

# AWS SAP-C02

**AWS-SAP CERTIFICATION QUESTIONS & ANSWERS** 

Exam Summary – Syllabus – Questions

### SAP-C02

AWS Certified Solutions Architect - Professional 75 Questions Exam – 750 / 1000 Cut Score – Duration of 180 minutes

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# Know Your SAP-C02 Certification Well:

The SAP-C02 is best suitable for candidates who want to gain knowledge in the AWS Architect. Before you start your SAP-C02 preparation you may struggle to get all the crucial AWS-SAP materials like SAP-C02 syllabus, sample questions, study guide.

But don't worry the SAP-C02 PDF is here to help you prepare in a stress free manner.

The PDF is a combination of all your queries like-

- What is in the SAP-C02 syllabus?
- How many questions are there in the SAP-C02 exam?
- Which Practice test would help me to pass the SAP-C02 exam at the first attempt?

Passing the SAP-C02 exam makes you AWS Certified Solutions Architect -Professional. Having the AWS-SAP certification opens multiple opportunities for you. You can grab a new job, get a higher salary or simply get recognition within your current organization.

| Exam Name                       | AWS Solutions Architect Professional (AWS-SAP)                    |
|---------------------------------|---|
| Exam Code                       | SAP-C02   |
| Exam Price                      | \$300 USD   |
| Duration                        | 180 minutes   |
| Number of<br>Questions          | 75  |
| Passing Score                   | 750 / 1000  |
| Recommended<br>Training / Books | Advanced Architecting on AWS                                      |
| Schedule Exam                   | PEARSON VUE   |
| Sample Questions                | AWS SAP-C02 Sample Questions                                      |
| Recommended<br>Practice         | AWS Certified Solutions Architect - Professional Practice<br>Test |

## AWS SAP-C02 Certification Details:

# SAP-C02 Syllabus:

| Section                            | Objectives   |  |
|------------------------------------|--|--|
| Design So                          | olutions for Organizational Complexity - 26%   |  |
|                                    | <ul><li>Knowledge of:</li><li>AWS global infrastructure</li></ul>  |  |
|                                    | <ul> <li>AWS networking concepts (for example, Amazon VPC,<br/>AWS Direct Connect, AWS VPN, transitive routing, AWS<br/>container services)</li> </ul>   |  |
|                                    | <ul> <li>Hybrid DNS concepts (for example, Amazon Route 53<br/>Resolver, on-premises DNS integration)</li> </ul>   |  |
| Architect<br>network               | <ul> <li>Network segmentation (for example, subnetting, IP addressing, connectivity among VPCs)</li> </ul>   |  |
| connectivity                       | Network traffic monitoring   |  |
| strategies.                        | Skills in:   |  |
|                                    | Evaluating connectivity options for multiple VPCs  |  |
|                                    | <ul> <li>Evaluating connectivity options for on-premises, co-<br/>location, and cloud integration</li> </ul>   |  |
|                                    | <ul> <li>Selecting AWS Regions and Availability Zones based on<br/>network and latency requirements</li> </ul>   |  |
|                                    | Troubleshooting traffic flows by using AWS tools   |  |
|                                    | Utilizing service endpoints for service integrations   |  |
|                                    | Knowledge of:  |  |
|                                    | <ul> <li>AWS Identity and Access Management (IAM) and AWS<br/>Single Sign-On</li> </ul>  |  |
|                                    | Route tables, security groups, and network ACLs  |  |
|                                    | <ul> <li>Encryption keys and certificate management (for<br/>example, AWS Key Management Service [AWS KMS],<br/>AWS Certificate Manager [ACM])</li> </ul>  |  |
| Prescribe<br>security<br>controls. | <ul> <li>AWS security, identity, and compliance tools (for<br/>example, AWS CloudTrail, AWS Identity and Access<br/>Management Access Analyzer, AWS Security Hub, Amazon<br/>Inspector)</li> </ul> |  |
|                                    | Skills in:   |  |
|                                    | Evaluating cross-account access management   |  |
|                                    | Integrating with third-party identity providers  |  |
|                                    | <ul> <li>Deploying encryption strategies for data at rest and data<br/>in transit</li> </ul>   |  |
|                                    | <ul> <li>Developing a strategy for centralized security event<br/>notifications and auditing</li> </ul>  |  |



