CompTIA

Exam Questions CAS-005

CompTIA SecurityX Exam

NEW QUESTION 1
A news organization wants to implement workflows that allow users to request that untruthful data be retraced and scrubbed from online publications to comply with the right to be forgotten Which of the following regulations is the organization most likely trying to address'

A. GDPR
B. COPPA
C. CCPA
D. DORA

Answer: A

Explanation:
The General Data Protection Regulation (GDPR) is the regulation most likely being addressed by the news organization. GDPR includes provisions for the "right to be forgotten," which allows individuals to request the deletion of personal data that is no longer necessary for the purposes for which it was collected. This regulation aims to protect the privacy and personal data of individuals within the European Union.
References:
? CompTIA SecurityX Study Guide: Covers GDPR and its requirements, including the right to be forgotten.
? GDPR official documentation: Details the rights of individuals, including data erasure and the right to be forgotten.
? "GDPR: A Practical Guide to the General Data Protection Regulation" by IT Governance Privacy Team: Provides a comprehensive overview of GDPR compliance, including workflows for data deletion requests.

NEW QUESTION 2
A company wants to use loT devices to manage and monitor thermostats at all facilities The thermostats must receive vendor security updates and limit access to other devices within the organization Which of the following best addresses the company's requirements''

A. Only allowing Internet access to a set of specific domains
B. Operating lot devices on a separate network with no access to other devices internally
C. Only allowing operation for loT devices during a specified time window
D. Configuring IoT devices to always allow automatic updates

Answer: B

Explanation:
The best approach for managing and monitoring IoT devices, such as thermostats, is to operate them on a separate network with no access to other internal devices. This segmentation ensures that the IoT devices are isolated from the main network, reducing the risk of potential security breaches affecting other critical systems. Additionally, this setup allows for secure vendor updates without exposing the broader network to potential vulnerabilities inherent in IoT devices.
References:
? CompTIA SecurityX Study Guide: Recommends network segmentation for IoT devices to minimize security risks.
? NIST Special Publication 800-183, "Network of Things": Advises on the isolation of IoT devices to enhance security.
? "Practical IoT Security" by Brian Russell and Drew Van Duren: Discusses best practices for securing IoT devices, including network segmentation.

NEW QUESTION 3
A security officer received several complaints from users about excessive MPA push notifications at night The security team investigates and suspects malicious activities regarding user account authentication Which of the following is the best way for the security officer to restrict MI~A notifications''

A. Provisioning FID02 devices
B. Deploying a text message based on MFA
C. Enabling OTP via email
D. Configuring prompt-driven MFA

Answer: D

Explanation:
Excessive MFA push notifications can be a sign of an attempted push notification attack, where attackers repeatedly send MFA prompts hoping the user will eventually approve one by mistake. To mitigate this:
? A. Provisioning FIDO2 devices: While FIDO2 devices offer strong authentication,
they may not be practical for all users and do not directly address the issue of excessive push notifications.
? B. Deploying a text message-based MFA: SMS-based MFA can still be vulnerable
to similar spamming attacks and phishing.
? C. Enabling OTP via email: Email-based OTPs add another layer of security but do not directly solve the issue of excessive notifications.
? D. Configuring prompt-driven MFA: This option allows users to respond to prompts in a secure manner, often including features like time-limited approval windows, additional verification steps, or requiring specific actions to approve. This can help prevent users from accidentally approving malicious attempts.
Configuring prompt-driven MFA is the best solution to restrict unnecessary MFA notifications and improve security.
References:
? CompTIA Security+ Study Guide
? NIST SP 800-63B, "Digital Identity Guidelines"
? "Multi-Factor Authentication: Best Practices" by Microsoft

NEW QUESTION 4
Developers have been creating and managing cryptographic material on their personal laptops fix use in production environment. A security engineer needs to initiate a more secure process. Which of the following is the best strategy for the engineer to use?

A. Disabling the BIOS and moving to UEFI
B. Managing secrets on the vTPM hardware
C. Employing shielding lo prevent LMI
D. Managing key material on a HSM

Answer: D

Explanation:
The best strategy for securely managing cryptographic material is to use a Hardware Security Module (HSM). Here??s why:
? Security and Integrity: HSMs are specialized hardware devices designed to protect and manage digital keys. They provide high levels of physical and logical security, ensuring that cryptographic material is well protected against tampering and unauthorized access.
? Centralized Key Management: Using HSMs allows for centralized management of cryptographic keys, reducing the risks associated with decentralized and potentially insecure key storage practices, such as on personal laptops.
? Compliance and Best Practices: HSMs comply with various industry standards and regulations (such as FIPS 140-2) for secure key management. This ensures that the organization adheres to best practices and meets compliance requirements.
? References:

NEW QUESTION 5
Recent repents indicate that a software tool is being exploited Attackers were able to bypass user access controls and load a database. A security analyst needs to find the vulnerability and recommend a mitigation. The analyst generates the following output:

```
C:\>whoami
local-user
C:\>netuser local-user Welcome!
The command completed successfully!
C:\>dbloader.exe local-user Welcome!
Insufficient Permissions. Now Closing...
C:\>strings dbloader.exe
!This program cannot be run in DOS Mode
dBl0ad3r!
Load Database jmp
182(*nx
(i3jN*jk
fahn82mk0a
C:\>dbloader.exe admin dBl0ad3r!
```

Which of the following would the analyst most likely recommend?

A. Installing appropriate EDR tools to block pass-the-hash attempts
B. Adding additional time to software development to perform fuzz testing
C. Removing hard coded credentials from the source code
D. Not allowing users to change their local passwords

Answer: C

Explanation:
The output indicates that the software tool contains hard-coded credentials, which attackers can exploit to bypass user access controls and load the database. The most likely recommendation is to remove hard-coded credentials from the source code. Here??s why:
? Security Best Practices: Hard-coded credentials are a significant security risk
because they can be easily discovered through reverse engineering or simple inspection of the code. Removing them reduces the risk of unauthorized access.
? Credential Management: Credentials should be managed securely using
environment variables, secure vaults, or configuration management tools that provide encryption and access controls.
? Mitigation of Exploits: By eliminating hard-coded credentials, the organization can
prevent attackers from easily bypassing authentication mechanisms and gaining unauthorized access to sensitive systems.
? References:

NEW QUESTION 6
Which of the following is the security engineer most likely doing?

Account	Host	Log-in date	Local log-in time	Office location
Sales_1	PC-18	4/16	9:05 a.m.	USA
Sales_1	PC-18	4/17	9:10 a.m.	USA
Sales_1	PC-10	4/18	9:08 a.m.	USA
Sales_1	PC-10	4/19	9:01 a.m.	USA
Sales_1	PC-64	4/21	8:58 a.m.	UK

A. Assessing log in activities using geolocation to tune impossible Travel rate alerts

B. Reporting on remote log-in activities to track team metrics
C. Threat hunting for suspicious activity from an insider threat
D. Baselining user behavior to support advanced analytics

Answer: A

Explanation:
In the given scenario, the security engineer is likely examining login activities and their associated geolocations. This type of analysis is aimed at identifying unusual login patterns that might indicate an impossible travel scenario. An impossible travel scenario is when a single user account logs in from geographically distant locations in a short time, which is physically impossible. By assessing login activities using geolocation, the engineer can tune alerts to identify and respond to potential security breaches more effectively.

NEW QUESTION 7
A security engineer performed a code scan that resulted in many false positives. The security engineer must find a solution that improves the quality of scanning results before application deployment. Which of the following is the best solution?

