Title of the project :
Enhancing Security Operations: SIEM Qradar & SOC Dashboard Management

Overview :-

1. Implementing SIEM Qradar

SIEM (Security Information and Event Management) solutions like Qradar can provide with a comprehensive view of the organization's security posture and help to detect and respond to security incidents.

2. Integrating Data Sources

To make the most of SIEM Qradar, it is important to integrate various data sources into the platform. This can include firewalls, IDS/IPS systems, antivirus logs, and other security devices. By collecting data from different sources, we can gain a holistic view of the organization's security landscape.

3. Customizing Dashboards

Qradar allows to create customized dashboards that provide real-time visibility into crucial security metrics and events. Tailor these dashboards according to specific requirements, ensuring that we have a clear overview of organization's security posture and any emerging threats.

4. Setting Up Alerts and Notifications

To prevent potential security incidents from going unnoticed, configure alerts and notifications within Qradar system. Determine the thresholds and conditions for generating alerts and ensure that we have appropriate escalation procedures in place to address any identified threats.

5. SOC Dashboard Management

Manage the SOC dashboard effectively by regularly reviewing and fine-tuning it. This includes ensuring that the right metrics and key performance indicators (KPIs) are being tracked, and that the dashboard provides actionable insights to SOC analysts. Regularly update and optimize the dashboard based on the evolving security landscape and organizational requirements.

6. Continuous Monitoring and Analysis

Maintain a proactive approach to security by continuously monitoring and analyzing the data collected by Qradar. This allows us to quickly detect any anomalies or suspicious activities and respond promptly to mitigate potential risks. Use the insights gained from monitoring and analysis to improve wer security operations and strengthen wer organization's defenses.

By following these steps, we can enhance the security operations and effectively manage the SIEM Qradar and SOC dashboard.

List of teammates–

S.No	Name	Collage	Contact
1	G. Ramya	National Engineering College	8637698495

List of Vulnerability Table ☐

S.no	Vulnerability Name	CWE - No
1	172186 - Apache 2.4.x < 2.4.56 Multiple Vulnerabilities	CVE CVE-2023-25690 CVE CVE-2023-27522 XREF IAVA:2023-A-0124
2	Apache 2.4.x < 2.4.55 Multiple Vulnerabilities	IAVA: 2023-A-0047-S CVE: CVE-2006-20001, CVE-2022-36760, CVE-2022-37436
3	cpe:/a:apache:http_server	EDB-ID: 21002 OWASP: OWASP-CM-004 BID: 3009 CVE: CVE-2001-0731

REPORT:-

1. **Vulnerability Name:-**

172186 - Apache 2.4.x < 2.4.56 Multiple Vulnerabilities

CWE :

CWE-444 - Inconsistent Interpretation of HTTP Requests ('HTTP Request/Response Smuggling')

OWASP Category:

Security Misconfiguration

Description:-

Just like misconfigured access controls, more general security configuration errors are huge risks that give attackers quick, easy access to sensitive data and site areas.

2. **Vulnerability Name:**

Apache 2.4.x < 2.4.55 Multiple Vulnerabilities

CWE :

moderate: mod_dav out of bounds read, or write of zero byte (CVE-2006-20001)A carefully crafted If: request header can cause a memory read, or write of a single zero byte, in a pool (heap) memory location beyond the header value sent. This could cause the process to crash.

This issue affects Apache HTTP Server 2.4.54 and earlier.

OWASP Category:

Insufficient Logging and Monitoring

Description:-

Failing to log errors or attacks and poor monitoring practices can introduce a human element to security risks. Threat actors count on a lack of monitoring and

slower remediation times so that they can carry out their attacks before you have time to notice or react.

3. Vulnerability Name:-

cpe:/a:apache:http_server

CWE :

CVE-2001-0731

OWASP Category:

Using Components with Known Vulnerabilities

Description:-

No matter how secure your own code is, attackers can exploit APIs, dependencies and other third-party components if they are not themselves secure.

Detecting vulnerability is the stage 1 where we understand web application testing using Qradar.

Stage 2

Overview of Nessus:

Nessus is a widely used vulnerability assessment tool developed by Tenable Network Security. It is designed to identify and assess vulnerabilities in computer systems, networks, and applications. Nessus helps organizations identify potential security weaknesses in their IT infrastructure by conducting comprehensive scans and providing detailed reports on identified vulnerabilities.

Key features of Nessus include:

1. Vulnerability Scanning: Nessus scans networks, systems, and applications for known vulnerabilities. It uses a vast database of vulnerability checks and plugins to identify security issues.

2. Remote and Local Scanning: Nessus can perform both remote and local vulnerability scans. Remote scans are conducted over the network, while local scans are executed on the target system itself.

3. Compliance Checking: The tool can assess systems against various compliance standards and policies, helping organizations meet regulatory requirements.

4. Customizable Scans: Users can configure scans based on their specific needs, such as targeting certain IP ranges, ports, or specific vulnerabilities.

5. Reporting: Nessus generates detailed reports after each scan, outlining discovered vulnerabilities, their severity levels, and recommendations for mitigation.

6. Risk Assessment: It assigns severity levels (such as high, medium, or low) to vulnerabilities based on their potential impact and likelihood.

