

Amazon S3 Interview Questions

Easy Questions

1. What is Amazon S3 and what does S3 stand for?
2. What is the maximum size of an object that can be stored in S3?
3. What is an S3 bucket and what are the naming rules for S3 buckets?
4. Name at least three S3 storage classes and explain their primary use cases.
5. What is the durability and availability percentage for S3 Standard storage class?
6. Explain the difference between S3 Standard and S3 Standard-IA storage classes.
7. What is the consistency model for Amazon S3?
8. What are the core components of Amazon S3?
9. What is the default limit of buckets per AWS account and can it be increased?
10. What is a key in Amazon S3 and what is its maximum length?

Medium Questions

1. Explain the difference between S3 Glacier Flexible Retrieval and S3 Glacier Deep Archive. Include retrieval times and minimum storage durations.
2. How does S3 versioning work and what happens when you delete an object in a versioned bucket?
3. Describe the S3 lifecycle policies and how they can be used to optimize storage costs.
4. What is S3 Cross-Region Replication (CRR) and what are its requirements?
5. Explain how S3 event notifications work and what services they can integrate with.
6. What is S3 Intelligent-Tiering and how does it differ from manually setting lifecycle policies?
7. Describe the different methods of securing data in S3 (mention at least three).
8. What is the difference between virtual-hosted style and path-style S3 endpoints? Provide examples.
9. Explain S3 Access Points and how they simplify managing data access at scale.
10. What is MFA Delete in S3 versioning and when would you use it?

Complex (Architect Level) Questions

1. Design a multi-region data lake solution using S3 that ensures compliance with data residency requirements while providing global access with minimal latency.
2. You need to implement a system that processes millions of small files uploaded by users worldwide. Design an S3-based architecture that optimizes for performance, cost, and global availability.
3. Explain how you would implement a secure, compliant archiving solution using S3 for a financial institution that needs to retain records for 7+ years with WORM (Write Once Read Many) guarantees.

4. Compare and contrast the use of S3 Object Lambda, S3 Select, and AWS Lambda with S3 event triggers for data processing scenarios. When would you choose each approach?
5. Design a cost-effective strategy for a media company that needs to store petabytes of video content with varying access patterns (hot content, warm content, and cold archives).
6. How would you implement a secure, scalable solution for sharing sensitive documents with external partners using S3? Detail the security controls and access mechanisms.
7. Explain how you would use S3 Storage Lens, S3 Inventory, and CloudWatch metrics together to optimize storage costs and performance across a multi-account organization.
8. Design a disaster recovery strategy using S3 that can handle accidental deletions, corruption, and regional outages while minimizing recovery time and cost.
9. For a high-throughput application that needs to store billions of objects, explain how you would design the S3 key naming strategy to optimize performance. Include considerations for partitioning and potential hot spots.
10. A global enterprise needs to migrate 500TB of data from on-premises storage to S3 with minimal downtime and network impact. Design a migration strategy that addresses bandwidth limitations, data validation, and cutover planning.

Scenario-Based Questions

1. Your company stores critical application logs in S3 Standard. After 30 days, logs are rarely accessed but must be retained for 2 years for compliance. After 2 years, they must be deleted. Design a cost-effective lifecycle policy for this scenario.
2. You're building a photo-sharing application where users upload images that need to be processed (resized, filtered) before being made available. Design an S3-based architecture that handles this workflow efficiently.
3. Your organization has strict compliance requirements that mandate all data must be encrypted, access must be comprehensively logged, and accidental deletions must be preventable. Explain how you would configure S3 to meet these requirements.
4. A customer is experiencing slow performance when many users simultaneously upload large files to a single S3 bucket. What might be causing this issue and how would you address it?
5. Your application needs to provide temporary access to specific S3 objects to unauthenticated users. Explain how you would implement this securely.