A. Limiting the tool to a specific coding language and tuning the rule set
B. Configuring branch protection rules and dependency checks
C. Using an application vulnerability scanner to identify coding flaws in production
D. Performing updates on code libraries before code development

Answer: A

Explanation:
To improve the quality of code scanning results and reduce false positives, the best solution is to limit the tool to a specific coding language and fine-tune the rule set. By configuring the code scanning tool to focus on the specific language used in the application, the tool can more accurately identify relevant issues and reduce the number of false positives. Additionally, tuning the rule set ensures that the tool's checks are
appropriate for the application's context, further improving the accuracy of the scan results.
References:
? CompTIA SecurityX Study Guide: Discusses best practices for configuring code scanning tools, including language-specific tuning and rule set adjustments.
? "Secure Coding: Principles and Practices" by Mark G. Graff and Kenneth R. van Wyk: Highlights the importance of customizing code analysis tools to reduce false positives.
? OWASP (Open Web Application Security Project): Provides guidelines for configuring and tuning code scanning tools to improve accuracy.

NEW QUESTION 8
Company A and Company D ate merging Company A's compliance reports indicate branch protections are not in place A security analyst needs to ensure that potential threats to the software development life cycle are addressed. Which of the following should me analyst
cons<der when completing this basic?

A. If developers are unable to promote to production
B. If DAST code is being stored to a single code repository
C. If DAST scans are routinely scheduled
D. If role-based training is deployed

Answer: C

Explanation:
Dynamic Application Security Testing (DAST) is crucial for identifying and addressing security vulnerabilities during the software development life cycle (SDLC). Ensuring that DAST scans are routinely scheduled helps in maintaining a secure development process. Why Routine DAST Scans?
? Continuous Security Assessment: Regular DAST scans help in identifying
vulnerabilities in real-time, ensuring they are addressed promptly.
? Compliance: Routine scans ensure that the development process complies with security standards and regulations.
? Proactive Threat Mitigation: Regular scans help in early detection and mitigation of potential security threats, reducing the risk of breaches.
? Integration into SDLC: Ensures security is embedded within the development process, promoting a security-first approach.
Other options, while relevant, do not directly address the continuous assessment and proactive identification of threats:
? A. If developers are unable to promote to production: This is more of an
operational issue than a security assessment.
? B. If DAST code is being stored to a single code repository: This concerns code management rather than security testing frequency.
? D. If role-based training is deployed: While important, training alone does not ensure continuous security assessment.
References:
? CompTIA SecurityX Study Guide
? OWASP Testing Guide
? NIST Special Publication 800-53, "Security and Privacy Controls for Information Systems and Organizations"

NEW QUESTION 9
Users are experiencing a variety of issues when trying to access corporate resources examples include
• Connectivity issues between local computers and file servers within branch offices
• Inability to download corporate applications on mobile endpoints wtiilc working remotely
• Certificate errors when accessing internal web applications
Which of the following actions are the most relevant when troubleshooting the reported issues? (Select two).

A. Review VPN throughput
B. Check IPS rules
C. Restore static content on lite CDN.
D. Enable secure authentication using NAC
E. Implement advanced WAF rules.
F. Validate MDM asset compliance

Answer: AF

Explanation:
The reported issues suggest problems related to network connectivity, remote access, and certificate management:
? A. Review VPN throughput: Connectivity issues and the inability to download applications while working remotely may be due to VPN bandwidth or performance issues. Reviewing and optimizing VPN throughput can help resolve these problems by ensuring that remote users have adequate bandwidth for accessing corporate resources.
? F. Validate MDM asset compliance: Mobile Device Management (MDM) systems
ensure that mobile endpoints comply with corporate security policies. Validating MDM compliance can help address issues related to the inability to download applications and certificate errors, as non-compliant devices might be blocked from accessing certain resources.
? B. Check IPS rules: While important for security, IPS rules are less likely to directly
address the connectivity and certificate issues described.
? C. Restore static content on the CDN: This action is related to content delivery but does not address VPN or certificate-related issues.
? D. Enable secure authentication using NAC: Network Access Control (NAC) enhances security but does not directly address the specific issues described.
? E. Implement advanced WAF rules: Web Application Firewalls protect web applications but do not address VPN throughput or mobile device compliance.
References:
? CompTIA Security+ Study Guide
? NIST SP 800-77, "Guide to IPsec VPNs"
? CIS Controls, "Control 11: Secure Configuration for Network Devices"

NEW QUESTION 10
A security analyst reviews the following report:

	Location	Chassis manufacturer	OS	Application developer	Vendor
Product A	United States	Local company A	Debian 11	Unknown	Charlie Security Consulting
Product B	United States	Global company B	Red Hat Enterprise Linux	Developer B	BigBox Vulnerabilities

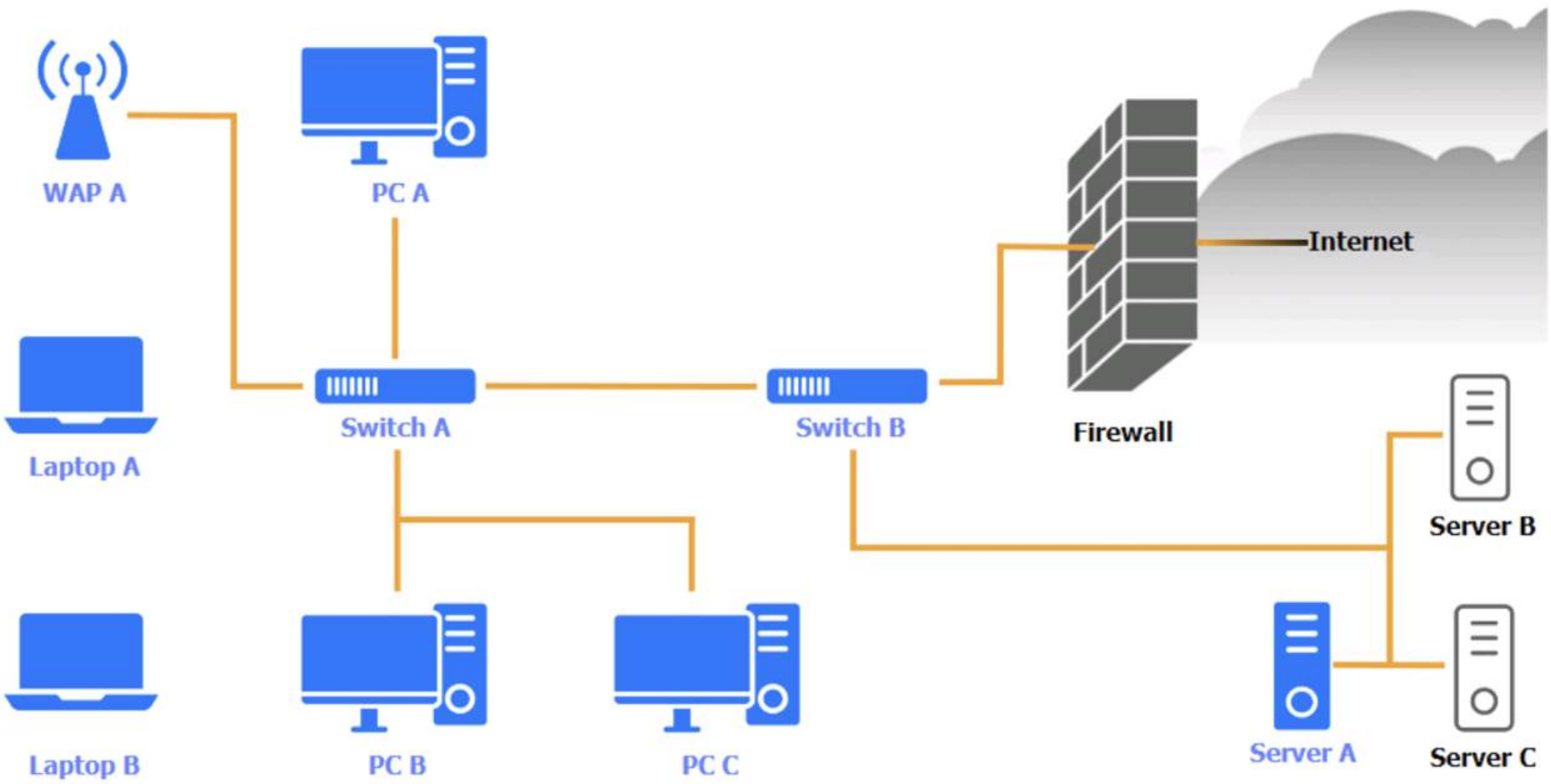
Which of the following assessments is the analyst performing?

