AWS Certified SysOps Administrator

PRACTICE TESTS

ASSOCIATE (SOA-C01) EXAM

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Complements the *AWS Certified SysOps Administrator Associate Exam Study Guide.*

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AWS

Certified SysOps Administrator

Practice Tests

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I dedicate this book to my husband for his patience and encouragement throughout the writing process. Getting this book finished meant many missed nights in Azeroth. It's a labor of love for sure!
—Sara Perrott

I dedicate this book to my family and Jesus Christ, the Creator and Sustainer of all things (Colossians 1:16).
—Ben Piper

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—Sara Perrott

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—Ben Piper

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Sara Perrott is an Information Security professional with a Systems and Network Engineering background. She shares her passion for all things Information Technology by teaching classes related to Windows Server, Amazon Web Services, Networking, and Virtualization as well as other classes when needed at a local community college. She enjoys speaking at public events and presented most recently at the RSA Conference in 2019. Sara also enjoys technical editing and technical proofreading and has had the pleasure to work on a few projects doing this type of work.

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Contents at a Glance

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Introduction

If you've taken an AWS certification exam before, we're sure you know that they aren't easy. AWS certification exams test you to ensure that you have obtained the knowledge needed to work in AWS.

To pass the AWS Certified SysOps Administrator - Associate exam, you are going to need to understand the various services across the AWS ecosystem that enable you to do system administration and system operations work. This book is an excellent resource for your certification journey. In addition to this book, there is an AWS Certified SysOps Administrator - Associate exam Study Guide book that goes into detail with the content that you are expected to know to ensure that you are well prepared to sit the exam. Other materials that we would recommend would be the AWS documentation (typically available as HTML and PDF) and the FAQs.

You should absolutely have hands-on experience with AWS before sitting for this exam. When you first sign up for an AWS account, you get 12 months of free tier access. This means that so long as you stick to free tier eligible items, and you don't exceed the hours or usage specified, you can practice building out your infrastructure in AWS. Practice with the console, but also practice with the AWS CLI. You don't have to be an AWS CLI expert to pass the exam, but you should be familiar enough with it to know the format of some of the more common AWS CLI commands.

We highly recommend setting aside study time to focus on a chunk of questions each night. Don't try to get through an entire domain in one sitting (especially Domain 1, it's huge!). Instead, set a goal for yourself to get through 20 to 30 questions a night and stick to it. When you have gone through the book, make sure that you register and take the free practice exams available online. This is mentioned in the section, "Interactive Online Learning Environment and Test Bank" later in this introduction.

Last but not least, take a break the night before the exam and give your brain a rest. You're almost there!

Registering and Taking the Exam

When you register for the exam, you have your choice of either PSI or Pearson Vue for your testing center. At the time of this writing, the cost for the associate exam is $150 USD. The questions will be in either multiple-choice or multiple-answer format. You have a total of 130 minutes to finish the exam.

You should arrive at the testing center early. It's a good idea to be at least 20 minutes early in case there are others checking in ahead of you. You will need to take some form of ID with you, and remember that you may not take your notes or your cell phone into the exam room with you.

Once you finish the exam, you will be given immediate feedback as to whether you passed or failed. Within a few days, you will get a more detailed message showing you which domains you did well on and which domains you didn't do as well on. If you passed, then congratulations! If not, use the feedback in the email to focus on the areas in which you didn't do as well.

Interactive Online Learning Environment and Test Bank

There are tools that have been developed to aid you in studying for the Amazon Certified SysOps Administrator - Associate exam. These tools are all available for no additional charge at

`https://www.wiley.com/go/sybextestprep`

Just register your book to gain access to the practice test resources in the following list.

- **Chapter Questions:** These are presented to you in an electronic format so that you can run through the questions on your computer or tablet.
- **Practice Exams:** There is one 60-question practice exam available to test your knowledge. The questions in this exam are completely different from the questions in each chapter.

