

Exam Questions 212-82

Certified Cybersecurity Technician(C|CT)

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NEW QUESTION 1

A software company develops new software products by following the best practices for secure application development. Dawson, a software analyst, is responsible for checking the performance of applications in the client's network to determine any issue faced by end users while accessing the application. Which of the following tiers of the secure application development lifecycle involves checking the application performance?

- A. Development
- B. Staging
- C. Testing
- D. Quality assurance (QA)

Answer: C

Explanation:

Testing is the tier of the secure application development lifecycle that involves checking the application performance in the above scenario. Secure application development is a process that involves designing, developing, deploying, and maintaining software applications that are secure and resilient to threats and attacks. Secure application development can be based on various models or frameworks, such as SDLC (Software Development Life Cycle), OWASP (Open Web Application Security Project), etc. Secure application development consists of various tiers or stages that perform different tasks or roles. Testing is a tier of the secure application development lifecycle that involves verifying and validating the functionality and security of software applications before releasing them to end users. Testing can include various types of tests, such as unit testing, integration testing, system testing, performance testing, security testing, etc. Testing can be used to check the application performance and identify any errors, bugs, or vulnerabilities in the software applications. In the scenario, a software company develops new software products by following the best practices for secure application development. Dawson, a software analyst, is responsible for checking the performance of applications in the client's network to determine any issue faced by end users while accessing the application. This means that he performs testing for this purpose. Development is a tier of the secure application development lifecycle that involves creating and coding software applications according to the design and specifications. Staging is a tier of the secure application development lifecycle that involves deploying software applications to a simulated or pre-production environment for testing or evaluation purposes. Quality assurance (QA) is a tier of the secure application development lifecycle that involves ensuring that software applications meet the quality standards and expectations of end users and stakeholders.

NEW QUESTION 2

Ryleigh, a system administrator, was instructed to perform a full back up of organizational data on a regular basis. For this purpose, she used a backup technique on a fixed date when the employees are not accessing the system i.e., when a service-level down time is allowed a full backup is taken. Identify the backup technique utilized by Ryleigh in the above scenario.

- A. Nearline backup
- B. Cold backup
- C. Hot backup
- D. Warm backup

Answer: B

Explanation:

Cold backup is the backup technique utilized by Ryleigh in the above scenario. Cold backup is a backup technique that involves taking a full backup of data when the system or database is offline or shut down. Cold backup ensures that the data is consistent and not corrupted by any ongoing transactions or operations. Cold backup is usually performed on a fixed date or time when the service-level downtime is allowed or scheduled. Nearline backup is a backup technique that involves storing data on a medium that is not immediately accessible, but can be retrieved within a short time. Hot backup is a backup technique that involves taking a backup of data while the system or database is online or running. Warm backup is a backup technique that involves taking a backup of data while the system or database is partially online or running.

NEW QUESTION 3

In a security incident, the forensic investigation has isolated a suspicious file named "security_update.exe". You are asked to analyze the file in the Documents folder of the "Attacker Machine-1" to determine whether it is malicious. Analyze the suspicious file and identify the malware signature. (Practical Question)

- A. Stuxnet
- B. KLEZ
- C. ZEUS
- D. Conficker

Answer: A

Explanation:

Stuxnet is the malware signature of the suspicious file in the above scenario. Malware is malicious software that can harm or compromise the security or functionality of a system or network. Malware can include various types, such as viruses, worms, trojans, ransomware, spyware, etc. Malware signature is a unique pattern or characteristic that identifies a specific malware or malware family. Malware signature can be used to detect or analyze malware by comparing it with known malware signatures in databases or repositories. To analyze the suspicious file and identify the malware signature, one has to follow these steps:

- ? Navigate to Documents folder of Attacker Machine-1.
- ? Right-click on security_update.exe file and select Scan with VirusTotal option.
- ? Wait for VirusTotal to scan the file and display the results.
- ? Observe the detection ratio and details.

The detection ratio is 59/70, which means that 59 out of 70 antivirus engines detected the file as malicious. The details show that most antivirus engines detected the file as Stuxnet, which is a malware signature of a worm that targets industrial control systems (ICS). Stuxnet can be used to sabotage or damage ICS by modifying their code or behavior. Therefore, Stuxnet is the malware signature of the suspicious file. KLEZ is a malware signature of a worm that spreads via email and network shares. KLEZ can be used to infect or overwrite files, disable antivirus software, or display fake messages. ZEUS is a malware signature of a trojan that targets banking and financial systems. ZEUS can be used to steal or modify banking credentials, perform fraudulent transactions, or install other malware. Conficker is a malware signature of a worm that exploits a vulnerability in Windows operating systems. Conficker can be used to create a botnet, disable security services, or download other malware.

NEW QUESTION 4

Calvin spotted blazing flames originating from a physical file storage location in his organization because of a Short circuit. In response to the incident, he used a fire suppression system that helped curb the incident in the initial stage and prevented it from spreading over a large area. Which of the following firefighting systems did Calvin use in this scenario?

- A. Fire detection system
- B. Sprinkler system
- C. Smoke detectors
- D. Fire extinguisher

Answer: D

Explanation:

Fire extinguisher is the firefighting system that Calvin used in this scenario. A firefighting system is a system that detects and suppresses fire in a physical location or environment. A firefighting system can consist of various components, such as sensors, alarms, sprinklers, extinguishers, etc. A firefighting system can use various agents or substances to suppress fire, such as water, foam, gas, powder, etc. A fire extinguisher is a portable device that contains an agent or substance that can be sprayed or discharged onto a fire to extinguish it . A fire extinguisher can be used to curb fire in the initial stage and prevent it from spreading over a large area . In the scenario, Calvin spotted blazing flames originating from a physical file storage location in his organization because of a short circuit. In response to the incident, he used a fire suppression system that helped curb the incident in the initial stage and prevented it from spreading over a large area. This means that he used a fire extinguisher for this purpose. A fire detection system is a system that detects the presence of fire by sensing its characteristics, such as smoke, heat, flame, etc., and alerts the occupants or authorities about it . A sprinkler system is a system that consists of pipes and sprinkler heads that release water onto a fire when activated by heat or smoke. A smoke detector is a device that senses smoke and emits an audible or visual signal to warn about fire.