A. System
B. Supply chain
C. Quantitative
D. Organizational

Answer: B

Explanation:
The table shows detailed information about products, including location, chassis manufacturer, OS, application developer, and vendor. This type of information is typically assessed in a supply chain assessment to evaluate the security and reliability of components and services from different suppliers.
Why Supply Chain Assessment?
? Component Evaluation: Assessing the origin and security of each component used in the products, including hardware, software, and third-party services.
? Vendor Reliability: Evaluating the security practices and reliability of vendors involved in providing components or services.
? Risk Management: Identifying potential risks associated with the supply chain, such as vulnerabilities in third-party components or insecure development practices.
Other types of assessments do not align with the detailed supplier and component information provided:
? A. System: Focuses on individual system security, not the broader supply chain.
? C. Quantitative: Focuses on numerical risk assessments, not supplier information.
? D. Organizational: Focuses on internal organizational practices, not external
suppliers.
References:
? CompTIA SecurityX Study Guide
? NIST Special Publication 800-161, "Supply Chain Risk Management Practices for Federal Information Systems and Organizations"
? "Supply Chain Security Best Practices," Gartner Research

NEW QUESTION 10
SIMULATION
A security engineer needs to review the configurations of several devices on the network to meet the following requirements:
• The PostgreSQL server must only allow connectivity in the 10.1.2.0/24 subnet.
• The SSH daemon on the database server must be configured to listen to port 4022.
• The SSH daemon must only accept connections from a Single workstation.
• All host-based firewalls must be disabled on all workstations.
• All devices must have the latest updates from within the past eight days.
• All HDDs must be configured to secure data at rest.
• Cleartext services are not allowed.
• All devices must be hardened when possible.
Instructions:
Click on the various workstations and network devices to review the posture assessment results. Remediate any possible issues or indicate that no issue is found.
Click on Server A to review output data. Select commands in the appropriate tab to remediate connectivity problems to the pOSTGREsql DATABASE VIA ssh



WAP A

WAP A

Finding	Status	Remediation
Firmware	Updated 5 days ago	☑ No issue
Top 5 used ports	22, 80, 443, 123, 53	☐ Patch management
SSID broadcast	Disabled	☐ Update endpoint protection
Default admin account	Default password has been changed	☐ Enabled disk encryption
HTTP server	Disabled	☐ Enable port security on network device
		☐ Enable password complexity
		☐ Enable host-based firewall to block all traffic
		☐ Antivirus scan
		☐ Change default administrative password
		☐ Disable unneeded services
		☐ Enable all connectivity settings

PC A

PC A

OS updates	Updated 2 days ago, last checked 5:08 a.m.
Endpoint protection	Last checked 6:11 a.m.
Browser version	91.2.5 (7/31/2023)
Disk encryption	Enabled
Password complexity	Enabled
Host-based firewall	Disabled
CPU & memory usage	Normal
Screensaver	Enabled
Top 5 used ports	22, 80, 443, 389, 53
Wireless	Disabled

- [x] No issue
- [ ] Patch management
- [ ] Update endpoint protection
- [ ] Enabled disk encryption
- [ ] Enable port security on network device
- [ ] Enable password complexity
- [ ] Enable host-based firewall to block all traffic
- [ ] Antivirus scan
- [ ] Change default administrative password
- [ ] Disable unneeded services
- [ ] Enable all connectivity settings

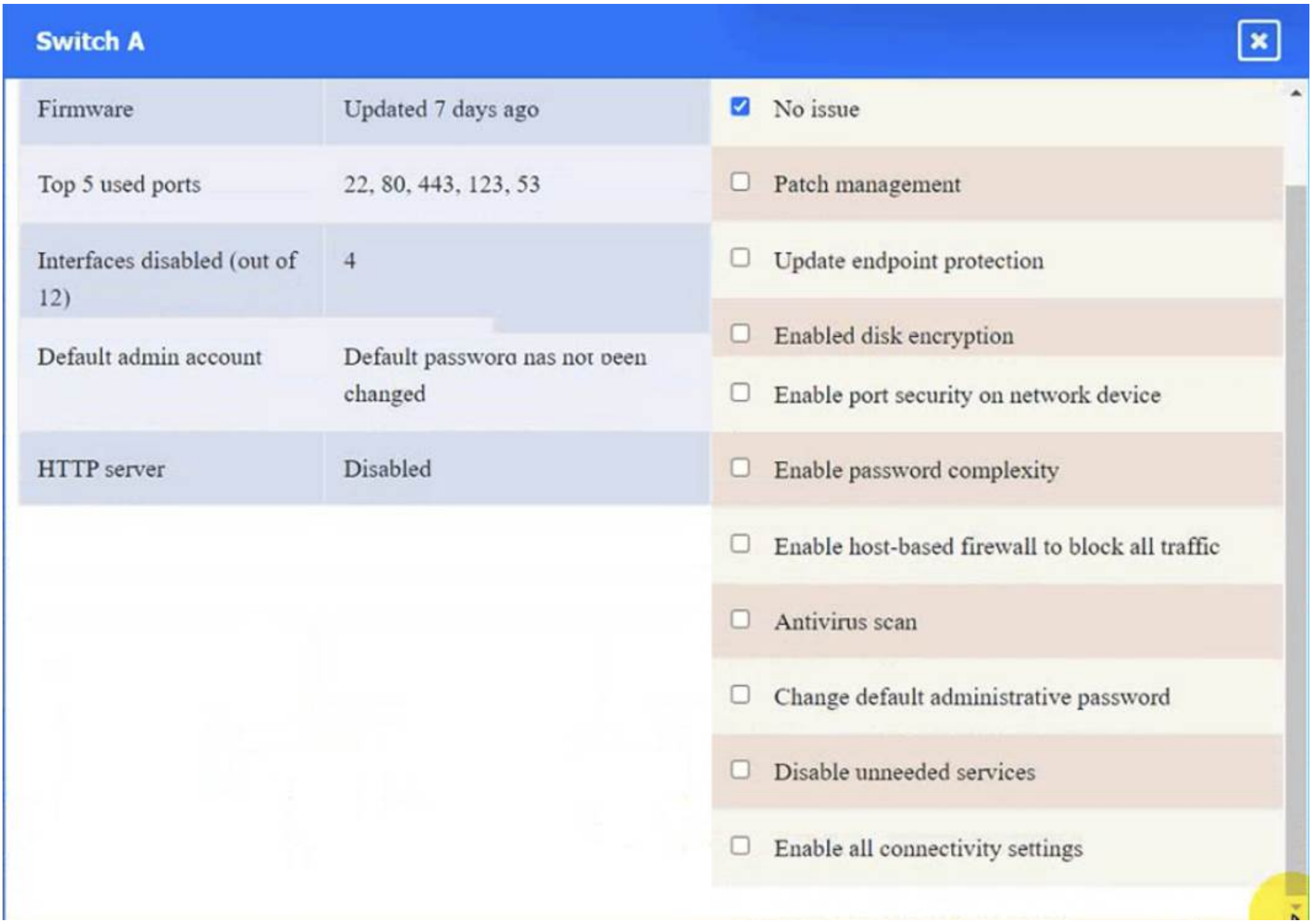
Laptop A

Laptop A

OS updates	Updated 3 days ago, last checked 6:08 a.m.
Endpoint protection	Last checked in 6:13 a.m.
Browser version	91.2.5 (7/31/2023)
Disk encryption	Enabled
Password complexity	Enabled
Host-based firewall	Disabled
CPU & memory usage	Medium
Screensaver	Enabled
Top 5 used ports	22, 80, 443, 389, 53
Wireless	Enabled