Exam Objectives

The AWS Certified SysOps Administrator - Associate exam is designed with system administrators who have been working with AWS in an operational capacity for at least one year in mind. The exam candidate should have experience in deploying resources and managing existing resources as well as basic operational day-to-day tasks like troubleshooting, monitoring, and reporting.

As a general rule, before you take this exam, you should meet the following conditions:

- Have at least one year of experience in system administration in AWS.
- Have hands-on experience with AWS management, including the AWS Management Console, AWS CLI, and AWS SDK.
- Understand networking concepts and methodologies in relation to AWS networking infrastructure.
- Know how to monitor systems for performance and availability.
- Understand basic security and compliance requirements and the tools within AWS that can help with auditing and monitoring.
- Have the ability to translate an architectural document in a functional AWS environment.

The exam is organized into different domains, and each domain has its own chapter. In each chapter, there will be questions that focus on the various subdomains. Let's take a quick look at the chapters and what is covered in each.

- **Chapter 1: Monitoring and Reporting (Domain 1):** This chapter may include questions on Amazon CloudWatch, AWS CloudTrail, Amazon Inspector, AWS Organizations, AWS Trusted Advisor, and AWS Cost Explorer.
- **Chapter 2: High Availability (Domain 2):** This chapter may include questions on managed services, Auto Scaling groups and elastic load balancers and other questions related to High Availability.

- **Chapter 3: Deployment and Provisioning (Domain 3):** This chapter may include questions on Amazon CloudFormation, AWS Elastic Beanstalk, Amazon Elastic Compute Cloud (EC2), Amazon Relational Database Service (RDS), and Amazon Elastic Container Service (ECS).
- **Chapter 4: Storage and Data Management (Domain 4):** This chapter may include questions on S3, Glacier, storage gateways, lifecycle management, and encryption.
- **Chapter 5: Security and Compliance (Domain 5):** This chapter may include questions on Identity and Access Management (IAM), users, groups, roles, policies, Key Management Service (KMS), resource policies, CloudTrail, CloudWatch, and service control policies (SCPs).
- **Chapter 6: Networking (Domain 6):** This chapter may include questions on Virtual Private Cloud (VPC), subnets, routing, VPC peering, security groups, network access control lists (NACLs), and Direct Connect.
- **Chapter 7: Automation and Optimization (Domain 7):** This chapter may include questions on Amazon CloudFormation, AWS Elastic Beanstalk, Simple Systems Manager (SSM), AWS CodeCommit, CodeDeploy, and CodePipeline.

Objective Map

This table provides you with a list of each domain on the exam, the weights assigned to each domain, and the chapters where content in the domains is addressed.

Domain	Exam Percentage	Chapter
Domain 1: Monitoring and Reporting	22%	1
1.1 Create and maintain metrics and alarms utilizing AWS monitoring services		
1.2 Recognize and differentiate performance and availability metrics		
1.3 Perform the steps necessary to remediate based on performance and availability metrics		
Domain 2: High Availability	8%	2
2.1 Implement scalability and elasticity based on use case		
2.2 Recognize and differentiate highly available and resilient environments on AWS		
Domain 3: Deployment and Provisioning	14%	3
3.1 Identify and execute steps required to provision cloud resources		
3.2 Identify and remediate deployment issues		

Domain	Exam Percentage	Chapter
Domain 4: Storage and Data Management	12%	4
4.1 Create and manage data retention		
4.2 Identify and implement data protection, encryption, and capacity planning needs		
Domain 5: Security and Compliance	18%	5
5.1 Implement and manage security policies on AWS		
5.2 Implement access controls when using AWS		
5.3 Differentiate between the roles and responsibility within the shared responsibility model		
Domain 6: Networking	14%	6
6.1 Apply AWS networking features		
6.2 Implement connectivity services of AWS		
6.3 Gather and interpret relevant information for network troubleshooting		
Domain 7: Automation and Optimization	12%	7
7.1 Use AWS services and features to manage and assess resource utilization		
7.2 Employ cost optimization strategies for efficient resource utilization		
7.3 Automate manual or repeatable process to minimize management overhead		

