



Tenable Nessus for Thycotic Integration Guide

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Introduction

This document describes how to deploy Tenable™ Nessus® for integration with Thycotic Secret Server. Please email any comments and suggestions to support@tenable.com.

Security administrators know that conducting network vulnerability assessments means getting access to and navigating an ever-changing sea of usernames, passwords, and privileges. By integrating Thycotic Secret Server with Nessus, administrators now have even more choice and flexibility for reducing the credentials headache.

The combined Tenable-Thycotic solution works when a Nessus scan policy is configured to query a Thycotic Secret Server for privileged credentials. At the time of the scan, Nessus requests the privileged account credentials from Thycotic. Thycotic sends the privileged account credentials to Nessus and the provided credentials are then used to log in to the target system to identify vulnerabilities and misconfigurations.

By integrating Nessus with Thycotic Secret Server, you can:

- Store credentials in Thycotic Secret Server instead of managing and updating the credentials directly within a Tenable solution.
- Reduce the time and effort needed to document credential storage within the organizational environment.
- Automatically enforce security policies within specific departments or for specific business unit requirements, simplifying your compliance process.
- Reduce the risk of unsecured privileged accounts and credentials across the enterprise.

Integration Requirements

You must meet the following minimum version requirements to integrate Tenable Nessus with Thycotic Secret Server:

- Thycotic Secret Server version 8.9 or later
- Nessus Manager version 6.7 or later

Note: The integration requires enabling the Thycotic Secret Server web services API, which is available in Secret Server Professional and the hosted version of Secret Server.

Integrate with Thycotic Secret Server

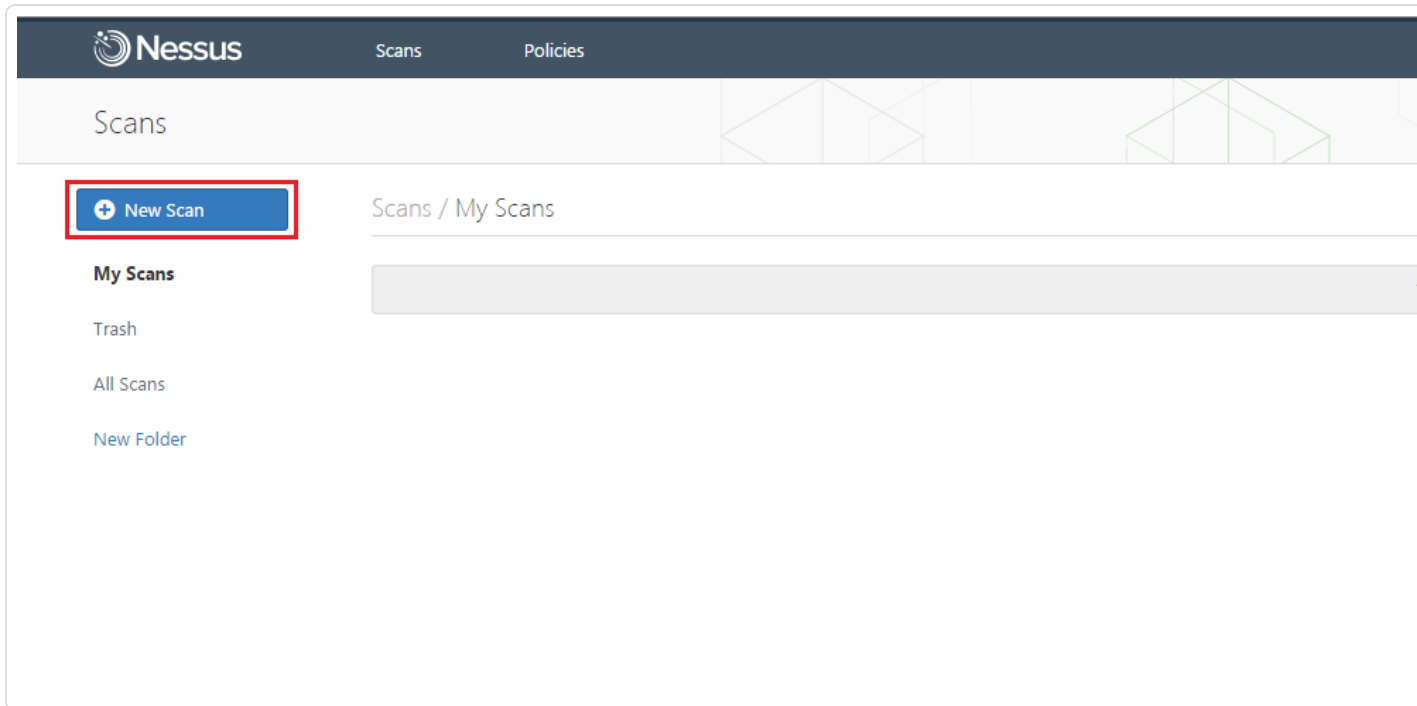
You can configure Nessus Manager to perform credentialed network scans of Windows and Linux systems using Thycotic's password management solution. Credentials are configured similarly to other credentialed network scans.

