AWS Cloud Practitioner (CLF-C02)

Exam Preparation Flashcards

Comprehensive Q&A Study Guide

Prepared for: Nico

Exam Date: December 29, 2025

175+ Exam-Style Questions Covering All Domains

4-Day Study Plan

Given your existing AWS knowledge, here's an optimized study schedule:

Day 1 (Dec 25): Core Services & Infrastructure

Morning: Review Cloud Fundamentals (8 cards) and Global Infrastructure (8 cards). Focus on memorizing the 6 advantages of cloud computing and Region/AZ concepts.

Afternoon: Deep dive into Compute Services (12 cards). Given your IaC experience, focus on serverless concepts (Lambda, Fargate) and purchasing options.

Evening: Study Networking (15 cards). Review VPC, Security Groups vs NACLs, and connectivity options. Take a practice quiz.

Day 2 (Dec 26): Storage, Databases & Data Services

Morning: Storage Services (12 cards). Focus on S3 storage classes, lifecycle policies, and Snow Family use cases.

Afternoon: Database Services (14 cards). Memorize when to use RDS vs DynamoDB vs Redshift. Review migration tools (DMS, SCT).

Evening: AI/ML Services (17 cards). Given your interest in autonomous AI, focus on Bedrock, SageMaker, and Q. Also cover ETL (Glue, Kinesis).

Day 3 (Dec 27): Security & Governance

Morning: Security Services (20 cards). CRITICAL: Memorize Shared Responsibility Model inside out. Know IAM, KMS, Shield, WAF, GuardDuty distinctions.

Afternoon: Monitoring & Governance (12 cards). Focus on CloudWatch vs CloudTrail vs Config differences. Know Trusted Advisor check categories.

Evening: Practice exam - take a full 65-question practice test. Review wrong answers.

Day 4 (Dec 28): Pricing, Migration & Final Review

Morning: Pricing & Support (11 cards). Know Free Tier, Support Plans, and cost management tools. Also Migration (7 cards) - memorize the 6 R's.

Afternoon: Well-Architected Framework (18 cards). Memorize the 6 pillars and their key principles. Review specialty services.

Evening: Take another practice exam. Review all flagged/weak areas. Get good sleep!

Domain 1: Cloud Concepts

Cloud Computing Fundamentals

Q1: What are the 'six advantages of cloud computing' according to AWS?

A:

1) Trade capital expense for variable expense

2) Benefit from massive economies of scale

3) Stop guessing capacity

4) Increase speed and agility

5) Stop spending money running data centers

6) Go global in minutes.

Q2: What is the 'difference between CapEx and OpEx' in cloud computing?

A:

CapEx (*Capital Expenditure*) is *"upfront investment"* in *"physical infrastructure"*.

OpEx (*Operational Expenditure*) is *"pay-as-you-go"* spending for cloud services.

Cloud *"converts"* **CapEx** to **OpEx**.

Q3: What are the 'three cloud computing deployment models' ?

A:

1) Public Cloud - resources owned and *"operated by a third-party provider"* (AWS)

2) Private Cloud - resources *"used exclusively by one organization"*

3) Hybrid Cloud - *"combination"* of public and private clouds.

Q4: What are the 'three cloud service models' ?

A:

IaaS (Infrastructure as a Service) – provides *"**virtualized** computing resources"*.

PaaS (Platform as a Service) - provides a **platform** for *"**developing** applications"*.

SaaS (Software as a Service) - provides *"**complete** software applications"*.

Q5: Which AWS service model gives the 'most control over infrastructure' ?

A:

– **IaaS** (Infrastructure as a Service; e.g., ***EC2***) gives the most control.

You manage: *"OS"*, *"middleware"*, *"runtime"*, *"data"*, and *"applications"*.

AWS manages: *"virtualization"*, *"servers"*, *"storage"*, and *"networking"*.

Q6: What does 'elasticity' mean in cloud computing?

A: Elasticity is the ability to automatically acquire and release resources "***based on demand***".

Resources **scale out** (add) when ***demand*** *"increases"*

Resources **scale in** (remove) when ***demand*** *"decreases"*

Q7: What is 'high availability' in AWS?

A: High availability means:

– Designing systems to ***operate "continuously," without failure*** for a long time

Achieved by:

Deploying across *"multiple Availability Zones"* and using *"redundant components"*

Q8: What is 'fault tolerance'?

A: Fault tolerance:

– Is the **ability** of a system to **continue operating without interruption** when one or more components fail.

It's built through ***"redundancy"*** and ***"automated failover mechanisms"***.

Domain 2: Compute Services

Q9: What is Amazon EC2?

A: Elastic Compute Cloud:

– Provides ***"resizable virtual servers"*** (*"instances"*) in the cloud

You have *"full control over the OS"* and can choose "*instance type"*, "*storage"*, and "*networking"*

Q10: What are EC2 instance purchasing options?

A:

1) On-Demand - Pay by hour/second, no commitment.

2) Reserved - 1-3 year commitment, up to 72% discount.

3) Spot - Bid on unused capacity, up to 90% discount.

4) Dedicated Hosts - Physical servers dedicated to you.

5) Savings Plans - Flexible pricing model.

Q11: When should you use Spot Instances?

A: Use **Spot** for: "fault-tolerant, flexible workloads"

...like:

"batch processing", *"data analysis"*, ***"CI/CD"***, and *"containerized workloads"*

Spot instances are NOT suitable for:

"critical", *"stateful applications"* as "*instances* ***can be terminated*** *with* ***2-minutes notice***"

Q12: What is AWS Lambda?

A: **Serverless** compute service

Runs code – in ***response to events***...

You ***pay*** *"**only** for compute time consumed"* (per millisecond)

No server management required

Supports multiple languages including *Python*, *Node.js*, *Java*.

Q13: What is the maximum execution time for a Lambda function?