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Domain

1

Monitoring and Reporting

1. You are a system administrator and you need to view the metrics that are available in the Amazon EC2 instance namespace. What command can you type into the Amazon CLI?
   - **A.** `aws cloudwatch list-instances --namespace AWS/EC2`
   - **B.** `aws cloudwatch list-metrics --name AWS/EC2`
   - **C.** `aws cloudwatch list-metrics --namespace AWS/EC2`
   - **D.** `aws cloudwatch list-instances --name AWS/EC2`
2. Where can you look up metrics that are available in Amazon CloudWatch?
   - **A.** EC2 Console
   - **B.** CloudWatch Console
   - **C.** CloudTrail Console
   - **D.** Trusted Advisor Console
3. How can you access Amazon CloudWatch?
   - **A.** Amazon CloudWatch Console
   - **B.** AWS CLI
   - **C.** CloudWatch API
   - **D.** All of the above
4. Which service can use Amazon CloudWatch alarms to increase or decrease capacity based on compute load (CPU utilization, etc.)?
   - **A.** AWS Lambda
   - **B.** Amazon S3
   - **C.** Amazon EC2 Auto Scaling
   - **D.** Amazon VPC
5. Which of the following are valid alarm states for Amazon CloudWatch? (Choose three.)
   - **A.** ALARM
   - **B.** OK
   - **C.** READY
   - **D.** INSUFFICIENT_DATA
   - **E.** OFFLINE
   - **F.** WARNING
6. You have been asked to create Amazon CloudWatch alarms for each of your organization's 600 servers, which all reside within the same region. Assuming you create five alarms per server, will you be able to create alarms for each of the servers?
   - **A.** Yes, because the limit is 5000 alarms per region.
   - **B.** Yes, because the limit is 3500 alarms per region.
   - **C.** Yes, because the limit is 10,000 alarms per region.
   - **D.** No, you can't create that many alarms in a single region.

7. You are a system administrator at your company, and you have been asked to check why an existing Amazon CloudWatch alarm is showing INSUFFICIENT_DATA for one of your established servers. What is the best explanation for why this is occurring?
   - **A.** CloudWatch is experiencing an outage.
   - **B.** Not enough data is available for the metric to determine whether it should be OK or ALARM.
   - **C.** The alarm has only just been started, so it doesn't have enough data to determine if the state should be OK or ALARM.
   - **D.** The server is offline so no metrics are available.

8. You are a system administrator at your company, and you have been asked to check why a new Amazon CloudWatch alarm is showing INSUFFICIENT_DATA for one of your established servers. What is the best explanation for why this is occurring?
   - **A.** CloudWatch is experiencing an outage.
   - **B.** Not enough data is available for the metric to determine whether it should be OK or ALARM.
   - **C.** The alarm has only just been started, so it doesn't have enough data to determine if the state should be OK or ALARM.
   - **D.** The server is offline so no metrics are available.

9. Your bosses have come to you and have asked you if there is a way for them to get real-time notifications if a certain Amazon CloudWatch alarm is triggered. What should your bosses do to ensure that they can get real-time notifications? The answer should minimize administrative overhead.
   - **A.** Subscribe to an SNS topic that will send an SMS text message when the Amazon CloudWatch alarm is triggered.
   - **B.** Write a custom AWS Lambda function that will send an email when the Amazon CloudWatch alarm is triggered.
   - **C.** Use an SQS queue to deliver messages when an Amazon CloudWatch alarm is triggered.
   - **D.** Use a third-party solution to send notifications via SMS text message when an Amazon CloudWatch alarm is triggered.

10. You need to set up an Amazon CloudWatch alarm that will trigger after four failed evaluations of the alarm metrics in a 5-minute period. What do you need to set the evaluation period and the data points to alarm to so that you get the desired result?
    - **A.** Data points to alarm should be set to 5. Evaluation period should be set to 1 minute.
    - **B.** Data points to alarm should be set to 4. Evaluation period should be set to 5 minutes.
    - **C.** Data points to alarm should be set to 5. Evaluation period should be set to 5 minutes.
    - **D.** Data points to alarm should be set to 4. Evaluation period should be set to 1 minute.

