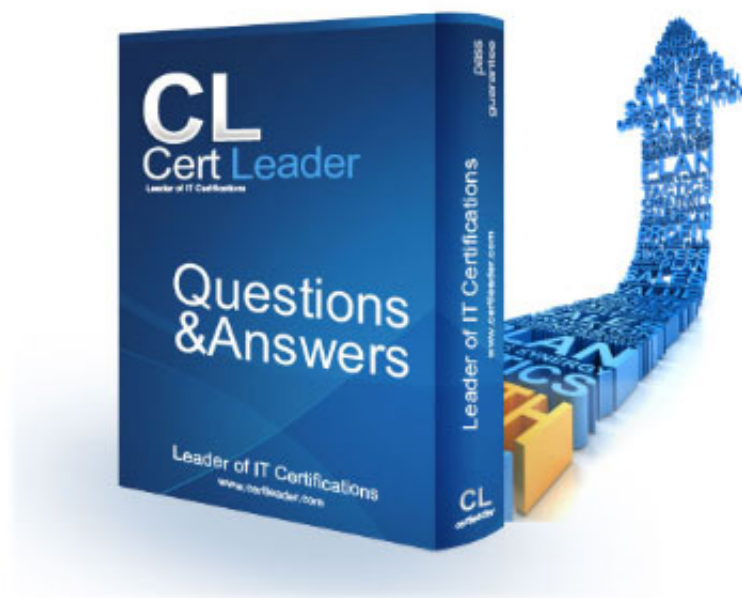


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NEW QUESTION 1

A company deploys a web application on Amazon EC2 instances that are behind an Application Load Balancer (ALB). The company stores the application code in an AWS CodeCommit repository. When code is merged to the main branch, an AWS Lambda function invokes an AWS CodeBuild project. The CodeBuild project packages the code, stores the packaged code in AWS CodeArtifact, and invokes AWS Systems Manager Run Command to deploy the packaged code to the EC2 instances.

Previous deployments have resulted in defects, EC2 instances that are not running the latest version of the packaged code, and inconsistencies between instances.

Which combination of actions should a DevOps engineer take to implement a more reliable deployment solution? (Select TWO.)

- A. Create a pipeline in AWS CodePipeline that uses the CodeCommit repository as a source provide
- B. Configure pipeline stages that run the CodeBuild project in parallel to build and test the applicatio
- C. In the pipeline, pass the CodeBuild project output artifact to an AWS CodeDeploy action.
- D. Create a pipeline in AWS CodePipeline that uses the CodeCommit repository as a source provide
- E. Create separate pipeline stages that run a CodeBuild project to build and then test the applicatio
- F. In the pipeline, pass the CodeBuild project output artifact to an AWS CodeDeploy action.
- G. Create an AWS CodeDeploy application and a deployment group to deploy the packaged code to the EC2 instance
- H. Configure the ALB for the deployment group.
- I. Create individual Lambda functions that use AWS CodeDeploy instead of Systems Manager to run build, test, and deploy actions.
- J. Create an Amazon S3 bucket
- K. Modify the CodeBuild project to store the packages in the S3 bucket instead of in CodeArtifac
- L. Use deploy actions in CodeDeploy to deploy the artifact to the EC2 instances.

Answer: AC

Explanation:

To implement a more reliable deployment solution, a DevOps engineer should take the following actions:

? Create a pipeline in AWS CodePipeline that uses the CodeCommit repository as a source provider. Configure pipeline stages that run the CodeBuild project in parallel to build and test the application. In the pipeline, pass the CodeBuild project output artifact to an AWS CodeDeploy action. This action will improve the deployment reliability by automating the entire process from code commit to deployment, reducing human errors and inconsistencies. By running the build and test stages in parallel, the pipeline can also speed up the delivery time and provide faster feedback. By using CodeDeploy as the deployment action, the pipeline can leverage the features of CodeDeploy, such as traffic shifting, health checks, rollback, and deployment configuration¹²³

? Create an AWS CodeDeploy application and a deployment group to deploy the packaged code to the EC2 instances. Configure the ALB for the deployment group. This action will improve the deployment reliability by using CodeDeploy to orchestrate the deployment across multiple EC2 instances behind an ALB. CodeDeploy can perform blue/green deployments or in-place deployments with traffic shifting, which can minimize downtime and reduce risks. CodeDeploy can also monitor the health of the instances during and after the deployment, and automatically roll back if any issues are detected. By configuring the ALB for the deployment group, CodeDeploy can register and deregister instances from the load balancer as needed, ensuring that only healthy instances receive traffic⁴⁵

The other options are not correct because they do not improve the deployment reliability or follow best practices. Creating separate pipeline stages that run a CodeBuild project to build and then test the application is not a good option because it will increase the pipeline execution time and delay the feedback loop. Creating individual Lambda functions that use CodeDeploy instead of Systems Manager to run build, test, and deploy actions is not a valid option because it will add unnecessary complexity and cost to the solution. Lambda functions are not designed for long-running tasks such as building or deploying applications. Creating an Amazon S3 bucket and modifying the CodeBuild project to store the packages in the S3 bucket instead of in CodeArtifact is not a necessary option because it will not affect the deployment reliability. CodeArtifact is a secure, scalable, and cost- effective package management service that can store and share software packages for application development⁶⁷

References:

- ? 1: What is AWS CodePipeline? - AWS CodePipeline
- ? 2: Create a pipeline in AWS CodePipeline - AWS CodePipeline
- ? 3: Deploy an application with AWS CodeDeploy - AWS CodePipeline
- ? 4: What is AWS CodeDeploy? - AWS CodeDeploy
- ? 5: Configure an Application Load Balancer for your blue/green deployments - AWS CodeDeploy
- ? 6: What is AWS Lambda? - AWS Lambda
- ? 7: What is AWS CodeArtifact? - AWS CodeArtifact

NEW QUESTION 2

A company uses Amazon S3 to store proprietary information. The development team creates buckets for new projects on a daily basis. The security team wants to ensure that all existing and future buckets have encryption logging and versioning enabled. Additionally, no buckets should ever be publicly read or write accessible.

What should a DevOps engineer do to meet these requirements?

- A. Enable AWS CloudTrail and configure automatic remediation using AWS Lambda.
- B. Enable AWS Config rules and configure automatic remediation using AWS Systems Manager documents.
- C. Enable AWS Trusted Advisor and configure automatic remediation using Amazon EventBridge.
- D. Enable AWS Systems Manager and configure automatic remediation using Systems Manager documents.

Answer: B

Explanation:

<https://aws.amazon.com/blogs/mt/aws-config-auto-remediation-s3-compliance/> <https://aws.amazon.com/blogs/aws/aws-config-rules-dynamic-compliance-checking-for-cloud-resources/>

NEW QUESTION 3

A DevOps engineer is building an application that uses an AWS Lambda function to query an Amazon Aurora MySQL DB cluster. The Lambda function performs only read queries. Amazon EventBridge events invoke the Lambda function.

As more events invoke the Lambda function each second, the database's latency increases and the database's throughput decreases. The DevOps engineer needs to improve the performance of the application.

Which combination of steps will meet these requirements? (Select THREE.)

- A. Use Amazon RDS Proxy to create a prox
- B. Connect the proxy to the Aurora cluster reader endpoint
- C. Set a maximum connections percentage on the proxy.

- D. Implement database connection pooling inside the Lambda cod
- E. Set a maximum number of connections on the database connection pool.
- F. Implement the database connection opening outside the Lambda event handler code.
- G. Implement the database connection opening and closing inside the Lambda event handler code.
- H. Connect to the proxy endpoint from the Lambda function.
- I. Connect to the Aurora cluster endpoint from the Lambda function.

Answer: ACE

Explanation:

To improve the performance of the application, the DevOps engineer should use Amazon RDS Proxy, implement the database connection opening outside the Lambda event handler code, and connect to the proxy endpoint from the Lambda function. References:

? Amazon RDS Proxy is a fully managed, highly available database proxy for Amazon Relational Database Service (RDS) that makes applications more scalable, more resilient to database failures, and more secure¹. By using Amazon RDS Proxy, the DevOps engineer can reduce the overhead of opening and closing connections to the database, which can improve latency and throughput².

? The DevOps engineer should connect the proxy to the Aurora cluster reader

endpoint, which allows read-only connections to one of the Aurora Replicas in the DB cluster³. This can help balance the load across multiple read replicas and improve performance for read-intensive workloads⁴.

? The DevOps engineer should implement the database connection opening outside the Lambda event handler code, which means using a global variable to store the database connection object⁵. This can enable connection reuse across multiple invocations of the Lambda function, which can reduce latency and improve performance.

? The DevOps engineer should connect to the proxy endpoint from the Lambda function, which is a unique URL that represents the proxy. This can allow the Lambda function to access the database through the proxy, which can provide benefits such as connection pooling, load balancing, failover handling, and enhanced security.

? The other options are incorrect because:

NEW QUESTION 4

A company uses a single AWS account to test applications on Amazon EC2 instances. The company has turned on AWS Config in the AWS account and has activated the restricted-ssh AWS Config managed rule.

The company needs an automated monitoring solution that will provide a customized notification in real time if any security group in the account is not compliant with the restricted-ssh rule. The customized notification must contain the name and ID of the noncompliant security group.

A DevOps engineer creates an Amazon Simple Notification Service (Amazon SNS) topic in the account and subscribes the appropriate personnel to the topic.

What should the DevOps engineer do next to meet these requirements?

- A. Create an Amazon EventBridge rule that matches an AWS Config evaluation result of NON_COMPLIANT for the restricted-ssh rule
- B. Configure an input transformer for the EventBridge rule Configure the EventBridge rule to publish a notification to the SNS topic.
- C. Configure AWS Config to send all evaluation results for the restricted-ssh rule to the SNS topic
- D. Configure a filter policy on the SNS topic to send only notifications that contain the text of NON_COMPLIANT in the notification to subscribers.
- E. Create an Amazon EventBridge rule that matches an AWS Config evaluation result of NON_COMPLIANT for the restricted-ssh rule Configure the EventBridge rule to invoke AWS Systems Manager Run Command on the SNS topic to customize a notification and to publish the notification to the SNS topic
- F. Create an Amazon EventBridge rule that matches all AWS Config evaluation results of NON_COMPLIANT Configure an input transformer for the restricted-ssh rule Configure the EventBridge rule to publish a notification to the SNS topic.

Answer: A

Explanation:

Create an Amazon EventBridge (Amazon CloudWatch Events) rule that matches an AWS Config evaluation result of NON_COMPLIANT for the restricted-ssh rule. Configure an input transformer for the EventBridge (CloudWatch Events) rule. Configure the EventBridge (CloudWatch Events) rule to publish a notification to the SNS topic. This approach uses Amazon EventBridge (previously known as Amazon CloudWatch Events) to filter AWS Config evaluation results based on the restricted-ssh rule and its compliance status (NON_COMPLIANT). An input transformer can be used to customize the information contained in the notification, such as the name and ID of the noncompliant security group. The EventBridge (CloudWatch Events) rule can then be configured to publish a notification to the SNS topic, which will notify the appropriate personnel in real-time.

NEW QUESTION 5

A company is examining its disaster recovery capability and wants the ability to switch over its daily operations to a secondary AWS Region. The company uses AWS CodeCommit as a source control tool in the primary Region.

A DevOps engineer must provide the capability for the company to develop code in the secondary Region. If the company needs to use the secondary Region, developers can add an additional remote URL to their local Git configuration.

Which solution will meet these requirements?

- A. Create a CodeCommit repository in the secondary Region
- B. Create an AWS CodeBuild project to perform a Git mirror operation of the primary Region's CodeCommit repository to the secondary Region's CodeCommit repository
- C. Create an AWS Lambda function that invokes the CodeBuild project
- D. Create an Amazon EventBridge rule that reacts to merge events in the primary Region's CodeCommit repository
- E. Configure the EventBridge rule to invoke the Lambda function.
- F. Create an Amazon S3 bucket in the secondary Region
- G. Create an AWS Fargate task to perform a Git mirror operation of the primary Region's CodeCommit repository and copy the result to the S3 bucket
- H. Create an AWS Lambda function that initiates the Fargate task
- I. Create an Amazon EventBridge rule that reacts to merge events in the CodeCommit repository
- J. Configure the EventBridge rule to invoke the Lambda function.
- K. Create an AWS CodeArtifact repository in the secondary Region
- L. Create an AWS CodePipeline pipeline that uses the primary Region's CodeCommit repository for the source action
- M. Create a Cross-Region stage in the pipeline that packages the CodeCommit repository contents and stores the contents in the CodeArtifact repository when a pull request is merged into the CodeCommit repository.
- N. Create an AWS Cloud9 environment and a CodeCommit repository in the secondary Region
- O. Configure the primary Region's CodeCommit repository as a remote repository in the AWS Cloud9 environment
- P. Connect the secondary Region's CodeCommit repository to the AWS Cloud9 environment.

Answer: A

Explanation:

The best solution to meet the disaster recovery capability and allow developers to switch over to a secondary AWS Region for code development is option A. This involves creating a CodeCommit repository in the secondary Region and setting up an AWS CodeBuild project to perform a Git mirror operation of the primary Region's CodeCommit repository to the secondary Region's repository. An AWS Lambda function is then created to invoke the CodeBuild project. Additionally, an Amazon EventBridge rule is configured to react to merge events in the primary Region's CodeCommit repository and invoke the Lambda function¹². This setup ensures that the secondary Region's repository is always up-to-date with the primary repository, allowing for a seamless transition in case of a disaster recovery event¹.

