

## Lab #5: Vulnerability Analysis

**Course Name:** Ethical Hacking and Offensive Security(HOD401)

**Student Name:** Nguyễn Trần Vinh – SE160258

**Instructor Name:** Mai Hoàng Đình

**Lab Due Date:** 27/09/2023

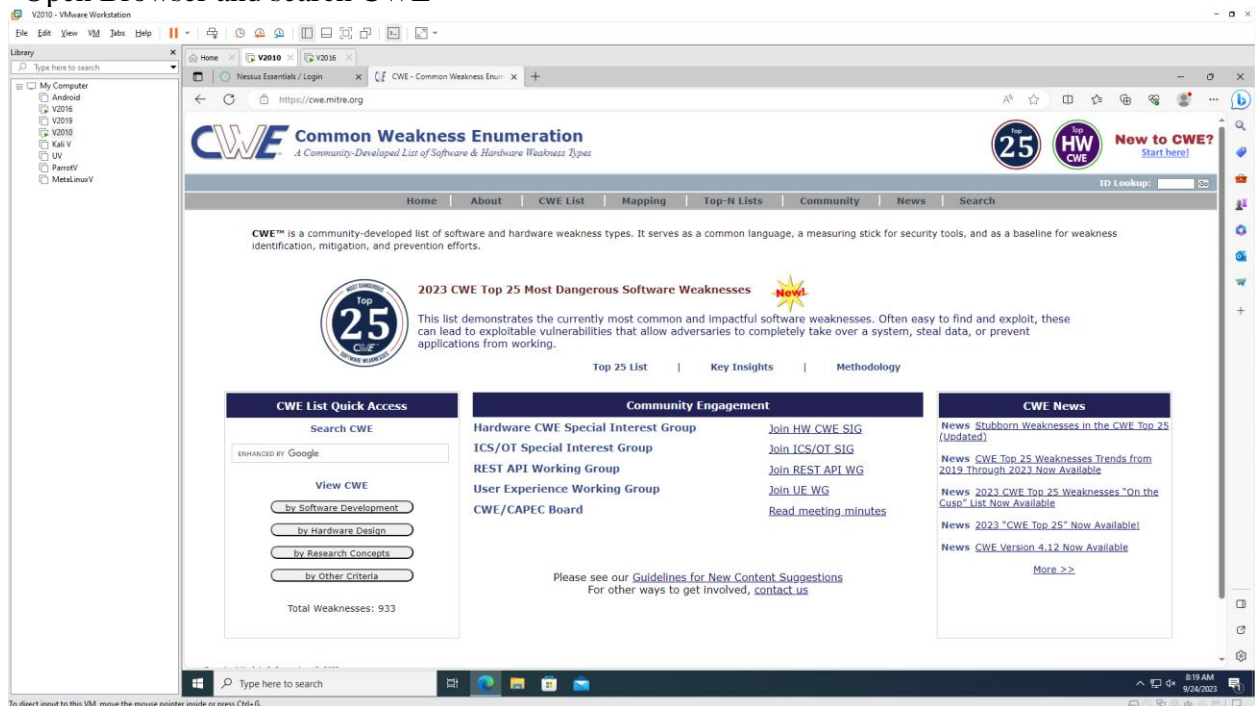
### Lab Tasks

1. Perform Vulnerability Research with Vulnerability Scoring Systems and Databases

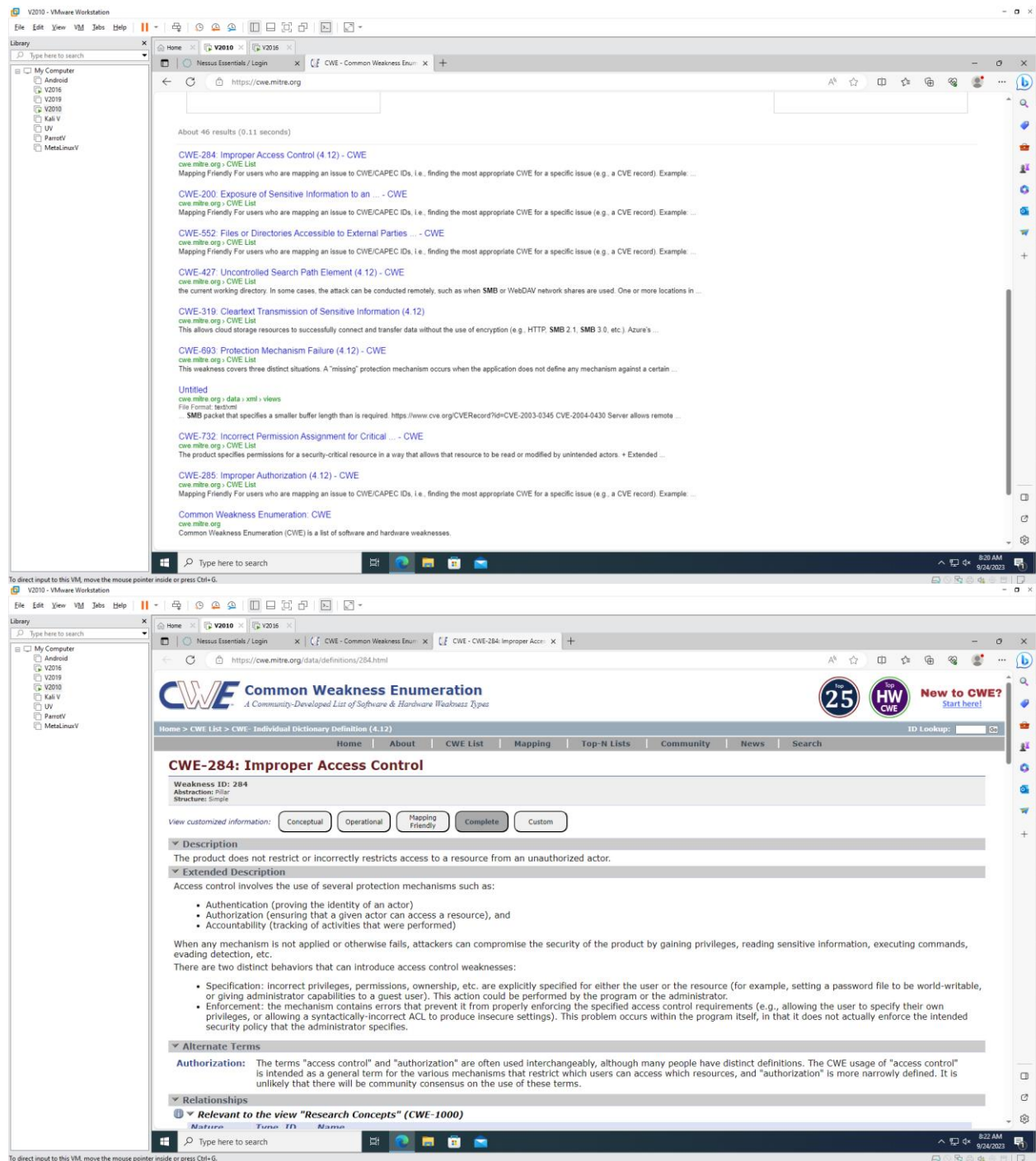
1.1 Perform Vulnerability Research in Common Weakness Enumeration (CWE)