11. Your boss has asked you to ensure that the 5-minute data points from CloudWatch are available for at least 60 days. What do you need to change within Amazon CloudWatch to ensure that you have at least 60 days' worth of 5-minute data points?

A. Nothing, Amazon CloudWatch can't retain data points that long.

B. Nothing. By default, Amazon CloudWatch keeps 5-minute data points for 63 days.

C. Create an archive to maintain 5-minute data points for at least 60 days.

D. Set Amazon CloudWatch to never delete the 5-minute data points.

12. What is a namespace in Amazon CloudFront?

A. A logical grouping of Amazon CloudWatch metrics

B. A logical grouping of Amazon CloudWatch alerts

C. A logical grouping of Amazon CloudWatch logs

D. A logical grouping of report names for Amazon CloudWatch

13. In which Amazon CloudWatch namespace would the metrics for EC2 be located?

A. AWS/ELB

B. AWS/EBS

C. AWS/EC2

D. AWS/Auto Scaling

14. In which Amazon CloudWatch namespace would the metrics for an Application Load Balancer be located?

A. AWS/ELB

B. AWS/ApplicationELB

C. AWS/EBS

D. AWS/Auto Scaling

15. You have been asked to retrieve some statistics from Amazon CloudWatch for a production server that is having issues. Your organization uses dimensions to further identify custom metrics. You know that the published dimension for the metric contains the following:

Dimensions: Server=Production, Site=Location1

Which of the following could be used to retrieve the statistics that you need?

A. Server=Production

B. Server=Production, Site=Location

C. Server=Prod

D. Server=Production, Site=Location1

16. Which of these Amazon EC2 metrics require that an agent be installed on the server so that Amazon CloudWatch can gather the statistics for the system?

A. Disk performance

B. Network utilization

C. Memory utilization

D. CPU utilization

17. When using Amazon CloudWatch, there are two types of health checks used for EC2 instances. Which of the following options are valid status checks? (Choose two.)

A. Performance status check

B. System status check

C. Health status check

D. Virtual machine status check

E. Instance status check

18. You are a system administrator for a mid-size financial institution. You are checking the health of your company's assets when you notice that CloudWatch is indicating that one of your EC2 instances has failed its instance status check. Which of the following is a possible cause?

A. Exhausted memory

B. Incompatible application installed

C. Software license key has expired.

D. Wrong OS is installed.

19. You are a system administrator for a mid-size financial institution. You are checking the health of your company's assets when you notice that CloudWatch is indicating that one of your EC2 instances has failed its instance status check. Which of the following is a possible cause?

A. Wrong OS is installed.

B. The filesystem is NTFS.

C. Corrupted filesystem

D. The filesystem is ext4.

20. You are a system administrator for a mid-size financial institution. You are checking the health of your company's assets when you notice that CloudWatch is indicating that one of your EC2 instances has failed its instance status check. Which of the following is a possible cause?

A. IPv4 is enabled.

B. Subnet is too large.

C. Wrong OS is installed.

D. Incorrect network configurations

21. You want to check the status of your Amazon EC2 instances. What is the command that you would enter into the AWS CLI to check the status of your instances?
    A. `aws cloudfront check-instance-status`
    B. `aws cloudfront describe-instance-status`
    C. `aws ec2 check-instance-status`
    D. `aws ec2 describe-instance-status`

22. You have been asked to ensure that some of your organization's junior system administrators can access Amazon CloudWatch to look at metrics. They have very limited credentials currently. Which policy can they be given that will enable them to view CloudWatch metrics without granting them additional access to the other AWS services?
    A. CloudWatchReadOnlyAccess
    B. CloudWatchMetricsAccess
    C. MetricsReadOnlyAccess
    D. AmazonEC2ReadOnly