- [x] No issue
- [ ] Patch management
- [ ] Update endpoint protection
- [ ] Enabled disk encryption
- [ ] Enable port security on network device
- [ ] Enable password complexity
- [ ] Enable host-based firewall to block all traffic
- [ ] Antivirus scan
- [ ] Change default administrative password
- [ ] Disable unneeded services
- [ ] Enable all connectivity settings

Switch A



Switch B:

Switch B

Firmware	Updated 7 days ago	☑ No issue
Top 5 used ports	22, 80, 443, 123, 53	☐ Patch management
Interfaces disabled (out of 6)	1	☐ Update endpoint protection
Default admin account	Default password has been changed	☐ Enabled disk encryption
		☐ Enable port security on network device
HTTP server	Disabled	☐ Enable password complexity
		☐ Enable host-based firewall to block all traffic
		☐ Antivirus scan
		☐ Change default administrative password
		☐ Disable unneeded services
		☐ Enable all connectivity settings

Laptop B

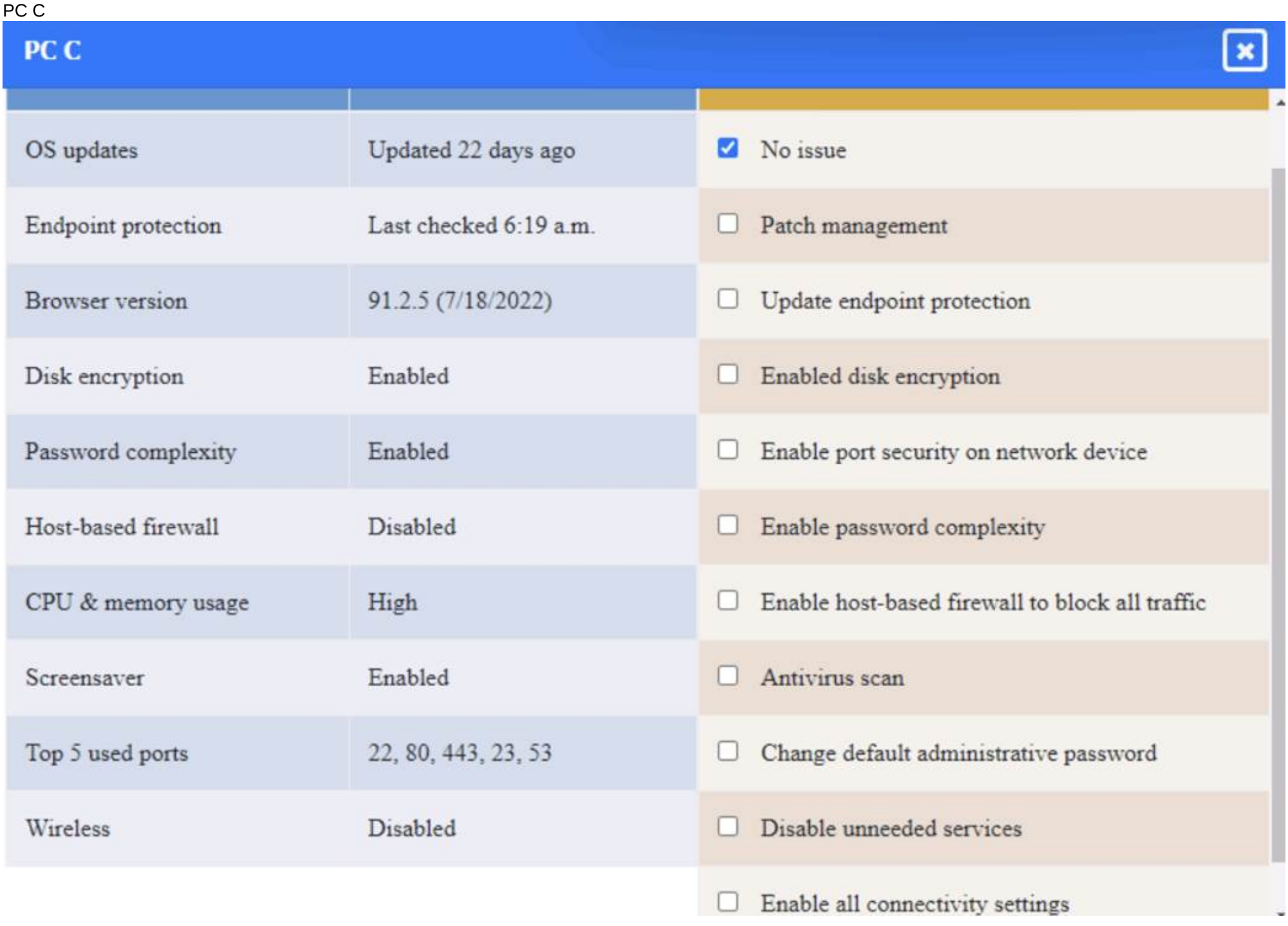
Laptop B

OS updates	Updated 3 days ago, last checked 8:08 a.m.	☑ No issue
Endpoint protection	Last checked in 8:11 a.m.	☐ Patch management
Browser version	81.2.5 (7/31/2023)	☐ Update endpoint protection
Disk encryption	Disabled	☐ Enabled disk encryption
		☐ Enable port security on network device
Password Complexity	Enabled	☐ Enable password complexity
Host-based firewall	Disabled	☐ Enable host-based firewall to block all traffic
CPU & memory usage	Normal	☐ Antivirus scan
		☐ Change default administrative password
Screensaver	Enabled	☐ Disable unneeded services
Top 5 used ports	22, 80, 443, 8080, 53	☐ Enable all connectivity settings
Wireless	Enabled	

PC B


PC B
OS updates
Updated 2 days ago, last checked 5:10 a.m.
Endpoint protection
Last checked in 6:13 a.m.
Browser version
91.2.5 (7/31/2023)
Disk encryption
Enabled
Password complexity
Enabled
Host-based firewall
Disabled
CPU & memory usage
Medium
Screensaver
Enabled
Top 5 used ports
22, 80, 443, 389, 53
Wireless
Disabled
No issue
Patch management
Update endpoint protection
Enabled disk encryption
Enable port security on network device
Enable password complexity
Enable host-based firewall to block all traffic
Antivirus scan
Change default administrative password
Disable unneeded services
Enable all connectivity settings

