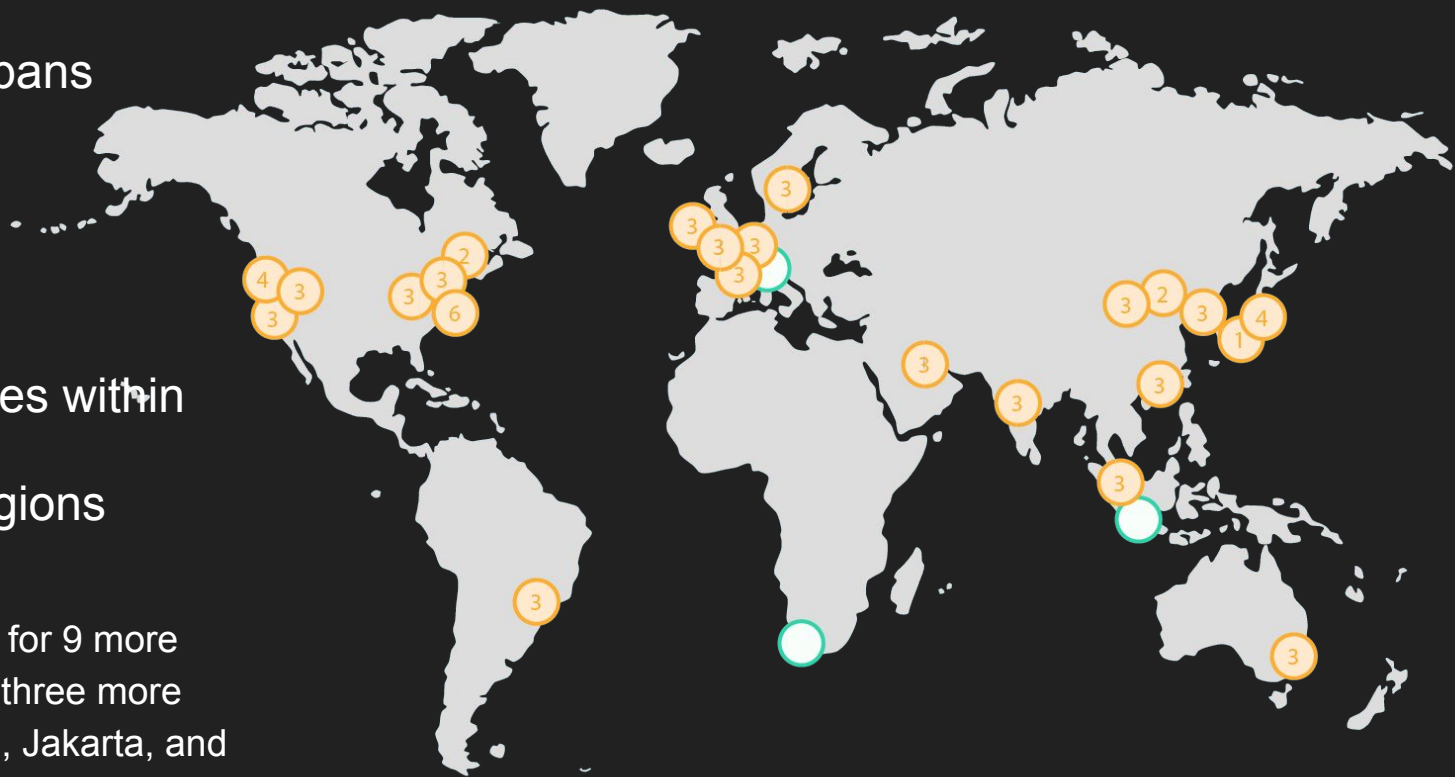
The AWS Cloud spans

(July-2019)

69 Availability Zones within

22 geographic Regions

With announced plans for 9 more Availability Zones and three more Regions in Cape Town, Jakarta, and Milan.



