AWS Certified DevOps Engineer – Professional

Version: V23.01 - Demo

1 A company runs an application with an Amazon EC2 and on-premises configuration. A DevOps engineer needs to standardize patching across both environments. Company policy dictates that patching only happens during non-business hours.
Which combination of actions will meet these requirements? (Choose three.)

A. Add the physical machines into AWS Systems Manager using Systems Manager Hybrid Activations.

B. Attach an IAM role to the EC2 instances, allowing them to be managed by AWS Systems Manager.

C. Create IAM access keys for the on-premises machines to interact with AWS Systems Manager.

D. Run an AWS Systems Manager Automation document to patch the systems every hour.

E. Use Amazon EventBridge scheduled events to schedule a patch window.

F. Use AWS Systems Manager Maintenance Windows to schedule a patch window.

Answer: A,B,F

2 A company has a single AWS account that runs hundreds of Amazon EC2 instances in a single AWS Region. New EC2 instances are launched and terminated each hour in the account. The account also includes existing EC2 instances that have been running for longer than a week.
The company's security policy requires all running EC2 instances to use an EC2 instance profile. If an EC2 instance does not have an instance profile attached, the EC2 instance must use a default instance

profile that has no IAM permissions assigned.
A DevOps engineer reviews the account and discovers EC2 instances that are running without an instance profile. During the review, the DevOps engineer also observes that new EC2 instances are being launched without an instance profile.
Which solution will ensure that an instance profile is attached to all existing and future EC2 instances in the Region?

A. Configure an Amazon EventBridge rule that reacts to EC2 RunInstances API calls. Configure the rule to invoke an AWS Lambda function to attach the default instance profile to the EC2 instances.

B. Configure the ec2-instance-profile-attached AWS Config managed rule with a trigger type of configuration changes. Configure an automatic remediation action that invokes an AWS Systems Manager Automation runbook to attach the default instance profile to the EC2 instances.

C. Configure an Amazon EventBridge rule that reacts to EC2 StartInstances API calls. Configure the rule to invoke an AWS Systems Manager Automation runbook to attach the default instance profile to the EC2 instances.

D. Configure the iam-role-managed-policy-check AWS Config managed rule with a trigger type of configuration changes. Configure an automatic remediation action that invokes an AWS Lambda function to attach the default instance profile to the EC2 instances.

Answer: B

3 A company has an organization in AWS Organizations. The organization includes workload accounts that contain enterprise applications. The company centrally manages users from an operations account. No users can be created in the workload accounts. The company recently added an operations team and must provide the operations team members with administrator access to each workload account.

Which combination of actions will provide this access? (Choose three.)

A. Create a SysAdmin role in the operations account. Attach the AdministratorAccess policy to the role. Modify the trust relationship to allow the sts:AssumeRole action from the workload accounts.

B. Create a SysAdmin role in each workload account. Attach the AdministratorAccess policy to the role. Modify the trust relationship to allow the sts:AssumeRole action from the operations account.

C. Create an Amazon Cognito identity pool in the operations account. Attach the SysAdmin role as an authenticated role.

D. In the operations account, create an IAM user for each operations team member.

E. In the operations account, create an IAM user group that is named SysAdmins. Add an IAM policy that allows the sts:AssumeRole action for the SysAdmin role in each workload account. Add all operations team members to the group.

F. Create an Amazon Cognito user pool in the operations account. Create an Amazon Cognito user for each operations team member.