PC C


PC C
OS updates
Updated 22 days ago
Endpoint protection
Last checked 6:19 a.m.
Browser version
91.2.5 (7/18/2022)
Disk encryption
Enabled
Password complexity
Enabled
Host-based firewall
Disabled
CPU & memory usage
High
Screensaver
Enabled
Top 5 used ports
22, 80, 443, 23, 53
Wireless
Disabled
No issue
Patch management
Update endpoint protection
Enabled disk encryption
Enable port security on network device
Enable password complexity
Enable host-based firewall to block all traffic
Antivirus scan
Change default administrative password
Disable unneeded services
Enable all connectivity settings

Server A

Server A

Nmap | IP Tables

```
Nmap scan report for psql-srvr.acme.com
Host is up, received arp-response (0.00040s latency).
...
PORT            STATE   SERVICE         VERSION
22/tcp          open    ssh             OpenSSH 8.4
80/tcp          closed  http
443/tcp         closed  ssl/http
1433/tcp        closed  mssql
5432/tcp        closed  postgresql
...
```

1 | 2 | 3 | 4

```
iptables -R INPUT 1 -p tcp -s 10.1.2.25/32 --sport 4022 -j ACCEPT
iptables -D OUTPUT 1
iptables -A OUTPUT -p udp -d 0/0 -s 10.1.2.0/24 --sport 5432 -m state --state ESTABLISHED -j ACCEPT
iptables -A INPUT -p tcp -d 0/0 -s 10.1.2.0/24 --dport 5432 -m state --state NEW,ESTABLISHED -j ACCEPT
```

1 | 2 | 3 | 4

```
iptables -R INPUT 1 -p tcp -s 10.1.2.0/24 --dport 4022 -j ACCEPT
iptables -D OUTPUT 2
iptables -A OUTPUT -p tcp -d 0/0 -s 10.1.2.0/24 --sport 5432 -m state --state ESTABLISHED -j ACCEPT
iptables -A INPUT -p tcp -d 0/0 -s 10.1.2.0/24 --dport 5432 -m state --state NEW,ESTABLISHED -j ACCEPT
```

1 | 2 | 3 | 4

```
iptables -R OUTPUT 1 -p tcp -s 10.1.2.25/32 --sport 4022 -j ACCEPT
iptables -F OUTPUT
iptables -A OUTPUT -p tcp -d 0/0 -s 10.1.2.0/24 --sport 5432 -m state --state ESTABLISHED -j ACCEPT
iptables -A INPUT -p tcp -d 0/0 -s 10.1.2.0/24 --dport 5432 -m state --state NEW,ESTABLISHED -j ACCEPT
```

1 | 2 | 3 | 4

```
iptables -R INPUT 1 -p tcp -s 10.1.2.25/32 --dport 4022 -j ACCEPT
iptables -D OUTPUT 1
iptables -A OUTPUT -p tcp -d 0/0 -s 10.1.2.0/24 --sport 5432 -m state --state ESTABLISHED -j ACCEPT
iptables -A INPUT -p tcp -d 0/0 -s 10.1.2.0/24 --dport 5432 -m state --state NEW,ESTABLISHED -j ACCEPT
```

Nmap | IP Tables

```
#iptables --list --verbose

Chain INPUT (policy DROP 5 packets, 341 bytes)

pkts bytes  target  prot  opt in  out source    destination

0    0      ACCEPT  tcp   --  any any anywhere  anywhere    tcp spts:login:65535 dpt:ssh state NEW,ESTABLISHED

1    28     DROP    all   --  any any anywhere  anywhere

Chain FORWARD (policy DROP 0 packets, 0 bytes)
```

A. Mastered
B. Not Mastered

Answer: A

Explanation:
WAP A: No issue found. The WAP A is configured correctly and meets the requirements. PC A = Enable host-based firewall to block all traffic
This option will turn off the host-based firewall and allow all traffic to pass through. This will comply with the requirement and also improve the connectivity of PC A to other devices on the network. However, this option will also reduce the security of PC A and make it more vulnerable to attacks. Therefore, it is recommended to use other security measures, such as antivirus, encryption, and password complexity, to protect PC A from potential threats.
Laptop A: Patch management
This option will install the updates that are available for Laptop A and ensure that it has the most recent security patches and bug fixes. This will comply with the requirement and also improve the performance and stability of Laptop A. However, this option may also require a reboot of Laptop A and some downtime during the update process. Therefore, it is recommended to backup any important data and close any open applications before applying the updates.
Switch A: No issue found. The Switch A is configured correctly and meets the requirements.
Switch B: No issue found. The Switch B is configured correctly and meets the requirements.
Laptop B: Disable unneeded services
This option will stop and disable the telnet service that is using port 23 on Laptop B. Telnet
is a cleartext service that transmits data in plain text over the network, which exposes it to eavesdropping, interception, and modification by attackers. By disabling the telnet service, you will comply with the requirement and also improve the security of Laptop B. However, this option may also affect the functionality of Laptop B if it needs to use telnet for remote administration or other purposes. Therefore, it is recommended to use a secure alternative to telnet, such as SSH or HTTPS, that encrypts the data in transit.
PC B: Enable disk encryption
This option will encrypt the HDD of PC B using a tool such as BitLocker or VeraCrypt. Disk encryption is a technique that protects data at rest by converting it into an unreadable format that can only be decrypted with a valid key or password. By enabling disk encryption, you will comply with the requirement and also improve the confidentiality and integrity of PC B??s data. However, this option may also affect the performance and usability of PC B, as it requires additional processing time and user authentication to access the encrypted data. Therefore, it is recommended to backup any important data and choose a strong key or password before encrypting the disk.
PC C: Disable unneeded services
This option will stop and disable the SSH daemon that is using port 22 on PC C. SSH is a secure service that allows remote access and command execution over an encrypted channel. However, port 22 is the default and well-known port for SSH, which makes it a common target for brute-force attacks and port scanning. By disabling the SSH daemon on port 22, you will comply with the requirement and also improve the security of PC C. However, this option may also affect the functionality of PC C if it needs to use SSH for remote administration or other purposes. Therefore, it is recommended to enable the SSH daemon on a different port, such as 4022, by editing the configuration file using the following command:
sudo nano /etc/ssh/sshd_config Server A. Need to select the following:
white screen with white text

1 | 2 | 3 | 4

```
iptables -R INPUT 1 -p tcp -s 10.1.2.0/24 --dport 4022 -j ACCEPT
iptables -D OUTPUT 2
iptables -A OUTPUT -p tcp -d 0/0 -s 10.1.2.0/24 --sport 5432 -m state --state ESTABLISHED -j ACCEPT
iptables -A INPUT -p tcp -d 0/0 -s 10.1.2.0/24 --dport 5432 -m state --state NEW,ESTABLISHED -j ACCEPT
```

NEW QUESTION 14
A company wants to invest in research capabilities with the goal to operationalize the research output. Which of the following is the best option for a security architect to recommend?

A. Dark web monitoring
B. Threat intelligence platform
C. Honeypots
D. Continuous adversary emulation

Answer: B

Explanation:
Investing in a threat intelligence platform is the best option for a company looking to operationalize research output. A threat intelligence platform helps in collecting, processing, and analyzing threat data to provide actionable insights. These platforms integrate data from various sources, including dark web monitoring, honeypots, and other security tools, to offer a comprehensive view of the threat landscape.
Why a Threat Intelligence Platform?
? Data Integration: It consolidates data from multiple sources, including dark web monitoring and honeypots, making it easier to analyze and derive actionable insights.
? Actionable Insights: Provides real-time alerts and reports on potential threats, helping the organization take proactive measures.
? Operational Efficiency: Streamlines the process of threat detection and response, allowing the security team to focus on critical issues.
? Research and Development: Facilitates the operationalization of research output by providing a platform for continuous monitoring and analysis of emerging threats.
Other options, while valuable, do not offer the same level of integration and operationalization capabilities:
? A. Dark web monitoring: Useful for specific threat intelligence but lacks
comprehensive operationalization.
? C. Honeypots: Effective for detecting and analyzing specific attack vectors but not for broader threat intelligence.
? D. Continuous adversary emulation: Important for testing defenses but not for integrating and operationalizing threat intelligence.
References:
? CompTIA SecurityX Study Guide
? "Threat Intelligence Platforms," Gartner Research
? NIST Special Publication 800-150, "Guide to Cyber Threat Information Sharing"

NEW QUESTION 15
Third parties notified a company's security team about vulnerabilities in the company's application. The security team determined these vulnerabilities were previously disclosed in third-party libraries. Which of the following solutions best addresses the reported vulnerabilities?

