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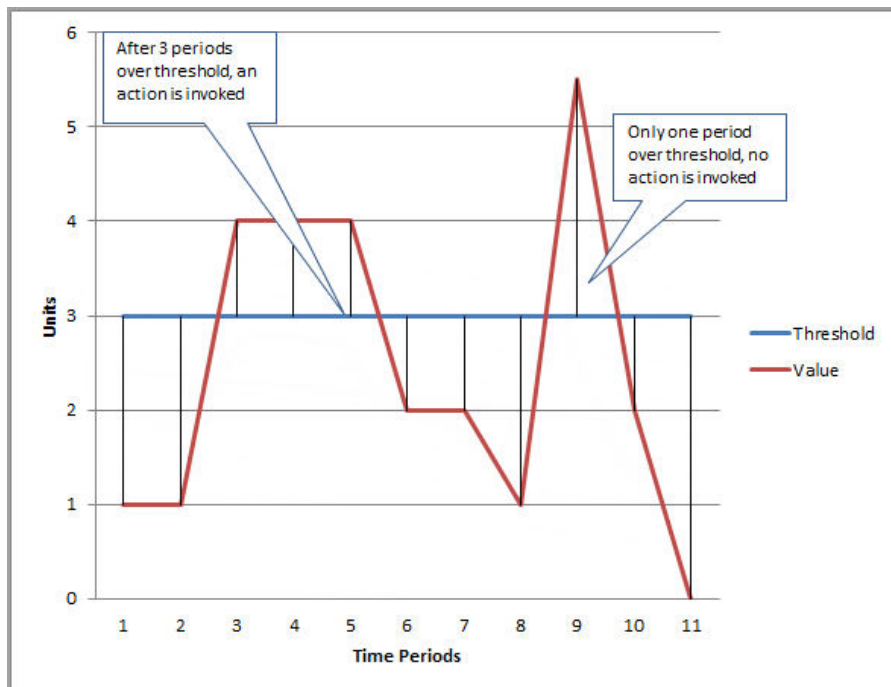
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AWS Certified SysOps Administrator – Associate Sample and Practice Questions (Total 300 Questions)

Question 1: Considering CloudWatch Alarm state, in above in which period Alarm state will 'ALARM'

1. One through fifth time periods

2. Third through fifth time periods

3. Two through sixth time periods

4. Third through sixth time periods

Correct Answer 2:

Expr: In the given figure, the alarm threshold is set to 3 and the minimum breach is 3 periods. That is, the alarm invokes its action only when the threshold is breached for 3 consecutive periods. In the figure, this happens with the third through fifth time periods, and the alarm's state is set to ALARM. At period

six, the value dips below the threshold, and the state reverts to OK. Later, during the ninth time period, the threshold is breached again, but not for the necessary three consecutive periods. Consequently, the alarm's state remains OK.

Question 2: While practicing on HadoopExam As a learner you have launched an EC2 Windows instance from an instance store backed AMI. Now you wants to convert the AMI to an EBS backed AMI. How can you convert it?

1.   Learner has to attach an EBS volume to the instance and unbundle all the AMI bundled data inside the EBS

2.   A Windows based instance store backed AMI cannot be converted to an EBS backed AMI

3.   It is not possible to convert an instance store backed AMI to an EBS backed AMI

4.   Learner has to attach an EBS volume and use the copy command to copy all the ephermal content to the EBS Volume

Correct Answer 2:

Exp : Converting your Instance Store-Backed AMI to an Amazon EBS-Backed AMI You can convert an instance store-backed Linux AMI that you own to an Amazon EBS-backed Linux AMI.

You can't convert an instance store-backed Windows AMI to an Amazon EBS-backed Windows AMI and you cannot convert an AMI that you do not own.

Generally when a user has launched an EC2 instance from an instance store backed AMI, it can be converted to an EBS backed AMI provided the user has attached the EBS volume to the instance and unbundles the AMI data to it. However, if the instance is a Windows instance, AWS does not allow this. In this case, since the instance is a Windows instance, the user cannot convert it to an EBS backed AMI.

Question 3: Ramesh has created a VPC with public and private subnets using the VPC Wizard. The VPC has CIDR 20.0.0.0/16. The private subnet uses CIDR 20.0.0.0/24. Which of the below mentioned entries are required in the main route table to allow the instances in VPC to communicate with each other?