- Open Windows 10

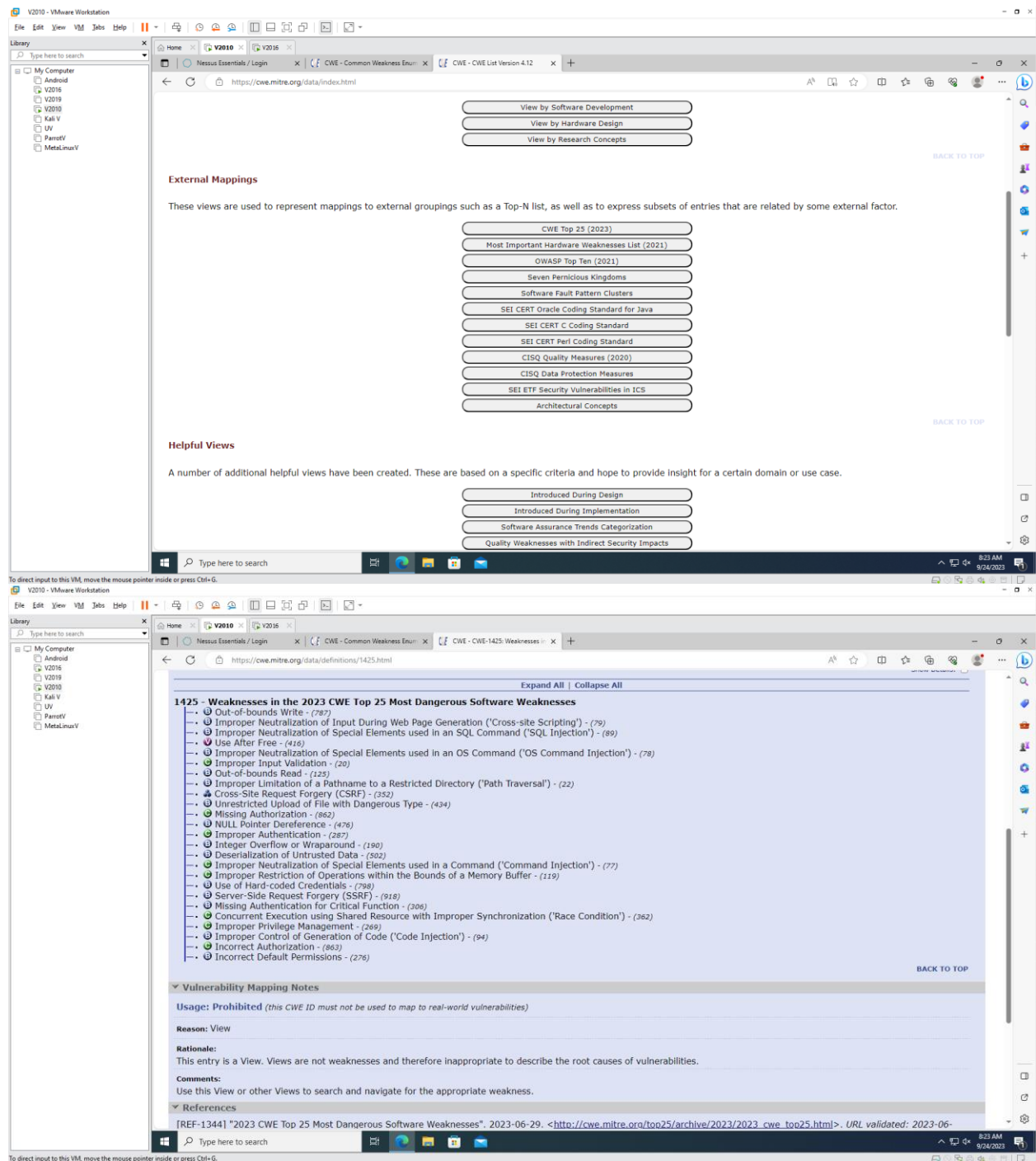
- Open Browser and search CWE



- Search SMB

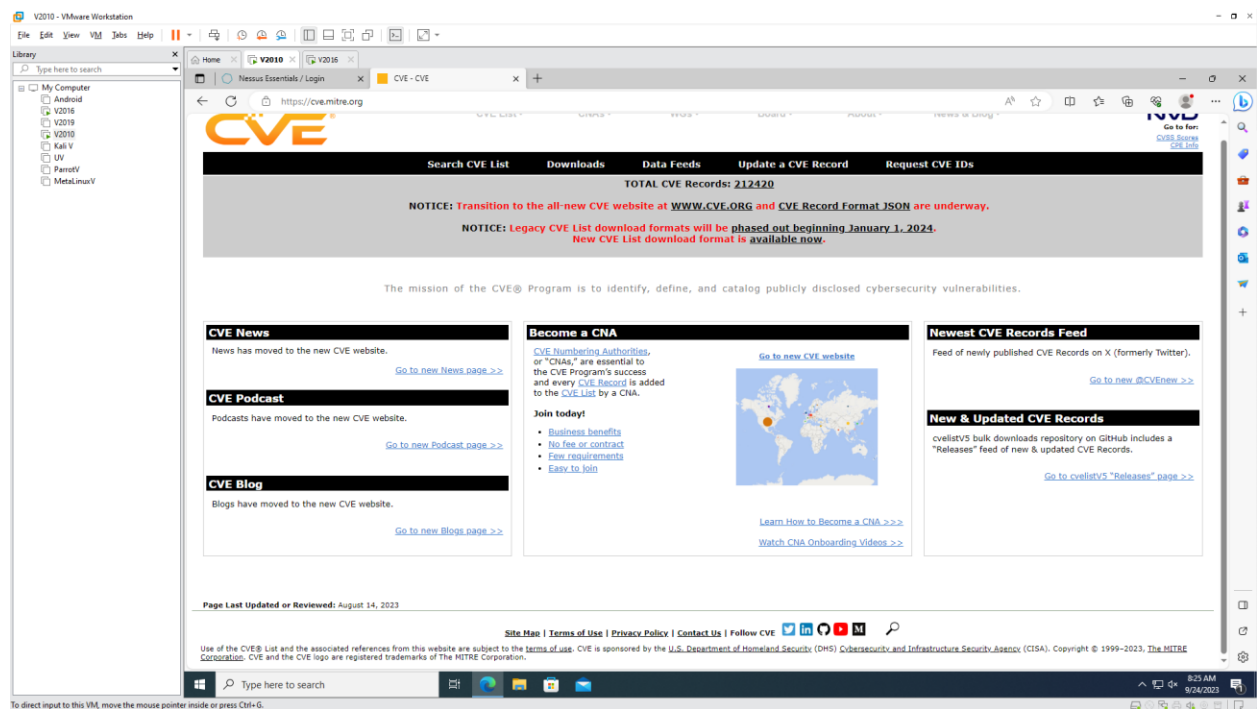


- CWE list



## 1.2 Perform Vulnerability Research in Common Vulnerabilities and Exposures (CVE)

- Open Windows 10
- Open Browser and search CVE



- Search CVE

V2010 - VMware Workstation

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CVE - Search Results

https://cve.mitre.org/cgi-bin/cvekey.cgi?keyword=CVE-2023-34576

CVE List CNAs WGs Board About News & Blog

Search CVE List Downloads Data Feeds Update a CVE Record Request CVE IDs

TOTAL CVE Records: 212420

NOTICE: Transition to the all-new CVE website at [WWW.CVE.ORG](https://www.cve.org) and CVE Record Format JSON are underway.

NOTICE: Legacy CVE List download formats will be phased out beginning January 1, 2024. New CVE List download format is available now.

HOME > CVE > SEARCH RESULTS

### Search Results

There are 1 CVE Records that match your search.

Name	Description
<a href="#">CVE-2023-34576</a>	SQL injection vulnerability in updatepos.php in PrestaShop opartfaq through 1.0.3 allows remote attackers to run arbitrary SQL commands via unspecified vector.

BACK TO TOP

SEARCH CVE USING KEYWORDS:  Submit

You can also search by reference using the [CVE Reference Maps](#).

