

# CompTIA

## Exam Questions CS0-003

CompTIA CySA+ Certification Beta Exam



**NEW QUESTION 1**

A security analyst recently joined the team and is trying to determine which scripting language is being used in a production script to determine if it is malicious. Given the following script:

```
foreach ($user in Get-Content .\this.txt)
{
    Get-ADUser $user -Properties primaryGroupID |select-object primaryGroupID
    Add-ADGroupMember "Domain Users" -Members $user
    Set-ADUser $user -Replace @{primaryGroupID=513}
}
```

Which of the following scripting languages was used in the script?

- A. PowerShell
- B. Ruby
- C. Python
- D. Shell script

**Answer: A**

**Explanation:**

The script uses PowerShell syntax, such as cmdlets, parameters, variables, and comments. PowerShell is a scripting language that can be used to automate tasks and manage systems.

**NEW QUESTION 2**

A technician is analyzing output from a popular network mapping tool for a PCI audit:

```
PORT STATE SERVICE VERSION
22/tcp open  ssh Cisco SSH 1.25 (protocol 2.0)
443/tcp open  ssl/http OpenResty web app server
|_http-server-header: openresty
|_ssl-enum-ciphers:
| TLSv1.1:
| ciphers:
| TLS_RSA_WITH_AES_128_CBC_SHA (rsa 2048) - F
| TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA (secp256r1) - F
| compressors:
| NULL
| cipher preference: server
| warnings:
| Insecure certificate signature (SHA1), score capped at F
| TLSv1.2:
| ciphers:
| TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256 (secp256r1) - F
| TLS_ECDHE_RSA_WITH_AES_256_GCM_SHA384 (secp256r1) - F
| TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA384 (secp256r1) - F
| TLS_RSA_WITH_AES_256_CBC_SHA256 (rsa 2048) - F
| TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA256 (secp256r1) - F
| TLS_RSA_WITH_AES_256_GCM_SHA384 (rsa 2048) - F
| TLS_RSA_WITH_AES_128_GCM_SHA256 (rsa 2048) - F
| TLS_RSA_WITH_AES_128_CBC_SHA256 (rsa 2048) - F
| TLS_RSA_WITH_AES_128_CBC_SHA (rsa 2048) - F
| TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA (secp256r1) - F
| compressors:
| NULL
| cipher preference: server
| warnings:
| Insecure certificate signature (SHA1), score capped at F
|_ least strength: F
```

Which of the following best describes the output?

- A. The host is not up or responding.
- B. The host is running excessive cipher suites.
- C. The host is allowing insecure cipher suites.
- D. The Secure Shell port on this host is closed

**Answer: C**

**Explanation:**

The output shows the result of running the ssl-enum-ciphers script with Nmap, which is a tool that can scan web servers for supported SSL/TLS cipher suites. Cipher suites are combinations of cryptographic algorithms that are used to establish secure communication between a client and a server. The output shows the cipher suites that are supported by the server, along with a letter grade (A through F) indicating the strength of the connection. The output also shows the least strength, which is the strength of the weakest cipher offered by the server. In this case, the least strength is F, which means that the server is allowing insecure cipher suites that are vulnerable to attacks or have been deprecated. For example, the output shows that the server supports SSLv3, which is an outdated and insecure protocol that is susceptible to the POODLE attack. The output also shows that the server supports RC4, which is a weak and broken stream cipher that should not be used. Therefore, the best description of the output is that the host is allowing insecure cipher suites. The other descriptions are not accurate, as they do not reflect what the output shows. The host is not up or responding is incorrect, as the output clearly shows that the host is up and responding to the scan. The host is running excessive cipher suites is incorrect, as the output does not indicate how many cipher suites the host is running, only which ones it supports. The Secure Shell port on this host is closed is incorrect, as the output does not show anything about port 22, which is the default port for Secure Shell (SSH). The output only shows information about port 443, which is the default port for HTTPS.

**NEW QUESTION 3**

A malicious actor has gained access to an internal network by means of social engineering. The actor does not want to lose access in order to continue the attack. Which of the following best describes the current stage of the Cyber Kill Chain that the threat actor is currently operating in?

- A. Weaponization
- B. Reconnaissance
- C. Delivery
- D. Exploitation

**Answer: D**

**Explanation:**

The Cyber Kill Chain is a framework that describes the stages of a cyberattack from reconnaissance to actions on objectives. The exploitation stage is where attackers take advantage of the vulnerabilities they have discovered in previous stages to further infiltrate a target's network and achieve their objectives. In this case, the malicious actor has gained access to an internal network by means of social engineering and does not want to lose access in order to continue the attack. This indicates that the actor is in the exploitation stage of the Cyber Kill Chain. Official References:  
<https://www.lockheedmartin.com/en-us/capabilities/cyber/cyber-kill-chain.html>

**NEW QUESTION 4**

A new cybersecurity analyst is tasked with creating an executive briefing on possible threats to the organization. Which of the following will produce the data needed for the briefing?

- A. Firewall logs
- B. Indicators of compromise
- C. Risk assessment
- D. Access control lists

**Answer: B**

**Explanation:**

Indicators of compromise (IoCs) are pieces of data or evidence that suggest a system or network has been compromised by an attacker or malware. IoCs can include IP addresses, domain names, URLs, file hashes, registry keys, network traffic patterns, user behaviors, or system anomalies. IoCs can be used to detect, analyze, and respond to security incidents, as well as to share threat intelligence with other organizations or authorities. IoCs can produce the data needed for an executive briefing on possible threats to the organization, as they can provide information on the source, nature, scope, impact, and mitigation of the threats.