References:

? AWS CodeCommit User Guide on resilience and disaster recovery¹.

? AWS Documentation on monitoring CodeCommit events in Amazon EventBridge and Amazon CloudWatch Events².

NEW QUESTION 6

A company is using an organization in AWS Organizations to manage multiple AWS accounts. The company's development team wants to use AWS Lambda functions to meet resiliency requirements and is rewriting all applications to work with Lambda functions that are deployed in a VPC. The development team is using Amazon Elastic File System (Amazon EFS) as shared storage in Account A in the organization.

The company wants to continue to use Amazon EFS with Lambda. Company policy requires all serverless projects to be deployed in Account B.

A DevOps engineer needs to reconfigure an existing EFS file system to allow Lambda functions to access the data through an existing EFS access point.

Which combination of steps should the DevOps engineer take to meet these requirements? (Select THREE.)

- A. Update the EFS file system policy to provide Account B with access to mount and write to the EFS file system in Account A.
- B. Create SCPs to set permission guardrails with fine-grained control for Amazon EFS.
- C. Create a new EFS file system in Account B. Use AWS Database Migration Service (AWS DMS) to keep data from Account A and Account B synchronized.
- D. Update the Lambda execution roles with permission to access the VPC and the EFS file system.
- E. Create a VPC peering connection to connect Account A to Account B.
- F. Configure the Lambda functions in Account B to assume an existing IAM role in Account A.

Answer: AEF

Explanation:

A Lambda function in one account can mount a file system in a different account. For this scenario, you configure VPC peering between the function VPC and the file system VPC. <https://docs.aws.amazon.com/lambda/latest/dg/services-efs.html> <https://aws.amazon.com/ru/blogs/storage/mount-amazon-efs-file-systems-cross-account-from-amazon-eks/>

* 1. Need to update the file system policy on EFS to allow mounting the file system into Account B.

File System Policy

```
$ cat file-system-policy.json
```

```
{
  "Statement": [
    {
      "Effect": "Allow", "Action": [
        "elasticfilesystem:ClientMount", "elasticfilesystem:ClientWrite"
      ],
      "Principal": {
        "AWS": "arn:aws:iam::<aws-account-id-A>:root" # Replace with AWS account ID of EKS cluster
      }
    }
  ]
}
```

* 2. Need VPC peering between Account A and Account B as the pre-requisite

* 3. Need to assume cross-account IAM role to describe the mounts so that a specific mount can be chosen.

NEW QUESTION 7

A company has containerized all of its in-house quality control applications. The company is running Jenkins on Amazon EC2 instances, which require patching and upgrading. The compliance officer has requested a DevOps engineer begin encrypting build artifacts since they contain company intellectual property.

What should the DevOps engineer do to accomplish this in the MOST maintainable manner?

- A. Automate patching and upgrading using AWS Systems Manager on EC2 instances and encrypt Amazon EBS volumes by default.
- B. Deploy Jenkins to an Amazon ECS cluster and copy build artifacts to an Amazon S3 bucket with default encryption enabled.
- C. Leverage AWS CodePipeline with a build action and encrypt the artifacts using AWS Secrets Manager.
- D. Use AWS CodeBuild with artifact encryption to replace the Jenkins instance running on EC2 instances.

Answer: D

Explanation:

The following are the steps involved in accomplishing this in the most maintainable manner:

? Use AWS CodeBuild with artifact encryption to replace the Jenkins instance running on EC2 instances.

? Configure CodeBuild to encrypt the build artifacts using AWS Secrets Manager.

? Deploy the containerized quality control applications to CodeBuild.

This approach is the most maintainable because it eliminates the need to manage Jenkins on EC2 instances. CodeBuild is a managed service, so the DevOps engineer does not need to worry about patching or upgrading the service. <https://docs.aws.amazon.com/codebuild/latest/userguide/security-encryption.html> Build artifact encryption - CodeBuild requires access to an AWS KMS CMK in order to encrypt its build output artifacts. By default, CodeBuild uses an AWS Key Management Service CMK for Amazon S3 in your AWS account. If you do not want to use this CMK, you must create and configure a customer-managed CMK. For more information Creating keys.

NEW QUESTION 8

A company is using an Amazon Aurora cluster as the data store for its application. The Aurora cluster is configured with a single DB instance. The application performs read and write operations on the database by using the cluster's instance endpoint.

The company has scheduled an update to be applied to the cluster during an upcoming maintenance window. The cluster must remain available with the least possible interruption during the maintenance window.

What should a DevOps engineer do to meet these requirements?

- A. Add a reader instance to the Aurora cluste
- B. Update the application to use the Aurora cluster endpoint for write operation
- C. Update the Aurora cluster's reader endpoint for reads.
- D. Add a reader instance to the Aurora cluste
- E. Create a custom ANY endpoint for the cluste
- F. Update the application to use the Aurora cluster's custom ANY endpoint for read and write operations.
- G. Turn on the Multi-AZ option on the Aurora cluste
- H. Update the application to use the Aurora cluster endpoint for write operation
- I. Update the Aurora cluster's reader endpoint for reads.
- J. Turn on the Multi-AZ option on the Aurora cluste
- K. Create a custom ANY endpoint for the cluste
- L. Update the application to use the Aurora cluster's custom ANY endpoint for read and write operations.

Answer: C

Explanation:

To meet the requirements, the DevOps engineer should do the following:

? Turn on the Multi-AZ option on the Aurora cluster.

? Update the application to use the Aurora cluster endpoint for write operations.

? Update the Aurora cluster's reader endpoint for reads.

Turning on the Multi-AZ option will create a replica of the database in a different Availability Zone. This will ensure that the database remains available even if one of the Availability Zones is unavailable.

Updating the application to use the Aurora cluster endpoint for write operations will ensure that all writes are sent to both the primary and replica databases. This will ensure that the data is always consistent.

Updating the Aurora cluster's reader endpoint for reads will allow the application to read data from the replica database. This will improve the performance of the application during the maintenance window.

NEW QUESTION 9

A company uses an organization in AWS Organizations to manage its AWS accounts. The company recently acquired another company that has standalone AWS accounts. The acquiring company's DevOps team needs to consolidate the administration of the AWS accounts for both companies and retain full administrative control of the accounts. The DevOps team also needs to collect and group findings across all the accounts to implement and maintain a security posture.

Which combination of steps should the DevOps team take to meet these requirements? (Select TWO.)

- A. Invite the acquired company's AWS accounts to join the organizatio
- B. Create an SCP that has full administrative privilege
- C. Attach the SCP to the management account.
- D. Invite the acquired company's AWS accounts to join the organizatio
- E. Create the OrganizationAccountAccessRole 1AM role in the invited account
- F. Grant permission to the management account to assume the role.
- G. Use AWS Security Hub to collect and group findings across all account
- H. Use Security Hub to automatically detect new accounts as the accounts are added to the organization.
- I. Use AWS Firewall Manager to collect and group findings across all account
- J. Enable all features for the organizatio
- K. Designate an account in the organization as the delegated administrator account for Firewall Manager.
- L. Use Amazon Inspector to collect and group findings across all account
- M. Designate an account in the organization as the delegated administrator account for Amazon Inspector.

Answer: BC

Explanation:

The correct answer is B and C. Option B is correct because inviting the acquired company's AWS accounts to join the organization and creating the OrganizationAccountAccessRole IAM role in the invited accounts allows the management account to assume the role and gain full administrative access to the member accounts. Option C is correct because using AWS Security Hub to collect and group findings across all accounts enables the DevOps team to monitor and improve the security posture of the organization. Security Hub can automatically detect new accounts as the accounts are added to the organization and enable Security Hub for them. Option A is incorrect because creating an SCP that has full administrative privileges and attaching it to the management account does not grant the management account access to the member accounts. SCPs are used to restrict the permissions of the member accounts, not to grant permissions to the management account. Option D is incorrect because using AWS Firewall Manager to collect and group findings across all accounts is not a valid use case for Firewall Manager. Firewall Manager is used to centrally configure and manage firewall rules across the organization, not to collect and group security findings. Option E is incorrect because using Amazon Inspector to collect and group findings across all accounts is not a valid use case for Amazon Inspector. Amazon Inspector is used to assess the security and compliance of applications running on Amazon EC2 instances, not to collect and group security findings across accounts. References:

? Inviting an AWS account to join your organization

? Enabling and disabling AWS Security Hub

? Service control policies

? AWS Firewall Manager

? Amazon Inspector

NEW QUESTION 10

A company is launching an application that stores raw data in an Amazon S3 bucket. Three applications need to access the data to generate reports. The data must be redacted differently for each application before the applications can access the data.

Which solution will meet these requirements?

- A. Create an S3 bucket for each applicatio
- B. Configure S3 Same-Region Replication (SRR) from the raw data's S3 bucket to each application's S3 bucke
- C. Configure each application to consume data from its own S3 bucket.
- D. Create an Amazon Kinesis data strea
- E. Create an AWS Lambda function that isinvoked by object creation events in the raw data's S3 bucke
- F. Program the Lambda function to redact data for each applicatio
- G. Publish the data on the Kinesis data strea
- H. Configure each application to consume data from the Kinesis data stream.

- I. For each application, create an S3 access point that uses the raw data's S3 bucket as the destination
- J. Create an AWS Lambda function that is invoked by object creation events in the raw data's S3 bucket
- K. Program the Lambda function to redact data for each application
- L. Store the data in each application's S3 access point
- M. Configure each application to consume data from its own S3 access point.
- N. Create an S3 access point that uses the raw data's S3 bucket as the destination
- O. For each application, create an S3 Object Lambda access point that uses the S3 access point
- P. Configure the AWS Lambda function for each S3 Object Lambda access point to redact data when objects are retrieved
- Q. Configure each application to consume data from its own S3 Object Lambda access point.

Answer: D

Explanation:

? The best solution is to use S3 Object Lambda¹, which allows you to add your own code to S3 GET, LIST, and HEAD requests to modify and process data as it is returned to an application². This way, you can redact the data differently for each application without creating and storing multiple copies of the data or running proxies.

? The other solutions are less efficient or scalable because they require replicating the data to multiple buckets, streaming the data through Kinesis, or storing the data in S3 access points.

References: 1: Amazon S3 Features | Object Lambda | AWS 2: Transforming objects with S3 Object Lambda - Amazon Simple Storage Service

NEW QUESTION 10

A company is testing a web application that runs on Amazon EC2 instances behind an Application Load Balancer. The instances run in an Auto Scaling group across multiple Availability Zones. The company uses a blue green deployment process with immutable instances when deploying new software. During testing users are being automatically logged out of the application at random times. Testers also report that when a new version of the application is deployed all users are logged out. The development team needs a solution to ensure users remain logged in across scaling events and application deployments. What is the MOST operationally efficient way to ensure users remain logged in?

- A. Enable smart sessions on the load balancer and modify the application to check for an existing session.
- B. Enable session sharing on the load balancer and modify the application to read from the session store.
- C. Store user session information in an Amazon S3 bucket and modify the application to read session information from the bucket.
- D. Modify the application to store user session information in an Amazon ElastiCache cluster.

Answer: D

Explanation:

<https://aws.amazon.com/caching/session-management/>

NEW QUESTION 14

A company uses a series of individual Amazon CloudFormation templates to deploy its multi-Region Applications. These templates must be deployed in a specific order. The company is making more changes to the templates than previously expected and wants to deploy new templates more efficiently. Additionally, the data engineering team must be notified of all changes to the templates. What should the company do to accomplish these goals?

- A. Create an AWS Lambda function to deploy the CloudFormation templates in the required order Use stack policies to alert the data engineering team.
- B. Host the CloudFormation templates in Amazon S3 Use Amazon S3 events to directly trigger CloudFormation updates and Amazon SNS notifications.
- C. Implement CloudFormation StackSets and use drift detection to trigger update alerts to the data engineering team.
- D. Leverage CloudFormation nested stacks and stack sets (or deployments) Use Amazon SNS to notify the data engineering team.

Answer: D

Explanation:

This solution will meet the requirements because it will use CloudFormation nested stacks and stack sets to deploy the templates more efficiently and consistently across multiple regions. Nested stacks allow the company to separate out common components and reuse templates, while stack sets allow the company to create stacks in multiple accounts and regions with a single template. The company can also use Amazon SNS to send notifications to the data engineering team whenever a change is made to the templates or the stacks. Amazon SNS is a service that allows you to publish messages to subscribers, such as email addresses, phone numbers, or other AWS services. By using Amazon SNS, the company can ensure that the data engineering team is aware of all changes to the templates and can take appropriate actions if needed. What is Amazon SNS? - Amazon Simple Notification Service

NEW QUESTION 15

A company has configured an Amazon S3 event source on an AWS Lambda function. The company needs the Lambda function to run when a new object is created or an existing object is modified in a particular S3 bucket. The Lambda function will use the S3 bucket name and the S3 object key of the incoming event to read the contents of the created or modified S3 object. The Lambda function will parse the contents and save the parsed contents to an Amazon DynamoDB table. The Lambda function's execution role has permissions to read from the S3 bucket and to write to the DynamoDB table. During testing, a DevOps engineer discovers that the Lambda function does not run when objects are added to the S3 bucket or when existing objects are modified. Which solution will resolve this problem?