For More Information: [CVE Request Web Form](#) (select "Other" from dropdown)

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CVE - Search Results

https://cve.mitre.org/cgi-bin/cvekey.cgi?keyword=SMB

TOTAL CVE RECORDS: 212420

NOTICE: Transition to the all-new CVE website at [WWW.CVE.ORG](https://www.cve.org) and CVE Record Format JSON are underway.

NOTICE: Legacy CVE List download formats will be phased out beginning January 1, 2024. New CVE List download format is available now.

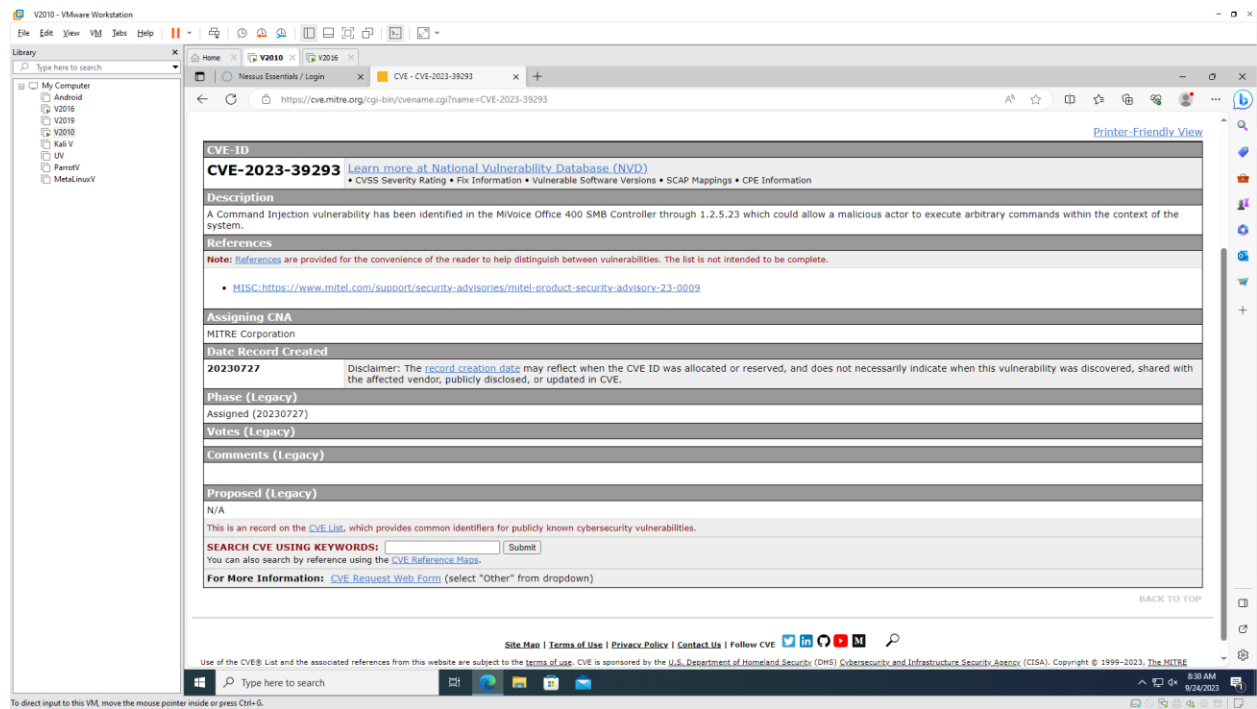
HOME > CVE > SEARCH RESULTS

### Search Results

There are 527 CVE Records that match your search.

Name	Description
<a href="#">CVE-2023-39293</a>	A Command Injection vulnerability has been identified in the MiVoice Office 400 SMB Controller through 1.2.5.23 which could allow a malicious actor to execute arbitrary commands within the context of the system.
<a href="#">CVE-2023-39292</a>	A SQL Injection vulnerability has been identified in the MiVoice Office 400 SMB Controller through 1.2.5.23 which could allow a malicious actor to access sensitive information and execute arbitrary database and management operations.
<a href="#">CVE-2023-38432</a>	An issue was discovered in the Linux kernel before 6.3.10. fs/smb/server/smb2misc.c in ksmbd does not validate the relationship between the command payload size and the RFC1002 length specification, leading to an out-of-bounds read.
<a href="#">CVE-2023-38431</a>	An issue was discovered in the Linux kernel before 6.3.9. fs/smb/server/connection.c in ksmbd does not validate the relationship between the NetBIOS header's length field and the SMB header sizes, via pdu_size in ksmbd_conn_handler_loop, leading to an out-of-bounds read.
<a href="#">CVE-2023-38430</a>	An issue was discovered in the Linux kernel before 6.3.9. ksmbd does not validate the SMB request protocol ID, leading to an out-of-bounds read.
<a href="#">CVE-2023-38427</a>	An issue was discovered in the Linux kernel before 6.3.8. fs/smb/server/smb2pdu.c in ksmbd has an integer underflow and out-of-bounds read in deassemble_neg_contexts.
<a href="#">CVE-2023-37469</a>	CasaOS is an open-source personal cloud system. Prior to version 0.4.4, if an authenticated user using CasaOS is able to successfully connect to a controlled SMB server, they are able to execute arbitrary commands. Version 0.4.4 contains a patch for the issue.
<a href="#">CVE-2023-32258</a>	A flaw was found in the Linux kernel's ksmbd, a high-performance in-kernel SMB server. The specific flaw exists within the processing of SMB2_LOGOFF and SMB2_CLOSE commands. The issue results from the lack of proper locking when performing operations on an object. An attacker can leverage this vulnerability to execute code in the context of the kernel.
<a href="#">CVE-2023-32257</a>	A flaw was found in the Linux kernel's ksmbd, a high-performance in-kernel SMB server. The specific flaw exists within the processing of SMB2_SESSION_SETUP and SMB2_LOGOFF commands. The issue results from the lack of proper locking when performing operations on an object. An attacker can leverage this vulnerability to execute code in the context of the kernel.
<a href="#">CVE-2023-32254</a>	A flaw was found in the Linux kernel's ksmbd, a high-performance in-kernel SMB server. The specific flaw exists within the processing of SMB2_TREE_DISCONNECT commands. The issue results from the lack of proper locking when performing operations on an object. An attacker can leverage this vulnerability to execute code in the context of the kernel.
<a href="#">CVE-2023-32252</a>	A flaw was found in the Linux kernel's ksmbd, a high-performance in-kernel SMB server. The specific flaw exists within the handling of SMB2_LOGOFF commands. The issue results from the lack of proper validation of a pointer prior to accessing it. An attacker can leverage this vulnerability to create a denial-of-service condition on the system.
<a href="#">CVE-2023-32250</a>	A flaw was found in the Linux kernel's ksmbd, a high-performance in-kernel SMB server. The specific flaw exists within the processing of SMB2_SESSION_SETUP commands. The issue results from the lack of proper locking when performing operations on an object. An attacker can leverage this vulnerability to execute code in the context of the kernel.
<a href="#">CVE-2023-32248</a>	A flaw was found in the Linux kernel's ksmbd, a high-performance in-kernel SMB server. The specific flaw exists within the handling of SMB2_TREE_CONNECT and SMB2_QUERY_INFO commands. The issue results from the lack of proper validation of a pointer prior to accessing it. An attacker can leverage this vulnerability to create a denial-of-service condition on the system.
<a href="#">CVE-2023-32247</a>	A flaw was found in the Linux kernel's ksmbd, a high-performance in-kernel SMB server. The specific flaw exists within the handling of SMB2_SESSION_SETUP commands. The issue results from the lack of control of resource consumption. An attacker can leverage this vulnerability to create a denial-of-service condition on the system.
<a href="#">CVE-2023-32021</a>	Windows SMB Witness Service Security Feature Bypass Vulnerability

To direct input to this VM, move the mouse pointer inside or press Ctrl+G.