| Section   | Objectives   |
|---|--|
|   | Knowledge of:  |
| Design reliable<br>and resilient<br>architectures.              | <ul> <li>Recovery time objectives (RTOs) and recovery point objectives (RPOs)</li> <li>Disaster recovery strategies (for example, using AWS Elastic Disaster Recovery [CloudEndure Disaster</li> </ul>   |
|   | <ul> <li>Recovery], pilot light, warm standby, and multi-site)</li> <li>Data backup and restoration</li> <li>Skills in:</li> <li>Designing disaster recovery solutions based on RTO and</li> </ul>   |
|   | <ul> <li>RPO requirements</li> <li>Implementing architectures to automatically recover from failure</li> <li>Developing the optimal architecture by considering scale-up and scale-out options</li> </ul>  |
|   | <ul> <li>Designing an effective backup and restoration strategy</li> </ul>   |
|   | <ul> <li>Knowledge of:</li> <li>AWS Organizations and AWS Control Tower</li> <li>Multi-account event notifications</li> <li>AWS resource sharing across environments</li> </ul>  |
| Design a multi-<br>account AWS<br>environment.                  | <ul> <li>Kills in:</li> <li>Evaluating the most appropriate account structure for organizational requirements</li> </ul>   |
|   | <ul> <li>Recommending a strategy for central logging and event notifications</li> </ul>  |
|   | Developing a multi-account governance model  |
| Determine cost<br>optimization and<br>visibility<br>strategies. | <ul> <li>Knowledge of:</li> <li>AWS cost and usage monitoring tools (for example, AWS Trusted Advisor, AWS Pricing Calculator, AWS Cost Explorer, AWS Budgets)</li> <li>AWS purchasing options (for example, Reserved Instances, Savings Plans, Spot Instances)</li> <li>AWS right-sizing visibility tools (for example, AWS Compute Optimizer, Amazon S3 Storage Lens)</li> <li>Skills in:</li> <li>Monitoring cost and usage with AWS tools</li> <li>Developing an effective tagging strategy that maps costs to business units</li> </ul> |
|   | <ul> <li>Understanding how purchasing options affect cost and performance</li> </ul>   |



| Section                        | Objectives   |  |
|--------------------------------|--|--|
|                                | Design for New Solutions - 29%   |  |
|                                | Knowledge of:  |  |
|                                | <ul> <li>Infrastructure as code (IaC) (for example, AWS<br/>CloudFormation)</li> </ul>   |  |
|                                | Continuous integration/continuous delivery (CI/CD)   |  |
|                                | Change management processes  |  |
| Design a<br>deployment         | <ul> <li>Configuration management tools (for example, AWS<br/>Systems Manager)</li> </ul>  |  |
| strategy to meet               | Skills in:   |  |
| requirements.                  | <ul> <li>Determining an application or upgrade path for new<br/>services and features</li> </ul>   |  |
|                                | <ul> <li>Selecting services to develop deployment strategies and<br/>implement appropriate rollback mechanisms</li> </ul>  |  |
|                                | <ul> <li>Adopting managed services as needed to reduce<br/>infrastructure provisioning and patching overhead</li> </ul>  |  |
|                                | <ul> <li>Making advanced technologies accessible by delegating<br/>complex development and deployment tasks to AWS</li> </ul>  |  |
|                                | Knowledge of:  |  |
|                                | AWS global infrastructure  |  |
|                                | <ul> <li>AWS global initiastructure</li> <li>AWS networking concepts (for example, Route 53, routing methods)</li> </ul>   |  |
|                                | RTOs and RPOs  |  |
|                                | <ul> <li>Disaster recovery scenarios (for example, backup and<br/>restore, pilot light, warm standby, multi-site)</li> </ul>   |  |
|                                | Disaster recovery solutions on AWS   |  |
| Design a solution<br>to ensure | Skills in:   |  |
| business<br>continuity.        | Configuring disaster recovery solutions  |  |
| continuity.                    | Configuring data and database replication  |  |
|                                | Performing disaster recovery testing   |  |
|                                | <ul> <li>Architecting a backup solution that is automated, is cost-<br/>effective, and supports business continuity across multiple<br/>Availability Zones and/or AWS Regions</li> </ul> |  |
|                                | <ul> <li>Designing an architecture that provides application and<br/>infrastructure availability in the event of a disruption</li> </ul>   |  |
|                                | <ul> <li>Leveraging processes and components for centralized<br/>monitoring to proactively recover from system failures</li> </ul>   |  |
| Determine                      | Knowledge of:  |  |
| security controls based on     | • IAM  |  |
| requirements.                  | <ul> <li>Route tables, security groups, and network ACLs</li> </ul>  |  |