7. Continuous Monitoring: Nessus supports continuous monitoring by allowing regular scans to ensure that new vulnerabilities are promptly identified and addressed.

8. Integration: Nessus can integrate with other security tools and platforms, enabling seamless collaboration and remediation.

It's worth noting that software and tools like Nessus constantly evolve, so there might have been updates or changes beyond September 2021. Always refer to the official Nessus documentation or other reliable sources for the latest information on its features and capabilities.

Target website :

www.nec.edu.in (National Engineering College, Kovilpatti, Tamilnadu)

Target ip address:

103.84.178.40

List of vulnerability

S. No.	SEVERITY	CVSS V3.0	VPR SCORE	PLUGIN	NAME
1	Critical	9.8	9.4	172186	Apache 2.4.x < 2.4.56 Multiple Vulnerabilities
2	Critical	9.0	6.5	170113	Apache 2.4.x < 2.4.55 Multiple Vulnerabilities
3	Medium	6.5	-	51192	SSL Certificate Cannot Be Trusted

4	Medium	5.3	2.2	10704	Apache Multiviews Arbitrary Directory Listing

REPORT:-

1. **Vulnerability Name:** Apache 2.4.x < 2.4.56 Multiple Vulnerabilities

Severity: Critical

Plugin: 172186

Port: 443 / tcp / www

Description:

The version of Apache httpd installed on the remote host is prior to 2.4.56. It is, therefore, affected by multiple vulnerabilities as referenced in the 2.4.56 advisory.

- HTTP request splitting with mod_rewrite and mod_proxy: Some mod_proxy configurations on Apache HTTP Server versions 2.4.0 through 2.4.55 allow a HTTP Request Smuggling attack. Configurations are affected when mod_proxy is enabled along with some form of RewriteRule or ProxyPassMatch in which a non-specific pattern matches some portion of the user-supplied request-target (URL) data and is then re-inserted into the proxied request-target using variable substitution. For example, something like: RewriteEngine on RewriteRule ^/here/(.*) http://example.com:8080/elsewhere?$1 http://example.com:8080/elsewhere ; [P] ProxyPassReverse /here/ http://example.com:8080/ http://example.com:8080/ Request splitting/smuggling could result in bypass of access controls in the proxy server, proxying unintended URLs to existing origin servers, and cache poisoning. Acknowledgements: finder: Lars Krapf of Adobe (CVE-2023-25690)

- Apache HTTP Server: mod_proxy_uwsgi HTTP response splitting: HTTP Response Smuggling vulnerability in Apache HTTP Server via mod_proxy_uwsgi. This issue affects Apache HTTP Server: from 2.4.30 through 2.4.55.
Special characters in the origin response header can truncate/split the response forwarded to the client.
Acknowledgements: finder: Dimas Fariski Setyawan Putra (nyxsorcerer) (CVE-2023-27522)

solution:

Upgrade to Apache version 2.4.56 or later.

Business Impact:

1. Website Outages: Exploiting vulnerabilities in the web server could lead to crashes, outages, or denial-of-service attacks, causing the organization's website to become unavailable. This can result in lost revenue, damage to reputation, and customer frustration.

2. Data Breaches: Depending on the nature of the vulnerabilities, attackers might be able to gain unauthorized access to sensitive data or server configurations. This could result in data breaches, compromising customer information, proprietary data, or sensitive business data.

2. Vulnerability Name: Apache 2.4.x < 2.4.55 Multiple Vulnerabilities

Severity: Critical

Plugin: 170113

Port: 443 / tcp / www

Description:

The version of Apache httpd installed on the remote host is prior to 2.4.55. It is, therefore, affected by multiple vulnerabilities as referenced in the 2.4.55 advisory.

- A carefully crafted If: request header can cause a memory read, or write of a single zero byte, in a pool (heap) memory location beyond the header value sent. This could cause the process to crash. This issue affects Apache HTTP Server 2.4.54 and earlier. (CVE-2006-20001)

- Inconsistent Interpretation of HTTP Requests ('HTTP Request Smuggling') vulnerability in mod_proxy_ajp of Apache HTTP Server allows an attacker to smuggle requests to the AJP server it forwards requests to. This issue affects Apache HTTP Server Apache HTTP Server 2.4 version 2.4.54 and prior versions. (CVE-2022-36760)

- Prior to Apache HTTP Server 2.4.55, a malicious backend can cause the response headers to be truncated early, resulting in some headers being incorporated into the response body. If the later headers have any security purpose, they will not be interpreted by the client. (CVE-2022-37436)

solution:

Upgrade to Apache version 2.4.56 or later.

Business Impact:

1. Website Outages: Exploiting vulnerabilities in the web server could lead to crashes, outages, or denial-of-service attacks, causing the organization's website to become unavailable. This can result in lost revenue, damage to reputation, and customer frustration.

2. Malware Distribution: If attackers gain control over a compromised web server, they might use it to distribute malware or launch attacks on visitors. This can lead to infections on users' computers, which could have legal, financial, and reputational implications.

