

AWS Cloud Practitioner (CLF-C02)

Quick Exam Refresher

*This is your **condensed, high-impact review guide** for the AWS Certified Cloud Practitioner exam. It's designed for **fast recall** and confidence-building just before test time — not deep instruction.*



Cloud Practitioner (CLF-C02) Domains

Each domain is weighted differently on the exam. Cloud Technology and Security are the largest:

- Domain 1: **Cloud Concepts (24%)**
- Domain 2: **Security and Compliance (30%)**
- Domain 3: **Cloud Technology and Services (34%)**
- Domain 4: **Billing, Pricing, and Support (12%)**

Quick Reminder: How the Exam Works

- **Number of Questions:** 65
- **Format:** Multiple choice + multiple response
- **Time Limit:** 90 minutes
- **Passing Score:** 700/1000
- **Test Provider:** Pearson VUE (onsite or online)

Remember — You Don't Need to Be Perfect to Pass

The passing score is **700/1000**, which means you can miss **up to 15–20 questions** and still succeed. Focus on understanding **core services, pricing models, and security principles** — that's the bulk of the exam.

Domain 1: Cloud Concepts (24%)

Cloud Benefits (AWS Value Proposition)

- **Pay-as-you-go:** No upfront capital expenses. Pay only for what you use.
- **Elasticity:** Automatically scale up/down resources to meet demand (e.g., Auto Scaling).
- **Agility:** Deploy globally in minutes. Rapid experimentation.
- **Global Reach:** 30+ Regions, 100+ AZs, edge locations with CloudFront.
- **High Availability & Fault Tolerance:** Use multiple AZs and services like ELB, RDS Multi-AZ.
- **Economies of Scale:** AWS reduces prices as usage increases.
- **Innovation:** Constant service updates, managed services simplify operations.

AWS Cloud Design Principles (Well-Architected Framework)

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

Know each pillar's focus:

- **Security** = IAM, encryption, shared responsibility.
- **Cost Optimization** = RI, spot, lifecycle policies, right-sizing.
- **Reliability** = Multi-AZ/Region, backups, fault tolerance.
- **Performance** = Auto Scaling, caching, right-sizing.
- **Operational Excellence** = Automation, monitoring, improvement.
- **Sustainability** = Efficient resource use, shared responsibility for environmental impact.

Cloud Migration & AWS CAF

- **Migration Strategies:** Rehost, Replatform, Refactor, Repurchase, Retire, Retain.
- **CAF Perspectives:** Business, People, Governance, Platform, Security, Operations.
- **Migration Tools:** AWS Application Migration Service, DMS, Snowball/Snowmobile.
- **Programs:** AWS Activate (startups), AWS IQ (expert marketplace).

Domain 2: Security and Compliance

(30%)

Shared Responsibility Model

- **AWS Secures "OF" the Cloud:** hardware, network, facilities.
- **Customer Secures "IN" the Cloud:** OS, apps, data, identity, configuration.
- For **S3**, you control access & encryption; AWS maintains infrastructure.

Identity & Access

- **IAM:** Users, groups, roles, and policies (JSON).
- **MFA:** Required for root user, best practice for others.
- **IAM Roles:** Used by services (e.g., EC2 to access S3).
- **IAM Policies:** Allow/deny actions. Use least privilege.
- **IAM Identity Center (SSO):** Central access management across accounts.

Network Security

- **Security Groups:** Stateful, instance-level firewall.
- **NACLs:** Stateless, subnet-level firewall.
- **WAF:** Protects against OWASP Top 10 (e.g., SQLi, XSS).
- **AWS Shield:** DDoS protection (Standard = free; Advanced = enhanced).
- **VPC:** Default isolation, customize with ACLs, SGs, subnets.

Data Protection

- **Encryption at Rest:** S3, EBS, RDS, KMS key management.
- **Encryption in Transit:** SSL/TLS (HTTPS), SSH.
- **KMS:** Centralized key creation, storage, rotation.