1.4.2 AWS Overview | Region & AZ

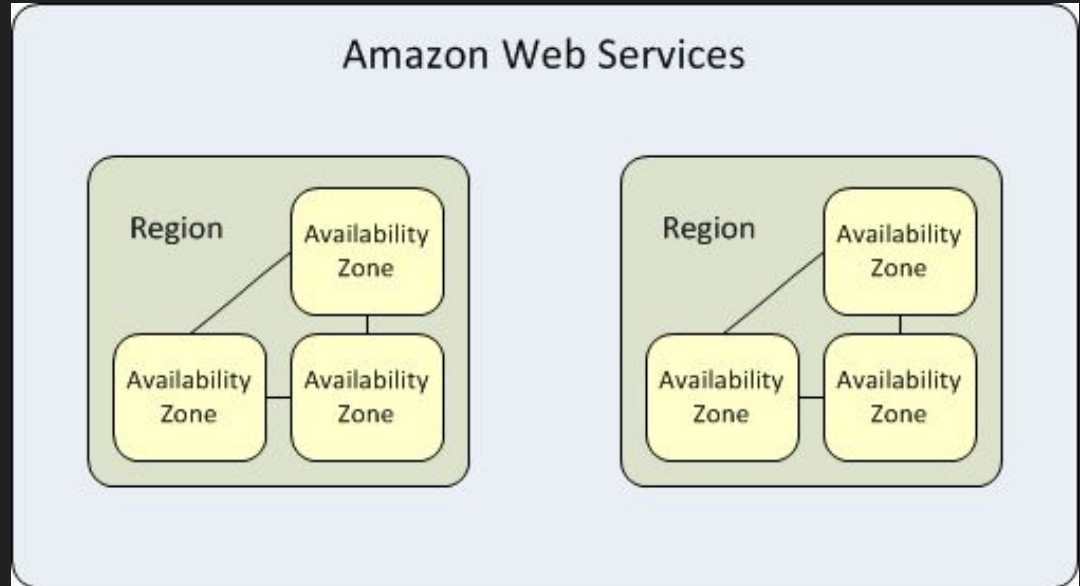
What is [Region and Availability Zone](#)

Region is a geographical area and is completely independent.

Availability Zone is isolated.

Availability Zones in a Region are connected through low-latency links.