A: **15 minutes** (*"900 seconds"*)

For longer-running workloads:

...consider *"Step Functions"*, *"EC2"*, or *"ECS or Fargate"*

Q14: What is Amazon ECS?

A: **Elastic Container Service**:

- Fully managed ***"container orchestration service"*** for running *"Docker"* containers

Can run on ***EC2*** *"instances"*

Or...

"Serverlessly" on ***Fargate***

Q15: What is Amazon EKS?

A: **Elastic Kubernetes Service**:

- Managed *"Kubernetes service"* for *"running containerized applications"*.

Provides **Kubernetes** *"control plane management"*.

Q16: What is AWS Fargate?

A: **Serverless compute engine** for **containers**.

Works with **ECS** and **EKS**.

You ***don't manage servers*** or ***clusters***;

– just ***define*** *"CPU"* and *"memory requirements"*.

Q17: What is an Auto Scaling Group?

A: A *"collection of **EC2** instances"* treated as a logical group for *"automatic scaling"*

Maintains *"desired number of instances"*

Scales *"based on demand"*

Replaces "*unhealthy instances"*

Q18: What is AWS Elastic Beanstalk?

A: **PaaS** (Platform as a Service) for *"deploying"* and *"managing web applications"*

Automatically handles:

"capacity provisioning", *"load balancing"*, *"scaling"*, and *"application health monitoring"*

You ***just upload*** { code }

Q19: What is Amazon Lightsail?

A: ***Simple virtual-private-servers***, for users who *"don't need"* full *"EC2 complexity"*

Includes:

"compute", *"storage"*, and *"networking"* in *"simple monthly packages"*

Good for:

"small applications", *"websites"*, *"dev/test"*

Q20: What is AWS Batch?

A: **AWS Batch** is a fully managed ***"batch processing service"***

Efficiently *"**runs** hundreds of thousands"* of *"**batch computing jobs**"*

Dynamically provisions:

"Optimal compute resources" based on job requirements.

Domain 3: Global Infrastructure

Q21: What is an AWS Region?

A: An **AWS Region** is a *"physical geographic location"* with *"multiple Availability Zones"*.

Each Region:

"completely independent" and *"isolated"* for *"**fault tolerance**"*

Regions are chosen:

Based on *"latency"*, *"compliance"*, and *"service availability:*

Q22: What is an Availability Zone (AZ)?

A: An **Availability Zone** consists of:

One, or more:

"discrete data centers" with *"redundant power"*, *"networking"*, and *"connectivity"*

- ***All within one Region***

AZs are *"physically separated"* by meaningful distance but *"connected"* via *"low-latency links"*

Q23: How many Availability Zones does each AWS Region typically have?

A: Each **AWS Region** has a *"minimum"* of: **3** AZs (*"3 Availability Zones"*; *"most have 3-6"*)

3 AZs:

Allows for *"high availability"* deployments, across *"multiple isolated locations"*

Q24: What are AWS Edge Locations?

A: **AWS Edge Locations** are: *"data centers"* to *"cache content"* closer to users

These **Edge** *"data centers"* are used by **CloudFront CDN** (*"Cloud Distribution Network"*)

There are more Edge Locations than Regions.

Used to **reduce latency** for content delivery.

Q25: What are AWS Local Zones?

A: **Extensions of AWS Regions** that place compute, storage, and database services closer to population centers.

Provide **single-digit millisecond latency** for latency-sensitive applications.

Q26: What are AWS Wavelength Zones?

A: **Infrastructure** deployments embedded **within telecom** providers' **5G networks**. Provide **ultra-low latency** for mobile and connected devices.

Q27: What are AWS Outposts?

A: Fully managed service that **extends AWS infrastructure** to your **on-premises** facility. Enables **hybrid cloud** with consistent AWS experience. Comes as **rack** or **server** form factors.

Q28: What factors should you consider when choosing an AWS Region?

A: **1) Compliance**/data residency requirements, **2) Proximity** to customers (latency), **3) Available** services, **4) Pricing** (varies by Region).

Domain 4: Networking

Q29: What is Amazon VPC?

A: An **Amazon VPC** is a ***"Virtual Private Cloud"***

Using:

"logically isolated sections" of AWS Cloud

You can:

"launch resources" in a *"virtual network you define"*

You control:

"*IP-ranges"*, *"subnets"*, *"route tables"*, and *"gateways"*.

Q30: What is the difference between public and private subnets?

A:

"Public" **subnets**:

Have a *"route"* to an ***"Internet Gateway"***

This *"allows resources"* to *"communicate with the internet"*

"Private" **subnets**:

Have *"no direct internet access"*

Resources *"can access the internet"* via a ***"NAT Gateway"***

Only allow *"****outbound communication*** *to the public internet"*

Q31: What is an Internet Gateway?

A: An **Internet Gateway** is a *"horizontally scaled"*, *"redundant"*, *"highly available"* **VPC component**

Allows *"communication"* between *"your* ***VPC*** *and the* ***internet"***

"Attached to VPC" to *"enable internet access"*

Q32: What is a NAT Gateway?

A: A **NAT Gateway** is a: **"***Network Address Translation"* service

NAT Gateways:

"enables instances" inside of ***"private subnets"*** to *"connect to the internet"*

or,

"other AWS services"

NAT Gateways however *"prevent inbound connections from* the *internet*

Q33: What is a Security Group?

A: A **Security Group** is a **"***Virtual Firewall for EC2 instances"*

AWS Security Groups:

Control *"inbound"* and *"outbound"* traffic at the *"instance level"*

Are **Stateful**

"return traffic" is *"automatically allowed"*

By default:

"denies all inbound", but *"allows all outbound"*

Q34: What is a Network ACL (NACL)?

A: A **Network ACL** (NACL) is an *"optional layer of security"* at the *"subnet level"*

NACLs are **Stateless**:

"return traffic" must be *"explicitly allowed"*

NACLs *"process rules **in order**"*

By default:

"allow all traffic"

Q35: What is the key difference between Security Groups and NACLs?