- A. Increase the memory of the Lambda function to give the function the ability to process large files from the S3 bucket.
- B. Create a resource policy on the Lambda function to grant Amazon S3 the permission to invoke the Lambda function for the S3 bucket
- C. Configure an Amazon Simple Queue Service (Amazon SQS) queue as an OnFailure destination for the Lambda function
- D. Provision space in the /tmp folder of the Lambda function to give the function the ability to process large files from the S3 bucket

Answer: B

Explanation:

? Option A is incorrect because increasing the memory of the Lambda function does not address the root cause of the problem, which is that the Lambda function is not triggered by the S3 event source. Increasing the memory of the Lambda function might improve its performance or reduce its execution time, but it does not affect its invocation. Moreover, increasing the memory of the Lambda function might incur higher costs, as Lambda charges based on the amount of memory allocated to the function.

? Option B is correct because creating a resource policy on the Lambda function to grant Amazon S3 the permission to invoke the Lambda function for the S3

bucket is a necessary step to configure an S3 event source. A resource policy is a JSON document that defines who can access a Lambda resource and under what conditions. By granting Amazon S3 permission to invoke the Lambda function, the company ensures that the Lambda function runs when a new object is created or an existing object is modified in the S3 bucket1.

? Option C is incorrect because configuring an Amazon Simple Queue Service (Amazon SQS) queue as an On-Failure destination for the Lambda function does not help with triggering the Lambda function. An On-Failure destination is a feature that allows Lambda to send events to another service, such as SQS or Amazon Simple Notification Service (Amazon SNS), when a function invocation fails. However, this feature only applies to asynchronous invocations, and S3 event sources use synchronous invocations. Therefore, configuring an SQS queue as an On-Failure destination would have no effect on the problem.

? Option D is incorrect because provisioning space in the /tmp folder of the Lambda function does not address the root cause of the problem, which is that the Lambda function is not triggered by the S3 event source. Provisioning space in the /tmp folder of the Lambda function might help with processing large files from the S3 bucket, as it provides temporary storage for up to 512 MB of data. However, it does not affect the invocation of the Lambda function.

References:

- ? Using AWS Lambda with Amazon S3
- ? Lambda resource access permissions
- ? AWS Lambda destinations
- ? [AWS Lambda file system]

NEW QUESTION 20

A company has multiple development teams in different business units that work in a shared single AWS account All Amazon EC2 resources that are created in the account must include tags that specify who created the resources. The tagging must occur within the first hour of resource creation.

A DevOps engineer needs to add tags to the created resources that Include the user ID that created the resource and the cost center ID The DevOps engineer configures an AWS Lambda function With the cost center mappings to tag the resources. The DevOps engineer also sets up AWS CloudTrail in the AWS account.

An Amazon S3 bucket stores the CloudTrail event logs

Which solution will meet the tagging requirements?

- A. Create an S3 event notification on the S3 bucket to invoke the Lambda function for s3.ObjectTagging:Put event
- B. Enable bucket versioning on the S3 bucket.
- C. Enable server access logging on the S3 bucke
- D. Create an S3 event notification on the S3 bucket for s3.ObjectTagging. events
- E. Create a recurring hourly Amazon EventBridge scheduled rule that invokes the Larnbda functio
- F. Modify the Lambda function to read the logs from the S3 bucket
- G. Create an Amazon EventBridge rule that uses Amazon EC2 as the event sourc
- H. Configure the rule to match events delivered by CloudTrai
- I. Configure the rule to target the Lambda function

Answer: D

Explanation:

? Option A is incorrect because S3 event notifications do not support s3.ObjectTagging:Put events. S3 event notifications only support events related to object creation, deletion, replication, and restore. Moreover, enabling bucket versioning on the S3 bucket is not relevant to the tagging requirements, as it only keeps multiple versions of objects in the bucket.

? Option B is incorrect because enabling server access logging on the S3 bucket does not help with tagging the resources. Server access logging only records requests for access to the bucket or its objects. It does not capture the user ID or the cost center ID of the resources. Furthermore, creating an S3 event notification on the S3 bucket for s3.ObjectTagging:Put events is not possible, as explained in option A.

? Option C is incorrect because creating a recurring hourly Amazon EventBridge scheduled rule that invokes the Lambda function is not efficient or timely. The Lambda function would have to read the logs from the S3 bucket every hour and tag the resources accordingly, which could incur unnecessary costs and delays. A better solution would be to trigger the Lambda function as soon as a resource is created, rather than waiting for an hourly schedule.

? Option D is correct because creating an Amazon EventBridge rule that uses Amazon EC2 as the event source and matches events delivered by CloudTrail is a valid way to tag the resources. CloudTrail records all API calls made to AWS services, including EC2, and delivers them as events to EventBridge. The EventBridge rule can filter the events based on the user ID and the resource type, and then target the Lambda function to tag the resources with the cost center ID. This solution meets the tagging requirements in a timely and efficient manner.

References:

- ? S3 event notifications
- ? Server access logging
- ? Amazon EventBridge rules
- ? AWS CloudTrail

NEW QUESTION 22

An AWS CodePipeline pipeline has implemented a code release process. The pipeline is integrated with AWS CodeDeploy to deploy versions of an application to multiple Amazon EC2 instances for each CodePipeline stage.

During a recent deployment the pipeline failed due to a CodeDeploy issue. The DevOps team wants to improve monitoring and notifications during deployment to decrease resolution times.

What should the DevOps engineer do to create notifications. When issues are discovered?

- A. Implement Amazon CloudWatch Logs for CodePipeline and CodeDeploy create an AWS Config rule to evaluate code deployment issues, and create an Amazon Simple Notification Service (Amazon SNS) topic to notify stakeholders of deployment issues.
- B. Implement Amazon EventBridge for CodePipeline and CodeDeploy create an AWS Lambda function to evaluate code deployment issues, and create an Amazon Simple Notification Service (Amazon SNS) topic to notify stakeholders of deployment issues.
- C. Implement AWS CloudTrail to record CodePipeline and CodeDeploy API call information create an AWS Lambda function to evaluate code deployment issues and create an Amazon Simple Notification Service (Amazon SNS) topic to notify stakeholders of deployment issues.
- D. Implement Amazon EventBridge for CodePipeline and CodeDeploy create an Amazo
- E. Inspector assessment target to evaluate code deployment issues and create an Amazon Simpl
- F. Notification Service (Amazon SNS) topic to notify stakeholders of deployment issues.

Answer: B

Explanation:

AWS CloudWatch Events can be used to monitor events across different AWS resources, and a CloudWatch Event Rule can be created to trigger an AWS Lambda function when a deployment issue is detected in the pipeline. The Lambda function can then evaluate the issue and send a notification to the appropriate stakeholders through an Amazon SNS topic. This approach allows for real-time notifications and faster resolution times.

NEW QUESTION 24

A company that uses electronic health records is running a fleet of Amazon EC2 instances with an Amazon Linux operating system. As part of patient privacy requirements, the company must ensure continuous compliance for patches for operating system and applications running on the EC2 instances. How can the deployments of the operating system and application patches be automated using a default and custom repository?

- A. Use AWS Systems Manager to create a new patch baseline including the custom repository
- B. Run the AWS-RunPatchBaseline document using the run command to verify and install patches.
- C. Use AWS Direct Connect to integrate the corporate repository and deploy the patches using Amazon CloudWatch scheduled events, then use the CloudWatch dashboard to create reports.
- D. Use yum-config-manager to add the custom repository under /etc/yum.repos.d and run yum-config-manager-enable to activate the repository.
- E. Use AWS Systems Manager to create a new patch baseline including the corporate repository
- F. Run the AWS-AmazonLinuxDefaultPatchBaseline document using the run command to verify and install patches.

Answer: A

Explanation:

<https://docs.aws.amazon.com/systems-manager/latest/userguide/patch-manager-how-it-works-alt-source-repository.html>

NEW QUESTION 28

A DevOps engineer manages a large commercial website that runs on Amazon EC2. The website uses Amazon Kinesis Data Streams to collect and process web logs. The DevOps engineer manages the Kinesis consumer application, which also runs on Amazon EC2.

Sudden increases of data cause the Kinesis consumer application to fall behind and the Kinesis data streams drop records before the records can be processed.

The DevOps engineer must implement a solution to improve stream handling.

Which solution meets these requirements with the MOST operational efficiency?

- A. Modify the Kinesis consumer application to store the logs durably in Amazon S3. Use Amazon EMR to process the data directly on Amazon S3 to derive customer insights. Store the results in Amazon S3.
- B. Horizontally scale the Kinesis consumer application by adding more EC2 instances based on the Amazon CloudWatch GetRecords.IteratorAge.Milliseconds metric. Increase the retention period of the Kinesis data streams.
- C. Convert the Kinesis consumer application to run as an AWS Lambda function.
- D. Configure the Kinesis data streams as the event source for the Lambda function to process the data streams.
- E. Increase the number of shards in the Kinesis data streams to increase the overall throughput so that the consumer application processes the data faster.

Answer: B

Explanation:

<https://docs.aws.amazon.com/streams/latest/dev/monitoring-with-cloudwatch.html>

GetRecords.IteratorAge.Milliseconds - The age of the last record in all GetRecords calls made against a Kinesis stream, measured over the specified time period.

Age is the difference between the current time and when the last record of the GetRecords call was written to the stream. The Minimum and Maximum statistics can be used to track the progress of Kinesis consumer applications. A value of zero indicates that the records being read are completely caught up.

NEW QUESTION 32

A company is using AWS CodePipeline to automate its release pipeline. AWS CodeDeploy is being used in the pipeline to deploy an application to Amazon Elastic Container Service (Amazon ECS) using the blue/green deployment model. The company wants to implement scripts to test the green version of the application before shifting traffic. These scripts will complete in 5 minutes or less. If errors are discovered during these tests, the application must be rolled back.

Which strategy will meet these requirements?

- A. Add a stage to the CodePipeline pipeline between the source and deploy stage.
- B. Use AWS CodeBuild to create a runtime environment and build commands in the buildspec file to invoke test script.
- C. If errors are found, use the aws deploy stop-deployment command to stop the deployment.
- D. Add a stage to the CodePipeline pipeline between the source and deploy stage.
- E. Use this stage to invoke an AWS Lambda function that will run the test script.
- F. If errors are found, use the aws deploy stop-deployment command to stop the deployment.
- G. Add a hooks section to the CodeDeploy AppSpec file.
- H. Use the AfterAllowTestTraffic lifecycle event to invoke an AWS Lambda function to run the test script.
- I. If errors are found, exit the Lambda function with an error to initiate rollback.
- J. Add a hooks section to the CodeDeploy AppSpec file.
- K. Use the AfterAllowTraffic lifecycle event to invoke the test script.
- L. If errors are found, use the aws deploy stop-deployment CLI command to stop the deployment.

Answer: C

Explanation:

<https://docs.aws.amazon.com/codedeploy/latest/userguide/reference-appspec-file-structure-hooks.html>

NEW QUESTION 35

A company is implementing an Amazon Elastic Container Service (Amazon ECS) cluster to run its workload. The company architecture will run multiple ECS services on the cluster. The architecture includes an Application Load Balancer on the front end and uses multiple target groups to route traffic.

A DevOps engineer must collect application and access logs. The DevOps engineer then needs to send the logs to an Amazon S3 bucket for near-real-time analysis.

Which combination of steps must the DevOps engineer take to meet these requirements? (Choose three.)

- A. Download the Amazon CloudWatch Logs container instance from AWS
- B. Configure this instance as a task
- C. Update the application service definitions to include the logging task.
- D. Install the Amazon CloudWatch Logs agent on the ECS instance
- E. Change the logging driver in the ECS task definition to awslogs.
- F. Use Amazon EventBridge to schedule an AWS Lambda function that will run every 60 seconds and will run the Amazon CloudWatch Logs create-export-task command
- G. Then point the output to the logging S3 bucket.

- H. Activate access logging on the AL
- I. Then point the ALB directly to the logging S3 bucket.
- J. Activate access logging on the target groups that the ECS services us
- K. Then send the logs directly to the logging S3 bucket.
- L. Create an Amazon Kinesis Data Firehose delivery stream that has a destination of the logging S3 bucket
- M. Then create an Amazon CloudWatch Logs subscription filter for Kinesis Data Firehose.

Answer: BDF

Explanation:

<https://docs.aws.amazon.com/AmazonECS/latest/developerguide/ecs-logging-monitoring.html>

NEW QUESTION 40

A company manages a web application that runs on Amazon EC2 instances behind an Application Load Balancer (ALB). The EC2 instances run in an Auto Scaling group across multiple Availability Zones. The application uses an Amazon RDS for MySQL DB instance to store the data. The company has configured Amazon Route 53 with an alias record that points to the ALB.

A new company guideline requires a geographically isolated disaster recovery (DR) site with an RTO of 4 hours and an RPO of 15 minutes.

Which DR strategy will meet these requirements with the LEAST change to the application stack?