**NEW QUESTION 5**

Which of the following would help an analyst to quickly find out whether the IP address in a SIEM alert is a known-malicious IP address?

- A. Join an information sharing and analysis center specific to the company's industry.
- B. Upload threat intelligence to the IPS in STIX/TAXII format.
- C. Add data enrichment for IPS in the ingestion pipeline.
- D. Review threat feeds after viewing the SIEM alert.

**Answer: C**

**Explanation:**

The best option to quickly find out whether the IP address in a SIEM alert is a known-malicious IP address is C. Add data enrichment for IPS in the ingestion pipeline.

Data enrichment is the process of adding more information and context to raw data, such as IP addresses, by using external sources. Data enrichment can help analysts to gain more insights into the nature and origin of the threats they face, and to prioritize and respond to them accordingly. Data enrichment for IPS (Intrusion Prevention System) means that the IPS can use enriched data to block or alert on malicious traffic based on various criteria, such as geolocation, reputation, threat intelligence, or behavior. By adding data enrichment for IPS in the ingestion pipeline, analysts can leverage the IPS's capabilities to filter out known-malicious IP addresses before they reach the SIEM, or to tag them with relevant information for further analysis. This can save time and resources for the analysts, and improve the accuracy and efficiency of the SIEM.

The other options are not as effective or efficient as data enrichment for IPS in the ingestion pipeline. Joining an information sharing and analysis center (ISAC) specific to the company's industry (A) can provide valuable threat intelligence and best practices, but it may not be timely or comprehensive enough to cover all possible malicious IP addresses. Uploading threat intelligence to the IPS in STIX/TAXII format (B) can help the IPS to identify and block malicious IP addresses based on standardized indicators of compromise, but it may require manual or periodic updates and integration with the SIEM. Reviewing threat feeds after viewing the SIEM alert (D) can help analysts to verify and contextualize the malicious IP addresses, but it may be too late or too slow to prevent or mitigate the damage. Therefore, C is the best option among the choices given.

**NEW QUESTION 6**

The security team reviews a web server for XSS and runs the following Nmap scan:

```
#nmap -p80 --script http-unsafe-output-escaping 172.31.15.2
```

```
PORT      STATE  SERVICE REASON
80/tcp    open   http    syn-ack
| http-unsafe-output-escaping:
|_ Characters [> " '] reflected in parameter id at
http://172.31.15.2/1.php?id=2
```

Which of the following most accurately describes the result of the scan?

- A. An output of characters > and " as the parameters used in the attempt
- B. The vulnerable parameter ID `http://172.31.15.2/1.php?id=2` and unfiltered characters returned
- C. The vulnerable parameter and unfiltered or encoded characters passed > and " as unsafe
- D. The vulnerable parameter and characters > and " with a reflected XSS attempt

**Answer:** D

**Explanation:**

A cross-site scripting (XSS) attack is a type of web application attack that injects malicious code into a web page that is then executed by the browser of a victim user. A reflected XSS attack is a type of XSS attack where the malicious code is embedded in a URL or a form parameter that is sent to the web server and then reflected back to the user's browser. In this case, the Nmap scan shows that the web server is vulnerable to a reflected XSS attack, as it returns the characters > and " without any filtering or encoding. The vulnerable parameter is id in the URL `http://172.31.15.2/1.php?id=2`.

**NEW QUESTION 7**

A security analyst is writing a shell script to identify IP addresses from the same country. Which of the following functions would help the analyst achieve the objective?

- A. `function w() { info=$(ping -c 1 $1 | awk -F "/" 'END{print $1}') && echo "$1 | $info" }`
- B. `function x() { info=$(geoplookup $1) && echo "$1 | $info" }`
- C. `function y() { info=$(dig -x $1 | grep PTR | tail -n 1) && echo "$1 | $info" }`
- D. `function z() { info=$(traceroute -m 40 $1 | awk 'END{print $1}') && echo "$1 | $info" }`

**Answer:** B

**Explanation:**

The function that would help the analyst identify IP addresses from the same country is: `function x() { info=$(geoplookup $1) && echo "$1 | $info" }`  
This function takes an IP address as an argument and uses the `geoplookup` command to get the geographic location information associated with the IP address, such as the country name, country code, region, city, or latitude and longitude. The function then prints the IP address and the geographic location information, which can help identify any IP addresses that belong to the same country.

**NEW QUESTION 8**

A security audit for unsecured network services was conducted, and the following output was generated:

```
#nmap --top-ports 7 192.29.0.5
```

PORT	STATE	SERVICE
21	closed	ftp
22	open	ssh
23	filtered	telnet
636	open	ldaps
1723	open	pptp
443	closed	https
3389	closed	ms-term-server

Which of the following services should the security team investigate further? (Select two).

