

# Amazon-Web-Services

## Exam Questions SAA-C01

AWS Certified Solutions Architect - Associate



### NEW QUESTION 1

Your customer wishes to deploy an enterprise application to AWS which will consist of several web servers, several application servers and a small (50GB) Oracle database information is stored, both in the database and the file systems of the various servers. The backup system must support database recovery whole server and whole disk restores, and individual file restores with a recovery time of no more than two hours. They have chosen to use RDS Oracle as the database. Which backup architecture will meet these requirements?

- A. Backup RDS using automated daily DB backups Backup the EC2 instances using AMIs and supplement with file-level backup to S3 using traditional enterprise backup software to provide file level restore
- B. Backup RDS using a Multi-AZ Deployment Backup the EC2 instances using Amis, and supplement by copying file system data to S3 to provide file level restore.
- C. Backup RDS using automated daily DB backups Backup the EC2 instances using EBS snapshots and supplement with file-level backups to Amazon Glacier using traditional enterprise backup software to provide file level restore
- D. Backup RDS database to S3 using Oracle RMAN Backup the EC2 instances using Amis, and supplement with EBS snapshots for individual volume restore.

**Answer:** A

#### Explanation:

You need to use enterprise backup software to provide file level restore. See

[https://d0.awsstatic.com/whitepapers/Backup\\_and\\_Recovery\\_Approaches\\_Using\\_AWS.pdf](https://d0.awsstatic.com/whitepapers/Backup_and_Recovery_Approaches_Using_AWS.pdf) Page 18:

If your existing backup software does not natively support the AWS cloud, you can use AWS storage gateway products. AWS Storage Gateway is a virtual appliance that provides seamless and secure integration between your data center and the AWS storage infrastructure.

### NEW QUESTION 2

Your company is in the process of developing a next generation pet collar that collects biometric information to assist families with promoting healthy lifestyles for their pets Each collar will push 30kb of biometric data In JSON format every 2 seconds to a collection platform that will process and analyze the data providing health trending information back to the pet owners and veterinarians via

a web portal Management has tasked you to architect the collection platform ensuring the following requirements are met.

Provide the ability for real-time analytics of the inbound biometric data Ensure processing of the biometric data is highly durable. Elastic and parallel The results of the analytic processing should be persisted for data mining

Which architecture outlined below win meet the initial requirements for the collection platform?

- A. Utilize S3 to collect the inbound sensor data analyze the data from S3 with a daily scheduled Data Pipeline and save the results to a Redshift Cluster.
- B. Utilize Amazon Kinesis to collect the inbound sensor data, analyze the data with Kinesis clients and save the results to a Redshift cluster using EMR.
- C. Utilize SQS to collect the inbound sensor data analyze the data from SQS with Amazon Kinesis and save the results to a Microsoft SQL Server RDS instance.
- D. Utilize EMR to collect the inbound sensor data, analyze the data from EUR with Amazon Kinesis and save me results to DynamoDB.

**Answer:** B

#### Explanation:

The POC solution is being scaled up by 1000, which means it will require 72TB of Storage to retain 24 months' worth of data. This rules out RDS as a possible DB solution which leaves you with RedShift. I believe DynamoDB is a more cost effective and scales better for ingest rather than using EC2 in an auto scaling group. Also, this example solution from AWS is somewhat similar for reference.

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

### NEW QUESTION 3

Amazon EC2 provides virtual computing environments known as \_\_\_\_\_ .

- A. instances
- B. volumes
- C. microsystems
- D. servers

**Answer:** A

#### Explanation:

Amazon EC2 provides virtual computing environments known as instances. When you launch an instance, the instance type that you specify determines the hardware of the host computer used for your instance. Each instance type offers different compute, memory, and storage capabilities and are grouped in instance families based on these capabilities. Select an instance type based on the requirements of the application or software that you plan to run on your instance.

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

### NEW QUESTION 4

Your application is using an ELB in front of an Auto Scaling group of web/application servers deployed across two AZs and a Multi-AZ RDS Instance for data persistence.

The database CPU is often above 80% usage and 90% of I/O operations on the database are reads. To improve performance you recently added a single-node Memcached ElastiCache Cluster to cache frequent DB query results. In the next weeks the overall workload is expected to grow by 30%.

Do you need to change anything in the architecture to maintain the high availability or the application with the anticipated additional load? Why?

- A. Yes, you should deploy two Memcached ElastiCache Clusters in different AZs because the RDS instance will not be able to handle the load if the cache node fails.
- B. No, if the cache node fails you can always get the same data from the DB without having any availability impact.
- C. No, if the cache node fails the automated ElastiCache node recovery feature will prevent any availability impact.
- D. Yes, you should deploy the Memcached ElastiCache Cluster with two nodes in the same AZ as the RDS DB master instance to handle the load if one cache node fails.

**Answer:** A

#### Explanation:

A single-node Memcached ElastiCache cluster failure is nothing but a total failure. (Even though AWS will automatically recover the failed node, there are no other nodes in the cluster) <http://docs.aws.amazon.com/AmazonElastiCache/latest/UserGuide/BestPractices.html> Mitigating Node Failures

To mitigate the impact of a node failure, spread your cached data over more nodes. Because Memcached does not support replication, a node failure will always result in some data loss from your cluster.

When you create your Memcached cluster you can create it with 1 to 20 nodes, or more by special request. Partitioning your data across a greater number of nodes means you'll lose less data if a node fails. For example, if you partition your data across 10 nodes, any single node stores approximately 10% of your cached data. In this case, a node failure loses approximately 10% of your cache which needs to be replaced when a replacement node is created and provisioned.

**Mitigating Availability Zone Failures**

To mitigate the impact of an availability zone failure, locate your nodes in as many availability zones as possible. In the unlikely event of an AZ failure, you will lose only the data cached in that AZ, not the data cached in the other AZs.

**NEW QUESTION 5**

You are responsible for a legacy web application whose server environment is approaching end of life. You would like to migrate this application to AWS as quickly as possible, since the application environment currently has the following limitations:

The VM's single 10GB VMDK is almost full

The virtual network interface still uses the 10Mbps driver, which leaves your 100Mbps WAN connection completely underutilized

It is currently running on a highly customized Windows VM within a VMware environment. You do not have the installation media

This is a mission critical application with an RTO (Recovery Time Objective) of 8 hours. RPO (Recovery Point Objective) of 1 hour. How could you best migrate this application to AWS while meeting your business continuity requirements?

- A. Use the EC2 VM Import Connector for vCenter to import the VM into EC2.
- B. Use Import/Export to import the VM as an EBS snapshot and attach to EC2.
- C. Use S3 to create a backup of the VM and restore the data into EC2.
- D. Use the ec2-bundle-instance API to import an image of the VM into EC2

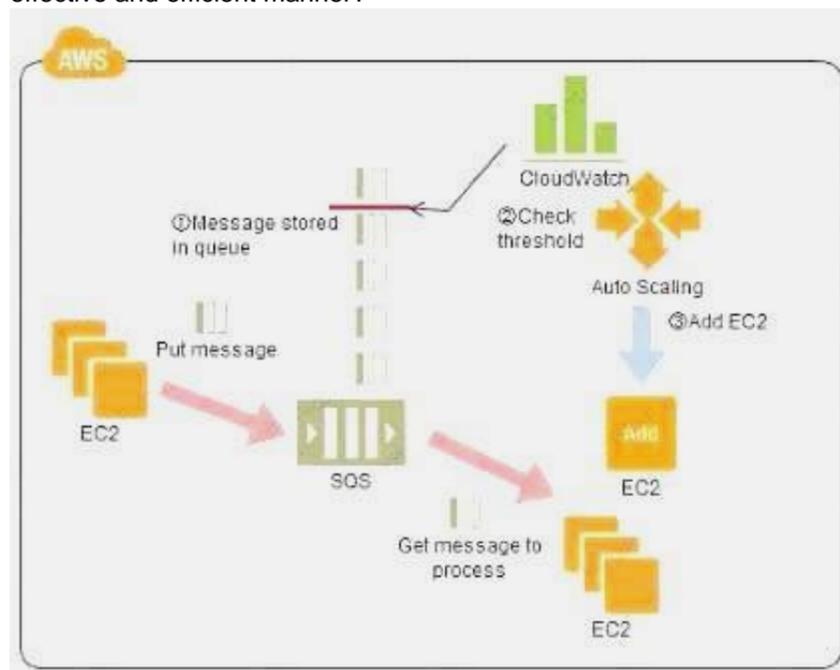
**Answer: A**

**Explanation:**

<https://aws.amazon.com/developertools/2759763385083070>

**NEW QUESTION 6**

Refer to the architecture diagram above of a batch processing solution using Simple Queue Service (SQS) to set up a message queue between EC2 instances which are used as batch processors. CloudWatch monitors the number of Job requests (queued messages) and an Auto Scaling group adds or deletes batch servers automatically based on parameters set in CloudWatch alarms. You can use this architecture to implement which of the following features in a cost effective and efficient manner?



- A. Reduce the overall time for executing jobs through parallel processing by allowing a busy EC2 instance that receives a message to pass it to the next instance in a daisy-chain setup.
- B. Implement fault tolerance against EC2 instance failure since messages would remain in SQS and work can continue with recovery of EC2 instances. Implement fault tolerance against SQS failure by backing up messages to S3.
- C. Implement message passing between EC2 instances within a batch by exchanging messages through SQS.
- D. Coordinate number of EC2 instances with number of job requests automatically thus improving cost effectiveness.
- E. Handle high priority jobs before lower priority jobs by assigning a priority metadata field to SQS messages.

**Answer: D**

**NEW QUESTION 7**

Your company currently has a 2-tier web application running in an on-premises data center. You have experienced several infrastructure failures in the past two months resulting in significant financial losses. Your CIO is strongly agreeing to move the application to AWS. While working on achieving buy-in from the other company executives, he asks you to develop a disaster recovery plan to help improve Business continuity in the short term. He specifies a target Recovery Time Objective (RTO) of 4 hours and a Recovery Point Objective (RPO) of 1 hour or less. He also asks you to implement the solution within 2 weeks. Your database is 200GB in size and you have a 20Mbps Internet connection. How would you do this while minimizing costs?

- A. Create an EBS backed private AMI which includes a fresh install of your application
- B. Develop a CloudFormation template which includes your AMI and the required EC2, AutoScaling, and ELB resources to support deploying the application across Multiple- Availability-Zone
- C. Asynchronously replicate transactions from your on-premises database to a database instance in AWS across a secure VPN connection.
- D. Deploy your application on EC2 instances within an Auto Scaling group across multiple availability zone
- E. Asynchronously replicate transactions from your on-premises database to a database instance in AWS across a secure VPN connection.
- F. Create an EBS backed private AMI which includes a fresh install of your application

- G. Setup a script in your data center to backup the local database every 1 hour and to encrypt and copy the resulting file to an S3 bucket using multi-part upload.
- H. Install your application on a compute-optimized EC2 instance capable of supporting the application's average load.
- I. Synchronously replicate transactions from your on-premises database to a database instance in AWS across a secure Direct Connect connection.

**Answer:** A

**Explanation:**

Overview of Creating Amazon EBS-Backed AMIs

First, launch an instance from an AMI that's similar to the AMI that you'd like to create. You can

connect to your instance and customize it. When the instance is configured correctly, ensure data integrity by stopping the instance before you create an AMI, then create the image. When you create an Amazon EBS-backed AMI, we automatically register it for you.

Amazon EC2 powers down the instance before creating the AMI to ensure that everything on the instance is stopped and in a consistent state during the creation process. If you're confident that your instance is in a consistent state appropriate for AMI creation, you can tell Amazon EC2 not to power down and reboot the instance. Some file systems, such as XFS, can freeze and unfreeze activity, making it safe to create the image without rebooting the instance.

During the AMI-creation process, Amazon EC2 creates snapshots of your instance's root volume and any other EBS volumes attached to your instance. If any volumes attached to the instance are encrypted, the new AMI only launches successfully on instances that support Amazon EBS encryption. For more information, see Amazon EBS Encryption.

Depending on the size of the volumes, it can take several minutes for the AMI-creation process to complete (sometimes up to 24 hours). You may find it more efficient to create snapshots of your volumes prior to creating your AMI. This way, only small, incremental snapshots need to be created when the AMI is created, and the process completes more quickly (the total time for snapshot creation remains the same). For more information, see Creating an Amazon EBS Snapshot.

After the process completes, you have a new AMI and snapshot created from the root volume of the instance. When you launch an instance using the new AMI, we create a new EBS volume for its root volume using the snapshot. Both the AMI and the snapshot incur charges to your account until you delete them. For more information, see Deregistering Your AMI.

If you add instance-store volumes or EBS volumes to your instance in addition to the root device volume, the block device mapping for the new AMI contains information for these volumes, and the block device mappings for instances that you launch from the new AMI automatically contain information for these volumes. The instance-store volumes specified in the block device mapping for the new instance are new and don't contain any data from the instance store volumes of the instance you used to create the AMI. The data on EBS volumes persists. For more information, see Block Device Mapping.

**NEW QUESTION 8**

An ERP application is deployed across multiple AZs in a single region. In the event of failure, the Recovery Time Objective (RTO) must be less than 3 hours, and the Recovery Point Objective (RPO) must be 15 minutes the customer realizes that data corruption occurred roughly 1.5 hours ago.

What DR strategy could be used to achieve this RTO and RPO in the event of this kind of failure?

- A. Take hourly DB backups to S3, with transaction logs stored in S3 every 5 minutes.
- B. Use synchronous database master-slave replication between two availability zones.
- C. Take hourly DB backups to EC2 Instance store volumes with transaction logs stored in S3 every 5 minutes.
- D. Take 15-minute DB backups stored in Glacier with transaction logs stored in S3 every 5 minutes.

**Answer:** A

**NEW QUESTION 9**

Your company hosts a social media site supporting users in multiple countries. You have been asked to provide a highly available design for the application that leverages multiple regions for the most recently accessed content and latency sensitive portions of the website. The most latency sensitive component of the application involves reading user preferences to support web site personalization and ad selection.

In addition to running your application in multiple regions, which option will support this application's requirements?

- A. Serve user content from S3. CloudFront and use Route53 latency-based routing between ELBs in each region. Retrieve user preferences from a local DynamoDB table in each region and leverage SQS to capture changes to user preferences with SQS workers for propagating updates to each table.
- B. Use the S3 Copy API to copy recently accessed content to multiple regions and serve user content from S3. CloudFront with dynamic content and an ELB in each region. Retrieve user preferences from an ElastiCache cluster in each region and leverage SNS notifications to propagate user preference changes to a worker node in each region.
- C. Use the S3 Copy API to copy recently accessed content to multiple regions and serve user content from S3. CloudFront and Route53 latency-based routing between ELBs in each region. Retrieve user preferences from a DynamoDB table and leverage SQS to capture changes to user preferences with SQS workers for propagating DynamoDB updates.
- D. Serve user content from S3. CloudFront with dynamic content, and an ELB in each region. Retrieve user preferences from an ElastiCache cluster in each region and leverage Simple Workflow (SWF) to manage the propagation of user preferences from a centralized object bucket to each ElastiCache cluster.