[Configure Windows Credentials](#)

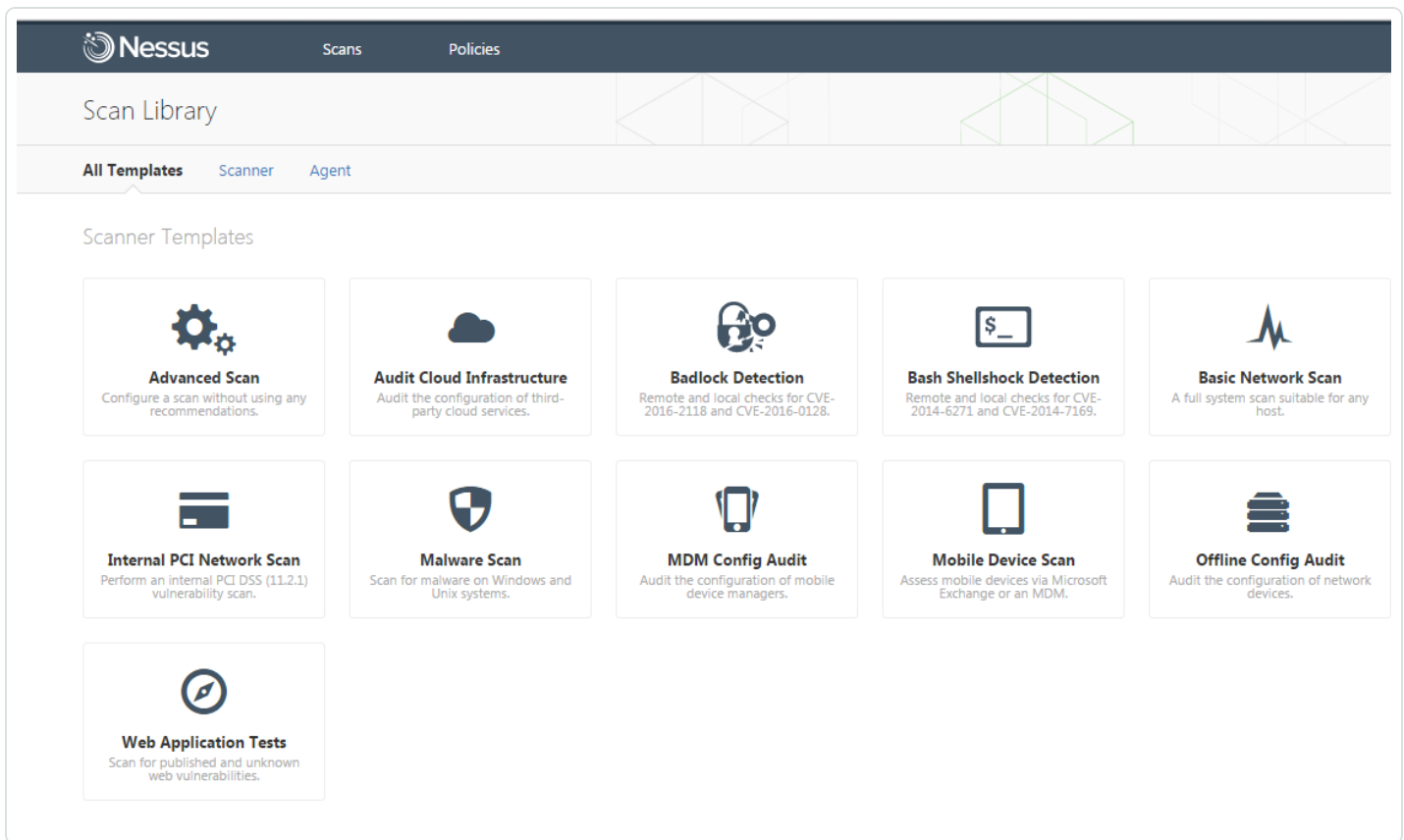
[Configure Linux Credentials](#)

Configure Windows Credentials

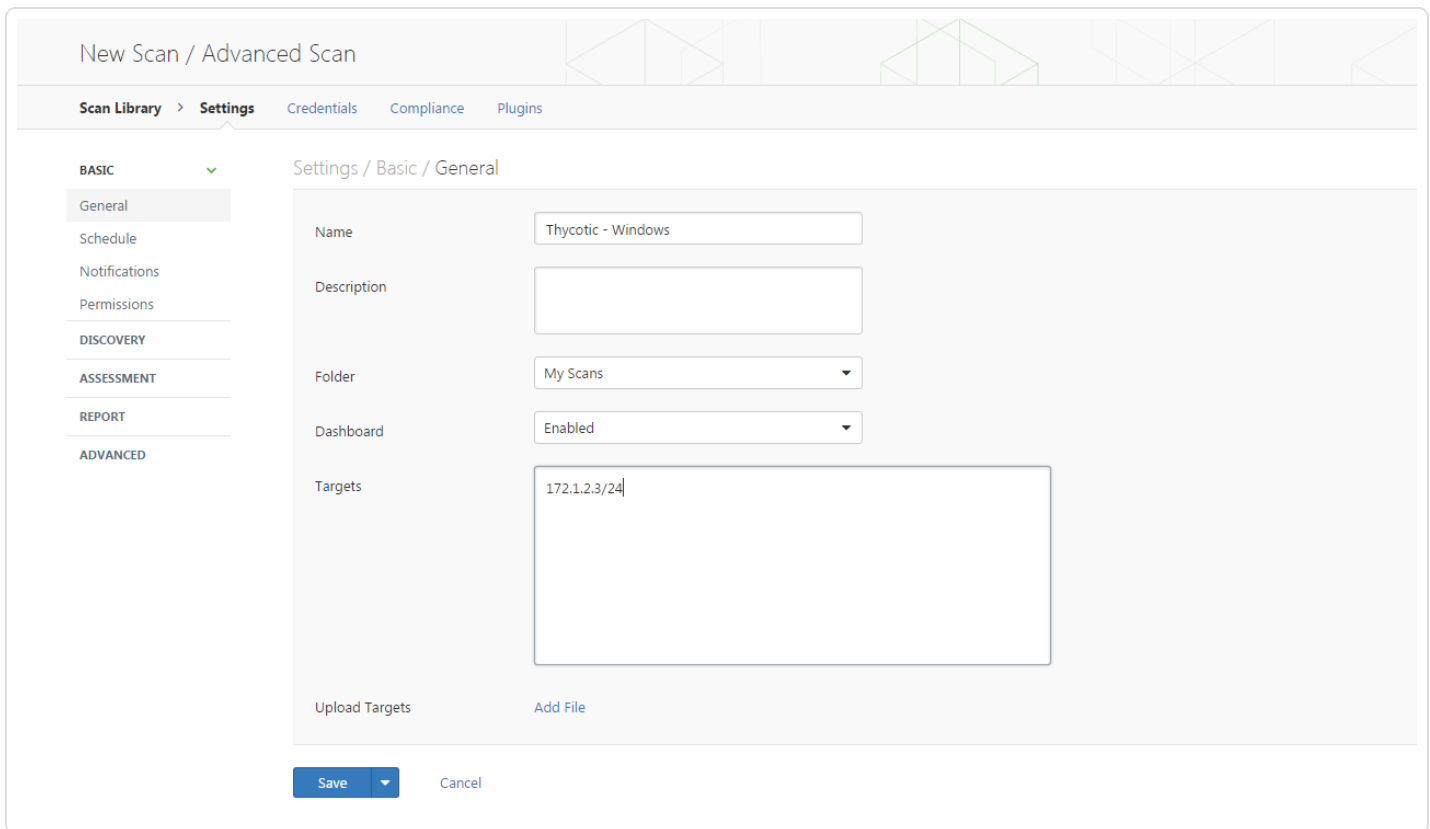
Log in to Nessus Manager and click the **+ New Scan** button to configure Nessus Manager for credentialed scans of Windows systems using Thycotic's password management solution.