3. Vulnerability Name: SSL Certificate Cannot Be Trusted

Severity: Medium

Plugin: 51192

Port:

4444 / tcp / www
4443 / tcp / www

Description:

The server's X.509 certificate cannot be trusted. This situation can occur in three different ways, in which the chain of trust can be broken, as stated below :

- First, the top of the certificate chain sent by the server might not be descended from a known public certificate authority. This can occur either when the top of the chain is an unrecognized, self-signed certificate, or when intermediate certificates are missing that would connect the top of the certificate chain to a known public certificate authority.

- Second, the certificate chain may contain a certificate that is not valid at the time of the scan. This can occur either when the scan occurs before one of the certificate's 'notBefore' dates, or after one of the certificate's 'notAfter' dates.

- Third, the certificate chain may contain a signature that either didn't match the certificate's information or could not be verified. Bad signatures can be fixed by getting the certificate with the bad signature to be re-signed by its issuer. Signatures that could not be verified are the result of the certificate's issuer using a signing algorithm that Nessus either does not support or does not recognize.

If the remote host is a public host in production, any break in the chain makes it more difficult for users to verify the authenticity and identity of the web server. This could make it easier to carry out man-in-the-middle attacks against the remote host.

solution:

Purchase or generate a proper SSL certificate for this service.

Business Impact:

Competitive Impact: A publicized security incident could cause customers to lose confidence in the organization's ability to secure their data. This loss of trust might drive customers to competitors who are perceived to have stronger security practices.

Reputation Damage: Publicly known vulnerabilities and breaches can damage an organization's reputation, eroding trust and confidence among customers, partners, and stakeholders.

4. Vulnerability Name: Apache Multiviews Arbitrary Directory Listing

Severity: Medium

Plugin: 10704

Port: 80 / tcp / www

Description:

The Apache web server running on the remote host is affected by an information disclosure vulnerability. An unauthenticated, remote attacker can exploit this, by sending a crafted request, to display a listing of a remote directory, even if a valid index file exists in the directory.

For Apache web server later than 1.3.22, review listing directory configuration to avoid disclosing sensitive information

solution:

Upgrade to Apache version 1.3.22 or later. Alternatively, as a workaround, disable Multiviews.

Business Impact:

Business Disruption: Exploiting vulnerabilities could disrupt the organization's online services, impacting operations and customer interactions. This can lead to lost productivity, missed business opportunities, and unhappy customers.

Legal and Regulatory Consequences: Depending on the nature of the vulnerabilities and the data involved, organizations might face legal consequences for not adequately protecting customer data or for not complying with data protection regulations.

Reputation Damage: Publicly known vulnerabilities and breaches can damage an organization's reputation, eroding trust and confidence among customers, partners, and stakeholders.

Stage 3
Report

Title :- Enhancing Security Operations: SIEM Qradar & SOC Dashboard Management

Soc

Security Operations Center (SoC): In the context of cybersecurity, a Security Operations Center (SoC) is a centralized unit within an organization responsible for monitoring, detecting, responding to, and mitigating security incidents and threats. A SoC typically uses a combination of technology, processes, and skilled security analysts to monitor network traffic, system logs, and other data sources for signs of unauthorized access, malicious activity, and potential vulnerabilities. When a potential security threat is detected, the SoC takes appropriate actions to investigate, contain, and remediate the threat. The goal of a SoC is to enhance an organization's overall security posture by ensuring a rapid and effective response to security incidents.

SOC Cycle

The SoC cycle is iterative and adaptive. As new threats emerge and technologies evolve, the SoC continually refines its processes and technologies to effectively detect, respond to, and mitigate evolving cybersecurity risks. Effective communication, collaboration among teams, and staying up-to-date with the latest threat landscape are key factors for the success of a Security Operations Center.

- Preparation, planning and prevention
- Monitoring, detection and response
- Recovery, refinement and compliance

Siem

SIEM stands for Security Information and Event Management. It's a comprehensive approach to cybersecurity management that combines security information management (SIM) and security event management

(SEM) into a single solution. SIEM systems provide a centralized platform for collecting, analyzing, correlating, and responding to security-related data from various sources across an organization's IT environment.

Here's an overview of the key components and functions of a SIEM system:

1. Data Collection: SIEM systems gather data from a wide range of sources, including network devices, servers, applications, security appliances, and more. This data includes logs, events, and other security-related information.

2. Event Correlation: SIEM tools analyze and correlate the collected data to identify patterns, anomalies, and potential security incidents. By connecting seemingly unrelated events, SIEM can detect complex threats that might go unnoticed by individual security tools.

3. Alert Generation: When the SIEM identifies suspicious or malicious activities based on predefined rules or behavioral analysis, it generates alerts for security analysts to investigate further.

4. Incident Response: SIEM systems facilitate incident response by providing tools for security analysts to investigate alerts, conduct forensic analysis, and take appropriate actions to mitigate threats. This might include isolating compromised systems, blocking malicious IP addresses, and more.

5. Real-time Monitoring: SIEM solutions offer real-time monitoring of security events, enabling organizations to respond quickly to ongoing threats and attacks.