- A. 21
- B. 22
- C. 23
- D. 636
- E. 1723
- F. 3389

**Answer:** CD

**Explanation:**

The output shows the results of a port scan, which is a technique used to identify open ports and services running on a network host. Port scanning can be used by attackers to discover potential vulnerabilities and exploit them, or by defenders to assess the security posture and configuration of their network devices.  
The output lists six ports that are open on the target host, along with the service name and version associated with each port. The service name indicates the type of application or protocol that is using the port, while the version indicates the specific release or update of the service. The service name and version can provide useful information for both attackers and defenders, as they can reveal the capabilities, features, and weaknesses of the service.  
Among the six ports listed, two are particularly risky and should be investigated further by the security team: port 23 and port 636.  
Port 23 is used by Telnet, which is an old and insecure protocol for remote login and command execution. Telnet does not encrypt any data transmitted over the network, including usernames and passwords, which makes it vulnerable to eavesdropping, interception, and modification by attackers. Telnet also has many known vulnerabilities that can allow attackers to gain unauthorized access, execute arbitrary commands, or cause denial-of-service attacks on the target host.  
Port 636 is used by LDAP over SSL/TLS (LDAPS), which is a protocol for accessing and modifying directory services over a secure connection. LDAPS encrypts the data exchanged between the client and the server using SSL/TLS certificates, which provide authentication, confidentiality, and integrity. However, LDAPS can also be vulnerable to attacks if the certificates are not properly configured, verified, or updated. For example, attackers can use self-signed or expired certificates to perform man-in-the-middle attacks, spoofing attacks, or certificate revocation attacks on LDAPS connections.  
Therefore, the security team should investigate further why port 23 and port 636 are open on the target host, and what services are running on them. The security team should also consider disabling or replacing these services with more secure alternatives, such as SSH for port 23 and StartTLS for port 636.

**NEW QUESTION 9**

The developers recently deployed new code to three web servers. A daffy automated external device scan report shows server vulnerabilities that are failure items according to PCI DSS.

If the vulnerability is not valid, the analyst must take the proper steps to get the scan clean.

If the vulnerability is valid, the analyst must remediate the finding.

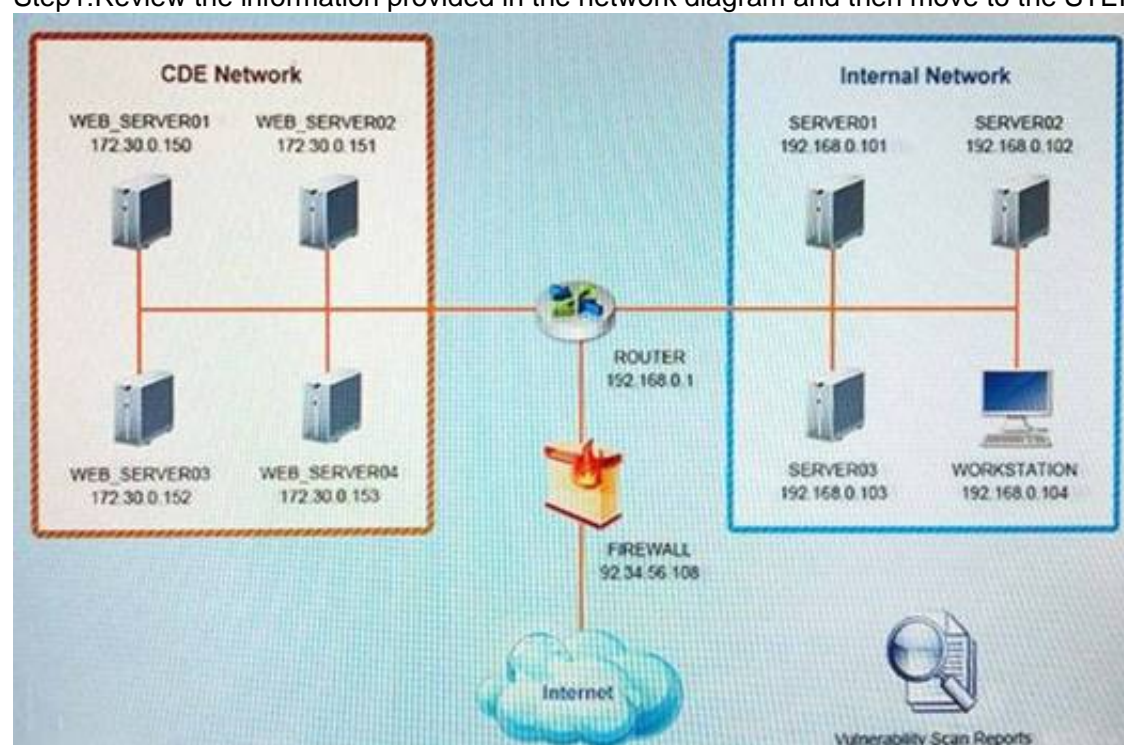
After reviewing the information provided in the network diagram, select the STEP 2 tab to complete the simulation by selecting the correct Validation Result and Remediation Action for each server listed using the drop-down options.

INSTRUCTIONS:



The simulation includes 2 steps.

Step1:Review the information provided in the network diagram and then move to the STEP 2 tab.



### Vulnerability Scan Report

**HIGH SEVERITY**

**Title:** Cleartext Transmission of Sensitive Information

**Description:** The software transmits sensitive or securitycritical data in Cleartext in a communication channel that can be sniffed by authorized users.