Answer: A,B,E

4 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 cluster. Update the application to use the Aurora cluster endpoint for write operations. Update the Aurora cluster's reader endpoint for reads.
B. Add a reader instance to the Aurora cluster. Create a custom ANY endpoint for the cluster. Update the application to use the Aurora cluster's custom ANY endpoint for read and write operations.
C. 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.
D. Turn on the Multi-AZ option on the Aurora cluster. Create a custom ANY endpoint for the cluster. Update the application to use the Aurora cluster's custom ANY endpoint for read and write operations.
Answer: C

5 A company wants to set up a continuous delivery pipeline. The company stores application code in a private GitHub repository. The company needs to deploy the application components to Amazon Elastic Container Service (Amazon ECS). Amazon EC2, and AWS Lambd a. The pipeline must support manual approval actions.
Which solution will meet these requirements?
A. Use AWS CodePipeline with Amazon ECS. Amazon EC2, and Lambda as deploy providers.
B. Use AWS CodePipeline with AWS CodeDeploy as the deploy provider.
C. Use AWS CodePipeline with AWS Elastic Beanstalk as the deploy provider.
D. Use AWS CodeDeploy with GitHub integration to deploy the application.
Answer: B

6 A company uses AWS CodePipeline pipelines to automate releases of its application A typical pipeline consists of three stages build, test, and deployment. The company has been using a separate AWS CodeBuild project to run scripts for each stage. However, the company now wants to use AWS CodeDeploy to handle the deployment stage of the pipelines.

The company has packaged the application as an RPM package and must deploy the application to a fleet of Amazon EC2 instances. The EC2 instances are in an EC2 Auto Scaling group and are launched from a common AMI.

Which combination of steps should a DevOps engineer perform to meet these requirements? (Choose two.)

A. Create a new version of the common AMI with the CodeDeploy agent installed. Update the IAM role of the EC2 instances to allow access to CodeDeploy.

B. Create a new version of the common AMI with the CodeDeploy agent installed. Create an App Specfile that contains application deployment scripts and grants access to CodeDeploy.

C. Create an application in CodeDeploy. Configure an in-place deployment type. Specify the Auto Scaling group as the deployment target. Add a step to the CodePipeline pipeline to use EC2 Image Builder to create a new AMI. Configure CodeDeploy to deploy the newly created AMI.

D. Create an application in CodeDeploy. Configure an in-place deployment type. Specify the Auto Scaling group as the deployment target. Update the CodePipeline pipeline to use the CodeDeploy action to deploy the application.

E. Create an application in CodeDeploy. Configure an in-place deployment type. Specify the EC2 instances that are launched from the common AMI as the deployment target. Update the CodePipeline pipeline to use the CodeDeploy action to deploy the application.

Answer: A,D

7 A company has a mobile application that makes HTTP API calls to an Application Load Balancer (ALB). The ALB routes requests to an AWS Lambda function. Many different versions of the application are in use at any given time, including versions that are in testing by a subset of users. The version of the application is defined in the user-agent header that is sent with all requests to the API. After a series of recent changes to the API, the company has observed issues with the application.

The company needs to gather a metric for each API operation by response code for each version of the application that is in use. A DevOps engineer has modified the Lambda function to extract the API operation name, version information from the user-agent header and response code.

Which additional set of actions should the DevOps engineer take to gather the required metrics?

A. Modify the Lambda function to write the API operation name, response code, and version number as a log line to an Amazon CloudWatch Logs log group. Configure a

CloudWatch Logs metric filter that increments a metric for each API operation name. Specify response code and application version as dimensions for the metric.

B. Modify the Lambda function to write the API operation name, response code, and version number as a log line to an Amazon CloudWatch Logs log group. Configure a CloudWatch Logs Insights query to populate CloudWatch metrics from the log lines. Specify response code and application version as dimensions for the metric.

C. Configure the ALB access logs to write to an Amazon CloudWatch Logs log group. Modify the Lambda function to respond to the ALB with the API operation name, response code, and version number as response metadata. Configure a CloudWatch Logs metric filter that increments a metric for each API operation name. Specify response code and application version as dimensions for the metric.

D. Configure AWS X-Ray integration on the Lambda function. Modify the Lambda function to create an X-Ray subsegment with the API operation name, response code, and version number. Configure X- Ray insights to extract an aggregated metric for each API operation name and to publish the metric to Amazon CloudWatch. Specify response code and application version as dimensions for the metric. **Answer:** B