- A. Launch a replica environment of everything except Amazon RDS in a different Availability Zone. Create an RDS read replica in the new Availability Zone, and configure the new stack to point to the local RDS DB instance.
- B. Add the new stack to the Route 53 record set by using a health check to configure a failover routing policy.
- C. Launch a replica environment of everything except Amazon RDS in a different AWS Region.
- D. Create an RDS read replica in the new Region and configure the new stack to point to the local RDS DB instance.
- E. Add the new stack to the Route 53 record set by using a health check to configure a latency routing policy.
- F. Launch a replica environment of everything except Amazon RDS in a different AWS Region.
- G. In the event of an outage, copy and restore the latest RDS snapshot from the primary Region to the DR Region.
- H. Adjust the Route 53 record set to point to the ALB in the DR Region.
- I. Launch a replica environment of everything except Amazon RDS in a different AWS Region.
- J. Create an RDS read replica in the new Region and configure the new environment to point to the local RDS DB instance.
- K. Add the new stack to the Route 53 record set by using a health check to configure a failover routing policy.
- L. In the event of an outage, promote the read replica to primary.

Answer: D

NEW QUESTION 45

A company has developed an AWS Lambda function that handles orders received through an API. The company is using AWS CodeDeploy to deploy the Lambda function as the final stage of a CI/CD pipeline.

A DevOps engineer has noticed there are intermittent failures of the ordering API for a few seconds after deployment. After some investigation, the DevOps engineer believes the failures are due to database changes not having fully propagated before the Lambda function is invoked.

How should the DevOps engineer overcome this?

- A. Add a BeforeAllowTraffic hook to the AppSpec file that tests and waits for any necessary database changes before traffic can flow to the new version of the Lambda function.
- B. Add an AfterAllowTraffic hook to the AppSpec file that forces traffic to wait for any pending database changes before allowing the new version of the Lambda function to respond.
- C. Add a BeforeAllowTraffic hook to the AppSpec file that tests and waits for any necessary database changes before deploying the new version of the Lambda function.
- D. Add a validateService hook to the AppSpec file that inspects incoming traffic and rejects the payload if dependent services such as the database are not yet ready.

Answer: A

Explanation:

<https://docs.aws.amazon.com/codedeploy/latest/userguide/reference-appspec-file-structure-hooks.html#appspec-hooks-lambda>

NEW QUESTION 50

A company needs to implement failover for its application. The application includes an Amazon CloudFront distribution and a public Application Load Balancer (ALB) in an AWS Region. The company has configured the ALB as the default origin for the distribution.

After some recent application outages, the company wants a zero-second RTO. The company deploys the application to a secondary Region in a warm standby configuration. A DevOps engineer needs to automate the failover of the application to the secondary Region so that HTTP GET requests meet the desired RTO.

Which solution will meet these requirements?

- A. Create a second CloudFront distribution that has the secondary ALB as the default origin.
- B. Create Amazon Route 53 alias records that have a failover policy and Evaluate Target Health set to Yes for both CloudFront distributions.
- C. Update the application to use the new record set.
- D. Create a new origin on the distribution for the secondary ALB.
- E. Create a new origin group.
- F. Set the original ALB as the primary origin.
- G. Configure the origin group to fail over for HTTP 5xx status code.
- H. Update the default behavior to use the origin group.
- I. Create Amazon Route 53 alias records that have a failover policy and Evaluate Target Health set to Yes for both ALBs.
- J. Set the TTL of both records to 0. Update the distribution's origin to use the new record set.
- K. Create a CloudFront function that detects HTTP 5xx status code.
- L. Configure the function to return a 307 Temporary Redirect error response to the secondary ALB if the function detects 5xx status code.
- M. Update the distribution's default behavior to send origin responses to the function.

Answer: B

Explanation:

The best solution to implement failover for the application is to use CloudFront origin groups. Origin groups allow CloudFront to automatically switch to a secondary origin when the primary origin is unavailable or returns specific HTTP status codes that indicate a failure¹. This way, CloudFront can serve the requests from the secondary ALB in the secondary Region without any delay or redirection. To set up origin groups, the DevOps engineer needs to create a new origin on the distribution for the secondary ALB, create a new origin group with the original ALB as the primary origin and the secondary ALB as the secondary origin, and configure the origin group to fail over for HTTP 5xx status codes. Then, the DevOps engineer needs to update the default behavior to use the origin group instead of the single origin².

The other options are not as effective or efficient as the solution in option B. Option A is not suitable because creating a second CloudFront distribution will increase the complexity and cost of the application. Moreover, using Route 53 alias records with a failover policy will introduce some delay in detecting and switching to the secondary CloudFront distribution, which may not meet the zero-second RTO requirement. Option C is not feasible because CloudFront does not support using Route 53 alias records as origins³. Option D is not advisable because using a CloudFront function to redirect the requests to the secondary ALB will add an extra round-trip and latency to the failover process, which may also not meet the zero-second RTO requirement.

References:

? 1: Optimizing high availability with CloudFront origin failover - Amazon CloudFront

? 2: Creating an origin group - Amazon CloudFront

? 3: Values That You Specify When You Create or Update a Web Distribution - Amazon CloudFront

NEW QUESTION 52

A company has an application that includes AWS Lambda functions. The Lambda functions run Python code that is stored in an AWS CodeCommit repository. The company has recently experienced failures in the production environment because of an error in the Python code. An engineer has written unit tests for the Lambda functions to help avoid releasing any future defects into the production environment.

The company's DevOps team needs to implement a solution to integrate the unit tests into an existing AWS CodePipeline pipeline. The solution must produce reports about the unit tests for the company to view.

Which solution will meet these requirements?

- A. Associate the CodeCommit repository with Amazon CodeGuru Reviewer
- B. Create a new AWS CodeBuild project
- C. In the CodePipeline pipeline, configure a test stage that uses the new CodeBuild project
- D. Create a buildspec.yml file in the CodeCommit repository
- E. In the buildspec.yml file, define the actions to run a CodeGuru review.
- F. Create a new AWS CodeBuild project
- G. In the CodePipeline pipeline, configure a test stage that uses the new CodeBuild project
- H. Create a CodeBuild report group
- I. Create a buildspec.yml file in the CodeCommit repository
- J. In the buildspec.yml file, define the actions to run the unit tests with an output of JUNITXML in the build phase section. Configure the test reports to be uploaded to the new CodeBuild report group.
- K. Create a new AWS CodeArtifact repository
- L. Create a new AWS CodeBuild project
- M. In the CodePipeline pipeline, configure a test stage that uses the new CodeBuild project
- N. Create an appspec.yml file in the original CodeCommit repository
- O. In the appspec.yml file, define the actions to run the unit tests with an output of CUCUMBERJSON in the build phase section
- P. Configure the test reports to be sent to the new CodeArtifact repository.
- Q. Create a new AWS CodeBuild project
- R. In the CodePipeline pipeline, configure a test stage that uses the new CodeBuild project
- S. Create a new Amazon S3 bucket
- T. Create a buildspec.yml file in the CodeCommit repository
- . In the buildspec.yml file, define the actions to run the unit tests with an output of HTML in the phases section
- . In the reports section, upload the test reports to the S3 bucket.

Answer: B

Explanation:

The correct answer is B. Creating a new AWS CodeBuild project and configuring a test stage in the AWS CodePipeline pipeline that uses the new CodeBuild project is the best way to integrate the unit tests into the existing pipeline. Creating a CodeBuild report group and uploading the test reports to the new CodeBuild report group will produce reports about the unit tests for the company to view. Using JUNITXML as the output format for the unit tests is supported by CodeBuild and will generate a valid report. Option A is incorrect because Amazon CodeGuru Reviewer is a service that provides automated code reviews and recommendations for improving code quality and performance. It is not a tool for running unit tests or producing test reports. Therefore, option A will not meet the requirements.

Option C is incorrect because AWS CodeArtifact is a service that provides secure, scalable, and cost-effective artifact management for software development. It is not a tool for running unit tests or producing test reports. Moreover, option C uses CUCUMBERJSON as the output format for the unit tests, which is not supported by CodeBuild and will not generate a valid report.

Option D is incorrect because uploading the test reports to an Amazon S3 bucket is not the best way to produce reports about the unit tests for the company to view. CodeBuild has a built-in feature to create and manage test reports, which is more convenient and efficient than using S3. Furthermore, option D uses HTML as the output format for the unit tests, which is not supported by CodeBuild and will not generate a valid report.

NEW QUESTION 53

A company uses AWS Organizations to manage multiple accounts. Information security policies require that all unencrypted Amazon EBS volumes be marked as non-compliant. A DevOps engineer needs to automatically deploy the solution and ensure that this compliance check is always present.

Which solution will accomplish this?

- A. Create an AWS CloudFormation template that defines an AWS Inspector rule to check whether EBS encryption is enabled
- B. Save the template to an Amazon S3 bucket that has been shared with all accounts within the company
- C. Update the account creation script pointing to the CloudFormation template in Amazon S3.
- D. Create an AWS Config organizational rule to check whether EBS encryption is enabled and deploy the rule using the AWS CLI
- E. Create and apply an SCP to prohibit stopping and deleting AWS Config across the organization.
- F. Create an SCP in Organization
- G. Set the policy to prevent the launch of Amazon EC2 instances without encryption on the EBS volumes using a conditional expression
- H. Apply the SCP to all AWS accounts
- I. Use Amazon Athena to analyze the AWS CloudTrail output, looking for events that deny an ec2: RunInstances action.
- J. Deploy an IAM role to all accounts from a single trusted account
- K. Build a pipeline with AWS CodePipeline with a stage in AWS Lambda to assume the IAM role, and list all EBS volumes in the accounts
- L. Publish a report to Amazon S3.

Answer: B

Explanation:

<https://docs.aws.amazon.com/config/latest/developerguide/ec2-ebs-encryption-by-default.html>

NEW QUESTION 55

A company updated the AWS Cloud Formation template for a critical business application. The stack update process failed due to an error in the updated template and AWS CloudFormation automatically began the stack rollback process. Later a DevOps engineer discovered that the application was still unavailable and that the stack was in the UPDATE_ROLLBACK_FAILED state.

Which combination of actions should the DevOps engineer perform so that the stack rollback can complete successfully? (Select TWO.)

- A. Attach the AWS CloudFormation FullAccess IAM policy to the AWS CloudFormation role.
- B. Automatically recover the stack resources by using AWS CloudFormation drift detection.
- C. Issue a ContinueUpdateRollback command from the AWS CloudFormation console or the AWS CLI.
- D. Manually adjust the resources to match the expectations of the stack.
- E. Update the existing AWS CloudFormation stack by using the original template.

Answer: CD

Explanation:

<https://docs.aws.amazon.com/cli/latest/reference/cloudformation/continue-update-rollback.html> For a specified stack that is in the UPDATE_ROLLBACK_FAILED state, continues rolling it back to the UPDATE_ROLLBACK_COMPLETE state. Depending on the cause of the failure, you can manually fix the error and continue the rollback. By continuing the rollback, you can return your stack to a working state (the UPDATE_ROLLBACK_COMPLETE state), and then try to update the stack again.

NEW QUESTION 58

A developer is maintaining a fleet of 50 Amazon EC2 Linux servers. The servers are part of an Amazon EC2 Auto Scaling group, and also use Elastic Load Balancing for load balancing.

Occasionally, some application servers are being terminated after failing ELB HTTP health checks. The developer would like to perform a root cause analysis on the issue, but before being able to access application logs, the server is terminated.

How can log collection be automated?

- A. Use Auto Scaling lifecycle hooks to put instances in a Pending:Wait state.
- B. Create an Amazon CloudWatch alarm for EC2 Instance Terminate Successful and trigger an AWS Lambda function that invokes an SSM Run Command script to collect logs, push them to Amazon S3, and complete the lifecycle action once logs are collected.
- C. Use Auto Scaling lifecycle hooks to put instances in a Terminating:Wait state.
- D. Create an AWS Config rule for EC2 Instance-terminate Lifecycle Action and trigger a step function that invokes a script to collect logs, push them to Amazon S3, and complete the lifecycle action once logs are collected.
- E. Use Auto Scaling lifecycle hooks to put instances in a Terminating:Wait state.
- F. Create an Amazon CloudWatch subscription filter for EC2 Instance Terminate Successful and trigger a CloudWatch agent that invokes a script to collect logs, push them to Amazon S3, and complete the lifecycle action once logs are collected.
- G. Use Auto Scaling lifecycle hooks to put instances in a Terminating:Wait state.
- H. Create an Amazon EventBridge rule for EC2 Instance-terminate Lifecycle Action and trigger an AWS Lambda function that invokes an SSM Run Command script to collect logs, push them to Amazon S3, and complete the lifecycle action once logs are collected.

Answer: D

Explanation:

<https://blog.fourninecloud.com/auto-scaling-lifecycle-hooks-to-export-server-logs-when-instance-terminating-58e06d7c0d6a>

NEW QUESTION 63

A company uses AWS Secrets Manager to store a set of sensitive API keys that an AWS Lambda function uses. When the Lambda function is invoked, the Lambda function retrieves the API keys and makes an API call to an external service. The Secrets Manager secret is encrypted with the default AWS Key Management Service (AWS KMS) key.

A DevOps engineer needs to update the infrastructure to ensure that only the Lambda function's execution role can access the values in Secrets Manager. The solution must apply the principle of least privilege.

Which combination of steps will meet these requirements? (Select TWO.)

