

## **AWS Certified Solution Architect – Professional Exam Reference Guide**

**Phase 1:** Time Limit: 15 Days: (150 mins per day)

1. Understand the Exam Blue Print
2. Train yourself through Online Videos
3. Walk through FAQs

**Phase 2:** Time Limit: 15 Days: (150 mins per day)

1. Walk through Whitepapers
2. Walk through AWS & Other online documentation
3. Practice Realtime

**Phase 3:** Time Limit: 15 Days: (150 mins per day)

1. Attend AWS – Online Practice Exam
2. Practice QUIZ from Online Video & Other Sources
3. Revise your self-notes

### **Phase 1:**

#### **Understand the Exam Blue Print**

The AWS Certified Solutions Architect – Professional exam validates advanced technical skills and experience in designing distributed applications and systems on the AWS platform. Example concepts you should understand for this exam include:

- Designing and deploying dynamically scalable, highly available, fault tolerant, and reliable applications on AWS
  - Selecting appropriate AWS services to design and deploy an application based on given requirements
  - Migrating complex, multi-tier applications on AWS
  - Designing and deploying enterprise-wide scalable operations on AWS
  - Implementing cost control strategies
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- Required Prerequisite: status as [AWS Certified Solutions Architect – Associate](#)
  - Multiple choice and multiple answer **Questions**
  - 170 minutes to complete the exam
  - Exam available in English and Japanese
  - Practice Exam Registration fee is USD 40
  - Exam Registration fee is USD 300

#### **Required AWS Knowledge**

- AWS core services, including: Compute and Networking, Storage and CDN, Database, Application Services, Deployment and Management.
- Security features that AWS provides and best practices
- Able to design and implement for elasticity and scalability
- Network technologies as they relate to AWS networking, including: DNS and load balancing, Amazon Virtual Private Cloud (VPC), and AWS Direct Connect
- Storage and archival options

- State management
- Database and replication methodologies
- Self-healing techniques and fault-tolerant services
- Disaster Recovery and fail-over strategies
- Application migration plans to AWS
- Network connectivity options
- Deployment and management

### **Required General IT Knowledge**

- Large-scale distributed systems architecture
- Eventual consistency
- Relational and non-relational databases
- Multi-tier architectures: load balancers, caching, web servers, application servers, networking and databases
- Loose coupling and stateless systems
- Content Delivery Networks
- System performance tuning
- Networking concepts including routing tables, access control lists, firewalls, NAT, HTTP, DNS, TCP/IP, OSI model
- RESTful Web Services, XML, JSON
- One or more software development models
- Information and application security concepts including public key encryption, remote access, access credentials, and certificate-based authentication

The table below lists the domains measured by this examination and the extent to which they are represented.

Domain	% of Examination
1.0 High Availability and Business Continuity	15%
2.0 Costing	5%
3.0 Deployment Management	10%
4.0 Network Design	10%
5.0 Data Storage	15%
6.0 Security	20%
7.0 Scalability & Elasticity	15%
8.0 Cloud Migration & Hybrid Architecture	10%
<b>TOTAL</b>	<b>100%</b>

### **Content Limits**

#### **Domain: 1.0: High Availability and Business Continuity**

- 1.1 Demonstrate ability to architect the appropriate level of availability based on stakeholder requirements
- 1.2 Demonstrate ability to implement DR for systems based on RPO and RTO
- 1.3 Determine appropriate use of multi-Availability Zones vs. multi-Region architectures
- 1.4 Demonstrate ability to implement self-healing capabilities

Content may include the following:

- High Availability vs. Fault Tolerance

#### **Domain: 2.0: Costing**

- 2.1 Demonstrate ability to make architectural decisions that minimize and optimize infrastructure cost
- 2.2 Apply the appropriate AWS account and billing set-up options based on **Question**
- 2.3 Ability to compare and contrast the cost implications of different architectures

### **Domain: 3.0: Deployment Management**

- 3.1 Ability to manage the lifecycle of an application on AWS
- 3.2 Demonstrate ability to implement the right architecture for development, testing, and staging environments
- 3.3 Position and select most appropriate AWS deployment mechanism based on **Question**