## 2, Perform Vulnerability Assessment using Various Vulnerability Assessment Tools

### 2.1 Perform Vulnerability Analysis using OpenVAS

- Open Parrot and Windows Server 2016



ParrotVM - VMware Workstation

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- ParrotV
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Parrot

Parrot Terminal

```
Executing gvm-start
[sudo] password for touristv:
[>] Please wait for the GVM services to start.
[>] You might need to refresh your browser once it opens.
[>] Web UI (Greenbone Security Assistant): https://127.0.0.1:9392
```

Greenbone Security Assistant

Sign in to your account

Username  
admin

Password  
\*\*\*\*\*

Sign In

Powered by Greenbone

Greenbone Security Assistant

Report: Fri, Sep 22, 2023 6:54 PM UTC

Information Results Hosts Ports Applications Operating Systems CVEs Closed CVEs TLS Certificates Error Messages User Tags

Report outdated / end-of-life Scan Engine / Environment (local)

DCE/RPC and MSRPC Services Enumeration Reporting

SSL/TLS: Report Weak Cipher Suites

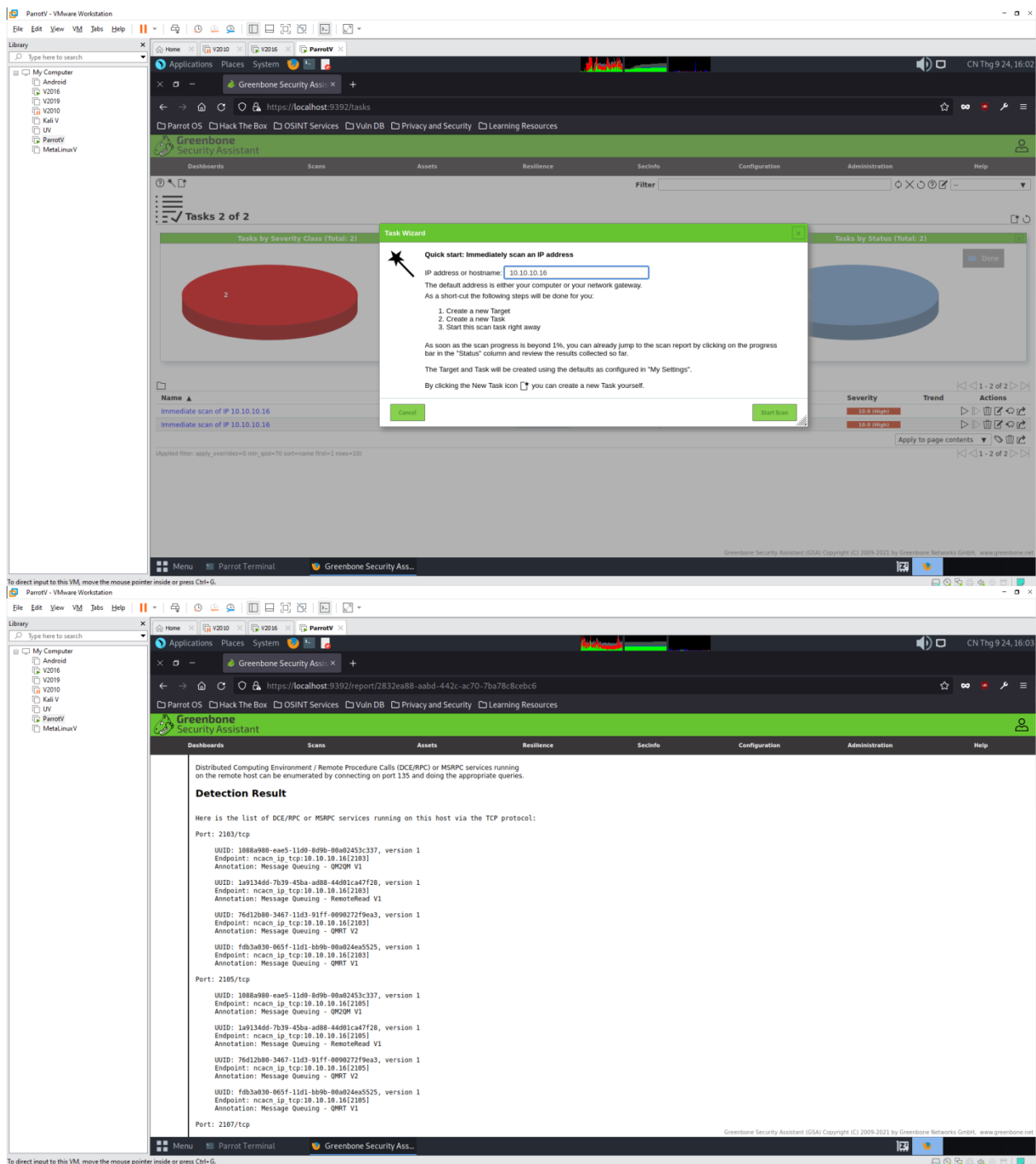
SSL/TLS: Deprecated TLSv1.0 and TLSv1.1 Protocol Detection

TCP Timestamps Information Disclosure

ICMP Timestamp Reply Information Disclosure

Vulnerability	Severity	QoD	Host IP	Name	Location	Created
Report outdated / end-of-life Scan Engine / Environment (local)	10.0 (High)	97 %	10.10.10.16		general/tcp	Fri, Sep 22, 2023 6:56 PM UTC
DCE/RPC and MSRPC Services Enumeration Reporting	9.0 (Medium)	80 %	10.10.10.16		135/tcp	Fri, Sep 22, 2023 7:06 PM UTC
SSL/TLS: Report Weak Cipher Suites	9.0 (Medium)	98 %	10.10.10.16		3389/tcp	Fri, Sep 22, 2023 7:05 PM UTC
SSL/TLS: Deprecated TLSv1.0 and TLSv1.1 Protocol Detection	8.9 (Medium)	98 %	10.10.10.16		3389/tcp	Fri, Sep 22, 2023 7:05 PM UTC
TCP Timestamps Information Disclosure	8.0 (Low)	80 %	10.10.10.16		general/tcp	Fri, Sep 22, 2023 7:04 PM UTC
ICMP Timestamp Reply Information Disclosure	8.1 (Low)	80 %	10.10.10.16		general/icmp	Fri, Sep 22, 2023 7:04 PM UTC

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- Turn on firewall on Windows Server 2016



ParrotV - VMware Workstation

Library

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- V2016
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- V2010
- Kali V
- UV
- ParrotV
- MetaLinuxV

Applications Places System

Greenbone Security Assistant

Report: Fri, Sep 22, 2023 7:21 PM UTC

Information Results Hosts Ports Applications Operating Systems CVEs Closed CVEs TLS Certificates Error Messages User Tags

Vulnerability

Severity	QoD	Host IP	Name	Location	Created
Report outdated / end-of-life Scan Engine / Environment (local)	10.0 (High)	97 %	10.10.10.16	general/tcp	Fri, Sep 22, 2023 7:22 PM UTC
SSL/TLS: Report Weak Cipher Suites	5.0 (Medium)	98 %	10.10.10.16	3389/tcp	Fri, Sep 22, 2023 7:31 PM UTC
DCE/RPC and MSRPC Services Enumeration Reporting	5.0 (Medium)	80 %	10.10.10.16	135/tcp	Fri, Sep 22, 2023 7:33 PM UTC
SSL/TLS: Deprecated TLSv1 and TLSv1.1 Protocol Detection	4.0 (Medium)	98 %	10.10.10.16	3389/tcp	Fri, Sep 22, 2023 7:31 PM UTC
TCP Timestamps Information Disclosure	2.4 (Low)	80 %	10.10.10.16	general/tcp	Fri, Sep 22, 2023 7:31 PM UTC

