



90 Minutes 65 Questions 70% Passing Score \$100

Cloud Concepts: 28%

Tech: 36%

Security: 24%

Bill & Pricing: 12%

Multiple Choice & Multiple response (2/5, 3/6)

→ White papers → 4

- Overview of AWS
- Architecting for cloud: AWS Best practices
- How AWS pricing works
- Cost management in AWS

Cloud computing: $\xrightarrow{\text{On-premise}}$ $\xrightarrow{\text{Cloud providers}}$
↓

Practice of using remote servers hosted on Internet to store
manage, process data, rather than a local machine.

Advantages:

- On-demand cost
- Massive economic scales (shared with other people)
- Scale up or down easily
- Increase speed within clicks
- No datacenter to maintain
- Deploy globally (region)
 - customers

Types: SaaS: Gmail

PaaS: Heroku

→ Devs

IaaS: AWS, GCP

↓ Admin

Models:

Cloud = Dropbox

↳ Fully utilizing Cloud computing.

Hybrid = Banks, Investment.

↳ Using Cloud + on-premise, legacy on-premise.

On-premises: Government, Hospitals

↳ private cloud

Aws Global:

69 Available zones → Data centres, More Edge locations

190 countries

↳ partnered by

Aws

Regions - 22

Regions: Physically isolated

US-EAST Largest

Geo. distinct.

At least 2 AZ in every region

not every service is offered.

Availability Zone (AZ)

AZ → Region- letter identifier: us-east-1

At least 2 AZs

Multi-AZ → helps when one fails

<10ms latency between AZs.

Edge location:

→ Trusted partner by Aws

→ Direct connection with Aws network.

→ CloudFront, Route 53 → uses to find nearest.

→ S3 transfer acceleration + API Gateway to Aws

edge network communication

→ Low latency.

Gov Cloud Region:

- ↳ Controlled unclassified Information
- ↳ Only for US
- ↳ Classified information.

AWS Console:

- Billing.
- Cloud watch → SNS topic → email
- S3 → Cloudwatch → SNS → email.
- IAM Users (Not use Root)
- MFA
- IAM Users (Access key, secret key).
- Password Policy for IAM User.

EC2:

- Instance → simple system manager
- IAM Role → SSM Role → Session Manager
- SSH or SSM
- SSM → Session manager to access
- SSH → pem key.
- AMI → Amazon Machine } → Copy of EC2 instance.
Image

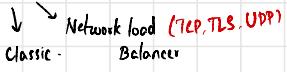
Auto Scaling Groups:

→ Automated Provisioning.

→ Adjustable capacity.

→ Desired / Max / Min instances

Load Balancers → Application (HTTP / HTTPS)



→ Create availability zones

→ Point to target.

→ DNS → Our application
↳ Load Balancer

S3:

→ Bucket

↳ Add Files

→ Object storage

CloudFront: (CDN)

- Static content to nearest edge location.
- Traffic to DNS to nearest edge location.

RDS: Relational Database Service

- Normal Cloud Database
- Connect with username & Password
- IP + Port to connect.

Lambda:

- Serverless Function.
- Cloudwatch logs
- Triggers with different things.

EC2 Model:

- On-Demand
- Reserved Instances (Best long term).
- Spot instances (Biggest savings). [Heroku kinda].
- Dedicated (Most expensive)
 - ↓
Multi (Apartment)
 - ↓
Single (House).

AWS Fundamentals:

→ One VPC per account & region

→ But can have many.

→ EC2

→ VM on Cloud

→ deployed to AZ

→ AMI Image:

→ Copy of instance

→ Connecting to EC2

→ Session Manager

→ SSH

→ S3:

→ Object storage

→ Cloud Formation

→ Terraform kinda

→ Cloudwatch

→ Logs for everything.

Solutions Architect → Cloud Architect.

Module 1: Architecture & DevOps

Module 2: Scripting & Programming

Module 3: Relational & Non-Relational

Module 4: Database Management, Migration, Struct.

Module 5: Network Arch. Protocols, VPC, Directory Services

Stephane Maarek course:

↳ Navigate AWS spaghetti bowl.

AWS Cloud History:

2002 → Internally launched

2003 → Idea to market

2004 → SQS publicly

2006 → S3, SQS, EC2

2007 → Europe

Now → World wide

Netflix, NASA, Airbnb.

Top Cloud providers

Global

→ Regions

→ Availability zones

→ Local zones

→ Point of Presence (Edge locations)

Regions:

→ Name: us-east-1

→ Clusters of data centers

→ Region-scoped

How to choose region:

Compliance: Gov. Pricing

Proximity: latency. Vary for

Available Services: Check AWS region

Availability zones:

min: 2, max: 6, default: 3

→ One or more discrete data with redundant power, network

→ Separate from each other

→ Connected with high bandwidth

Edge locations:

CDN - Content delivery.

AWS Console:

→ Global:

→ IAM

→ Route 53

→ CloudFront

→ WAF

→ Region

→ EC2

→ Elastic Beanstalk

→ Lambda

→ Rekognition.