**Answer:** A

**Explanation:**

[http://media.amazonwebservices.com/architecturecenter/AWS\\_ac\\_ra\\_mediasharing\\_09.pdf](http://media.amazonwebservices.com/architecturecenter/AWS_ac_ra_mediasharing_09.pdf)

[http://media.amazonwebservices.com/architecturecenter/AWS\\_ac\\_ra\\_adserving\\_06.pdf](http://media.amazonwebservices.com/architecturecenter/AWS_ac_ra_adserving_06.pdf)

**NEW QUESTION 10**

Your system recently experienced down time during the troubleshooting process. You found that a new administrator mistakenly terminated several production EC2 instances.

Which of the following strategies will help prevent a similar situation in the future? The administrator still must be able to:

- launch, start stop, and terminate development resources.
- launch and start production instances.

- A. Create an IAM user, which is not allowed to terminate instances by leveraging production EC2 termination protection.
- B. Leverage resource based tagging along with an IAM user, which can prevent specific users from terminating production EC2 resources.
- C. Leverage EC2 termination protection and multi-factor authentication, which together require users to authenticate before terminating EC2 instances.
- D. Create an IAM user and apply an IAM role which prevents users from terminating production EC2 instances.

**Answer:** B

**Explanation:**

Working with volumes

When an API action requires a caller to specify multiple resources, you must create a policy statement that allows users to access all required resources. If you need to use a Condition element with one or more of these resources, you must create multiple statements as shown in this example. The following policy allows users to attach volumes with the tag "volume\_user=iam-user-name" to instances with the tag "department=dev", and to detach those volumes from those instances. If you attach this policy to an IAM group, the aws:username policy variable gives each IAM user in the group permission to attach or detach volumes from the instances with a tag named volume\_user that has his or her IAM user name as a value.

```
{
  "Version": "2012-10-17",
  "Statement": [{
    "Effect": "Allow",
    "Action": [
      "ec2:AttachVolume",
      "ec2:DetachVolume"
    ],
    "Resource": "arn:aws:ec2:us-east-1:123456789012:instance/*",
    "Condition": {
      "StringEquals": {
        "ec2:ResourceTag/department": "dev"
      }
    }
  },
  {
    "Effect": "Allow",
    "Action": [
      "ec2:AttachVolume",
      "ec2:DetachVolume"
    ],
    "Resource": "arn:aws:ec2:us-east-1:123456789012:volume/*",
    "Condition": {
      "StringEquals": {
        "ec2:ResourceTag/volume_user": "${aws:username}"
      }
    }
  }
]
```

#### Launching instances (RunInstances)

The RunInstances API action launches one or more instances. RunInstances requires an AMI and creates an instance; and users can specify a key pair and security group in the request. Launching into EC2-VPC requires a subnet, and creates a network interface. Launching from an Amazon EBS-backed AMI creates a volume. Therefore, the user must have permission to use these Amazon EC2 resources. The caller can also configure the instance using optional parameters to RunInstances, such as the instance type and a subnet. You can create a policy statement that requires users to specify an optional parameter, or restricts users to particular values for a parameter. The examples in this section demonstrate some of the many possible ways that you can control the configuration of an instance that a user can launch.

Note that by default, users don't have permission to describe, start, stop, or terminate the resulting instances. One way to grant the users permission to manage the resulting instances is to create a specific tag for each instance, and then create a statement that enables them to manage instances with that tag. For more information, see 2: Working with instances.

#### /a. AMI

The following policy allows users to launch instances using only the AMIs that have the specified tag, "department=dev", associated with them. The users can't launch instances using other AMIs because the Condition element of the first statement requires that users specify an AMI that has this tag. The users also can't launch into a subnet, as the policy does not grant permissions for the subnet and network interface resources. They can, however, launch into EC2-Classic. The second statement uses a wildcard to enable users to create instance resources, and requires users to specify the key pair project\_keypair and the security group sg-1a2b3c4d. Users are still able to launch instances without a key pair.

```
{
  "Version": "2012-10-17",
  "Statement": [{
    "Effect": "Allow",
    "Action": "ec2:RunInstances",
    "Resource": [
      "arn:aws:ec2:region::image/ami-*"
    ],
    "Condition": {
      "StringEquals": {
        "ec2:ResourceTag/department": "dev"
      }
    }
  }],
  {
    "Effect": "Allow",
    "Action": "ec2:RunInstances",
    "Resource": [
      "arn:aws:ec2:region:account:instance/*",
      "arn:aws:ec2:region:account:volume/*",
      "arn:aws:ec2:region:account:key-pair/project_keypair",
      "arn:aws:ec2:region:account:security-group/sg-1a2b3c4d"
    ]
  }
]
```

Alternatively, the following policy allows users to launch instances using only the specified AMIs, ami-9e1670f7 and ami-45cf5c3c. The users can't launch an instance using other AMIs (unless another statement grants the users permission to do so), and the users can't launch an instance into a subnet.

```
{
  "Version": "2012-10-17",
  "Statement": [{
    "Effect": "Allow",
    "Action": "ec2:RunInstances",
    "Resource": [
      "arn:aws:ec2:region::image/ami-9e1670f7",
      "arn:aws:ec2:region::image/ami-45cf5c3c",
      "arn:aws:ec2:region:account:instance/*",
      "arn:aws:ec2:region:account:volume/*",
      "arn:aws:ec2:region:account:key-pair/*",
      "arn:aws:ec2:region:account:security-group/*"
    ]
  }
]
```

Alternatively, the following policy allows users to launch instances from all AMIs owned by Amazon. The Condition element of the first statement tests whether ec2:Owner is amazon. The users can't launch an instance using other AMIs (unless another statement grants the users permission to do so). The users are able to launch an instance into a subnet.

```
{
  "Version": "2012-10-17",
  "Statement": [{
    "Effect": "Allow",
    "Action": "ec2:RunInstances",
    "Resource": [
      "arn:aws:ec2:region::image/ami-*"
    ],
    "Condition": {
      "StringEquals": {
        "ec2:Owner": "amazon"
      }
    }
  }],
  {
    "Effect": "Allow",
    "Action": "ec2:RunInstances",
    "Resource": [
      "arn:aws:ec2:region:account:instance/*",
      "arn:aws:ec2:region:account:subnet/*",
      "arn:aws:ec2:region:account:volume/*",
      "arn:aws:ec2:region:account:network-interface/*",
      "arn:aws:ec2:region:account:key-pair/*",
      "arn:aws:ec2:region:account:security-group/*"
    ]
  }
]
```

/b. Instance type

The following policy allows users to launch instances using only the t2.micro or t2.small instance type, which you might do to control costs. The users can't launch larger instances because the Condition element of the first statement tests whether ec2:InstanceType is either t2.micro or t2.small.

```
{
  "Version": "2012-10-17",
  "Statement": [{
    "Effect": "Allow",
    "Action": "ec2:RunInstances",
    "Resource": [
      "arn:aws:ec2:region:account:instance/*"
    ],
    "Condition": {
      "StringEquals": {
        "ec2:InstanceType": ["t2.micro", "t2.small"]
      }
    }
  }],
  {
    "Effect": "Allow",
    "Action": "ec2:RunInstances",
    "Resource": [
      "arn:aws:ec2:region::image/ami-*",
      "arn:aws:ec2:region:account:subnet/*",
      "arn:aws:ec2:region:account:network-interface/*",
      "arn:aws:ec2:region:account:volume/*",
      "arn:aws:ec2:region:account:key-pair/*",
      "arn:aws:ec2:region:account:security-group/*"
    ]
  }
]
```

Alternatively, you can create a policy that denies users permission to launch any instances except t2.micro and t2.small instance types.

```
{
  "Version": "2012-10-17",
  "Statement": [{
    "Effect": "Deny",
    "Action": "ec2:RunInstances",
    "Resource": [
      "arn:aws:ec2:region:account:instance/*"
    ],
    "Condition": {
      "StringNotEquals": {
        "ec2:InstanceType": ["t2.micro", "t2.small"]
      }
    }
  }],
  {
    "Effect": "Allow",
    "Action": "ec2:RunInstances",
    "Resource": [
      "arn:aws:ec2:region::image/ami-*",
      "arn:aws:ec2:region:account:network-interface/*",
      "arn:aws:ec2:region:account:instance/*",
      "arn:aws:ec2:region:account:subnet/*",
      "arn:aws:ec2:region:account:volume/*",
      "arn:aws:ec2:region:account:key-pair/*",
      "arn:aws:ec2:region:account:security-group/*"
    ]
  }
]
```

/c. Subnet

The following policy allows users to launch instances using only the specified subnet, subnet- 12345678. The group can't launch instances into any another subnet (unless another statement grants the users permission to do so). Users are still able to launch instances into EC2-Classical.

```
{
  "Version": "2012-10-17",
  "Statement": [{
    "Effect": "Allow",
    "Action": "ec2:RunInstances",
    "Resource": [
      "arn:aws:ec2:region:account:subnet/subnet-12345678",
      "arn:aws:ec2:region:account:network-interface/*",
      "arn:aws:ec2:region:account:instance/*",
      "arn:aws:ec2:region:account:volume/*",
      "arn:aws:ec2:region::image/ami-*",
      "arn:aws:ec2:region:account:key-pair/*",
      "arn:aws:ec2:region:account:security-group/*"
    ]
  }
]
```

Alternatively, you could create a policy that denies users permission to launch an instance into any other subnet. The statement does this by denying permission to create a network interface, except where subnet subnet-12345678 is specified. This denial overrides any other policies that are created to allow launching instances into other subnets. Users are still able to launch instances into EC2- Classic.

```
{
  "Version": "2012-10-17",
  "Statement": [{
    "Effect": "Deny",
    "Action": "ec2:RunInstances",
    "Resource": [
      "arn:aws:ec2:region:account:network-interface/*"
    ],
    "Condition": {
      "ArnNotEquals": {
        "ec2:Subnet": "arn:aws:ec2:region:account:subnet/subnet-12345678"
      }
    }
  }],
  {
    "Effect": "Allow",
    "Action": "ec2:RunInstances",
    "Resource": [
      "arn:aws:ec2:region:image/ami-*",
      "arn:aws:ec2:region:account:network-interface/*",
      "arn:aws:ec2:region:account:instance/*",
      "arn:aws:ec2:region:account:subnet/*",
      "arn:aws:ec2:region:account:volume/*",
      "arn:aws:ec2:region:account:key-pair/*",
      "arn:aws:ec2:region:account:security-group/*"
    ]
  }
]
```

<https://aws.amazon.com/blogs/security/resource-level-permissions-for-ec2-controllingmanagement-access-on-specific-instances/>

\*August 2016 Update\* One way to work around this is to use a combination of an Amazon CloudWatch Events rule and AWS Lambda to tag newly created instances.

#### NEW QUESTION 10

Your company previously configured a heavily used, dynamically routed VPN connection between your on-premises data center and AWS. You recently provisioned a DirectConnect connection and would like to start using the new connection. After configuring DirectConnect settings in the AWS Console, which of the following options will provide the most seamless transition for your users?

- A. Delete your existing VPN connection to avoid routing loops configure your DirectConnect router with the appropriate settings and verify network traffic is leveraging DirectConnect.
- B. Configure your DirectConnect router with a higher BGP priority than your VPN router, verify network traffic is leveraging DirectConnect and then delete your existing VPN connection.
- C. Update your VPC route tables to point to the DirectConnect connection configure your DirectConnect router with the appropriate settings verify network traffic is leveraging DirectConnect and then delete the VPN connection.
- D. Configure your DirectConnect router, update your VPC route tables to point to the DirectConnect connection, configure your VPN connection with a higher BGP point
- E. And verify network traffic is leveraging the DirectConnect connection.

**Answer: C**

#### Explanation:

Q. Can I use AWS Direct Connect and a VPN Connection to the same VPC simultaneously?

Yes. However, only in fail-over scenarios. The Direct Connect path will always be preferred, when established, regardless of AS path prepending.

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

#### NEW QUESTION 11

A web company is looking to implement an external payment service into their highly available application deployed in a VPC. Their application EC2 instances are behind a public facing ELB. Auto scaling is used to add additional instances as traffic increases under normal load the application runs 2 instances in the Auto Scaling group but at peak it can scale 3x in size. The application instances need to communicate with the payment service over the Internet which requires whitelisting of all public IP addresses used to communicate with it. A maximum of 4 whitelisting IP addresses is allowed at a time and can be added through an API.

How should they architect their solution?

- A. Route payment requests through two NAT instances setup for High Availability and whitelist the Elastic IP addresses attached to the NAT instances.
- B. Whitelist the VPC Internet Gateway Public IP and route payment requests through the Internet Gateway.
- C. Whitelist the ELB IP addresses and route payment requests from the Application servers through the ELB.
- D. Automatically assign public IP addresses to the application instances in the Auto Scaling group and run a script on boot that adds each instance's public IP address to the payment validation whitelist API.

**Answer: A**

#### Explanation:

B is incorrect as you do not have insight into the public IP associated with a VPC Internet Gateway. C is incorrect as ELB receives a public DNS name.

D would exceed the maximum of 4 whitelisting IP addresses.

### NEW QUESTION 15

You have deployed a three-tier web application in a VPC with a CIDR block of 10.0.0.0/28. You initially deploy two web servers, two application servers, two database servers and one NAT instance for a total of seven EC2 instances. The web, application and database servers are deployed across two availability zones (AZs). You also deploy an ELB in front of the two web servers, and use Route53 for DNS. Web traffic gradually increases in the first few days following the deployment, so you attempt to double the number of instances in each tier of the application to handle the new load unfortunately some of these new instances fail to launch. Which of the following could be the root cause? (Choose two.)

- A. AWS reserves the first and the last private IP address in each subnet's CIDR block so you do not have enough addresses left to launch all of the new EC2 instances
- B. The Internet Gateway (IGW) of your VPC has scaled-up, adding more instances to handle the traffic spike, reducing the number of available private IP addresses for new instance launches
- C. The ELB has scaled-up, adding more instances to handle the traffic spike, reducing the number of available private IP addresses for new instance launches
- D. AWS reserves one IP address in each subnet's CIDR block for Route53 so you do not have enough addresses left to launch all of the new EC2 instances
- E. AWS reserves the first four and the last IP address in each subnet's CIDR block so you do not have enough addresses left to launch all of the new EC2 instances

**Answer: CE**

#### Explanation:

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

The first four IP addresses and the last IP address in each subnet CIDR block are not available for you to use, and cannot be assigned to an instance. For example, in a subnet with CIDR block 10.0.0.0/24, the following five IP addresses are reserved:

- 10.0.0.0: Network address.
- 10.0.0.1: Reserved by AWS for the VPC router.
- 10.0.0.2: Reserved by AWS. The IP address of the DNS server is always the base of the VPC network range plus two; however, we also reserve the base of each subnet range plus two. For more information, see [Amazon DNS Server](#).
- 10.0.0.3: Reserved by AWS for future use.
- 10.0.0.255: Network broadcast address. We do not support broadcast in a VPC, therefore we reserve this address.

### NEW QUESTION 19

You are designing Internet connectivity for your VPC. The Web servers must be available on the Internet. The application must have a highly available architecture. Which alternatives should you consider? (Choose two.)

