AWS Cloud Practitioner Cheat Sheet

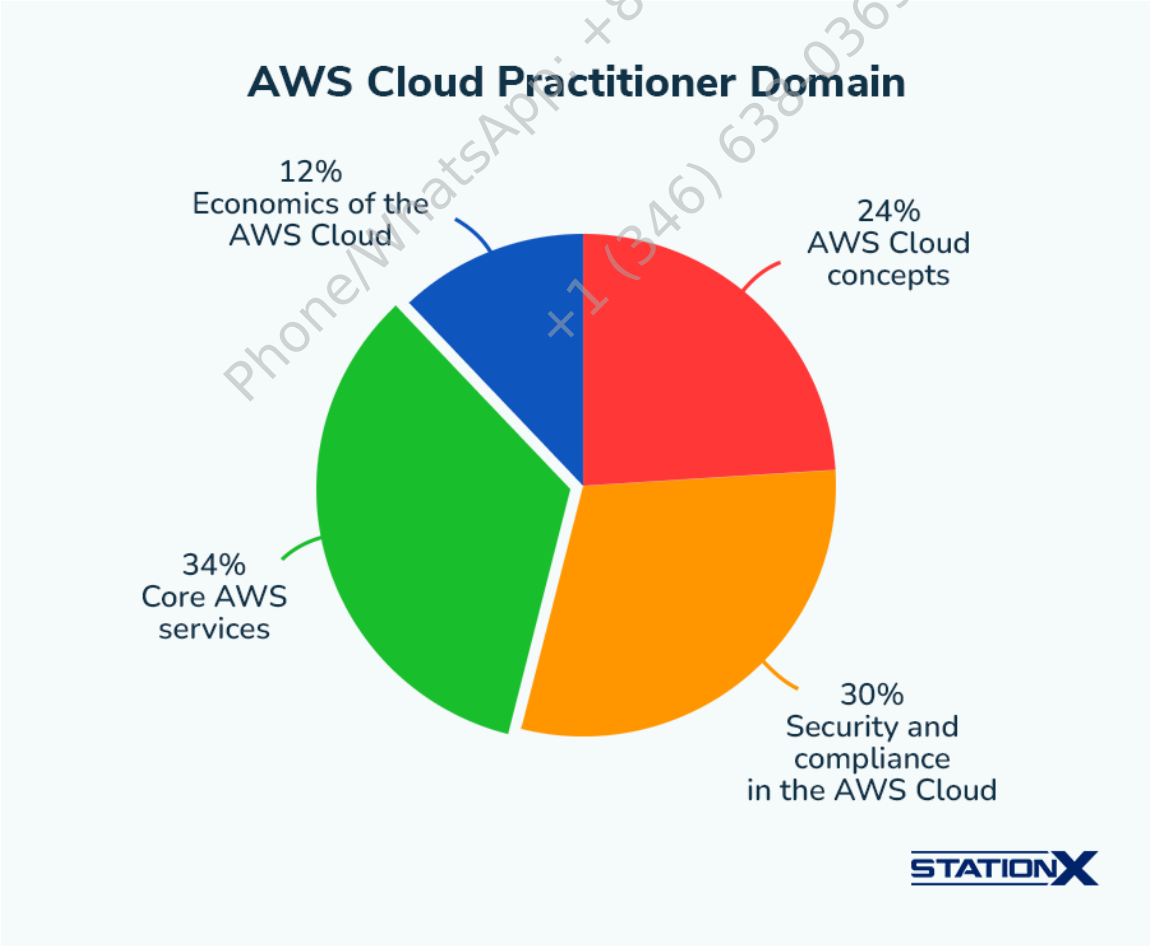


STATIONX
THE CYBER SECURITY COMPANY

Phone/WhatsApp: +86 185 7567 8796
+1 (346) 638 0369

About AWS Cloud Practitioner

The [AWS Certified Cloud Practitioner] exam **(CLF-C02)** is a single test that consists of 65 questions. It lasts for 90 minutes and has four domains:



The exam has no prerequisites. The passing score is 700 out of 1000. Each exam attempt costs $100 USD.