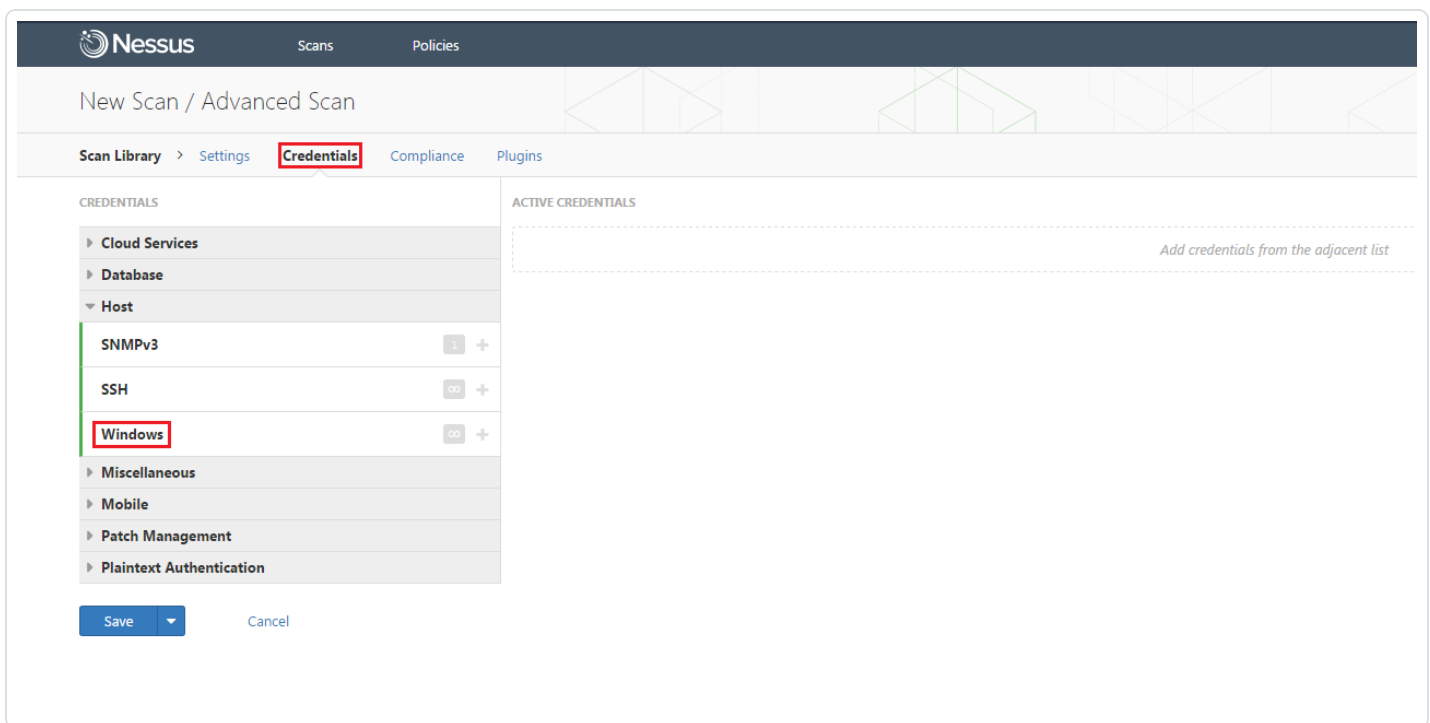
Select a “Scanner Template” for the scan type required for your scan. For demonstration purposes, the “Advanced Scan” template will be used.