| Section                      | Objectives   |  |
|------------------------------|--|--|
|                              | Encryption options for data at rest and data in transit  |  |
|                              | AWS service endpoints  |  |
|                              | Credential management services   |  |
|                              | <ul> <li>AWS managed security services (for example, AWS<br/>Shield, AWS WAF, Amazon GuardDuty, AWS Security<br/>Hub)</li> </ul>   |  |
|                              | Skills in:   |  |
|                              | <ul> <li>Specifying IAM users and IAM roles that adhere to the<br/>principle of least privilege access</li> </ul>  |  |
|                              | <ul> <li>Specifying inbound and outbound network flows by using<br/>security group rules and network ACL rules</li> </ul>  |  |
|                              | <ul> <li>Developing attack mitigation strategies for large-scale<br/>web applications</li> </ul>   |  |
|                              | <ul> <li>Developing encryption strategies for data at rest and data<br/>in transit</li> </ul>  |  |
|                              | Specifying service endpoints for service integrations  |  |
|                              | <ul> <li>Developing strategies for patch management to remain<br/>compliant with organizational standards</li> </ul>   |  |
|                              | Knowledge of:  |  |
|                              | AWS global infrastructure  |  |
|                              | AWS storage services and replication strategies (for   |  |
|                              | <ul><li>example Amazon S3, Amazon RDS, Amazon ElastiCache)</li><li>Multi-AZ and multi-Region architectures</li></ul>   |  |
|                              | <ul> <li>Auto scaling policies and events</li> </ul>   |  |
|                              | <ul> <li>Application integration (for example, Amazon Simple<br/>Notification Service [Amazon SNS], Amazon Simple Queue<br/>Service [Amazon SQS], AWS Step Functions)</li> </ul> |  |
| Design a                     | Service quotas and limits  |  |
| -                            | ategy to meet Skills in:   |  |
| requirements.                | <ul> <li>Designing highly available application environments based<br/>on business requirements</li> </ul>   |  |
|                              | <ul> <li>Leveraging advanced techniques to design for failure and<br/>ensure seamless system recoverability</li> </ul>   |  |
|                              | Implementing loosely coupled dependencies  |  |
|                              | <ul> <li>Operating and maintaining high-availability architectures<br/>(for example, application failovers, database failovers)</li> </ul>                                       |  |
|                              | Leveraging AWS managed services for high availability  |  |
|                              | <ul> <li>Implementing DNS routing policies (for example, Route<br/>53 latency-based routing, geolocation routing, simple<br/>routing)</li> </ul>                                 |  |
| Design a solutior<br>to meet | Knowledge of:  |  |



| Section   | Objectives   |
|---|--|
| performance<br>objectives.  | <ul> <li>Performance monitoring technologies</li> <li>Storage options on AWS</li> <li>Instance families and use cases</li> <li>Purpose-built databases</li> <li>Skills in: <ul> <li>Designing large-scale application architectures for a variety of access patterns</li> <li>Designing an elastic architecture based on business objectives</li> <li>Applying design patterns to meet performance objectives with caching, buffering, and replicas</li> <li>Developing a process methodology for selecting purpose-built services for required tasks</li> </ul> </li> </ul>   |
|   | Designing a right-sizing strategy Knowledge of:  |
| Determine a cost<br>optimization<br>strategy to meet<br>solution goals<br>and objectives. | <ul> <li>AWS cost and usage monitoring tools (for example, Cost Explorer, Trusted Advisor, AWS Pricing Calculator)</li> <li>Pricing models (for example, Reserved Instances, Savings Plans)</li> <li>Storage tiering</li> <li>Data transfer costs</li> <li>AWS managed service offerings</li> <li>Skills in:</li> <li>Identifying opportunities to select and right size infrastructure for cost-effective resources</li> <li>Identifying appropriate pricing models</li> <li>Performing data transfer costs</li> <li>Developing a strategy and implementing controls for expenditure and usage awareness</li> </ul> |
| Continuous Improvement for Existing Solutions - 25%                                       |  |
| Determine a<br>strategy to<br>improve overall<br>operational<br>excellence.               | <ul> <li>Knowledge of:</li> <li>Alerting and automatic remediation strategies</li> <li>Disaster recovery planning</li> <li>Monitoring and logging solutions (for example, Amazon CloudWatch)</li> <li>CI/CD pipelines and deployment strategies (for example, blue/green, all-at-once, rolling)</li> </ul>   |