Although AWS Certified Cloud Practitioner doesn't appear to be a vendor-neutral certification, the cloud computing concepts it covers apply to other cloud computing platforms such as Azure and Google Cloud Platform. That's what makes it such an in-demand certification across the IT industry.

AWS Cloud Practitioner Cheat Sheet Domains

This AWS practitioner cheat sheet arranges concepts according to our course subtopics. Diagrams put concepts into a visual form, and tables compartmentalize information. Here's a key to finding items by domain:

Hashtag (remember to type the # symbol)	Domain
#cloud	AWS Cloud concepts
#sec	Security and compliance in the AWS Cloud
#core	Core AWS Services
#econ	Economics of the AWS Cloud

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Introduction to Cloud Computing

Cloud computing allows you to access servers, storage, databases, and other IT resources on demand through a cloud services platform online with pay-as-you-go pricing.

Domain	Concept	Explanation
#cloud	Infrastructure as a Service (IaaS)	Provides access to networking features, computers (virtual or on dedicated hardware), and data storage space
#cloud	Platform as a Service (PaaS)	Provides supporting infrastructure, usually hardware and operating systems, to allow users to

		focus on deploying and managing applications.
#cloud	Software as a Service (SaaS)	The service provider runs and manages a completed product for end users.
#cloud	Public Cloud	Fully deploys all parts of an application in the cloud, e.g., AWS, Microsoft Azure, and Google Cloud Platform (GCP).
#cloud	Hybrid	Connects infrastructure and applications using cloud-based and local resources.
#cloud	Private Cloud/On-Premises	Dedicates resources for specific deployment aims through virtualization and resource management tools.
#cloud	AWS Availability Zone (AZ)	Consists of one or more discrete data centers, each with redundant power, networking, and connectivity, housed in separate facilities.
#cloud	AWS Region	A physical location in the world where AWS hosts multiple AZs.

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Identity and Access Management (IAM)

AWS IAM is a web service that helps you securely control access to AWS resources. It appears on every AWS exam, involving services taking on different IAM roles. A deep understanding of IAM will lay a solid foundation for the rest of your educational journey in AWS.

Domain	Concept	Explanation
#sec	Root User	A single sign-in identity with complete access to every AWS service and resource in an AWS account.
#sec	IAM User	Individuals granted access to an AWS account. Each IAM user has three

		components: • A username. • A password. • Access permissions to various resources. Default: none.
#sec	Group	A collection of users with policies attached to it.
#sec	Role	A created identity assumed by trusted entities defines a set of permissions for making AWS service requests.
#sec	Policy	A JSON document defining permissions that apply to users, groups, and roles. Default: implicit deny.
#sec	AWS Security Token Service (AWS STS)	A web service that enables you to request temporary, limited-privilege credentials for IAM users or for external users that you authenticate.

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Virtual Private Clouds

AWS Virtual Private Clouds are logically isolated virtual networks hosted on AWS cloud servers. You define a VPC's IP address space from your selected IP ranges.

Domain	Concept	Explanation
#cloud #core	Subnet	A segment of a VPC's IP address range where you can place groups of isolated resources (maps to an AZ, 1:1).
#cloud #core	Internet Gateway	The Amazon VPC side of a connection to the public Internet.
#cloud #core	NAT Gateway	A highly available, managed Network Address Translation (NAT) service for your resources in a private subnet to access the

		Internet.
#cloud #core	Virtual Private Gateway	The Amazon VPC side of a VPN connection.
#cloud #core	Customer Gateway	Your side of a VPN connection.
#cloud #core	Router	Routers interconnect subnets and direct traffic between Internet gateways, virtual private gateways, NAT gateways, and subnets.
#cloud #core	Peering Connection	A peering connection enables you to route traffic between two peered VPCs via private IP addresses.
#cloud #core	VPC Endpoint	Enables private connectivity to services hosted in AWS from within your VPC without using an Internet Gateway, VPN, Network Address Translation (NAT) devices, or firewall proxies.
#cloud #core	Egress-Only Internet Gateway	A stateful gateway to provide egress-only access for IPv6 traffic from the VPC to the Internet.