**Affected Asset:** 172.30.0.15

**Risk:** Anyone can read the information by gaining access to the channel being used for communication.

**Reference:** CVE-2002-1949

**MEDIUM SEVERITY**

**Title:** Sensitive Cookie in HTTPS session without 'Secure' Attribute

**Description:** The Secure attribute for sensitive cookies in HTTPS sessions is not set, which could cause the use agent to send those cookies in plaintext over HTTP session.

**Affected Asset:** 172.30.0.152

**Risk:** Session Sidejacking

**Reference:** CVE-2004-0462

**LOW SEVERITY**

**Title:** Untrusted SSL/TLS Server X.509 Certificate

**Description:** The server's TLS/SSL certificate is signed by a Certification Authority that is untrusted or unknown.

**Affected Asset:** 172.30.0.153

**Risk:** May allow man-in-the-middle attackers to insert a spoofed certificate for any Distinguished Name (DN).

**Reference:** CVE-2005-1234

STEP 2: Given the Scenario, determine which remediation action is required to address the vulnerability.

#### Network Diagram

#### INSTRUCTIONS

STEP 2: Given the scenario, determine which remediation action is required to address the vulnerability

System	Validate Result	Remediation Action
WEB_SERVER01	<div>False Positive</div> <div>False Negative</div> <div>True Positive</div> <div>True Negative</div>	<div>Encrypt Entire Session</div> <div>Encrypt All Session Cookies</div> <div>Implement Input Validation</div> <div>Submit as Non-Issue</div> <div>Employ Unique Token in Hidden Field</div> <div>Avoid Using Redirects and Forwards</div> <div>Disable HTTP</div> <div>Request Certificate from a Public CA</div> <div>Renew the Current Certificate</div>
WEB_SERVER02	<div>False Positive</div> <div>False Negative</div> <div>True Positive</div> <div>True Negative</div>	<div>Encrypt Entire Session</div> <div>Encrypt All Session Cookies</div> <div>Implement Input Validation</div> <div>Submit as Non-Issue</div> <div>Employ Unique Token in Hidden Field</div> <div>Avoid Using Redirects and Forwards</div> <div>Disable HTTP</div> <div>Request Certificate from a Public CA</div> <div>Renew the Current Certificate</div>
WEB_SERVER03	<div>False Positive</div> <div>False Negative</div> <div>True Positive</div> <div>True Negative</div>	<div>Encrypt Entire Session</div> <div>Encrypt All Session Cookies</div> <div>Implement Input Validation</div> <div>Submit as Non-Issue</div> <div>Employ Unique Token in Hidden Field</div> <div>Avoid Using Redirects and Forwards</div> <div>Disable HTTP</div> <div>Request Certificate from a Public CA</div> <div>Renew the Current Certificate</div>

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

INSTRUCTIONS

STEP 2: Given the scenario, determine which remediation action is required to address the vulnerability.

System	Validate Result	Remediation Action
WEB_SERVER01	<div>True Positive</div>	<div>Encrypt Entire Session</div>
WEB_SERVER02	<div>True Positive</div>	<div>Encrypt All Session Cookies</div>
WEB_SERVER03	<div>True Positive</div>	<div>Request Certificate from a Public CA</div>

NEW QUESTION 10

A security analyst received a malicious binary file to analyze. Which of the following is the best technique to perform the analysis?

- A. Code analysis
- B. Static analysis
- C. Reverse engineering
- D. Fuzzing

Answer: C

Explanation:

Reverse engineering is a technique that involves analyzing a binary file to understand its structure, functionality, and behavior. Reverse engineering can help security analysts perform malware analysis, vulnerability research, exploit development, and software debugging. Reverse engineering can be done using various tools, such as disassemblers, debuggers, decompilers, and hex editors.

NEW QUESTION 10

A security analyst performs a vulnerability scan. Based on the metrics from the scan results, the analyst must prioritize which hosts to patch. The analyst runs the tool and receives the following output:

```
Host    CVE: (Vulnerability Name)  Metrics
----  -
host01 CVE-2003-99992: (TransAtl) DDS:NOA:HVT
host02 CVE-2004-99993: (TjBeP)   DDS:AEX:NOA
host03 CVE-2007-99996:
      (NarrowStairs)           RCE:AEX:HVT
host04 CVE-2009-99998:
      (Topendoor)              UDD:NOA

--- metrics ---
DDS: Denial of service vulnerability
RCE: Remote code execution vulnerability
UDD: Unauthorized disclosure of data vulnerability
AEX: Vulnerability is being exploited actively exploited
NOA: No authentication required
HVT: Host is a high value target
HEX: Host is externally available to public Internet
```

Which of the following hosts should be patched first, based on the metrics?

- A. host01
- B. host02
- C. host03
- D. host04

Answer: C

Explanation:

Host03 should be patched first, based on the metrics, as it has the highest risk score and the highest number of critical vulnerabilities. The risk score is calculated by multiplying the CVSS score by the exposure factor, which is the percentage of systems that are vulnerable to the exploit. Host03 has a risk score of 10 x 0.9 = 9, which is higher than any other host. Host03 also has 5 critical vulnerabilities, which are the most severe and urgent to fix, as they can allow remote code execution, privilege escalation, or data loss. The other hosts have lower risk scores and lower numbers of critical vulnerabilities, so they can be patched later.

NEW QUESTION 12

An organization has experienced a breach of customer transactions. Under the terms of PCI DSS, which of the following groups should the organization report the breach to?