### **Domain: 4.0: Network Design for a complex large-scale deployment**

- 4.1 Demonstrate ability to design and implement networking features of AWS
- 4.2 Demonstrate ability to design and implement connectivity features of AWS

### **Domain: 5.0: Data Storage for a complex large-scale deployment**

- 5.1 Demonstrate ability to make architectural trade off decisions involving storage options
- 5.2 Demonstrate ability to make architectural trade off decisions involving database options
- 5.3 Demonstrate ability to implement the most appropriate data storage architecture
- 5.4 Determine use of synchronous versus asynchronous replication

### **Domain: 6.0: Security**

- 6.1 Design information security management systems and compliance controls
- 6.2 Design security controls with the AWS shared responsibility model and global infrastructure
- 6.3 Design identity and access management controls
- 6.4 Design protection of Data at Rest controls
- 6.5 Design protection of Data in Flight and Network Perimeter controls

### **Domain: 7.0: Scalability and Elasticity**

- 7.1 Demonstrate the ability to design a loosely coupled system
- 7.2 Demonstrate ability to implement the most appropriate front-end scaling architecture
- 7.3 Demonstrate ability to implement the most appropriate middle-tier scaling architecture
- 7.4 Demonstrate ability to implement the most appropriate data storage scaling architecture
- 7.5 Determine trade-offs between vertical and horizontal scaling

### **Domain 8.0: Cloud Migration and Hybrid Architecture**

- 8.1 Plan and execute for applications migrations
- 8.2 Demonstrate ability to design hybrid cloud architectures

### **Train yourself through online videos**

Below the important links for the online courses which are very useful to prepare for the exam. One must complete the entire course content in order to proceed further preparations.

<https://linuxacademy.com/amazon-web-services/training/course/name/aws-certified-solutions-architect-professional-level>

<https://acloud.guru/course/aws-certified-solutions-architect-professional/dashboard>

<https://www.youtube.com/watch?v=r8PBdg5Xr38>

### **Walk through FAQs**

FAQs plays an important role in the exam as many of the exam **Questions** are framed from the FAQs only. Below are the must-read FAQ topics which is not limited and you can go through as many FAQs as you can through the below link

<https://aws.amazon.com/faqs/>

- Auto Scaling
- Elastic Load Balancing
- AWS Elastic Beanstalk
- DynamoDB
- SQS
- ElasticMapReduce
- DirectConnect

## **Phase 2**

### **Walk through Whitepapers**

Reading whitepapers is a way of developing our self as it not only develops our technical knowledge but it will extend our skills on various other fields too. For example, knowing what EC2 instance is and how it works can be learned through FAQs but how efficiently we can use EC2 can be learned only through whitepapers. Below the important whitepapers to go through but not limited and you can go through other white papers too by following the below links

- <http://d0.awsstatic.com/whitepapers/aws-migrate-resources-to-new-region.pdf?refid=70138000001adYu>  
[//Migrating AWS Resources to a New Region//](#)
- <https://d0.awsstatic.com/whitepapers/aws-web-hosting-best-practices.pdf?refid=em>  
[//Web Application Hosting in the AWS Cloud//](#)
- [http://d0.awsstatic.com/whitepapers/AWS\\_Securing\\_Data\\_at\\_Rest\\_with\\_Encryption.pdf](http://d0.awsstatic.com/whitepapers/AWS_Securing_Data_at_Rest_with_Encryption.pdf)  
[//Securing Data at Rest with Encryption//](#)
- [https://d0.awsstatic.com/whitepapers/Security/AWS\\_Security\\_Whitepaper.pdf](https://d0.awsstatic.com/whitepapers/Security/AWS_Security_Whitepaper.pdf)  
[//Security Best practices//](#)
- [https://d0.awsstatic.com/whitepapers/compliance/AWS\\_Risk\\_and\\_Compliance\\_Whitepaper.pdf](https://d0.awsstatic.com/whitepapers/compliance/AWS_Risk_and_Compliance_Whitepaper.pdf)  
[//Risk and Compliance//](#)
- [http://media.amazonwebservices.com/AWS\\_Building\\_Fault\\_Tolerant\\_Applications.pdf](http://media.amazonwebservices.com/AWS_Building_Fault_Tolerant_Applications.pdf)  
[//Building Fault Tolerant Applications//](#)
- <https://aws.amazon.com/whitepapers/>  
[//All AWS whitepapers//](#)