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Elastic Compute Cloud (EC2)

AWS EC2 is a web service that resizes with computational load in the cloud. With EC2, you can launch virtual servers on the AWS cloud called “instances.” You or AWS can assign IP addresses to EC2 instances.

Domain	Concept	Explanation
#core	Amazon Machine Images (AMIs)	Preconfigured templates for instances. Each AMI includes the information needed to launch your EC2 instance, such as the operating system and included software packages.
#core	EC2 Compute Units (ECUs)	Provide the relative measure of the integer

		processing power of an Amazon EC2 instance.
#core	Public IP Address	• Lost when the instance terminates • Used in Public Subnets • No charge • Associated with a private IP address on the instance • You can't move them between instances
#core	Private IP Address	• Retained when the instance terminates • Used in Public and Private Subnets
#core	Elastic IP Address	• Static Public IP address • If unused, you must pay • Associated with a private IP address on the instance • You can move them between instances and Elastic Network Adapters
#core	Elastic Network Interface	A logical networking component in a VPC that represents a virtual network card.
#core	Elastic Network Adapter (ENA)	It enhances networking capabilities such as bandwidth, packet-per-second (PPS) performance, and inter-instance latencies.

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Amazon Storage

AWS contains many cloud storage services, including S3, EBS, EFS, FSx, and Storage Gateway.

Domain	Concept	Explanation
#core	Persistent Data Store	Data is durable and sticks

		around after restarts or power cycles Examples: S3, Glacier, EBS, EFS
#core	Transient Data Store	Temporarily stored data gets passed along to another process or persistent store Examples: SQS, SNS
#core	Ephemeral Data Store	System stopping causes data loss Examples: EC2 Instance Store, Memcached (Elasticache)
#core	Bucket	• A bucket contains files (objects). • It does not provide a hierarchy of objects. • You can use an object key name (prefix) to mimic folders.
#core	Object	A unique key (ID or name) helps one store and retrieve objects in a bucket.
#core #security	Sub-Resources	These are data subordinate to objects and buckets. They include: • Lifecycle. • Website configuration for hosting static websites. • Versioning. • Access Control Lists (ACLs) to control permissions access to the bucket/object. • Bucket Policies. • Cross-Origin Resource Sharing (CORS). • Logging. • Restoring an archive of objects.
#core #security	Cross-Origin Resource	(Applies to S3 buckets)

