CompTIA

CAS-005 Exam

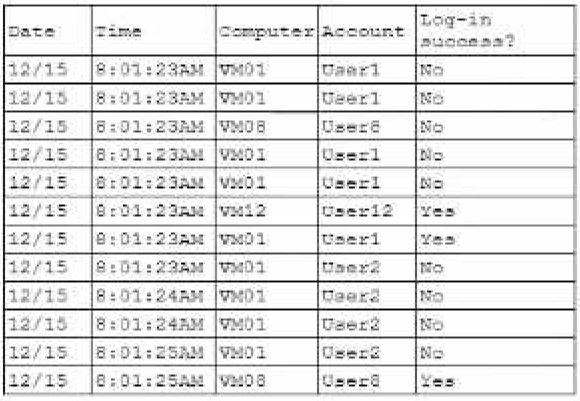
CompTIA SecurityX Certification Exam

Questions & Answers
Demo

Version: 4.0

Question: 1

A security analyst is reviewing the following authentication logs:



Date	Time	Computer	Account	Log-in success?
12/15	8:01:23AM	VM01	User1	No
12/15	8:01:23AM	VM01	User1	No
12/15	8:01:23AM	VM08	User8	No
12/15	8:01:23AM	VM01	User1	No
12/15	8:01:23AM	VM01	User1	No
12/15	8:01:23AM	VM12	User12	Yes
12/15	8:01:23AM	VM01	User1	Yes
12/15	8:01:23AM	VM01	User2	No
12/15	8:01:24AM	VM01	User2	No
12/15	8:01:24AM	VM01	User2	No
12/15	8:01:25AM	VM01	User2	No
12/15	8:01:25AM	VM08	User8	Yes

Which of the following should the analyst do first?

A. Disable User2's account
B. Disable User12's account
C. Disable User8's account
D. Disable User1's account

Answer: D

Explanation:

Based on the provided authentication logs, we observe that User1's account experienced multiple failed login attempts within a very short time span (at 8:01:23 AM on 12/15). This pattern indicates a potential brute-force attack or an attempt to gain unauthorized access. Here’s a breakdown of why disabling User1's account is the appropriate first step:

Failed Login Attempts: The logs show that User1 had four consecutive failed login attempts:

VM01 at 8:01:23 AM

VM08 at 8:01:23 AM

VM01 at 8:01:23 AM

VM08 at 8:01:23 AM

Security Protocols and Best Practices: According to CompTIA Security+ guidelines, multiple failed login attempts within a short timeframe should trigger an immediate response to prevent further potential unauthorized access attempts. This typically involves temporarily disabling the account to stop ongoing brute-force attacks.

Account Lockout Policy: Implementing an account lockout policy is a standard practice to thwart brute-force attacks. Disabling User1's account will align with these best practices and prevent further failed attempts, which might lead to successful unauthorized access if not addressed.

Reference:
CompTIA Security+ SY0-601 Study Guide by Mike Chapple and David Seidl
CompTIA Security+ Certification Exam Objectives
NIST Special Publication 800-63B: Digital Identity Guidelines
By addressing User1's account first, we effectively mitigate the immediate threat of a brute-force attack, ensuring that further investigation can be conducted without the risk of unauthorized access continuing during the investigation period.

Question: 2

Which of the following AI concerns is most adequately addressed by input sanitation?

A. Model inversion
B. Prompt Injection
C. Data poisoning
D. Non-explainable model

Answer: B

Explanation:

Input sanitation is a critical process in cybersecurity that involves validating and cleaning data provided by users to prevent malicious inputs from causing harm. In the context of AI concerns:
A . Model inversion involves an attacker inferring sensitive data from model outputs, typically requiring sophisticated methods beyond just manipulating input data.
B . Prompt Injection is a form of attack where an adversary provides malicious input to manipulate the behavior of AI models, particularly those dealing with natural language processing (NLP). Input sanitation directly addresses this by ensuring that inputs are cleaned and validated to remove potentially harmful commands or instructions that could alter the AI's behavior.
C . Data poisoning involves injecting malicious data into the training set to compromise the model. While input sanitation can help by filtering out bad data, data poisoning is typically addressed through robust data validation and monitoring during the model training phase, rather than real-time input sanitation.
D . Non-explainable model refers to the lack of transparency in how AI models make decisions. This concern is not addressed by input sanitation, as it relates more to model design and interpretability techniques.
Input sanitation is most relevant and effective for preventing Prompt Injection attacks, where the integrity of user inputs directly impacts the performance and security of AI models.
Reference:
CompTIA Security+ Study Guide
"Security of Machine Learning" by Battista Biggio, Blaine Nelson, and Pavel Laskov
OWASP (Open Web Application Security Project) guidelines on input validation and injection attacks
Top of Form
Bottom of Form

Question: 3

A systems administrator wants to introduce a newly released feature for an internal application. The administrate docs not want to test the feature in the production environment. Which of the following locations is the best place to test the new feature?