- A. Configure a NAT instance in your VPC
- B. Create a default route via the NAT instance and associate it with all subnets
- C. Configure a DNS A record that points to the NAT instance public IP address.
- D. Configure a CloudFront distribution and configure the origin to point to the private IP addresses of your Web server
- E. Configure a Route53 CNAME record to your CloudFront distribution.
- F. Place all your web servers behind ELB. Configure a Route53 CNAME to point to the ELB DNS name.
- G. Assign EIPs to all web server
- H. Configure a Route53 record set with all EIPs with health checks and DNS failover.
- I. Configure ELB with an EIP
- J. Place all your Web servers behind ELB
- K. Configure a Route53 A record that points to the EIP.

**Answer: CD**

### NEW QUESTION 21

A corporate web application is deployed within an Amazon Virtual Private Cloud (VPC) and is connected to the corporate data center via an IPsec VPN. The application must authenticate against the on-premises LDAP server. After authentication, each logged-in user can only access an Amazon Simple Storage Service (S3) key space specific to that user.

Which two approaches can satisfy these objectives? (Choose two.)

- A. Develop an identity broker that authenticates against IAM Security Token service to assume a IAM role in order to get temporary AWS security credentials. The application calls the identity broker to get AWS temporary security credentials with access to the appropriate S3 bucket.
- B. The application authenticates against LDAP and retrieves the name of an IAM role associated with the user.
- C. The application then calls the IAM Security Token Service to assume that IAM role.
- D. The application can use the temporary credentials to access the appropriate S3 bucket.
- E. Develop an identity broker that authenticates against LDAP and then calls IAM Security Token Service to get IAM federated user credentials.
- F. The application calls the identity broker to get IAM federated user credentials with access to the appropriate S3 bucket.
- G. The application authenticates against LDAP, then calls the AWS Identity and Access Management (IAM) Security service to log in to IAM using the LDAP credentials, the application can use the IAM temporary credentials to access the appropriate S3 bucket.
- H. The application authenticates against IAM Security Token Service using the LDAP credentials, the application uses those temporary AWS security credentials to access the appropriate S3 bucket.

**Answer: BC**

#### Explanation:

Imagine that in your organization, you want to provide a way for users to copy data from their computers to a backup folder. You build an application that users can run on their computers. On the back end, the application reads and writes objects in an S3 bucket. Users don't have direct access to AWS. Instead, the application communicates with an identity provider (IdP) to authenticate the user. The IdP gets the user information from your organization's identity store (such as an LDAP directory) and then generates a SAML assertion that includes authentication and authorization information about that user. The application then uses that assertion to make a call to the AssumeRoleWithSAML API to get temporary security credentials. The app can then use those credentials to access a folder in the

S3 bucket that's specific to the user. [http://docs.aws.amazon.com/IAM/latest/UserGuide/id\\_roles\\_providers\\_saml.html](http://docs.aws.amazon.com/IAM/latest/UserGuide/id_roles_providers_saml.html)

#### NEW QUESTION 26

You are designing a multi-platform web application for AWS. The application will run on EC2 instances and will be accessed from PCs, tablets and smart phones. Supported accessing platforms are Windows, MacOS, IOS and Android. Separate sticky session and SSL certificate setups are required for different platform types. Which of the following describes the most cost effective and performance efficient architecture setup?

- A. Setup a hybrid architecture to handle session state and SSL certificates on-prem and separate EC2 Instance groups running web applications for different platform types running in a VPC
- B. Set up one ELB for all platforms to distribute load among multiple instances under it. Each EC2 instance implements all functionality for a particular platform.
- C. Set up two ELBs. The first ELB handles SSL certificates for all platforms and the second ELB handles session stickiness for all platforms. For each ELB, run separate EC2 instance groups to handle the web application for each platform.
- D. Assign multiple ELBs to an EC2 instance or group of EC2 instances running the common components of the web application, one ELB for each platform type. Session stickiness and SSL termination are done at the ELBs.

**Answer: D**

#### Explanation:

One ELB cannot handle different SSL certificates but since we are using sticky sessions it must be handled at the ELB level. SSL could be handled on the EC2 instances only with TCP configured ELB, ELB supports sticky sessions only in HTTP/HTTPS configurations.

The way the Elastic Load Balancer does session stickiness is on a HTTP/HTTPS listener is by utilizing an HTTP cookie. If SSL traffic is not terminated on the Elastic Load Balancer and is terminated on the back-end instance, the Elastic Load Balancer has no visibility into the HTTP headers and therefore cannot set or read any of the HTTP headers being passed back and forth. <http://docs.aws.amazon.com/ElasticLoadBalancing/latest/DeveloperGuide/elb-sticky-sessions.html>

#### NEW QUESTION 27

Your company has an on-premises multi-tier PHP web application, which recently experienced downtime due to a large burst in web traffic due to a company announcement. Over the coming days, you are expecting similar announcements to drive similar unpredictable bursts, and are looking to find ways to quickly improve your infrastructure's ability to handle unexpected increases in traffic. The application currently consists of 2 tiers: a web tier which consists of a load balancer and several Linux Apache web servers as well as a database tier which hosts a Linux server hosting a MySQL database.

Which scenario below will provide full site functionality, while helping to improve the ability of your application in the short timeframe required?

- A. Failover environment: Create an S3 bucket and configure it for website hosting
- B. Migrate your DNS to Route53 using zone file import, and leverage Route53 DNS failover to failover to the S3 hosted website.
- C. Hybrid environment: Create an AMI, which can be used to launch web servers in EC2. Create an Auto Scaling group, which uses the AMI to scale the web tier based on incoming traffic
- D. Leverage Elastic Load Balancing to balance traffic between on-premises web servers and those hosted in AWS.
- E. Offload traffic from on-premises environment: Setup a CloudFront distribution, and configure CloudFront to cache objects from a custom origin
- F. Choose to customize your object cache behavior, and select a TTL that objects should exist in cache.
- G. Migrate to AWS: Use VM Import/Export to quickly convert an on-premises web server to an AMI
- H. Create an Auto Scaling group, which uses the imported AMI to scale the web tier based on incoming traffic
- I. Create an RDS read replica and setup replication between the RDS instance and on-premises MySQL server to migrate the database.

**Answer: C**

#### Explanation:

You can have CloudFront sit in front of your on-prem web environment, via a custom origin (the origin doesn't have to be in AWS). This would protect against unexpected bursts in traffic by letting CloudFront handle the traffic that it can't cache, thus hopefully removing some of the load from your on-prem web servers.

#### NEW QUESTION 28

Your department creates regular analytics reports from your company's log files. All log data is collected in Amazon S3 and processed by daily Amazon Elastic MapReduce (EMR) jobs that generate daily PDF reports and aggregated tables in CSV format for an Amazon Redshift data warehouse. Your CFO requests that you optimize the cost structure for this system.

Which of the following alternatives will lower costs without compromising average performance of the system or data integrity for the raw data?

- A. Use reduced redundancy storage (RRS) for all data in S3. Use a combination of Spot Instances and Reserved Instances for Amazon EMR job
- B. Use Reserved Instances for Amazon Redshift.
- C. Use reduced redundancy storage (RRS) for PDF and .csv data in S3. Add Spot Instances to EMR job
- D. Use Spot Instances for Amazon Redshift.
- E. Use reduced redundancy storage (RRS) for PDF and .csv data in Amazon S3. Add Spot Instances to Amazon EMR job
- F. Use Reserved Instances for Amazon Redshift.
- G. Use reduced redundancy storage (RRS) for all data in Amazon S3. Add Spot Instances to Amazon EMR job
- H. Use Reserved Instances for Amazon Redshift.

**Answer: D**

#### Explanation:

Reserved Instances (a.k.a. Reserved Nodes) are appropriate for steady-state production workloads, and offer significant discounts over On-Demand pricing. <https://aws.amazon.com/redshift>

Q: What are some EMR best practices?

If you are running EMR in production you should specify an AMI version, Hive version, Pig version, etc. to make sure the version does not change unexpectedly (e.g. when EMR later adds support for a newer version). If your cluster is mission critical, only use Spot instances for task nodes because if the Spot price increases you may lose the instances. In development, use logging and enable debugging

to spot and correct errors faster. If you are using GZIP, keep your file size to 1–2 GB because GZIP files cannot be split. Click here to download the white paper on Amazon EMR best practices. <https://aws.amazon.com/elasticmapreduce/faqs>

#### NEW QUESTION 32

Your website is serving on-demand training videos to your workforce. Videos are uploaded monthly in high resolution MP4 format. Your workforce is distributed globally often on the move and using company-provided tablets that require the HTTP Live Streaming (HLS) protocol to watch a video. Your company has no video transcoding expertise and it required you may need to pay for a consultant. How do you implement the most cost-efficient architecture without compromising high availability and quality of video delivery'?

- A. A video transcoding pipeline running on EC2 using SQS to distribute tasks and Auto Scaling to adjust the number of nodes depending on the length of the queue
- B. EBS volumes to host videos and EBS snapshots to incrementally backup original files after a few day
- C. CloudFront to serve HLS transcoded videos from EC2.
- D. Elastic Transcoder to transcode original high-resolution MP4 videos to HL
- E. EBS volumes to host videos and EBS snapshots to incrementally backup original files after a few day
- F. CloudFront to serve HLS transcoded videos from EC2.
- G. Elastic Transcoder to transcode original high-resolution MP4 videos to HL
- H. S3 to host videos with Lifecycle Management to archive original files to Glacier after a few day
- I. CloudFront to serve HLS transcoded videos from S3.
- J. A video transcoding pipeline running on EC2 using SQS to distribute tasks and Auto Scaling to adjust the number of nodes depending on the length of the queue
- K. S3 to host videos with Lifecycle Management to archive all files to Glacier after a few day
- L. CloudFront to serve HLS transcoded videos from Glacier.

**Answer: C**

#### NEW QUESTION 34

You currently operate a web application. In the AWS US-East region The application runs on an autoscaled layer of EC2 instances and an RDS Multi-AZ database Your IT security compliance officer has tasked you to develop a reliable and durable logging solution to track changes made to your EC2.IAM And RDS resources. The solution must ensure the integrity and confidentiality of your log data. Which of these solutions would you recommend?

- A. Create a new CloudTrail trail with one new S3 bucket to store the logs and with the global services option selecte
- B. Use IAM roles S3 bucket policies and Multi Factor Authentication (MFA). Delete on the S3 bucket that stores your logs.
- C. Create a new CloudTrail with one new S3 bucket to store the log
- D. Configure SNS to send log file delivery notifications to your management syste
- E. Use IAM roles and S3 bucket policies on the S3 bucket mat stores your logs.
- F. Create a new CloudTrail trail with an existing S3 bucket to store the logs and with the global services option selecte
- G. Use S3 ACLs and Multi Factor Authentication (MFA). Delete on the S3 bucket that stores your logs.
- H. Create three new CloudTrail trails with three new S3 buckets to store the logs one for the AWS Management console, one for AWS SDKs and one for command line tool
- I. Use IAM roles and S3 bucket policies on the S3 buckets that store your logs.

**Answer: A**

#### NEW QUESTION 38

An enterprise wants to use a third-party SaaS application. The SaaS application needs to have access to issue several API commands to discover Amazon EC2 resources running within the enterprise's account The enterprise has internal security policies that require any outside access to their environment must conform to the principles of least privilege and there must be controls in place to ensure that the credentials used by the SaaS vendor cannot be used by any other third party. Which of the following would meet all of these conditions?

- A. From the AWS Management Console, navigate to the Security Credentials page and retrieve the access and secret key for your account.
- B. Create an IAM user within the enterprise account assign a user policy to the IAM user that allows only the actions required by the SaaS application create a new access and secret key for the user and provide these credentials to the SaaS provider.
- C. Create an IAM role for cross-account access allows the SaaS provider's account to assume the role and assign it a policy that allows only the actions required by the SaaS application.
- D. Create an IAM role for EC2 instances, assign it a policy that allows only the actions required for the Saas application to work, provide the role ARM to the SaaS provider to use when launching their application instances.

**Answer: C**

#### Explanation:

Granting Cross-account Permission to objects It Does Not Own

In this example scenario, you own a bucket and you have enabled other AWS accounts to upload objects. That is, your bucket can have objects that other AWS accounts own.

Now, suppose as a bucket owner, you need to grant cross-account permission on objects, regardless of who the owner is, to a user in another account. For example, that user could be a billing application that needs to access object metadata. There are two core issues:

The bucket owner has no permissions on those objects created by other AWS accounts. So for the bucket owner to grant permissions on objects it does not own, the object owner, the AWS account that created the objects, must first grant permission to the bucket owner. The bucket owner can then delegate those permissions.

Bucket owner account can delegate permissions to users in its own account but it cannot delegate permissions to other AWS accounts, because cross-account delegation is not supported.

In this scenario, the bucket owner can create an AWS Identity and Access Management (IAM) role with permission to access objects, and grant another AWS account permission to assume the role temporarily enabling it to access objects in the bucket.

Background: Cross-Account Permissions and Using IAM Roles

IAM roles enable several scenarios to delegate access to your resources, and cross-account access is one of the key scenarios. In this example, the bucket owner, Account A, uses an IAM role to temporarily delegate object access cross-account to users in another AWS account, Account C. Each IAM role you create has two policies attached to it:

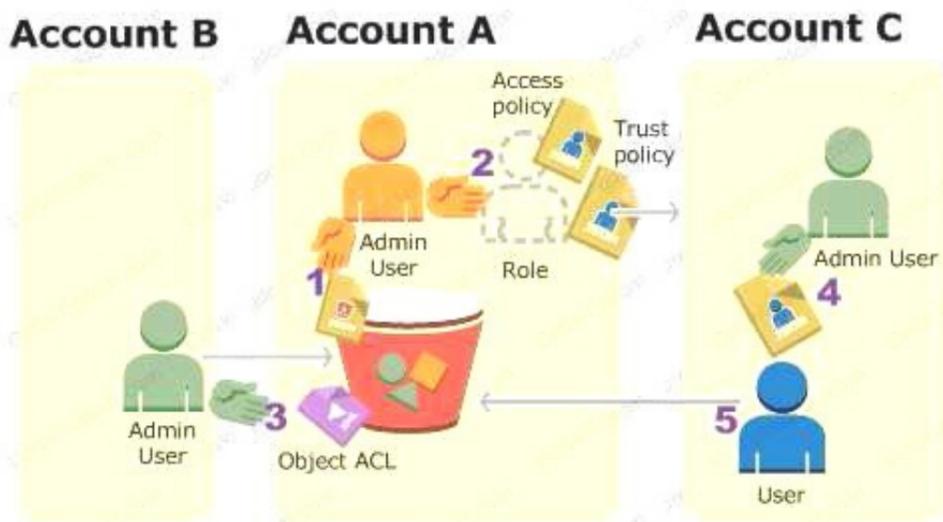
A trust policy identifying another AWS account that can assume the role.

An access policy defining what permissions—for example, s3:GetObject—are allowed when someone assumes the role. For a list of permissions you can specify in a policy, see [Specifying Permissions in a Policy](#).

The AWS account identified in the trust policy then grants its user permission to assume the role. The user can then do the following to access objects:

Assume the role and, in response, get temporary security credentials. Using the temporary security credentials, access the objects in the bucket.

