



**30 important scenario based  
questions and answers**

### 1. Scenario: EC2 Instance Connectivity Issue

**Question:** An EC2 instance cannot connect to the internet. What steps would you take to troubleshoot?

**Answer:**

- Verify that the instance is in a public subnet with a route to an internet gateway.
- Check the security group to ensure it allows outbound traffic.
- Confirm that network ACLs are not blocking traffic.
- Ensure the instance has a public IP or an Elastic IP attached.

### 2. Scenario: S3 Bucket Access Denied

**Question:** Users are receiving "Access Denied" when trying to access an S3 bucket. How do you resolve this? **Answer:**

- Review the S3 bucket policy to ensure it grants the necessary permissions.
- Check the IAM policies associated with the users or roles accessing the bucket.
- Verify that the bucket is not configured with restrictive ACLs.

### 3. Scenario: RDS Instance Running Slowly

**Question:** Your RDS instance performance is slow. How would you identify and resolve the issue?

**Answer:**

- Monitor CPU, memory, and disk I/O metrics in CloudWatch.
- Analyze query performance using RDS Performance Insights.
- Consider resizing the instance or using read replicas to distribute the load.

### 4. Scenario: Lambda Function Timeout

**Question:** A Lambda function is timing out frequently. What might be the cause, and how would you address it? **Answer:**

- Increase the function timeout setting.
- Optimize the function code to reduce execution time.
- Check if external API calls or database queries are causing delays.

### 5. Scenario: Auto Scaling Group Not Scaling

**Question:** Your Auto Scaling group is not scaling up even though CPU utilization is high. What could be wrong? **Answer:**

- Verify that the scaling policies are correctly configured.
- Check if CloudWatch alarms are triggering based on the correct thresholds.
- Ensure that the maximum size of the Auto Scaling group allows for additional instances.

### 6. Scenario: VPC Peering Connection Failing

**Question:** Two VPCs cannot communicate despite a peering connection. What steps would you take to troubleshoot? **Answer:**

- Verify that route tables are correctly updated in both VPCs.
- Check that the security groups allow traffic between the VPCs.
- Ensure there are no overlapping CIDR blocks between the two VPCs.

## **7. Scenario: ELB Not Distributing Traffic**

**Question:** An Elastic Load Balancer is not distributing traffic evenly. What could be the cause? **Answer:**

- Check the health of the instances behind the ELB.
- Review the listener and target group configurations.
- Ensure that cross-zone load balancing is enabled if needed.

## **8. Scenario: CloudFormation Stack Fails**

**Question:** A CloudFormation stack fails during creation. How would you troubleshoot the failure? **Answer:**

- Review the stack events in the CloudFormation console to identify the error.
- Ensure all resources referenced in the template exist and are correctly configured.
- Check for dependency issues or missing parameters in the template.

## **9. Scenario: DynamoDB Throttling**

**Question:** DynamoDB queries are being throttled. What steps would you take to resolve this? **Answer:**

- Check the provisioned throughput settings and increase if necessary.
- Optimize your queries to reduce the load on the table.
- Implement DynamoDB auto-scaling to adjust capacity based on demand.

## **10. Scenario: IAM Policy Not Working**

**Question:** An IAM policy is not granting the expected permissions. What could be wrong? **Answer:**

- Verify that the policy is attached to the correct IAM entity (user, group, or role).
- Check for any explicit denies in the policy or other attached policies.
- Review the policy syntax to ensure it is correctly formatted.

## **11. Scenario: VPC Endpoint Not Working**

**Question:** Traffic through a VPC endpoint is not reaching the target service. How would you troubleshoot? **Answer:**

- Verify that the route table is configured to send traffic to the VPC endpoint.
- Check the security group settings on both the endpoint and the target service.

- Ensure that the endpoint policy allows access to the desired service.

## **12. Scenario: CloudFront Distribution Not Updating**

**Question:** Changes to content are not being reflected in a CloudFront distribution. What should you do?

**Answer:**

- Invalidate the cache in CloudFront to force it to fetch the latest content.
- Verify that the origin server is serving the updated content.
- Check the TTL settings for the distribution's cached objects.

## **13. Scenario: S3 Cross-Region Replication Failing**

**Question:** S3 objects are not replicating to another region. What could be the cause? **Answer:**

- Ensure that versioning is enabled on both the source and destination buckets.
- Verify the replication rule configuration and permissions.
- Check if there are any restrictions in the bucket policies or IAM roles.

## **14. Scenario: EC2 Spot Instance Termination**

**Question:** Spot instances are terminating unexpectedly. How would you address this issue? **Answer:**

- Review the Spot price history to see if your bid was outbid.
- Consider increasing your bid price or using a different Spot instance type.
- Monitor the AWS Spot instance interruption notices for advance warnings.

## **15. Scenario: EBS Volume Not Attaching**

**Question:** An EBS volume cannot be attached to an EC2 instance. What steps would you take? **Answer:**

- Ensure that the EBS volume is in the same availability zone as the EC2 instance.
- Check that the instance has the appropriate permissions to attach the volume.
- Verify that the volume is not already attached to another instance.