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ParrotV - VMware Workstation

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- MetaLinuxV

Applications Places System

Greenbone Security Assistant

Dashboard Scans Assets Resilience SecInfo Configuration Administration Help

NOTE: While this is not, in and of itself, a security vulnerability, a severity is reported to make you aware of a possible decreased scan coverage or missing detection of vulnerabilities on the target due to e.g.:

- missing functionalities
- missing bugfixes
- incompatibilities within the feed

**Detection Result**

Version of installed component: 21.4.4 (Installed component: openvas-libraries on OpenVAS <= 9, openvas-scanner on Greenbone Community Edition >= 18)  
 Latest available openvas-scanner version: 22.7.3  
 Reference URL(s) for the latest available version: https://forum.greenbone.net/t/greenbone-community-edition-22-4-stable-initial-release-2022-07-25/12638

**Detection Method**

Details: Report outdated / end-of-life Scan Engine / Environment (local) OID: 1.3.6.1.4.1.25623.1.0.108560  
 Version used: 2023-07-19T05:05:15Z

**Solution**

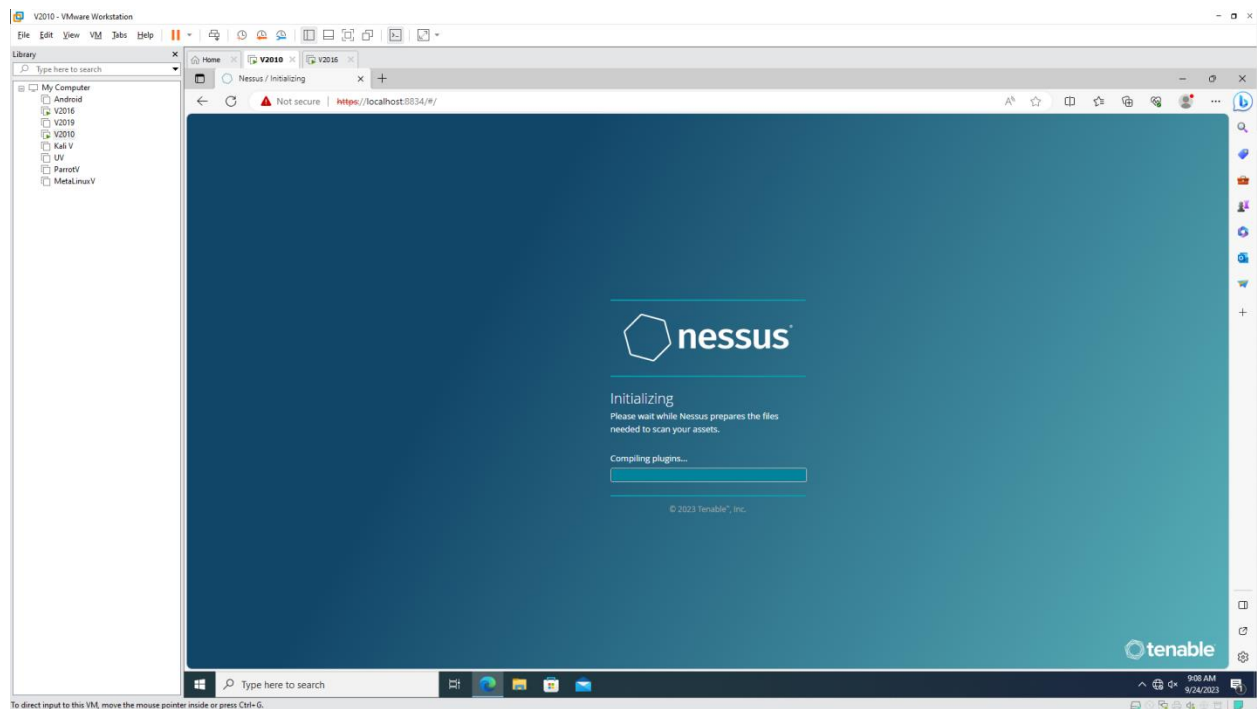
**Solution Type:** Vendorfix  
 Update to the latest available stable release for your scan environment. Please check the references for more information. If you're using packages provided by your Linux distribution please contact the maintainer of the used distribution / repository and request updated packages.

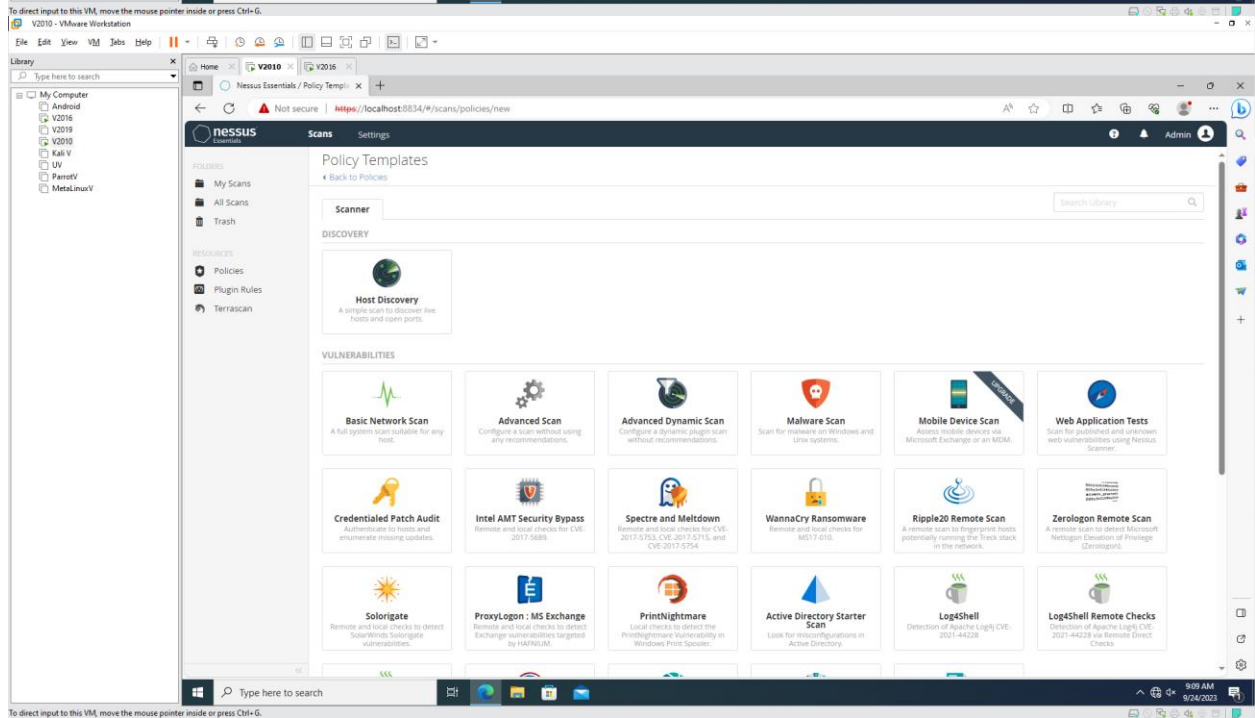
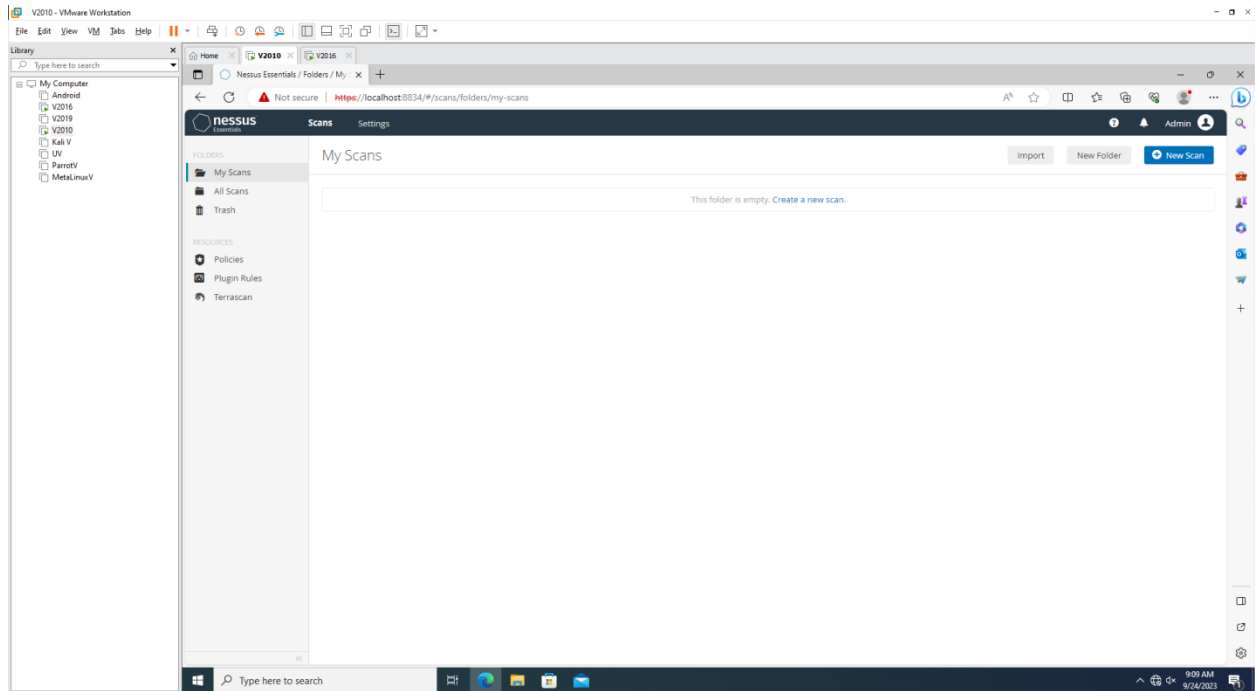
If you want to accept the risk of a possible decreased scan coverage or missing detection of vulnerabilities on the target you can set a global override for this script as described in the linked GSM manual.