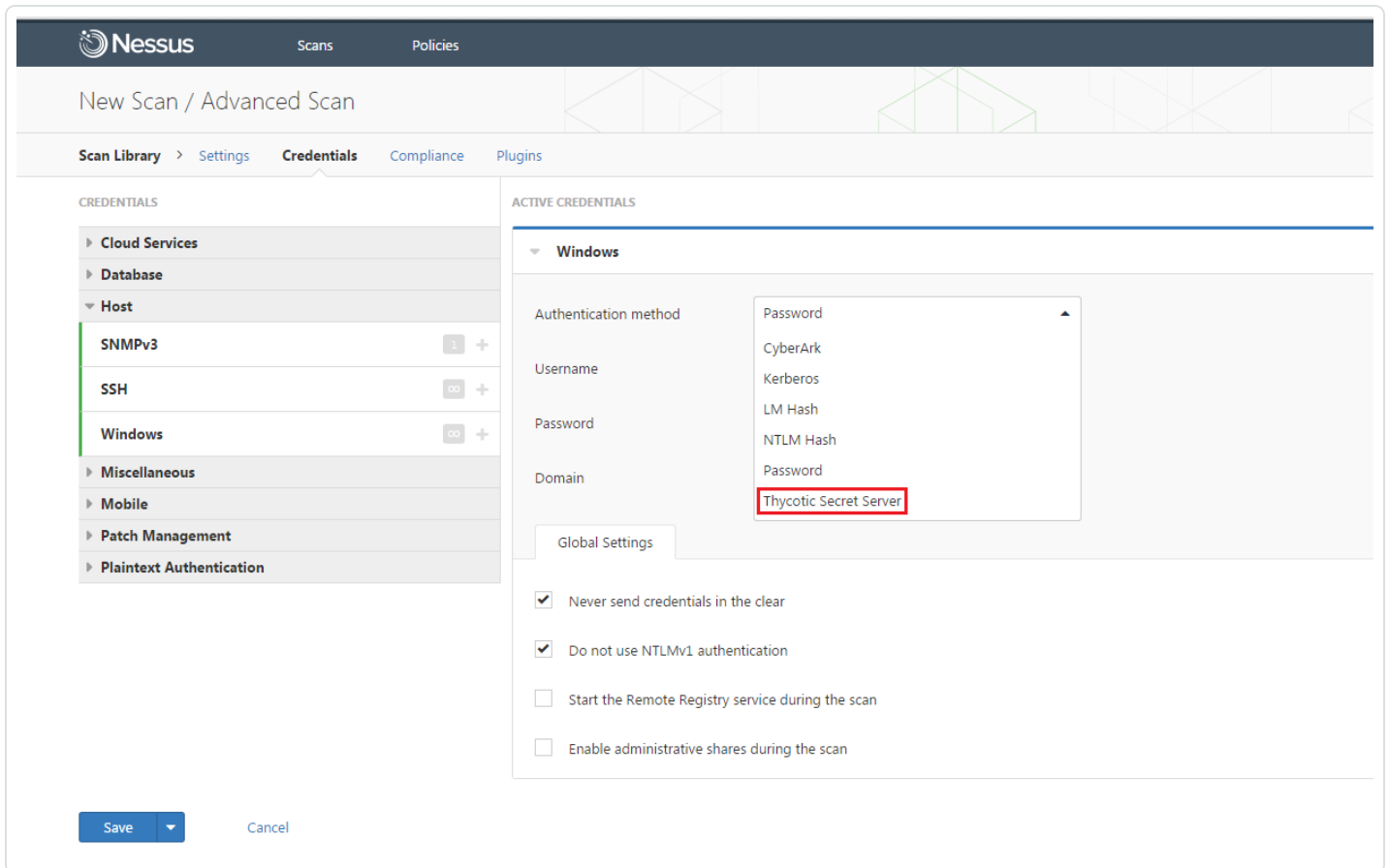
To configure a credentialed scan for Windows systems using Thycotic's password management solution, enter a descriptive **Name** and enter the IP address(es) or hostname(s) of the scan **Targets**.



Once the “Name” and “Targets” have been configured, click on **Credentials** and then select **Windows** from the left-hand menu.



Click the **Authentication method** drop-down and select **Thycotic Secret Server**.



The screenshot shows the Nessus interface for configuring a scan. The top navigation bar includes 'Nessus', 'Scans', and 'Policies'. Below this, the page title is 'New Scan / Advanced Scan'. The main navigation menu includes 'Scan Library', 'Settings', 'Credentials', 'Compliance', and 'Plugins'. The 'Credentials' section is active, showing a list of credential types on the left: Cloud Services, Database, Host, SNMPv3, SSH, Windows, Miscellaneous, Mobile, Patch Management, and Plaintext Authentication. The 'Windows' credential type is selected. The 'ACTIVE CREDENTIALS' section shows the configuration for the 'Windows' credential. The 'Authentication method' dropdown is open, showing a list of options: Password, CyberArk, Kerberos, LM Hash, NTLM Hash, Password, and Thycotic Secret Server. The 'Thycotic Secret Server' option is highlighted with a red box. Below the dropdown, there are fields for 'Username', 'Password', and 'Domain'. A 'Global Settings' tab is visible, containing several checkboxes: 'Never send credentials in the clear' (checked), 'Do not use NTLMv1 authentication' (checked), 'Start the Remote Registry service during the scan' (unchecked), and 'Enable administrative shares during the scan' (unchecked). At the bottom left, there is a 'Save' button and a 'Cancel' button.

Configure each field for Windows authentication. Refer to “Table 1 – Thycotic Windows Credentials” below for a description of each field. Once the Windows credentials have been configured, click **Save** to finalize the changes.

