AWS Practice Questions

🟦 PRACTICE QUESTIONS (15 Scenario-Based Exercises)

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1. Launching a Highly Available Web Server on EC2
Scenario:
Your company wants to deploy a web application running on Apache. It must remain available even if one Availability Zone fails. Configure the required EC2 infrastructure.
Answer:
Create an Auto Scaling Group (ASG) across two or more AZs with a Launch Template installing Apache via user data. Attach an Application Load Balancer (ALB) to distribute traffic.

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2. Secure Access to EC2 Instances
Scenario:
Developers require SSH access to EC2 instances only from your office IP. Configure the security properly.
Answer:
Edit the EC2 Security Group inbound rule to allow port 22 only from the office public IP. Avoid using 0.0.0.0/0.

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3. Reduce Cost for a Background Compute Job
Scenario:
A nightly batch job runs for 2 hours on EC2. Recommend a cost-effective instance option.
Answer:
Use EC2 Spot Instances or Scheduled Reserved Instances since the workload is interruptible and predictable.

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4. Migrate a Single-AZ RDS to Multi-AZ
Scenario:
Your RDS MySQL instance currently runs in Single-AZ mode. Management wants automatic failover.
Answer:
Modify the RDS instance and enable Multi-AZ Deployment, which creates a synchronous standby.

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5. Improve RDS Read Scalability
Scenario:
A reporting team sends heavy read queries and slows down the main DB. Suggest a solution.
Answer:
Add RDS Read Replicas for scaling read workloads.

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6. Store Database Password Securely for EC2 Applications
Scenario:
An EC2-based application needs credentials to connect to RDS. Storing them in code is not allowed.
Answer:
Use AWS Secrets Manager or SSM Parameter Store and grant access using IAM roles.

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7. Deploy a Simple Java Application on Elastic Beanstalk
Scenario:
You must deploy a Java app with minimal provisioning overhead.

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Answer:
Create an Elastic Beanstalk Java environment, upload the application ZIP, and EB handles provisioning of EC2 + ALB + Auto Scaling.

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8. Version Control for Application Deployments in Elastic Beanstalk
Scenario:
You want to roll back to an older application version quickly.
Answer:
Elastic Beanstalk keeps Application Versions in S3. Choose a previous version and redeploy.

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9. Containerizing an Application for ECS
Scenario:
You need to deploy a Node.js service using containers in ECS. Start by preparing the image.
Answer:
Create a Dockerfile, build the image, push it to Amazon ECR, then reference it in your ECS Task Definition.

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10. Deploying ECS Service with High Availability
Scenario:
Run your ECS service so it remains available even during instance failures.
Answer:
Use ECS with Fargate or EC2 launch type in a cluster spanning multiple AZs with a service + load balancer.

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11. Continuous Deployment to ECS Using ECR
Scenario:
Developers push new Docker images frequently. Automate ECS deployment upon new image push.
Answer:
Use Amazon ECR Image Push → EventBridge → CodePipeline/CodeDeploy → ECS Service Update.

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12. Reduce RDS Costs Without Downtime
Scenario:
RDS instance is underutilized, but production must stay online. How to reduce cost?
Answer:
Modify instance type to a smaller class or switch to Serverless (Aurora) if supported.

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13. EC2 Instance Termination Protection
Scenario:
A critical instance was accidentally terminated. Prevent this going forward.
Answer:
Enable Termination Protection on the EC2 instance and enforce IAM permissions.

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14. Automatic EC2 Recovery for Hardware Failure
Scenario:
Your EC2 instance must auto-recover if the underlying hardware has issues.
Answer:
Enable EC2 Auto Recovery using CloudWatch alarms.

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15. Blue/Green Deployment for ECS Application
Scenario:
You need zero-downtime deployments for an ECS app.
Answer:
Use ECS + CodeDeploy Blue/Green Strategy with ALB routing.

🟦 MULTIPLE-CHOICE QUESTIONS (15 MCQs with Answers & Explanations)

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1. Which service provides resizable compute capacity in the cloud?
A. Amazon RDS
B. Amazon EC2
C. AWS Lambda
D. Amazon S3
Correct Answer: B
Explanation: EC2 provides virtual machines with resizable compute capacity.

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2. Which feature distributes incoming traffic across EC2 instances?
A. Auto Scaling
B. IAM
C. Elastic Load Balancing
D. SQS
Correct Answer: C
Explanation: ELB balances traffic across multiple EC2 instances.

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3. How can you securely store database credentials used by an EC2 instance?
A. Store in user data
B. Store in a text file on EC2
C. Use Secrets Manager
D. Embed in source code
Correct Answer: C
Explanation: Secrets Manager securely stores and rotates secrets.

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4. What does Multi-AZ provide for RDS?
A. Better read performance
B. Automatic failover
C. Cheaper prices
D. Faster queries
Correct Answer: B
Explanation: Multi-AZ creates a standby instance for high availability.

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5. Which RDS feature improves read performance?
A. Multi-AZ
B. Read Replicas
C. DB Snapshots
D. IAM roles

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Correct Answer: B
Explanation: Read Replicas handle read-heavy workloads.

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6. Which service automatically provisions EC2, ELB, scaling, and deployment?
A. ECS
B. Elastic Beanstalk
C. CloudFormation
D. Lambda
Correct Answer: B
Explanation: Elastic Beanstalk automates application provisioning.

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7. Where are Elastic Beanstalk application versions stored?
A. Amazon S3
B. Amazon EBS
C. AWS Artifact
D. Lambda Layers
Correct Answer: A
Explanation: EB stores versions in an S3 bucket.

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8. Amazon ECR is best described as:
A. A compute engine for running containers
B. A container registry
C. A database service
D. A load balancer
Correct Answer: B
Explanation: ECR is a fully managed Docker container registry.

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9. ECS Tasks are defined using:
A. IAM Policies
B. CloudTrail Logs
C. Task Definitions
D. Route Tables
Correct Answer: C
Explanation: Task Definitions describe container configuration.

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10. Which ECS launch type removes the need to manage EC2 instances?
A. EC2
B. Spot
C. Fargate
D. On-Demand
Correct Answer: C
Explanation: Fargate is serverless for containers.

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11. Which EC2 pricing option is most cost-effective for flexible workloads?
A. On-Demand
B. Reserved
C. Dedicated Hosts
D. Spot Instances

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Correct Answer: D
Explanation: Spot Instances offer up to 90% discounts for interruptible workloads.

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12. Which Security Group rule allows HTTP traffic?
A. Port 22
B. Port 443
C. Port 80
D. Port 3389
Correct Answer: C
Explanation: HTTP operates on port 80.

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13. What does an ECS Service ensure?
A. Code compilation
B. Desired number of tasks always running
C. S3 bucket replication
D. Database backup scheduling
Correct Answer: B
Explanation: ECS service ensures tasks maintain desired count.

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14. Where are Docker images stored for ECS deployments?
A. CloudTrail
B. EC2
C. S3 only
D. ECR
Correct Answer: D
Explanation: ECR stores container images.

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15. What is required to push images to ECR?
A. EC2 Metadata
B. IAM permissions
C. Route 53
D. RDS Proxy
Correct Answer: B
Explanation: Pushing images requires authenticated IAM permissions.