Availability Zones is a **Data Center**



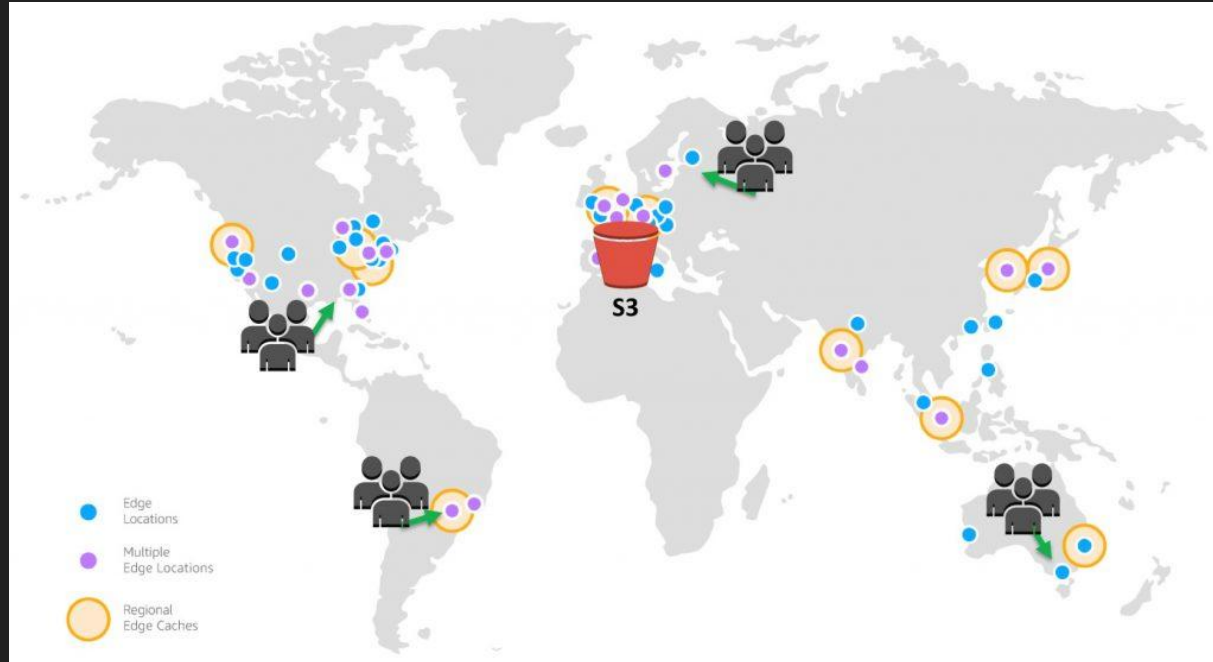
1.4.2 AWS Overview | Edge Location

What is Edge Location

Edge Locations are endpoints for AWS which are used for caching content.

A site that CloudFront uses to cache copies of your content for faster delivery to users at any location.

Edge location is where end users access services located at AWS.



1.4.3 AWS Overview | Services

The screenshot displays the AWS Management Console's 'Services' page. The top navigation bar includes the AWS logo, 'Services', 'Resource Groups', a search icon, a notification bell, and a 'Support' dropdown. On the left, a 'History' sidebar lists 'AWS IoT', 'CloudFormation', 'IAM', 'Console Home', 'S3', and 'VPC'. The main content area features a search bar with the placeholder text 'Find a service by name or feature (for example, EC2, S3 or VM, storage)'. Below the search bar, services are organized into a grid of categories, each with an icon and a list of services:

- Compute** (Server icon): EC2, **Lightsail** (highlighted), Elastic Container Service, Lambda, Batch, Elastic Beanstalk.
- Storage** (Floppy disk icon): S3, EFS, Glacier, Storage Gateway.
- Database** (Database icon): RDS, DynamoDB, ElastiCache, Amazon Redshift.
- Migration** (Cloud icon): AWS Migration Hub, Application Discovery Service, Database Migration Service, Server Migration Service, Snowball.
- Developer Tools** (Wrench icon): CodeStar, CodeCommit, CodeBuild, CodeDeploy, CodePipeline, Cloud9, X-Ray.
- Management Tools** (Document icon): CloudWatch, CloudFormation, CloudTrail, Config, OpsWorks, Service Catalog, Systems Manager, Trusted Advisor, Managed Services.
- Media Services** (Video camera icon): Elastic Transcoder, MediaConvert, MediaLive, MediaPackage, MediaStore, MediaTailor.
- Analytics** (Bar chart icon): Athena, EMR, CloudSearch, Elasticsearch Service, Kinesis, Kinesis Video Streams, QuickSight, Data Pipeline, AWS Glue.
- Security, Identity & Compliance** (Shield icon): IAM, Cognito, GuardDuty, Inspector, Amazon Macie, Certificate Manager, CloudHSM, Directory Service, WAF & Shield, Artifact.
- Mobile Services** (Mobile phone icon): Mobile Hub, Pinpoint, AWS AppSync, Device Farm.
- Customer Engagement** (Speech bubble icon): Amazon Connect, Simple Email Service.
- Business Productivity** (Bar chart icon): Alexa for Business, Amazon Chime, WorkDocs, WorkMail.
- Desktop & App Streaming** (Desktop icon): WorkSpaces, AppStream 2.0.
- Internet Of Things** (IoT icon): AWS IoT, IoT Device Management, Amazon FreeRTOS, AWS Greengrass.
- Game Development** (Game controller icon): Amazon GameLift.

At the bottom of the console, there is a 'close' button and a footer containing the copyright notice '© 2016 - 2017, Amazon Web Services, Inc. or its affiliates. All rights reserved.', along with links to 'Privacy Policy' and 'Terms of Use'.