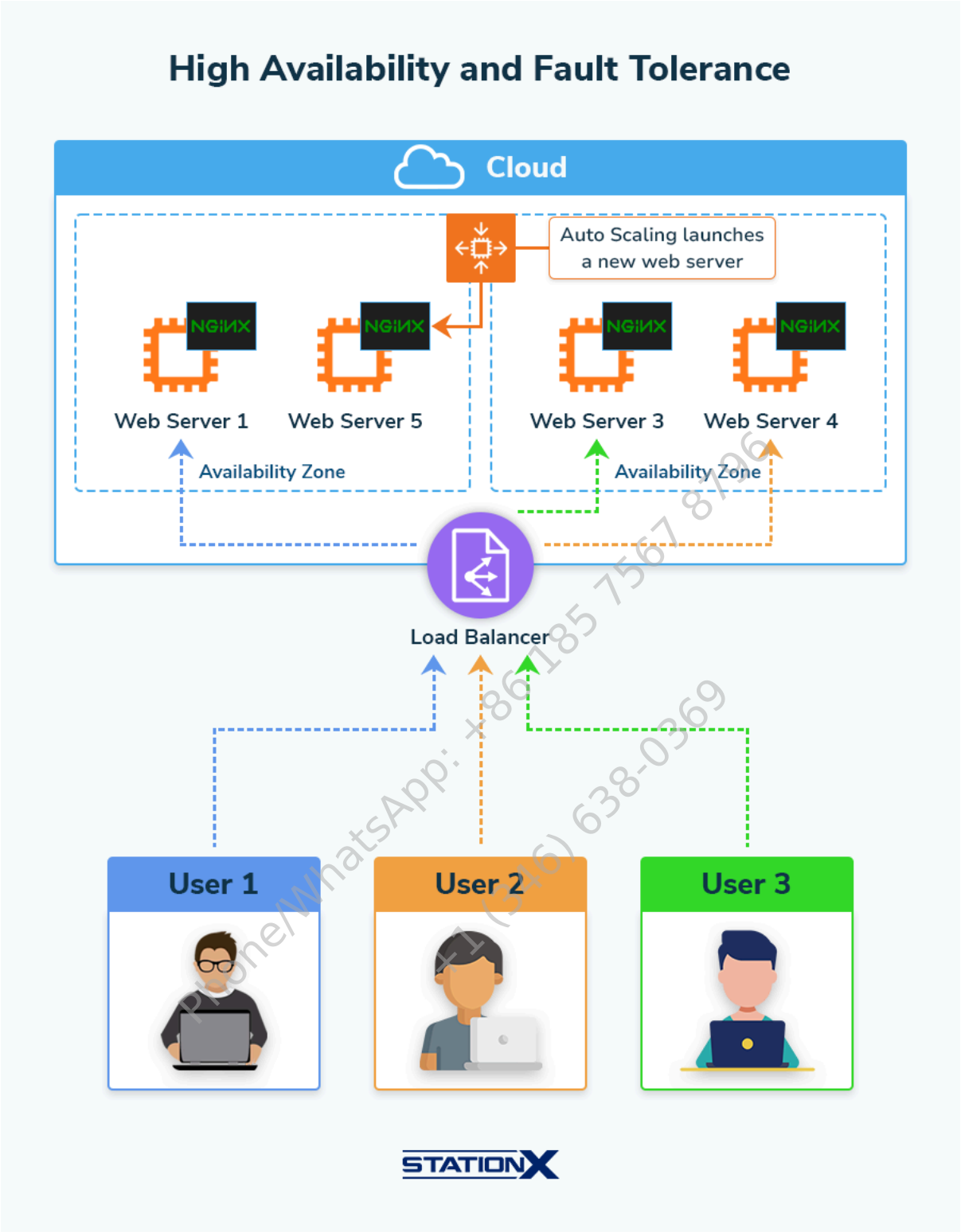
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	Sharing (CORS)	Used to allow requests to a different origin when connected to the main origin.

Fault Tolerance and Elasticity

This section refers to AWS services Elastic Load Balancing and EC2 Auto Scaling. These services help ensure your AWS application can handle the load of requests for it.