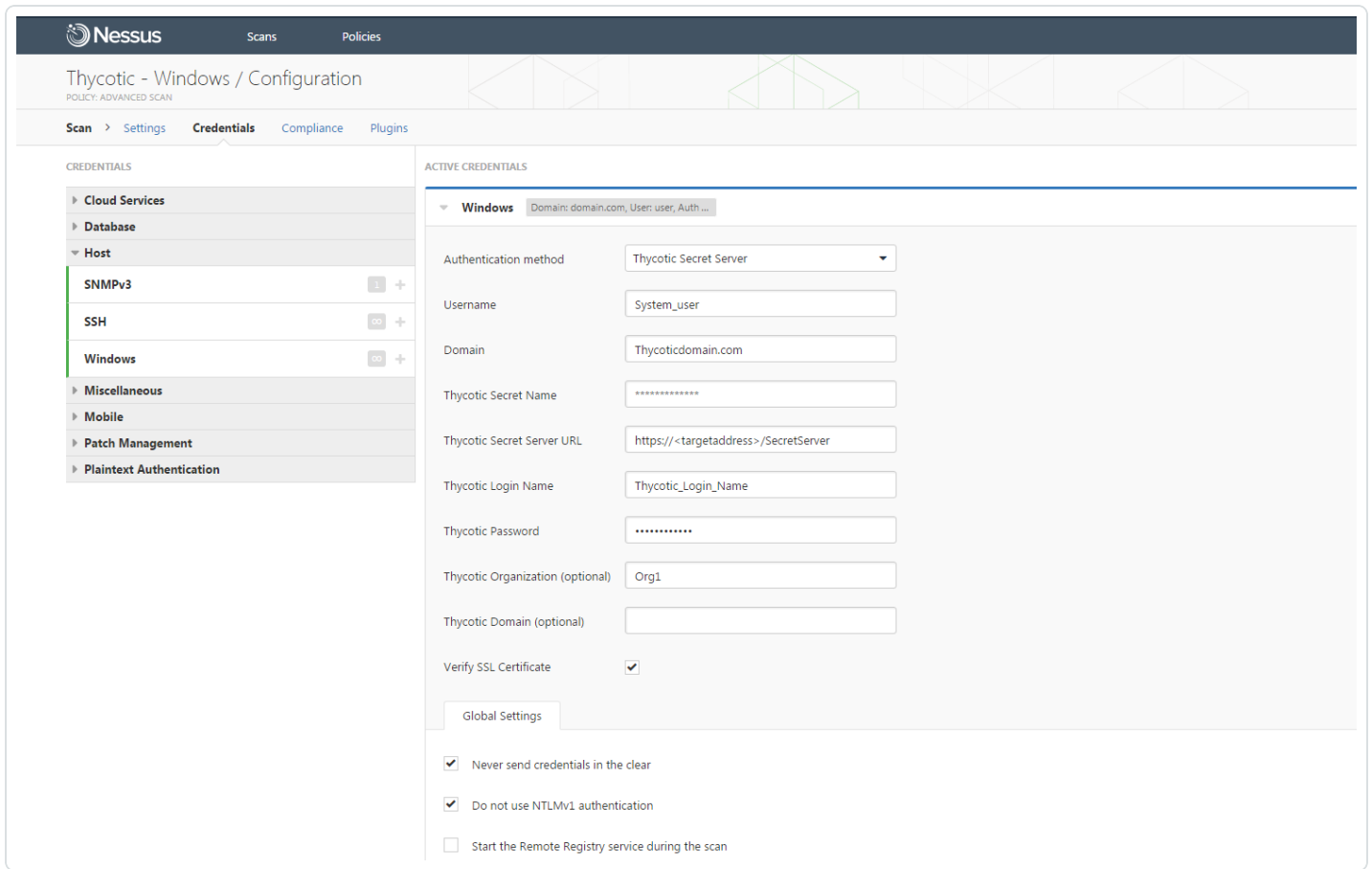
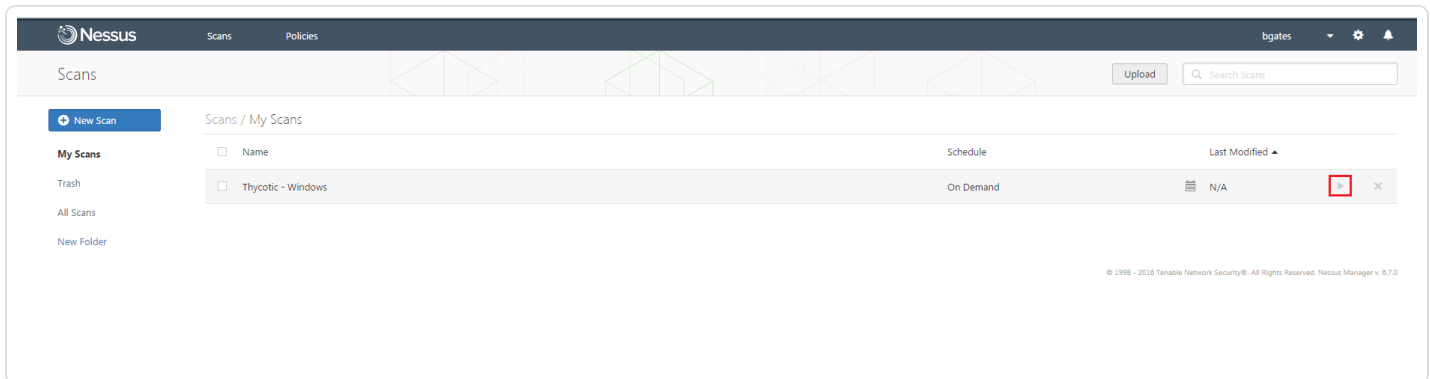