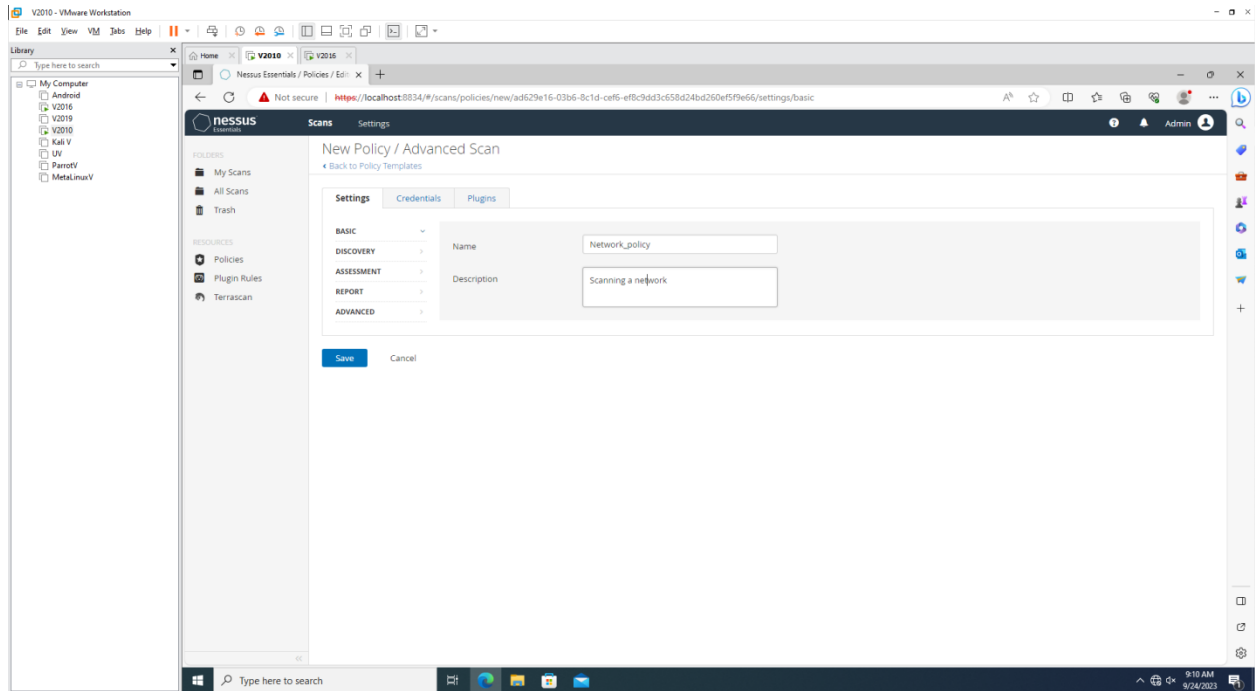
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## 2.2 Perform Vulnerability Scanning using Nessus

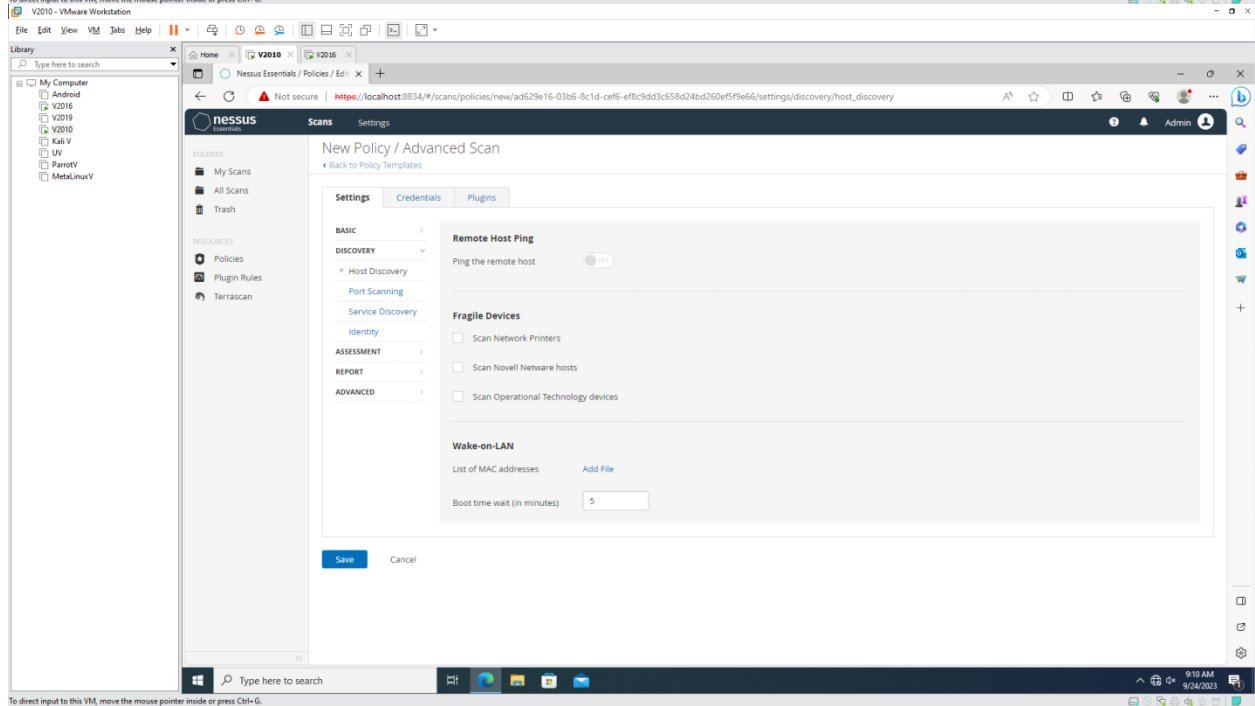
- Open Windows 10 and Windows Server 2016
- Install Nessus