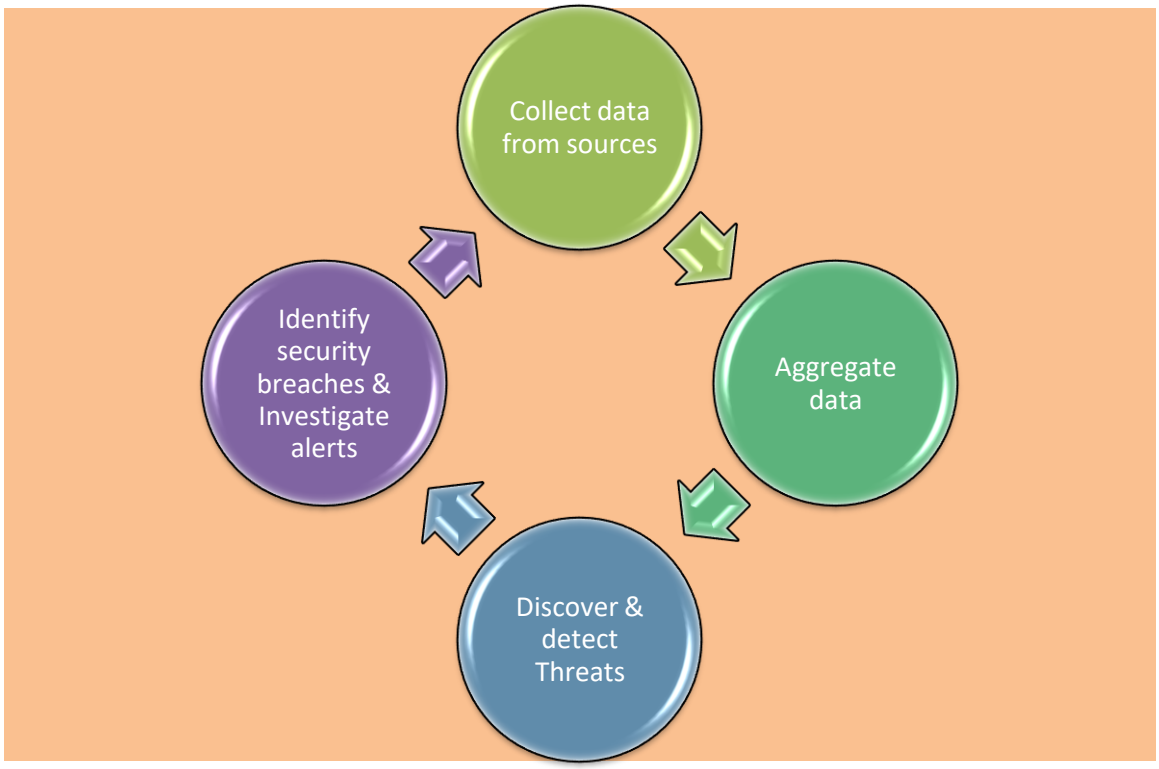
6. Reporting and Dashboards: SIEM generates detailed reports and visual dashboards that provide insights into the organization's security posture, trends, and potential vulnerabilities. This information is useful for compliance, audits, and management decisions.

7. Compliance and Regulatory Requirements: SIEM systems help organizations meet compliance requirements by collecting and storing the necessary data to demonstrate adherence to security policies and regulations.

8. Threat Detection and Hunting: SIEM platforms support proactive threat hunting by allowing security analysts to search for suspicious patterns and behaviors that might not trigger predefined alerts.

9. Data Correlation: SIEM tools correlate data from different sources, such as user activity logs, network traffic, and system logs, to provide a holistic view of security incidents.
10. Log Management: SIEM includes log management capabilities, ensuring that logs from various sources are securely stored, archived, and easily accessible for analysis and compliance purposes.
11. Integration: SIEM systems can integrate with other security tools, such as intrusion detection systems (IDS), intrusion prevention systems (IPS), firewalls, and more, to enhance overall threat detection and response capabilities.
SIEM solutions play a crucial role in modern cybersecurity strategies by providing organizations with the ability to monitor, detect, and respond to security threats in a more centralized and efficient manner. They help organizations achieve better visibility into their IT environment and improve their overall security posture.

Siem Cycle



MISP

A platform for sharing, storing and correlating Indicators of Compromises of targeted attacks but also threat intelligence such as threat actor information, financial fraud information and many more.

MISP - Open Source Threat Intelligence and Sharing Platform allows organizations to share information such as threat intelligence, indicators, threat actor information or any kind of threat which can structured in MISP. MISP users benefit from the collaborative knowledge about existing malware or threats. The aim of this trusted platform is to help improving the counter-measures used against targeted attacks and set-up preventive actions and detection.

My college network information
(Through Nessus)

IP:192.168.56.1
DNS:ITUG-II26.dc.cds
Start:Today at 2:16 PM
End:Today at 2:17 PM
Elapsed:a few seconds

How you think you deploy soc in your college

Deploying a Security Operations Center (SoC) in a college environment involves careful planning, resource allocation, and a clear understanding of the institution's security needs.

Evaluate the college's current security infrastructure, including network architecture, systems, applications, and existing security tools.

We can identify potential vulnerabilities, threats, and security gaps that a SoC could address.

We can determine the goals and objectives of deploying a SoC, such as improving incident response, enhancing threat detection, and ensuring compliance.

Threat intelligence

Threat intelligence refers to the collection, analysis, and dissemination of information about potential or existing cybersecurity threats. It involves gathering data about various types of cyber threats, including malware, vulnerabilities, attack techniques, threat actors, and indicators of compromise (IoCs), and then converting this data into actionable insights that help organizations protect their systems and data.