- A. Update the default KMS key for Secrets Manager to allow only the Lambda function's execution role to decrypt.
- B. Create a KMS customer managed key that trusts Secrets Manager and allows the Lambda function's execution role to decrypt.
- C. Update Secrets Manager to use the new customer managed key.
- D. Create a KMS customer managed key that trusts Secrets Manager and allows the account's root principal to decrypt.
- E. Update Secrets Manager to use the new customer managed key.
- F. Ensure that the Lambda function's execution role has the KMS permissions scoped on the resource level.
- G. Configure the permissions so that the KMS key can encrypt the Secrets Manager secret.
- H. Remove all KMS permissions from the Lambda function's execution role.

Answer: BD

Explanation:

The requirement is to update the infrastructure to ensure that only the Lambda function's execution role can access the values in Secrets Manager. The solution must apply the principle of least privilege, which means granting the minimum permissions necessary to perform a task.

To do this, the DevOps engineer needs to use the following steps:

? Create a KMS customer managed key that trusts Secrets Manager and allows the Lambda function's execution role to decrypt. A customer managed key is a symmetric encryption key that is fully managed by the customer. The customer can define the key policy, which specifies who can use and manage the key. By creating a customer managed key, the DevOps engineer can restrict the decryption permission to only the Lambda function's execution role, and prevent other principals from accessing the secret values. The customer managed key also needs to trust Secrets Manager, which means allowing Secrets Manager to use the key to encrypt and decrypt secrets on behalf of the customer.

? Update Secrets Manager to use the new customer managed key. Secrets Manager allows customers to choose which KMS key to use for encrypting each secret. By default, Secrets Manager uses the default KMS key for Secrets Manager, which is a service-managed key that is shared by all customers in the same

AWS Region. By updating Secrets Manager to use the new customer managed key, the DevOps engineer can ensure that only the Lambda function's execution role can decrypt the secret values using that key.

? Ensure that the Lambda function's execution role has the KMS permissions scoped on the resource level. The Lambda function's execution role is an IAM role that grants permissions to the Lambda function to access AWS services and resources. The role needs to have KMS permissions to use the customer managed key for decryption. However, to apply the principle of least privilege, the role should have the permissions scoped on the resource level, which means specifying the ARN of the customer managed key as a condition in the IAM policy statement. This way, the role can only use that specific key and not any other KMS keys in the account.

NEW QUESTION 67

A DevOps engineer is architecting a continuous development strategy for a company's software as a service (SaaS) web application running on AWS. For application and security reasons users subscribing to this application are distributed across multiple. Application Load Balancers (ALBs) each of which has a dedicated Auto Scaling group and fleet of Amazon EC2 instances The application does not require a build stage and when it is committed to AWS CodeCommit, the application must trigger a simultaneous deployment to all ALBs Auto Scaling groups and EC2 fleets.

Which architecture will meet these requirements with the LEAST amount of configuration?

- A. Create a single AWS CodePipeline pipeline that deploys the application in parallel using unique AWS CodeDeploy applications and deployment groups created for each ALB-Auto Scaling group pair.
- B. Create a single AWS CodePipeline pipeline that deploys the application using a single AWS CodeDeploy application and single deployment group.
- C. Create a single AWS CodePipeline pipeline that deploys the application in parallel using a single AWS CodeDeploy application and unique deployment group for each ALB-Auto Scaling group pair.
- D. Create an AWS CodePipeline pipeline for each ALB-Auto Scaling group pair that deploys the application using an AWS CodeDeploy application and deployment group created for the same ALB-Auto Scaling group pair.

Answer: C

Explanation:

<https://docs.aws.amazon.com/codedeploy/latest/userguide/deployment-groups.html>

NEW QUESTION 71

A company must encrypt all AMIs that the company shares across accounts. A DevOps engineer has access to a source account where an unencrypted custom AMI has been built. The DevOps engineer also has access to a target account where an Amazon EC2 Auto Scaling group will launch EC2 instances from the AMI. The DevOps engineer must share the AMI with the target account.

The company has created an AWS Key Management Service (AWS KMS) key in the source account.

Which additional steps should the DevOps engineer perform to meet the requirements? (Choose three.)

- A. In the source account, copy the unencrypted AMI to an encrypted AM
- B. Specify the KMS key in the copy action.
- C. In the source account, copy the unencrypted AMI to an encrypted AM
- D. Specify the default Amazon Elastic Block Store (Amazon EBS) encryption key in the copy action.
- E. In the source account, create a KMS grant that delegates permissions to the Auto Scaling group service-linked role in the target account.
- F. In the source account, modify the key policy to give the target account permissions to create a gran
- G. In the target account, create a KMS grant that delegates permissions to the Auto Scaling group service-linked role.
- H. In the source account, share the unencrypted AMI with the target account.
- I. In the source account, share the encrypted AMI with the target account.

Answer: ADF

Explanation:

The Auto Scaling group service-linked role must have a specific grant in the source account in order to decrypt the encrypted AMI. This is because the service-linked role does not have permissions to assume the default IAM role in the source account. The following steps are required to meet the requirements:

? In the source account, copy the unencrypted AMI to an encrypted AMI. Specify the KMS key in the copy action.

? In the source account, create a KMS grant that delegates permissions to the Auto Scaling group service-linked role in the target account.

? In the source account, share the encrypted AMI with the target account.

? In the target account, attach the KMS grant to the Auto Scaling group service-linked role.

The first three steps are the same as the steps that I described earlier. The fourth step is required to grant the Auto Scaling group service-linked role permissions to decrypt the AMI

in the target account.

NEW QUESTION 75

A company manages an application that stores logs in Amazon CloudWatch Logs. The company wants to archive the logs to an Amazon S3 bucket Logs are rarely accessed after 90 days and must be retained for 10 years.

Which combination of steps should a DevOps engineer take to meet these requirements? (Select TWO.)

- A. Configure a CloudWatch Logs subscription filter to use AWS Glue to transfer all logs to an S3 bucket.
- B. Configure a CloudWatch Logs subscription filter to use Amazon Kinesis Data Firehose to stream all logs to an S3 bucket.
- C. Configure a CloudWatch Logs subscription filter to stream all logs to an S3 bucket.
- D. Configure the S3 bucket lifecycle policy to transition logs to S3 Glacier after 90 days and to expire logs after 3.650 days.
- E. Configure the S3 bucket lifecycle policy to transition logs to Reduced Redundancy after 90 days and to expire logs after 3.650 days.

Answer: BD

Explanation:

<https://docs.aws.amazon.com/AmazonCloudWatch/latest/logs/SubscriptionFilters.html>

NEW QUESTION 79

An application running on a set of Amazon EC2 instances in an Auto Scaling group requires a configuration file to operate. The instances are created and maintained with AWS CloudFormation. A DevOps engineer wants the instances to have the latest configuration file when launched and wants changes to the configuration file to be reflected on all the instances with a minimal delay when the CloudFormation template is updated. Company policy requires that application configuration files be maintained along with AWS infrastructure configuration files in source control.

Which solution will accomplish this?

- A. In the CloudFormation template add an AWS Config rule
- B. Place the configuration file content in the rule's InputParameters property and set the Scope property to the EC2 Auto Scaling group
- C. Add an AWS Systems Manager Resource Data Sync resource to the template to poll for updates to the configuration.
- D. In the CloudFormation template add an EC2 launch template resource
- E. Place the configuration file content in the launch template
- F. Configure the cfn-init script to run when the instance is launched and configure the cfn-hup script to poll for updates to the configuration.
- G. In the CloudFormation template add an EC2 launch template resource
- H. Place the configuration file content in the launch template
- I. Add an AWS Systems Manager Resource Data Sync resource to the template to poll for updates to the configuration.
- J. In the CloudFormation template add CloudFormation intrinsic metadata
- K. Place the configuration file content in the metadata
- L. Configure the cfn-init script to run when the instance is launched and configure the cfn-hup script to poll for updates to the configuration.

Answer: D

Explanation:

Use the AWS::CloudFormation::Init type to include metadata on an Amazon EC2 instance for the cfn-init helper script. If your template calls the cfn-init script, the script looks for resource metadata rooted in the AWS::CloudFormation::Init metadata key. Reference:
<https://docs.aws.amazon.com/AWSCloudFormation/latest/UserGuide/aws-resource-init.html>

NEW QUESTION 82

A company manages multiple AWS accounts in AWS Organizations. The company's security policy states that AWS account root user credentials for member accounts must not be used. The company monitors access to the root user credentials.

A recent alert shows that the root user in a member account launched an Amazon EC2 instance. A DevOps engineer must create an SCP at the organization's root level that will prevent the root user in member accounts from making any AWS service API calls.

Which SCP will meet these requirements?

A)

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Action": "*",
      "Resource": "*",
      "Condition": {
        "StringNotLike": { "aws:PrincipalArn": "arn:aws:iam::*:root" }
      }
    }
  ]
}
```

B)

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Deny",
      "Action": "*",
      "Resource": "*",
      "Principal": { "AWS": "arn:aws:iam::*:root" }
    }
  ]
}
```

C)