1.   Destination : 20.0.0.0/24 and Target : VPC

2.   Destination : 20.0.0.0/16 and Target : ALL

3.   Destination : 20.0.0.0/0 and Target : ALL

4.   Destination : 20.0.0.0/16 and Target : Local

Correct Answer 1:

Exp : Connections with Your Local Network and Other VPCs

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You can optionally set up a connection between your VPC and your corporate or home network. If you have an IP address prefix in your VPC that overlaps with one of your networks' prefixes, any traffic to the network's prefix is dropped. For example, let's say that you have the following:

>A VPC with CIDR block 10.0.0.0/16

>A subnet in that VPC with CIDR block 10.0.1.0/24

>Instances running in that subnet with IP addresses 10.0.1.4 and 10.0.1.5

>On-premises host networks using CIDR blocks 10.0.37.0/24 and 10.1.38.0/24

When those instances in the VPC try to talk to hosts in the 10.0.37.0/24 address space, the traffic is dropped because 10.0.37.0/24 is part of the larger prefix assigned to the VPC (10.0.0.0/16). The instances can talk to hosts in the 10.1.38.0/24 space because that block isn't part of 10.0.0.0/16.

You can also create a VPC peering connection between your VPCs, or with a VPC in another AWS account. A VPC peering connection enables you to route traffic between the VPCs using private IP addresses; however, you cannot create a VPC peering connection between VPCs that have overlapping CIDR blocks. For more information, see VPC Peering.

We therefore recommend that you create a VPC with a CIDR range large enough for expected future growth, but not one that overlaps with current or expected future subnets anywhere in your corporate or home network, or that overlaps with current or future VPCs.

A user can create a subnet with VPC and launch instances inside that subnet. If the user has created a public private subnet, the instances in the public subnet can receive inbound traffic directly from the Internet, whereas the instances in the private subnet cannot. If these subnets are created with Wizard, AWS will create two route tables and attach to the subnets. The main route table will have the entry "Destination: 20.0.0.0/24 and Target:

Local", which allows all instances in the VPC to communicate with each other.

Question 4 : In the Amazon Elastic Compute Cloud (Amazon EC2) console you have setup the Alarm as given setting, what would it implies

Setting **Value**

❶ Stop

❷ Maximum

❸ CPUUtilization

❹ <=

❺ 10%

❻ 60 minutes

❼ 1

1. Create an alarm that terminates an instance used for software development or testing when it has been idle for at least an hour consecutive 3 times.

2. Create an alarm that terminates an instance used for software development or testing when it has been idle for at least an hour.

3. Create an alarm that stops an instance used for software development or testing when it has been idle for at least an hour.

Correct Answer: 3

Exp : You can use the Amazon Elastic Compute Cloud (Amazon EC2) console to create alarm actions that stop or terminate an Amazon EC2 instance when certain conditions are met. In this example : Create an alarm that stops an instance used for software development or testing when it has been idle for at least an hour.

Question 5:   What is the below command represent

> *% aws cloudwatch put-metric-alarm --alarm-name my-Alarm --alarm-description "" --namespace "AWS/EC2" --dimensions Name=InstanceId,Value=i-abc123 --statistic Average --metric-name CPUUtilization --comparison-operator LessThanThreshold --threshold 10 --period 86400 --evaluation-periods 4 --alarm-actions arn:aws:automate:us-east-1:ec2:stop*

1. how to stop an instance if the average CPUUtilization is greater than 10 percent over a 24 hour period.

2. how to stop an instance if the average CPUUtilization is less than 10 percent over a 24 hour period.

3. how to terminate an instance if the average CPUUtilization is less than 10 percent over a 24 hour period.

4. how to terminate an instance if the average CPUUtilization is greater than 10 percent over a 24 hour period.

Correct Answer: 2

Exp : To create an alarm to stop an instance using the CLI

You can use the arn:aws:automate:us-east-1:ec2:stop ARN to stop an Amazon EC2 instance. The following example shows how to stop an instance if the average CPUUtilization is less than 10 percent over a 24 hour period.