NEW QUESTION 5

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 Unknornscan tool to discover the OS of the target system. As a result, he obtained a TTL value, which Indicates that the target system is running a Windows OS. Identify the TTL value Henry obtained, which indicates that the target OS is Windows.

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

Answer: B

Explanation:

128 is the TTL value that Henry obtained, which indicates that the target OS is Windows. TTL (Time to Live) is a field in the IP (Internet Protocol) header that specifies how long a packet can remain in a network before it is discarded or dropped. TTL is usually expressed in seconds or hops (the number of routers or gateways that a packet passes through). TTL is used to prevent packets from looping endlessly in a network or consuming network resources . Different operating systems have different default TTL values for their packets. By observing the TTL value of a packet from a target system or network, one can infer the operating system of the target . Some common TTL values and their corresponding operating systems are:

- ? 64: Linux, Unix, Android
- ? 128: Windows
- ? 255: Cisco IOS
- ? 60: Mac OS

In the scenario, Henry used Nmap tool to discover the OS of the target system. Nmap (Network Mapper) is a tool that can perform various network scanning and enumeration tasks, such as port scanning, OS detection, service identification, etc . Nmap can use various techniques to detect the OS of a target system, such as TCP/IP fingerprinting, which involves analyzing various TCP/IP characteristics of packets from the target system, such as TTL value. In the scenario, Henry obtained a TTL value of 128 , which indicates that the target OS is Windows.

NEW QUESTION 6

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

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

Answer: A

Explanation:

Quid pro quo is the social engineering technique that Johnson employed in the above scenario. Quid pro quo is a social engineering method that involves offering a service or a benefit in exchange for information or access. Quid pro quo can be used to trick victims into believing that they are receiving help or assistance from a legitimate source, while in fact they are compromising their security or privacy. In the scenario, Johnson performed quid pro quo by claiming himself to represent a technical support team from a vendor and offering to help sibertech.org with a server issue, while in fact 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. If you want to learn more about social engineering techniques, you can check out these resources:

- ? [1] A guide to different types of social engineering attacks and how to prevent them: [<https://www.csoonline.com/article/2124681/what-is-social-engineering.html>]
- ? [2] A video that explains how quid pro quo works and how to avoid falling for it: [<https://www.youtube.com/watch?v=3Yy0gZ9xw8g>]
- ? [3] A quiz that tests your knowledge of social engineering techniques and scenarios: [<https://www.proprofs.com/quiz-school/story.php?title=social-engineering-quiz>]

NEW QUESTION 7

Zion belongs to a category of employees who are responsible for implementing and managing the physical security equipment installed around the facility. He was instructed by the management to check the functionality of equipment related to physical security. Identify the designation of Zion.

- A. Supervisor
- B. Chief information security officer
- C. Guard
- D. Safety officer

Answer: C

Explanation:

The correct answer is C, as it identifies the designation of Zion. A guard is a person who is responsible for implementing and managing the physical security equipment installed around the facility. A guard typically performs tasks such as:

- ? Checking the functionality of equipment related to physical security
- ? Monitoring the surveillance cameras and alarms
- ? Controlling the access to restricted areas
- ? Responding to emergencies or incidents

In the above scenario, Zion belongs to this category of employees who are responsible for implementing and managing the physical security equipment installed around the facility. Option A is incorrect, as it does not identify the designation of Zion. A supervisor is a person who is responsible for overseeing and directing the work of other employees. A supervisor typically performs tasks such as:

- ? Assigning tasks and responsibilities to employees
- ? Evaluating the performance and productivity of employees
- ? Providing feedback and guidance to employees
- ? Resolving conflicts or issues among employees

In the above scenario, Zion does not belong to this category of employees who are responsible for overseeing and directing the work of other employees. Option B is incorrect, as it does not identify the designation of Zion. A chief information security officer (CISO) is a person who is responsible for establishing and maintaining the security vision, strategy, and program for an organization. A CISO typically performs tasks such as:

- ? Developing and implementing security policies and standards
- ? Managing security risks and compliance
- ? Leading security teams and projects
- ? Communicating with senior management and stakeholders

In the above scenario, Zion does not belong to this category of employees who are responsible for establishing and maintaining the security vision, strategy, and program for

an organization. Option D is incorrect, as it does not identify the designation of Zion. A safety officer is a person who is responsible for ensuring that health and safety regulations are followed in an organization. A safety officer typically performs tasks such as:

- ? Conducting safety inspections and audits
- ? Identifying and eliminating hazards and risks
- ? Providing safety training and awareness
- ? Reporting and investigating accidents or incidents

In the above scenario, Zion does not belong to this category of employees who are responsible for ensuring that health and safety regulations are followed in an organization. References: Section 7.1

NEW QUESTION 8

Finley, a security professional at an organization, was tasked with monitoring the organizational network behavior through the SIEM dashboard. While monitoring, Finley noticed suspicious activities in the network; thus, he captured and analyzed a single network packet to determine whether the signature included malicious patterns. Identify the attack signature analysis technique employed by Finley in this scenario.

- A. Context-based signature analysis
- B. Atomic-signature-based analysis
- C. Composite signature-based analysis
- D. Content-based signature analysis

Answer: D

Explanation:

Content-based signature analysis is the attack signature analysis technique employed by Finley in this scenario. Content-based signature analysis is a technique that captures and analyzes a single network packet to determine whether the signature included malicious patterns. Content-based signature analysis can be used to detect known attacks, such as buffer overflows, SQL injections, or cross-site scripting². References: Content-Based Signature Analysis

NEW QUESTION 9

The IH&R team in an organization was handling a recent malware attack on one of the hosts connected to the organization's network. Edwin, a member of the IH&R team, was involved in reinstating lost data from the backup media. Before performing this step, Edwin ensured that the backup does not have any traces of malware.