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Deny",
      "Action": "*",
      "Resource": "*",
      "Condition": {
        "StringLike": { "aws:PrincipalArn": "arn:aws:iam::*:root" }
      }
    }
  ]
}
```

D)

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Action": "*",
      "Resource": "*",
      "Principal": "root"
    }
  ]
}
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Answer: D**NEW QUESTION 85**

A company is hosting a web application in an AWS Region. For disaster recovery purposes, a second region is being used as a standby. Disaster recovery requirements state that session data must be replicated between regions in near-real time and 1% of requests should route to the secondary region to continuously verify system functionality. Additionally, if there is a disruption in service in the main region, traffic should be automatically routed to the secondary region, and the secondary region must be able to scale up to handle all traffic.

How should a DevOps engineer meet these requirements?

- A. In both regions, deploy the application on AWS Elastic Beanstalk and use Amazon DynamoDB global tables for session data
- B. Use an Amazon Route 53 weighted routing policy with health checks to distribute the traffic across the regions.
- C. In both regions, launch the application in Auto Scaling groups and use DynamoDB for session data
- D. Use a Route 53 failover routing policy with health checks to distribute the traffic across the regions.
- E. In both regions, deploy the application in AWS Lambda, exposed by Amazon API Gateway, and use Amazon RDS for PostgreSQL with cross-region replication for session data
- F. Deploy the web application with client-side logic to call the API Gateway directly.
- G. In both regions, launch the application in Auto Scaling groups and use DynamoDB global tables for session data
- H. Enable an Amazon CloudFront weighted distribution across region
- I. Point the Amazon Route 53 DNS record at the CloudFront distribution.

Answer: D**NEW QUESTION 89**

A company is performing vulnerability scanning for all Amazon EC2 instances across many accounts. The accounts are in an organization in AWS Organizations. Each account's VPCs are attached to a shared transit gateway. The VPCs send traffic to the internet through a central egress VPC. The company has enabled Amazon Inspector in a delegated administrator account and has enabled scanning for all member accounts.

A DevOps engineer discovers that some EC2 instances are listed in the "not scanning" tab in Amazon Inspector.

Which combination of actions should the DevOps engineer take to resolve this issue? (Choose three.)

- A. Verify that AWS Systems Manager Agent is installed and is running on the EC2 instances that Amazon Inspector is not scanning.
- B. Associate the target EC2 instances with security groups that allow outbound communication on port 443 to the AWS Systems Manager service endpoint.
- C. Grant inspector: StartAssessmentRun permissions to the IAM role that the DevOps engineer is using.
- D. Configure EC2 Instance Connect for the EC2 instances that Amazon Inspector is not scanning.
- E. Associate the target EC2 instances with instance profiles that grant permissions to communicate with AWS Systems Manager.
- F. Create a managed-instance activation
- G. Use the Activation Code and the Activation ID to register the EC2 instances.

Answer: ABE

Explanation:

<https://docs.aws.amazon.com/inspector/latest/user/scanning-ec2.html>

NEW QUESTION 94

A company hosts a security auditing application in an AWS account. The auditing application uses an IAM role to access other AWS accounts. All the accounts are in the same organization in AWS Organizations.

A recent security audit revealed that users in the audited AWS accounts could modify or delete the auditing application's IAM role. The company needs to prevent any modification to the auditing application's IAM role by any entity other than a trusted administrator IAM role.

Which solution will meet these requirements?

- A. Create an SCP that includes a Deny statement for changes to the auditing application's IAM rol
- B. Include a condition that allows the trusted administrator IAM role to make change
- C. Attach the SCP to the root of the organization.
- D. Create an SCP that includes an Allow statement for changes to the auditing application's IAM role by the trusted administrator IAM rol
- E. Include a Deny statement for changes by all other IAM principal
- F. Attach the SCP to the IAM service in each AWS account where the auditing application has an IAM role.
- G. Create an IAM permissions boundary that includes a Deny statement for changes to the auditing application's IAM rol
- H. Include a condition that allows the trusted administrator IAM role to make change
- I. Attach the permissions boundary to the audited AWS accounts.
- J. Create an IAM permissions boundary that includes a Deny statement for changes to the auditing application's IAM rol
- K. Include a condition that allows the trusted administrator IAM role to make change
- L. Attach the permissions boundary to the auditing application's IAM role in the AWS accounts.

Answer: A

Explanation:

https://docs.aws.amazon.com/organizations/latest/userguide/orgs_manage_policies_scps.html?icmpid=docs_orgs_console

SCPs (Service Control Policies) are the best way to restrict permissions at the organizational level, which in this case would be used to restrict modifications to the IAM role used by the auditing application, while still allowing trusted administrators to make changes to it. Options C and D are not as effective because IAM permission boundaries are applied to IAM entities (users, groups, and roles), not the account itself, and must be applied to all IAM entities in the account.

NEW QUESTION 98

A company wants to deploy a workload on several hundred Amazon EC2 instances. The company will provision the EC2 instances in an Auto Scaling group by using a launch template.

The workload will pull files from an Amazon S3 bucket, process the data, and put the results into a different S3 bucket. The EC2 instances must have least-privilege permissions and must use temporary security credentials.

Which combination of steps will meet these requirements? (Select TWO.)

- A. Create an IAM role that has the appropriate permissions for S3 bucket
- B. Add the IAM role to an instance profile.
- C. Update the launch template to include the IAM instance profile.
- D. Create an IAM user that has the appropriate permissions for Amazon S3. Generate a secret key and token.
- E. Create a trust anchor and profil
- F. Attach the IAM role to the profile.
- G. Update the launch templat
- H. Modify the user data to use the new secret key and token.

Answer: AB

Explanation:

To meet the requirements of deploying a workload on several hundred EC2 instances with least-privilege permissions and temporary security credentials, the company should use an IAM role and an instance profile. An IAM role is a way to grant permissions to an entity that you trust, such as an EC2 instance. An instance profile is a container for an IAM role that you can use to pass role information to an EC2 instance when the instance starts. By using an IAM role and an instance profile, the EC2 instances can automatically receive temporary security credentials from the AWS Security Token Service (STS) and use them to access the S3 buckets. This way, the company does not need to manage or rotate any long-term credentials, such as IAM users or access keys.

To use an IAM role and an instance profile, the company should create an IAM role that has the appropriate permissions for S3 buckets. The permissions should allow the EC2 instances to read from the source S3 bucket and write to the destination S3 bucket. The company should also create a trust policy for the IAM role that specifies that EC2 is allowed to assume the role. Then, the company should add the IAM role to an instance profile. An instance profile can have only one IAM role, so the company does not need to create multiple roles or profiles for this scenario.

Next, the company should update the launch template to include the IAM instance profile. A launch template is a way to save launch parameters for EC2 instances, such as the instance type, security group, user data, and IAM instance profile. By using a launch template, the company can ensure that all EC2 instances in the Auto Scaling group have consistent configuration and permissions. The company should specify the name or ARN of the IAM instance profile in the launch template. This way, when the Auto Scaling group launches new EC2 instances based on the launch template, they will automatically receive the IAM role and its permissions through the instance profile.

The other options are not correct because they do not meet the requirements or follow best practices. Creating an IAM user and generating a secret key and token is not a good option because it involves managing long-term credentials that need to be rotated regularly. Moreover, embedding credentials in user data is not secure because user data is visible to anyone who can describe the EC2 instance. Creating a trust anchor and profile is not a valid option because trust anchors are used for certificate-based authentication, not for IAM roles or instance profiles. Modifying user data to use a new secret key and token is also not a good option because it requires updating user data every time the credentials change, which is not scalable or efficient.

References:

? 1: AWS Certified DevOps Engineer - Professional Certification | AWS Certification
| AWS

? 2: DevOps Resources - Amazon Web Services (AWS)

? 3: Exam Readiness: AWS Certified DevOps Engineer - Professional

? : IAM Roles for Amazon EC2 - AWS Identity and Access Management

? : Working with Instance Profiles - AWS Identity and Access Management

? : Launching an Instance Using a Launch Template - Amazon Elastic Compute Cloud

? : Temporary Security Credentials - AWS Identity and Access Management

NEW QUESTION 103

A company that runs many workloads on AWS has an Amazon EBS spend that has increased over time. The DevOps team notices there are many unattached EBS volumes. Although there are workloads where volumes are detached, volumes over 14 days old are stale and no longer needed. A DevOps engineer has been tasked with creating automation that deletes unattached EBS volumes that have been unattached for 14 days. Which solution will accomplish this?

- A. Configure the AWS Config ec2-volume-inuse-check managed rule with a configuration changes trigger type and an Amazon EC2 volume resource target
- B. Create a new Amazon CloudWatch Events rule scheduled to execute an AWS Lambda function in 14 days to delete the specified EBS volume.
- C. Use Amazon EC2 and Amazon Data Lifecycle Manager to configure a volume lifecycle policy
- D. Set the interval period for unattached EBS volumes to 14 days and set the retention rule to delete
- E. Set the policy target volumes as *.
- F. Create an Amazon CloudWatch Events rule to execute an AWS Lambda function daily
- G. The Lambda function should find unattached EBS volumes and tag them with the current date, and delete unattached volumes that have tags with dates that are more than 14 days old.
- H. Use AWS Trusted Advisor to detect EBS volumes that have been detached for more than 14 days
- I. Execute an AWS Lambda function that creates a snapshot and then deletes the EBS volume.

Answer: C

Explanation:

The requirement is to create automation that deletes unattached EBS volumes that have been unattached for 14 days. To do this, the DevOps engineer needs to use the following steps:

? Create an Amazon CloudWatch Events rule to execute an AWS Lambda function

daily. CloudWatch Events is a service that enables event-driven architectures by delivering events from various sources to targets. Lambda is a service that lets you

run code without provisioning or managing servers. By creating a CloudWatch Events rule that executes a Lambda function daily, the DevOps engineer can schedule a recurring task to check and delete unattached EBS volumes.

? The Lambda function should find unattached EBS volumes and tag them with the

current date, and delete unattached volumes that have tags with dates that are more than 14 days old. The Lambda function can use the EC2 API to list and filter unattached EBS volumes based on their state and tags. The function can then tag each unattached volume with the current date using the create-tags command.

The function can also compare the tag value with the current date and delete any unattached volume that has been tagged more than 14 days ago using the delete-volume command.

NEW QUESTION 106

A DevOps engineer is working on a data archival project that requires the migration of on-premises data to an Amazon S3 bucket. The DevOps engineer develops a script that incrementally archives on-premises data that is older than 1 month to Amazon S3. Data that is transferred to Amazon S3 is deleted from the on-premises location. The script uses the S3 PutObject operation.

During a code review the DevOps engineer notices that the script does not verify whether the data was successfully copied to Amazon S3. The DevOps engineer must update the script to ensure that data is not corrupted during transmission. The script must use MD5 checksums to verify data integrity before the on-premises data is deleted.

Which solutions for the script will meet these requirements? (Select TWO.)

- A. Check the returned response for the Versioned Compare the returned Versioned against the MD5 checksum.
- B. Include the MD5 checksum within the Content-MD5 parameter
- C. Check the operation's return status to find out if an error was returned.
- D. Include the checksum digest within the tagging parameter as a URL query parameter.
- E. Check the returned response for the ETag
- F. Compare the returned ETag against the MD5 checksum.
- G. Include the checksum digest within the Metadata parameter as a name-value pair. After upload use the S3 HeadObject operation to retrieve metadata from the object.

Answer: BD

Explanation:

<https://docs.aws.amazon.com/AmazonS3/latest/userguide/checking-object-integrity.html>

NEW QUESTION 110

To run an application, a DevOps engineer launches an Amazon EC2 instance with public IP addresses in a public subnet. A user data script obtains the application artifacts and installs them on the instances upon launch. A change to the security classification of the application now requires the instances to run with no access to the internet. While the instances launch successfully and show as healthy, the application does not seem to be installed.

Which of the following should successfully install the application while complying with the new rule?

- A. Launch the instances in a public subnet with Elastic IP addresses attached
- B. Once the application is installed and running, run a script to disassociate the Elastic IP addresses afterwards.
- C. Set up a NAT gateway
- D. Deploy the EC2 instances to a private subnet
- E. Update the private subnet's route table to use the NAT gateway as the default route.
- F. Publish the application artifacts to an Amazon S3 bucket and create a VPC endpoint for S3. Assign an IAM instance profile to the EC2 instances so they can read the application artifacts from the S3 bucket.
- G. Create a security group for the application instances and allow only outbound traffic to the artifact repository
- H. Remove the security group rule once the install is complete.

Answer: C

Explanation:

EC2 instances running in private subnets of a VPC can now have controlled access to S3 buckets, objects, and API functions that are in the same region as the VPC. You can use an S3 bucket policy to indicate which VPCs and which VPC Endpoints have access to your S3 buckets 1-

<https://aws.amazon.com/pt/blogs/aws/new-vpc-endpoint-for-amazon-s3/>

NEW QUESTION 115

A company runs its container workloads in AWS App Runner. A DevOps engineer manages the company's container repository in Amazon Elastic Container Registry (Amazon ECR).

The DevOps engineer must implement a solution that continuously monitors the container repository. The solution must create a new container image when the solution detects an operating system vulnerability or language package vulnerability.

Which solution will meet these requirements?

- A. Use EC2 Image Builder to create a container image pipelin
- B. Use Amazon ECR as the target repositor
- C. Turn on enhanced scanning on the ECR repositor
- D. Create an Amazon EventBridge rule to capture an Inspector2 finding even
- E. Use the event to invoke the image pipelin
- F. Re-upload the container to the repository.
- G. Use EC2 Image Builder to create a container image pipelin
- H. Use Amazon ECR as the target repositor
- I. Enable Amazon GuardDuty Malware Protection on the container workloa
- J. Create an Amazon EventBridge rule to capture a GuardDuty finding even
- K. Use the event to invoke the image pipeline.
- L. Create an AWS CodeBuild project to create a container imag
- M. Use Amazon ECR as the target repositor
- N. Turn on basic scanning on the repositor
- O. Create an Amazon EventBridge rule to capture an ECR image action even
- P. Use the event to invoke the CodeBuild projec
- Q. Re-upload the container to the repository.
- R. Create an AWS CodeBuild project to create a container imag
- S. Use Amazon ECR as the target repositor
- T. Configure AWS Systems Manager Compliance to scan all managed node
- . Create an Amazon EventBridge rule to capture a configuration compliance state change even
- . Use the event to invoke the CodeBuild project.

Answer: A

Explanation:

The solution that meets the requirements is to use EC2 Image Builder to create a container image pipeline, use Amazon ECR as the target repository, turn on enhanced scanning on the ECR repository, create an Amazon EventBridge rule to capture an Inspector2 finding event, and use the event to invoke the image pipeline. Re-upload the container to the repository.