### **Walkthrough AWS & Other Online Documentation**

## Reference URLs

<http://docs.aws.amazon.com/IAM/latest/UserGuide/best-practices.html#use-groups-for-permissions>

<https://www.pythian.com/blog/a-most-simple-cloud-is-amazon-rds-for-oracle-right-for-you/>

<http://docs.aws.amazon.com/Route53/latest/DeveloperGuide/dns-failover-complex-configs.html>

<http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/resources.html>

[http://media.amazonwebservices.com/architecturecenter/AWS\\_ac\\_ra\\_ecommerce\\_checkout\\_13.pdf](http://media.amazonwebservices.com/architecturecenter/AWS_ac_ra_ecommerce_checkout_13.pdf)

<http://highscalability.com/blog/2016/1/11/a-beginners-guide-to-scaling-to-11-million-users-on-amazons.html>

<https://www.airpair.com/aws/posts/building-a-scalable-web-app-on-amazon-web-services-p1>

<http://docs.aws.amazon.com/AmazonElastiCache/latest/UserGuide/BestPractices.html>

<https://docs.aws.amazon.com/AutoScaling/latest/DeveloperGuide/as-using-sqs-queue.html>

<http://blogs.aws.amazon.com/security/post/Tx29HCT3ABL7LP3/Resource-level-Permissions-for-EC2-Controlling-Management-Access-on-Specific-Ins>

[https://d0.awsstatic.com/whitepapers/Backup\\_and\\_Recovery\\_Approaches\\_Using\\_AWS.pdf](https://d0.awsstatic.com/whitepapers/Backup_and_Recovery_Approaches_Using_AWS.pdf)

[http://media.amazonwebservices.com/architecturecenter/AWS\\_ac\\_ra\\_timeseriesprocessing\\_16.pdf](http://media.amazonwebservices.com/architecturecenter/AWS_ac_ra_timeseriesprocessing_16.pdf)

<https://aws.amazon.com/blogs/security/writing-iam-policies-grant-access-to-user-specific-folders-in-an-amazon-s3-bucket/>

<https://d0.awsstatic.com/whitepapers/Storage/AWS%20Storage%20Services%20Whitepaper-v9.pdf>

<https://d0.awsstatic.com/whitepapers/performance-at-scale-with-amazon-elasticache.pdf>

<http://docs.aws.amazon.com/AmazonCloudFront/latest/DeveloperGuide/AccessLogs.html>

[http://docs.aws.amazon.com/IAM/latest/UserGuide/id\\_roles\\_providers\\_saml.html](http://docs.aws.amazon.com/IAM/latest/UserGuide/id_roles_providers_saml.html)

<http://docs.aws.amazon.com/ElasticLoadBalancing/latest/DeveloperGuide/elb-sticky-sessions.html>

[https://docs.aws.amazon.com/IAM/latest/UserGuide/tutorial\\_cross-account-with-roles.html](https://docs.aws.amazon.com/IAM/latest/UserGuide/tutorial_cross-account-with-roles.html)

<http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/ec2-instance-metadata.html>

[http://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/VPC\\_Appendix\\_NACLs.html](http://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/VPC_Appendix_NACLs.html)

[http://docs.aws.amazon.com/IAM/latest/UserGuide/id\\_roles\\_providers\\_enable-console-saml.html](http://docs.aws.amazon.com/IAM/latest/UserGuide/id_roles_providers_enable-console-saml.html)

[http://docs.aws.amazon.com/IAM/latest/UserGuide/id\\_roles\\_create\\_for-user.html](http://docs.aws.amazon.com/IAM/latest/UserGuide/id_roles_create_for-user.html)

<https://aws.amazon.com/blogs/aws/elastic-load-balancing-adds-support-for-proxy-protocol/>

<https://myawsscribble.wordpress.com/2015/09/25/setting-up-and-configuring-aws-directconnect/>

[http://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/VPC\\_Subnets.html](http://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/VPC_Subnets.html)

<https://aws.amazon.com/oracle/>

<http://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/Overview.DBInstance.Modifying.html>

