Module 3 – Worksheet

AWS Certified Solutions Architect – Associate

Module 3: Overview

Domain 1 – System Design (Part B)
System Optimization: Designing for Scalability and Cost Efficiency

- AWS Services that Scale Automatically
- Loosely Coupled Architectures
- Implementing Elasticity
- Designing for Cost Efficiency

Sample Questions

QUESTION 1

Government regulations require that your company retain all correspondence for a period of seven years to meet compliance statutes. Which storage option provides the best method for keeping your data secure in a cost-effective manner? *(Choose the best answer)*

a. ( ) Amazon Simple Storage Service (Amazon S3)

b. ( ) Amazon Glacier

c. ( ) Amazon Elastic Block Storage (Amazon EBS)

d. ( ) Amazon Elastic File System (Amazon EFS)

*See solution at end of document

QUESTION 2

Which of the following architectural patterns help increase the availability of a web server farm in AWS? (*Choose two answers*)

a. ( ) Use Amazon CloudFront to deliver content to the end users with low latency and high data-transfer speeds.

b. ( ) Launch the web server instances across multiple Availability Zones.

c. ( ) Leverage Auto Scaling to recover from failed instances.

d. ( ) Deploy the instances in an Amazon Virtual Private Cloud (Amazon VPC) instance.

e. ( ) Add more CPU and RAM to each Amazon Elastic Compute Cloud (Amazon EC2) instance.

*See solution at end of document

Personal Preparation Plan

Check off the items you've already completed. Mark items to complete before your exam:

Identify personal knowledge gaps:

The certification exam validates the following proficiencies. When you are ready for the certification exam, you should feel comfortable with the following concepts. Based on your self-assessment of your own knowledge gaps, mark those items on which you should build proficiency before your exam:

- ❑ Know how to design architectures that are loosely coupled, using services such as ELB and Auto Scaling and features such as DNS names, RDS endpoints, Route 53 endpoints, elastic IP addresses, and SQS.

Resources

Related labs:

❑ Launching EC2 Spot Instances with Auto Scaling and CloudWatch
https://qwiklabs.com/learning_paths/10/lab_catalogue?locale=en

Related whitepapers:

❑ How AWS Pricing Works
❑ Cost Optimization with AWS
❑ Architecting for the AWS Cloud: Best Practices
❑ AWS Well-Architected Framework
http://aws.amazon.com/whitepapers/

AWS Certified Solutions Architect – Associate website:
http://aws.amazon.com/certification/certified-solutions-architect-associate/

Sample Question Solutions

QUESTION 1

Government regulations require that your company **retain all correspondence for a period of seven years** to meet compliance statutes. Which storage option provides the best method to keep your data secure in a **cost-effective** manner?

a. ( ) Amazon Simple Storage Service (Amazon S3)
Incorrect: While Amazon S3 offers customers a highly-scalable, reliable, and low-latency data storage infrastructure at very low costs, it's is more expensive than Glacier and better suited for frequently accessed data.

b. (•) Amazon Glacier
Correct: Amazon Glacier is an extremely low-cost storage service that provides secure, durable, and flexible storage for data backup and archival. Customers seeking compliance storage can deploy compliance controls using Vault Lock to meet regulatory and compliance archiving requirements.

c. ( ) Amazon Elastic Block Storage (Amazon EBS)
Incorrect: Amazon Elastic Block Store (Amazon EBS) provides persistent block level storage volumes for use with Amazon EC2 instances in the AWS Cloud. It is more cost effective and efficient to leverage object storage provided by Amazon Glacier for archive data.

d. ( ) Amazon Elastic File System (Amazon EFS)
Incorrect: Amazon EFS is an elastic, shared file storage service for Amazon EC2, and provides a common data source for workloads and applications running on more than one instance that need to access a common file system. It is more cost effective and efficient to leverage object storage provided by Amazon Glacier for archive data.

QUESTION 2

Which of the following **architectural patterns** help increase the **availability** of a **web server farm** in AWS? (Choose 2 answers.)

a. ( ) Use Amazon CloudFront to deliver content to the end users with low latency and high data transfer speeds.
Incorrect: Amazon CloudFront is a global content delivery network (CDN) service that accelerates delivery of your websites, APIs, video content or other web assets. Using Amazon CloudFront to deliver content does not help increase the availability of a web server farm.

b. (•) Launch the web server instances across multiple Availability Zones.
Correct: An Availability Zone is comprised of one or more data centers within a region that are designed to be isolated from failures in other Availability Zones. Adopting a “Multi-AZ” architecture by launching web server instances across multiple availability zones helps to ensure that the applications are isolated from failures in a single Availability Zone, thus, helping to increase availability.

c. (•) Leverage Auto Scaling to recover from failed instances.
Correct: Auto Scaling helps you maintain application availability and allows you to scale your Amazon EC2 capacity up or down automatically according to conditions you define.

d. ( ) Deploy the instances in an Amazon Virtual Private Cloud (Amazon VPC).
Incorrect: Amazon Virtual Private Cloud (Amazon VPC) lets you provision a logically isolated section of the Amazon Web Services (AWS) cloud where you can launch AWS resources in a virtual network that you define. Simply deploying instances in a VPC does not help increase the availability of a web server farm.

e. ( ) Add more CPU and RAM to each Amazon Elastic Compute Cloud (Amazon EC2) instance.
Incorrect: Vertically scaling each Amazon EC2 instance by adding CPU and RAM does not help increase the availability of a web server farm. Leveraging multiple Availability Zones and Auto Scaling horizontally helps increase availability.