At a command prompt, type:

% aws cloudwatch put-metric-alarm --alarm-name my-Alarm --alarm-description "Stop the instance when it is idle for a day" --namespace "AWS/EC2" --dimensions Name=InstanceId,Value=i-abc123 --statistic Average --metric-name CPUUtilization --comparison-operator LessThanThreshold --threshold 10 --period 86400 --evaluation-periods 4 --alarm-actions arn:aws:automate:us-east-1:ec2:stop

Question 6: A user is trying to pre-warm a blank EBS volume attached to a Linux instance. Which of the below mentioned steps should be performed by the user?

1. There is no need to pre-warm an EBS volume

2. Contact AWS support to pre-warm

3. Unmount the volume before pre-warming

4. Format the device

Correct Answer: 3

Exp : Pre-Warming Amazon EBS Volumes

When you create any new EBS volume (General Purpose (SSD), Provisioned IOPS (SSD), or Magnetic) or restore a volume from a snapshot, the back-end storage blocks are allocated to you immediately. However, the first time you access a block of storage, it must be either wiped clean (for new volumes) or instantiated from its snapshot (for restored volumes) before you can access the block. This preliminary action takes time and can cause a 5 to 50 percent loss of IOPS for your volume the first time each block is accessed. For most applications, amortizing this cost over the lifetime of the volume is acceptable. Performance is restored after the data is accessed once.

However, you can avoid this performance hit in a production environment by writing to or reading from all of the blocks on your volume before you use it; this process is called pre-warming. Writing to all of the blocks on a volume is preferred, but that is not an option for volumes that were restored from a snapshot, because that would overwrite the restored data. For a completely new volume that was created from scratch, you should write to all blocks before using the volume. For a new volume created from a snapshot, you should read all the blocks that have data before using the volume.

When the user creates a new EBS volume or restores a volume from the snapshot, the back-end storage blocks are immediately allocated to the user EBS. However, the first time when the user is trying to access a block of the storage, it is recommended to either be wiped from the new volumes or

instantiated from the snapshot (for restored volumes. before the user can access the block. This preliminary action takes time and can cause a 5 to 50 percent loss of IOPS for the volume when the block is accessed for the first time. To avoid this it is required to pre warm the volume. Pre- warming an EBS volume on a Linux instance requires that the user should unmount the blank device first and then write all the blocks on the device using a command, such as "dd".

New EBS Volumes always experience a "First Use Penalty" in AWS; means there will be a performance hit on the first write to an unused block on the EBS Volume and will perform slower than subsequent writes. During this time you can experience spike in volume metrics like service times, I/O latency and then subsequently leading to normalization. It is observed that 5 to 50 percent reduction in IOPS when you first access the data on a volume. Performance is restored after the data is accessed once. Therefore, it is recommended that you read or write to all the blocks on your volume before you use it.

$ dd if=/dev/md0 of=/dev/null

In Linux, the above command reads from all blocks on a volume and pre-warms the volume. On Windows, formatting the new EBS volume pre-warms it.

"dd" is not verbose by default so download and use the following script from the github, it shows the status of the pre warming of EBS Volumes

Question 7 : QuickTechie.com sysadmin has enabled termination protection on an EC2 instance. The user has also set Instance initiated shutdown behavior to terminate. When the user shuts down the instance from the OS, what will happen?

1. The OS will shutdown but the instance will not be terminated due to protection

2. It will terminate the instance

3. It will not allow the user to shutdown the instance from the OS

4. It is not possible to set the termination protection when an Instance initiated shutdown is set to Terminate

Correct Answer: 2

Exp : Changing the Instance Initiated Shutdown Behavior

By default, when you initiate a shutdown from an Amazon EBS-backed instance (using a command such as shutdown, halt, or poweroff), the instance stops. You can change this behavior using the InstanceInitiatedShutdownBehavior attribute for the instance so that it terminates instead. You can update this attribute while the instance is running or stopped.

You can update the InstanceInitiatedShutdownBehavior attribute using the AWS Management Console or the command line.It is always possible that someone can terminate an EC2 instance using the Amazon EC2 console, command line interface or API by mistake. If the admin wants to prevent the instance from being accidentally terminated, he can enable termination protection for that instance. The user can also setup shutdown behaviour for an EBS backed instance to guide the instance on that should be done when he initiates shutdown from the OS using Instance initiated shutdown behaviour. If

the instance initiated behaviour is set to terminate and the user shuts off the OS even though termination protection is enabled, it will still terminate the instance.

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