<https://aws.amazon.com/kinesis/streams/>  
<http://docs.aws.amazon.com/elasticbeanstalk/latest/dg/AWSHowTo.RDS.html>  
<http://www.slideshare.net/AmazonWebServices/aws-webcast-introduction-to-amazon-kinesis>  
<http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/ebs-ec2-config.html>  
<http://docs.aws.amazon.com/Route53/latest/DeveloperGuide/routing-policy.html>  
<https://aws.amazon.com/developertools/2759763385083070>  
[http://media.amazonwebservices.com/architecturecenter/AWS\\_ac\\_ra\\_mediasharing\\_09.pdf](http://media.amazonwebservices.com/architecturecenter/AWS_ac_ra_mediasharing_09.pdf)  
[http://media.amazonwebservices.com/architecturecenter/AWS\\_ac\\_ra\\_adserving\\_06.pdf](http://media.amazonwebservices.com/architecturecenter/AWS_ac_ra_adserving_06.pdf)  
<https://aws.amazon.com/blogs/aws/fine-grained-access-control-for-amazon-dynamodb/>  
[https://aws.amazon.com/documentation/iam/?nc1=h\\_ls](https://aws.amazon.com/documentation/iam/?nc1=h_ls)  
<http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/elastic-ip-addresses-eip.html>  
[https://d0.awsstatic.com/aws-answers/Controlling\\_VPC\\_Egress\\_Traffic.pdf](https://d0.awsstatic.com/aws-answers/Controlling_VPC_Egress_Traffic.pdf)  
<https://aws.amazon.com/architecture/>

## **Practice**

One cannot clear the exam without hands on experience, so better make your hands dirty by registering into AWS Quick labs and practice for the professional exam which will give you much confidence to attend the exam further.

<https://qwiklabs.com/quests/11?locale=en>

## **Phase 3:**

### **Attend AWS Practice Exam**

Register and attend the practice exam at your home, where you will face 20 questions to understand how the real exam will be. This will not count for your certification but will prepare you mentally to get ready for the real exam that you will attend in a an exam center.

### **Practice QUIZs from Online Video & Other Sources**

Practice all the QUIZs multiple times from the Video learning sources that you have undergone in Phase 1. Here I have provided 30 questions.

#### **Question 1**

Your company's on-premises content management system has the following architecture:

- Application Tier – Java code on a JBoss application server
- Database Tier – Oracle database regularly backed up to Amazon Simple Storage Service (S3) using the Oracle RMAN backup utility

- Static Content – stored on a 512GB gateway stored Storage Gateway volume attached to the application server via the iSCSI interface Which AWS based disaster recovery strategy will give you the best RTO?

A) Deploy the Oracle database and the JBoss app server on EC2. Restore the RMAN Oracle backups from Amazon S3. Generate an EBS volume of static content from the Storage Gateway and attach it to the JBoss EC2 server.

B) Deploy the Oracle database on RDS. Deploy the JBoss app server on EC2. Restore the RMAN Oracle backups from Amazon Glacier. Generate an EBS volume of static content from the Storage Gateway and attach it to the JBoss EC2 server.

C) Deploy the Oracle database and the JBoss app server on EC2. Restore the RMAN Oracle backups from Amazon S3. Restore the static content by attaching an AWS Storage Gateway running on Amazon EC2 as an iSCSI volume to the JBoss EC2 server.

D) Deploy the Oracle database and the JBoss app server on EC2. Restore the RMAN Oracle backups from Amazon S3. Restore the static content from an AWS Storage Gateway-VTL running on Amazon EC2

## Question 2

An ERP application is deployed in multiple Availability Zones in a single region. In the event of failure, the RTO must be less than 3 hours, and the RPO is 15 minutes. The customer realizes that data corruption occurred roughly 1.5 hours ago. Which DR strategy can be used to achieve this RTO and RPO in the event of this kind of failure?

A) Take 15-minute DB backups stored in Amazon Glacier, with transaction logs stored in Amazon S3 every 5 minutes.

B) Use synchronous database master-slave replication between two Availability Zones.

C) Take hourly DB backups to Amazon S3, with transaction logs stored in S3 every 5 minutes.