| Section                | Objectives   |
|------------------------|--|
|                        | Configuration management tools (for example, Systems<br>Manager)   |
|                        | Skills in:   |
|                        | <ul> <li>Determining the most appropriate logging and monitoring<br/>strategy</li> </ul>   |
|                        | <ul> <li>Evaluating current deployment processes for improvement<br/>opportunities</li> </ul>                                    |
|                        | <ul> <li>Prioritizing opportunities for automation within a solution<br/>stack</li> </ul>  |
|                        | <ul> <li>Recommending the appropriate AWS solution to enable<br/>configuration management automation</li> </ul>                  |
|                        | <ul> <li>Engineering failure scenario activities to support and<br/>exercise an understanding of recovery actions</li> </ul>     |
|                        | Knowledge of:  |
|                        | <ul> <li>Data retention, data sensitivity, and data regulatory<br/>requirements</li> </ul>                                       |
|                        | <ul> <li>Automated monitoring and remediation strategies (for<br/>example, AWS Config rules)</li> </ul>                          |
|                        | <ul> <li>Secrets management (for example, Systems Manager,<br/>AWS Secrets Manager)</li> </ul>                                   |
|                        | Principle of least privilege access  |
|                        | Security-specific AWS solutions  |
|                        | Patching practices   |
| Determine a            | Backup practices and methods   |
| strategy to<br>improve | Skills in:   |
| security.              | <ul> <li>Evaluating a strategy for the secure management of<br/>secrets and credentials</li> </ul>                               |
|                        | <ul> <li>Auditing an environment for least privilege access</li> </ul>   |
|                        | <ul> <li>Reviewing implemented solutions to ensure security at<br/>every layer</li> </ul>  |
|                        | <ul> <li>Reviewing comprehensive traceability of users and<br/>services</li> </ul>   |
|                        | <ul> <li>Prioritizing automated responses to the detection of<br/>vulnerabilities</li> </ul>                                     |
|                        | Designing and implementing a patch and update process  |
|                        | <ul> <li>Designing and implementing a backup process</li> </ul>  |
|                        | Employing remediation techniques   |
| Determine a            | Knowledge of:  |
| strategy to<br>improve | <ul> <li>High-performing systems architectures (for example, auto<br/>acaling, instance floats, and placement groups)</li> </ul> |
| performance.           | scaling, instance fleets, and placement groups)  |



| Section                                     | Objectives  |  |
|---|---|--|
|   | <ul> <li>Global service offerings (for example, AWS Global<br/>Accelerator, Amazon CloudFront, and edge computing<br/>services)</li> </ul>              |  |
|   | <ul> <li>Monitoring tool sets and services (for example,<br/>CloudWatch)</li> </ul>   |  |
|   | <ul> <li>Service level agreements (SLAs) and key performance<br/>indicators (KPIs)</li> </ul>   |  |
|   | Skills in:  |  |
|   | <ul> <li>Translating business requirements to measurable metrics</li> <li>Testing potential remediation solutions and making recommendations</li> </ul> |  |
|   | <ul> <li>Proposing opportunities for the adoption of new technologies and managed services</li> </ul>   |  |
|   | <ul> <li>Assessing solutions and applying right sizing based on<br/>requirements</li> </ul>   |  |
|   | Identifying and examining performance bottlenecks   |  |
|   | Knowledge of:   |  |
|   | AWS global infrastructure   |  |
|   | Data replication methods  |  |
|   | <ul> <li>Scaling methodologies (for example, load balancing, auto scaling)</li> </ul>   |  |
|   | High availability and resiliency  |  |
| Determine a                                 | <ul> <li>Disaster recovery methods and tools</li> </ul>   |  |
| strategy to                                 | Service quotas and limits   |  |
| improve<br>reliability.                     | Skills in:  |  |
|   | <ul> <li>Understanding application growth and usage trends</li> </ul>   |  |
|   | <ul> <li>Evaluating existing architecture to determine areas that<br/>are not sufficiently reliable</li> </ul>  |  |
|   | Remediating single points of failure  |  |
|   | <ul> <li>Enabling data replication, self-healing, and elastic features<br/>and services</li> </ul>  |  |
|   | Knowledge of:   |  |
| Identify                                    | <ul> <li>Cost-conscious architecture choices (for example, utilizing<br/>Spot Instances, scaling policies, and right-sizing<br/>resources)</li> </ul>   |  |
| opportunities for<br>cost<br>optimizations. | <ul> <li>Price model adoptions (for example, Reserved Instances,<br/>Savings Plans)</li> </ul>  |  |
|   | <ul> <li>Networking and data transfer costs</li> </ul>  |  |
|   | <ul> <li>Cost management, alerting, and reporting</li> </ul>  |  |
|   | Skills in:  |  |