- A. PCI Security Standards Council

- B. Local law enforcement
- C. Federal law enforcement
- D. Card issuer

**Answer:** D

**Explanation:**

Under the terms of PCI DSS, an organization that has experienced a breach of customer transactions should report the breach to the card issuer. The card issuer is the financial institution that issues the payment cards to the customers and that is responsible for authorizing and processing the transactions. The card issuer may have specific reporting requirements and procedures for the organization to follow in the event of a breach. The organization should also notify other parties that may be affected by the breach, such as customers, law enforcement, or regulators, depending on the nature and scope of the breach. Official References: <https://www.pcisecuritystandards.org/>

**NEW QUESTION 17**

A vulnerability management team is unable to patch all vulnerabilities found during their weekly scans. Using the third-party scoring system described below, the team patches the most urgent vulnerabilities:

Metric	Description
Cobain	Exploitable by malware
Grohl	Externally facing
Novo	Exploit PoC available
Smear	Older than 2 years
Channing	Vulnerability research activity

Additionally, the vulnerability management team feels that the metrics Smear and Channing are less important than the others, so these will be lower in priority. Which of the following vulnerabilities should be patched first, given the above third-party scoring system?

- A. InLoud: Cobain: Yes Grohl: No Novo: Yes Smear: Yes Channing: No
- B. TSpirit: Cobain: Yes Grohl: Yes Novo: Yes Smear: No Channing: No
- C. ENameless: Cobain: Yes Grohl: No Novo: Yes Smear: No Channing: No
- D. PBleach: Cobain: Yes Grohl: No Novo: No Smear: No Channing: Yes

**Answer:** B

**Explanation:**

The vulnerability that should be patched first, given the above third-party scoring system, is: TSpirit: Cobain: Yes Grohl: Yes Novo: Yes Smear: No Channing: No This vulnerability has three out of five metrics marked as Yes, which indicates a high severity level. The metrics Cobain, Grohl, and Novo are more important than Smear and Channing, according to the vulnerability management team. Therefore, this vulnerability poses a greater risk than the other vulnerabilities and should be patched first.

**NEW QUESTION 18**

Which of the following would a security analyst most likely use to compare TTPs between different known adversaries of an organization?

- A. MITRE ATTACK
- B. Cyber Kill Cham
- C. OWASP
- D. STIXTAXII

**Answer:** A

**Explanation:**

MITRE ATT&CK is a framework and knowledge base that describes the tactics, techniques, and procedures (TTPs) used by various adversaries in cyberattacks. MITRE ATT&CK can help security analysts compare TTPs between different known adversaries of an organization, as well as identify patterns, gaps, or trends in adversary behavior. MITRE ATT&CK can also help security analysts improve threat detection, analysis, and response capabilities, as well as share threat intelligence with other organizations or communities

**NEW QUESTION 21**

A security analyst is trying to identify possible network addresses from different source networks belonging to the same company and region. Which of the following shell script functions could help achieve the goal?

- A. function w() { a=\$(ping -c 1 \$1 | awk -F "/" 'END{print \$1}') && echo "\$1 | \$a" }
- B. function x() { b=traceroute -m 40 \$1 | awk 'END{print \$1}' && echo "\$1 | \$b" }
- C. function y() { dig \$(dig -x \$1 | grep PTR | tail -n 1 | awk -F ".in-addr" '{print \$1}').origin.asn.cymru.com TXT +short }
- D. function z() { c=\$(geoiplookup \$1) && echo "\$1 | \$c" }

**Answer:** C

**Explanation:**

The shell script function that could help identify possible network addresses from different source networks belonging to the same company and region is:  
function y() { dig \$(dig -x \$1 | grep PTR | tail -n 1 | awk -F ".in-addr" '{print \$1}').origin.asn.cymru.com TXT +short }

This function takes an IP address as an argument and performs two DNS lookups using the dig command. The first lookup uses the -x option to perform a reverse DNS lookup and get the hostname associated with the IP address. The second lookup uses the origin.asn.cymru.com domain to get the autonomous system number (ASN) and other information related to the IP address, such as the country code, registry, or allocation date. The function then prints the IP address and the ASN information, which can help identify any network addresses that belong to the same ASN or region

**NEW QUESTION 23**



Which of the following security operations tasks are ideal for automation?

- A. Suspicious file analysis: Look for suspicious-looking graphics in a folder. Create subfolders in the original folder based on category of graphics found. Move the suspicious graphics to the appropriate subfolder
- B. Firewall IoC block actions: Examine the firewall logs for IoCs from the most recently published zero-day exploit. Take mitigating actions in the firewall to block the behavior found in the logs. Follow up on any false positives that were caused by the block rules
- C. Security application user errors: Search the error logs for signs of users having trouble with the security application. Look up the user's phone number. Call the user to help with any questions about using the application
- D. Email header analysis: Check the email header for a phishing confidence metric greater than or equal to five. Add the domain of sender to the block list. Move the email to quarantine

**Answer: D**

**Explanation:**

Email header analysis is one of the security operations tasks that are ideal for automation. Email header analysis involves checking the email header for various indicators of phishing or spamming attempts, such as sender address spoofing, mismatched domains, suspicious subject lines, or phishing confidence metrics. Email header analysis can be automated using tools or scripts that can parse and analyze email headers and take appropriate actions based on predefined rules or thresholds

**NEW QUESTION 24**

While reviewing web server logs, an analyst notices several entries with the same time stamps, but all contain odd characters in the request line. Which of the following steps should be taken next?