D) Take hourly DB backups to an Amazon EC2 instance store volume, with transaction logs stored in Amazon S3 every 5 minutes.

## Question 3

The Marketing Director in your company asked you to create a mobile app that lets users post sightings of good deeds known as random acts of kindness in 80-character summaries. You decided to write the application in JavaScript so that it would run on the broadest range of phones, browsers, and tablets. Your application should provide access to Amazon DynamoDB to store the good deed summaries. Initial testing of a prototype shows that there aren't large spikes in usage. Which option provides the most cost effective and scalable architecture for this application?

A) Provide the JavaScript client with temporary credentials from the Security Token Service using a Token Vending Machine (TVM) on an EC2 instance to provide signed credentials mapped to an Amazon Identity and Access Management (IAM) user allowing DynamoDB puts and S3 gets. You serve your mobile application out of an S3 bucket enabled as a web site. Your client updates DynamoDB.

B) Register the application with a Web Identity Provider like Amazon, Google, or Facebook, create an IAM role for that provider, and set up permissions for the IAM role to allow S3 gets and DynamoDB puts. You serve your mobile application out of an S3 bucket enabled as a web site. Your client updates DynamoDB.



C) Provide the JavaScript client with temporary credentials from the Security Token Service using a Token Vending Machine (TVM) to provide signed credentials mapped to an IAM user allowing DynamoDB puts. You serve your mobile application out of Apache EC2 instances that are load-balanced and autoscaled. Your EC2 instances are configured with an IAM role that allows DynamoDB puts. Your server updates DynamoDB. AWS Certified Solutions Architect – Professional Level Sample Exam

D) Register the JavaScript application with a Web Identity Provider like Amazon, Google, or Facebook, create an IAM role for that provider, and set up permissions for the IAM role to allow DynamoDB puts. You serve your mobile application out of Apache EC2 instances that are load-balanced and autoscaled. Your EC2 instances are configured with an IAM role that allows DynamoDB puts. Your server updates DynamoDB.

#### **Question 4**

You are building a website that will retrieve and display highly sensitive information to users. The amount of traffic the site will receive is known and not expected to fluctuate. The site will leverage SSL to protect the communication between the clients and the web servers. Due to the nature of the site you are very concerned about the security of your SSL private key and want to ensure that the key cannot be accidentally or intentionally moved outside your environment. Additionally, while the data the site will display is stored on an encrypted EBS volume, you are also concerned that the web servers' logs might contain some sensitive information; therefore, the logs must be stored so that they can only be decrypted by employees of your company. Which of these architectures meets all of the requirements?

A) Use Elastic Load Balancing to distribute traffic to a set of web servers. To protect the SSL private key, upload the key to the load balancer and configure the load balancer to offload the SSL traffic. Write your web server logs to an ephemeral volume that has been encrypted using a randomly generated AES key.

B) Use Elastic Load Balancing to distribute traffic to a set of web servers. Use TCP load balancing on the load balancer and configure your web servers to retrieve the private key from a private Amazon S3 bucket on boot. Write your web server logs to a private Amazon S3 bucket using Amazon S3 server-side encryption.

C) Use Elastic Load Balancing to distribute traffic to a set of web servers, configure the load balancer to perform TCP load balancing, use an AWS CloudHSM to perform the SSL transactions, and write your web server logs to a private Amazon S3 bucket using Amazon S3 server-side encryption.

D) Use Elastic Load Balancing to distribute traffic to a set of web servers. Configure the load balancer to perform TCP load balancing, use an AWS CloudHSM to perform the SSL transactions, and write your web server logs to an ephemeral volume that has been encrypted using a randomly generated AES key.

#### **Question 5**

You are designing network connectivity for your fat client application. The application is designed for business travelers who must be able to connect to it from their hotel rooms, cafes, public Wi-Fi hotspots, and elsewhere on the Internet. You do not want to publish the application on the Internet. Which network design meets the above requirements while minimizing deployment and operational costs?

A) Implement AWS Direct Connect, and create a private interface to your VPC. Create a public subnet and place your application servers in it.

B) Implement Elastic Load Balancing with an SSL listener that terminates the back-end connection to the application.

C) Configure an IPsec VPN connection, and provide the users with the configuration details. Create a public subnet in your VPC, and place your application servers in it.