| Section                               | Objectives  |  |
|---------------------------------------|---|--|
|                                       | <ul> <li>Analyzing usage reports to identify underutilized and<br/>overutilized resources</li> </ul>  |  |
|                                       | Utilizing AWS solutions to identify unused resources  |  |
|                                       | <ul> <li>Designing billing alarms based on expected usage<br/>patterns</li> </ul>   |  |
|                                       | <ul> <li>Investigating AWS Cost and Usage Reports at a granular<br/>level</li> </ul>  |  |
|                                       | <ul> <li>Utilizing tagging for cost allocation and reporting</li> </ul>   |  |
| Accelerate                            | Workload Migration and Modernization - 20%  |  |
|                                       | Knowledge of:   |  |
|                                       | <ul> <li>Migration assessment and tracking tools (for example,<br/>AWS Migration Hub)</li> </ul>  |  |
|                                       | Portfolio assessment  |  |
| Select existing<br>workloads and      | Asset planning  |  |
| processes for<br>potential            | <ul> <li>Prioritization and migration of workloads (for example,<br/>wave planning)</li> </ul>  |  |
| migration.                            | Skills in:  |  |
|                                       | Completing an application migration assessment  |  |
|                                       | <ul> <li>Evaluating applications according to the seven common<br/>migration strategies (7Rs)</li> </ul>  |  |
|                                       | Evaluating total cost of ownership (TCO)  |  |
|                                       | Knowledge of:   |  |
|                                       | <ul> <li>Data migration options and tools (for example, AWS<br/>DataSync, AWS Transfer Family, AWS Snow Family, S3<br/>Transfer Acceleration)</li> </ul>  |  |
|                                       | <ul> <li>Application migration tools (for example, AWS Application<br/>Discovery Service, AWS Application Migration Service<br/>[CloudEndure Migration], AWS Server Migration Service<br/>[AWS SMS])</li> </ul> |  |
| Determine the<br>optimal<br>migration | <ul> <li>AWS networking services and DNS (for example, Direct<br/>Connect, AWS Site-to-Site VPN, Route 53)</li> </ul>   |  |
| approach for<br>existing              | <ul> <li>Identity services (for example, AWS SSO, AWS Directory Service)</li> </ul>   |  |
| workloads.                            | <ul> <li>Database migration tools (for example, AWS Database<br/>Migration Service [AWS DMS], AWS Schema Conversion<br/>Tool [AWS SCT])</li> </ul>  |  |
|                                       | <ul> <li>Governance tools (for example, AWS Control Tower,<br/>Organizations)</li> </ul>  |  |
|                                       | Skills in:  |  |
|                                       | Selecting the appropriate database transfer mechanism   |  |
|                                       | Selecting the appropriate application transfer mechanism  |  |