- A. Shut the network down immediately and call the next person in the chain of command.
- B. Determine what attack the odd characters are indicative of
- C. Utilize the correct attack framework and determine what the incident response will consist of.
- D. Notify the local law enforcement for incident response

**Answer: B**

**Explanation:**

Determining what attack the odd characters are indicative of is the next step that should be taken after reviewing web server logs and noticing several entries with the same time stamps, but all contain odd characters in the request line. This step can help the analyst identify the type and severity of the attack, as well as the possible source and motive of the attacker. The odd characters in the request line may indicate that the attacker is trying to exploit a vulnerability or inject malicious code into the web server or application, such as SQL injection, cross-site scripting, buffer overflow, or command injection. The analyst can use tools and techniques such as log analysis, pattern matching, signature detection, or threat intelligence to determine what attack the odd characters are indicative of, and then proceed to the next steps of incident response, such as containment, eradication, recovery, and lessons learned. Official References:

- > <https://partners.comptia.org/docs/default-source/resources/comptia-cysa-cs0-002-exam-objectives>
- > <https://www.comptia.org/certifications/cybersecurity-analyst>
- > <https://www.comptia.org/blog/the-new-comptia-cybersecurity-analyst-your-questions-answered>

**NEW QUESTION 28**

While performing a dynamic analysis of a malicious file, a security analyst notices the memory address changes every time the process runs. Which of the following controls is most likely preventing the analyst from finding the proper memory address of the piece of malicious code?

- A. Address space layout randomization
- B. Data execution prevention
- C. Stack canary
- D. Code obfuscation

**Answer: A**

**Explanation:**

The correct answer is A. Address space layout randomization.

Address space layout randomization (ASLR) is a security control that randomizes the memory address space of a process, making it harder for an attacker to exploit memory-based vulnerabilities, such as buffer overflows<sup>1</sup>. ASLR can also prevent a security analyst from finding the proper memory address of a piece of malicious code, as the memory address changes every time the process runs<sup>2</sup>.

The other options are not the best explanations for why the memory address changes every time the process runs. Data execution prevention (B) is a security control that prevents code from being executed in certain memory regions, such as the stack or the heap<sup>3</sup>. Stack canary © is a security technique that places a random value on the stack before a function's return address, to detect and prevent stack buffer overflows. Code obfuscation (D) is a technique that modifies the source code or binary of a program to make it more difficult to understand or reverse engineer. These techniques do not affect the memory address space of a process, but rather the execution or analysis of the code.

**NEW QUESTION 33**

A user downloads software that contains malware onto a computer that eventually infects numerous other systems. Which of the following has the user become?

- A. Hacklivist
- B. Advanced persistent threat
- C. Insider threat
- D. Script kiddie

**Answer: C**

**Explanation:**

The user has become an insider threat by downloading software that contains malware onto a computer that eventually infects numerous other systems. An insider threat is a person or entity that has legitimate access to an organization's systems, networks, or resources and uses that access to cause harm or damage to the organization. An insider threat can be intentional or unintentional, malicious or negligent, and can result from various actions or behaviors, such as downloading unauthorized software, violating security policies, stealing data, sabotaging systems, or collaborating with external attackers.



**NEW QUESTION 35**

A security analyst must preserve a system hard drive that was involved in a litigation request. Which of the following is the best method to ensure the data on the device is not modified?

- A. Generate a hash value and make a backup image.
- B. Encrypt the device to ensure confidentiality of the data.
- C. Protect the device with a complex password.
- D. Perform a memory scan dump to collect residual data.

**Answer:** A

**Explanation:**

Generating a hash value and making a backup image is the best method to ensure the data on the device is not modified, as it creates a verifiable copy of the original data that can be used for forensic analysis. Encrypting the device, protecting it with a password, or performing a memory scan dump do not prevent the data from being altered or deleted. Verified References: CompTIA CySA+ CS0-002 Certification Study Guide, page 3291

**NEW QUESTION 38**

A security analyst discovers an ongoing ransomware attack while investigating a phishing email. The analyst downloads a copy of the file from the email and isolates the affected workstation from the network. Which of the following activities should the analyst perform next?

- A. Wipe the computer and reinstall software
- B. Shut down the email server and quarantine it from the network.
- C. Acquire a bit-level image of the affected workstation.
- D. Search for other mail users who have received the same file.

**Answer:** D

**Explanation:**

Searching for other mail users who have received the same file is the best activity to perform next, as it helps to identify and contain the scope of the ransomware attack and prevent further damage. Ransomware is a type of malware that encrypts files on a system and demands payment for their decryption. Ransomware can spread through phishing emails that contain malicious attachments or links that download the ransomware. By searching for other mail users who have received the same file, the analyst can alert them not to open it, delete it from their inboxes, and scan their systems for any signs of infection. The other activities are not as urgent or effective as searching for other mail users who have received the same file, as they do not address the immediate threat of ransomware spreading or affecting more systems. Wiping the computer and reinstalling software may restore the functionality of the affected workstation, but it will also erase any evidence of the ransomware attack and make recovery of encrypted files impossible. Shutting down the email server and quarantining it from the network may stop the delivery of more phishing emails, but it will also disrupt normal communication and operations for the organization. Acquiring a bit-level image of the affected workstation may preserve the evidence of the ransomware attack, but it will not help to stop or remove the ransomware or decrypt the files.