For more information about IAM roles, go to [Roles \(Delegation and Federation\)](#) in [IAM User Guide](#). The following is a summary of the walkthrough steps:



Account A administrator user attaches a bucket policy granting Account B conditional permission to upload objects.  
 Account A administrator creates an IAM role, establishing trust with Account C, so users in that account can access Account A. The access policy attached to the role limits what user in Account C can do when the user accesses Account A.  
 Account B administrator uploads an object to the bucket owned by Account A, granting full-control permission to the bucket owner.  
 Account C administrator creates a user and attaches a user policy that allows the user to assume the role.  
 User in Account C first assumes the role, which returns the user temporary security credentials. Using those temporary credentials, the user then accesses objects in the bucket.  
 For this example, you need three accounts. The following table shows how we refer to these accounts and the administrator users in these accounts. Per IAM guidelines (see About Using an Administrator User to Create Resources and Grant Permissions) we do not use the account root credentials in this walkthrough. Instead, you create an administrator user in each account and use those credentials in creating resources and granting them permissions

AWS Account ID	Account Referred To As	Administrator User in the Account
1111-1111-1111	Account A	AccountAdmin
2222-2222-2222	Account B	AccountBAdmin
3333-3333-3333	Account C	AccountCAdmin

**NEW QUESTION 43**

You are designing a data leak prevention solution for your VPC environment. You want your VPC Instances to be able to access software depots and distributions on the Internet for product updates. The depots and distributions are accessible via third party CONs by their URLs. You want to explicitly deny any other outbound connections from your VPC instances to hosts on the Internet.  
 Which of the following options would you consider?

- A. Configure a web proxy server in your VPC and enforce URL-based rules for outbound access Remove default routes.
- B. Implement security groups and configure outbound rules to only permit traffic to software depots.
- C. Move all your instances into private VPC subnets remove default routes from all routing tables and add specific routes to the software depots and distributions only.
- D. Implement network access control lists to all specific destinations, with an Implicit deny as a rule

**Answer:** A

**Explanation:**

Organizations usually implement proxy solutions to provide URL and web content filtering, IDS/IPS, data loss prevention, monitoring, and advanced threat protection.  
[https://d0.awsstatic.com/aws-answers/Controlling\\_VPC\\_Egress\\_Traffic.pdf](https://d0.awsstatic.com/aws-answers/Controlling_VPC_Egress_Traffic.pdf)

**NEW QUESTION 47**

You are designing an SSUTLS solution that requires HTTPS clients to be authenticated by the Web server using client certificate authentication. The solution must be resilient.  
 Which of the following options would you consider for configuring the web server infrastructure? (Choose two.)

- A. Configure ELB with TCP listeners on TCP/4d3. And place the Web servers behind it.
- B. Configure your Web servers with EIPS Place the Web servers in a Route53 Record Set and configure health checks against all Web servers.
- C. Configure ELB with HTTPS listeners, and place the Web servers behind it.
- D. Configure your web servers as the origins for a CloudFront distributio
- E. Use custom SSL certificateson your CloudFront distributio

**Answer:** AB

**Explanation:**

This question is regarding “two-way” SSL authentication.  
 Currently, ELBs cannot support authentication for the client side SSL/TLS cert required for two-way SSL authentication to succeed. Therefore, you only have two options:  
 \A. Configure the ELB with a TCP/443 listener. This is effectively TLS “pass through” mode, where the TLS connection does not terminate on the ELB, it is passed through and decrypted on the back-end servers. This will cause quite a bit of CPU overhead on the back-end instances, due to the lack of TLS offload that cannot happen on the ELB, so an auto-scaling group which monitors the web server CPU metrics would be essential here. (Not that you probably wouldn’t have it anyway, just saying!)  
 \B. Don’t use an ELB. Just have the web servers act as the endpoint for the traffic, and let Route53 DNS serve in the place of the ELB by load balancing client DNS queries across the web servers. C and D are not options here, since neither are supported by AWS.

**NEW QUESTION 48**

You have an application running on an EC2 Instance which will allow users to download files from a private S3 bucket using a pre-assigned URL. Before generating the URL the application should verify the existence of the file in S3. How should the application use AWS credentials to access the S3 bucket securely?

- A. Use the AWS account access Keys the application retrieves the credentials from the source code of the application.
- B. Create an IAM user for the application with permissions that allow list access to the S3 bucket launch the instance as the IAM user and retrieve the IAM user's credentials from the EC2 instance user data.
- C. Create an IAM role for EC2 that allows list access to objects in the S3 bucket
- D. Launch the instance with the role, and retrieve the role's credentials from the EC2 Instance metadata
- E. Create an IAM user for the application with permissions that allow list access to the S3 bucket
- F. The application retrieves the IAM user credentials from a temporary directory with permissions that allow read access only to the application user

**Answer: C**

**Explanation:**

Reference

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

**NEW QUESTION 52**

You are designing a social media site and are considering how to mitigate distributed denial-of-service (DDoS) attacks. Which of the below are viable mitigation techniques? (Choose three.)

- A. Add multiple elastic network interfaces (ENIs) to each EC2 instance to increase the network bandwidth.
- B. Use dedicated instances to ensure that each instance has the maximum performance possible.
- C. Use an Amazon CloudFront distribution for both static and dynamic content.
- D. Use an Elastic Load Balancer with auto scaling groups at the web
- E. App and Amazon Relational Database Service (RDS) tiers
- F. Add alert Amazon CloudWatch to look for high Network in and CPU utilization.
- G. Create processes and capabilities to quickly add and remove rules to the instance OS firewall

**Answer: CDE**

**NEW QUESTION 57**

A company is building a voting system for a popular TV show, viewers watch the performances then visit the show's website to vote for their favorite performer. It is expected that in a short period of time after the show has finished the site will receive millions of visitors. The visitors will first login to the site using their Amazon.com credentials and then submit their vote. After the voting is completed the page will display the vote totals. The company needs to build the site such that can handle the rapid influx of traffic while maintaining good performance but also wants to keep costs to a minimum. Which of the design patterns below should they use?

- A. Use CloudFront and an Elastic Load balancer in front of an auto-scaled set of web servers, the web servers will first call the Login With Amazon service to authenticate the user then process the users vote and store the result into a multi-AZ Relational Database Service instance.
- B. Use CloudFront and the static website hosting feature of S3 with the Javascript SDK to call the Login With Amazon service to authenticate the user, use IAM Roles to gain permissions to a DynamoDB table to store the users vote.
- C. Use CloudFront and an Elastic Load Balancer in front of an auto-scaled set of web servers, the web servers will first call the Login with Amazon service to authenticate the user, the web servers will process the users vote and store the result into a DynamoDB table using IAM Roles for EC2 instances to gain permissions to the DynamoDB table.
- D. Use CloudFront and an Elastic Load Balancer in front of an auto-scaled set of web servers, the web servers will first call the Login With Amazon service to authenticate the user, the web servers will process the users vote and store the result into an SQS queue using IAM Roles for EC2 Instances to gain permissions to the SQS queue
- E. With Amazon service to authenticate the user, the web servers will process the users vote and store the result into an SQS queue using IAM Roles for EC2 Instances to gain permissions to the SQS queue
- F. A set of application servers will then retrieve the items from the queue and store the result into a DynamoDB table.

**Answer: D**

**NEW QUESTION 58**

You are looking to migrate your Development (Dev) and Test environments to AWS. You have decided to use separate AWS accounts to host each environment. You plan to link each accounts bill to a Master AWS account using Consolidated Billing. To make sure you Keep within budget you would like to implement a way for administrators in the Master account to have access to stop, delete and/or terminate resources in both the Dev and Test accounts. Identify which option will allow you to achieve this goal.

- A. Create IAM users in the Master account with full Admin permission
- B. Create cross-account roles in the Dev and Test accounts that grant the Master account access to the resources in the account by inheriting permissions from the Master account.
- C. Create IAM users and a cross-account role in the Master account that grants full Admin permissions to the Dev and Test accounts.
- D. Create IAM users in the Master account
- E. Create cross-account roles in the Dev and Test accounts that have full Admin permissions and grant the Master account access.
- F. Link the accounts using Consolidated Billing
- G. This will give IAM users in the Master account access to resources in the Dev and Test accounts

**Answer: C**

**NEW QUESTION 63**

A web company is looking to implement an intrusion detection and prevention system into their deployed VPC. This platform should have the ability to scale to thousands of instances running inside of the VPC, How should they architect their solution to achieve these goals?

- A. Configure an instance with monitoring software and the elastic network interface (ENI) set to promiscuous mode packet sniffing to see an traffic across the VPC,
- B. Create a second VPC and route all traffic from the primary application VPC through the second VPC where the scalable virtualized IDS/IPS platform resides.
- C. Configure servers running in the VPC using the host-based 'route' commands to send all traffic through the platform to a scalable virtualized IDS/IPS.
- D. Configure each host with an agent that collects all network traffic and sends that traffic to the IDS/IPS platform for inspection.

**Answer:** D

**Explanation:**

\A. Not possible to set an instance's NIC into promiscuous mode.

\B. Incorrect... VPC peering connections are not "transitive", i.e. you cannot pass traffic through a VPC peering connection into another VPC, and then have that other VPC send the traffic to some third VPC, or the Internet, or a VPN, or a direct connect circuit. (I would assume AWS does not allow redistribution of routes from one VPC's back-end VRF into another VPC's back-end VRF, unless it is that first VPC's CIDR block? Someone from AWS would have to chime in here, and they're probably not going to tell us.)

\C. This one is incorrect because adding static routes on an instance won't affect the routing from any point after the packet leaves the instance's NIC. AWS will check the destination IP address in the packet header and forward according to the VPC routing table's routes. You'd need to make routing changes in the VPC route table for that instance's traffic to get sent through another device (e.g. NAT gateway, VPN instance, or security proxy in this case). (You could tunnel/proxy the traffic over through the IPS tier by changing the destination IP address in the IP header of the packet before it left the instance. But choice C did not state anything about doing anything like that. It just said add a static route on the instance, which does not change the destination IP address in the IP header of the packet.)

\D. Correct, this is the standard approach, and is definitely scalable.

**NEW QUESTION 68**

What does Amazon S3 stand for?

- A. Simple Storage Solution.
- B. Storage Storage Storage (triple redundancy Storage).
- C. Storage Server Solution.
- D. Simple Storage Servic

**Answer:** D

**Explanation:**

Amazon Simple Storage Service (Amazon S3) is storage for the Internet. It provides a simple interface to manage scalable, reliable, and low latency data storage service over the Internet. <http://docs.aws.amazon.com/AmazonS3/latest/gsg/GetStartedWithS3.html>

**NEW QUESTION 70**

You must assign each server to at least \_\_\_\_\_ security group

- A. 3
- B. 2
- C. 4
- D. 1

**Answer:** D

**Explanation:**

Your AWS account automatically has a default security group per region for EC2-Classic. When you create a VPC, we automatically create a default security group for the VPC. If you don't specify a different security group when you launch an instance, the instance is automatically associated with the appropriate default security group. <http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/using-network-security.html>

**NEW QUESTION 75**

Before I delete an EBS volume, what can I do if I want to recreate the volume later?

- A. Create a copy of the EBS volume (not a snapshot)
- B. Store a snapshot of the volume
- C. Download the content to an EC2 instance
- D. Back up the data in to a physical disk

**Answer:** B

**Explanation:**

After you no longer need an Amazon EBS volume, you can delete it. After deletion, its data is gone and the volume can't be attached to any instance. However, before deletion, you can store a snapshot of the volume, which you can use to re-create the volume later.

<http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/ebs-deleting-volume.html>

**NEW QUESTION 78**

What does RRS stand for when talking about S3?

- A. Redundancy Removal System
- B. Relational Rights Storage
- C. Regional Rights Standard
- D. Reduced Redundancy Storage

**Answer:** D

**Explanation:**

In Amazon S3, RRS stands for Reduced Redundancy Storage. Reduced redundancy storage stores objects on multiple devices across multiple facilities, providing 400 times the durability of a typical disk drive, but it does not replicate objects as many times as Amazon S3 standard storage. In addition, reduced redundancy storage is designed to sustain the loss of data in a single facility. <http://docs.aws.amazon.com/AmazonS3/latest/dev/UsingRRS.html>

**NEW QUESTION 80**

All Amazon EC2 instances are assigned two IP addresses at launch, out of which one can only be reached from within the Amazon EC2 network?

- A. Multiple IP address
- B. Public IP address
- C. Private IP address
- D. Elastic IP Address

**Answer: C**

**NEW QUESTION 84**

What is the Reduced Redundancy option in Amazon S3?

- A. Less redundancy for a lower cost.
- B. It doesn't exist in Amazon S3, but in Amazon EBS.
- C. It allows you to destroy any copy of your files outside a specific jurisdiction.
- D. It doesn't exist at all

**Answer: A**

**NEW QUESTION 89**

While creating an Amazon RDS DB, your first task is to set up a DB that controls what IP addresses or EC2 instances have access to your DB Instance.

- A. Security Pool
- B. Secure Zone
- C. Security Token Pool
- D. Security Group

**Answer: D**

**NEW QUESTION 91**

Amazon SWF is designed to help users...

- A. Design graphical user interface interactions
- B. Manage user identification and authorization
- C. Store Web content
- D. Coordinate synchronous and asynchronous tasks which are distributed and fault tolerant

**Answer: D**

**NEW QUESTION 93**

Can I control if and when MySQL based RDS Instance is upgraded to new supported versions?

- A. No
- B. Only in VPC
- C. Yes

**Answer: C**

**NEW QUESTION 97**

When you view the block device mapping for your instance, you can see only the EBS volumes, not the instance store volumes.

- A. Depends on the instance type
- B. FALSE
- C. Depends on whether you use API call
- D. TRUE

**Answer: D**

**Explanation:**

When you view the block device mapping for your instance, you can see only the EBS volumes, not the instance store volumes. You can use instance metadata to query the complete block device mapping. The base URI for all requests for instance metadata is <http://169.254.169.254/latest/>. <http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/block-device-mappingconcepts.html#bdm-instance-metadata>

**NEW QUESTION 101**

True or False: When using IAM to control access to your RDS resources, the key names that can be used are case sensitive. For example, aws:CurrentTime is NOT equivalent to AWS:currenttime.

- A. TRUE
- B. FALSE

**Answer: A**

**Explanation:**

### AWS Direct Connect Keys

AWS Direct Connect implements the following policy keys:

- `aws:CurrentTime` (for date/time conditions)
- `aws:EpochTime` (the date in epoch or UNIX time, for use with date/time conditions)
- `aws:SecureTransport` (Boolean representing whether the request was sent using SSL)
- `aws:SourceIp` (the requester's IP address, for use with IP address conditions)
- `aws:UserAgent` (information about the requester's client application, for use with string conditions)

If you use `aws:SourceIp`, and the request comes from an Amazon EC2 instance, the instance's public IP address is used to determine if access is allowed.

#### Note

For services that use only SSL, such as Amazon Relational Database Service and Amazon Route 53, the `aws:SecureTransport` key has no meaning.

Key names are case-insensitive. For example, `aws:CurrentTime` is equivalent to `AWS:currenttime`.