1.4.3

Overview | Services | Compute | EC2

What is Amazon Elastic Compute Cloud

Amazon Elastic Compute Cloud (Amazon EC2) is a web service that provides resizable computing capacity

Virtual machine inside the AWS platform

EC2 reduces the time required to obtain and boot new server instances to minutes, allowing you to quickly scale capacity, both up and down



Amazon EC2

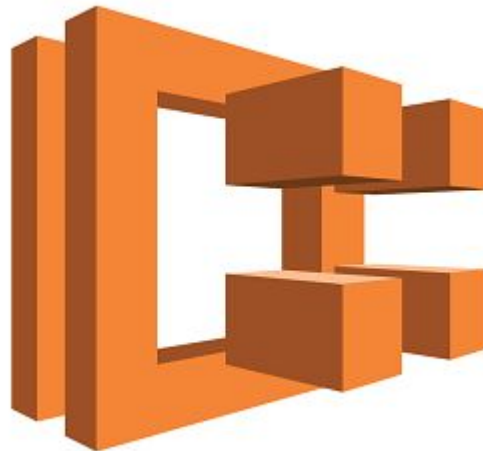
1.4.3

Overview | Services | Compute | ECS

What is [Amazon Elastic Container Service](#)

Amazon Elastic Container Service (Amazon ECS) is a highly scalable, high-performance container orchestration service that supports Docker containers and allows you to easily run and scale containerized applications on AWS

Amazon ECS eliminates the need for you to install and operate your own container orchestration software, manage and scale a cluster of virtual machines, or schedule containers on those virtual machines.



1.4.3 Overview | Services | Compute | Beanstalk

What is AWS Elastic [Beanstalk](#)

AWS Elastic Beanstalk is an easy-to-use service for deploying and scaling web applications and services developed with Java, .NET, PHP, Node.js, Python, Ruby, Go, and Docker on familiar servers such as Apache, Nginx, Passenger, and IIS.

Elastic Beanstalk automatically scales your application up and down based on your application's specific need using easily adjustable Auto Scaling settings



1.4.3 Overview | Services | Compute | Lambda

What is AWS [Lambda](#)

AWS Lambda lets you run code without provisioning or managing servers. You pay only for the compute time you consume - there is no charge when your code is not running.

Run code for virtually any type of application or backend service - all with zero administration.

Just upload code and Lambda takes care of everything required to run and scale your code with high availability



1.4.3 Overview | Services | Compute | Lightsail

What is AWS [Lightsail](#)

Easiest way to launch and manage a virtual private server with AWS.

Lightsail plans include everything you need to jumpstart your project – a virtual machine, SSD-based storage, data transfer, DNS management, and a static IP address – for a low, predictable price

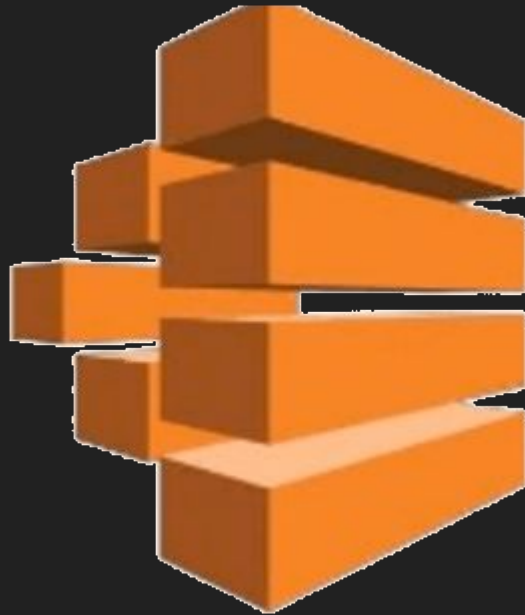


1.4.3 Overview | Services | Compute | Batch

What is AWS [Batch](#)

Batch enables developers, scientists, and engineers to easily and efficiently run hundreds of thousands of batch computing jobs on AWS.