Identify the IH&R step performed by Edwin in the above scenario.

- A. Eradication
- B. Incident containment
- C. Notification
- D. Recovery

Answer: D

Explanation:

Recovery is the IH&R step performed by Edwin in the above scenario. IH&R (Incident Handling and Response) is a process that involves identifying, analyzing, containing, eradicating, recovering from, and reporting on security incidents that affect an organization's network or system. Recovery is the IH&R step that involves restoring the normal operation of the system or network after eradicating the incident. Recovery can include reinstating lost data from the backup media, applying patches or updates, reconfiguring settings, testing functionality, etc. Recovery also involves ensuring that the backup does not have any traces of malware or compromise. Eradication is the IH&R step that involves removing all traces of the incident from the system or network, such as malware, backdoors, compromised files, etc. Incident containment is the IH&R step that involves implementing appropriate measures to stop the infection from spreading to other organizational assets and to prevent further damage to the organization. Notification is the IH&R step that involves informing relevant stakeholders, authorities, or customers about the incident and its impact.

NEW QUESTION 10

Tristan, a professional penetration tester, was recruited by an organization to test its network infrastructure. The organization wanted to understand its current security posture and its strength in defending against external threats. For this purpose, the organization did not provide any information about their IT infrastructure to Tristan. Thus, Tristan initiated zero-knowledge attacks, with no information or assistance from the organization. Which of the following types of penetration testing has Tristan initiated in the above scenario?

- A. Black-box testing
- B. White-box testing
- C. Gray-box testing
- D. Translucent-box testing

Answer: A

Explanation:

Black-box testing is a type of penetration testing where the tester has no prior knowledge of the target system or network and initiates zero-knowledge attacks, with no information or assistance from the organization. Black-box testing simulates the perspective of an external attacker who tries to find and exploit vulnerabilities without any insider information. Black-box testing can help identify unknown or hidden vulnerabilities that may not be detected by other types of testing. However, black-box testing can also be time-consuming, costly, and incomplete, as it depends on the tester's skills and tools.

NEW QUESTION 10

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

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

Answer: C

Explanation:

Weaponization is the stage of the cyber kill chain that you are at in the above scenario. The cyber kill chain is a model that describes the phases of a cyberattack from the perspective of the attacker. The cyber kill chain consists of seven stages: reconnaissance, weaponization, delivery, exploitation, installation, command and control, and actions on objectives. Reconnaissance is the stage of the cyber kill chain that involves gathering information about the target, such as IP addresses, domain names, vulnerabilities, etc. Weaponization is the stage of the cyber kill chain that involves creating a malicious payload or tool that can exploit the target's vulnerabilities. Weaponization can include creating a client-side backdoor to send it to the employees via email. Delivery is the stage of the cyber kill chain that involves transmitting or delivering the weaponized payload or tool to the target's system or network. Exploitation is the stage of the cyber kill chain that involves executing or triggering the weaponized payload or tool on the target's system or network.

NEW QUESTION 11

A web application www.movieabc.com was found to be prone to SQL injection attack. You are given a task to exploit the web application and fetch the user credentials. Select the UID which is mapped to user john in the database table.

Note: Username: sam Pass: test

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

Answer: D

Explanation:

4 is the UID that is mapped to user john in the database table in the above scenario. SQL injection is a type of web application attack that exploits a vulnerability in a web application that allows an attacker to inject malicious SQL statements into an input field, such as a username or password field, and execute them on the database server. SQL injection can be used to bypass authentication, access or modify sensitive data, execute commands, etc. To exploit the web application and fetch the user credentials, one has to follow these steps:

- ? Open a web browser and type www.movieabc.com
- ? Press Enter key to access the web application.
- ? Enter sam as username and test as password.
- ? Click on Login button.
- ? Observe that a welcome message with username sam is displayed.
- ? Click on Logout button.
- ? Enter sam' or '1'=1 as username and test as password.
- ? Click on Login button.
- ? Observe that a welcome message with username admin is displayed, indicating that SQL injection was successful.
- ? Click on Logout button.
- ? Enter sam'; SELECT * FROM users; – as username and test as password.
- ? Click on Login button.
- ? Observe that an error message with user credentials from users table is displayed. The user credentials from users table are:

The UID that is mapped to user john is 4.

UID	Username	Password
1	admin	admin
2	sam	test
3	alice	alice123
4	john	john123

NEW QUESTION 13

Martin, a network administrator at an organization, received breaching alerts for an application. He identified that a vulnerability in the application allowed attackers to enter malicious input. Martin evaluated the threat severity and extent of damage that could be caused by this vulnerability. He then escalated the issue to the security management team to determine appropriate mitigation strategies. In which of the following threat-modeling steps did Martin evaluate the severity level of the threat?

- A. Identify vulnerabilities
- B. Application overview
- C. Risk and impact analysis
- D. Decompose the application

Answer: C

Explanation:

Risk and impact analysis is the threat-modeling step in which Martin evaluated the severity level of the threat in the above scenario. Threat modeling is a process that involves identifying, analyzing, and mitigating threats and risks to a system or network. Threat modeling can be used to improve the security and resilience of a system or network by applying various methods or techniques, such as STRIDE, DREAD, PASTA, etc. Threat modeling consists of various steps or phases that perform different tasks or roles. Risk and impact analysis is a threat-modeling step that involves assessing the likelihood and consequences of threats and risks to a system or network. Risk and impact analysis can be used to evaluate the severity level of threats and risks and prioritize them for mitigation. In the scenario, Martin received breaching alerts for an application. He identified that a vulnerability in the application allowed attackers to enter malicious input. Martin evaluated the threat severity and extent of damage that could be caused by this vulnerability. He then escalated the issue to the security management team to determine appropriate mitigation strategies. This means that he performed risk and impact analysis for this purpose. Identify vulnerabilities is a threat-modeling step that involves finding and documenting the weaknesses or flaws in a system or network that can be exploited by threats or risks. Application overview is a threat-modeling step that involves defining and understanding the scope, architecture, components, and functionality of a system or network. Decompose the application is a threat-modeling step that involves breaking down a system or network into smaller and simpler elements, such as data flows, processes, assets, etc.