[http://docs.aws.amazon.com/directconnect/latest/UserGuide/using\\_iam.html](http://docs.aws.amazon.com/directconnect/latest/UserGuide/using_iam.html)

### NEW QUESTION 102

What will be the status of the snapshot until the snapshot is complete.

- A. running
- B. working
- C. progressing
- D. pending

**Answer: D**

#### Explanation:

<http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/ebs-creating-snapshot.html>

### Creating an Amazon EBS Snapshot

After writing data to an EBS volume, you can periodically create a snapshot of the volume to use as a baseline for new volumes or for data backup. If you make periodic snapshots of a volume, the snapshots are incremental so that only the blocks on the device that have changed after your last snapshot are saved in the new snapshot. Even though snapshots are saved incrementally, the snapshot deletion process is designed so that you need to retain only the most recent snapshot in order to restore the volume.

Snapshots occur asynchronously; the point-in-time snapshot is created immediately, but the status of the snapshot is `pending` until the snapshot is complete (when all of the modified blocks have been transferred to Amazon S3), which can take several hours for large initial snapshots or subsequent snapshots where many blocks have changed. While it is completing, an in-progress snapshot is not affected by ongoing reads and writes to the volume.

### NEW QUESTION 105

Can we attach an EBS volume to more than one EC2 instance at the same time?

- A. No
- B. Yes.
- C. Only EC2-optimized EBS volumes.
- D. Only in read mod

**Answer: A**

### NEW QUESTION 110

Amazon RDS automated backups and DB Snapshots are currently supported for only the \_ storage engine

- A. InnoDB
- B. MyISAM

**Answer: A**

### NEW QUESTION 113

While creating the snapshots using the command line tools, which command should I be using?

- A. `ec2-deploy-snapshot`
- B. `ec2-fresh-snapshot`
- C. `ec2-create-snapshot`
- D. `ec2-new-snapshot`

**Answer: C**

#### Explanation:

<http://docs.aws.amazon.com/cli/latest/reference/ec2/create-snapshot.html>

#### NEW QUESTION 114

Typically, you want to check your application whether a request generated an error before you spend any time processing results. The easiest way to find out if an error occurred is to look for an \_\_\_\_\_ node in the response from the Amazon RDS API.

- A. Incorrect
- B. Error
- C. FALSE

**Answer: B**

#### Explanation:

Typically, you want your application to check whether a request generated an error before you spend any time processing results. The easiest way to find out if an error occurred is to look for an Error node in the response from the Amazon RDS API.

<http://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/APITroubleshooting.html>

#### NEW QUESTION 117

In the Amazon CloudWatch, which metric should I be checking to ensure that your DB Instance has enough free storage space?

- A. FreeStorage
- B. FreeStorageSpace
- C. FreeStorageVolume
- D. FreeDBStorageSpace

**Answer: B**

#### NEW QUESTION 122

Amazon RDS DB snapshots and automated backups are stored in

- A. Amazon S3
- B. Amazon ECS Volume
- C. Amazon RDS
- D. Amazon EMR

**Answer: A**

#### NEW QUESTION 124

You must increase storage size in increments of at least \_\_\_\_\_ %

- A. 40
- B. 20
- C. 50
- D. 10

**Answer: D**

#### NEW QUESTION 125

Using Amazon CloudWatch's Free Tier, what is the frequency of metric updates which you receive?

- A. 5 minutes
- B. 500 milliseconds.
- C. 30 seconds
- D. 1 minute

**Answer: A**

#### Explanation:

You can get started with Amazon CloudWatch for free. Many applications should be able to operate within these free tier limits.

New and existing customers also receive 3 dashboards of up to 50 metrics each per month at no

additional charge Basic Monitoring metrics (at five-minute frequency) for Amazon EC2 instances are free of charge, as are all metrics for Amazon EBS volumes, Elastic Load Balancers, and Amazon RDS DB instances.

<https://aws.amazon.com/cloudwatch/pricing/>

#### NEW QUESTION 130

What are the Amazon EC2 API tools?

- A. They don't exist
- B. The Amazon EC2 API tools, instead, are used to manage permissions.
- C. Command-line tools to the Amazon EC2 web service.
- D. They are a set of graphical tools to manage EC2 instances.
- E. They don't exist
- F. The Amazon API tools are a client interface to Amazon Web Services.

**Answer: B**

#### NEW QUESTION 131

What are the two types of licensing options available for using Amazon RDS for Oracle?

- A. BYOL and Enterprise License
- B. BYOL and License Included
- C. Enterprise License and License Included
- D. Role based License and License Included

**Answer: B**

**Explanation:**

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

You can run Amazon RDS for Oracle under two different licensing models – **“License Included”** and **“Bring-Your-Own-License (BYOL)”**. In the “License Included” service model, you do not need separately purchased Oracle licenses; the Oracle Database software has been licensed by AWS. “License Included” pricing starts at \$0.04 per hour, inclusive of software, underlying hardware resources, and Amazon RDS management capabilities. If you already own Oracle Database licenses, you can use the “BYOL” model to run Oracle databases on Amazon RDS, with rates starting at \$0.025 per hour. The “BYOL” model is designed for customers who prefer to use existing Oracle database licenses or purchase new licenses directly from Oracle. For more information, see [Licensing Amazon RDS for Oracle](#).

**NEW QUESTION 134**

Can Amazon S3 uploads resume on failure or do they need to restart?

- A. Restart from beginning
- B. You can resume them, if you flag the "resume on failure" option before uploading.
- C. Resume on failure
- D. Depends on the file size

**Answer: C**

**NEW QUESTION 139**

Fill in the blanks: \_\_\_\_\_ let you categorize your EC2 resources in different ways, for example, by purpose, owner, or environment.

- A. wildcards
- B. pointers
- C. Tags
- D. special filters

**Answer: C**

**NEW QUESTION 141**

How can I change the security group membership for interfaces owned by other AWS, such as Elastic Load Balancing?

- A. By using the service specific console or API/CLI commands
- B. None of these
- C. Using Amazon EC2 API/CLI
- D. using all these methods

**Answer: A**

**Explanation:**

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

**Security Groups for Load Balancers in a VPC**

When you use the AWS Management Console to create a load balancer in a VPC, you can choose an existing security group for the VPC or create a new security group for the VPC. If you choose an existing security group, it must allow traffic in both directions to the listener and health check ports for the load balancer. If you choose to create a security group, the console automatically adds rules to allow all traffic on these ports.

[Nondefault VPC] If you use the **AWS CLI or API** to create a load balancer in a nondefault VPC, but you don't specify a security group, your load balancer is automatically associated with the default security group for the VPC.

[Default VPC] If you use the **AWS CLI or API** to create a load balancer in your default VPC, you can't choose an existing security group for your load balancer. Instead, Elastic Load Balancing provides a security group with rules to allow all traffic on the ports specified for the load balancer. Elastic Load Balancing creates only one such security group per AWS account, with a name of the form `default_elb_id` (for example, `default_elb_fc5fbed3-0405-3b7d-a328-aa290EXAMPLE`). Subsequent load balancers that you create in the default VPC also use this security group. Be sure to review the security group rules to ensure that they allow traffic on the listener and health check ports for the new load balancer. When you delete your load balancer, this security group is not deleted automatically.

If you add a listener to an existing load balancer, you must review your security groups to ensure they allow traffic on the new listener port in both directions.

**NEW QUESTION 143**

What does the following command do with respect to the Amazon EC2 security groups? `ec2-revoke RevokeSecurityGroupIngress`

- A. Removes one or more security groups from a rule.
- B. Removes one or more security groups from an Amazon EC2 instance.

- C. Removes one or more rules from a security group.
- D. Removes a security group from our account

**Answer:** C

**Explanation:**

Removes one or more ingress rules from a security group. The values that you specify in the revoke request (for example, ports) must match the existing rule's values for the rule to be removed. <http://docs.aws.amazon.com/cli/latest/reference/ec2/revoke-security-group-ingress.html>

## revoke-security-group-ingress

**Note:**

To specify multiple rules in a single command use the `--ip-permissions` option.

### Description

Removes one or more ingress rules from a security group. The values that you specify in the revoke request (for example, ports) must match the existing rule's values for the rule to be removed.

Each rule consists of the protocol and the CIDR range or source security group. For the TCP and UDP protocols, you must also specify the destination port or range of ports. For the ICMP protocol, you must also specify the ICMP type and code.

Rule changes are propagated to instances within the security group as quickly as possible. However, a small delay might occur.

**NEW QUESTION 148**

True or False: Manually created DB Snapshots are deleted after the DB Instance is deleted.

- A. TRUE
- B. FALSE

**Answer:** B

**Explanation:**

If you choose not to create a final DB snapshot, you will not be able to later restore the DB instance to its final state. When you delete a DB instance, all automated backups are deleted and cannot be recovered. Manual DB snapshots of the instance are not deleted. [http://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER\\_DeleteInstance.html](http://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER_DeleteInstance.html)

**NEW QUESTION 152**

Can I move a Reserved Instance from one Region to another?

- A. No
- B. Only if they are moving into GovCloud
- C. Yes
- D. Only if they are moving to US East from another region

**Answer:** A

**NEW QUESTION 153**

Will my standby RDS instance be in the same Availability Zone as my primary?

- A. Only for Oracle RDS types
- B. Yes
- C. Only if configured at launch
- D. No

**Answer:** D

**NEW QUESTION 155**

What happens to the data on an instance if the instance reboots (intentionally or unintentionally)?

- A. Data will be lost
- B. Data persists
- C. Data may persist however cannot be sure

**Answer:** B

**Explanation:**

Instance Store Lifetime

You can specify instance store volumes for an instance only when you launch it. The data in an instance store persists only during the lifetime of its associated instance. If an instance reboots (intentionally or unintentionally), data in the instance store persists. However, data in the instance store is lost under the following circumstances:

The underlying disk drive fails  
 The instance stops

The instance terminates <http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/InstanceStorage.html>

**NEW QUESTION 159**

How many types of block devices does Amazon EC2 support?

- A. 2
- B. 3
- C. 4
- D. 1

**Answer: A**

**Explanation:**

<http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/block-device-mapping-concepts.html> Amazon EC2 supports two types of block devices: Instance store volumes (virtual devices whose underlying hardware is physically attached to the host computer for the instance) EBS volumes (remote storage devices) A block device mapping defines the block devices (instance store volumes and EBS volumes) to attach to an instance.

**Block Device Mapping Concepts**

A *block device* is a storage device that moves data in sequences of bytes or bits (blocks). These devices support random access and generally use buffered I/O. Examples include hard disks, CD-ROM drives, and flash drives. A block device can be physically attached to a computer or accessed remotely as if it were physically attached to the computer. Amazon EC2 supports **two types** of block devices:

- Instance store volumes (virtual devices whose underlying hardware is physically attached to the host computer for the instance)
- EBS volumes (remote storage devices)

**NEW QUESTION 162**

For each DB Instance class, what is the maximum size of associated storage capacity?

- A. 5GB
- B. 6TB
- C. 2TB
- D. 500GB

**Answer: B**

**Explanation:**

"You can now create MySQL, PostgreSQL, and Oracle RDS database instances with up to 6TB of storage and SQL Server RDS database instances with up to 4TB of storage when using the Provisioned IOPS and General Purpose (SSD) storage types. Existing MySQL, PostgreSQL, and Oracle RDS database instances can be scaled to these new database storage limits without any downtime."

**NEW QUESTION 164**

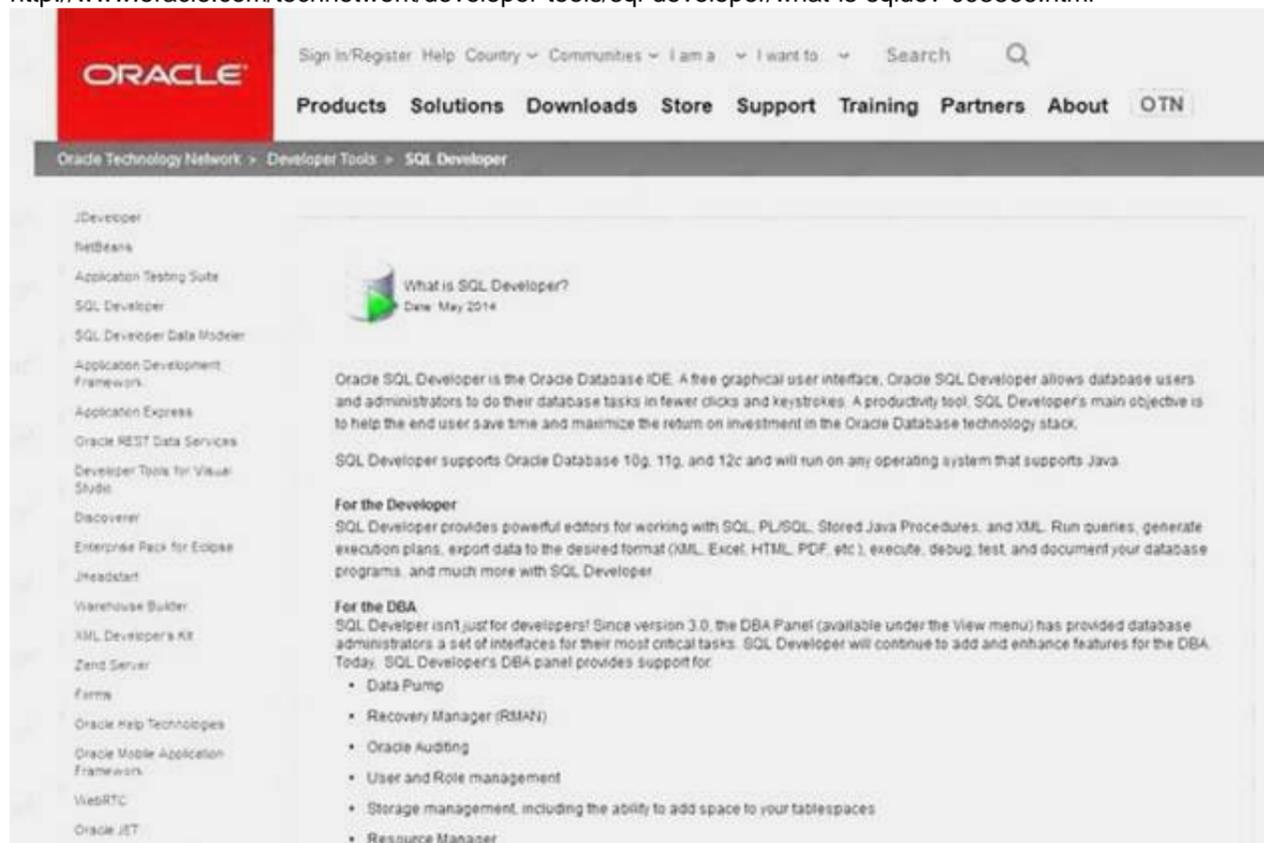
What is Oracle SQL Developer?

- A. An AWS developer who is an expert in Amazon RDS using both the Oracle and SQL Server DB engines
- B. A graphical Java tool distributed without cost by Oracle.
- C. It is a variant of the SQL Server Management Studio designed by Microsoft to support Oracle DBMS functionalities
- D. A different DBMS released by Microsoft free of cost

**Answer: B**

**Explanation:**

<http://www.oracle.com/technetwork/developer-tools/sql-developer/what-is-sqldev-093866.html>



#### NEW QUESTION 165

Using Amazon IAM, can I give permission based on organizational groups?