Logging & Monitoring

- **CloudTrail:** API activity across AWS. Auditing and forensic tool.
- **CloudWatch:** Metrics, logs, dashboards, alarms.
- **AWS Config:** Tracks resource configuration and compliance.
- **Inspector:** Security assessments on EC2.
- **GuardDuty:** Threat detection using ML.
- **Security Hub:** Centralized security visibility.

Compliance & Governance

- **AWS Artifact:** Compliance reports (SOC 2, PCI, HIPAA).
- **AWS Organizations:** Multi-account management.

Domain 3: Cloud Technology and Services (34%)

Deployment & Operation

- **Management Console:** GUI for all AWS services.
- **CLI / SDKs / APIs:** Automate via code/scripts.
- **CloudFormation/CDK:** Infrastructure as Code (IaC).
- **Deployment Models:** Public, Private, Hybrid (Outposts, Storage Gateway).
- **Connectivity:** VPN (IPSec), Direct Connect (private, stable).

Global Infrastructure

- **Region:** Isolated geographic area.
- **AZ:** Data centers within a region.
- **Edge Locations:** For CloudFront, Route 53.
- **Local Zones:** AWS infra in metro areas.
- **Wavelength:** Embedded in 5G networks.
- **Outposts:** AWS hardware in your data center.

Compute Services

- **EC2:** Virtual servers. Choose instance type (T, M, C, R, P).
- **EBS:** Block storage for EC2.
- **Auto Scaling:** Adds/removes EC2 based on demand.
- **Elastic Load Balancer (ELB):** Distributes traffic across AZs.
- **Lambda:** Serverless. Pay per execution. Event-driven.
- **Elastic Beanstalk:** PaaS. Deploy code, AWS handles infrastructure.
- **ECS/EKS/Fargate:** Container services. Fargate = serverless containers.

Cloud Economics

- **CapEx vs OpEx:** CapEx = on-prem; OpEx = AWS.
- **TCO:** Compare all costs (hardware, staff, power) to cloud costs.
- **Free Tier:** Always free (e.g., Lambda 1M requests), 12-month free (EC2, S3), trials.
- **Cost Optimization:** Auto Scaling, right-sizing, spot, lifecycle policies.
- **Managed Services Save Ops Cost:** e.g., RDS over self-managed DB on EC2.

Storage Services

- **S3:** Object storage. 11 9s durability. Lifecycle policies.
 - Storage Classes: Standard, IA, One-Zone IA, Glacier, Deep Archive.
- **EBS:** Block storage for EC2. Persistent and high performance.

- **EFS:** Scalable shared file system.
- **FSx:** Managed file systems (Windows, Lustre).
- **Storage Gateway:** Hybrid access to cloud storage.
- **AWS Backup:** Centralized backup across AWS.

Database & Analytics

- **RDS:** Managed SQL DBs. Multi-AZ, backups.
- **Aurora:** High-performance RDS compatible with MySQL/PostgreSQL.
- **DynamoDB:** NoSQL, key-value store. Serverless.
- **ElastiCache:** In-memory (Redis, Memcached).
- **Redshift:** Data warehouse for analytics.
- **Athena:** SQL queries on S3 data.
- **Glue:** ETL (extract, transform, load).
- **QuickSight:** BI dashboards.
- **Kinesis:** Streaming data.

Networking & CDN

- **VPC:** Isolated network. Public/private subnets.
- **IGW:** Internet Gateway for outbound access.
- **NAT Gateway:** Allows private subnets to reach internet.
- **Route 53:** DNS, domain registration, routing policies.
- **CloudFront:** CDN with global edge locations.
- **Global Accelerator:** Optimizes latency using AWS backbone.