Table 1 – Thycotic Windows Credentials

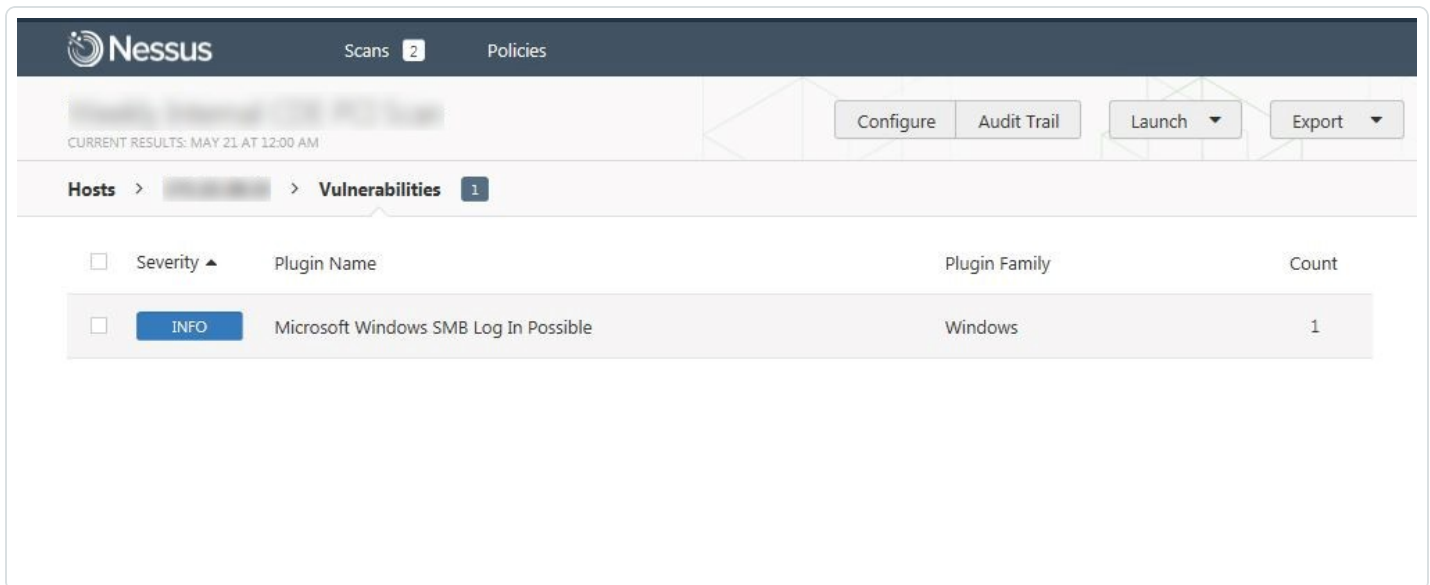
Option	Description
Username	The target system(s) username
Domain	This is an optional field if the above username is part of a domain
Thycotic Secret Name	The value (“Secret Name”) that the secret is stored as on the Thycotic server
Thycotic Secret Server URL	URL of the Thycotic Secret Server, which sets the transfer method, target, and target directory. This information can be found in Admin > Configuration > Application Settings > Secret Server URL on the Thycotic server.
Thycotic Login Name	The username used to authenticate to the Thycotic server
Thycotic Password	The password associated with the Thycotic Login Name
Thycotic Organization	This is an optional value used in cloud instances of Thycotic to

(optional)	define which organization should be queried
Thycotic Domain (optional)	This is an optional value set if the domain value is set for the Thycotic server
Verify SSL Certificate	Use the Custom_CA setup method to validate SSL server certificates

To verify the integration is working, click the **Launch button** to initiate an on-demand scan.



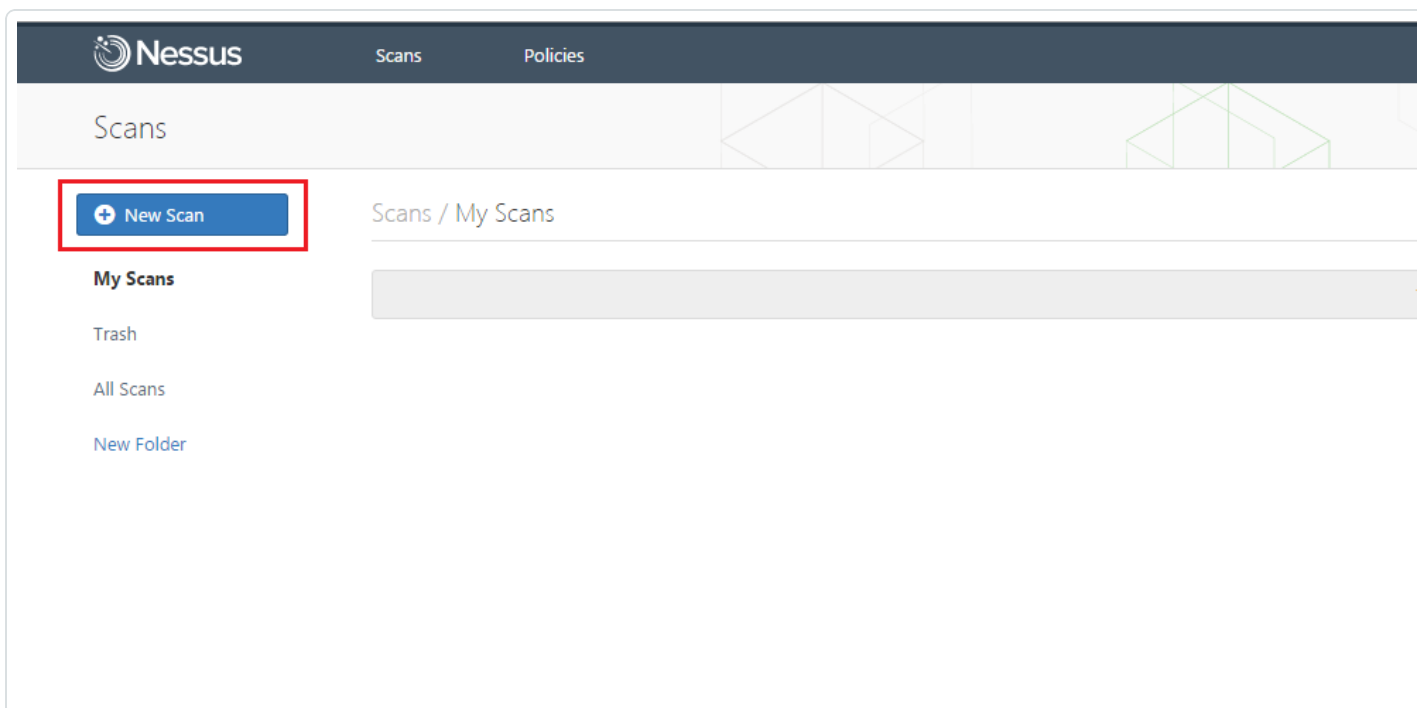
Once the scan has completed, select the completed scan and look for “Plugin ID 10394” (shown below), which validates that authentication was successful. If the authentication is not successful, refer to the “Troubleshooting” section of this document.