This solution will continuously monitor the container repository for vulnerabilities using enhanced scanning, which is a feature of Amazon ECR that provides detailed information and guidance on how to fix security issues found in your container images. Enhanced scanning uses Inspector2, a security assessment service that integrates with Amazon ECR and generates findings for any vulnerabilities detected in your images. You can use Amazon EventBridge to create a rule that triggers an action when an Inspector2 finding event occurs. The action can be to invoke an EC2 Image Builder pipeline, which is a service that automates the creation of container images. The pipeline can use the latest patches and updates to build a new container image and upload it to the same ECR repository, replacing the vulnerable image.

The other options are not correct because they do not meet all the requirements or use services that are not relevant for the scenario.

Option B is not correct because it uses Amazon GuardDuty Malware Protection, which is a feature of GuardDuty that detects malicious activity and unauthorized behavior on your AWS accounts and resources. GuardDuty does not scan container images for vulnerabilities, nor does it integrate with Amazon ECR or EC2 Image Builder.

Option C is not correct because it uses basic scanning on the ECR repository, which only provides a summary of the vulnerabilities found in your container images. Basic scanning does not use Inspector2 or generate findings that can be captured by Amazon EventBridge. Moreover, basic scanning does not provide guidance on how to fix the vulnerabilities.

Option D is not correct because it uses AWS Systems Manager Compliance, which is a feature of Systems Manager that helps you monitor and manage the compliance status of your AWS resources based on AWS Config rules and AWS Security Hub standards. Systems Manager Compliance does not scan container images for vulnerabilities, nor does it integrate with Amazon ECR or EC2 Image Builder.

NEW QUESTION 118

A company's security policies require the use of security hardened AMIs in production environments. A DevOps engineer has used EC2 Image Builder to create a pipeline that builds the AMIs on a recurring schedule.

The DevOps engineer needs to update the launch templates of the companys Auto Scaling groups. The Auto Scaling groups must use the newest AMIs during the launch of Amazon EC2 instances.

Which solution will meet these requirements with the MOST operational efficiency?

- A. Configure an Amazon EventBridge rule to receive new AMI events from Image Builde
- B. Target an AWS Systems Manager Run Command document that updates the launch templates of the Auto Scaling groups with the newest AMI ID.
- C. Configure an Amazon EventBridge rule to receive new AMI events from Image Builde
- D. Target an AWS Lambda function that updates the launch templates of the Auto Scaling groups with the newest AMI ID.
- E. Configure the launch template to use a value from AWS Systems Manager Parameter Store for the AMI I
- F. Configure the Image Builder pipeline to update the Parameter Store value with the newest AMI ID.
- G. Configure the Image Builder distribution settings to update the launch templates with the newest AMI I
- H. Configure the Auto Scaling groups to use the newest version of the launch template.

Answer: C

Explanation:

? The most operationally efficient solution is to use AWS Systems Manager Parameter Store¹ to store the AMI ID and reference it in the launch template². This way, the launch template does not need to be updated every time a new AMI is created by Image Builder. Instead, the Image Builder pipeline can update the Parameter Store value with the newest AMI ID³, and the Auto Scaling group can launch instances using the latest value from Parameter Store.

? The other solutions require updating the launch template or creating a new version of it every time a new AMI is created, which adds complexity and overhead. Additionally, using EventBridge rules and Lambda functions or Run Command documents introduces additional dependencies and potential points of failure.

References: 1: AWS Systems Manager Parameter Store 2: Using AWS Systems Manager parameters instead of AMI IDs in launch templates 3: Update an SSM parameter with Image Builder

NEW QUESTION 122

A media company has several thousand Amazon EC2 instances in an AWS account. The company is using Slack and a shared email inbox for team communications and important updates. A DevOps engineer needs to send all AWS-scheduled EC2 maintenance notifications to the Slack channel and the shared inbox. The solution must include the instances' Name and Owner tags.

Which solution will meet these requirements?

- A. Integrate AWS Trusted Advisor with AWS Config Configure a custom AWS Config rule to invoke an AWS Lambda function to publish notifications to an Amazon Simple Notification Service (Amazon SNS) topic Subscribe a Slack channel endpoint and the shared inbox to the topic.
- B. Use Amazon EventBridge to monitor for AWS Health Events Configure the maintenance events to target an Amazon Simple Notification Service (Amazon SNS) topic Subscribe an AWS Lambda function to the SNS topic to send notifications to the Slack channel and the shared inbox.
- C. Create an AWS Lambda function that sends EC2 maintenance notifications to the Slack channel and the shared inbox Monitor EC2 health events by using Amazon CloudWatch metrics Configure a CloudWatch alarm that invokes the Lambda function when a maintenance notification is received.
- D. Configure AWS Support integration with AWS CloudTrail Create a CloudTrail lookup event to invoke an AWS Lambda function to pass EC2 maintenance notifications to Amazon Simple Notification Service (Amazon SNS) Configure Amazon SNS to target the Slack channel and the shared inbox.

Answer: B

Explanation:

<https://docs.aws.amazon.com/health/latest/ug/cloudwatch-events-health.html>

NEW QUESTION 124

A company has many applications. Different teams in the company developed the applications by using multiple languages and frameworks. The applications run on premises and on different servers with different operating systems. Each team has its own release protocol and process. The company wants to reduce the complexity of the release and maintenance of these applications.

The company is migrating its technology stacks, including these applications, to AWS. The company wants centralized control of source code, a consistent and automatic delivery pipeline, and as few maintenance tasks as possible on the underlying infrastructure.

What should a DevOps engineer do to meet these requirements?

- A. Create one AWS CodeCommit repository for all application
- B. Put each application's code in a different branch
- C. Merge the branches, and use AWS CodeBuild to build the application
- D. Use AWS CodeDeploy to deploy the applications to one centralized application server.
- E. Create one AWS CodeCommit repository for each of the application
- F. Use AWS CodeBuild to build the applications one at a time
- G. Use AWS CodeDeploy to deploy the applications to one centralized application server.
- H. Create one AWS CodeCommit repository for each of the application
- I. Use AWS CodeBuild to build the applications one at a time and to create one AMI for each server
- J. Use AWS CloudFormation StackSets to automatically provision and decommission Amazon EC2 fleets by using these AMIs.
- K. Create one AWS CodeCommit repository for each of the application
- L. Use AWS CodeBuild to build one Docker image for each application in Amazon Elastic Container Registry (Amazon ECR). Use AWS CodeDeploy to deploy the applications to Amazon Elastic Container Service (Amazon ECS) on infrastructure that AWS Fargate manages.

Answer: D

Explanation:

because of "as few maintenance tasks as possible on the underlying infrastructure". Fargate does that better than "one centralized application server"

NEW QUESTION 125

A company's DevOps engineer is creating an AWS Lambda function to process notifications from an Amazon Simple Notification Service (Amazon SNS) topic. The Lambda function will process the notification messages and will write the contents of the notification messages to an Amazon RDS Multi-AZ DB instance.

During testing a database administrator accidentally shut down the DB instance. While the database was down the company lost several of the SNS notification messages that were delivered during that time.

The DevOps engineer needs to prevent the loss of notification messages in the future Which solutions will meet this requirement? (Select TWO.)

- A. Replace the RDS Multi-AZ DB instance with an Amazon DynamoDB table.
- B. Configure an Amazon Simple Queue Service (Amazon SQS) queue as a destination of the Lambda function.
- C. Configure an Amazon Simple Queue Service (Amazon SQS) dead-letter queue for the SNS topic.
- D. Subscribe an Amazon Simple Queue Service (Amazon SQS) queue to the SNS topic Configure the Lambda function to process messages from the SQS queue.
- E. Replace the SNS topic with an Amazon EventBridge event bus Configure an EventBridge rule on the new event bus to invoke the Lambda function for each event.

Answer: CD

Explanation:

These solutions will meet the requirement because they will prevent the loss of notification messages in the future. An Amazon SQS queue is a service that provides a reliable, scalable, and secure message queue for asynchronous communication between distributed components. You can use an SQS queue to buffer messages from an SNS topic and ensure that they are delivered and processed by a Lambda function, even if the function or the database is temporarily unavailable.

Option C will configure an SQS dead-letter queue for the SNS topic. A dead-letter queue is a queue that receives messages that could not be delivered to any subscriber after a specified number of retries. You can use a dead-letter queue to store and analyze failed messages, or to reprocess them later. This way, you can avoid losing messages that could not be delivered to the Lambda function due to network errors, throttling, or other issues. Option D will subscribe an SQS queue to the SNS topic and configure the Lambda function to process messages from the SQS queue. This will decouple the SNS topic from the Lambda function and provide more flexibility and control over the message delivery and processing. You can use an SQS queue to store messages from the SNS topic until they are ready to be processed by the Lambda function, and also to retry processing in case of failures. This way, you can avoid losing messages that could not be processed by the Lambda function due to database errors, timeouts, or other issues.

NEW QUESTION 129

A company has multiple development groups working in a single shared AWS account. The Senior Manager of the groups wants to be alerted via a third-party API

call when the creation of resources approaches the service limits for the account.
Which solution will accomplish this with the LEAST amount of development effort?

- A. Create an Amazon CloudWatch Event rule that runs periodically and targets an AWS Lambda function
- B. Within the Lambda function, evaluate the current state of the AWS environment and compare deployed resource values to resource limits on the account
- C. Notify the Senior Manager if the account is approaching a service limit.
- D. Deploy an AWS Lambda function that refreshes AWS Trusted Advisor checks, and configure an Amazon CloudWatch Events rule to run the Lambda function periodically
- E. Create another CloudWatch Events rule with an event pattern matching Trusted Advisor events and a target Lambda function
- F. In the target Lambda function, notify the Senior Manager.
- G. Deploy an AWS Lambda function that refreshes AWS Personal Health Dashboard checks, and configure an Amazon CloudWatch Events rule to run the Lambda function periodically
- H. Create another CloudWatch Events rule with an event pattern matching Personal Health Dashboard events and a target Lambda function
- I. In the target Lambda function, notify the Senior Manager.
- J. Add an AWS Config custom rule that runs periodically, checks the AWS service limit status, and streams notifications to an Amazon SNS topic
- K. Deploy an AWS Lambda function that notifies the Senior Manager, and subscribe the Lambda function to the SNS topic.

Answer: B

Explanation:

To meet the requirements, the company needs to create a solution that alerts the Senior Manager when the creation of resources approaches the service limits for the account with the least amount of development effort. The company can use AWS Trusted Advisor, which is a service that provides best practice recommendations for cost optimization, performance, security, and service limits. The company can deploy an AWS Lambda function that refreshes Trusted Advisor checks, and configure an Amazon CloudWatch Events rule to run the Lambda function periodically. This will ensure that Trusted Advisor checks are up to date and reflect the current state of the account. The company can then create another CloudWatch Events rule with an event pattern matching Trusted Advisor events and a target Lambda function. The event pattern can filter for events related to service limit checks and their status. The target Lambda function can notify the Senior Manager via a third-party API call if the event indicates that the account is approaching or exceeding a service limit.

NEW QUESTION 132

A company's application development team uses Linux-based Amazon EC2 instances as bastion hosts. Inbound SSH access to the bastion hosts is restricted to specific IP addresses, as defined in the associated security groups. The company's security team wants to receive a notification if the security group rules are modified to allow SSH access from any IP address.
What should a DevOps engineer do to meet this requirement?

- A. Create an Amazon EventBridge rule with a source of aws.cloudtrail and the event name AuthorizeSecurityGroupIngress
- B. Define an Amazon Simple Notification Service (Amazon SNS) topic as the target.
- C. Enable Amazon GuardDuty and check the findings for security groups in AWS Security Hub
- D. Configure an Amazon EventBridge rule with a custom pattern that matches GuardDuty events with an output of NON_COMPLIANT
- E. Define an Amazon Simple Notification Service (Amazon SNS) topic as the target.
- F. Create an AWS Config rule by using the restricted-ssh managed rule to check whether security groups disallow unrestricted incoming SSH traffic
- G. Configure automatic remediation to publish a message to an Amazon Simple Notification Service (Amazon SNS) topic.
- H. Enable Amazon Inspector
- I. Include the Common Vulnerabilities and Exposures-1.1 rules package to check the security groups that are associated with the bastion host
- J. Configure Amazon Inspector to publish a message to an Amazon Simple Notification Service (Amazon SNS) topic.

Answer: A

Explanation:

<https://aws.amazon.com/premiumsupport/knowledge-center/monitor-security-group-changes-ec2/>

NEW QUESTION 133

A company recently migrated its legacy application from on-premises to AWS. The application is hosted on Amazon EC2 instances behind an Application Load Balancer which is behind Amazon API Gateway. The company wants to ensure users experience minimal disruptions during any deployment of a new version of the application. The company also wants to ensure it can quickly roll back updates if there is an issue.
Which solution will meet these requirements with MINIMAL changes to the application?

- A. Introduce changes as a separate environment parallel to the existing one Configure API Gateway to use a canary release deployment to send a small subset of user traffic to the new environment.
- B. Introduce changes as a separate environment parallel to the existing one Update the application's DNS alias records to point to the new environment.
- C. Introduce changes as a separate target group behind the existing Application Load Balancer Configure API Gateway to route user traffic to the new target group in steps.
- D. Introduce changes as a separate target group behind the existing Application Load Balancer Configure API Gateway to route all traffic to the Application Load Balancer which then sends the traffic to the new target group.

Answer: A

Explanation:

API Gateway supports canary deployment on a deployment stage before you direct all traffic to that stage. A parallel environment means we will create a new ALB and a target group that will target a new set of EC2 instances on which the newer version of the app will be deployed. So the canary setting associated to the new version of the API will connect with the new ALB instance which in turn will direct the traffic to the new EC2 instances on which the newer version of the application is deployed.

NEW QUESTION 137

A company has multiple AWS accounts. The company uses AWS IAM Identity Center (AWS Single Sign-On) that is integrated with AWS Toolkit for Microsoft Azure DevOps. The attributes for access control feature is enabled in IAM Identity Center.

The attribute mapping list contains two entries. The department key is mapped to

`${path:enterprise.department}`. The costCenter key is mapped to

`${path:enterprise.costCenter}`.

All existing Amazon EC2 instances have a department tag that corresponds to three company departments (d1, d2, d3). A DevOps engineer must create policies based on the matching attributes. The policies must minimize administrative effort and must grant each Azure AD user access to only the EC2 instances that are

tagged with the user's respective department name.

Which condition key should the DevOps engineer include in the custom permissions policies to meet these requirements?

A.