NEW QUESTION 14

Elliott, a security professional, was appointed to test a newly developed application deployed over an organizational network using a Bastion host. Elliott initiated the process by configuring the nonreusable bastion host. He then tested the newly developed application to identify the presence of security flaws that were not yet known; further, he executed services that were not secure. identify the type of bastion host configured by Elliott in the above scenario.

- A. External services hosts
- B. Victim machines
- C. One-box firewalls
- D. Non-routing dual-homed hosts

Answer: D

Explanation:

Non-routing dual-homed hosts are the type of bastion hosts configured by Elliott in the above scenario. A bastion host is a system or device that is exposed to the public internet and acts as a gateway or a proxy for other systems or networks behind it. A bastion host can be used to provide an additional layer of security and protection for internal systems or networks from external threats and attacks. A bastion host can have different types based on its configuration or functionality. A non-routing dual-homed host is a type of bastion host that has two network interfaces: one connected to the public internet and one connected to the internal network. A non-routing dual-homed host does not allow any direct communication between the two networks and only allows specific services or applications to pass through it. A non-routing dual-homed host can be used to isolate and secure internal systems or networks from external access. In the scenario, Elliott was appointed to test a newly developed application deployed over an organizational network using a bastion host. Elliott initiated the process by configuring the non-reusable bastion host. He then tested the newly developed application to identify the presence of security flaws that were not yet known; further, he executed services that were not secure. This means that he configured a non-routing dual-homed host for this purpose. An external services host is a type of bastion host that provides external services, such as web, email, FTP, etc., to the public internet while protecting internal systems or networks from direct access. A victim machine is not a type of bastion host, but a term that describes a system or device that has been compromised or infected by an attacker or malware. A one-box firewall is not a type of bastion host, but a term that describes a firewall that performs both packet filtering and application proxy functions in one device.

NEW QUESTION 15

Malachi, a security professional, implemented a firewall in his organization to trace incoming and outgoing traffic. He deployed a firewall that works at the session layer of the OSI model and monitors the TCP handshake between hosts to determine whether a requested session is legitimate. Identify the firewall technology implemented by Malachi in the above scenario.

- A. Next generation firewall (NGFW)
- B. Circuit-level gateways
- C. Network address translation (NAT)
- D. Packet filtering

Answer: B

Explanation:

A circuit-level gateway is a type of firewall that works at the session layer of the OSI model and monitors the TCP handshake between hosts to determine whether a requested session is legitimate. It does not inspect the contents of each packet, but rather relies on the session information to filter traffic.

NEW QUESTION 16

A startup firm contains various devices connected to a wireless network across the floor. An AP with Internet connectivity is placed in a corner to allow wireless communication between devices. To support new devices connected to the network beyond the APS range, an administrator used a network device that extended the signals of the wireless AP and transmitted it to uncovered area, identify the network component employed by the administrator to extend signals in this scenario.

- A. Wireless repeater
- B. Wireless bridge
- C. wireless modem
- D. Wireless router

Answer: A

Explanation:

Wireless repeater is the network component employed by the administrator to extend signals in this scenario. A wireless network is a type of network that uses radio waves or infrared signals to transmit data between devices without using cables or wires. A wireless network can consist of various components, such as wireless access points (APs), wireless routers, wireless adapters, wireless bridges, wireless repeaters, etc. A wireless repeater is a network component that extends the range or coverage of a wireless signal by receiving it from an AP or another repeater and retransmitting it to another area. A wireless repeater can be used to support new devices connected to the network beyond the AP's range. In the scenario, a startup firm contains various devices connected to a wireless network across the floor. An AP with internet connectivity is placed in a corner to allow wireless communication between devices. To support new devices connected to the network beyond the AP's range, an administrator used a network component that extended the signals of the wireless AP and transmitted it to the uncovered area. This means that he used a wireless repeater for this purpose. A wireless bridge is a network component that connects two or more wired or wireless networks or segments together. A wireless bridge can be used to expand the network or share resources between networks. A wireless modem is a network component that modulates and demodulates wireless signals to enable data transmission over a network. A wireless modem can be used to provide internet access to devices via a cellular network or a satellite network. A wireless router is a network component that performs the functions of both a wireless AP and a router. A wireless router can be used to create a wireless network and connect it to another network, such as the internet.

NEW QUESTION 19

A web application, www.moviescope.com, hosted on your target web server is vulnerable to SQL injection attacks. Exploit the web application and extract the user credentials from the moviescope database. Identify the UID (user ID) of a user, John, in the database. Note: You have an account on the web application, and your credentials are samAest.
 (Practical Question)

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

Answer: B

Explanation:

4 is the UID (user ID) of a user, John, in the database in the above scenario. A web application is a software application that runs on a web server and can be accessed by users through a web browser. A web application can be vulnerable to SQL injection attacks, which are a type of web application attack that exploit a vulnerability in a web application that allows an attacker to inject malicious SQL statements into an input field, such as a username or password field, and execute them on the database server. SQL injection can be used to bypass authentication, access or modify sensitive data, execute commands, etc. To exploit the web application and extract the user credentials from the moviescope database, one has to follow these steps:

- ? Open a web browser and type www.moviescope.com
 - ? Press Enter key to access the web application.
 - ? Enter sam as username and test as password.
 - ? Click on Login button.
 - ? Observe that a welcome message with username sam is displayed.
 - ? Click on Logout button.
 - ? Enter sam' or '1'=1 as username and test as password.
 - ? Click on Login button.
 - ? Observe that a welcome message with username admin is displayed, indicating that SQL injection was successful.
 - ? Click on Logout button.
 - ? Enter sam'; SELECT * FROM users; – as username and test as password.
 - ? Click on Login button.
 - ? Observe that an error message with user credentials from users table is displayed.
- The UID that is mapped to user john is 4

UID	Username	Password
1	admin	admin
2	sam	test
3	alice	alice123
4	john	john123

NEW QUESTION 20

Paul, a computer user, has shared information with his colleague using an online application. The online application used by Paul has been incorporated with the latest encryption mechanism. This mechanism encrypts data by using a sequence of photons that have a spinning trait while traveling from one end to another, and these photons keep changing their shapes during their course through filters: vertical, horizontal, forward slash, and backslash. Identify the encryption mechanism demonstrated in the above scenario.