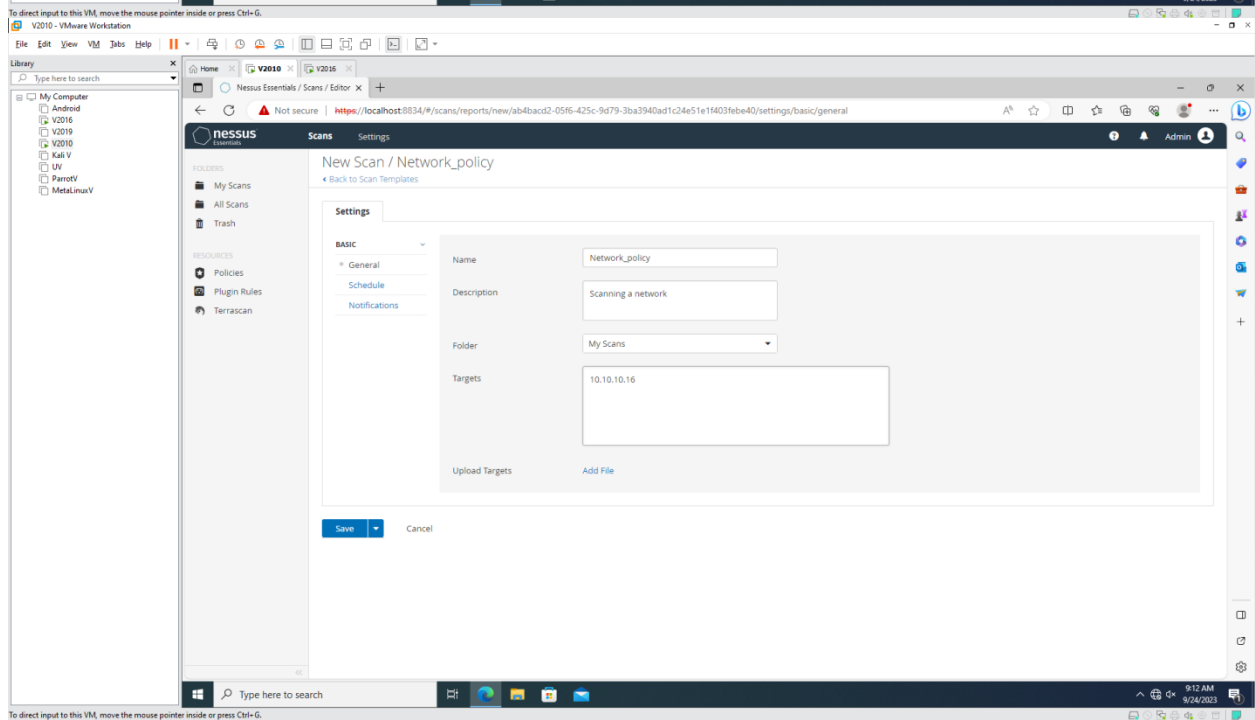
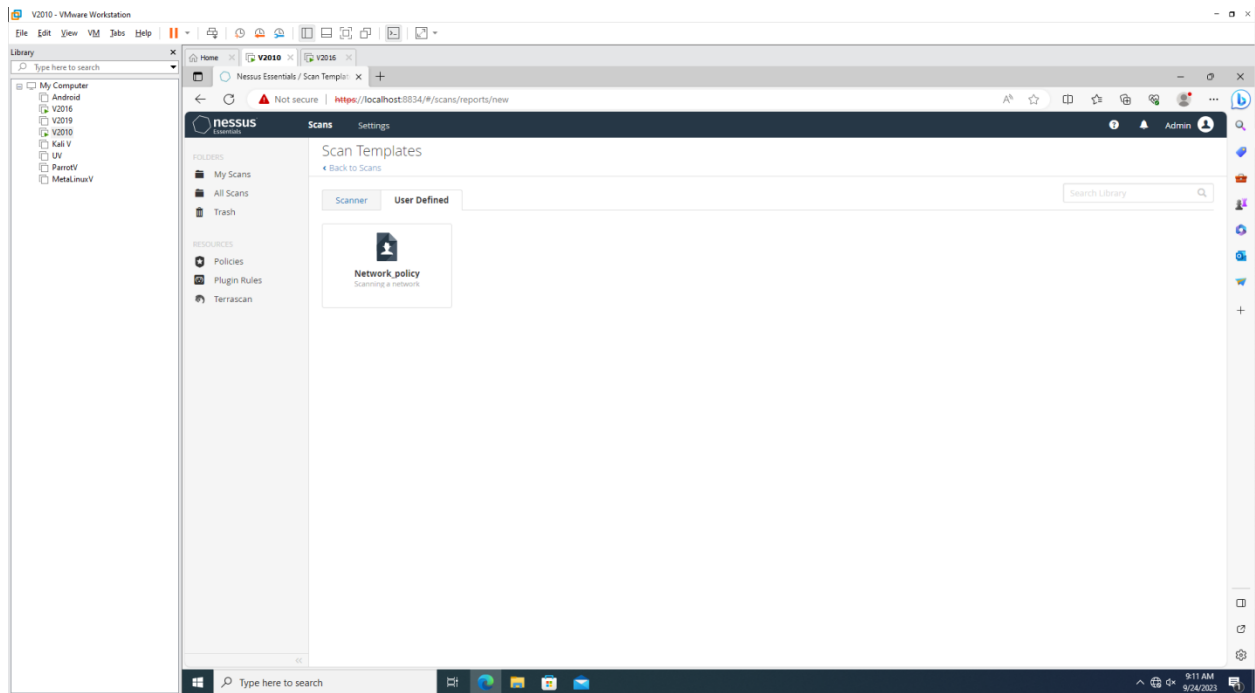