Threat intelligence helps organizations stay ahead of cyber threats by providing valuable context and information to inform decision-making and enhance their overall cybersecurity posture. Here are some key aspects of threat intelligence:

Data Collection: Threat intelligence involves collecting data from a wide range of sources, including security research reports, security vendors, open-source intelligence, government agencies, industry groups, and proprietary sources.Analysis: The collected data is analyzed to identify patterns, trends, and emerging threats. Analysts work to understand the tactics, techniques, and procedures (TTPs) employed by threat actors.

Classification: Threat intelligence is often categorized into different levels based on the level of specificity and relevance. This can include strategic intelligence (high-level trends), operational intelligence (specific threats), and tactical intelligence (technical details).Indicators of Compromise (IoCs): IoCs are specific artifacts associated with a threat, such as IP addresses, domain names, file hashes, and URLs. Threat intelligence provides IoCs that organizations can use to detect and block threats in their environments.Threat Actor Profiles: Threat intelligence provides information about the motivations, capabilities, and characteristics of threat actors and hacking groups. This helps organizations understand potential adversaries.Vulnerability Intelligence: Threat intelligence includes information about newly discovered vulnerabilities in software and systems, helping organizations prioritize patching efforts.Sharing and Collaboration: Organizations can share threat intelligence within their industry or sector to collectively defend against common threats. Sharing threat intelligence helps the broader community respond faster to emerging threats.Incident Response: Threat intelligence supports incident

response by providing information that helps organizations identify the extent of a breach, mitigate its impact, and prevent future attacks.Proactive Defense: Threat intelligence allows organizations to proactively identify and address vulnerabilities and threats before they are exploited.Security Automation: Threat intelligence feeds can be integrated into security tools and platforms to automate threat detection and response processes.Risk Management: Threat intelligence assists in understanding the potential risks associated with specific threats, helping organizations allocate resources more effectively.Situational Awareness: Threat intelligence provides a clearer picture of the threat landscape, enabling organizations to make informed decisions about their security strategies.Cybersecurity Strategy: Organizations can use threat intelligence to shape their overall cybersecurity strategies, adapt to evolving threats, and allocate resources appropriately.Threat intelligence is a dynamic field that requires continuous monitoring of the threat landscape. It's an essential component of modern cybersecurity, helping organizations proactively defend against increasingly sophisticated cyber threats.

Incident response

Incident response is a structured approach that organizations follow to effectively manage and mitigate the impact of cybersecurity incidents. An incident can include any unauthorized or unexpected event that poses a risk to an organization's IT systems, data, operations, or overall security posture. Incident response aims to minimize damage, restore normal operations, and prevent similar incidents in the future.

Create a detailed plan that outlines roles, responsibilities, communication procedures, escalation paths, and specific actions to be taken during different types of incidents.

Identify individuals from various departments (IT, security, legal, PR) who will be responsible for different aspects of incident handling.

Define priorities: Classify incidents based on their severity and potential impact to prioritize responses.

Detect incidents: Monitor logs, alerts, and security tools to identify unusual activities or signs of a potential incident.

Recognize indicators of compromise (IoCs): Use threat intelligence and IoCs to identify signs of known threats.
Isolate affected systems: Segregate compromised systems from the rest of the network to prevent further spread of the incident.
Disable accounts: If necessary, disable compromised accounts to prevent unauthorized access.
Remove the root cause: Identify and eliminate the source of the incident to prevent recurrence. This might involve patching vulnerabilities, removing malware, or updating configurations.
Restore operations: Bring affected systems back online after ensuring they are clean and secure.
Data recovery: If data was compromised, restore from clean backups.
Post-incident analysis: Conduct a thorough analysis of the incident to understand how it occurred, what data was affected, and what improvements can be made to prevent similar incidents in the future.
Documentation: Document all actions taken during the incident response process for future reference and compliance purposes.
Internal communication: Keep all stakeholders informed about the incident, its impact, and the steps being taken to address it.
External communication: Depending on the severity, communicate with customers, partners, regulatory bodies, and law enforcement if required.
Update the incident response plan: Incorporate lessons learned from the incident into the incident response plan to improve future responses.
Training and drills: Provide ongoing training to the incident response team and conduct regular simulations to practice incident response procedures.
Ensure compliance: Adhere to legal and regulatory requirements when reporting and responding to incidents, especially those involving personal data.

An effective incident response capability is essential for minimizing the impact of security incidents, maintaining customer trust, and preserving an organization's reputation. It's important to tailor the incident response process to the organization's specific needs, industry, and risk profile.

Qradar & understanding about tool

IBM QRadar is a security information and event management (SIEM) solution designed to help organizations detect and respond to security threats and incidents in real-time. It offers advanced capabilities for collecting, analyzing, and correlating security data from various sources to provide insights into potential threats and vulnerabilities. QRadar is widely used by enterprises and organizations to enhance their cybersecurity posture.