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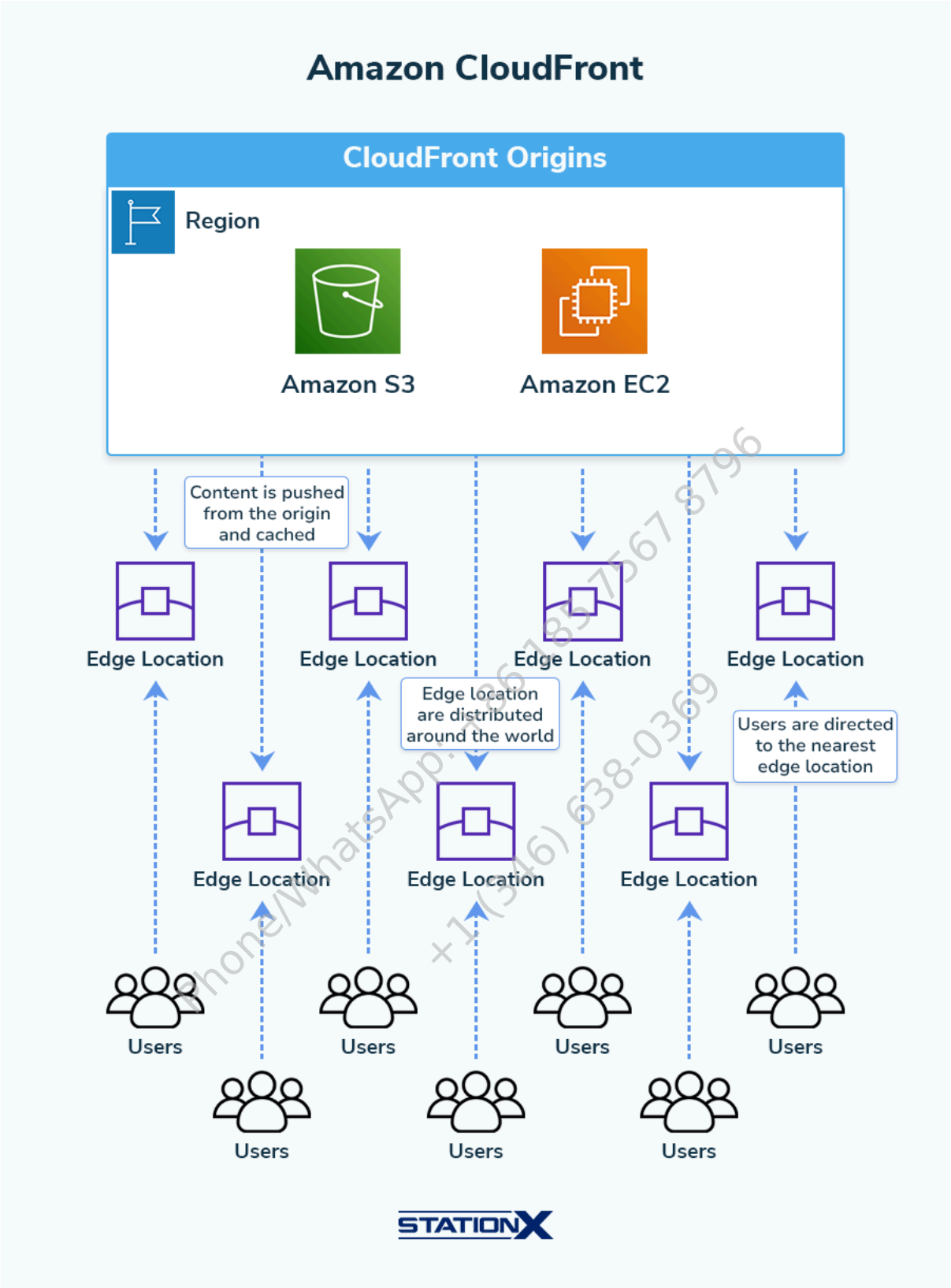
Domain	Concept	Explanation
#core	Auto Scaling	Automates launching (scaling out) and terminating (scaling in) EC2 instances based on the traffic demand

		for your application.
#core	Auto Scaling Group (ASG)	Collections of EC2 instances defining their Auto Scaling capacity.
#core	Elastic Load Balancing (ELB)	Automatically distributes incoming application traffic across multiple targets, such as EC2 instances, containers, and IP addresses.
#core	Application Load Balancer (ALB)	Operates at OSI Layer 7, for load balancing of HTTP and HTTPS traffic. Provides advanced request routing targeted at delivering modern application architectures, including microservices and containers.
#core	Network Load Balancer (NLB)	Operates at OSI Layer 4, for load balancing of extreme TCP traffic.

DNS and Content Delivery Networks

Have you ever been to a website hosted on AWS? This section is about the backbone supporting those websites: Route 53 and CloudFront.

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Domain	Concept	Explanation
#core	Route 53	AWS Domain Name Service. It performs three

		main functions: • Domain registration • Domain Name Service (DNS) • Health checking: Route 53 sends automated requests to your application to verify that it's reachable, available, and functional.
#core #security	CloudFront	A content delivery network (CDN) that allows you to store (cache) your content at **edge locations** located around the world. It has built-in Distributed Denial of Service (DDoS) attack protection.
#core	Edge Location	The location where AWS caches content but is separate from AWS Regions or Availability Zones.
#core	Regional Edge Cache	A large cache server between origin web servers and global edge locations that bring content closer to users.