Configure Linux Credentials

Configuring Linux credentialed scans follows the same basic steps as Windows credentialed scans with only a few minor differences.

Log in to Nessus Manager and click the **+ New Scan** button to begin the Linux credentialed scan configuration.



Select a “Scanner Template” for the scan type required for your scan. For demonstration purposes, the “Advanced Scan” template will be used.

The screenshot displays the Nessus Scan Library interface. At the top, there is a navigation bar with the Nessus logo and tabs for 'Scans' and 'Policies'. Below this, the 'Scan Library' title is shown. A secondary navigation bar includes 'All Templates', 'Scanner', and 'Agent' tabs. The main content area is titled 'Scanner Templates' and features a grid of ten scan template cards, each with an icon, a title, and a brief description:

- Advanced Scan**: Configure a scan without using any recommendations.
- Audit Cloud Infrastructure**: Audit the configuration of third-party cloud services.
- Badlock Detection**: Remote and local checks for CVE-2016-2118 and CVE-2016-0128.
- Bash Shellshock Detection**: Remote and local checks for CVE-2014-6271 and CVE-2014-7169.
- Basic Network Scan**: A full system scan suitable for any host.
- Internal PCI Network Scan**: Perform an internal PCI DSS (11.2.1) vulnerability scan.
- Malware Scan**: Scan for malware on Windows and Unix systems.
- MDM Config Audit**: Audit the configuration of mobile device managers.
- Mobile Device Scan**: Assess mobile devices via Microsoft Exchange or an MDM.
- Offline Config Audit**: Audit the configuration of network devices.
- Web Application Tests**: Scan for published and unknown web vulnerabilities.

To configure a credentialed scan for Linux systems using Thycotic’s password management solution, enter a descriptive **Name** and enter the IP address(es) or hostname(s) of the scan **Targets**.

The screenshot shows the Nessus configuration interface for a scan named "Thycotic - Linux". The page is titled "Thycotic - Linux / Configuration" and is under the "Settings" tab. The left-hand menu is expanded to "BASIC", showing sub-items: General, Schedule, Notifications, Permissions, DISCOVERY, ASSESSMENT, REPORT, and ADVANCED. The "Settings / Basic / General" section is active, displaying the following configuration:

- Name: Thycotic - Linux
- Description: (empty)
- Folder: My Scans
- Dashboard: Enabled
- Targets: 172.1.2.3/24

At the bottom of the configuration area, there are "Upload Targets" and "Add File" links. Below the configuration area are "Save" and "Cancel" buttons.

Once the “Name” and “Targets” have been configured, click on **Credentials** and then select **SSH** from the left-hand menu.

Nessus Scans Policies

New Scan / Advanced Scan

Scan Library > Settings **Credentials** Compliance Plugins

CREDENTIALS

- Cloud Services
- Database
- Host
 - SNMPv3 1 +
 - SSH** ∞ +
 - Windows ∞ +
- Miscellaneous
- Mobile
- Patch Management
- Plaintext Authentication

ACTIVE CREDENTIALS

Add credentials from the adjacent list

Save Cancel

In the **Authentication method** drop-down box, select **Thycotic Secret Server**.

Nessus Scans Policies

Thycotic - Linux / Configuration
POLICY: ADVANCED SCAN

Scan > Settings **Credentials** Compliance Plugins

CREDENTIALS

- Cloud Services
- Database
- Host
 - SNMPv3 1 +
 - SSH** ∞ +
 - Windows ∞ +
- Miscellaneous
- Mobile
- Patch Management
- Plaintext Authentication

ACTIVE CREDENTIALS

- Windows
- SSH**
 - Authentication method: Public key, Certificate, CyberArk, Kerberos, Password, Public key, **Thycotic Secret Server**
 - Username
 - Private key
 - Private key passphrase
 - Elevate privileges with: Nothing
 - Global Settings
 - known_hosts file: Add File
 - Preferred port: 22
 - Client version: OpenSSH_5.0

Save Cancel

Configure each field for SSH authentication. Refer to “Table 2 – Thycotic SSH Credentials” below for a description of each field. Once the SSH credentials have been configured, click **Save** to finalize the changes.