A. Staging environment
B. Testing environment
C. CI/CO pipeline
D. Development environment

Answer: A

Explanation:
The best location to test a newly released feature for an internal application, without affecting the production environment, is the staging environment. Here's a detailed explanation:
Staging Environment: This environment closely mirrors the production environment in terms of hardware, software, configurations, and settings. It serves as a final testing ground before deploying changes to production. Testing in the staging environment ensures that the new feature will behave as expected in the actual production setup.
Isolation from Production: The staging environment is isolated from production, which means any issues arising from the new feature will not impact the live users or the integrity of the production data. This aligns with best practices in change management and risk mitigation.
Realistic Testing: Since the staging environment replicates the production environment, it provides realistic testing conditions. This helps in identifying potential issues that might not be apparent in a development or testing environment, which often have different configurations and workloads.
Reference:
CompTIA Security+ SY0-601 Official Study Guide by Quentin Docter, Jon Buhagiar
NIST Special Publication 800-53: Security and Privacy Controls for Information Systems and Organizations

Question: 4

A cybersecurity architect is reviewing the detection and monitoring capabilities for a global company that recently made multiple acquisitions. The architect discovers that the acquired companies use different vendors for detection and monitoring The architect's goal is to:
• Create a collection of use cases to help detect known threats
• Include those use cases in a centralized library for use across all of the companies
Which of the following is the best way to achieve this goal?

A. Sigma rules
B. Ariel Query Language
C. UBA rules and use cases
D. TAXII/STIX library

Answer: A

Explanation:

To create a collection of use cases for detecting known threats and include them in a centralized library for use across multiple companies with different vendors, Sigma rules are the best option. Here’s why:
Vendor-Agnostic Format: Sigma rules are a generic and open standard for writing SIEM (Security Information and Event Management) rules. They can be translated to specific query languages of different SIEM systems, making them highly versatile and applicable across various platforms.
Centralized Rule Management: By using Sigma rules, the cybersecurity architect can create a centralized library of detection rules that can be easily shared and implemented across different detection and monitoring systems used by the acquired companies. This ensures consistency in threat detection capabilities.
Ease of Use and Flexibility: Sigma provides a structured and straightforward format for defining detection logic. It allows for the easy creation, modification, and sharing of rules, facilitating collaboration and standardization across the organization.

Question: 5

After an incident occurred, a team reported during the lessons-learned review that the team.
* Lost important Information for further analysis.
* Did not utilize the chain of communication
* Did not follow the right steps for a proper response
Which of the following solutions is the best way to address these findinds?

A. Requesting budget for better forensic tools to Improve technical capabilities for Incident response operations
B. Building playbooks for different scenarios and performing regular table-top exercises
C. Requiring professional incident response certifications tor each new team member
D. Publishing the incident response policy and enforcing it as part of the security awareness program

Answer: B

Explanation:

Building playbooks for different scenarios and performing regular table-top exercises directly addresses the issues identified in the lessons-learned review. Here's why:
Lost important information for further analysis: Playbooks outline step-by-step procedures for incident response, ensuring that team members know exactly what to document and how to preserve evidence.
Did not utilize the chain of communication: Playbooks include communication protocols, specifying who to notify and when. Regular table-top exercises reinforce these communication channels, ensuring they are followed during actual incidents.
Did not follow the right steps for a proper response: Playbooks provide a clear sequence of actions to be taken during various types of incidents, helping the team to respond in a structured and effective manner. Regular exercises allow the team to practice these steps, identifying and correcting any deviations from the plan.
Investing in better forensic tools (Option A) or requiring certifications (Option C) are also valuable, but they do not directly address the procedural and communication gaps identified. Publishing and

enforcing the incident response policy (Option D) is important but not as practical and hands-on as playbooks and exercises in ensuring the team is prepared.
Reference:
CompTIA Security+ Study Guide
NIST SP 800-61 Rev. 2, "Computer Security Incident Handling Guide"
SANS Institute, "Incident Handler's Handbook"