- A. Yes but only in certain cases
- B. No
- C. Yes always

**Answer: C**

#### Explanation:

An IAM group is a collection of IAM users. You can use groups to specify permissions for a collection of users, which can make those permissions easier to manage for those users. <http://docs.aws.amazon.com/IAM/latest/UserGuide/id.html>

#### NEW QUESTION 170

What is an isolated database environment running in the cloud (Amazon RDS) called?

- A. DB Instance
- B. DB Server
- C. DB Unit
- D. DB Volume

**Answer: A**

#### NEW QUESTION 171

When running my DB Instance as a Multi-AZ deployment, can I use the standby for read or write operations?

- A. Yes
- B. Only with MSSQL based RDS
- C. Only for Oracle RDS instances
- D. No

**Answer: D**

#### Explanation:

Q: When running my DB instance as a Multi-AZ deployment, can I use the standby for read or write operations?

**No** the standby replica cannot serve read requests. Multi-AZ deployments are designed to provide enhanced database availability and durability, rather than read scaling benefits. As such, the feature uses synchronous replication between primary and standby. Our implementation makes sure the primary and the standby are constantly in sync, but precludes using the standby for read or write operations. If you are interested in a read scaling solution, please see the FAQs on Read Replicas.

#### NEW QUESTION 176

When should I choose Provisioned IOPS over Standard RDS storage?

- A. If you have batch-oriented workloads
- B. If you use production online transaction processing (OLTP) workloads.
- C. If you have workloads that are not sensitive to consistent performance

**Answer: B**

#### Explanation:

[http://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/CHAP\\_Storage.html](http://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/CHAP_Storage.html)

Amazon RDS provisions that IOPS rate and storage for the lifetime of the DB instance or until you change it. Provisioned IOPS storage is optimized for I/O intensive, online transaction processing (OLTP) workloads that have consistent performance requirements. Provisioned IOPS helps performance tuning.

#### NEW QUESTION 178

In the 'Detailed' monitoring data available for your Amazon EBS volumes, Provisioned IOPS volumes automatically send \_\_\_\_\_ minute metrics to Amazon CloudWatch.

- A. 3
- B. 1
- C. 5
- D. 2

**Answer: B**

#### NEW QUESTION 182

What is the command line instruction for running the remote desktop client in Windows?

- A. desk.cpl
- B. mstsc

**Answer: B**

#### NEW QUESTION 187

MySQL installations default to port \_\_\_\_\_ .

- A. 3306
- B. 443
- C. 80
- D. 1158

**Answer:** A

**Explanation:**

[http://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER\\_ConnectToInstance.html](http://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER_ConnectToInstance.html)

#### NEW QUESTION 188

If you have chosen Multi-AZ deployment, in the event of a planned or unplanned outage of your primary DB Instance, Amazon RDS automatically switches to the standby replica. The automatic failover mechanism simply changes the \_\_\_\_\_ record of the main DB Instance to point to the standby DB Instance.

- A. DNAME
- B. CNAME
- C. TXT
- D. MX

**Answer:** B

**Explanation:**

"When failing over, Amazon RDS simply flips the canonical name record (CNAME) for your DB Instance to point at the standby, which is in turn promoted to become the new primary" <https://aws.amazon.com/rds/faqs/>

#### NEW QUESTION 190

If I modify a DB Instance or the DB parameter group associated with the instance, should I reboot the instance for the changes to take effect?

- A. No
- B. Yes

**Answer:** B

#### NEW QUESTION 194

If I want to run a database in an Amazon instance, which is the most recommended Amazon storage option?

- A. Amazon Instance Storage
- B. Amazon EBS
- C. You can't run a database inside an Amazon instance.
- D. Amazon S3

**Answer:** B

**Explanation:**

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

#### NEW QUESTION 196

Can I test my DB Instance against a new version before upgrading?

- A. No
- B. Yes
- C. Only in VPC

**Answer:** B

**Explanation:**

[http://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER\\_UpgradeDBInstance.Upgrading.html](http://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER_UpgradeDBInstance.Upgrading.html)

#### NEW QUESTION 200

Making your snapshot public shares all snapshot data with everyone. Can the snapshots with AWS Marketplace product codes be made public?

- A. No
- B. Yes

**Answer:** A

**Explanation:**

"Making your snapshot public shares all snapshot data with everyone; however, snapshots with AWS Marketplace product codes cannot be made public. Encrypted snapshots cannot be shared between accounts or made public." <http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/ebs-modifyingsnapshot-permissions.html>  
"This is not a valid option for encrypted snapshots or snapshots with AWS Marketplace product codes."

#### NEW QUESTION 204

Fill in the blanks: "To ensure failover capabilities, consider using a \_\_\_\_\_ for incoming traffic on a network interface".

- A. primary public IP
- B. secondary private IP
- C. secondary public IP
- D. add on secondary IP

**Answer:** B

**Explanation:**

To ensure failover capabilities, consider using a secondary private IP for incoming traffic on an elastic network interface. In the event of an instance failure, you can move the interface and/or secondary private IP address to a standby instance

**NEW QUESTION 207**

What does Amazon CloudFormation provide?

- A. The ability to setup Autoscaling for Amazon EC2 instances.
- B. None of these.
- C. A templated resource creation for Amazon Web Services.
- D. A template to map network resources for Amazon Web Service

**Answer:** C

**Explanation:**

<https://docs.aws.amazon.com/AWSCloudFormation/latest/UserGuide/Welcome.html>

AWS CloudFormation is a service that helps you model and set up your Amazon Web Services resources so that you can spend less time managing those resources and more time focusing on your applications that run in AWS. You create a template that describes all the AWS resources that you want (like Amazon EC2 instances or Amazon RDS DB instances), and AWS CloudFormation takes care of provisioning and configuring those resources for you.

**NEW QUESTION 211**

Can I encrypt connections between my application and my DB Instance using SSL?

- A. No
- B. Yes
- C. Only in VPC
- D. Only in certain regions

**Answer:** B

**NEW QUESTION 213**

Can the string value of 'Key' be prefixed with: aws:"?"

- A. Only in GovCloud
- B. Only for S3 not EC2
- C. Yes
- D. No

**Answer:** D

**Explanation:**

"The tag key is the required name of the tag. The string value can be from 1 to 128 Unicode characters in length and cannot be prefixed with "aws:" or "rds:.""

[http://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER\\_Tagging.html](http://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER_Tagging.html) <http://docs.aws.amazon.com/cli/latest/reference/rds/list-tags-for-resource.html>

**NEW QUESTION 215**

Through which of the following interfaces is AWS Identity and Access Management available?

- A) AWS Management Console
- B) Command line interface (CLI)
- C) IAM Query API
- D) Existing libraries

- A. Only through Command line interface (CLI)
- B. A, B and C
- C. A and C
- D. All of the above

**Answer:** D

**Explanation:**

Accessing IAM:

1 - AWS Management Console 2 - AWS Command Line Tools

3 - AWS SDKs (i.e. Existing libraries) 4 - IAM HTTPS API

<http://docs.aws.amazon.com/IAM/latest/UserGuide/introduction.html#intro-accessing>

**NEW QUESTION 218**

How are the EBS snapshots saved on Amazon S3?

- A. Exponentially
- B. Incrementally
- C. EBS snapshots are not stored in the Amazon S3

D. Decrementally

**Answer:** B

**NEW QUESTION 221**

Can I delete a snapshot of the root device of an EBS volume used by a registered AMI?

- A. Only via API
- B. Only via Console
- C. Yes
- D. No

**Answer:** D

**Explanation:**

Note that you can't delete a snapshot of the root device of an EBS volume used by a registered AMI. You must first deregister the AMI before you can delete the snapshot.

Source: <http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/ebs-deleting-snapshot.html>

**NEW QUESTION 225**

The \_\_\_\_ service is targeted at organizations with multiple users or systems that use AWS products such as Amazon EC2, Amazon SimpleDB, and the AWS Management Console.

- A. Amazon RDS
- B. AWS Integrity Management
- C. AWS Identity and Access Management
- D. Amazon EMR

**Answer:** C

**Explanation:**

[https://aws.amazon.com/documentation/iam/?nc1=h\\_ls](https://aws.amazon.com/documentation/iam/?nc1=h_ls)

**NEW QUESTION 228**

When automatic failover occurs, Amazon RDS will emit a DB Instance event to inform you that automatic failover occurred. You can use the \_\_\_\_ to return information about events related to your DB Instance

- A. FetchFailure
- B. DescribeFailure
- C. DescribeEvents
- D. FetchEvents

**Answer:** C

**Explanation:**

Q: Will I be alerted when automatic failover occurs?

Yes, Amazon RDS will emit a DB Instance event to inform you that automatic failover occurred. You can use the DescribeEvents to return information about events related to your DB Instance, or click the "DB Events" section of the AWS Management Console

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

**NEW QUESTION 231**

Select the correct set of options. These are the initial settings for the default security group:

- A. Allow no inbound traffic, Allow all outbound traffic and Allow instances associated with this security group to talk to each other
- B. Allow all inbound traffic, Allow no outbound traffic and Allow instances associated with this security group to talk to each other
- C. Allow no inbound traffic, Allow all outbound traffic and Does NOT allow instances associated with this security group to talk to each other
- D. Allow all inbound traffic, Allow all outbound traffic and Does NOT allow instances associated with this security group to talk to each other

**Answer:** A

**Explanation:**

<http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/using-network-security.html#defaultsecurity-group>

A default security group is named default, and it has an ID assigned by AWS. The following are the initial settings for each default security group:

Allow inbound traffic only from other instances associated with the default security group Allow all outbound traffic from the instance

The default security group specifies itself as a source security group in its inbound rules. This is what allows instances associated with the default security group to communicate with other instances associated with the default security group.

### Default Security Groups

Your AWS account automatically has a *default security group* per VPC and per region for EC2-Classical. If you don't specify a security group when you launch an instance, the instance is automatically associated with the default security group.

A default security group is named `default`, and it has an ID assigned by AWS. The following are the default rules for each default security group:

- Allows all inbound traffic from other instances associated with the default security group (the security group specifies itself as a source security group in its inbound rules)
- Allows all outbound traffic from the instance.

You can add or remove the inbound rules for any default security group. You can add or remove outbound rules for any VPC default security group.

You can't delete a default security group. If you try to delete the EC2-Classical default security group, you'll get the following error: `Client.InvalidGroup.Reserved: The security group 'default' is reserved.` If you try to delete a VPC default security group, you'll get the following error: `Client.CannotDelete: the specified group: "sg-51530134" name: "default" cannot be deleted by a user.`

### NEW QUESTION 235

What does Amazon Route53 provide?

- A. A global Content Delivery Network.
- B. None of these.
- C. A scalable Domain Name System.
- D. An SSH endpoint for Amazon EC2.

**Answer: C**

#### Explanation:

<https://aws.amazon.com/route53/>

### NEW QUESTION 236

The one-time payment for Reserved Instances is \_\_\_\_ refundable if the reservation is cancelled.

- A. always
- B. in some circumstances
- C. never

**Answer: C**

#### Explanation:

the one-time fee is non-refundable.

<https://aws.amazon.com/ec2/purchasing-options/reserved-instances/buyer/>

### Important Notes about Purchases

- If your needs change, you can modify or exchange reserved instances, or list eligible Standard Reserved Instances for sale on the Reserved Instance Marketplace.
- You can purchase up to 20 Reserved Instances per Availability Zone each month. If you need additional Reserved Instances, complete the form found [here](#).
- Purchases of Reserved Instances are **non-refundable**.
- If you purchase a Reserved Instance from a third-party seller, we will share your city, state, and zip code with the seller for tax purposes. If you don't wish to purchase from a 3rd party seller, please make sure to select a Reserved Instance with "AWS" listed as the seller in the console purchasing screen.

### NEW QUESTION 239

If an Amazon EBS volume is the root device of an instance, can I detach it without stopping the instance?

- A. Yes but only if Windows instance
- B. No
- C. Yes
- D. Yes but only if a Linux instance

**Answer: B**

#### Explanation:

"If an EBS volume is the root device of an instance, you must stop the instance before you can detach the volume."

<http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/ebs-detaching-volume.html>

### NEW QUESTION 242

Which of the following statements are true about Amazon Route 53 resource records? (Choose two.)

- A. An Alias record can map one DNS name to another Amazon Route 53 DNS name.
- B. A CNAME record can be created for your zone apex.
- C. An Amazon Route 53 CNAME record can point to any DNS record hosted anywhere.
- D. TTL can be set for an Alias record in Amazon Route 53.
- E. An Amazon Route 53 Alias record can point to any DNS record hosted anywhere

**Answer:** AC

#### NEW QUESTION 246

A \_\_\_\_\_ is an individual, system, or application that interacts with AWS programmatically.

- A. user
- B. AWS Account
- C. Group
- D. Role

**Answer:** A

#### Explanation:

Q: What is a user?

A user is a unique identity recognized by AWS services and applications. Similar to a login user in an operating system like Windows or UNIX, a user has a unique name and can identify itself using familiar security credentials such as a password or access key. A user can be an individual, system, or application requiring access to AWS services. IAM supports users (referred to as "IAM users") managed in AWS's identity management system, and it also enables you to grant access to AWS resources for users managed outside of AWS in your corporate directory (referred to as "federated users").

#### NEW QUESTION 249

Select the correct statement:

- A. You don't need not specify the resource identifier while stopping a resource
- B. You can terminate, stop, or delete a resource based solely on its tags
- C. You can't terminate, stop, or delete a resource based solely on its tags
- D. You don't need to specify the resource identifier while terminating a resource

**Answer:** C

#### Explanation:

You can't terminate, stop, or delete a resource based solely on its tags; you must specify the resource identifier.

[http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/Using\\_Tags.html#tag-restrictions](http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/Using_Tags.html#tag-restrictions)

#### NEW QUESTION 253

Amazon EC2 has no Amazon Resource Names (ARNs) because you can't specify a particular Amazon EC2 resource in an IAM policy.

- A. TRUE
- B. FALSE

**Answer:** B

#### Explanation:

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

#### NEW QUESTION 255

Is the encryption of connections between my application and my DB Instance using SSL for the MySQL server engines available?

- A. Yes
- B. Only in VPC
- C. Only in certain regions
- D. No

**Answer:** A

#### Explanation:

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

**Q: Can I encrypt connections between my application and my DB Instance using SSL?**

Yes, this option is currently supported for the MySQL, MariaDB, SQL Server, PostgreSQL, and Oracle engines.

**Amazon RDS generates an SSL certificate for each DB Instance.** Once an encrypted connection is established, data transferred between the DB Instance and your application will be encrypted during transfer.

#### NEW QUESTION 257

True or False: Common points of failures like generators and cooling equipment are shared across Availability Zones.

- A. TRUE
- B. FALSE

**Answer:** B

#### NEW QUESTION 262

Security groups act like a firewall at the instance level, whereas \_\_\_\_\_ are an additional layer of security that act at the subnet level.

- A. DB Security Groups
- B. VPC Security Groups
- C. network ACLs

**Answer:** C

#### NEW QUESTION 264

While controlling access to Amazon EC2 resources, which of the following acts as a firewall that controls the traffic allowed to reach one or more instances?