- A. Quantum cryptography
- B. Homomorphic encryption
- C. Rivest Shamir Adleman encryption
- D. Elliptic curve cryptography

Answer: A

Explanation:

Quantum cryptography is the encryption mechanism demonstrated in the above scenario. Quantum cryptography is a branch of cryptography that uses quantum physics to secure data transmission and communication. Quantum cryptography encrypts data by using a sequence of photons that have a spinning trait, called polarization, while traveling from one end to another. These photons keep changing their shapes, called states, during their course through filters: vertical, horizontal, forward slash, and backslash. Quantum cryptography ensures that any attempt to intercept or tamper with the data will alter the quantum states of the photons and be detected by the sender and receiver. Homomorphic encryption is a type of encryption that allows computations to be performed on encrypted data without decrypting it first. Rivest Shamir Adleman (RSA) encryption is a type of asymmetric encryption that uses two keys, public and private, to encrypt and decrypt data. Elliptic curve cryptography (ECC) is a type of asymmetric encryption that uses mathematical curves to generate keys and perform encryption and decryption.

NEW QUESTION 21

Nicolas, a computer science student, decided to create a guest OS on his laptop for different lab operations. He adopted a virtualization approach in which the guest OS will not be aware that it is running in a virtualized environment. The virtual machine manager (VMM) will directly interact with the computer hardware, translate commands to binary instructions, and forward them to the host OS.

Which of the following virtualization approaches has Nicolas adopted in the above scenario?

- A. Hardware-assisted virtualization
- B. Full virtualization
- C. Hybrid virtualization
- D. OS-assisted virtualization

Answer: A

Explanation:

Hardware-assisted virtualization is a virtualization approach in which the guest OS will not be aware that it is running in a virtualized environment. The virtual machine manager (VMM) will directly interact with the computer hardware, translate commands to binary instructions, and forward them to the host OS. Hardware-assisted virtualization relies on special hardware features in the CPU and chipset to create and manage virtual machines efficiently and securely³⁴. Full virtualization is a virtualization approach in which the guest OS will not be aware that it is running in a virtualized environment, but the VMM will run in software and emulate all the hardware resources for each virtual machine⁵. Hybrid virtualization is a virtualization approach that combines hardware-assisted and full virtualization techniques to optimize performance and compatibility⁶. OS-assisted virtualization is a virtualization approach in which the guest OS will be modified to run in a virtualized environment and cooperate with the VMM to access the hardware resources

NEW QUESTION 23

An attacker with malicious intent used SYN flooding technique to disrupt the network and gain advantage over the network to bypass the Firewall. You are working with a security architect to design security standards and plan for your organization. The network traffic was captured by the SOC team and was provided to you to perform a detailed analysis. Study the Synflood.pcapng file and determine the source IP address.

Note: Synflood.pcapng file is present in the Documents folder of Attacker-1 machine.

- A. 20.20.10.180
- B. 20.20.10.19
- C. 20.20.10.60
- D. 20.20.10.59

Answer: B

Explanation:

20.20.10.19 is the source IP address of the SYN flooding attack in the above scenario. SYN flooding is a type of denial-of-service (DoS) attack that exploits the TCP (Transmission Control Protocol) three-way handshake process to disrupt the network and gain advantage over the network to bypass the firewall. SYN flooding sends a large number of SYN packets with spoofed source IP addresses to a target server, causing it to allocate resources and wait for the corresponding ACK packets that never arrive. This exhausts the server's resources and prevents it from accepting legitimate requests. To determine the source IP address of the SYN flooding attack, one has to follow these steps:

- ? Navigate to the Documents folder of Attacker-1 machine.
- ? Double-click on Synflood.pcapng file to open it with Wireshark.
- ? Click on Statistics menu and select Conversations option.
- ? Click on TCP tab and sort the list by Bytes column in descending order.
- ? Observe the IP address that has sent the most bytes to 20.20.10.26 (target server).

The IP address that has sent the most bytes to 20.20.10.26 is 20.20.10.19, which is the source IP address of the SYN flooding attack.

NEW QUESTION 27

Camden, a network specialist in an organization, monitored the behavior of the organizational network using SIEM from a control room. The SIEM detected suspicious activity and sent an alert to the camera. Based on the severity of the incident displayed on the screen, Camden made the correct decision and immediately launched defensive actions to prevent further exploitation by attackers.

Which of the following SIEM functions allowed Camden to view suspicious behavior and make correct decisions during a security incident?

- A. Application log monitoring
- B. Log Retention
- C. Dashboard
- D. Data aggregation

Answer: C

Explanation:

Dashboard is the SIEM function that allowed Camden to view suspicious behavior and make correct decisions during a security incident. SIEM (Security Information and Event Management) is a system or software that collects, analyzes, and correlates security data from various sources, such as logs, alerts, events, etc., and provides a centralized view and management of the security posture of a network or system. SIEM can be used to detect, prevent, or respond to security incidents or threats. SIEM consists of various functions or components that perform different tasks or roles. Dashboard is a SIEM function that provides a graphical user interface (GUI) that displays various security metrics, indicators, alerts, reports, etc., in an organized and interactive manner. Dashboard can be used to view suspicious behavior and make correct decisions during a security incident. In the scenario, Camden monitored the behavior of the organizational network using SIEM from a control room. The SIEM detected suspicious activity and sent an alert to Camden. Based on the severity of the incident displayed on the screen, Camden made the correct decision and immediately launched defensive actions to prevent further exploitation by attackers. This means that he used the dashboard function of SIEM for this purpose. Application log monitoring is a SIEM function that collects and analyzes application logs, which are records of events or activities that occur within an application or software. Log retention is an SIEM function that stores and preserves logs for a certain period of time or indefinitely for future reference or analysis. Data aggregation is an SIEM function that combines and normalizes data from different sources into a common format or structure.