The screenshot shows the Nessus configuration page for 'Thycotic - Linux / Configuration'. The 'Credentials' tab is active, and the 'SSH' category is selected. The configuration form includes the following fields:

- Authentication method: Thycotic Secret Server
- Username: System_user
- Thycotic Secret Name: [Redacted]
- Thycotic Secret Server URL: https://<targetaddress>/SecretServer
- Thycotic Login Name: Thycotic_Login_Name
- Thycotic Password: [Redacted]
- Thycotic Organization (optional): Org1
- Thycotic Domain (optional): [Empty]
- Verify SSL Certificate:
- Global Settings: [Button]
- known_hosts file: Add File
- Preferred port: 22
- Client version: OpenSSH_5.0

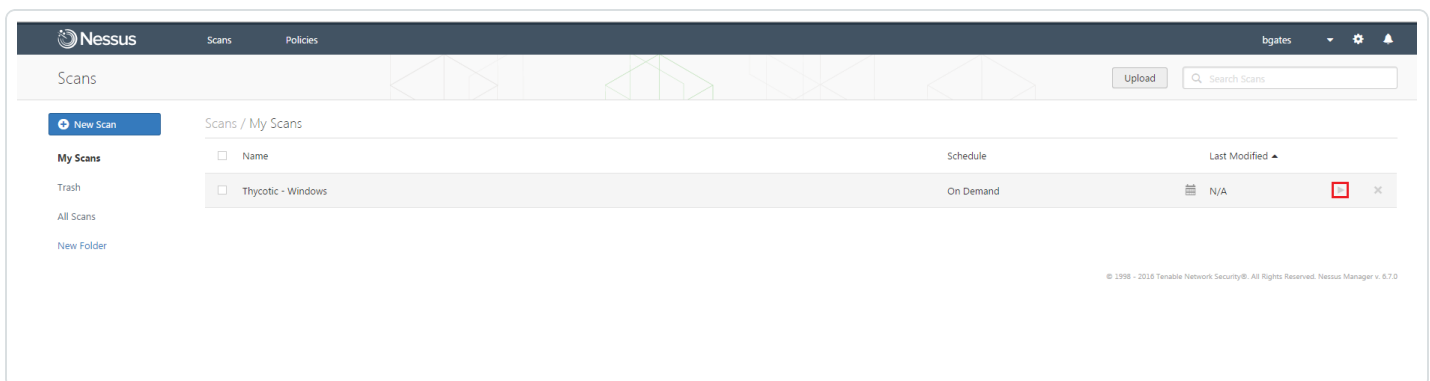
Table 2 – Thycotic SSH Credentials

Option	Description
Username	The username that is used to authenticate via ssh to the system.
Thycotic Secret Name	This is the value that the secret is stored as on the Thycotic server. It is referred to as the “Secret Name” on the Thycotic server.
Thycotic Secret Server URL	This is used to set the transfer method, target , and target directory for the scanner. The value can be found in Admin > Configuration > Application Settings > Secret Server URL on the Thycotic server. For example consider the following address https://p-w.mydomain.com/SecretServer/. We will parse this to know that https defines it is a ssl connection, pw.mydomain.com is the target

	address, /SecretServer/ is the root directory.
Thycotic Login Name	The username used to authenticate to the Thycotic server.
Thycotic Password	The password associated with the Thycotic Login Name .
Thycotic Organization (optional)	This value is used in cloud instances of Thycotic to define which organization your query should hit.
Thycotic Domain (optional)	This is an optional value set if the domain value is set for the Thycotic server.
Use Private Key	Use key based authentication for SSH connections instead of a password.
Verify SSL Certificate	Verify if the SSL Certificate on the server is signed by a trusted CA.
Thycotic elevate privileges with	The privilege escalation method you want to use to increase the user's privileges after initial authentication. Multiple options for privilege escalation are supported, including su, su+sudo and sudo. Your selection determines the specific options you must configure.

Note: For additional information about all of the supported privilege escalation types and their accompanying fields, see [SSH](#) in the Nessus User Guide.

To verify the integration is working, click the **Launch button** to initiate an on-demand scan.



Once the scan has completed, select the completed scan and look for “Plugin ID 12634”, which validates that authentication was successful. If the authentication is not successful, refer to the “Troubleshooting” section of this document.

Troubleshooting

Nessus Manager 6.7 offers the ability to enable plugin debugging, which will allow for easier troubleshooting and resolution should issues arise. Enabling plugin debugging attaches available debug logs from plugins to the vulnerability output of the scan it is enabled on.

To enable plugin debugging, navigate to scan **Settings** and click **Advanced** in the left-hand menu.

The screenshot displays the Nessus Manager interface for configuring a scan. The top navigation bar includes 'Nessus', 'Scans', and 'Policies'. The main header shows 'Thycotic - Windows / Configuration' with a sub-header 'POLICY: ADVANCED SCAN'. Below this, a breadcrumb trail reads 'Scan > Settings > Credentials > Compliance > Plugins'. The left-hand menu is categorized into 'BASIC', 'DISCOVERY', 'ASSESSMENT', and 'REPORT'. Under 'BASIC', the 'Advanced' option is highlighted with a red box. The main content area is titled 'Settings / Basic / General' and contains the following configuration fields:

- Name:** Thycotic - Windows
- Description:** (Empty text box)
- Folder:** My Scans (Dropdown menu)
- Dashboard:** Enabled (Dropdown menu)
- Targets:** 172.1.2.3/24 (Text area)

At the bottom of the configuration area, there are links for 'Upload Targets' and 'Add File'. Below the configuration area, there are 'Save' and 'Cancel' buttons.

Select the **Enable plugin debugging** checkbox and click **Save** to finalize the change.

- BASIC
- DISCOVERY
- ASSESSMENT
- REPORT
- ADVANCED ▼

Settings / Advanced

General Settings

- Enable safe checks
- Stop scanning hosts that become unresponsive during the scan
- Scan IP addresses in a random order

Performance Options

- Slow down the scan when network congestion is detected
- Use Linux kernel congestion detection

Network timeout (in seconds)

Max simultaneous checks per host

Max simultaneous hosts per scan

Max number of concurrent TCP sessions per host

Max number of concurrent TCP sessions per scan

Debug Settings

- Log scan details to server
Logs the start and finish time for each plugin used during a scan to nessusd.messages.

- Enable plugin debugging
Attaches available debug logs from plugins to the vulnerability output of this scan.