D) Configure an SSL VPN solution in a public subnet of your VPC, then install and configure SSL VPN client software on all user computers. Create a private subnet in your VPC and place your application servers in it.

### Question 6

Your company hosts an on-premises legacy engineering application with 900GB of data shared via a central file server. The engineering data consists of thousands of individual files ranging in size from megabytes to multiple gigabytes. Engineers typically modify 5-10 percent of the files a day. Your CTO would like to migrate this application to AWS, but only if the application can be migrated over the weekend to minimize user downtime. You calculate that it will take a minimum of 48 hours to transfer 900GB of data using your company's existing 45-Mbps Internet connection. After replicating the application's environment in AWS, which option will allow you to move the application's data to AWS without losing any data and within the given timeframe?

A) Copy the data to Amazon S3 using multiple threads and multi-part upload for large files over the weekend, and work in parallel with your developers to reconfigure the replicated application environment to leverage Amazon S3 to serve the engineering files.

B) Sync the application data to Amazon S3 starting a week before the migration, on Friday morning perform a final sync, and copy the entire data set to your AWS file server after the sync completes.

C) Copy the application data to a 1-TB USB drive on Friday and immediately send overnight, with Saturday delivery, the USB drive to AWS Import/Export to be imported as an EBS volume, mount the resulting EBS volume to your AWS file server on Sunday.

D) Leverage the AWS Storage Gateway to create a Gateway-Stored volume. On Friday copy the application data to the Storage Gateway volume. After the data has been copied, perform a snapshot of the volume and restore the volume as an EBS volume to be attached to your AWS file server on Sunday.

### Question 7

You have launched an Amazon Elastic Compute Cloud (EC2) instance into a public subnet with a primary private IP address assigned, an internet gateway is attached to the VPC, and the public route table is configured to send all Internet-based traffic to the Internet gateway. The instance security group is set to allow all outbound traffic but cannot access the internet. Why is the Internet unreachable from this instance?

A. The instance does not have a public IP address.

B. The internet gateway security group must allow all outbound traffic.

C. The instance security group must allow all inbound traffic.

D. The instance "Source/Destination check" property must be enabled.

### Question 8

You launch an Amazon EC2 instance without an assigned AVVS identity and Access Management (IAM) role. Later, you decide that the instance should be running with an IAM role. Which action must you take in order to have a running Amazon EC2 instance with an IAM role assigned to it?

A. Create an image of the instance, and register the image with an IAM role assigned and an Amazon EBS volume mapping.

B. Create a new IAM role with the same permissions as an existing IAM role, and assign it to the running instance.

C. Create an image of the instance, add a new IAM role with the same permissions as the desired IAM role, and deregister the image with the new role assigned.

D. Create an image of the instance, and use this image to launch a new instance with the desired IAM role assigned.

#### **Question 9**

How can the domain's zone apex, for example, "myzoneapexdomain.com", be pointed towards an Elastic Load Balancer?

A. By using an Amazon Route 53 Alias record

B. By using an AAAA record

C. By using an Amazon Route 53 CNAME record

D. By using an A record

#### **Question 10**

An instance is launched into a VPC subnet with the network ACL configured to allow all inbound traffic and deny all outbound traffic. The instance's security group is configured to allow SSH from any IP address and deny all outbound traffic. What changes need to be made to allow SSH access to the instance?

A. The outbound security group needs to be modified to allow outbound traffic.

B. The outbound network ACL needs to be modified to allow outbound traffic.

C. Nothing, it can be accessed from any IP address using SSH.

D. Both the outbound security group and outbound network ACL need to be modified to allow outbound traffic.

#### **Question 11**

For which of the following use cases are Simple Workflow Service (SWF) and Amazon EC2 an appropriate solution? Choose 2 answers

A. Using as an endpoint to collect thousands of data points per hour from a distributed fleet of sensors

B. Managing a multi-step and multi-decision checkout process of an e-commerce website

C. Orchestrating the execution of distributed and auditable business processes

D. Using as an SNS (Simple Notification Service) endpoint to trigger execution of video transcoding jobs

E. Using as a distributed session store for your web application

#### **Question 12**

A customer wants to leverage Amazon Simple Storage Service (S3) and Amazon Glacier as part of their backup and archive infrastructure. The customer plans to use third-party software to support this integration. Which approach will limit the access of the third party software to only the Amazon S3 bucket named "company-backup"?