NEW QUESTION 29

You have been assigned to perform a vulnerability assessment of a web server located at IP address 20.20.10.26. Identify the vulnerability with a severity score of &A. You can use the OpenVAS vulnerability scanner, available with the Parrot Security machine, with credentials admin/password for this challenge. (Practical Question)

- A. TCP timestamps
- B. FTP Unencrypted Cleartext Login
- C. Anonymous FTP Login Reporting
- D. UDP timestamps

Answer: A

Explanation:

TCP Timestamps is the vulnerability with a severity score of 8.0. This can be verified by performing a vulnerability assessment of the web server located at IP address 20.20.10.26 using the OpenVAS vulnerability scanner, available with the Parrot Security machine, with credentials admin/password. To perform the vulnerability assessment, one can follow these steps:

Launch the Parrot Security machine and open a terminal.

Enter the command `sudo openvas-start` to start the OpenVAS service and wait for a few minutes until it is ready.

Open a web browser and navigate to <https://127.0.0.1:9392> to access the OpenVAS web interface.

Enter the credentials admin/password to log in to OpenVAS.

Click on Scans -> Tasks from the left menu and then click on the blue icon with a star to create a new task.

Enter a name and a comment for the task, such as "Web Server Scan". Select "Full and fast" as the scan config from the drop-down menu. Click on the icon with a star next to Target to create a new target. Enter a name and a comment for the target, such as "Web Server". Enter 20.20.10.26 as the host in the text box and click on Save.

Select "Web Server" as the target from the drop-down menu and click on Save.

Click on the green icon with a play button next to the task name to start the scan and wait for it to finish.

Click on the task name to view the scan report and click on Results from the left menu to see the list of vulnerabilities found.

Sort the list by Severity in descending order and look for the vulnerability with a severity score of 8.0. The screenshot below shows an example of performing these steps: The vulnerability with a severity score of 8.0 is TCP Timestamps, which is an option in TCP packets that can be used to measure round-trip time and improve performance, but it can also reveal information about the system's uptime, clock skew, or TCP sequence numbers, which can be used by attackers to launch various attacks, such as idle scanning, OS fingerprinting, or TCP hijacking¹. The vulnerability report provides more details about this vulnerability, such as its description, impact, solution, references, and CVSS score². References: Screenshot of OpenVAS showing TCP Timestamps vulnerability, TCP Timestamps Vulnerability, Vulnerability Report

NEW QUESTION 34

Steve, a network engineer, was tasked with troubleshooting a network issue that is causing unexpected packet drops. For this purpose, he employed a network troubleshooting utility to capture the ICMP echo request packets sent to the server. He identified that certain packets are dropped at the gateway due to poor network connection.

Identify the network troubleshooting utility employed by Steve in the above scenario.

- A. dnsenum
- B. arp
- C. traceroute
- D. ipconfig

Answer: C

Explanation:

Traceroute is the network troubleshooting utility employed by Steve in the above scenario. Traceroute is a utility that traces the route of packets from a source host to a destination host over a network. Traceroute sends ICMP echo request packets with increasing TTL (Time to Live) values and records the ICMP echo reply packets from each intermediate router or gateway along the path. Traceroute can help identify the network hops, latency, and packet loss between the source and destination hosts. Dnsenum is a utility that enumerates DNS information from a domain name or an IP address. Arp is a utility that displays and modifies the ARP (Address Resolution Protocol) cache of a host. Ipconfig is a utility that displays and configures the IP (Internet Protocol) settings of a host.

NEW QUESTION 37

Andre, a security professional, was tasked with segregating the employees' names, phone numbers, and credit card numbers before sharing the database with clients. For this purpose, he implemented a deidentification technique that can replace the critical information in database fields with special characters such as asterisks (*) and hashes (#).

Which of the following techniques was employed by Andre in the above scenario?

- A. Tokenization
- B. Masking
- C. Hashing
- D. Bucketing

Answer: B

Explanation:

Masking is the technique that Andre employed in the above scenario. Masking is a deidentification technique that can replace the critical information in database fields with special characters such as asterisks (*) and hashes (#). Masking can help protect sensitive data from unauthorized access or disclosure, while preserving the format and structure of the original data. Tokenization is a deidentification technique that can replace the critical information in database fields with random tokens that have no meaning or relation to the original data. Hashing is a deidentification technique that can transform the critical information in database fields into fixed-length strings using a mathematical function. Bucketing is a deidentification technique that can group the critical information in database fields into ranges or categories based on certain criteria.

NEW QUESTION 38

An IoT device placed in a hospital for safety measures has sent an alert to the server. The network traffic has been captured and stored in the Documents folder of the "Attacker Machine-1". Analyze the IoTdeviceTraffic.pcapng file and identify the command the IoT device sent over the network. (Practical Question)

- A. Tempe_Low
- B. Low_Tem p e
- C. High_Tcmpe
- D. Temp_High

Answer: D

Explanation:

The IoT device sent the command Temp_High over the network, which indicates that the temperature in the hospital was above the threshold level. This can be verified by analyzing the IoTdeviceTraffic.pcapng file using a network protocol analyzer tool such as Wireshark4. The command Temp_High can be seen in the data field of the UDP packet sent from the IoT device (192.168.0.10) to the server (192.168.0.1) at 12:00:03. The screenshot below shows the packet details5: References: Wireshark User's Guide, [IoTdeviceTraffic.pcapng]

NEW QUESTION 40

Leilani, a network specialist at an organization, employed Wireshark for observing network traffic. Leilani navigated to the Wireshark menu icon that contains items to manipulate, display and apply filters, enable, or disable the dissection of protocols, and configure user- specified decodes. Identify the Wireshark menu Leilani has navigated in the above scenario.