A. Using laC to include the newest dependencies
B. Creating a bug bounty program
C. Implementing a continuous security assessment program
D. Integrating a SASI tool as part of the pipeline

Answer: D

Explanation:
The best solution to address reported vulnerabilities in third-party libraries is integrating a Static Application Security Testing (SAST) tool as part of the development pipeline. Here??s why:
? Early Detection: SAST tools analyze source code for vulnerabilities before the
code is compiled. This allows developers to identify and fix security issues early in the development process.
? Continuous Security: By integrating SAST tools into the CI/CD pipeline, the organization ensures continuous security assessment of the codebase, including third-party libraries, with each code commit and build.
? Comprehensive Analysis: SAST tools provide a detailed analysis of the code, identifying potential vulnerabilities in both proprietary code and third-party dependencies, ensuring that known issues in libraries are addressed promptly.
? References:

NEW QUESTION 18
A systems administrator works with engineers to process and address vulnerabilities as a result of continuous scanning activities. The primary challenge faced by the administrator is differentiating between valid and invalid findings. Which of the following would the systems administrator most likely verify is properly configured?

A. Report retention time
B. Scanning credentials
C. Exploit definitions
D. Testing cadence

Answer: B

Explanation:
When differentiating between valid and invalid findings from vulnerability scans, the systems administrator should verify that the scanning credentials are properly configured. Valid credentials ensure that the scanner can authenticate and access the systems being evaluated, providing accurate and comprehensive results. Without proper credentials, scans may miss vulnerabilities or generate false positives, making it difficult to prioritize and address the findings effectively.
References:
? CompTIA SecurityX Study Guide: Highlights the importance of using valid credentials for accurate vulnerability scanning.
? "Vulnerability Management" by Park Foreman: Discusses the role of scanning credentials in obtaining accurate scan results and minimizing false positives.
? "The Art of Network Security Monitoring" by Richard Bejtlich: Covers best practices for configuring and using vulnerability scanning tools, including the need for valid credentials.

NEW QUESTION 20
A security professional is investigating a trend in vulnerability findings for newly deployed cloud systems Given the following output:

Date	IP address	System name	Finding	Criticality rating
10/13/2023	10.123.34.90	System1	OpenSSL version 1.01	Medium
10/13/2023	10.3.114.72	System6	OpenSSL version 1.01	Medium
10/13/2023	10.12.134.45	System12	Java 11 runtime environment found	Medium
10/13/2023	10.68.65.11	System36	OpenSSL version 1.01	Medium
10/13/2023	10.23.74.9	System37	Java 11 runtime environment found	Medium
10/13/2023	10.13.124.3	System45	OpenSSL version 1.01	Medium

Which of the following actions would address the root cause of this issue?

A. Automating the patching system to update base Images

B. Recompiling the affected programs with the most current patches
C. Disabling unused/unneeded ports on all servers
D. Deploying a WAF with virtual patching upstream of the affected systems

Answer: A

Explanation:
The output shows that multiple systems have outdated or vulnerable software versions (OpenSSL 1.01 and Java 11 runtime). This suggests that the systems are not being patched regularly or effectively.
? A. Automating the patching system to update base images: Automating the
patching process ensures that the latest security updates and patches are applied to all systems, including newly deployed ones. This addresses the root cause by ensuring that base images used for deployment are always up-to-date with the latest security patches.
? B. Recompiling the affected programs with the most current patches: While this
can fix the immediate vulnerabilities, it does not address the root cause of the problem, which is the lack of regular updates.
? C. Disabling unused/unneeded ports on all servers: This improves security but does not address the specific issue of outdated software.
? D. Deploying a WAF with virtual patching upstream of the affected systems: This can provide a temporary shield but does not resolve the underlying issue of outdated software.
Automating the patching system to update base images ensures that all deployed systems are using the latest, most secure versions of software, addressing the root cause of the vulnerability trend.
References:
? CompTIA Security+ Study Guide
? NIST SP 800-40 Rev. 3, "Guide to Enterprise Patch Management Technologies"
? CIS Controls, "Control 7: Continuous Vulnerability Management"

NEW QUESTION 23
An organization is implementing Zero Trust architecture A systems administrator must increase the effectiveness of the organization's context-aware access system. Which of the following is the best way to improve the effectiveness of the system?

A. Secure zone architecture
B. Always-on VPN
C. Accurate asset inventory
D. Microsegmentation

Answer: D

Explanation:
Microsegmentation is a critical strategy within Zero Trust architecture that enhances context-aware access systems by dividing the network into smaller, isolated segments. This reduces the attack surface and limits lateral movement of attackers within the network. It ensures that even if one segment is compromised, the attacker cannot easily access other segments. This granular approach to network security is essential for enforcing strict access controls and monitoring within Zero Trust environments.
Reference: CompTIA SecurityX Study Guide, Chapter on Zero Trust Security, Section on
Microsegmentation and Network Segmentation.

NEW QUESTION 26
A security analyst is reviewing suspicious log-in activity and sees the following data in the SICM:

Account	Application	Authorization server	Status	Risk
SALES1	Customer manager	LDAP-US	Success	Low
SALES1	Payroll	LDAP-US	Success	Low
ADMIN	Email	LDAP-US	Failure	High
SALES1	Email	LDAP-EU	Unknown	Unknown
MARKET1	Customer manager	LDAP-US	Success	Low
FINANCE1	Payroll	LDAP-EU	Unknown	Unknown

Which of the following is the most appropriate action for the analyst to take?

A. Update the log configuration settings on the directory server that Is not being captured properly.
B. Have the admin account owner change their password to avoid credential stuffing.
C. Block employees from logging in to applications that are not part of their business area.
D. implement automation to disable accounts that nave been associated with high-risk activity.

Answer: D

Explanation:
The log-in activity indicates a security threat, particularly involving the ADMIN account with a high-risk failure status. This suggests that the account may be targeted by malicious activities such as credential stuffing or brute force attacks.
? Updating log configuration settings (A) may help in better logging future activities
but does not address the immediate threat.
? Changing the admin account password (B) is a good practice but may not fully mitigate the ongoing threat if the account has already been compromised.
? Blocking employees (C) from logging into non-business applications might help in

reducing attack surfaces but doesn't directly address the compromised account issue.
Implementing automation to disable accounts associated with high-risk activities ensures an immediate response to the detected threat, preventing further unauthorized access and allowing time for thorough investigation and remediation.
References:
? CompTIA SecurityX guide on incident response and account management.
? Best practices for handling compromised accounts.
? Automation tools and techniques for security operations centers (SOCs).

NEW QUESTION 27
An organization wants to manage specialized endpoints and needs a solution that provides the ability to
* Centrally manage configurations
* Push policies.
• Remotely wipe devices
• Maintain asset inventory
Which of the following should the organization do to best meet these requirements?