- QRadar collects data from various sources, including network devices, servers, applications, firewalls, and endpoints.
- It supports log and event collection using various protocols, such as syslog, SNMP, and more.
- QRadar uses advanced correlation techniques to analyze collected data and identify patterns, anomalies, and potential security incidents.
- It correlates events in real-time to provide a comprehensive view of the organization's security posture.
- QRadar employs predefined rules and custom rules to detect suspicious activities and potential threats.
- When a rule is triggered, QRadar generates alerts with details about the detected incident.
- QRadar uses behavioral analytics to identify deviations from normal behavior, helping to detect unknown threats and insider threats.
- The solution provides tools for security analysts to investigate alerts and incidents in-depth.
- Analysts can use visualizations, search capabilities, and context-rich data to understand the scope and impact of incidents.

- QRadar supports forensic analysis by providing historical data for incidents, allowing analysts to backtrack and understand the sequence of events.
- QRadar offers customizable dashboards and reports that provide insights into security events, trends, and risks.
- Reports can be used for compliance audits, management reporting, and sharing insights with stakeholders.

- QRadar integrates with threat intelligence feeds to enhance threat detection and provide context about known threats.
- QRadar can be integrated with other security tools, such as vulnerability scanners, endpoint protection, and identity and access management solutions.
- QRadar supports automation of response actions to quickly mitigate threats.
- It can be integrated with incident response playbooks to streamline response procedures.
- QRadar can analyze user behavior to detect unusual or risky activities.
- QRadar can monitor and secure cloud environments, on-premises systems, and hybrid infrastructures.
- QRadar provides features to assist organizations in meeting compliance requirements.
- IBM QRadar is a comprehensive SIEM solution that helps organizations detect, respond to, and mitigate cybersecurity threats effectively. Its advanced features, integration capabilities, and user-friendly interface make it a popular choice for organizations seeking to enhance their security operations.

Conclusion :-

Stage 1:

Maintain a proactive approach to security by continuously monitoring and analyzing the data collected by Qradar. This allows us to quickly detect any anomalies or suspicious activities and respond promptly to mitigate potential risks. Use the insights gained from monitoring and analysis to improve wer security operations and strengthen wer organization's defenses.

Stage 2 :

Nessus is a widely used vulnerability assessment tool developed by Tenable Network Security. It is designed to identify and assess vulnerabilities in computer systems, networks, and applications. Nessus helps organizations identify potential

security weaknesses in their IT infrastructure by conducting comprehensive scans and providing detailed reports on identified vulnerabilities.

Stage 3 :

A SoC typically uses a combination of technology, processes, and skilled security analysts to monitor network traffic, system logs, and other data sources for signs of unauthorized access, malicious activity, and potential vulnerabilities. When a potential security threat is detected, the SoC takes appropriate actions to investigate, contain, and remediate the threat. SIEM is a comprehensive approach to cybersecurity management that combines security information management (SIM) and security event management (SEM) into a single solution. SIEM systems provide a centralized platform for collecting, analyzing, correlating, and responding to security-related data from various sources across an organization's IT environment.

Topics explored :

- **Qradar**
- **SIEM**
- **SOC**
- **Vulnerability detection**
- **Cyber security**
- **OWASP**

Tools explored :

- **Qradar**
- **VirtualBox**
- **MobaXterm**
- **Wincollect**
- **Nessus**

Screenshot:

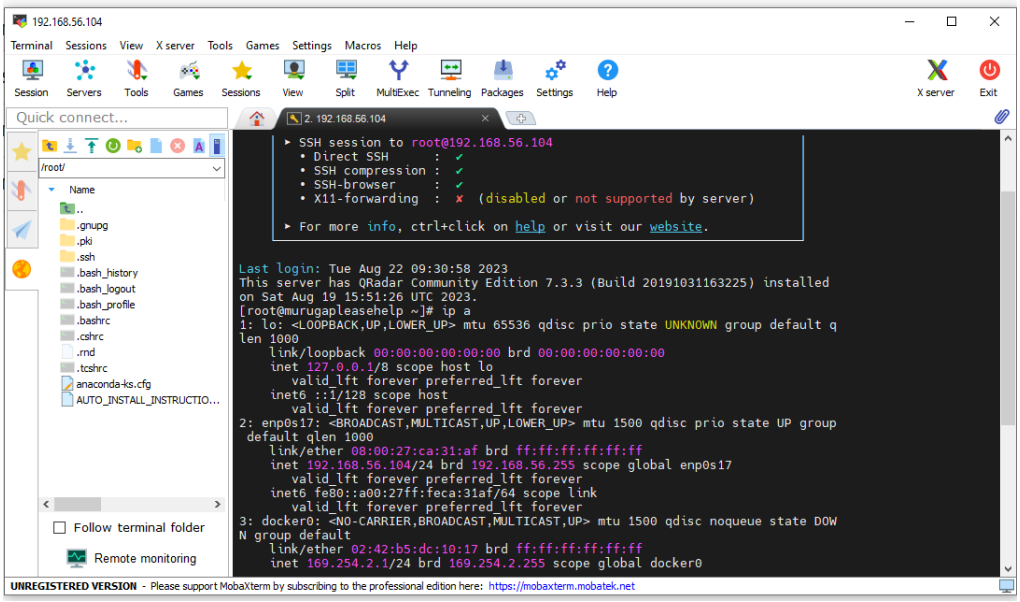


Fig1. Mobaxterm - QRadar

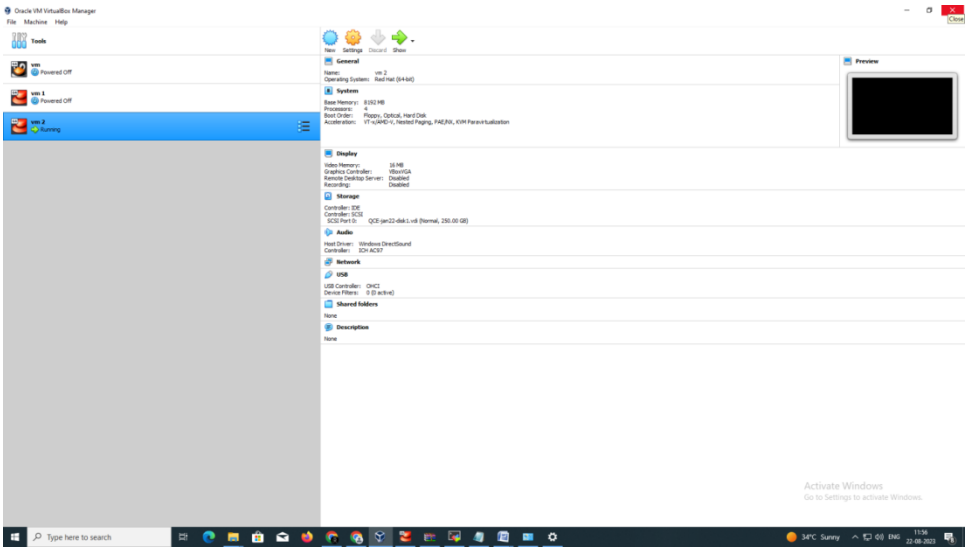


Fig. 2 Virtual Box

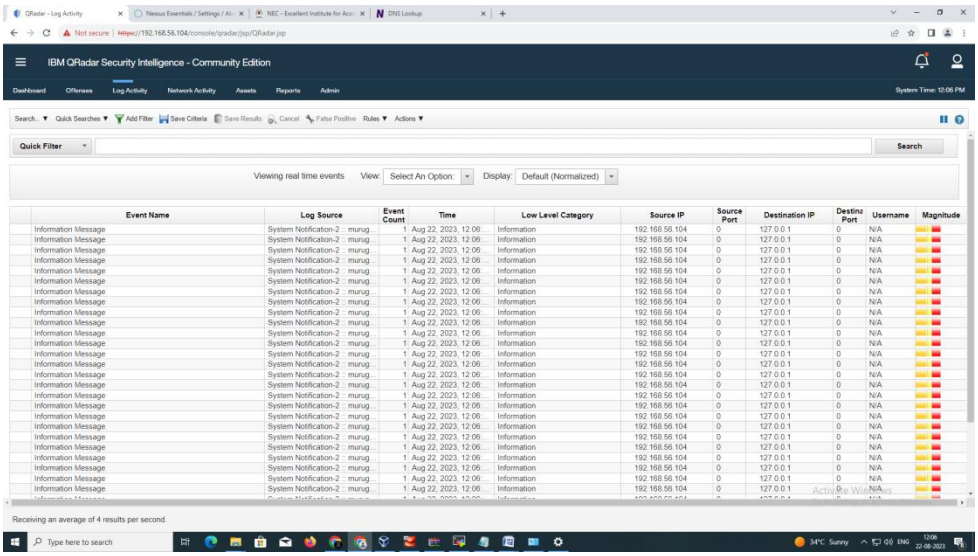


Fig. 3 IBM QRadar Security Intelligence

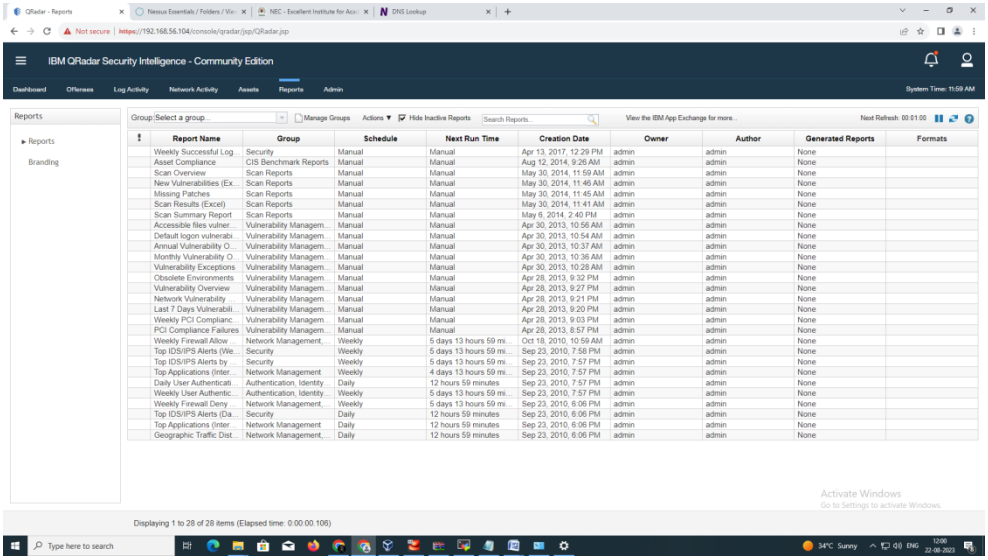


Fig. 4. QRadar security intelligence Reports from September 2010.

