AWS Certified Solution Architect Professional

Online Course

ZETLAN TECHNOLOGIES
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AWS Certified Solution Architect Professional

Course Modules

Design Solutions for Organizational Complexity

1. Architect network connectivity strategies
- AWS Global Infrastructure
- AWS networking concepts (Amazon VPC, AWS Direct Connect)
- Hybrid DNS concepts (Amazon Route 53 Resolver)
- Network segmentation (subnetting, IP addressing, etc)
- Network traffic monitoring

2. Prescribe security controls
- AWS Identity & Access Management (IAM) & AWS IAM
- Route tables, security groups, and network ACLs
- Encryption keys and certificate management
- AWS security, identity, and compliance tools

3. Design reliable and resilient architectures
- Rcvry time objectives (RTOs) & rcvr point objectives (RPOs)
- Disaster recovry strategies(AWS Elastic Disaster Recovery,etc)
- Data backup and restoration

4. Design a multi-account AWS environment
- AWS Organizations and AWS Control Tower
- Multi-account event notifications
- AWS resource sharing across environments

5. Determine cost optimization and visibility strategies
- AWS cost and usage monitoring tools
- AWS purchasing optns (Reserved Instances, Savings Plans,etc)
- AWS rightsizing tools (AWS Compute Optimizer,S3 Strge Lens)

Design for New Solutions

6. Design a deployment strategy to meet business requiremnts
- Infrastructure as code (IaC) (for example, AWS CloudFormation)
- Continuous integration and continuous delivery (CI/CD)
- Change management processes
- Configuration management tools (AWS Systems Manager)

7. Design a solution to ensure business continuity
- AWS Global Infrastructure
- AWS networking concepts (routing methods) RTOs and RPOs
- Disaster recovery scenarios (backup and restore, pilot light, etc)
- Disaster recovery solutions on AWS

8. Determine security controls based on requirements
- IAM
- Route tables, security groups, and network ACLs
- Encryption options for data at rest and data in transit
- AWS service endpoints
- Credential management services

9. Design a strategy to meet reliability requirements

- AWS Global Infrastructure
- AWS storage services and replication strategies
- Multi-AZ and multi-Region architectures
- Auto scaling policies and events
- Application integration ([Amazon SNS], [Amazon SQS], etc)
- Service quotas and limits

10. Design a solution to meet performance objectives

- Performance monitoring technologies
- Storage options on AWS
- Instance families and use cases
- Purpose-built databases

11. Cost Optimization strategy to meet soln goals & objectives

- AWS cost and usage monitoring tools
- Pricing models (Reserved Instances, Savings Plans)
- Storage tiering
- Data transfer costs
- AWS managed service offerings

Continuous Improvement for Existing Solutions

12. **Strategy to improve overall operational excellence**
    - Alerting and automatic remediation strategies
    - Disaster recovery planning
    - Monitoring and logging solutions (Amazon CloudWatch)
    - CI/CD pipelines and deployment strategies (blue/green)
    - Config management tools (for example, Systems Manager)

13. **Determine a strategy to improve security**
    - Data retention, data sensitivity, and data regulatory requiremnts
    - Automated monitoring and remediation strategies
    - Secrets managemt (Systems Manager, AWS Secrets Manager)
    - Principle of least privilege access
    - Security-specific AWS solutions
    - Patching practices
    - Backup practices and methods

14. **Determine a strategy to improve performance**
    - High-performing systems architectures
    - Global service offerings (AWS Global Accelerator, etc)
    - Monitoring tool sets and services (for example, CloudWatch)
    - Service level agreements (SLAs) & key perfmc indicators (KPIs)

15. Determine a strategy to improve reliability

- AWS Global Infrastructure
- Data replication methods
- Scaling methodologies (load balancing, auto scaling)
- High availability and resiliency
- Disaster recovery methods and tools
- Service quotas and limits

16. Identify opportunities for cost optimizations

- Cost-conscious architecture choices
- Price model adoptions (Reserved Instances, Savings Plans)
- Networking & data transfer Cost mngmt, alerting, & reporting
- Accelerate Workload Migration and Modernization

17. Select existing workloads & processes for potential migratn

- Migration assessment and tracking tools (AWS Migration Hub)
- Portfolio assessment
- Asset planning
- Prioritization and migration of workloads (wave planning)

18. Optimal migration approach for existing workloads

- Data migration options &tools (AWS DataSync, Transfer Family)
- Application migration tools
- AWS networking services and DNS
- Identity services (IAM Identity Centre, AWS Directory Service)
- Database migration tools ([AWS DMS], [AWS SCT])
- Governance tools (AWS Control Tower, Organizations)

19. Determine a new architecture for existing workloads

- Compute services (Amazon EC2, AWS Elastic Beanstalk)
- Containers ([Amazon ECS],[Amazon EKS], [Amazon ECR])
- AWS storage services ([Amazon EBS], [Amazon EFS], etc)
- Databases (Amazon DynamoDB, OpenSearch Service, etc)

20. Opportunities for modernization and enhancements

- Serverless compute offerings (for example, AWS Lambda)
- Containers (for example, Amazon ECS, Amazon EKS, Fargate)
- AWS storage services (for example, Amazon S3, Amazon EFS)
- Purpose-built databases (DynamoDB, Aurora Serverless, etc)
- Integration services (Amazon SQS, SNS, EventBridge, etc)

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