```
"Condition": {
  "ForAllValues:StringEquals": {
    "aws:TagKeys": ["department"]
  }
}
```

B.

```
"Condition": {
  "StringEquals": {
    "aws:PrincipalTag/department": "${aws:ResourceTag/department}"
  }
}
```

C.

```
"Condition": {
  "StringEquals": {
    "ec2:ResourceTag/department": "${aws:PrincipalTag/department}"
  }
}
```

D.

```
"Condition": {
  "ForAllValues:StringEquals": {
    "ec2:ResourceTag/department": ["d1", "d2", "d3"]
  }
}
```

A.

Answer: C

Explanation:

<https://docs.aws.amazon.com/singlesignon/latest/userguide/configure-abac.html>

NEW QUESTION 141

A DevOps team manages an API running on-premises that serves as a backend for an Amazon API Gateway endpoint. Customers have been complaining about high response latencies, which the development team has verified using the API Gateway latency metrics in Amazon CloudWatch. To identify the cause, the team needs to collect relevant data without introducing additional latency.

Which actions should be taken to accomplish this? (Choose two.)

- A. Install the CloudWatch agent server side and configure the agent to upload relevant logs to CloudWatch.
- B. Enable AWS X-Ray tracing in API Gateway, modify the application to capture request segments, and upload those segments to X-Ray during each request.
- C. Enable AWS X-Ray tracing in API Gateway, modify the application to capture request segments, and use the X-Ray daemon to upload segments to X-Ray.
- D. Modify the on-premises application to send log information back to API Gateway with each request.
- E. Modify the on-premises application to calculate and upload statistical data relevant to the API service requests to CloudWatch metrics.

Answer: AC

Explanation:

<https://docs.aws.amazon.com/AmazonCloudWatch/latest/monitoring/install-CloudWatch-Agent-on-premise.html>

<https://docs.aws.amazon.com/xray/latest/devguide/xray-api-sendingdata.html>

NEW QUESTION 143

A DevOps engineer is creating an AWS CloudFormation template to deploy a web service. The web service will run on Amazon EC2 instances in a private subnet behind an Application Load Balancer (ALB). The DevOps engineer must ensure that the service can accept requests from clients that have IPv6 addresses.

What should the DevOps engineer do with the CloudFormation template so that IPv6 clients can access the web service?

- A. Add an IPv6 CIDR block to the VPC and the private subnet for the EC2 instance
- B. Create route table entries for the IPv6 network, use EC2 instance types that support IPv6, and assign IPv6 addresses to each EC2 instance.
- C. Assign each EC2 instance an IPv6 Elastic IP address
- D. Create a target group, and add the EC2 instances as target
- E. Create a listener on port 443 of the ALB, and associate the target group with the ALB.
- F. Replace the ALB with a Network Load Balancer (NLB). Add an IPv6 CIDR block to the VPC and subnets for the NLB, and assign the NLB an IPv6 Elastic IP

address.

G. Add an IPv6 CIDR block to the VPC and subnets for the AL

H. Create a listener on port 443. and specify the dualstack IP address type on the AL

I. Create a target group, and add the EC2 instances as target

J. Associate the target group with the ALB.

Answer: D

Explanation:

it involves adding an IPv6 CIDR block to the VPC and subnets for the ALB and specifying the dualstack IP address type on the ALB listener. This allows the ALB to listen on both IPv4 and IPv6 addresses, and forward requests to the EC2 instances that are added as targets to the target group associated with the ALB.

NEW QUESTION 148

A company manages AWS accounts for application teams in AWS Control Tower. Individual application teams are responsible for securing their respective AWS accounts.

A DevOps engineer needs to enable Amazon GuardDuty for all AWS accounts in which the application teams have not already enabled GuardDuty. The DevOps engineer is using AWS CloudFormation StackSets from the AWS Control Tower management account.

How should the DevOps engineer configure the CloudFormation template to prevent failure during the StackSets deployment?

A. Create a CloudFormation custom resource that invokes an AWS Lambda function

B. Configure the Lambda function to conditionally enable GuardDuty if GuardDuty is not already enabled in the accounts.

C. Use the Conditions section of the CloudFormation template to enable GuardDuty in accounts where GuardDuty is not already enabled.

D. Use the CloudFormation Fn::

E. GetAtt intrinsic function to check whether GuardDuty is already enabled If GuardDuty is not already enabled use the Resources section of the CloudFormation template to enable GuardDuty.

F. Manually discover the list of AWS account IDs where GuardDuty is not enabled Use the CloudFormation Fn:: ImportValue intrinsic function to import the list of account IDs into the CloudFormation template to skip deployment for the listed AWS accounts.

Answer: A

Explanation:

This solution will meet the requirements because it will use a CloudFormation custom resource to execute custom logic during the stack set operation. A custom resource is a resource that you define in your template and that is associated with an AWS Lambda function. The Lambda function runs whenever the custom resource is created, updated, or deleted, and can perform any actions that are supported by the AWS SDK. In this case, the Lambda function can use the GuardDuty API to check whether GuardDuty is already enabled in each target account, and if not, enable it. This way, the DevOps engineer can avoid deploying the stack set to accounts that already have GuardDuty enabled, and prevent failure during the deployment.

NEW QUESTION 152

A company has multiple accounts in an organization in AWS Organizations. The company's SecOps team needs to receive an Amazon Simple Notification Service (Amazon SNS) notification if any account in the organization turns off the Block Public Access feature on an Amazon S3 bucket. A DevOps engineer must implement this change without affecting the operation of any AWS accounts. The implementation must ensure that individual member accounts in the organization cannot turn off the notification.

Which solution will meet these requirements?

A. Designate an account to be the delegated Amazon GuardDuty administrator account

B. Turn on GuardDuty for all accounts across the organization

C. In the GuardDuty administrator account, create an SNS topic

D. Subscribe the SecOps team's email address to the SNS topic

E. In the same account, create an Amazon EventBridge rule that uses an event pattern for GuardDuty findings and a target of the SNS topic.

F. Create an AWS CloudFormation template that creates an SNS topic and subscribes the SecOps team's email address to the SNS topic

G. In the template, include an Amazon EventBridge rule that uses an event pattern of CloudTrail activity for s3:PutBucketPublicAccessBlock and a target of the SNS topic

H. Deploy the stack to every account in the organization by using CloudFormation StackSets.

I. Turn on AWS Config across the organization

J. In the delegated administrator account, create an SNS topic

K. Subscribe the SecOps team's email address to the SNS topic

L. Deploy a conformance pack that uses the s3-bucket-level-public-access-prohibited AWS Config managed rule in each account and uses an AWS Systems Manager document to publish an event to the SNS topic to notify the SecOps team.

M. Turn on Amazon Inspector across the organization

N. In the Amazon Inspector delegated administrator account, create an SNS topic

O. Subscribe the SecOps team's email address to the SNS topic

P. In the same account, create an Amazon EventBridge rule that uses an event pattern for public network exposure of the S3 bucket and publishes an event to the SNS topic to notify the SecOps team.

Answer: C

Explanation:

Amazon GuardDuty is primarily on threat detection and response, not configuration monitoring A conformance pack is a collection of AWS Config rules and remediation actions that can be easily deployed as a single entity in an account and a Region or across an organization in AWS Organizations.

<https://docs.aws.amazon.com/config/latest/developerguide/conformance-packs.html> <https://docs.aws.amazon.com/config/latest/developerguide/s3-account-level-public-access-blocks.html>

NEW QUESTION 157

A DevOps engineer at a company is supporting an AWS environment in which all users use AWS IAM Identity Center (AWS Single Sign-On). The company wants to immediately disable credentials of any new IAM user and wants the security team to receive a notification.

Which combination of steps should the DevOps engineer take to meet these requirements? (Choose three.)

A. Create an Amazon EventBridge rule that reacts to an IAM CreateUser API call in AWS CloudTrail.

B. Create an Amazon EventBridge rule that reacts to an IAM GetLoginProfile API call in AWS CloudTrail.

C. Create an AWS Lambda function that is a target of the EventBridge rule

- D. Configure the Lambda function to disable any access keys and delete the login profiles that are associated with the IAM user.
- E. Create an AWS Lambda function that is a target of the EventBridge rule.
- F. Configure the Lambda function to delete the login profiles that are associated with the IAM user.
- G. Create an Amazon Simple Notification Service (Amazon SNS) topic that is a target of the EventBridge rule.
- H. Subscribe the security team's group email address to the topic.
- I. Create an Amazon Simple Queue Service (Amazon SQS) queue that is a target of the Lambda function.
- J. Subscribe the security team's group email address to the queue.

Answer: ACE

NEW QUESTION 159

A company's developers use Amazon EC2 instances as remote workstations. The company is concerned that users can create or modify EC2 security groups to allow unrestricted inbound access.

A DevOps engineer needs to develop a solution to detect when users create unrestricted security group rules. The solution must detect changes to security group rules in near real time, remove unrestricted rules, and send email notifications to the security team. The DevOps engineer has created an AWS Lambda function that checks for security group ID from input, removes rules that grant unrestricted access, and sends notifications through Amazon Simple Notification Service (Amazon SNS).

What should the DevOps engineer do next to meet the requirements?

- A. Configure the Lambda function to be invoked by the SNS topic.
- B. Create an AWS CloudTrail subscription for the SNS topic.
- C. Configure a subscription filter for security group modification events.
- D. Create an Amazon EventBridge scheduled rule to invoke the Lambda function.
- E. Define a schedule pattern that runs the Lambda function every hour.
- F. Create an Amazon EventBridge event rule that has the default event bus as the source.
- G. Define the rule's event pattern to match EC2 security group creation and modification events.
- H. Configure the rule to invoke the Lambda function.
- I. Create an Amazon EventBridge custom event bus that subscribes to events from all AWS services.
- J. Configure the Lambda function to be invoked by the custom event bus.

Answer: C

Explanation:

To meet the requirements, the DevOps engineer should create an Amazon EventBridge event rule that has the default event bus as the source. The rule's event pattern should match EC2 security group creation and modification events, and it should be configured to invoke the Lambda function. This solution will allow for near real-time detection of security group rule changes and will trigger the Lambda function to remove any unrestricted rules and send email notifications to the security team. <https://repost.aws/knowledge-center/monitor-security-group-changes-ec2>

NEW QUESTION 160

A company recently launched multiple applications that use Application Load Balancers. Application response time often slows down when the applications experience problems. A DevOps engineer needs to implement a monitoring solution that alerts the company when the applications begin to perform slowly. The DevOps engineer creates an Amazon Simple Notification Service (Amazon SNS) topic and subscribes the company's email address to the topic.

What should the DevOps engineer do next to meet the requirements?

- A. Create an Amazon EventBridge rule that invokes an AWS Lambda function to query the applications on a 5-minute interval. Configure the Lambda function to publish a notification to the SNS topic when the applications return errors.
- B. Create an Amazon CloudWatch Synthetics canary that runs a custom script to query the applications on a 5-minute interval.
- C. Configure the canary to use the SNS topic when the applications return errors.
- D. Create an Amazon CloudWatch alarm that uses the AWS/ApplicationELB namespace RequestCountPerTarget metric. Configure the CloudWatch alarm to send a notification when the number of connections becomes greater than the configured number of threads that the application supports. Configure the CloudWatch alarm to use the SNS topic.
- E. Create an Amazon CloudWatch alarm that uses the AWS/ApplicationELB namespace RequestCountPerTarget metric. Configure the CloudWatch alarm to send a notification when the average response time becomes greater than the longest response time that the application supports. Configure the CloudWatch alarm to use the SNS topic.

Answer: B

Explanation:

? Option A is incorrect because creating an Amazon EventBridge rule that invokes an AWS Lambda function to query the applications on a 5-minute interval is not a valid solution. EventBridge rules can only trigger Lambda functions based on events, not on time intervals. Moreover, querying the applications on a 5-minute interval might incur unnecessary costs and network overhead, and might not detect performance issues in real time.

? Option B is correct because creating an Amazon CloudWatch Synthetics canary that runs a custom script to query the applications on a 5-minute interval is a valid solution. CloudWatch Synthetics canaries are configurable scripts that monitor endpoints and APIs by simulating customer behavior. Canaries can run as often as once per minute, and can measure the latency and availability of the applications. Canaries can also send notifications to an Amazon SNS topic when they detect errors or performance issues¹.

? Option C is incorrect because creating an Amazon CloudWatch alarm that uses the AWS/ApplicationELB namespace RequestCountPerTarget metric is not a valid solution. The RequestCountPerTarget metric measures the number of requests completed or connections made per target in a target group². This metric does not reflect the application response time, which is the requirement. Moreover, configuring the CloudWatch alarm to send a notification when the number of connections becomes greater than the configured number of threads that the application supports is not a valid way to measure the application performance, as it depends on the application design and implementation.

? Option D is incorrect because creating an Amazon CloudWatch alarm that uses the AWS/ApplicationELB namespace RequestCountPerTarget metric is not a valid solution, for the same reason as option C. The RequestCountPerTarget metric does not reflect the application response time, which is the requirement. Moreover, configuring the CloudWatch alarm to send a notification when the average response time becomes greater than the longest response time that the application supports is not a valid way to measure the application performance, as it does not account for variability or outliers in the response time distribution.

References:

? 1: Using synthetic monitoring

? 2: Application Load Balancer metrics

NEW QUESTION 162

A production account has a requirement that any Amazon EC2 instance that has been logged in to manually must be terminated within 24 hours. All applications in

the production account are using Auto Scaling groups with the Amazon CloudWatch Logs agent configured.
How can this process be automated?

- A. Create a CloudWatch Logs subscription to an AWS Step Functions applicatio
- B. Configure an AWS Lambda function to add a tag to the EC2 instance that produced the login event and mark the instance to be decommissione
- C. Create an Amazon EventBridge rule to invoke a second Lambda function once a day that will terminate all instances with this tag.
- D. Create an Amazon CloudWatch alarm that will be invoked by the login even
- E. Send the notification to an Amazon Simple Notification Service (Amazon SNS) topic that the operations team is subscribed to, and have them terminate the EC2 instance within 24 hours.
- F. Create an Amazon CloudWatch alarm that will be invoked by the login even
- G. Configure the alarm to send to an Amazon Simple Queue Service (Amazon SQS) queu
- H. Use agroup of worker instances to process messages from the queue, which then schedules an Amazon EventBridge rule to be invoked.
- I. Create a CloudWatch Logs subscription to an AWS Lambda functio
- J. Configure the function to add a tag to the EC2 instance that produced the login event and mark the instance to be decommissione
- K. Create an Amazon EventBridge rule to invoke a daily Lambda function that terminates all instances with this tag.

Answer: D

Explanation:

"You can use subscriptions to get access to a real-time feed of log events from CloudWatch Logs and have it delivered to other services such as an Amazon Kinesis stream, an Amazon Kinesis Data Firehose stream, or AWS Lambda for custom processing, analysis, or loading to other systems. When log events are sent to the receiving service, they are Base64 encoded and compressed with the gzip format." See <https://docs.aws.amazon.com/AmazonCloudWatch/latest/logs/Subscriptions.html>

NEW QUESTION 167

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