A:

Security Groups are **stateful** (*"apply at instance-level"*)

NACLs are **stateless** (*"apply at the subnet-level"*)

Security Groups only *"allow rules"*; while, **NACLs** allow *"explicit deny rules"*

Security Groups *"evaluate all rules"*; while, **NACLs** *"evaluate rules in order"*

Q36: What is Amazon Route 53?

A: AWS **Route 53** is a *"highly available"* and *"scalable **DNS** web service"*

Provides:

"domain registration", *"DNS routing"*, and *"health checking"*

Supports *"routing policies"* like:

"Simple", *"Weighted"*, *"Latency"*, *"Failover"*, *"Geolocation"*, *"Geoproximity"*, *"Multi-Value"*

Q37: What is Amazon CloudFront?

A: **Amazon CloudFront** is a *"Content Delivery Network"* (**CDN**)

Delivers *"data"*, *"videos"*, *"applications"*, and *"APIs"*

– *"Globally"* and with *"low-latency"* –

Uses **Edge Locations** to *"cache content"*

Integrates:

With **Shield** for *"DDoS protection"*

Q38: What is AWS Direct Connect?

A: **AWS Direct Connect** is a *"dedicated network connection"* from your *"premises"* to *"AWS"*

Provides:

"consistent network performance", *"reduced bandwidth* costs", and *"private connectivity"*

Does NOT:

"traverse" the *"public internet"*

Q39: What is a VPC Peering Connection?

A: A **VPC Peering Connection** is a *"networking connection"* between ***"two VPCs"***

***Enables*:**

"routing traffic" using ***"private IP** addresses"*

VPCs:

Can be in *"different accounts"* or *"different Regions"*

Traffic:

"stays on AWS backbone"

Q40: What is AWS Transit Gateway?

A: **AWS Transit Gateway** is a *"network-transit-**hub**"*

AWS Transit Gateway *"connects VPCs"* and *"on-premises networks"* through a ***"central hub"***

Simplifies:

"network architecture" by avoiding *"complex peering relationships"*

Q41: What is AWS Global Accelerator?

A: **AWS Global Accelerator** is a *"networking service"* that...

"improves availability" and *"performance"* using the **AWS global network**

Provides:

"static IP" addresses *"as fixed-entry-points"*

Routes:

Traffic, to *"optimal endpoints"*

Q42: What is AWS PrivateLink?

A: **AWS PrivateLink** is a service that provides *"private connectivity"*

...between **"***VPCs"*, *"AWS services"*, and *"on-premises applications"*

PrivateLink provides *"private connectivity"* without *"exposing traffic"* to the *"public internet"*

PrivateLink creates *"interface VPC endpoints"*

Q43: What is a VPN Connection in AWS?

A: A **VPN Connection** in AWS is a *"secure"*, *"encrypted connection"*

...between your *"on-premises network"* and ***"AWS VPC"*** – over the internet

Uses:

"IPsec" protocol.

Cheaper:

Compared to **AWS Direct Connect**, but has *"less consistent performance"*

Domain 5: Storage Services

Q44: What is Amazon S3?

A: **Amazon S3** is a *"Simple Storage Service"*; *"object storage system"* with "*unlimited scalability*"

Objects are stored in: **S3** *"buckets"*

Supports: *"versioning"*, *"lifecycle policies"*, *"encryption"*

11 *"9's durability"* – (99.999999999 %) durability

"Maximum object size" is: **5 Terabytes** (5 TB)

Q45: What are the S3 Storage Classes?

A:

S3 **Standard** – (*"frequently accessed"*)

S3 **Intelligent-Tiering** – (*"variable access"*)

S3 **Standard-IA** – (*"infrequent access"*)

S3 **One Zone-IA** – (*"single AZ"*, *"infrequent access"*)

S3 **Glacier – *Instant Retrieval***

S3 **Glacier – *Flexible Retrieval***

S3 **Glacier – *Deep Archive***

Q46: When should you use S3 Glacier Deep Archive?

A: For **long-term archival** (*7-10+ years*)

With *retrieval times of* ***12-48 hours***.

Lowest cost storage class.

Good for "*compliance archives*", "*healthcare records*", "*financial records*".

Q47: What is S3 Lifecycle Policy?

A: **Rules** to **automatically transition objects** between **storage classes** or **delete objects**.

Example:

Move to Standard-IA (Infrequent Access) after 30 days, Glacier after 90 days, delete after 365 days.

Q48: What is Amazon EBS?

A: **Elastic Block Store** - **persistent block storage** for **EC2 instances**.

Like a virtual hard drive.

Replicated within an AZ (Availability Zone).

Supports **snapshots** for backup.

Can be encrypted.

Q49: What are the EBS volume types?

A: **SSD**:

gp3/gp2 (*general purpose*),

io2/io1 (*provisioned IOPS for databases*).

HDD:

st1 (*throughput optimized for big data*),

sc1 (*cold storage, infrequent access*).

Q50: What is Amazon EFS?

A: **Elastic File System**

- Managed **NFS** file storage.

Can be *mounted to* **multiple EC2 instances simultaneously** (shared storage).

Automatically scales.

Regional service with **multi-AZs** (Availability Zones) **durability**.

Q51: What is AWS Storage Gateway?

A: **Hybrid cloud storage** service

Connecting **on-premises** *to* **AWS storage**.

Types:

"File Gateway" (NFS/SMB to S3),

"*Volume Gateway"* (iSCSI to S3/EBS),

"*Tape Gateway"* (virtual tape library).

Q52: What is Amazon FSx?

A: **Fully managed file systems**.

"FSx for Windows File Server" (***SMB***, ***Active Directory***),

"FSx for Lustre" (***high-performance computing***),

"FSx for NetApp ONTAP",

"FSx for OpenZFS".