| Section   | Objectives   |
|---|--|
|   | Selecting the appropriate data transfer service and<br>migration strategy  |
|   | <ul> <li>Applying the appropriate security methods to migration tools</li> </ul>   |
|   | Selecting the appropriate governance model   |
|   | Knowledge of:  |
|   | Compute services (for example, Amazon EC2, AWS Elastic Beanstalk)  |
|   | <ul> <li>Containers (for example, Amazon Elastic Container<br/>Service [Amazon ECS], Amazon Elastic Kubernetes<br/>Service [Amazon EKS], AWS Fargate, Amazon Elastic<br/>Container Registry [Amazon ECR])</li> </ul> |
| Determine a new<br>architecture for<br>existing | <ul> <li>AWS storage services (for example, Amazon Elastic Block<br/>Store [Amazon EBS], Amazon Elastic File System<br/>[Amazon EFS], Amazon FSx, Amazon S3, Volume<br/>Gateway)</li> </ul>                          |
| workloads.                                      | <ul> <li>Databases (for example, Amazon DynamoDB, Amazon<br/>OpenSearch Service [Amazon Elasticsearch Service],<br/>Amazon RDS, self-managed databases on Amazon EC2)</li> </ul>                                     |
|   | Skills in:   |
|   | Selecting the appropriate compute platform   |
|   | <ul> <li>Selecting the appropriate container hosting platform</li> </ul>   |
|   | <ul> <li>Selecting the appropriate storage service</li> </ul>  |
|   | Selecting the appropriate database platform  |
|   | Knowledge of:  |
|   | Convertings compute offerings (for eventile AWC Lambda)  |
|   | <ul> <li>Serverless compute offerings (for example, AWS Lambda)</li> <li>Containers (for example, Amazon ECS, Amazon EKS, AWS Fargate)</li> </ul>  |
|   | <ul> <li>AWS storage services (for example, Amazon S3, Amazon EFS)</li> </ul>  |
| Determine                                       | <ul> <li>Purpose-built databases (for example, DynamoDB,<br/>Amazon Aurora Serverless, ElastiCache)</li> </ul>   |
| opportunities for<br>modernization<br>and       | <ul> <li>Integration service (for example, Amazon SQS, Amazon<br/>SNS, Amazon EventBridge [Amazon CloudWatch Events],<br/>Step Functions)</li> </ul>   |
| enhancements.                                   | Skills in:   |
|   | <ul> <li>Identifying opportunities to decouple application<br/>components</li> </ul>   |
|   | <ul> <li>Identifying opportunities for serverless solutions</li> </ul>   |
|   | <ul> <li>Selecting the appropriate service for containers</li> </ul>   |
|   | <ul> <li>Identifying opportunities for purpose-built databases</li> </ul>  |
|   | Selecting the appropriate application integration service  |



### AWS SAP-C02 Sample Questions:

#### Question: 1

A company has many AWS accounts that individual business groups own. One of the accounts was recently compromised. The attacker launched a large number of instances, resulting in a high bill for that account.

The company addressed the security breach, but a solutions architect needs to develop a solution to prevent excessive spending in all accounts. Each business group wants to retain full control of its AWS account.

Which solution should the solutions architect recommend to meet these requirements?

- a) Use AWS Organizations. Add each AWS account to the management account. Create an SCP that uses the ec2:instanceType condition key to prevent the launch of high-cost instance types in each account.
- b) Attach a new customer-managed IAM policy to an IAM group in each account. Configure the policy to use the ec2:instanceType condition key to prevent the launch of high-cost instance types. Place all the existing IAM users in each group.
- c) Turn on billing alerts for each AWS account. Create Amazon CloudWatch alarms that send an Amazon Simple Notification Service (Amazon SNS) notification to the account administrator whenever the account exceeds a designated spending threshold.
- d) Turn on AWS Cost Explorer in each account. Review the Cost Explorer reports for each account on a regular basis to ensure that spending does not exceed the desired amount.

Answer: c

#### Question: 2

A company has deployed a multi-tier web application in the AWS Cloud. The application consists of the following tiers:

- A Windows-based web tier that is hosted on Amazon EC2 instances with Elastic IP addresses

- A Linux-based application tier that is hosted on EC2 instances that run behind an Application Load Balancer (ALB) that uses path-based routing

- A MySQL database that runs on a Linux EC2 instance

All the EC2 instances are using Intel-based x86 CPUs. A solutions architect needs to modernize the infrastructure to achieve better performance. The solution must minimize the operational overhead of the application.

Which combination of actions should the solutions architect take to meet these requirements? (Select TWO.)

- a) Run the MySQL database on multiple EC2 instances.
- b) Place the web tier instances behind an ALB.
- c) Migrate the MySQL database to Amazon Aurora Serverless.
- d) Migrate all EC2 instance types to Graviton2.
- e) Replace the ALB for the application tier instances with a company-managed load balancer.