A. A custom bucket policy limited to the Amazon S3 API in the Amazon Glacier archive "company-backup"

B. A custom bucket policy limited to the Amazon S3 API in "company-backup"

- C. A custom IAM user policy limited to the Amazon S3 API for the Amazon Glacier archive "company-backup".
- D. A custom IAM user policy limited to the Amazon S3 API in "company-backup".

### Question 13

A client application requires operating system privileges on a relational database server. What is an appropriate configuration for a highly available database architecture?

- A. A standalone Amazon EC2 instance
- B. Amazon RDS in a Multi-AZ configuration
- C. Amazon EC2 instances in a replication configuration utilizing a single Availability Zone
- D. Amazon EC2 instances in a replication configuration utilizing two different Availability Zones

### Question 14

What is a placement group?

- A. A collection of Auto Scaling groups in the same region
- B. A feature that enables EC2 instances to interact with each other via high bandwidth, low latency connections
- C. A collection of authorized CloudFront edge locations for a distribution
- D. A collection of Elastic Load Balancers in the same Region or Availability Zone

### Question 15

A company has a workflow that sends video files from their on-premise system to AWS for transcoding. They use EC2 worker instances that pull transcoding jobs from SQS. Why is SQS an appropriate service for this scenario?

- A. SQS guarantees the order of the messages.
- B. SQS synchronously provides transcoding output.
- C. SQS checks the health of the worker instances.
- D. SQS helps to facilitate horizontal scaling of encoding tasks.

### Question 16

When creation of an EBS snapshot is initiated, but not completed, the EBS volume:

- A. Can be used while the snapshot is in progress.
- B. Cannot be detached or attached to an EC2 instance until the snapshot completes
- C. Can be used in read-only mode while the snapshot is in progress.
- D. Cannot be used until the snapshot completes.

### Question 17

What are characteristics of Amazon S3? Choose 2 answers

- A. S3 allows you to store objects of virtually unlimited size.
- B. S3 offers Provisioned IOPS.

- C. S3 allows you to store unlimited amounts of data.
- D. S3 should be used to host a relational database.
- E. Objects are directly accessible via a URL.

#### **Question 18**

Per the AWS Acceptable Use Policy, penetration testing of EC2 instances:

- A. May be performed by AWS, and will be performed by AWS upon customer request.
- B. May be performed by AWS, and is periodically performed by AWS.
- C. Are expressly prohibited under all circumstances.
- D. May be performed by the customer on their own instances with prior authorization from AWS.
- E. May be performed by the customer on their own instances, only if performed from EC2 instances

#### **Question 19**

You are working with a customer who has 10 TB of archival data that they want to migrate to Amazon Glacier. The customer has a 1-Mbps connection to the Internet. Which service or feature provides the fastest method of getting the data into Amazon Glacier?

- A. Amazon Glacier multipart upload
- B. AWS Storage Gateway
- C. VM Import/Export
- D. AWS Import/Export

#### **Question 20**

How can you secure data at rest on an EBS volume?

- A. Attach the volume to an instance using EC2's SSL interface.
- B. Write the data randomly instead of sequentially.
- C. Encrypt the volume using the S3 server-side encryption service.
- D. Create an IAM policy that restricts read and write access to the volume. E. Use an encrypted file system on top of the EBS volume.

#### **Question 21**

A customer needs to capture all client connection information from their load balancer every five minutes. The company wants to use this data for analyzing traffic patterns and troubleshooting their applications. Which of the following options meets the customer requirements?

- A. Enable AWS CloudTrail for the load balancer.
- B. Enable access logs on the load balancer.
- C. Install the Amazon CloudWatch Logs agent on the load balancer.
- D. Enable Amazon CloudWatch metrics on the load balancer.