23. Your boss has asked you to ensure that your Amazon EC2 instances have metrics being measured every 5 minutes. What type of monitoring should you use?
    A. Standard
    B. Basic
    C. Advanced
    D. Detailed

24. Your boss has asked you to ensure that your Amazon EC2 instances have metrics being measured every minute. What type of monitoring should you use?
    A. Standard
    B. Basic
    C. Advanced
    D. Detailed

25. You want to be able to store all of your log files from on-premises systems and AWS systems. Which AWS solution will allow you to store all of your log files in one place that will allow Amazon CloudWatch to monitor them?
    A. Amazon S3
    B. Amazon CloudWatch Events
    C. Amazon CloudWatch Logs
    D. Amazon EBS

26. You are wanting to move some Solaris servers to AWS from your on-prem datacenter and you would like to take advantage of CloudWatch Logs. Will you be able to install the agent for Linux on your Solaris servers?

A. Yes. All versions of Unix and Linux support the Amazon CloudWatch Logs agent.

B. Yes. Solaris is supported with the Amazon CloudWatch Logs agent.

C. No. Solaris doesn't support Python, which is a requirement of the Amazon CloudWatch Logs agent.

D. No. Solaris isn't supported with the Amazon CloudWatch Logs agent.

27. You want to ensure that you are able to update your Amazon CloudWatch Logs agent on your Red Hat Linux servers without having to manually copy and install the update package. How can you accomplish this task with the least amount of administrative overhead?

A. Use wget to copy the package to the server then run it.

B. Use the Red Hat Package Manager to install awslogs.

C. Copy the package via FTP with an automated file transfer service.

D. You can't update the CloudWatch Logs agent automatically.

28. You have chosen to update an existing server's Amazon CloudWatch agent using the Red Hat Package Manager (RPM). When the agent was first installed, a Python script was used. Since the update through RPM, you are no longer receiving logs in Amazon CloudWatch. When you check the server, you find that the configuration has changed. What is the most likely cause?

A. Configuration issues are caused by updating the agent with Red Hat Package Manager because RPM has technical limitations.

B. The Linux server needs to be restarted for the updated agent installation to take effect and start sending logs to Amazon CloudWatch.

C. Configuration issues are caused by updating the agent with Red Hat Package Manager when it was installed by Python initially.

D. The wrong agent installation package was used; you mistakenly ran the Debian package instead of the RPM package.

29. Which is a type of log that you can get from the Amazon CloudWatch Logs agent for Windows?

A. Firmware log

B. Proprietary logs

C. Website

D. IIS logs

30. Which is a type of log that you can get from the Amazon CloudWatch Logs agent for Windows?

A. Firmware log

B. System logs

C. Website

D. Boot diagnostics logs

31. The Amazon CloudWatch Logs agent for Windows has been installed on an EC2 instance running Windows Server 2016. You look for the EC2Config service but can't find it running. Logs are flowing into Amazon CloudWatch, but why do you not see the EC2Config service as you would on other older servers?

A. EC2Config service is not supported for Windows Server 2016.

B. There is an issue with the CloudWatch Logs Agent for Windows.

C. Your installation of Windows Server 2016 needs to be updated.

D. The CloudWatch Logs Agent didn't actually install; the logs are getting to Amazon CloudWatch another way.

32. You work for a hospital and must ensure that your log data is encrypted at all times. Does Amazon CloudWatch meet this requirement?

A. Yes, but you have to configure it when you install the log agent.

B. No. Log data is only encrypted in transit.

C. Yes. Log data is encrypted at rest and in transit.

D. No. Log data is only encrypted at rest.

33. Your supervisor has asked you if there is a way to create reports with billing data so that they can view billing by usage, or the cost per individual log group. What should you tell your boss?

A. Yes. AWS allows you to get this information with detailed billing.

B. Yes. AWS allows you to get this information with basic billing.

C. No. AWS does not allow you to get this information.

D. No. AWS does not give you the ability to create reports in this way.

34. How many tags can you have in an Amazon CloudWatch log group?

A. 35

B. 50

C. 100

D. 500