Q53: What is the difference between EBS and Instance Store?

A: **EBS** is **persistent** storage that *persists after instance stop/termination*.

Instance Store is **ephemeral** storage, physically attached to the host - *data lost when instance stops*.

Instance Store has **better I/O** (Input/Output) *performance*.

Q54: What is S3 Transfer Acceleration?

A: Uses "*CloudFront Edge Locations*" to **accelerate uploads to S3**.

Data routed over *optimized network path*.

Useful for **cross-continent transfers** or **large file uploads**.

Q55: What is AWS Snow Family?

A: **Physical devices** for **data migration**.

"Snowcone" (8TB),

"Snowball Edge" (80TB storage/compute),

"Snowmobile" (100PB exabyte-scale truck).

For ***offline data transfer*** when *network transfer is impractical*.

Domain 6: Database Services

Q56: What is Amazon RDS?

A: **Amazon RDS** is a managed *"Relational Database Service"*

Supports:

"MySQL"

"PostgreSQL"

"MariaDB"

"Oracle"

"SQL Server"

"Amazon Aurora"

Handles:

"provisioning", *"patching"*, *"backup"*, *"recovery"*, and *"scaling"*

Q57: What is Amazon Aurora?

A: **Amazon Aurora** is a: *"MySQL"* and *"PostgreSQL"* compatible *"relational database"*

A *"compatible"* relational database *"built for the cloud"*

5x *"faster"* than *"MySQL"*

3x *"faster"* than *"PostgreSQL"*

Auto-scales:

Storage up to **128 Terabytes** (128 TB)

Replicates:

"6 copies" across ***"3 AZs"*** (3 Availability Zones).

Q58: What is Amazon DynamoDB?

A: *Fully managed* **NoSQL**, "*key-value*", and **document database**.

Single-digit ***millisecond performance*** ...

... at any scale!

Serverless with "*automatic scaling*".

Supports **Global Tables** for "*multi-Region* ***replication***".

Q59: What is Amazon ElastiCache?

A: Managed "*in-memory*" **caching service**.

Supports:

"*Redis*"

"*Memcached*"

Improves *application performance*:

– by retrieving data from "*fast*", ***"managed caches"*** instead of *slower databases*.

Q60: What is Amazon Redshift?

A: *Fully managed "petabyte-scale"* **data warehouse**.

Uses **columnar storage**

Uses *"Massively Parallel Processing"* (**MPP**)

For ***analytics*** and ***business intelligence*** workloads.

Q61: What is Amazon DocumentDB?

A: Managed **document database**

Compatible with ***MongoDB***.

Fully managed, ***scalable***, ***highly available***.

For *content management*, *catalogs*, *user profiles*.

Q62: What is Amazon Neptune?

A: Managed ***"graph database"*** service.

Supports:

"Property Graph" model

RDF models

For *social networks*, *fraud detection*, *knowledge graphs*, *recommendation engines*.

Q63: What is Amazon Keyspaces?

A: Managed **Apache Cassandra** – compatible database.

Serverless, *scales automatically*.

For ***high-volume*** *applications* requiring ***single-digit millisecond latency***.

Q64: What is Amazon Timestream?

A: **Serverless time series database**.

For **IoT** applications, **DevOps**, and **analytics**.

Up to **1000x faster** and **1/10th cost** of **relational databases** *for time series data*.

Q65: What is Amazon QLDB?

A: **Quantum Ledger Database**

- is a fully-managed ***"ledger database"*** with:

  "immutable", *"cryptographically verifiable"* transaction log

For:

Systems of record requiring an ***"audit trail"***

Q66: What is AWS Database Migration Service (DMS)?

A: **AWS Database Migration Service** is a service used to *"migrate databases to AWS"*.

Supports:

"Homogeneous" (*Oracle to Oracle*) migrations

"**Heterogeneous"** (*Oracle to Aurora*) migrations

The *"source database"* remains *"operational during migration"*

Q67: What is AWS Schema Conversion Tool (SCT)?

A: ***Converts*** *"source database schema"* and *"code"* to a *"format compatible with target database"*.

AWS Schema Conversion Tool (**SCT**) converts:

"source database schemas" and *"code"* to *"formats"* ***compatible with*** *"target databases"*

Used with **DMS** for *"**heterogeneous** migrations"*

Converts: *"stored procedures"*, *"functions"*, *"views"*

Heterogeneous migrations like:

"Oracle to Aurora"

Q68: What is RDS Multi-AZ deployment?

A: **AWS RDS Multi-AZ Deployment** provides *"high availability"* for your *"relational database"*

RDS Multi-AZ Deployment achieves *"high availability"* by:

Automatically provisioning a *"**standby replica database**"*

– in a "*different AZ*" (Availability Zone)

Uses "***Synchronous replication***"

Automatic failover: during *"planned maintenance"*, *"instance failure"*, or *"AZ failure"*

Q69: What are RDS Read Replicas?

A: **AWS RDS Read Replicas** are *"read-only copies"* of your **database** for *"read scaling"*

Asynchronous replication

Can be *"promoted"* to a ***"standalone database"***

Can be *"cross-Region"* for ***"disaster recovery"***

Domain 7: AI/ML & Data Services

Q70: What is Amazon SageMaker?

A: Fully managed **service** to **build**, **train**, and **deploy *"machine learning models"***.

Includes Jupyter notebooks, built-in algorithms, and one-click training/deployment.

SageMaker Canvas provides **no-code ML**.

Q71: What is Amazon Rekognition?

A: **Amazon Rekognition** is a service for *"image"* and *"video analysis"*.

Detects: *"objects"*, *"scenes"*, *"faces"*, *"text"*, *"celebrities"*, and *"inappropriate content"*

For: *"content moderation"*, *"face search"*, and "***verification***"

Q72: What is Amazon Comprehend?

A: **Amazon Comprehend** is a "*Natural Language Processing*" (**NLP**) service for *"text"*.