A. Use a configuration management database
B. Implement a mobile device management solution.
C. Configure contextual policy management
D. Deploy a software asset manager

Answer: B

Explanation:
To meet the requirements of centrally managing configurations, pushing policies, remotely wiping devices, and maintaining an asset inventory, the best solution is to implement a Mobile Device Management (MDM) solution.
MDM Capabilities:
? Central Management: MDM allows administrators to manage the configurations of all devices from a central console.
? Policy Enforcement: MDM solutions enable the push of security policies and updates to ensure compliance across all managed devices.
? Remote Wipe: In case a device is lost or stolen, MDM provides the capability to remotely wipe the device to protect sensitive data.
? Asset Inventory: MDM maintains an up-to-date inventory of all managed devices, including their configurations and installed applications.
Other options do not provide the same comprehensive capabilities required for managing specialized endpoints.
References:
? CompTIA SecurityX Study Guide
? NIST Special Publication 800-124 Revision 1, "Guidelines for Managing the Security of Mobile Devices in the Enterprise"
? "Mobile Device Management Overview," Gartner Research

NEW QUESTION 30
A security analyst is troubleshooting the reason a specific user is having difficulty accessing company resources The analyst reviews the following information:

User	Source IP	Source location	User assigned location	MFA satisfied?	Sign-in status
SALES1	8.11.4.16	Germany	France	Yes	Blocked
SALES1	8.11.4.16	Germany	France	Yes	Blocked
ACCT1	192.168.4.18	France	France	No	Allowed
SALES1	8.11.4.16	Germany	France	Yes	Blocked
ACCT1	8.11.4.16	Germany	France	Yes	Blocked
SALES2	8.11.4.20	France	France	Yes	Allowed

Which of the following is most likely the cause of the issue?

A. The local network access has been configured to bypass MFA requirements.
B. A network geolocation is being misidentified by the authentication server
C. Administrator access from an alternate location is blocked by company policy
D. Several users have not configured their mobile devices to receive OTP codes

Answer: B

Explanation:
The table shows that the user "SALES1" is consistently blocked despite having met the MFA requirements. The common factor in these blocked attempts is the source IP address (8.11.4.16) being identified as from Germany while the user is assigned to France. This discrepancy suggests that the network geolocation is being misidentified by the authentication server, causing legitimate access attempts to be blocked.
Why Network Geolocation Misidentification?
? Geolocation Accuracy: Authentication systems often use IP geolocation to verify the location of access attempts. Incorrect geolocation data can lead to legitimate requests being denied if they appear to come from unexpected locations.
? Security Policies: Company security policies might block access attempts from certain locations to prevent unauthorized access. If the geolocation is wrong, legitimate users can be inadvertently blocked.
? Consistent Pattern: The user "SALES1" from the IP address 8.11.4.16 is always blocked, indicating a consistent issue with geolocation.
Other options do not align with the pattern observed:
? A. Bypass MFA requirements: MFA is satisfied, so bypassing MFA is not the issue.
? C. Administrator access policy: This is about user access, not specific administrator access.
? D. OTP codes: The user has satisfied MFA, so OTP code configuration is not the issue.
References:
? CompTIA SecurityX Study Guide
? "Geolocation and Authentication," NIST Special Publication 800-63B
? "IP Geolocation Accuracy," Cisco Documentation

NEW QUESTION 32
All organization is concerned about insider threats from employees who have individual access to encrypted material. Which of the following techniques best addresses this issue?

A. SSO with MFA
B. Sating and hashing
C. Account federation with hardware tokens
D. SAE
E. Key splitting

Answer: E

Explanation:
The technique that best addresses the issue of insider threats from employees who have individual access to encrypted material is key splitting. Here??s why:
? Key Splitting: Key splitting involves dividing a cryptographic key into multiple parts and distributing these parts among different individuals or systems. This ensures that no single individual has complete access to the key, thereby mitigating the risk of insider threats.
? Increased Security: By requiring multiple parties to combine their key parts to access encrypted material, key splitting provides an additional layer of security. This approach is particularly useful in environments where sensitive data needs to be protected from unauthorized access by insiders.
? Compliance and Best Practices: Key splitting aligns with best practices and regulatory requirements for handling sensitive information, ensuring that access is tightly controlled and monitored.
? References:
By employing key splitting, organizations can effectively reduce the risk of insider threats and enhance the overall security of encrypted material.

NEW QUESTION 35
A security analyst wants to use lessons learned from a poor incident response to reduce dwell lime in the future The analyst is using the following data points

User	Site visited	HTTP method	Filter status	Traffic status	Alert status
account1	tools.com	GET	Allowed	Allowed	No
admin1	hacking.com	GET	Allowed	Allowed	Yes
account5	payroll.com	GET	Allowed	Allowed	No
account2	p4yr0ll.com	GET	Blocked	Blocked	No
account2	p4yr0ll.com	POST	Blocked	Blocked	No
account2	139.40.29.21	POST	Allowed	Allowed	No
account5	payroll.com	GET	Allowed	Allowed	No

Which of the following would the analyst most likely recommend?

A. Adjusting the SIEM to alert on attempts to visit phishing sites
B. Allowing TRACE method traffic to enable better log correlation
C. Enabling alerting on all suspicious administrator behavior
D. utilizing allow lists on the WAF for all users using GFT methods

Answer: C

Explanation:
In the context of improving incident response and reducing dwell time, the security analyst needs to focus on proactive measures that can quickly detect and alert on potential security breaches. Here??s a detailed analysis of the options provided:
* A. Adjusting the SIEM to alert on attempts to visit phishing sites: While this is a useful measure to prevent phishing attacks, it primarily addresses external threats and doesn??t directly impact dwell time reduction, which focuses on the time a threat remains undetected within a network.
* B. Allowing TRACE method traffic to enable better log correlation: The TRACE method in HTTP is used for debugging purposes, but enabling it can introduce security vulnerabilities. It??s not typically recommended for enhancing security monitoring or incident response.
* C. Enabling alerting on all suspicious administrator behavior: This option directly targets the potential misuse of administrator accounts, which are often high-value targets for attackers. By monitoring and alerting on suspicious activities from admin accounts, the organization can quickly identify and respond to potential breaches, thereby reducing dwell
time significantly. Suspicious behavior could include unusual login times, access to sensitive data not usually accessed by the admin, or any deviation from normal behavior patterns. This proactive monitoring is crucial for quick detection and response, aligning well with best practices in incident response.
* D. Utilizing allow lists on the WAF for all users using GET methods: This measure is aimed at restricting access based on allowed lists, which can be effective in preventing unauthorized access but doesn??t specifically address the need for quick detection and response to internal threats.
References:
? CompTIA SecurityX Study Guide: Emphasizes the importance of monitoring and alerting on admin activities as part of a robust incident response plan.
? NIST Special Publication 800-61 Revision 2, "Computer Security Incident Handling Guide": Highlights best practices for incident response, including the importance of detecting and responding to suspicious activities quickly.
? "Incident Response & Computer Forensics" by Jason T. Luttgens, Matthew Pepe, and Kevin Mandia: Discusses techniques for reducing dwell time through effective monitoring and alerting mechanisms, particularly focusing on privileged account activities.
By focusing on enabling alerting for suspicious administrator behavior, the security analyst addresses a critical area that can help reduce the time a threat goes undetected, thereby improving the overall security posture of the organization.
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NEW QUESTION 37
SIMULATION
A product development team has submitted code snippets for review prior to release. INSTRUCTIONS
Analyze the code snippets, and then select one vulnerability, and one fix for each code snippet.
Code Snippet 1