## **16. Scenario: Route 53 DNS Resolution Issue**

**Question:** DNS records in Route 53 are not resolving correctly. What might be the issue? **Answer:**

- Check that the DNS records are correctly configured in the hosted zone.
- Verify that the domain's nameservers are pointing to Route 53.
- Ensure that the DNS TTL is not too high, delaying the propagation of changes.

## **17. Scenario: CloudWatch Alarms Not Triggering**

**Question:** CloudWatch alarms are not triggering as expected. What could be wrong? **Answer:**

- Verify that the correct metrics and thresholds are being monitored.
- Ensure that the alarm is in the "enabled" state.
- Check for any delays or aggregation settings that might affect the alarm.

#### **18. Scenario: ECS Task Failing to Start**

**Question:** An ECS task is stuck in the "pending" state and won't start. How would you troubleshoot?

**Answer:**

- Verify that there are enough resources in the ECS cluster to run the task.
- Check the task definition for any misconfigurations.
- Review IAM roles and security groups to ensure they allow the necessary permissions.

#### **19. Scenario: S3 Bucket Public Access Issue**

**Question:** An S3 bucket is publicly accessible despite your efforts to block public access. What could be the issue? **Answer:**

- Check for any public ACLs or bucket policies that might be overriding the block public access settings.
- Review IAM policies to ensure they do not grant public access.
- Use S3 Access Analyzer to identify and correct misconfigurations.

#### **20. Scenario: ELB SSL Certificate Not Working**

**Question:** An SSL certificate on an Elastic Load Balancer is not working. What could be the cause?

**Answer:**

- Verify that the SSL certificate is correctly attached to the ELB.
- Check that the certificate is valid and not expired.
- Ensure that the ELB listeners are configured to use the SSL certificate.

#### **21. Scenario: CloudWatch Logs Not Appearing**

**Question:** CloudWatch logs are not appearing for a specific service. How would you troubleshoot?

**Answer:**

- Ensure that logging is enabled for the service and that the correct log group is specified.
- Verify IAM permissions for the service to write logs to CloudWatch.
- Check if there are any filters applied that might be hiding the logs.

#### **22. Scenario: EC2 Instance Failing to Launch**

**Question:** An EC2 instance is failing to launch from an AMI. What steps would you take? **Answer:**

- Ensure that the AMI is available in the selected region.
- Check the instance type compatibility with the AMI.

- Review the security group and subnet configurations to ensure they allow the instance to launch.

### **23. Scenario: RDS Backup Failing**

**Question:** Automated backups for an RDS instance are failing. What could be the cause? **Answer:**

- Check the backup window to ensure it aligns with your RDS instance's activity.
- Verify that there is sufficient storage space for the backup.
- Review the RDS instance's logs for any errors related to the backup process.

### **24. Scenario: VPC Subnet Misconfiguration**

**Question:** Instances in a VPC subnet cannot communicate with each other. What could be wrong? **Answer:**

- Check the route tables to ensure they allow communication within the subnet.
- Verify the security group rules to allow inbound and outbound traffic.
- Ensure the subnet's network ACLs are not blocking traffic.

### **25. Scenario: S3 Bucket Versioning Not Working**

**Question:** Versioning on an S3 bucket is not functioning as expected. What might be the issue? **Answer:**

- Verify that versioning is enabled on the bucket.
- Ensure that lifecycle rules are not unintentionally affecting versioned objects.
- Review permissions to confirm that the correct access is granted for versioning operations.

### **26. Scenario: IAM Role Assumption Failing**

**Question:** An application is unable to assume an IAM role. How would you troubleshoot? **Answer:**

- Verify that the role trust policy allows the application to assume the role.
- Check the IAM policy attached to the role for the necessary permissions.
- Ensure the role assumption syntax in the application code is correct.

### **27. Scenario: EC2 Instance Hibernation Not Working**

**Question:** An EC2 instance is not resuming from hibernation. What could be wrong? **Answer:**

- Verify that the instance type supports hibernation.
- Check that the EBS volumes are configured as required for hibernation.
- Ensure that the instance was properly stopped using the hibernate option.

### **28. Scenario: SQS Message Not Being Processed**

**Question:** Messages in an SQS queue are not being processed by the consuming application. How would you resolve this? **Answer:**

- Check if the application has the necessary permissions to access the SQS queue.
- Verify that the SQS queue is correctly configured and that messages are being delivered.
- Review the application logs for any errors in message processing.

#### **29. Scenario: API Gateway Request Timeout**

**Question:** API Gateway requests are timing out. What could be the issue? **Answer:**

- Ensure the backend service is responding within the timeout period set in API Gateway.
- Check if there are any connectivity issues between API Gateway and the backend.
- Optimize the backend service to reduce response times.

#### **30. Scenario: Redshift Cluster Performance Issues**

**Question:** A Redshift cluster is experiencing performance issues. What steps would you take? **Answer:**

- Monitor the cluster's CPU, disk space, and I/O performance.
- Analyze query performance using the query editor and consider optimizing slow queries.
- Consider resizing the cluster or using concurrency scaling to handle additional workloads.