Extracts *"insights"* from *"text"* like:

"sentiment", *"entities"*, *"key phrases"*, *"language detection"*, and "*topic modeling"*

"Amazon Comprehend Medical" – for healthcare text

Q73: What is Amazon Polly?

A: **Amazon Polly** is a *"text-to-speech"* service.

Converts "*text* " into "***lifelike speech***"

Supports:

"multiple languages" and different *"voices" or "tones of voice"*

Neural TTS:

– provides *"intelligence"* for output to sound more "*natural*" or *"human-like"*

For:

"accessibility" and "*voice applications*"

Q74: What is Amazon Transcribe?

A: **Automatic speech recognition** (ASR) service.

Converts "*speech*" to "*text*"

Supports "***real-time***" and "***batch***" transcription

For:

"*subtitles*", "*call analytics*", "*meeting transcriptions*"

Q75: What is Amazon Translate?

A: **Amazon Translate** is a "*neural machine translation*" service.

"***Real-time***" and "***batch***" translations

Supports **75+** languages

For:

"*localizing content*" and enabling "*multilingual communication*"

Q76: What is Amazon Lex?

A: Service for **building conversational interfaces** ("*chatbots*").

Same technology as **Alexa**.

Provides ***automatic speech recognition*** and ***natural language understanding***.

Q77: What is Amazon Textract?

A: **Extracts text**, **handwriting**, and **data** from **scanned documents**.

Goes beyond OCR to ***extract tables***, ***forms***, and ***relationships***.

For ***document processing automation***.

Q78: What is Amazon Forecast?

A: **Time-series forecasting** service.

Uses **machine learning** (**ML**) to ***generate accurate forecasts***.

For "*demand planning*", "*financial planning*", "*resource planning*".

Q79: What is Amazon Personalize?

A: **Machine learning service** for ***real-time personalized recommendations***.

Same technology as **Amazon.com**.

For "*product recommendations*", "*personalized search*", "*customized marketing*".

Q80: What is Amazon Kendra?

A: **Intelligent enterprise search** service ***powered by ML***.

Understands ***natural language queries***.

For *searching documents*, *FAQs*, and *knowledge repositories*.

Q81: What is Amazon Bedrock?

A: Fully managed service for **building generative AI** (GenAI) **applications**.

Provides **access** to **foundation models**

Foundation Models like:

Amazon, *AI21*, *Anthropic*, *Cohere*, *Meta*, *Stability AI*.

Serverless, no infrastructure management.

Q82: What is Amazon Q?

A: **Generative AI-powered assistant for business**.

Amazon Q Business for enterprise data.

Amazon Q Developer for software development assistance (IDE integration, code generation).

Q83: What is Amazon CodeWhisperer (now part of Amazon Q Developer)?

A: **AI coding companion** that ***generates code suggestions in real-time***.

Supports **multiple languages** and **IDEs**.

Scans *for security vulnerabilities*.

Trained on *Amazon* and *open-source* code.

Q84: What is AWS Glue?

A: **AWS Glue** is a ***"serverless" data integration*** (**ETL**: *Extract, Transform, Load*) service

"Discovers", *"prepares"*, and *"combines"* ***data*** for ***analytics***

Includes:

Glue Data Catalog for *"metadata"*

Supports:

Python and ***Spark***

Q85: What is Amazon Athena?

A: **Amazon Athena** is an ***interactive query service*** to *"analyze data:* in **S3** *using "SQL"*

Serverless - no infrastructure.

"Pay per query"

Supports *"CSV"*, *"JSON"*, *"Parquet"*, *"ORC"* formats

Q86: What is Amazon Kinesis?

A: **Real-time data streaming** platform.

Kinesis Data ***Streams*** – (ingest)

Kinesis Data ***Firehose*** – (load to destinations)

Kinesis Data ***Analytics*** – (SQL analysis)

Kinesis ***Video Streams*** – (video)

Domain 8: Security Services

Q87: What is the AWS Shared Responsibility Model?

A: **AWS responsible** for **security OF the cloud** (*infrastructure, hardware, software, networking*).

Customer responsible for **security IN the cloud** (*data, IAM, encryption, OS patching, network config*).

Q88: What is AWS IAM?

A: **Identity and Access Management** - control who can access AWS resources.

Manage *users*, *groups*, *roles*, and *policies*.

Follows the **least privilege principle**.

Free service.

Q89: What is an IAM Policy?

A: **JSON document defining permissions**.

Attached to *users*, *groups*, or *roles*.

Contains **Effect** (Allow/Deny), **Action** (API calls), **Resource** (ARN), and *optional "**Conditions**"*.

Q90: What is an IAM Role?

A: **Identity** with **permissions** that can be **assumed by AWS services**, **applications**, or **users**.

No *permanent credentials*.

Used for ***cross-account*** *access* and ***EC2*** *instance profiles*.

Q91: What is the root user and when should it be used?

A: **Account Owner** with *"complete access"* ***!!!***

Should only be used for:

Changing **account settings**

"Closing an *Account"*

Changing *"Support plan"*

Enabling **MFA** on **S3** bucket *"**delete**"*

Crucial:

Enable MFA, and ***DO NOT*** use root user for *"daily tasks"*

Q92: What are AWS Organizations?

A: Service for **managing *multiple*** AWS accounts.

"Consolidated billing"

Service Control Policies ("SCPs")

"*Hierarchical"* ***organization units*** (**OUs**)

"Centralized governance" and "*access control"*

Q93: What are Service Control Policies (SCPs)?

A: **Service Control Policies** are *"policies"* in **AWS Organizations** that set *"permission guardrails"*

Define *"maximum available permissions"*

DO NOT grant permissions, *"only restrict"*

Applied to *"OUs"* (Organization Units) or *"accounts"*

Q94: What is AWS Shield?

A: **AWS Shield** is a *"managed"* **DDoS** *"protection"* service...