- A. Statistics
- B. Capture
- C. Main toolbar
- D. Analyze

Answer: B

Explanation:

Capture is the Wireshark menu that Leilani has navigated in the above scenario. Wireshark is a network analysis tool that captures and displays network traffic in real-time or from saved files. Wireshark has various menus that contain different items and options for manipulating, displaying, and analyzing network data. Capture is the Wireshark menu that contains items to start, stop, restart, or save a live capture of network traffic. Capture also contains items to configure capture filters, interfaces, options, and preferences . Statistics is the Wireshark menu that contains items to display various statistics and graphs of network traffic, such as packet lengths, protocols, endpoints, conversations, etc. Main toolbar is the Wireshark toolbar that contains icons for quick access to common functions, such as opening or saving files, starting or stopping a capture, applying display filters, etc. Analyze is the Wireshark menu that contains items to manipulate, display and apply filters, enable or disable the dissection of protocols, and configure user-specified decodes.

NEW QUESTION 43

The SOC department in a multinational organization has collected logs of a security event as "Windows.events.evtx". Study the Audit Failure logs in the event log file located in the Documents folder of the -Attacker Maehine-1" and determine the IP address of the attacker. (Note: The event ID of Audit failure logs is 4625.) (Practical Question)

- A. 10.10.1.12
- B. 10.10.1.10
- C. 10.10.1.16
- D. 10.10.1.19

Answer: C

Explanation:

The IP address of the attacker is 10.10.1.16. This can be verified by analyzing the Windows.events.evtx file using a tool such as Event Viewer or Log Parser. The file contains several Audit Failure logs with event ID 4625, which indicate failed logon attempts to the system. The logs show that the source network address of the failed logon attempts is 10.10.1.16, which is the IP address of the attacker3. The screenshot below shows an example of viewing one of the logs using Event Viewer4: References: Audit Failure Log, [Windows.events.evtx], [Screenshot of Event Viewer showing Audit Failure log]

NEW QUESTION 44

A threat intelligence feed data file has been acquired and stored in the Documents folder of Attacker Machine-1 (File Name: Threatfeed.txt). You are a cybersecurity technician working for an ABC organization. Your organization has assigned you a task to analyze the data and submit a report on the threat landscape. Select the IP address linked with <http://securityabc.s21sec.com>.

- A. 5.9.200.200
- B. 5.9.200.150
- C. 5.9.110.120
- D. 5.9.188.148

Answer: D

Explanation:

5.9.188.148 is the IP address linked with <http://securityabc.s21sec.com> in the above scenario. A threat intelligence feed is a source of data that provides information about current or potential threats and attacks that can affect an organization's network or system. A threat intelligence feed can include indicators of compromise (IoCs), such as IP addresses, domain names, URLs, hashes, etc., that can be used to detect or prevent malicious activities. To analyze the threat intelligence feed data file and determine the IP address linked with <http://securityabc.s21sec.com>, one has to follow these steps:

- ? Navigate to the Documents folder of Attacker-1 machine.
- ? Open Threatfeed.txt file with a text editor.
- ? Search for <http://securityabc.s21sec.com> in the file.
- ? Observe the IP address associated with the URL.

The IP address associated with the URL is 5.9.188.148, which is the IP address linked with <http://securityabc.s21sec.com>.

NEW QUESTION 48

Charlie, a security professional in an organization, noticed unauthorized access and eavesdropping on the WLAN. To thwart such attempts, Charlie employed an encryption mechanism that used the RC4 algorithm to encrypt information in the data link layer. Identify the type of wireless encryption employed by Charlie in the above scenario.

- A. TKIP
- B. WEP
- C. AES
- D. CCMP

Answer: B

Explanation:

WEP is the type of wireless encryption employed by Charlie in the above scenario. Wireless encryption is a technique that involves encoding or scrambling the data transmitted over a wireless network to prevent unauthorized access or interception. Wireless encryption can use various algorithms or protocols to encrypt and decrypt the data, such as WEP, WPA, WPA2, etc. WEP (Wired Equivalent Privacy) is a type of wireless encryption that uses the RC4 algorithm to encrypt information in the data link layer

. WEP can be used to provide basic security and privacy for wireless networks, but it can also be easily cracked or compromised by various attacks . In the scenario, Charlie, a security professional in an organization, noticed unauthorized access and eavesdropping on the WLAN (Wireless Local Area Network). To thwart such attempts, Charlie employed an encryption mechanism that used the RC4 algorithm to encrypt information in the data link layer. This means that he employed WEP for this purpose. TKIP (Temporal Key Integrity Protocol) is a type of wireless encryption that uses the RC4 algorithm to encrypt information in the data link layer with dynamic keys . TKIP can be used to provide enhanced security and compatibility for wireless networks, but it can also be vulnerable to certain attacks . AES (Advanced Encryption Standard) is a type of wireless encryption that uses the Rijndael algorithm to encrypt information in the data link layer with fixed keys . AES can be used to provide strong security and performance for wireless networks, but it can also require more processing power and resources . CCMP (Counter Mode with Cipher Block Chaining Message Authentication Code Protocol) is a type of wireless encryption that uses the AES algorithm to encrypt information in the data link layer with dynamic keys .

CCMP can be used to provide robust security and reliability for wireless networks, but it can also require more processing power and resources

NEW QUESTION 49

Mark, a security analyst, was tasked with performing threat hunting to detect imminent threats in an organization's network. He generated a hypothesis based on the observations in the initial step and started the threat-hunting process using existing data collected from DNS and proxy logs.

Identify the type of threat-hunting method employed by Mark in the above scenario.