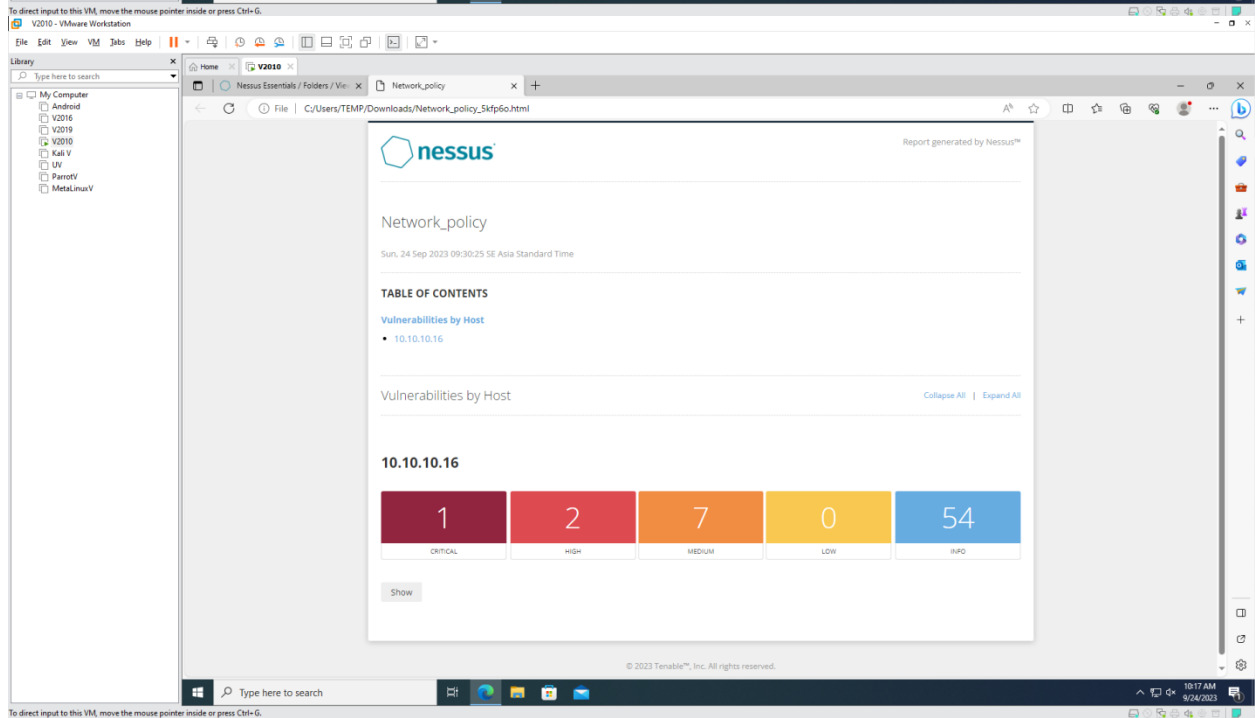
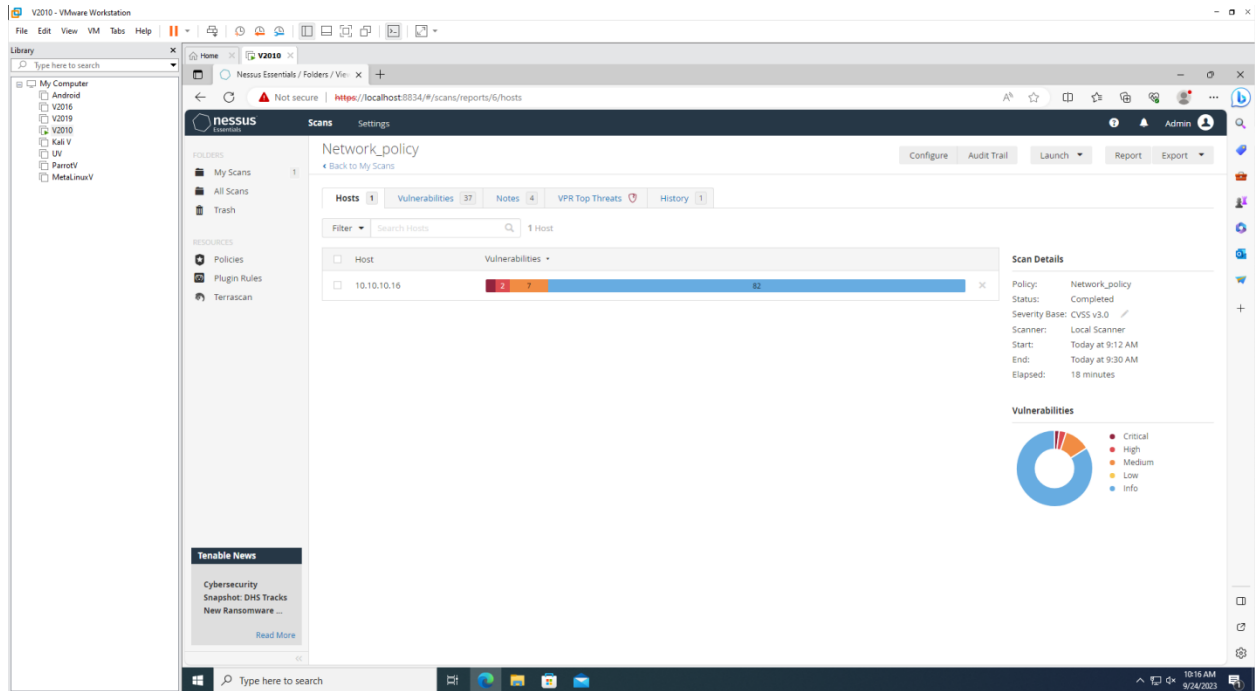


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To direct input to this VM, move the mouse pointer inside or press Ctrl-G.







V2010 - VMware Workstation

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- V2019
- V2010
- Kali V
- UV
- ParrotV
- MetaLinuxV

Nessus Essentials / Folders / View

Network\_policy

C:\Users\TEMP\Downloads\Network\_policy\_5kfp6o.html

Severity	CVSS v3.0	Plugin	Name
CRITICAL	9.8	175373	Microsoft Message Queuing RCE (CVE-2023-21554, QueueJumper)
HIGH	7.5	42873	SSL Medium Strength Cipher Suites Supported (SWEET32)
HIGH	7.5*	41028	SNMP Agent Default Community Name (public)
MEDIUM	6.5	51192	SSL Certificate Cannot Be Trusted
MEDIUM	6.5	57982	SSL Self-Signed Certificate
MEDIUM	6.5	104743	TLS Version 1.0 Protocol Detection
MEDIUM	6.5	157288	TLS Version 1.1 Protocol Deprecated
MEDIUM	5.9	65821	SSL RC4 Cipher Suites Supported (Bar Mitzvah)
MEDIUM	5.3	45411	SSL Certificate with Wrong Hostname
MEDIUM	4.0	58453	Terminal Services Doesn't Use Network Level Authentication (NLA) Only
INFO	N/A	10114	ICMP Timestamp Request Remote Date Disclosure
INFO	N/A	10761	COM+ Internet Services (CIS) Server Detection
INFO	N/A	45590	Common Platform Enumeration (CPE)
INFO	N/A	10736	DCE Services Enumeration
INFO	N/A	11082	DNS Server Detection
INFO	N/A	54615	Device Type
INFO	N/A	35716	Ethernet Card Manufacturer Detection
INFO	N/A	95430	Ethernet MAC Addresses

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Nessus Essentials / Folders / View

SNMP Agent Default Communi...

https://www.tenable.com/plugins/nessus/41028

This site has coupons!

Language: English

DETECTIONS

Plugins / Nessus / 41028

Overview

Plugins Pipeline

Release Notes

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Updated

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Nessus Families

WAS Families

NM Families

LCE Families

Tenable OT Security Families

About Plugin Families

Audits

Policies

Indicators

ANALYTICS

CVEs

Attack Path Techniques

## SNMP Agent Default Community Name (public)

High

Nessus Plugin ID: 41028

Information Dependencies Dependents Changelog

### Synopsis

The community name of the remote SNMP server can be guessed.

### Description

It is possible to obtain the default community name of the remote SNMP server.

An attacker may use this information to gain more knowledge about the remote host, or to change the configuration of the remote system (if the default community allows such modifications).

### Solution

Disable the SNMP service on the remote host if you do not use it.

Either filter incoming UDP packets going to this port, or change the default community string.

### Plugin Details

**Severity:** High

**ID:** 41028

**File Name:** snmp\_default\_public\_community.nasl

**Version:** 1.14

**Type:** remote

**Family:** SNMP

**Published:** 11/25/2002

**Updated:** 8/1/2022

**Configuration:** Enable thorough checks

### Risk Information

**VPR**

**Risk Factor:** Medium

**Score:** 5.9

**CVSS v2**

**Risk Factor:** High

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