#### Answer: b, c



A company runs a serverless mobile app that uses Amazon API Gateway, AWS Lambda functions, Amazon Cognito, and Amazon DynamoDB. During large surges in traffic, users report intermittent system failures. The API Gateway API endpoint is returning HTTP status code 502 (Bad Gateway) errors to valid requests.

Which solution will resolve this issue?

- a) Increase the concurrency quota for the Lambda functions. Configure Amazon CloudWatch to send notification alerts when the Concurrent Executions metric approaches the quota.
- b) Configure notification alerts for the quota of transactions per second on the API Gateway API endpoint. Create a Lambda function that will increase the quota when the quota is reached.
- c) Shard users to Amazon Cognito user pools in multiple AWS Regions to reduce user authentication latency.
- d) Use DynamoDB strongly consistent reads to ensure that the client application always receives the most recent data.

Answer: a

#### Question: 4

A company operates an ecommerce application on Amazon EC2 instances behind an Application Load Balancer. The instances run in an Amazon EC2 Auto Scaling group across multiple Availability Zones. After an order is successfully processed, the application immediately posts order data to a third-party affiliate's external tracking system that pays sales commissions for order referrals.

During a successful marketing promotion, the number of EC2 instances increased from 2 to 20. The application continued to work correctly during this time. However, the increased request rate overwhelmed the third-party affiliate and resulted in failed requests.

Which combination of architectural changes should a solutions architect make to ensure that the entire process functions correctly under load?

(Select TWO.)

- a) Move the code that calls the affiliate to a new AWS Lambda function. Modify the application to invoke the Lambda function asynchronously.
- b) Move the code that calls the affiliate to a new AWS Lambda function. Modify the application to place the order data in an Amazon Simple Queue Service (Amazon SQS) queue. Invoke the Lambda function from the queue.
- c) Increase the timeout of the new AWS Lambda function.
- d) Decrease the reserved concurrency of the new AWS Lambda function.
- e) Increase the memory of the new AWS Lambda function.

Answer: b, d



A company has multiple AWS accounts in an organization in AWS Organizations. The company has integrated its on-premises Active Directory with AWS Single Sign-On (AWS SSO) to grant Active Directory users least privilege permissions to manage infrastructure across all the accounts.

A solutions architect must integrate a third-party monitoring solution that requires read-only access across all AWS accounts. The monitoring solution will run in its own AWS account.

What should the solutions architect do to provide the monitoring solution with the required permissions?

- a) Create a user in an AWS SSO directory. Assign a read-only permissions set to the user. Assign all AWS accounts that need monitoring to the user. Provide the third-party monitoring solution with the user name and password.
- b) Create an IAM role in the organization's management account. Allow the AWS account of the third-party monitoring solution to assume the role.
- c) Invite the AWS account of the third-party monitoring solution to join the organization. Enable all features.
- d) Create an AWS CloudFormation template that defines a new IAM role for the thirdparty monitoring solution. Specify the AWS account of the third-party monitoring solution in the trust policy. Create the IAM role across all linked AWS accounts by using a stack set.

Answer: d

#### Question: 6

A solutions architect needs to reduce costs for a big data application. The application environment consists of hundreds of devices that send events to Amazon Kinesis Data Streams. The device ID is used as the partition key, so each device gets a separate shard. Each device sends between 50 KB and 450 KB of data each second. An AWS Lambda function polls the shards, processes the data, and stores the result in Amazon S3.

Every hour, another Lambda function runs an Amazon Athena query against the result data to identify outliers. This Lambda function places the outliers in an Amazon Simple Queue Service (Amazon SQS) queue. An Amazon EC2 Auto Scaling group of two EC2 instances monitors the queue and runs a 30- second process to address the outliers. The devices submit an average of 10 outlying values every hour.

Which combination of changes to the application will MOST reduce costs? (Select TWO.)

- a) Change the Auto Scaling group launch configuration to use smaller instance types in the same instance family.
- b) Replace the Auto Scaling group with a Lambda function that is invoked when messages arrive in the queue.
- c) Reconfigure the devices and data stream to set a ratio of 10 devices to 1 data stream shard.
- d) Reconfigure the devices and data stream to set a ratio of 2 devices to 1 data stream shard.
- e) Change the desired capacity of the Auto Scaling group to a single EC2 instance.