**NEW QUESTION 40**

Which of the following describes a contract that is used to define the various levels of maintenance to be provided by an external business vendor in a secure environment?

- A. MOU
- B. NDA
- C. BIA
- D. SLA

**Answer:** D

**Explanation:**

SLA stands for Service Level Agreement, which is a contract that defines the various levels of maintenance to be provided by an external business vendor in a secure environment. An SLA specifies the expectations, responsibilities, and obligations of both parties, such as the scope, quality, availability, and performance of the service, as well as the metrics and methods for measuring and reporting the service level. An SLA also outlines the penalties or remedies for any breach or failure of the service level. An SLA can help ensure that the external business vendor delivers the service in a timely, consistent, and secure manner, and that the customer receives the service that meets their needs and requirements. Official References:

- <https://partners.comptia.org/docs/default-source/resources/comptia-cysa-cs0-002-exam-objectives>
- <https://www.comptia.org/certifications/cybersecurity-analyst>
- <https://www.comptia.org/blog/the-new-comptia-cybersecurity-analyst-your-questions-answered>

**NEW QUESTION 42**

A company is in the process of implementing a vulnerability management program. Which of the following scanning methods should be implemented to minimize the risk of OT/ICS devices malfunctioning due to the vulnerability identification process?

- A. Non-credentialed scanning
- B. Passive scanning
- C. Agent-based scanning
- D. Credentialed scanning

**Answer:** B

**Explanation:**

Passive scanning is a method of vulnerability identification that does not send any packets or probes to the target devices, but rather observes and analyzes the network traffic passively. Passive scanning can minimize the risk of OT/ICS devices malfunctioning due to the vulnerability identification process, as it does not interfere with the normal operation of the devices or cause any network disruption. Passive scanning can also detect vulnerabilities that active scanning may miss, such as misconfigured devices, rogue devices or unauthorized traffic. Official References:

- <https://partners.comptia.org/docs/default-source/resources/comptia-cysa-cs0-002-exam-objectives>
- <https://www.comptia.org/blog/the-new-comptia-cybersecurity-analyst-your-questions-answered>
- <https://www.comptia.org/certifications/cybersecurity-analyst>

**NEW QUESTION 44**

Which of the following describes how a CSIRT lead determines who should be communicated with and when during a security incident?

- A. The lead should review what is documented in the incident response policy or plan
- B. Management level members of the CSIRT should make that decision
- C. The lead has the authority to decide who to communicate with at any time
- D. Subject matter experts on the team should communicate with others within the specified area of expertise

**Answer:** A

**Explanation:**

The incident response policy or plan is a document that defines the roles and responsibilities, procedures and processes, communication and escalation protocols, and reporting and documentation requirements for handling security incidents. The lead should review what is documented in the incident response policy or plan to determine who should be communicated with and when during a security incident, as well as what information should be shared and how. The incident response policy or plan should also be aligned with the organizational policies and legal obligations regarding incident notification and disclosure.

**NEW QUESTION 45**

Which of the following describes the best reason for conducting a root cause analysis?

- A. The root cause analysis ensures that proper timelines were documented.
- B. The root cause analysis allows the incident to be properly documented for reporting.
- C. The root cause analysis develops recommendations to improve the process.
- D. The root cause analysis identifies the contributing items that facilitated the event

**Answer:** D

**Explanation:**

The root cause analysis identifies the contributing items that facilitated the event is the best reason for conducting a root cause analysis, as it reflects the main goal and benefit of this problem-solving approach. A root cause analysis (RCA) is a process of discovering the root causes of problems in order to identify appropriate solutions. A root cause is the core issue or factor that sets in motion the entire cause-and-effect chain that leads to the problem. A root cause analysis assumes that it is more effective to systematically prevent and solve underlying issues rather than just treating symptoms or putting out fires. A root cause analysis can be performed using various methods, tools, and techniques that help to uncover the causes of problems, such as events and causal factor analysis, change analysis, barrier analysis, or fishbone diagrams. A root cause analysis can help to improve quality, performance, safety, or efficiency by finding and eliminating the sources of problems. The other options are not as accurate as the root cause analysis identifies the contributing items that facilitated the event, as they do not capture the essence or value of conducting a root cause analysis. The root cause analysis ensures that proper timelines were documented is a possible outcome or benefit of conducting a root cause analysis, but it is not the best reason for doing so. Documenting timelines can help to establish the sequence of events and actions that led to the problem, but it does not necessarily identify or address the root causes. The root cause analysis allows the incident to be properly documented for reporting is also a possible outcome or benefit of conducting a root cause analysis, but it is not the best reason for doing so. Documenting and reporting incidents can help to communicate and share information about problems and solutions, but it does not necessarily identify or address the root causes. The root cause analysis develops recommendations to improve the process is another possible outcome or benefit of conducting a root cause analysis, but it is not the best reason for doing so. Developing recommendations can help to implement solutions and prevent future problems, but it does not necessarily identify or address the root causes.