- A. A security group
- B. An instance type
- C. A storage cluster
- D. An object

**Answer:** A

#### Explanation:

A security group acts as a firewall that controls the traffic allowed to reach one or more instances. When you launch an instance, you assign it one or more security groups. <http://docs.amazonwebservices.com/AWSEC2/latest/UserGuide/UsingIAM.html>

#### NEW QUESTION 269

Which DNS name can only be resolved within Amazon EC2?

- A. Internal DNS name
- B. External DNS name
- C. Global DNS name
- D. Private DNS name

**Answer:** D

#### Explanation:

To view DNS hostnames for an instance using the console

1. Open the Amazon EC2 console at <https://console.aws.amazon.com/ec2/>.
2. In the navigation pane, choose Instances.
3. Select your instance from the list.
4. In the details pane, the Public DNS (IPv4) and Private DNS fields display the DNS hostnames, if applicable.

#### NEW QUESTION 271

If your DB instance runs out of storage space or file system resources, its status will change to \_\_\_\_\_ and your DB Instance will no longer be available.

- A. storage-overflow
- B. storage-full
- C. storage-exceed
- D. storage-overage

**Answer:** B

#### Explanation:

<https://aws.amazon.com/ko/premiumsupport/knowledge-center/rds-out-of-storage/>

#### Short Description

When an RDS DB instance reaches the **STORAGE\_FULL** state, there is **not enough space available** for performing basic operations, eventually preventing you from restarting or making connections to the instance.

#### NEW QUESTION 274

Select the correct set of steps for exposing the snapshot only to specific AWS accounts

- A. Select public for all the accounts and check mark those accounts with whom you want to expose the snapshots and click save.
- B. SelectPrivate, enter the IDs of those AWS accounts, and clickSave.
- C. SelectPublic, enter the IDs of those AWS accounts, and clickSave.
- D. SelectPublic, mark the IDs of those AWS accounts as private, and clickSav

**Answer:** B

#### Explanation:

“To expose the snapshot to only specific AWS accounts, choose Private, enter the ID of the AWS account (without hyphens) in the AWS Account Number field, and choose Add Permission. Repeat until you’ve added all the required AWS accounts” <http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/ebs-modifying-snapshot-permissions.html>

#### NEW QUESTION 277

By default, what are ENIs that are automatically created and attached to instances using the EC2 console set to do when the attached instance terminates?

- A. Remain as is
- B. Terminate
- C. Hibernate
- D. Pause

**Answer:** B

**Explanation:**

By default, elastic network interfaces that are automatically created and attached to instances using the console are set to terminate when the instance terminates. However, network interfaces created using the command line interface aren't set to terminate when the instance terminates.

**NEW QUESTION 278**

Fill in the blanks: is a durable, block-level storage volume that you can attach to a single, running Amazon EC2 instance.

- A. Amazon S3
- B. Amazon EBS
- C. None of these
- D. All of these

**Answer:** B

**NEW QUESTION 280**

Do the Amazon EBS volumes persist independently from the running life of an Amazon EC2 instance?

- A. No
- B. Only if instructed to when created
- C. Yes

**Answer:** C

**NEW QUESTION 285**

What is the minimum time Interval for the data that Amazon CloudWatch receives and aggregates?

- A. One second
- B. Five seconds
- C. One minute
- D. Three minutes
- E. Five minutes

**Answer:** C

**Explanation:**

Many metrics are received and aggregated at 1-minute intervals. Some are at 3-minute or 5-minute intervals.

**NEW QUESTION 289**

Does Dynamic DB support in-place atomic updates?

- A. It is not defined
- B. No
- C. Yes
- D. It does support in-place non-atomic updates

**Answer:** C

**Explanation:**

Q: Does DynamoDB support in-place atomic updates?

Amazon DynamoDB supports fast in-place updates. You can increment or decrement a numeric attribute in a row using a single API call. Similarly, you can atomically add or remove to sets, lists, or maps.

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

**NEW QUESTION 292**

Can I detach the primary (eth0) network interface when the instance is running or stopped?

- A. Yes, You can.
- B. N
- C. You cannot
- D. Depends on the state of the interface at the time

**Answer:** B

**Explanation:**

Each instance in a VPC has a default elastic network interface (the primary network interface, eth0) that is assigned a private IP address from the IP address range of your VPC. You cannot detach a primary network interface from an instance.

**NEW QUESTION 294**

What's an ECU?

- A. Extended Cluster User.
- B. None of these.
- C. Elastic Computer Usage.
- D. Elastic Compute Uni

**Answer: B**

**Explanation:**

The EC2 Compute Unit (ECU) provides the relative measure of the integer processing power of an Amazon EC2 instance.  
<https://aws.amazon.com/ec2/faqs/>

**NEW QUESTION 299**

What does the "Server Side Encryption" option on Amazon S3 provide?

- A. It provides an encrypted virtual disk in the Cloud.
- B. It doesn't exist for Amazon S3, but only for Amazon EC2.
- C. It encrypts the files that you send to Amazon S3, on the server side.
- D. It allows to upload files using an SSL endpoint, for a secure transfe

**Answer: C**

**Explanation:**

Server-side encryption is about protecting data at rest. Server-side encryption with Amazon S3- managed encryption keys (SSE-S3) employs strong multi-factor encryption.

Amazon S3 encrypts each object with a unique key. As an additional safeguard, it encrypts the key itself with a master key that it regularly rotates. Amazon S3 server-side encryption uses one of the strongest block ciphers available, 256-bit Advanced Encryption Standard (AES-256), to encrypt your data.

References:

**NEW QUESTION 302**

Within the IAM service a GROUP is regarded as a:

- A. A collection of AWS accounts
- B. It's the group of EC2 machines that gain the permissions specified in the GROUP.
- C. There's no GROUP in IAM, but only USERS and RESOURCES.
- D. A collection of user

**Answer: D**

**Explanation:**

Use groups to assign permissions to IAM users

Instead of defining permissions for individual IAM users, it's usually more convenient to create groups that relate to job functions (administrators, developers, accounting, etc.), define the relevant permissions for each group, and then assign IAM users to those groups. All the users in an IAM group inherit the permissions assigned to the group. That way, you can make changes for everyone in a group in just one place. As people move around in your company, you can simply change what IAM group their IAM user belongs to.

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

**NEW QUESTION 306**

A \_\_\_\_\_ is the concept of allowing (or disallowing) an entity such as a user, group, or role some type of access to one or more resources.

- A. user
- B. AWS Account
- C. resource
- D. permission

**Answer: D**

**Explanation:**

A permission is the concept of allowing (or disallowing) an entity such as a user, group, or role some type of access to one or more resources.

**NEW QUESTION 307**

True or False: When you add a rule to a DB security group, you do not need to specify port number or protocol.

- A. Depends on the RDMS used
- B. TRUE
- C. FALSE

**Answer: B**

**Explanation:**

### DB Security Groups

Each DB security group rule enables a specific source to access a DB instance that is associated with that DB security group. The source can be a range of addresses (e.g., 203.0.113.0/24), or an EC2 security group. When you specify an EC2 security group as the source, you allow incoming traffic from all EC2 instances that use that EC2 security group. Note that DB security group rules apply to inbound traffic only; outbound traffic is not currently permitted for DB instances.

You do not need to specify a destination port number when you create DB security group rules; the port number defined for the DB instance is used as the destination port number for all rules defined for the DB security group. DB security groups can be created using the Amazon RDS APIs or the Amazon RDS page of the AWS Management Console.

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

#### NEW QUESTION 308

Can I initiate a "forced failover" for my Oracle Multi-AZ DB Instance deployment?

- A. Yes
- B. Only in certain regions
- C. Only in VPC
- D. No

**Answer: A**

#### Explanation:

<https://aws.amazon.com/public-data-sets/>

If your DB instance is a Multi-AZ deployment, you can force a failover from one availability zone to another when you select the Reboot option. When you force a failover of your DB instance, Amazon RDS automatically switches to a standby replica in another Availability Zone and updates the DNS record for the DB instance to point to the standby DB instance. As a result, you will need to clean up and re-establish any existing connections to your DB instance. Reboot with failover is beneficial when you want to simulate a failure of a DB instance for testing, or restore operations to the original AZ after a failover occurs.

Source: [http://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER\\_RebootInstance.html](http://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER_RebootInstance.html)

#### NEW QUESTION 313

Amazon EC2 provides a repository of public data sets that can be seamlessly integrated into AWS cloud-based applications. What is the monthly charge for using the public data sets?

- A. A 1 time charge of 10\$ for all the datasets.
- B. 1\$ per dataset per month
- C. 10\$ per month for all the datasets
- D. There is no charge for using the public data sets

**Answer: D**

#### NEW QUESTION 316

Amazon RDS supports SOAP only through \_\_\_\_\_ .

- A. HTTP or HTTPS
- B. TCP/IP
- C. HTTP
- D. HTTPS

**Answer: D**

#### Explanation:

Amazon RDS supports SOAP only through HTTPS

<http://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/using-soap-api.html>

### WSDL and Schema Definitions

You can access the Amazon Relational Database Service using the SOAP web services messaging protocol. This interface is described by a Web Services Description Language (WSDL) document, which defines the operations and security model for the particular service. The WSDL references an XML Schema document, which strictly defines the data types that might appear in SOAP requests and responses. For more information on WSDL and SOAP, see [Web Services References](#).

#### Note

Amazon RDS supports SOAP only through HTTPS.

#### NEW QUESTION 319

Is creating a Read Replica of another Read Replica supported?

- A. Only in VPC
- B. Yes

- C. Only in certain regions
- D. No

**Answer:** D

**NEW QUESTION 320**

What is the name of licensing model in which I can use your existing Oracle Database licenses to run Oracle deployments on Amazon RDS?

- A. Bring Your Own License
- B. Role Bases License
- C. Enterprise License
- D. License Included

**Answer:** A

**Explanation:**

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

**NEW QUESTION 324**

When you resize the Amazon RDS DB instance, Amazon RDS will perform the upgrade during the next maintenance window. If you want the upgrade to be performed now, rather than waiting for the maintenance window, specify the \_\_\_\_ option.

- A. ApplyNow
- B. ApplySoon
- C. ApplyThis
- D. ApplyImmediately

**Answer:** D

**Explanation:**

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

**NEW QUESTION 325**

If I scale the storage capacity provisioned to my DB Instance by mid of a billing month, how will I be charged?

- A. You will be charged for the highest storage capacity you have used
- B. On a proration basis
- C. You will be charged for the lowest storage capacity you have used

**Answer:** B

**Explanation:**

<https://aws.amazon.com/ebs/pricing/>

**NEW QUESTION 328**

Will I be alerted when automatic failover occurs?

- A. Only if SNS configured
- B. No
- C. Yes
- D. Only if Cloudwatch configured

**Answer:** A

**Explanation:**

See [http://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER\\_Events.html](http://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER_Events.html)

Amazon RDS uses the Amazon Simple Notification Service (Amazon SNS) to provide notification when an Amazon RDS event occurs. These notifications can be in any notification form supported by

Amazon SNS for an AWS region, such as an email, a text message, or a call to an HTTP endpoint. Amazon RDS groups these events into categories that you can subscribe to so that you can be notified when an event in that category occurs.

C is not correct because even though event is created by RDS you will not be alerted for it unless you configure your subscription in SNS.

**NEW QUESTION 331**

If you're unable to connect via SSH to your EC2 instance, which of the following should you check and possibly correct to restore connectivity?

- A. Adjust Security Group to permit egress traffic over TCP port 443 from your IP.
- B. Configure the IAM role to permit changes to security group settings.
- C. Modify the instance security group to allow ingress of ICMP packets from your IP.
- D. Adjust the instance's Security Group to permit ingress traffic over port 22 from your IP.
- E. Apply the most recently released Operating System security patches

**Answer:** D

**Explanation:**

In a VPC everything is allowed out by default. References:

#### NEW QUESTION 336

You are using an m1.small EC2 Instance with one 300 GB EBS volume to host a relational database. You determined that write throughput to the database needs to be increased. Which of the following approaches can help achieve this? (Choose two.)

- A. Use an array of EBS volumes.
- B. Enable Multi-AZ mode.
- C. Place the instance in an Auto Scaling Groups
- D. Add an EBS volume and place into RAID 5.
- E. Increase the size of the EC2 Instance.
- F. Put the database behind an Elastic Load Balance

**Answer:** AE

#### NEW QUESTION 340

You have multiple Amazon EC2 instances running in a cluster across multiple Availability Zones within the same region. What combination of the following should be used to ensure the highest network performance (packets per second), lowest latency, and lowest jitter? (Choose three.)

- A. Amazon EC2 placement groups
- B. Enhanced networking
- C. Amazon PV AMI
- D. Amazon HVM AMI
- E. Amazon Linux
- F. Amazon VPC

**Answer:** BDF

#### Explanation:

Enhanced Networking enables you to get significantly higher packet per second (PPS) performance, lower network jitter and lower latencies. This feature uses a new network virtualization stack that provides higher I/O performance and lower CPU utilization compared to traditional implementations. In order to take advantage of Enhanced Networking, you should launch an HVM AMI in VPC, and install the appropriate driver. For instructions on how to enable Enhanced Networking on EC2 instances, see the Enhanced Networking on Linux and Enhanced Networking on Windows tutorials. For availability of this feature by instance, or to learn more, visit the Enhanced Networking FAQ section.

#### NEW QUESTION 343

When using the following AWS services, which should be implemented in multiple Availability Zones for high availability solutions? Choose 2 answers

- A. Amazon DynamoDB
- B. Amazon Elastic Compute Cloud (EC2)
- C. Amazon Elastic Load Balancing
- D. Amazon Simple Notification Service (SNS)
- E. Amazon Simple Storage Service (S3)

**Answer:** BC

#### NEW QUESTION 348

You have an EC2 Security Group with several running EC2 instances. You change the Security Group rules to allow inbound traffic on a new port and protocol, and launch several new instances in the same Security Group. The new rules apply:

- A. Immediately to all instances in the security group.
- B. Immediately to the new instances only.
- C. Immediately to the new instances, but old instances must be stopped and restarted before the new rules apply.
- D. To all instances, but it may take several minutes for old instances to see the changes.

**Answer:** A

#### Explanation:

<http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/using-network-security.html#vpc-securitygroups>

#### NEW QUESTION 349

Which services allow the customer to retain full administrative privileges of the underlying EC2 instances? (Choose two.)

- A. Amazon Relational Database Service
- B. Amazon Elastic Map Reduce
- C. Amazon ElastiCache
- D. Amazon DynamoDB
- E. AWS Elastic Beanstalk

**Answer:** BE

#### NEW QUESTION 353

A company is building a two-tier web application to serve dynamic transaction-based content. The data tier is leveraging an Online Transactional Processing (OLTP) database. What services should you leverage to enable an elastic and scalable web tier?

- A. Elastic Load Balancing, Amazon EC2, and Auto Scaling
- B. Elastic Load Balancing, Amazon RDS with Multi-AZ, and Amazon S3
- C. Amazon RDS with Multi-AZ and Auto Scaling
- D. Amazon EC2, Amazon DynamoDB, and Amazon S3

Answer: A

#### NEW QUESTION 354

Your application provides data transformation services. Files containing data to be transformed are first uploaded to Amazon S3 and then transformed by a fleet of spot EC2 instances. Files submitted by your premium customers must be transformed with the highest priority. How should you implement such a system?

