1. What is Amazon EC2?
   Amazon EC2 stands for Amazon Elastic Compute Cloud. Amazon EC2 is a part of AWS, providing scalable computing capacity. It allows your to launch virtual computing environments called instances. It allows you to launch a few virtual servers to a huge number of servers, allowing you scale up & down as per your requirements or spike.

2. What Are Some of the Security Best Practices for Amazon EC2?
   Following are the security-wise best practices for Amazon EC2:
   a. Manage access to AWS resources and APIs using identity federation with an identity provider and IAM roles whenever possible.
   b. Implement the least permissive rules for your security group.
   c. Regularly patch, update, and secure the operating system and applications on your instance.
   d. Use Amazon Inspector to automatically discover and scan Amazon EC2 instances for software vulnerabilities and unintended network exposure.
   e. Use AWS Security Hub controls to monitor your Amazon EC2 resources against security best practices and security standards.

3. Can S3 Be Used with EC2 Instances, and If Yes, How
   Yes, S3 (Simple Storage Service) can be used with EC2 instances.
   It can be used by allowing the instances to access the S3 buckets through IAM(Identity & Access Management) roles & policies. It'll enable the instances to store & retrieve the data in S3 bucket.

4. What is the difference between stopping and terminating an EC2 instance?

Stopping	Terminating
Virtual machine/instance is not taken away permanently	Virtual machine/instance is taken away permanently
Billing stops for the time when instance is in stopped state, otherwise it is billed per minute	Billing stops as soon as state changes to shutting-down
Only local data is lost, but bootable EBS volume data is not lost	Both local data as well as EBS volume data are lost, as EBS volume is de-attached
Only AWS ID of VM will be same, while public IPs, DNS, etc. will be re-assigned	Everything will be re-assigned including AWS ID of VM
Re-booting is faster as EBS volume is not de-attached	Re-booting is not possible, You've to create a new instance
Elastic IP / Private IP remains same	Elastic IP / Private IP will be dis-associated

5. What are the different types of EC2 instances based on their costs?
   There are six basic types of EC2 instances based on pricing:
   a. Free Tier : to get started with AWS EC2 for free; includes 750hrs of Linux & Win t2.micro instances, each month for one year
   b. on-Demand : for applications with unpredictable workloads; you can upscale or down size your instance depending on the instance you're running; no up-front payment; no long-term commitment needed
   c. Spot Instances : allows you to request spare Amazon EC2 compute capacities; user gets up-to 90% discount; recommended for urgent & huge computing needs; recommended for short-term usage; charges are incurred for surplus credits, if average CPU usage exceeds baseline
   d. Reserved instance: provides up-to 72% discount, if workload is fixed & you've to fix a fixed amount of compute capacity, then only you use reserve; user has to reserve compute capacity with commitment of 1yr or 3yr term; allows user to change instance family, availability zone, etc.
   e. Savings Plan : offers low pricing on 1yr or 3yr commitment to a constant usage; suitable for long-term usage
   f. Dedicated hosts : a physical dedicated EC2 server; allows to use existing server inbound licenses; can help a lot in meeting compliance requirements; most expensive option

6. How do you set up SSH agent forwarding so that you do not have to copy the key every time you log in?

7. What are the common types of AMI designs?
   An Amazon Machine Image (AMI) is a template that contains a software configuration (for example, an operating system, an application server, and applications). From an AMI, you launch an instance, which is a copy of the AMI running as a virtual server in the cloud.

8. What are Key-Pairs in AWS?

9. What is Amazon S3?
10. How can you recover/login to an EC2 instance for which you have lost the key?
11. What are some critical differences between AWS S3 and EBS?
12. How do you allow a user to gain access to a specific bucket?
13. How can you monitor S3 cross-region replication to ensure consistency without actually checking the bucket?
14. What are the Storage Classes available in Amazon S3?
15. Define and explain the three basic types of cloud services and the AWS products that are built based on them?

16. What is the relation between the Availability Zone and Region?
17. Is there any other alternative tool to log into the cloud environment other than console?
18. What are the different types of virtualization in AWS, and what are the differences between them?
19. Name some of the AWS services that are not region-specific
20. What do you mean by AWS?
21. Your organization has decided to transfer its business processes to the public cloud. However, they want some of their information/data to be accessed only by the management team. The rest of the resources will be shared among the employees of the firm. You must suggest a suitable cloud architecture for your firm and the reason for your choice.
22. Explain various types of cloud service models in brief.
23. What do you view as the most important issue with the cloud-facing companies today, and how do you keep up with the latest trends and practices?
24. What are the advantages of cloud computing?
25. What are the primary constituents of the cloud ecosystem
26. What are the main benefits of cloud computing?
27. What is meant by Function as a Service?
28. Define the various cloud storage levels.
29. What do you mean by AMI, and how is it implemented?
30. Explain security management in terms of cloud computing.
31. What are serverless components in cloud computing?
32. Differentiate between traditional data centers and the cloud.
33. Define edge computing.
34. Mention the different kinds of data center deployments of cloud computing.
35. What are the advantages and disadvantages of serverless computing?
36. List some cloud-enabling technologies.
37. Explain the importance of microservices for a true cloud environment.
38. Elaborate on the cloud usage monitor.
39. What are the uses of APIs in cloud services?
40. List the most important metrics in cloud computing.
41. Elaborate on the cloud computing architecture.
42. Define the direct customers in a cloud ecosystem.
43. What are the cloud delivery models?
44. What do you mean by cloud technology?
45. Mention the layers of PaaS architecture.
46. List the primary features of cloud computing.
47. Who are the cloud consumers in a cloud ecosystem?
48. What are the component layers found in Cloud architecture?
49. Define on-demand functionality.
50. Differentiate between scalability and elasticity.
51. How does resource replication happen in cloud computing?
52. How does the monitoring agent go about monitoring the cloud usage?
53. How does the resource agent monitor cloud usage?

54. Define the cloud usage monitor.
55. Give some reasons why Amazon is so big.
56. How can you vertically scale an Amazon instance?
57. Explain the security usage in the Amazon Web Services model.
58. What is meant by Containers as a Service (CaaS)?
59. Define cloud-native applications.
60. How does the polling agent monitor cloud usage?
61. How would the Cloud Native Computing Foundation explain cloud-native applications?
62. What is meant by rate limiting?
63. Can you talk about the different data center deployments of cloud computing?
64. What are the most important components of AWS?
65. What is Hypervisor in cloud computing, and what are its types?
66. What version control systems have you used in previous roles and why?
67. What kind of DevOps have you previously used and why?
68. Did you ever experience a major security breach at one of your previous cloud computing-related jobs and if so, how did you handle it?
69. What is a multi-cloud and what is a multi-cloud strategy?
70. What is edge computing and how is it related to cloud computing?
71. How would you deal with a client who wants an application with higher availability than their budget can handle?
72. Can you tell me about your experience with UDP?
73. What do you think are the main benefits of cloud computing?
74. What do you think are the main benefits of cloud computing?
75. What are the different types of models commonly used for deployment in cloud computing?
76. What are the layers of Platform as a Service architecture?
77. What is a cloud-native application?
78. Briefly describe how security management is handled within cloud computing
79. What is the difference between the Hybrid Cloud and Hybrid IT?
80. What is a multi-cloud strategy?
81. What is the difference between the private subnet and public subnet?
82. How can we check if there is an open connection to a remote host?
83. Describe the difference between file based backups vs block based backups.
84. What do you do if you cannot ssh into a server?
85. What are VPNs we can connect to any private server using a VPN?
86. What are public and private IPs and why do we need them?

Pending Questions: Q08-Q86 [78 Questions]