Other Services to Know

- **SQS:** Message queue. Decouple components.
- **SNS:** Pub/sub messaging. Sends email, SMS, triggers.
- **EventBridge:** Event bus. Serverless event routing.
- **Step Functions:** Serverless workflow orchestration.
- **AWS Connect:** Cloud call center.
- **SES:** Email sending service.
- **IoT Core:** Device communication hub.
- **SageMaker:** Build/train/deploy ML models.
- **Rekognition/Comprehend/Translate:** Pre-trained AI services.
- **WorkSpaces/AppStream:** Desktop and app streaming.

Domain 4: Billing, Pricing, and Support (12%)

Pricing Models

- **On-Demand:** Pay per second/hour. No commitment.
- **Reserved Instances (RI):** Commit 1/3 years. Huge discount.
- **Savings Plans:** Flexible discount model for compute.
- **Spot Instances:** Bid-based, can be interrupted. Up to 90% savings.
- **Dedicated Hosts:** For licensing and compliance.
- **Data Transfer:** Inbound = free. Outbound = charge. Inter-AZ/Region = charge.

Cost Management

- **Cost Explorer:** View usage, filter by service, tag.
- **Budgets:** Set thresholds. Alerts on cost/usage.
- **Billing Console:** View bills and payment settings.
- **Pricing Calculator:** Estimate monthly costs.
- **Cost & Usage Report (CUR):** Detailed billing CSV.
- **Anomaly Detection:** Detect spending spikes.
- **Tags:** Allocate cost by tag (e.g., Team, Project).

AWS Free Tier

- **12-month free:** EC2 (750h t2.micro), S3 (5GB), RDS (750h).
- **Always free:** Lambda (1M requests), DynamoDB (25GB), API Gateway (1M calls).

Support Plans

Plan	Cost	Access Level	SLA (Critical)	Extras
Basic	Free	Billing & Docs only	N/A	Trusted Advisor (limited)
Developer	From \$29/mo	Email, business hours	12-24h	Guidance, Trusted Advisor
Business	From \$100/mo	24/7 Chat, Phone, Email	1h	All Trusted Advisor checks
Enterprise	\$15k+/mo	TAM, 24/7, white-glove	15min	TAM, Operations Support, reviews

Core AWS Services You Must Know

(High Priority – Frequently Tested)

Service	What You Must Know
EC2	Virtual servers in the cloud. Choose instance types. You manage OS. Used for flexible compute needs.
S3	Object storage. 11 9s durability. Storage classes (Standard, IA, Glacier). Lifecycle rules, public access, encryption.
RDS	Managed SQL databases (MySQL, PostgreSQL, etc). Automates backups, Multi-AZ. You manage data; AWS manages OS.
DynamoDB	NoSQL database. Serverless. Millisecond latency. Key-value store. Good for scalable apps.
Lambda	Serverless compute. Event-driven. Pay per execution time. No servers to manage. Auto-scales.
IAM	Manages users, roles, and permissions. Policies in JSON. Root user should use MFA. Least privilege.
CloudWatch	Monitors AWS resources. Logs, metrics, alarms, dashboards. Used for operations and alerts.
CloudTrail	Logs all API calls. Used for auditing and tracking activity. Default 90 days of history.
VPC	Private cloud network. Contains subnets, route tables, security groups. Isolated by default.
Route 53	DNS service. Domain registration. Supports routing policies like failover, weighted.
CloudFront	Global CDN. Caches content at edge locations. Improves latency. Used with S3 or EC2.

ELB	Distributes traffic across multiple targets. Types: Application (Layer 7), Network (Layer 4).
Auto Scaling	Automatically adds/removes EC2 based on demand. Helps with availability and cost.
KMS	Key management for encrypting data. Integrated with S3, EBS, RDS. Supports customer-managed keys.
Trusted Advisor	Provides checks for cost, security, performance. Full access with Business/Enterprise plans.
Cost Explorer	Visualize and analyze AWS cost and usage. Break down spending. Forecast future usage.
Budgets	Set cost or usage budgets. Sends alerts when thresholds are exceeded.
Pricing Calculator	Estimate cost of AWS resources. Used for planning. Doesn't affect actual billing.
Support Plans	Four levels: Basic (free), Developer, Business, Enterprise. Know features and response times.
AWS Organizations	Manage multiple AWS accounts. Use SCPs for restrictions. Helps with billing and governance.
Artifact	Portal for downloading AWS compliance reports (e.g., SOC 2, ISO 27001).