Answer: b, d



A team is building an HTML form that is hosted in a public Amazon S3 bucket. The form uses JavaScript to post data to an Amazon API Gateway API endpoint.

The API endpoint is integrated with AWS Lambda functions. The team has tested each method in the API Gateway console and has received valid responses.

Which combination of steps must the team complete so that the form can successfully post to the API endpoint and receive a valid response?

(Select TWO.)

- a) Configure the S3 bucket to allow cross-origin resource sharing (CORS).
- b) Host the form on Amazon EC2 rather than Amazon S3.
- c) Request a limit increase for API Gateway.
- d) Enable cross-origin resource sharing (CORS) in API Gateway.
- e) Configure the S3 bucket for web hosting.

Answer: d, e

#### Question: 8

A company has built an online ticketing web application on AWS. The application is hosted on AWS App Runner and uses images that are stored in an Amazon Elastic Container Registry (Amazon ECR) repository.

The application stores data in an Amazon Aurora MySQL DB cluster. The company has set up a domain name in Amazon Route 53. The company needs to deploy the application across two AWS Regions in an active-active configuration.

Which combination of steps will meet these requirements with the LEAST change to the architecture?

(Select THREE.)

- a) Set up Cross-Region Replication to the second Region for the ECR images.
- b) Create a VPC endpoint from the ECR repository in the second Region.
- c) Edit the App Runner configuration by adding a second deployment target to the second Region.
- d) Deploy App Runner to the second Region. Set up Route 53 latency-based routing.
- e) Change the database by using Amazon DynamoDB global tables in the two desired Regions.
- f) Use an Aurora global database with write forwarding enabled in the second Region.

Answer: a, d, f



A company has two AWS accounts: one account for production workloads and one account for development workloads. A development team and an operations team create and manage these workloads.

The company needs a security strategy that meets the following requirements:

- Developers need to create and delete development application infrastructure.
- Operators need to create and delete development and production application infrastructure.
- Developers must have no access to production infrastructure.
- All users must have a single set of AWS credentials.

Which strategy will meet these requirements?

a) In the production account:

- Create an operations IAM group that can create and delete application infrastructure.

- Create an IAM user for each operator. Assign these users to the operations group. In the development account:

- Create a development IAM group that can create and delete application infrastructure.

- Create an IAM user for each operator and developer. Assign these users to the development group.

b) In the production account:

- Create an operations IAM group that can create and delete application infrastructure.

In the development account:

- Create a development IAM group that can create and delete application infrastructure.

- Create an IAM user for each developer. Assign these users to the development group.

- Create an IAM user for each operator. Assign these users to the development group and to the operations group in the production account.

c) In the development account:

- Create a shared IAM role that can create and delete application infrastructure in the production account.

- Create a development IAM group that can create and delete application infrastructure.

- Create an operations IAM group that can assume the shared role.

- Create an IAM user for each developer. Assign these users to the development group.

- Create an IAM user for each operator. Assign these users to the development group and to the operations group.

d) In the production account:

- Create a shared IAM role that can create and delete application infrastructure.

- Add the development account to the trust policy for the shared role.

In the development account:

- Create a development IAM group that can create and delete application infrastructure.

- Create an operations IAM group that can assume the shared role in the production account.

- Create an IAM user for each developer. Assign these users to the development group.

- Create an IAM user for each operator. Assign these users to the development group and to the operations group.

#### Answer: d



A company is launching a new web service on an Amazon Elastic Container Service (Amazon ECS) cluster. The cluster consists of 100 Amazon EC2 instances. Company policy requires the security group on the cluster instances to block all inbound traffic except HTTPS (port 443).

Which solution will meet these requirements?

- a) Change the SSH port to 2222 on the cluster instances by using a user data script. Log in to each instance by using SSH over port 2222.
- b) Change the SSH port to 2222 on the cluster instances by using a user data script. Use AWS Trusted Advisor to remotely manage the cluster instances over port 2222.
- c) Launch the cluster instances with no SSH key pairs. Use AWS Systems Manager Run Command to remotely manage the cluster instances.
- d) Launch the cluster instances with no SSH key pairs. Use AWS Trusted Advisor to remotely manage the cluster instances.

Answer: c

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