Shield **Standard**: ***free***, "*automatic" "**L3**"/"**L4**"* protection...

Shield **Advanced**: ***paid*** (**$**), *"enhanced protection"*, **24/7 DDoS** *"response team"*, *"cost protection"*

Q95: What is AWS WAF?

A: **Web Application Firewall** – *"protects"* **web applications** from *"common exploits"*

Creates *"rules"* to ***filter traffic*** – ("SQL injection", "XSS")

Works with:

"CloudFront", *"ALB"*, *"API Gateway"*

Q96: What is AWS KMS?

A: **Key Management Service** – *"creates"* and *"manages"* ***cryptographic keys***

Integrated with AWS services for *"encryption"*

Supports *"automatic key rotation"*

FIPS "**140-2**" validated

Q97: What is AWS Secrets Manager?

A: Service to ***store***, ***rotate***, and ***manage secrets*** – (*"database credentials"*, *"API keys"*)

Automatic *"rotation"*

Integration with:

"RDS", *"Redshift"*, *"DocumentDB"*

"Pay per secret stored"

Q98: What is AWS Certificate Manager (ACM)?

A: **AWS Certificate Manager** *"provisions"*, *"manages"*, and *"deploys"* **SSL/TLS** certificates

Free *"public certificates"* for AWS services

"Automatic renewal" of certificates...

Integrates with:

"CloudFront", *"ALB"*, *"API Gateway"*

Q99: What is Amazon GuardDuty?

A: **AWS GuardDuty** is an *"intelligent threat detection"* service

Analyzes:

"CloudTrail", *"VPC Flow Logs"*, *"DNS logs"*

Detects:

"reconnaissance", *"instance compromise"*, *"account compromise"*

Uses **ML** (Machine Learning) to *"identify threats"*

Q100: What is AWS Inspector?

A: **AWS Inspector** is an *"automated vulnerability-assessment"* service

Scans:

"EC2 instances", *"container images"*, and *"Lambda functions"*

***Checks* for**:

"software vulnerabilities" and *"network exposure"*

Q101: What is AWS Security Hub?

A: **AWS Security Hub** is a *"central security dashboard"*

Aggregates **"***findings"* from:

"GuardDuty", *"Inspector"*, *"Macie"*, and *"partner tools"*

Automated *"security best practice checks"* against **AWS Foundational Security Best Practices**

Q102: What is Amazon Macie?

A: **Amazon Macie** is a *"data security service"* that uses **ML**

Amazon Macie uses **ML** to *"discover"*, *"classify"*, and *"protect sensitive data in **S3**"*

Amazon Macie *"identifies"*:

*"**PII**"*, *"financial data"*, *"credentials"*

Also creates *"data sensitivity dashboards"*

Q103: What is AWS CloudHSM?

A: **AWS CloudHSM** is a *"Hardware Security Module"*

AWS CloudHSM – provides *"dedicated hardware"* for *"cryptographic key storage"*

- ***"Single-tenant"***
- Adheres to **FIPS 140-2**, Level 3

Intended for:

"Regulatory compliance", requiring *"dedicated hardware"*

Q104: What is Amazon Detective?

A: **Amazon Detective** is a *"security service"* that *"analyzes"* and *"investigates"* security findings

Uses **ML** (Machine Learning) to build *"linked data models"*

Helps:

"determine root cause" of *"security issues"*

Q105: What is AWS IAM Identity Center (formerly SSO)?

A: **AWS IAM Identity Center** *"manages* **SSO** *access"* across multiple accounts

AWS IAM Identity Center manages SSO access across:

"multiple AWS accounts" and *"business applications"*

Integrates:

- with *"corporate directories"*

Allows:

- *"one set of credentials"* to *"control access for multiple accounts"*

Q106: What is Multi-Factor Authentication (MFA)?

A: **Multi-Factor Authentication** adds *"additional security layers"* ***requiring*** *"secondary verification"*

Types:

"Virtual MFA" (app), *"Hardware TOTP token"*, *"FIDO security key"*, *"Hardware MFA device"*

Strongly recommended for *"root"* and *"IAM users"*

Domain 9: Monitoring & Governance

Q107: What is Amazon CloudWatch?

A: **Amazon CloudWatch** is a *"monitoring"* and *"observability"* service.

Amazon CloudWatch *collects*:

"metrics", *"logs"*, and *"events"*

Amazon CloudWatch can ***create***:

"dashboards", *"alarms"*, and *"automated actions"*

CloudWatch Logs:

Best used for ***"log aggregation"***

CloudWatch Insights:

A service for *"Cloud services **analysis**"*

Q108: What is AWS CloudTrail?

A: **AWS CloudTrail** is a service that ***"logs all API calls"*** made in your AWS account

Records:

"who", *"what"*, *"when"*, and *"where"* for ***every API action***

Enables:

"governance", *"compliance"*, and *"security auditing"*

Q109: What is AWS Config?

A: **AWS Config** is a service that *"assesses"*, *"audits"*, and *"evaluates"* resource configurations

Records *"configuration"* changes over time

Config Rules for *"compliance checking"*

Supports *"auto-remediation"*

Q110: What is AWS Trusted Advisor?

A: **AWS Trusted Adviser** is an *"online tool"* providing *"real-time guidance"* on AWS best practices

Five categories:

"cost optimization", *"performance"*, *"security"*, *"fault tolerance"*, *"service limits"*

Q111: What checks are available with AWS Basic Support (free tier) Trusted Advisor?

A: **AWS Basic Support** (free tier) **Trusted Advisor** includes "**7** *core checks"* :

"S3 bucket permissions"

"Security Groups" (unrestricted ports)

"IAM use"

"MFA" on root

"EBS public snapshots"

"RDS public snapshots"

"service limits"

Q112: What is AWS Systems Manager?