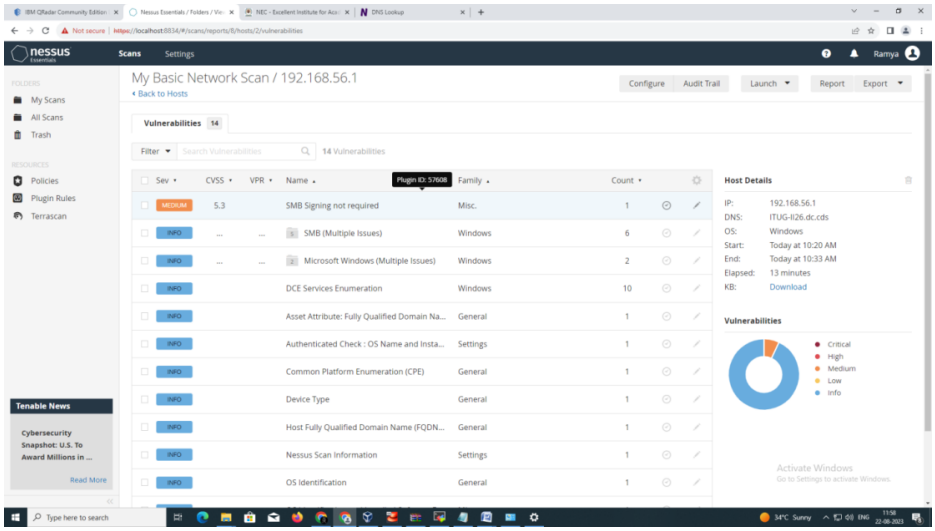


Fig. 5 Nessus – My basic network scan

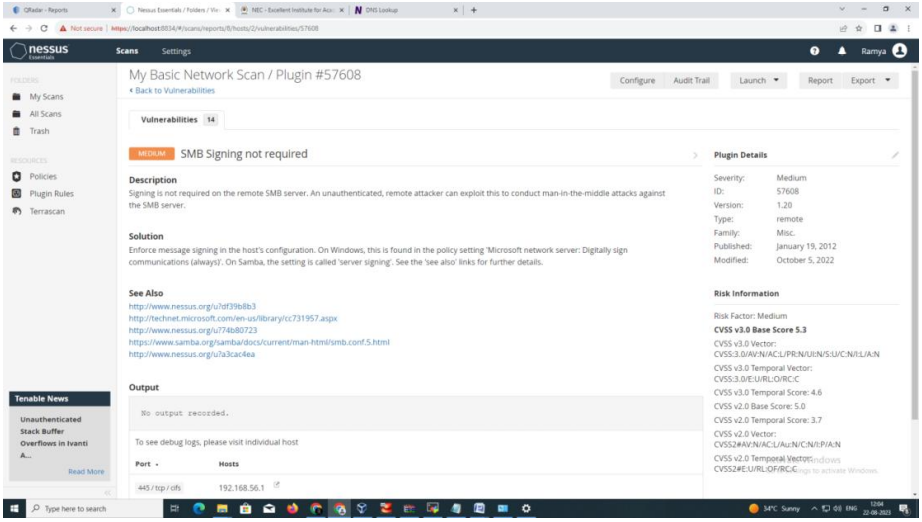


Fig. 6 Nessus – My basic network scan

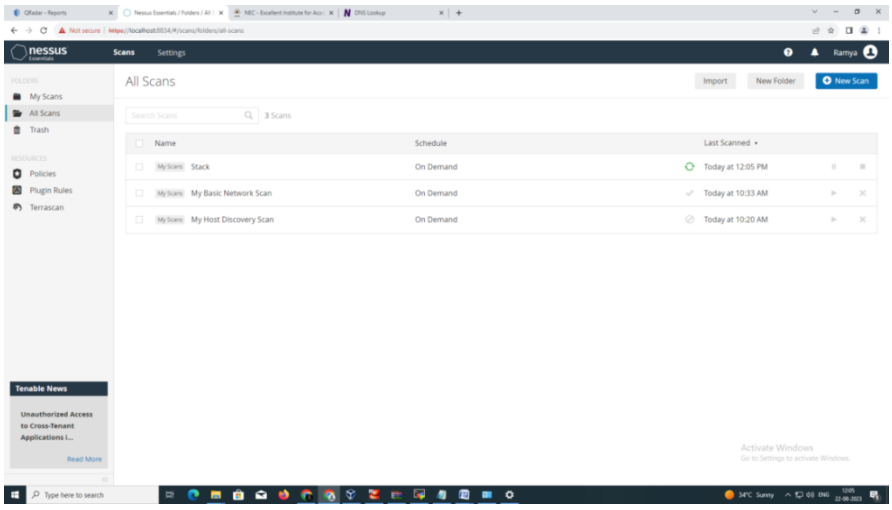


Fig. 7 Nessus – All scans