Code Snippet 1 Code Snippet 2

```
Web browser:
URL: https://comptia.org/profiles/userdetails?userid=103



Web server code:
…
String accountQuery = "SELECT * from users WHERE userid = ?";
PreparedStatement stmt = connection.prepareStatement(accountQuery);
stmt.setString(1, request.getParameter("userid"));
ResultSet queryResponse = stmt.executeQuery();
…
```

Code Snippet 2

```
Caller:
URL: https://comptia.org/api/userprofile?userid=103



API endpoint (/searchDirectory):
...
import subprocess
from http.server import HTTPServer, BaseHTTPRequestHandler
httpd = HTTPServer(('192.168.0.5, 8443), BaseHTTPRequestHandler)
httpd.serve_forever()

def get_request(request):
 userId = request.getParam(userid)

 ldapLookup = 'ldapsearch -D "cn=' + userId + '" -W -p 389
                          -h loginserver.comptia.org
                          -b "dc=comptia,dc=org" -s sub -x "(objectclass=*)"'
 accountLookup = subprocess.popen(ldapLookup)

 if (userExists(accountLookup))
     accountFound = true
 else
     accountFound = false
...
```

Vulnerability 1:
? SQL injection
? Cross-site request forgery
? Server-side request forgery
? Indirect object reference
? Cross-site scripting
Fix 1:
? Perform input sanitization of the userid field.
? Perform output encoding of queryResponse,
? Ensure usex:ia belongs to logged-in user.
? Inspect URLS and disallow arbitrary requests.
? Implement anti-forgery tokens.
Vulnerability 2
1) Denial of service
2) Command injection
3) SQL injection
4) Authorization bypass
5) Credentials passed via GET
Fix 2
A) Implement prepared statements and bind variables.
B) Remove the serve_forever instruction.
C) Prevent the "authenticated" value from being overridden by a GET parameter.
D) HTTP POST should be used for sensitive parameters.
E) Perform input sanitization of the userid field.

A. Mastered
B. Not Mastered

Answer: A

Explanation:
Code Snippet 1
Vulnerability 1: SQL injection
SQL injection is a type of attack that exploits a vulnerability in the code that interacts with a database. An attacker can inject malicious SQL commands into the input fields, such as username or password, and execute them on the database server. This can result in data theft, data corruption, or unauthorized access.
Fix 1: Perform input sanitization of the userid field.
Input sanitization is a technique that prevents SQL injection by validating and filtering the user input values before passing them to the database. The input sanitization should remove any special characters, such as quotes, semicolons, or dashes, that can alter the intended SQL query. Alternatively, the input sanitization can use a whitelist of allowed values and reject any other values.
Code Snippet 2
Vulnerability 2: Cross-site request forgery
Cross-site request forgery (CSRF) is a type of attack that exploits a vulnerability in the code that handles web requests. An attacker can trick a user into sending a malicious web request to a server that performs an action on behalf of the user, such as changing their password, transferring funds, or deleting data. This can result in unauthorized actions, data loss, or account compromise.
Fix 2: Implement anti-forgery tokens.
Anti-forgery tokens are techniques that prevent CSRF by adding a unique and secret value to each web request that is generated by the server and verified by the server before performing the action. The anti-forgery token should be different for each user and each session, and should not be predictable or reusable by an attacker. This way, only legitimate web requests from the user??s browser can be accepted by the server.

NEW QUESTION 41
A network engineer must ensure that always-on VPN access is enabled Curt restricted to company assets Which of the following best describes what the engineer needs to do"

A. Generate device certificates using the specific template settings needed
B. Modify signing certificates in order to support IKE version 2
C. Create a wildcard certificate for connections from public networks
D. Add the VPN hostname as a SAN entry on the root certificate

Answer: A

Explanation:
To ensure always-on VPN access is enabled and restricted to company assets, the network engineer needs to generate device certificates using the specific template settings required for the company's VPN solution. These certificates ensure that only authorized devices can establish a VPN connection.
Why Device Certificates are Necessary:
? Authentication: Device certificates authenticate company assets, ensuring that only authorized devices can access the VPN.
? Security: Certificates provide a higher level of security compared to username and password combinations, reducing the risk of unauthorized access.
? Compliance: Certificates help in meeting security policies and compliance requirements by ensuring that only managed devices can connect to the corporate network.
Other options do not provide the same level of control and security for always-on VPN access:
? B. Modify signing certificates for IKE version 2: While important for VPN protocols,
it does not address device-specific authentication.
? C. Create a wildcard certificate: This is not suitable for device-specific authentication and could introduce security risks.
? D. Add the VPN hostname as a SAN entry: This is more related to certificate management and does not ensure device-specific authentication.
References:
? CompTIA SecurityX Study Guide
? "Device Certificates for VPN Access," Cisco Documentation
? NIST Special Publication 800-77, "Guide to IPsec VPNs"

NEW QUESTION 42
An organization is developing on AI-enabled digital worker to help employees complete common tasks such as template development, editing, research, and scheduling. As part of the AI workload the organization wants to Implement guardrails within the platform. Which of the following should the company do to secure the AI environment?

A. Limn the platform's abilities to only non-sensitive functions
B. Enhance the training model's effectiveness.
C. Grant the system the ability to self-govern
D. Require end-user acknowledgement of organizational policies.

Answer: A

Explanation:
Limiting the platform's abilities to only non-sensitive functions helps to mitigate risks associated with AI operations. By ensuring that the AI-enabled digital worker is only allowed to perform tasks that do not involve sensitive or critical data, the organization reduces the potential impact of any security breaches or misuse. Enhancing the training model's effectiveness (Option B) is important but does not directly address security guardrails. Granting the system the ability to self-govern (Option C) could increase risk as it may act beyond the organization's control. Requiring end-user acknowledgement of organizational policies (Option D) is a good practice but does not implement technical guardrails to secure the AI environment.
References:
? CompTIA Security+ Study Guide
? NIST SP 800-53 Rev. 5, "Security and Privacy Controls for Information Systems and Organizations"
? ISO/IEC 27001, "Information Security Management"

NEW QUESTION 43
A company updates its cloud-based services by saving infrastructure code in a remote repository. The code is automatically deployed into the development environment every time the code is saved lo the repository The developers express concern that the deployment often fails, citing minor code issues and occasional security control check failures in the development environment Which of the following should a security engineer recommend to reduce the deployment

failures? (Select two).

A. Software composition analysis
B. Pre-commit code linting
C. Repository branch protection
D. Automated regression testing
E. Code submit authorization workflow
F. Pipeline compliance scanning

Answer: BD

Explanation:
? B. Pre-commit code linting: Linting tools analyze code for syntax errors and adherence to coding standards before the code is committed to the repository. This helps catch minor code issues early in the development process, reducing the likelihood of deployment failures.
? D. Automated regression testing: Automated regression tests ensure that new code changes do not introduce bugs or regressions into the existing codebase. By running these tests automatically during the deployment process, developers can catch issues early and ensure the stability of the development environment.
Other options:
? A. Software composition analysis: This helps identify vulnerabilities in third-party components but does not directly address code quality or deployment failures.
? C. Repository branch protection: While this can help manage the code submission process, it does not directly prevent deployment failures caused by code issues or security check failures.
? E. Code submit authorization workflow: This manages who can submit code but does not address the quality of the code being submitted.
? F. Pipeline compliance scanning: This checks for compliance with security policies but does not address syntax or regression issues.
References:
? CompTIA Security+ Study Guide
? "Continuous Integration and Continuous Delivery" by Jez Humble and David Farley
? OWASP (Open Web Application Security Project) guidelines on secure coding practices

NEW QUESTION 44
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