AWS Batch dynamically provisions the optimal quantity and type of compute resources (e.g., CPU or memory-optimized instances) based on the volume and specific resource requirements of the batch jobs submitted

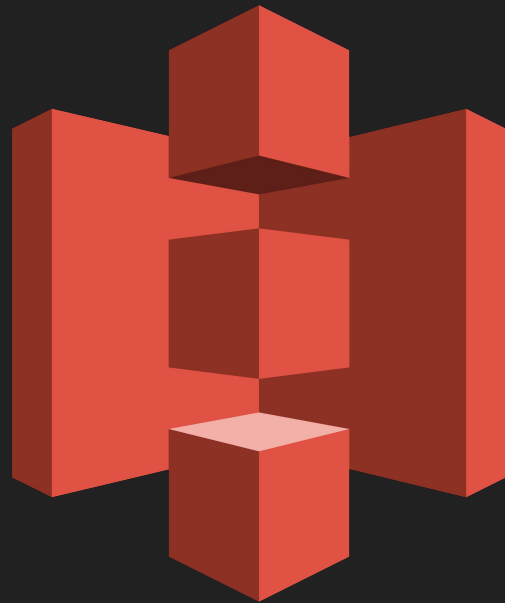


1.4.3 Overview | Services | Storage | S3

What is AWS [S3](#)

Amazon Simple Storage Service (Amazon S3) is an object storage service that offers scalability, data availability, security, and performance.

Amazon S3 is designed for 99.999999999% (11 9's) of durability

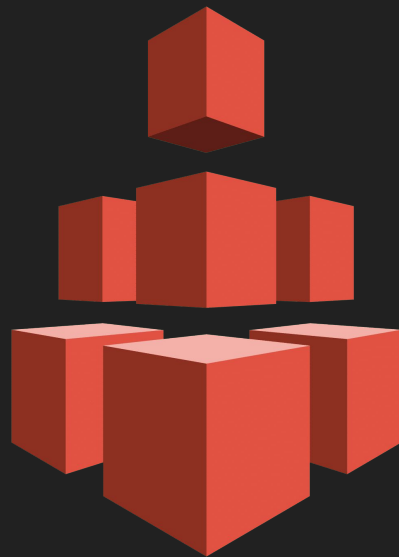


1.4.3 Overview | Services | Storage | EFS

What is AWS [EFS](#)

Amazon Elastic File System (Amazon EFS) provides a simple, scalable, elastic file system for Linux-based workloads for use with AWS Cloud services and on-premises resources.

You can access your file systems across AZs and regions and share files between thousands of Amazon EC2 instances and on-premises servers via AWS Direct Connect or AWS VPN



1.4.3 Overview | Services | Storage | Glacier

What is AWS [Glacier](#)

Amazon S3 Glacier is a secure, durable, and extremely low-cost storage service for data archiving and long-term backup. It is designed to deliver 99.999999999% durability, and provides comprehensive security and compliance capabilities that can help meet even the most stringent regulatory requirements



1.4.3 Services | Storage | Storage Gateway

What is AWS [Storage Gateway](#)

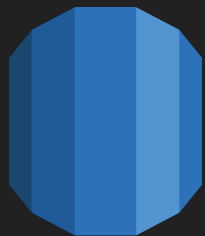
The AWS Storage Gateway is a hybrid storage service that enables your on-premises applications to seamlessly use AWS cloud storage.

You can use the service for backup and archiving, disaster recovery, cloud data processing, storage tiering, and migration.

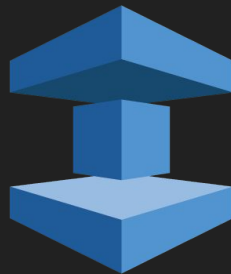
Your applications connect to the service through a virtual machine or hardware gateway appliance using standard storage protocols, such as NFS, SMB and iSCSI



1.4.3 Overview | Services | Databases



RDS



ElastiCache



DynamoDb



Aurora

1.4.3 Overview | Services | Migration



AWS Migration
Hub



Server
Migration
Service



Application
Discovery
Service



Database
Migration
Service



Snowball

1.4.3 Services | Networking and Content Delivery



VPC



API Gateway



CloudFront



Route53



Direct
Connect

1.4.3 Services | Developer Tools



CodeStar



CodeDeploy



CodeCommit



CodePipeline



CodeBuild



X-Ray

1.11 Quiz-01

Quiz Link

<https://forms.gle/vCwzG3JZ9nCXEafq9>

Time : 15 Mins

Questions : 20

Passing Score : 15