A: **AWS Systems Manager**: an *"operations hub"* for *"managing resources"*

"on-premises" and on AWS

Includes:

Session Manager (secure shell access)

"Patch Manager"

"Parameter Store"

"Automation"

"Run Command"

Q113: What is AWS Service Catalog?

A: **AWS Service Catalog** is a service used to *"create"* and *"manage"* catalogs

Manages:

"catalogs" of approved IT services

Enables:

"self-service deployment" while *"maintaining governance"*

Uses:

CloudFormation templates

Q114: What is AWS Control Tower?

A: **AWS Control Tower** is a service to *"set up"* and *"govern"* a *"secure-multi-account"* AWS env

Implements a *"landing-zone"* with *"guardrails"*

Automated *"account provisioning"*

Built on **AWS Organizations**

Q115: What is AWS License Manager?

A: **AWS License Manager** is a service to *"manage software licenses"*

Software licenses from vendors like:

"Microsoft"

"SAP"

"Oracle"

Tracks *"license usage"*, enforces *"rules"*, reduces *"compliance risk"*.

Q116: What is AWS Health Dashboard?

A: **AWS Health Dashboard** provides a *"personalized view"* of AWS *"services health"*

Shows ***"events"*** affecting your resources.

Personal Health Dashboard

– vs. –

Service Health Dashboard (**global status**).

Q117: What is the AWS Well-Architected Tool?

A: Service to review "*workloads*" against AWS **Well-Architected Framework** "*best practices*"

Generates "*improvement plans*"

Identifies "*high-risk issues*" across **six pillars**

Q118: What is AWS Artifact?

A: **On-demand** "*access*" to **AWS Compliance** "*reports*" and "*agreements*"

AWS Artifact *"lets you"* **download**:

"SOC" reports

"PCI" reports

"ISO" certifications

"Accepts" **agreements** like:

"BAA"

"GDPR DPA**"**

Domain 10: Pricing & Support

Q119: What are the AWS pricing models?

A:

1) "**Pay-as-you-go**" - pay for what you use.
2) "**Save when you reserve**" - commit for discounts.
3) "**Pay less by using more**" - volume discounts.
4) "**Free Tier**" - limited free usage for new accounts.

Q120: What is included in AWS Free Tier?

A: **Three types**:

"Always Free" – (Lambda: 1 million requests/month)

"*12 Months Free***"** – (EC2: 750 hrs/month on "t2.micro")

"Trials" – (SageMaker: 2 months)

Different services have **different** *"free tier offerings"*

Q121: What is AWS Pricing Calculator?

A: **Tool** to "***estimate***" **AWS costs** (per month)

Create estimates for *"different configurations"*

Compare *"deployment options"*

Generate *"cost projections"* for proposals

Q122: What is AWS Cost Explorer?

A: **Tool** to ***"visualize"*** and "***manage"*** **AWS costs over time**.

View historical data.

Forecast future costs.

Create *"custom reports"*

Identify *"cost drivers"* and *"anomalies"*

Q123: What are AWS Budgets?

A: **Set custom budgets** for *"costs"* and *"usage"*.

Receive alerts when *"thresholds"* are exceeded.

Track *"Reserved-Instance"* utilization.

Supports *"cost"*, *"usage"*, and *"reservation budgets"*.

Q124: What is AWS Cost and Usage Report (CUR)?

A: Most **comprehensive** *"cost"* and *"usage data"* report.

Detailed *"line-item"* billing data

Delivered to **"S3"**

Integrates with:

Athena, **QuickSight** for *"analysis"*

Q125: What are the AWS Support Plans?

A:

Basic (free, documentation, forums)

Developer ($29/month, business hours support)

Business ($100/month+, 24/7 support, full Trusted Advisor)

Enterprise On-Ramp ($5,500/month, TAM pool)

Enterprise ($15,000/month, *"dedicated TAM"*)

Q126: What is a Technical Account Manager (TAM)?

A: **Designated "***technical resource"* for **Enterprise Support** customers.

Provides: *"proactive guidance"*, *"architectural reviews"*, and *"coordinates"* AWS support

Acts as: a *"**single point of contact**"*

Q127: What is AWS Consolidated Billing?

A: **AWS *Consolidated BIlling*** is a part of **AWS *Organizations***

Single bill: for *"**all accounts** in an organization"*

Volume discounts: *"applied across accounts"*

Tracks: *"costs per account"* while paying centrally

Q128: What are AWS Resource Tags?

A: **AWS *Resource Tags*** are ***key-value pairs*** *"attached to"* AWS resources

Used for:

"cost allocation", *"automation"*, *"access control"*, and *"organization"*

Enables:

"detailed cost tracking" – by *"project"*, *"department"*, *"environment"*

Q129: What is the AWS Concierge Support Team?

A: **AWS Concierge Support Team** is *available to* **Enterprise Support** *customers*

Primary point of contact: for "*billing*" and "*account inquiries*"

Helps with:

"*non-technical*" AWS questions

Domain 11: Migration Strategies

Q130: What are the 6 R's of cloud migration?

A:

***re*:Host** – (lift-and-shift)

***re*:Platform** – (lift-tinker-shift)

***re*:Purchase** – (drop-and-shop, move to SaaS)

***re*:Factor** – (re-architect)

***re*:Tain** – (keep on-premises)

***re*:Tire** – (decommission)

Q131: What is AWS Migration Hub?

A: **AWS *Migration Hub*** is a *"central location"* to "*track migrations*" across AWS and "*partner tools*"

Single place to discover:

"servers", *"plan migrations"*, and *"track progress"*.

Q132: What is AWS Application Discovery Service?

A: **AWS Application Discovery Service** collects information about *"on-premises servers"*

– for *"migration planning"*

"Agentless" discovery

or

"Agent-based" discovery

Identifies:

"dependencies" and *"utilization"*

Q133: What is AWS Application Migration Service (MGN)?