Other AWS Services You Should Know

(Moderate Priority – Occasionally or Partially Tested)

Service	What You Must Know
EBS	Block storage for EC2. Persistent. SSD/HDD options. Snapshot support.
EFS	Shared file storage. Mountable by multiple EC2s. Scales automatically.
FSx	Managed Windows or Lustre file systems. SMB protocol for Windows apps.
Glacier	Archival storage class under S3. Long retrieval times. Very low cost.
SQS	Message queue service. Decouples application components. Pull-based.
SNS	Pub/sub messaging. Sends notifications (email, SMS, Lambda, etc.). Push-based.
Athena	Query service to run SQL on data in S3. Serverless. Pay per query.
Glue	Managed ETL (Extract, Transform, Load) service. Prepares data for analytics.
Redshift	Data warehouse. Used for OLAP. Petabyte-scale analytics.
QuickSight	BI dashboard tool. Connects to AWS data sources. Visualizes analytics.
Kinesis	Streaming data ingestion. Real-time analytics and delivery to S3, Redshift.
Inspector	Security scanning for EC2. Finds vulnerabilities, outdated software.
GuardDuty	Threat detection using ML. Detects anomalies and unauthorized behavior.

Security Hub	Centralizes findings from security services (e.g., Inspector, GuardDuty).
AWS WAF	Web Application Firewall. Blocks SQL injection, XSS, etc.
AWS Shield	DDoS protection. Standard is free, Advanced is paid.
CloudFormation	Infrastructure as Code. Deploys stacks from templates (JSON/YAML).
Fargate	Serverless containers. Works with ECS/EKS. No EC2 provisioning.
ECS / EKS	ECS = AWS-managed Docker orchestration. EKS = Kubernetes service.
Elastic Beanstalk	PaaS. Upload code, AWS handles provisioning (uses EC2, ELB, etc.).
Storage Gateway	Connects on-prem to AWS storage (e.g., S3). Hybrid workloads.
AWS Backup	Centralized backups across AWS services.
Snowball / Snowmobile	Physical devices to transfer data to AWS. Used when network transfer is impractical.
AWS IQ	Hire AWS-certified freelancers. Listed under customer support tools.
Connect	Cloud contact center service. Used for customer service solutions.
SES	Send and receive email at scale.
SageMaker	Build/train/deploy ML models. Fully managed ML platform.
Rekognition	Image and video analysis (faces, objects). Pre-trained AI.
Comprehend	NLP (natural language processing). Sentiment, key phrases.

Translate / Polly / Transcribe	Translate = text language translation. Polly = text to speech. Transcribe = speech to text.
EventBridge	Serverless event bus. Routes events between services.
Step Functions	Orchestrates multiple services into workflows.
AWS Marketplace	Digital catalog to purchase third-party software on AWS. Shows up on your bill.
AWS Professional Services	Consulting help from AWS directly. Often used for large migrations.
AWS re:Post	Community Q&A forum. Like Stack Overflow, AWS-focused.
Cloud9	Web-based IDE hosted on AWS. Useful for coding in-browser.
CodeCommit / CodeBuild / CodeDeploy / CodePipeline	DevOps tools. Git repo (CodeCommit), build (CodeBuild), deploy (CodeDeploy), automate pipeline (CodePipeline).
WorkSpaces / AppStream	WorkSpaces = desktop virtualization. AppStream = app streaming.
IoT Core / Greengrass	IoT Core = device communication hub. Greengrass = local IoT processing.
Global Accelerator	Uses AWS global network to route user traffic to optimal region. Static IPs.
Wavelength / Local Zones / Outposts	Wavelength = 5G low-latency edge. Local Zones = AWS in metro cities. Outposts = AWS hardware on-premises.