- A. Use a DynamoDB table with an attribute defining the priority level
- B. Transformation instances will scan the table for tasks, sorting the results by priority level.
- C. Use Route 53 latency based-routing to send high priority tasks to the closest transformation instances.
- D. Use two SQS queues, one for high priority messages, the other for default priority
- E. Transformation instances first poll the high priority queue; if there is no message, they poll the default priority queue.
- F. Use a single SQS queue
- G. Each message contains the priority level
- H. Transformation instances poll high-priority messages first.

Answer: C

#### NEW QUESTION 357

Which technique can be used to integrate AWS IAM (Identity and Access Management) with an on-premise LDAP (Lightweight Directory Access Protocol) directory service?

- A. Use an IAM policy that references the LDAP account identifiers and the AWS credentials.
- B. Use SAML (Security Assertion Markup Language) to enable single sign-on between AWS and LDAP.
- C. Use AWS Security Token Service from an identity broker to issue short-lived AWS credentials.
- D. Use IAM roles to automatically rotate the IAM credentials when LDAP credentials are updated.
- E. Use the LDAP credentials to restrict a group of users from launching specific EC2 instance type

Answer: B

#### Explanation:

<https://d0.awsstatic.com/whitepapers/aws-whitepaper-single-sign-on-integrating-aws-open-ldap-and-shibboleth.pdf>

#### NEW QUESTION 358

You have a web application running on six Amazon EC2 instances, consuming about 45% of resources on each instance. You are using auto-scaling to make sure that six instances are running at all times. The number of requests this application processes is consistent and does not experience spikes. The application is critical to your business and you want high availability at all times. You want the load to be distributed evenly between all instances. You also want to use the same Amazon Machine Image (AMI) for all instances. Which of the following architectural choices should you make?

- A. Deploy 6 EC2 instances in one availability zone and use Amazon Elastic Load Balancer.
- B. Deploy 3 EC2 instances in one region and 3 in another region and use Amazon Elastic Load Balancer.
- C. Deploy 3 EC2 instances in one availability zone and 3 in another availability zone and use Amazon Elastic Load Balancer.
- D. Deploy 2 EC2 instances in three regions and use Amazon Elastic Load Balancer.

Answer: C

#### Explanation:

A load balancer accepts incoming traffic from clients and routes requests to its registered EC2 instances in one or more Availability Zones.

<http://docs.aws.amazon.com/ElasticLoadBalancing/latest/DeveloperGuide/how-elb-works.html> Updated Security Whitepaper link:

<https://d0.awsstatic.com/whitepapers/aws-security-whitepaper.pdf> References:

#### NEW QUESTION 362

Which of the following items are required to allow an application deployed on an EC2 instance to write data to a DynamoDB table? Assume that no security keys are allowed to be stored on the EC2 instance. (Choose two.)

- A. Create an IAM Role that allows write access to the DynamoDB table.
- B. Add an IAM Role to a running EC2 instance.
- C. Create an IAM User that allows write access to the DynamoDB table.
- D. Add an IAM User to a running EC2 instance.
- E. Launch an EC2 Instance with the IAM Role included in the launch configuration

Answer: AB

#### NEW QUESTION 364

When you put objects in Amazon S3, what is the indication that an object was successfully stored?

- A. A HTTP 200 result code and MD5 checksum, taken together, indicate that the operation was successful.
- B. Amazon S3 is engineered for 99.99999999% durability
- C. Therefore there is no need to confirm that data was inserted.
- D. A success code is inserted into the S3 object metadata.
- E. Each S3 account has a special bucket named `_s3_log`
- F. Success codes are written to this bucket with a timestamp and checksum.

Answer: A

#### Explanation:

To ensure that data is not corrupted traversing the network, use the Content-MD5 form field. When you use this form field, Amazon S3 checks the object against the provided MD5 value. If they do not match, Amazon S3 returns an error. The status code returned to the client upon successful upload if

success\_action\_redirect is not specified. Accepts the values 200, 201, or 204 (default). <http://docs.aws.amazon.com/AmazonS3/latest/API/RESTObjectPOST.html>

**NEW QUESTION 365**

A company wants to implement their website in a virtual private cloud (VPC). The web tier will use an Auto Scaling group across multiple Availability Zones (AZs). The database will use Multi-AZ RDS MySQL and should not be publicly accessible. What is the minimum number of subnets that need to be configured in the VPC?

- A. 1
- B. 2
- C. 3
- D. 4

**Answer: D**

**Explanation:**

Since multi-AZ RDS needs 2 private subnets to provide high availability and 2 public subnets are needed for ELB(web-tier) application.

Would use VPC with private (DB) and public (WEB) subnets: [http://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER\\_VPC.Scenarios.html](http://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER_VPC.Scenarios.html) Multi AZ requirement forces me to multiply subnets by two.

Reasons:

For DB: Your VPC must have at least one subnet in at least two of the Availability Zones in the region where you want to deploy your DB instance. A subnet is a segment of a VPC's IP address

range that you can specify and that lets you group instances based on your security and operational needs

[http://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER\\_VPC.WorkingWithRDSInstancein aVPC.html](http://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER_VPC.WorkingWithRDSInstancein aVPC.html)

For Web: After creating a VPC, you can add one or more subnets in each Availability Zone. Each subnet must reside entirely within one Availability Zone and cannot span zones [http://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/VPC\\_Subnets.html](http://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/VPC_Subnets.html)

**NEW QUESTION 370**

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

- A. The instance does not have a public IP address.
- B. The internet gateway security group must allow all outbound traffic.
- C. The instance security group must allow all inbound traffic.
- D. The instance "Source/Destination check" property must be enable

**Answer: A**

**Explanation:**

Ensure that instances in your subnet have public IP addresses or Elastic IP addresses.

[https://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/VPC\\_Internet\\_Gateway.html](https://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/VPC_Internet_Gateway.html)

**NEW QUESTION 372**

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

- A. The outbound security group needs to be modified to allow outbound traffic.
- B. The outbound network ACL needs to be modified to allow outbound traffic.
- C. Nothing, it can be accessed from any IP address using SSH.
- D. Both the outbound security group and outbound network ACL need to be modified to allow outbound traffic.

**Answer: B**

**Explanation:**

Need to open TCP Port 1024-65535 at Outbound Rules

"Allows outbound responses to the remote computer. Network ACLs are stateless, therefore this rule is required to allow response traffic for inbound requests."

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

**NEW QUESTION 373**

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

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

**Answer: D**

**Explanation:**

Imho the idea for SQS is to improve scalability.

Elastic Beanstalk is checking the health of EC2 instances, not sure if SQS does.

D. SQS helps to facilitate horizontal scaling of encoding tasks.

Yes, this is a great scenario for SQS. "Horizontal scaling" means you have multiple instances involved in the workload (encoding tasks in this case). You can drop messages indicating an encoding job needs to be performed into an SQS queue, immediately making the job notification message accessible to any number of encoding worker instances.

#### NEW QUESTION 377

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

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

**Answer:** A

#### Explanation:

Snapshots occur asynchronously; the point-in-time snapshot is created immediately, but the status of the snapshot is pending until the snapshot is complete (when all of the modified blocks have been transferred to Amazon S3), which can take several hours for large initial snapshots or subsequent snapshots where many blocks have changed. While it is completing, an in-progress snapshot is not affected by ongoing reads and writes to the volume.

<https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/ebs-creating-snapshot.html>

#### NEW QUESTION 380

What are characteristics of Amazon S3? (Choose two.)

- A. S3 allows you to store objects of virtually unlimited size.
- B. S3 offers Provisioned IOPS.
- C. S3 allows you to store unlimited amounts of data.
- D. S3 should be used to host a relational database.
- E. Objects are directly accessible via a UR

**Answer:** CE

#### NEW QUESTION 385

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

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

**Answer:** E

#### NEW QUESTION 390

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

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

**Answer:** B

#### Explanation:

<https://aws.amazon.com/cn/premiumsupport/knowledge-center/snapshot-ebs-raid-array/>

To create an "application-consistent" snapshot of your RAID array, stop applications from writing to the RAID array, and flush all caches to disk. Then ensure that the associated EC2 instance is no longer writing to the RAID array by taking steps such as freezing the file system, unmounting the RAID array, or

\*shutting down the associated EC2 instance\*. After completing the steps to halt all I/O, take a snapshot of each EBS volume.

<http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/ebsdetaching-volume.html> You can detach an Amazon EBS volume from an instance explicitly or by terminating the instance. However, if the instance is running, you must first unmount the volume from the instance."

#### NEW QUESTION 392

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

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

**Answer:** D

#### NEW QUESTION 394

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

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

**Answer:** D

**Explanation:**

[https://media.amazonwebservices.com/AWS\\_Storage\\_Options.pdf](https://media.amazonwebservices.com/AWS_Storage_Options.pdf)

To speed access to relevant data, many developers pair Amazon S3 with a database, such as Amazon DynamoDB or Amazon RDS. Amazon S3 stores the actual information, and the database serves as the repository for associated metadata (e.g., object name, size, keywords, and so on). Metadata in the database can easily be indexed and queried, making it very efficient to locate an object's reference via a database query. This result can then be used to pinpoint and then retrieve the object itself from Amazon S3.

**NEW QUESTION 398**

Which of the following are characteristics of a reserved instance? (Choose three.)

- A. It can be migrated across Availability Zones
- B. It is specific to an Amazon Machine Image (AMI)
- C. It can be applied to instances launched by Auto Scaling
- D. It is specific to an instance Type
- E. It can be used to lower Total Cost of Ownership (TCO) of a system

**Answer:** ACE

**Explanation:**

You can use Auto Scaling or other AWS services to launch the On-Demand instances that use your Reserved Instance benefits. For information about launching On-Demand instances, see Launch Your Instance. For information about launching instances using Auto Scaling, see the Auto Scaling User Guide.

<http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/concepts-on-demand-reservedinstances.html>

<https://forums.aws.amazon.com/thread.jspa?threadID=56501>

**NEW QUESTION 403**

You are working with a customer who is using Chef configuration management in their data center. Which service is designed to let the customer leverage existing Chef recipes in AWS?

- A. Amazon Simple Workflow Service
- B. AWS Elastic Beanstalk
- C. AWS CloudFormation
- D. AWS OpsWorks

**Answer:** D

**NEW QUESTION 406**

When an EC2 instance that is backed by an S3-based AMI is terminated, what happens to the data on the root volume?

- A. Data is automatically saved as an EBS snapshot.
- B. Data is automatically saved as an EBS volume.
- C. Data is unavailable until the instance is restarted.
- D. Data is automatically delete

**Answer:** D

**Explanation:**

Using the legacy S3 based AMIs, either of the above terminates the instance and you lose all local and ephemeral storage (boot disk and /mnt) forever. Hope you remembered to save the important stuff elsewhere.

**NEW QUESTION 410**

You have a distributed application that periodically processes large volumes of data across multiple Amazon EC2 Instances. The application is designed to recover gracefully from Amazon EC2 instance failures. You are required to accomplish this task in the most cost-effective way.

Which of the following will meet your requirements?

- A. Spot Instances
- B. Reserved instances
- C. Dedicated instances
- D. On-Demand instances

**Answer:** A

**Explanation:**

Using reserved instances is not the most cost-effective way. <https://aws.amazon.com/blogs/aws/new-scheduled-reserved-instances/>

"Scheduled Reserved

Instance model allows you to reserve instances for predefined blocks of time on a recurring basis for a one-year term, with prices that are generally 5 to 10% lower than the equivalent On-Demand rates." You can get spot instances with much lower prices: <https://aws.amazon.com/ec2/spot/pricing/>

"Spot instances are also available to run for a predefined duration in hourly increments up to six hours in length at a significant discount (30-45%) compared to On-Demand pricing plus an additional 5% during off-peak times for a total of up to 50% savings."

**NEW QUESTION 413**

Which of the following are true regarding AWS CloudTrail? (Choose three.)

- A. CloudTrail is enabled globally
- B. CloudTrail is enabled by default
- C. CloudTrail is enabled on a per-region basis

- D. CloudTrail is enabled on a per-service basis.
- E. Logs can be delivered to a single Amazon S3 bucket for aggregation.
- F. CloudTrail is enabled for all available services within a region.
- G. Logs can only be processed and delivered to the region in which they are generate

**Answer:** ACE

**Explanation:**

A: have a trail with the Apply trail to all regions option enabled.

C: have multiple single region trails.

E: Log files from all the regions can be delivered to a single S3 bucket. Global service events are always delivered to trails that have the Apply trail to all regions option enabled. Events are delivered from a single region to the bucket for the trail. This setting cannot be changed. If you have a single region trail, you should enable the Include global services option. If you have multiple single region trails, you should enable the Include global services option in only one of the trails.

D: Incorrect. Once enabled it is applicable for all the supported services, service can't be selected.

**NEW QUESTION 418**

A company is preparing to give AWS Management Console access to developers Company policy mandates identity federation and role-based access control. Roles are currently assigned using groups in the corporate Active Directory. What combination of the following will give developers access to the AWS console? (Select 2) Choose 2 answers

- A. AWS Directory Service AD Connector
- B. AWS Directory Service Simple AD
- C. AWS Identity and Access Management groups
- D. AWS identity and Access Management roles
- E. AWS identity and Access Management users

**Answer:** AD

**Explanation:**

[http://docs.aws.amazon.com/STS/latest/APIReference/API\\_AssumeRoleWithSAML.html](http://docs.aws.amazon.com/STS/latest/APIReference/API_AssumeRoleWithSAML.html)

**NEW QUESTION 423**

You are deploying an application to collect votes for a very popular television show. Millions of users will submit votes using mobile devices. The votes must be collected into a durable, scalable, and highly available data store for real-time public tabulation. Which service should you use?

- A. Amazon DynamoDB
- B. Amazon Redshift
- C. Amazon Kinesis
- D. Amazon Simple Queue Service

**Answer:** A

**Explanation:**

This example looks at using AWS Lambda and Amazon API Gateway to build a dynamic voting application, which receives votes via SMS, aggregates the totals into Amazon DynamoDB, and uses Amazon Simple Storage Service (Amazon S3) to display the results in real time.

<http://www.allthingsdistributed.com/2016/06/aws-lambda-serverless-reference-architectures.html>

**NEW QUESTION 424**

A photo-sharing service stores pictures in Amazon Simple Storage Service (S3) and allows application sign-in using an OpenID Connect-compatible identity provider. Which AWS Security Token Service approach to temporary access should you use for the Amazon S3 operations?

- A. SAML-based Identity Federation
- B. Cross-Account Access
- C. AWS Identity and Access Management roles
- D. Web Identity Federation

**Answer:** D

**Explanation:**

Web identity federation - You can let users sign in using a well-known third party identity provider such as Login with Amazon, Facebook, Google, or any OpenID Connect (OIDC) 2.0 compatible provider. AWS STS web identity federation supports Login with Amazon, Facebook, Google, and any OpenID Connect (OIDC)-compatible identity provider.

**NEW QUESTION 428**

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