A: Primary service for ***"lift-and-shift"*** *migrations*

Automated replication of *"source servers"*

Minimizes *"cutover-windows"*

Formerly **CloudEndure** Migration

Q134: What is AWS DataSync?

A: Online **data transfer** *service*.

Moves: "*large amounts* of *data*" between **on-premises** and **AWS** ("*S3*", "*EFS*", "*FSx*")

"automated", "secure", "fast"

Preserves: "*metadata*"

Q135: What is AWS Transfer Family?

A: **AWS Transfer Family** is a *managed* **file transfer** *service*.

Supports:

"SFTP", "FTPS", "FTP" protocols.

Files "*stored*" in **S3** or **EFS**.

For partners/customers who need *"traditional file transfer"*

Q136: What is the AWS Cloud Adoption Framework (CAF)?

A: **AWS Cloud Adoption Framework** provides **"***guidance"* for "*cloud adoption"*

Six perspectives:

"*Business"*, "*People"*, "*Governance"*, "*Platform"*, "*Security"*, "*Operations"*

Helps identify: "*skills gaps"* and *"organizational changes"*

Domain 12: Well-Architected Framework

Q137: What are the six pillars of the AWS Well-Architected Framework?

A:

1) *Operational Excellence*
2) *Security*
3) *Reliability*
4) *Performance Efficiency*
5) *Cost Optimization*
6) *Sustainability*

Q138: What is the Operational Excellence pillar?

A:

Running and **Monitoring** *"systems"* to ***deliver*** *"business value"*

Operations as Code – (OaC)

Frequent, **small**, *"reversible changes"*

Anticipates *"failure"*

Learns from *"failures"*

Key services:

"CloudFormation", *"Config"*, *"CloudTrail"*.

Q139: What is the Security pillar?

A:

Protects *"data"*, *"systems"*, and *"assets"*

Strong *"identity foundation"*

Traceability

Security at *"all layers"*

Automated *"security"*

Protects data *"in transit"* and *"at rest"*

Prepares for *"security events"*

Q140: What is the Reliability pillar?

A:

Ability to recover from *"failures"* and *"meet demand"*

Automatic recovery

Tests *"recovery procedures"*

Scales *"horizontally"*

Stop *"guessing capacity"*

Manage *"change"* through *"automation"*

Q141: What is the Performance Efficiency pillar?

A:

Uses *resources "efficiently"* – to meet requirements

Democratizes *"advanced technologies"*

Go global *"in minutes"*

Uses *"serverless"*

Experiment *"more often"*

Mechanical *"sympathy"*

Q142: What is the Cost Optimization pillar?

A:

Avoids *"unnecessary costs"*

Implements *"cloud financial management"*

Adopts a *"consumption model"*

Measures *"overall efficiency"*

Stops *spending* on *"undifferentiated heavy lifting"*

Analyzes *"attribute expenditure"*

Q143: What is the Sustainability pillar?

A:

Minimizes *"environmental impacts"*

Understand *"your impact"*

Establishes *"sustainability goals"*

Maximizes *"utilization"*

Anticipates and **adopts** *new "efficient offerings"*

Uses *"managed services"*

Reduces *"downstream impact"*

Q144: What is Amazon Connect?

A: "Cloud-based" ***contact center service***.

Easy to set up, *"pay-per-use"*.

Integrates *with* **CRM** and *other AWS services*.

Supports:

"voice", *"chat"*, *"task-management"*

Q145: What is Amazon WorkSpaces?

A: Managed **Desktop-as-a-Service** (“***DaaS***”).

Virtual “*Windows*” or “*Linux*” **desktops**.

Persistent “*storage*”, **customizable** “*bundles*”.

For:

“*Remote work*”, “***BYOD***”, “*contractor access*”.

Q146: What is AWS IoT Core?

A: Managed service for **connecting IoT devices to AWS**.

Supports:

“**MQTT**”, “**HTTP**”, “**WebSockets**”

Offers:

“*Device management*”, “*rules-engine*”, “*integration with* ***Lambda***”, “**S3**”, “**DynamoDB**”

Q147: What are AWS Step Functions?

A: **Serverless *Orchestration*** *service*.

Coordinates *multiple* **AWS services** into “*workflows*”.

Includes:

Visual Workflow *designer*

For:

“*Order processing*”, “*data processing pipelines*”, “***ML*** *workflows*”

Q148: What is Amazon EventBridge?

A: "*Serverless*" **event bus service**.

Connects applications:

By using ***"events"*** from "AWS services", "SaaS apps", and "custom apps".

Schedules: ***"events"*** with *"rules"*.

Formerly **CloudWatch Events**.

Q149: What is Amazon SNS?

A: **Simple Notification Service** – *"pub/sub messaging service"*.

Push notifications to *"subscribers"* – (email, SMS, HTTP, Lambda, SQS)

Fan-out pattern to *"multiple subscribers"*

Q150: What is Amazon SQS?

A: **Simple Queue Service** – fully managed *"message queuing"*

Decouples *"application components"*

Standard (*"best-effort ordering"*) and **FIFO** (*"exactly-once processing"*) *queues*

Q151: What is AWS CloudFormation?

A: **"CloudFormation"** is an "*Infrastructure as Code*" (IaaS) service

Defines *"resources"* in ***"JSON/YAML"*** templates.

Automated *"provisioning"* and *"updates"*

Stacks *"group related resources"*

Supports "drift detection"

Q152: What is AWS Amplify?

A: **Full-Stack development** *"platform"* for: *"web"* and *"mobile apps"*

Front-end *"hosting"*

Backend "services"

CI/CD (Continuous Integration/ Continuous Development)

Integrates with frameworks like: *"React"*, *"Angular"*, *"Vue"*

Q153: What is AWS AppSync?

A: Managed **GraphQL** *"service"*

Real-time *"data synchronization"*

Offline access with *"automatic sync"*

Integrates with:

"DynamoDB", *"Lambda"*, *"HTTP APIs"*