TOP AWS INTERVIEW QUESTIONS

1. I have some private servers on my premises, also I have distributed some of my workload on the public cloud, what is this architecture called?

A. Virtual Private Network
B. Private Cloud
C. Virtual Private Cloud
D. Hybrid Cloud

Answer D.

Explanation: This type of architecture would be a hybrid cloud. Why? Because we are using both, the public cloud, and your on premises servers i.e the private cloud. To make this hybrid architecture easy to use, wouldn't it be better if your private and public cloud were all on the same network(virtually). This is established by including your public cloud servers in a virtual private cloud, and connecting this virtual cloud with your on premise servers using a VPN(Virtual Private Network).

Section 2: Amazon EC2

For a detailed discussion on this topic, please refer our **EC2 AWS** blog.

2. What does the following command do with respect to the Amazon EC2 security groups?

ec2-create-group CreateSecurityGroup

A. Groups the user created security groups into a new group for easy access.
B. Creates a new security group for use with your account.
C. Creates a new group inside the security group.
D. Creates a new rule inside the security group.

Answer B.

Explanation: A Security group is just like a firewall, it controls the traffic in and out of your instance. In AWS terms, the inbound and outbound traffic. The command mentioned is pretty straight forward, it says create security group, and does the same. Moving along, once your security group is created, you can add different rules in it. For example, you have an RDS instance, to access it, you have to add the public IP address of the machine from which you want access the instance in its security group.

3. You have a video trans-coding application. The videos are processed according to a queue. If the processing of a video is interrupted in one instance, it is resumed in

another instance. Currently there is a huge back-log of videos which needs to be processed, for this you need to add more instances, but you need these instances only until your backlog is reduced. Which of these would be an efficient way to do it?

You should be using an **On Demand** instance for the same. Why? First of all, the workload has to be processed now, meaning it is urgent, secondly you don't need them once your backlog is cleared, therefore Reserved Instance is out of the picture, and since the work is urgent, you cannot stop the work on your instance just because the spot price spiked, therefore Spot Instances shall also not be used. Hence On-Demand instances shall be the right choice in this case.

4. 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: Since the work we are addressing here is not continuous, a reserved instance shall be idle at times, same goes with On Demand instances. Also it does not make sense to launch an On Demand instance whenever work comes up, since it is expensive. Hence Spot Instances will be the right fit because of their low rates and no long term commitments.

5. How is stopping and terminating an instance different from each other?

Starting, stopping and terminating are the three states in an EC2 instance, let's discuss them in detail:

- **Stopping and Starting** an instance: When an instance is stopped, the instance performs a normal shutdown and then transitions to a stopped state. All of its Amazon EBS volumes remain attached, and you can start the instance again at a later time. You are not charged for additional instance hours while the instance is in a stopped state.
- **Terminating** an instance: When an instance is terminated, the instance performs a normal shutdown, then the attached Amazon EBS volumes are deleted unless the volume's *deleteOnTermination* attribute is set to false. The instance itself is also deleted, and you can't start the instance again at a later time.

6. If I want my instance to run on a single-tenant hardware, which value do I have to set the instance's tenancy attribute to?

A. Dedicated
B. Isolated
C. One
D. Reserved

Answer A.

Explanation: The Instance tenancy attribute should be set to Dedicated Instance. The rest of the values are invalid.

7. When will you incur costs with an Elastic IP address (EIP)?

A. When an EIP is allocated.
B. When it is allocated and associated with a running instance.
C. When it is allocated and associated with a stopped instance.
D. Costs are incurred regardless of whether the EIP is associated with a running instance.

Answer C.

Explanation: You are not charged, if only one Elastic IP address is attached with your running instance. But you do get charged in the following conditions:

- When you use more than one Elastic IPs with your instance.
- When your Elastic IP is attached to a stopped instance.
- When your Elastic IP is not attached to any instance.

8. How is a Spot instance different from an On-Demand instance or Reserved Instance?

First of all, let's understand that Spot Instance, On-Demand instance and Reserved Instances are all models for pricing. Moving along, spot instances provide the ability for customers to purchase compute capacity with no upfront commitment, at hourly rates usually lower than the On-Demand rate in each region. Spot instances are just like bidding, the bidding price is called Spot Price. The Spot Price fluctuates based on supply and demand for instances, but customers will never pay more than the maximum price they have specified. If the Spot Price moves higher than a customer's maximum price, the customer's EC2 instance will be shut down automatically. But the reverse is not true, if the Spot prices come down again, your EC2 instance will not be launched automatically, one has to do that manually. In Spot and On demand instance, there is no commitment for the duration from the user side, however in reserved instances one has to stick to the time period that he has chosen.

9. Are the Reserved Instances available for Multi-AZ Deployments?

A. Multi-AZ Deployments are only available for Cluster Compute instances types
B. Available for all instance types
C. Only available for M3 instance types
D. D. Not Available for Reserved Instances

Answer B.

Explanation: Reserved Instances is a pricing model, which is available for all instance types in EC2.

10. How to use the processor state control feature available on the c4.8xlarge instance?

The processor state control consists of 2 states:

- The C state – Sleep state varying from c0 to c6. C6 being the deepest sleep state for a processor
- The P state – Performance state p0 being the highest and p15 being the lowest possible frequency.

Now, why the C state and P state. Processors have cores, these cores need thermal headroom to boost their performance. Now since all the cores are on the processor the temperature should be kept at an optimal state so that all the cores can perform at the highest performance.

Now how will these states help in that? If a core is put into sleep state it will reduce the overall temperature of the processor and hence other cores can perform better. Now the same can be synchronized with other cores, so that the processor can boost as many cores it can by timely putting other cores to sleep, and thus get an overall performance boost.

Concluding, the C and P state can be customized in some EC2 instances like the c4.8xlarge instance and thus you can customize the processor according to your workload.

How to do it? You can refer this tutorial for the same.

11.In CloudFront what happens when content is NOT present at an Edge location and a request is made to it?

A. An Error "404 not found" is returned
B. CloudFront delivers the content directly from the origin server and stores it in the cache of the edge location
C. The request is kept on hold till content is delivered to the edge location
D. The request is routed to the next closest edge location

Answer B.

Explanation: CloudFront is a content delivery system, which caches data to the nearest edge location from the user, to reduce latency. If data is not present at an edge location, the first time the data may get transferred from the original server, but from the next time, it will be served from the cached edge.

12.If I'm using Amazon CloudFront, can I use Direct Connect to transfer objects from my own data center?

Yes. Amazon CloudFront supports custom origins including origins from outside of AWS. With AWS Direct Connect, you will be charged with the respective data transfer rates.

13. If my AWS Direct Connect fails, will I lose my connectivity?

If a backup AWS Direct connect has been configured, in the event of a failure it will switch over to the second one. It is recommended to enable Bidirectional Forwarding Detection (BFD) when configuring your connections to ensure faster detection and failover. On the other hand, if you have configured a backup IPsec VPN connection instead, all VPC traffic will failover to the backup VPN connection automatically. Traffic to/from public resources such as Amazon S3 will be routed over the Internet. If you do not have a backup AWS Direct Connect link or a IPsec VPN link, then Amazon VPC traffic will be dropped in the event of a failure.