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Monitoring, Auditing, and Alerts

AWS provides several tools to monitor running services and alert you when they fail: Amazon CloudWatch, AWS CloudTrail, Amazon Simple Notification Service (SNS), and Amazon Config.

Domain	Concept	Explanation
#security #core	Amazon CloudWatch	For performance monitoring, it collects and tracks metrics, creates log files, and sets alarms.
#security #core	AWS CloudTrail	For auditing, it records activity made on your account and delivers log files to an Amazon S3 bucket.

#security #core	Amazon Simple Notification Service (SNS)	For sending messages to different devices and platforms.
#security #core	Amazon Config	A tool for assessing, auditing, and evaluating the configurations and relationships of your resources.

Databases

AWS provides a variety of database services. Here are their names and when to use them:

Domain	Name	Use cases
#core	Database on EC2	• Full control over instance and database • Preferred DB not available under RDS
#core	RDS	• Need a traditional relational database for online transaction processing (OLTP) • Your data is well-formed and structured • Existing applications requiring RDBMS
#core	DynamoDB	• Name/value pair data • Unpredictable data structure • In-memory performance with persistence • High I/O needs • Require dynamic scaling
#core	RedShift	• Data warehouse for large volumes of aggregated data • Primarily, online analytical processing (OLAP) workloads

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#core	Neptune	• Relationships between objects are of high-value
#core	ElastiCache	• Fast temporary storage for small amounts of data • Highly volatile data (non-persistent)
#core	S3	• Binary large objects (BLOBs) • Static websites

Serverless Computing

This section focuses on the AWS Lambda service.

Domain	Concept	Explanation
#core	Lambda	You run code on this platform as functions without provisioning or managing servers.
#core	Synchronous Invocation	You wait for the Lambda function to process the event and return a response.
#core	Asynchronous Invocation	Lambda places the event in a queue and returns a “success” response without additional information.
#core	Event Source	An AWS service or developer-created application that produces events that trigger an AWS Lambda function to run.
#core	Versioning	Having multiple versions of your function.
#core	Aliases	Pointers to a specific Lambda version.

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Security and Compliance

The section is about how Amazon and you manage the cyber security posture of your virtual environment on AWS.

Domain	Concept	Explanation
#security	Shared Responsibility Model	Name of the shared responsibility between AWS and the customer in security and compliance.
#security	Security **of** the Cloud	AWS is responsible for protecting the infrastructure that runs all the services offered in the AWS Cloud.
#security	Security **in** the Cloud	The AWS Cloud services you choose determines the amount of configuration work you must perform as part of your security responsibilities.
#security	Key Management Service (KMS)	For easy data encryption, to centrally manage and securely store your keys.
#security	KMS Key	• Alias. • Creation date. • Description. • Key state. • Key material (either provided by you or AWS).
#security	AWS-Managed KMS keys	Used by AWS services that interact with KMS to encrypt data.
#security	Customer-Managed KMS Keys	You have full control over these KMS keys.

AWS Pricing, Billing, and Support Services

This final section briefly touches upon the economics of AWS usage.

Domain	Concept	Explanation
#econ	Organizations	Consolidation of multiple

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		AWS accounts into an organization for central management.
#econ	Pricing Model	• On-demand • Dedicated hosts • Dedicated instances
#econ	Pricing Calculator	Gets cost estimates: https://calculator.aws/#/

Conclusion

As you can see, AWS encompasses many topics broadly. Therefore, the AWS Certified Cloud Practitioner certification helps prove to employers your competence in navigating the intricacies of cloud computing and AWS. This AWS Cloud Practitioner cheat sheet is an essential checklist covering the examination syllabus, giving you a bird's-eye view of key AWS topics to remember.

We offer a complete course (listed below) to help you prepare for the AWS Certified Cloud Practitioner exam. Don't forget to check out our membership to access a wide range of cloud computing, security, and related courses. No matter how you prepare for the AWS Certified Cloud Practitioner exam, we wish you great success and a bright future.

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