**NEW QUESTION 50**

Which of the following threat-modeling procedures is in the OWASP Web Security Testing Guide?

- A. Review Of security requirements
- B. Compliance checks
- C. Decomposing the application
- D. Security by design

**Answer:** C

**Explanation:**

The OWASP Web Security Testing Guide (WSTG) includes a section on threat modeling, which is a structured approach to identify, quantify, and address the security risks associated with an application. The first step in the threat modeling process is decomposing the application, which involves creating use cases, identifying entry points, assets, trust levels, and data flow diagrams for the application. This helps to understand the application and how it interacts with external entities, as well as to identify potential threats and vulnerabilities<sup>1</sup>. The other options are not part of the OWASP WSTG threat modeling process.

**NEW QUESTION 54**

There are several reports of sensitive information being disclosed via file sharing services. The company would like to improve its security posture against this threat. Which of the following security controls would best support the company in this scenario?

- A. Implement step-up authentication for administrators
- B. Improve employee training and awareness
- C. Increase password complexity standards
- D. Deploy mobile device management

**Answer:** B

**Explanation:**

The best security control to implement against sensitive information being disclosed via file sharing services is to improve employee training and awareness. Employee training and awareness can help educate employees on the risks and consequences of using file sharing services for sensitive information, as well as the policies and procedures for handling such information securely and appropriately. Employee training and awareness can also help foster a security culture and encourage employees to report any incidents or violations of information security.

**NEW QUESTION 58**

A security analyst is reviewing the findings of the latest vulnerability report for a company's web application. The web application accepts files for a Bash script to be processed if the files match a given hash. The analyst is able to submit files to the system due to a hash collision. Which of the following should the analyst

suggest to mitigate the vulnerability with the fewest changes to the current script and infrastructure?

- A. Deploy a WAF to the front of the application.
- B. Replace the current MD5 with SHA-256.
- C. Deploy an antivirus application on the hosting system.
- D. Replace the MD5 with digital signatures.

**Answer: B**

**Explanation:**

The correct answer is B. Replace the current MD5 with SHA-256.

The vulnerability that the security analyst is able to exploit is a hash collision, which is a situation where two different files produce the same hash value. Hash collisions can allow an attacker to bypass the integrity or authentication checks that rely on hash values, and submit malicious files to the system. The web application uses MD5, which is a hashing algorithm that is known to be vulnerable to hash collisions. Therefore, the analyst should suggest replacing the current MD5 with SHA-256, which is a more secure and collision-resistant hashing algorithm.

The other options are not the best suggestions to mitigate the vulnerability with the fewest changes to the current script and infrastructure. Deploying a WAF (web application firewall) to the front of the application

(A) may help protect the web application from some common attacks, but it may not prevent hash collisions or detect malicious files. Deploying an antivirus application on the hosting system © may help scan and remove malicious files from the system, but it may not prevent hash collisions or block malicious files from being submitted. Replacing the MD5 with digital signatures (D) may help verify the authenticity and integrity of the files, but it may require significant changes to the current script and infrastructure, as digital signatures involve public-key cryptography and certificate authorities.

**NEW QUESTION 61**

Which of the following is often used to keep the number of alerts to a manageable level when establishing a process to track and analyze violations?

- A. Log retention
- B. Log rotation
- C. Maximum log size
- D. Threshold value

**Answer: D**

**Explanation:**

A threshold value is a parameter that defines the minimum or maximum level of a metric or event that triggers an alert. For example, a threshold value can be set to alert when the number of failed login attempts exceeds 10 in an hour, or when the CPU usage drops below 20% for more than 15 minutes. By setting a threshold value, the process can filter out irrelevant or insignificant alerts and focus on the ones that indicate a potential problem or anomaly. A threshold value can help to reduce the noise and false positives in the alert system, and improve the efficiency and accuracy of the analysis<sup>12</sup>

**NEW QUESTION 63**

A technician identifies a vulnerability on a server and applies a software patch. Which of the following should be the next step in the remediation process?

- A. Testing
- B. Implementation
- C. Validation
- D. Rollback

**Answer: C**

**Explanation:**

The next step in the remediation process after applying a software patch is validation. Validation is a process that involves verifying that the patch has been successfully applied, that it has fixed the vulnerability, and that it has not caused any adverse effects on the system or application functionality or performance. Validation can be done using various methods, such as scanning, testing, monitoring, or auditing.

**NEW QUESTION 67**

Which of the following is the most important factor to ensure accurate incident response reporting?

- A. A well-defined timeline of the events
- B. A guideline for regulatory reporting
- C. Logs from the impacted system
- D. A well-developed executive summary

**Answer: A**

**Explanation:**

A well-defined timeline of the events is the most important factor to ensure accurate incident response reporting, as it provides a clear and chronological account of what happened, when it happened, who was involved, and what actions were taken. A timeline helps to identify the root cause of the incident, the impact and scope of the damage, the effectiveness of the response, and the lessons learned for future improvement. A timeline also helps to communicate the incident to relevant stakeholders, such as management, legal, regulatory, or media entities. The other factors are also important for incident response reporting, but they are not as essential as a well-defined timeline. Official References:

> <https://www.ibm.com/topics/incident-response>

> <https://www.crowdstrike.com/cybersecurity-101/incident-response/incident-response-steps/>

**NEW QUESTION 70**

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