#### **Question 22**

If you want to launch Amazon Elastic Compute Cloud (EC2) instances and assign each instance a predetermined private IP address you should:

- A. Launch the instance from a private Amazon Machine Image (AMI).
- B. Assign a group of sequential Elastic IP address to the instances.
- C. Launch the instances in the Amazon Virtual Private Cloud (VPC).
- D. Launch the instances in a Placement Group.
- E. Use standard EC2 instances since each instance gets a private Domain Name Service (DNS) already.

#### **Question 23**

You need to configure an Amazon S3 bucket to serve static assets for your public-facing web application. Which methods ensure that all objects uploaded to the bucket are set to public read? Choose 2 answers

- A. Set permissions on the object to public read during upload.
- B. Configure the bucket ACL to set all objects to public read.
- C. Configure the bucket policy to set all objects to public read.
- D. Use AWS Identity and Access Management roles to set the bucket to public read.
- E. Amazon S3 objects default to public read, so no action is needed.

#### **Question 24**

A company is storing data on Amazon Simple Storage Service (S3). The company's security policy mandates that data is encrypted at rest. Which of the following methods can achieve this? Choose 3 answers

- A. Use Amazon S3 server-side encryption with AWS Key Management Service managed keys.
- B. Use Amazon S3 server-side encryption with customer-provided keys.
- C. Use Amazon S3 server-side encryption with EC2 key pair.
- D. Use Amazon S3 bucket policies to restrict access to the data at rest.
- E. Encrypt the data on the client-side before ingesting to Amazon S3 using their own master key.
- F. Use SSL to encrypt the data while in transit to Amazon S3.

#### **Question 25**

Which procedure for backing up a relational database on EC2 that is using a set of RAIDed EBS volumes for storage minimizes the time during which the database cannot be written to and results in a consistent backup?

- A. 1. Detach EBS volumes, 2. Start EBS snapshot of volumes, 3. Re-attach EBS volumes
- B. 1. Stop the EC2 Instance. 2. Snapshot the EBS volumes
- C. 1. Suspend disk I/O, 2. Create an image of the EC2 Instance, 3. Resume disk I/O
- D. 1. Suspend disk I/O, 2. Start EBS snapshot of volumes, 3. Resume disk I/O
- E. 1. Suspend disk I/O, 2. Start EBS snapshot of volumes, 3. Wait for snapshots to complete, 4. Resume disk I/O

#### **Question 26**

A company needs to deploy virtual desktops to its customers in a virtual private cloud, leveraging existing security controls. Which set of AWS services and features will meet the company's requirements?

- A. Virtual Private Network connection. AWS Directory Services, and ClassicLink
- B. Virtual Private Network connection. AWS Directory Services, and Amazon Workspaces
- C. AWS Directory Service, Amazon Workspaces, and AWS Identity and Access Management
- D. Amazon Elastic Compute Cloud, and AWS Identity and Access Management

**Question 27**

After creating a new IAM user which of the following must be done before they can successfully make API calls?

- A. Add a password to the user.
- B. Enable Multi-Factor Authentication for the user.
- C. Assign a Password Policy to the user.
- D. Create a set of Access Keys for the user.

**Question 28**

Which of the following are valid statements about Amazon S3? Choose 2 answers

- A. S3 provides read-after-write consistency for any type of PUT or DELETE.
- B. Consistency is not guaranteed for any type of PUT or DELETE.
- C. A successful response to a PUT request only occurs when a complete object is saved.
- D. Partially saved objects are immediately readable with a GET after an overwrite PUT. E. S3 provides eventual consistency for overwrite PUTS and DELETES.

**Question 29**

You are configuring your company's application to use Auto Scaling and need to move user state information. Which of the following AWS services provides a shared data store with durability and low latency?

- A. AWS ElastiCache Memcached
- B. Amazon Simple Storage Service
- C. Amazon EC2 instance storage
- D. Amazon DynamoDB

**Question 30**

Which features can be used to restrict access to data in S3? Choose 2 answers

- A. Set an S3 ACL on the bucket or the object.
- B. Create a CloudFront distribution for the bucket.
- C. Set an S3 bucket policy.
- D. Enable IAM Identity Federation E. Use S3 Virtual Hosting

**Revise your self-notes**

It is advised to prepare your own notes through all the 3 phases of your preparation and that can be a source of study for the last 3 days of your exam date.

**All The Very Best** and please share your experience of the exam