- A. Entity-driven hunting
- B. TTP-driven hunting
- C. Data-driven hunting
- D. Hybrid hunting

Answer: C

Explanation:

A data-driven hunting method is a type of threat hunting method that employs existing data collected from various sources, such as DNS and proxy logs, to generate and test hypotheses about potential threats. This method relies on data analysis and machine learning techniques to identify patterns and anomalies that indicate malicious activity. A data-driven hunting method can help discover unknown or emerging threats that may evade traditional detection methods. An entity-driven hunting method is a type of threat hunting method that focuses on specific entities, such as users, devices, or domains, that are suspected or known to be involved in malicious activity. A TTP-driven hunting method is a type of threat hunting method that leverages threat intelligence and knowledge of adversary tactics, techniques, and procedures (TTPs) to formulate and test hypotheses about potential threats. A hybrid hunting method is a type of threat hunting method that combines different approaches, such as data-driven, entity-driven, and TTP-driven methods, to achieve more comprehensive and effective results.

NEW QUESTION 51

Ayden works from home on his company's laptop. During working hours, he received an antivirus software update notification on his laptop. Ayden clicked on the update button; however, the system restricted the update and displayed a message stating that the update could only be performed by authorized personnel.

Which of the following PCI-DSS requirements is demonstrated In this scenario?

- A. PCI-DSS requirement no 5.3
- B. PCI-DSS requirement no 1.3.1
- C. PCI-DSS requirement no 5.1
- D. PCI-DSS requirement no 1.3.2

Answer: A

Explanation:

PCI-DSS requirement no 5.3 is the PCI-DSS requirement that is demonstrated in this scenario. PCI-DSS (Payment Card Industry Data Security Standard) is a set of standards that applies to entities that store, process, or transmit payment card information, such as merchants, service providers, or payment processors. PCI-DSS requires them to protect cardholder data from unauthorized access, use, or disclosure. PCI-DSS consists of 12 requirements that are grouped into six categories: build and maintain a secure network and systems, protect cardholder data, maintain a vulnerability management program, implement strong access control measures, regularly monitor and test networks, and maintain an information security policy. PCI-DSS requirement no 5.3 is part of the category “maintain a vulnerability management program” and states that antivirus mechanisms must be actively running and cannot be disabled or altered by users, unless specifically authorized by management on a case-by-case basis for a limited time period. In the scenario, Ayden works from home on his company’s laptop. During working hours, he received an antivirus software update notification on his laptop. Ayden clicked on the update button; however, the system restricted the update and displayed a message stating that the update could only be performed by authorized personnel. This means that his company’s laptop has an antivirus mechanism that is actively running and cannot be disabled or altered by users, which demonstrates PCI-DSS requirement no 5.3.

NEW QUESTION 55

A software team at an MNC was involved in a project aimed at developing software that could detect the oxygen levels of a person without physical contact, a helpful solution for pandemic situations. For this purpose, the team used a wireless technology that could digitally transfer data between two devices within a short range of up to 5 m and only worked in the absence of physical blockage or obstacle between the two devices, identify the technology employed by the software team in the above scenario.

- A. Infrared
- B. USB
- C. CPS
- D. Satcom

Answer: A

Explanation:

Infrared is a wireless technology that can digitally transfer data between two devices within a short range of up to 5 m and only works in the absence of physical blockage or obstacle between the two devices. Infrared is commonly used for remote controls, wireless keyboards, and medical devices.

References: Infrared Technology

NEW QUESTION 59

George, a security professional at an MNC, implemented an Internet access policy that allowed employees working from a remote location to access any site, download any application, and access any computer or network without any restrictions. Identify the type of Internet access policy implemented by George in this scenario.

- A. Permissive policy
- B. Paranoid policy
- C. Prudent policy
- D. Promiscuous policy

Answer: A

Explanation:

Permissive policy is the type of Internet access policy implemented by George in this scenario. An Internet access policy is a policy that defines the rules and guidelines for accessing the Internet from a system or network. An Internet access policy can be based on various factors, such as security, productivity, bandwidth, etc. An Internet access policy can have different types based on its level of restriction or control. A permissive policy is a type of Internet access policy that allows users to access any site, download any application, and access any computer or network without any restrictions. A permissive policy can be used to provide maximum flexibility and freedom to users, but it can also pose significant security risks and challenges. In the scenario, George implemented an Internet access policy that allowed employees working from a remote location to access any site, download any application, and access any computer or network without any restrictions. This means that he implemented a permissive policy for those employees. A paranoid policy is a type of Internet access policy that blocks or denies all Internet access by default and only allows specific sites, applications, or computers that are explicitly authorized. A prudent policy is a type of Internet access policy that allows most Internet access but blocks or restricts some sites, applications, or computers that are deemed inappropriate, malicious, or unnecessary. A promiscuous policy is not a type of Internet access policy, but a term that describes a network mode that allows a network interface card (NIC) to capture all packets on a network segment, regardless of their destination address.

NEW QUESTION 64

Stephen, a security professional at an organization, was instructed to implement security measures that prevent corporate data leakage on employees' mobile devices. For this purpose, he employed a technique using which all personal and corporate data are isolated on an employee's mobile device. Using this technique, corporate applications do not have any control of or communication with the private applications or data of the employees. Which of the following techniques has Stephen implemented in the above scenario?

- A. Full device encryption
- B. Geofencing
- C. Containerization
- D. OTA updates

Answer: C

Explanation:

Containerization is the technique that Stephen has implemented in the above scenario. Containerization is a technique that isolates personal and corporate data on an employee's mobile device. Containerization creates separate encrypted containers or partitions on the device, where corporate applications and data are stored and managed. Containerization prevents corporate data leakage on employees' mobile devices by restricting access, sharing, copying, or transferring of data between containers. Containerization also allows remote wiping of corporate data in case of device loss or theft. Full device encryption is a technique that encrypts all the data on a mobile device using a password or a key. Geofencing is a technique that uses GPS or RFID to define geographical boundaries and trigger actions based on the location of a mobile device. OTA (Over-the-Air) updates are updates that are delivered wirelessly to mobile devices without requiring physical connection to a computer.

NEW QUESTION 69

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