NetScaler Authentication

Thank you for your interest in authenticated scanning! When you configure and use authentication, you get a more in-depth assessment of your hosts, the most accurate results. This document provides tips and best practices for setting up NetScaler authentication.

NetScaler Authentication for VM

Why use authentication?

With authentication, we can remotely log in to each target system with credentials that you provide, and because we're logged in, we can do more thorough testing. This will give you better visibility into each system's security posture. Is it required? It's recommended for vulnerability scans.

What privileges are needed for vulnerability scans?

The account you provide must be able to perform certain commands like 1) execute "uname" to detect the platform for packages, 2) read /etc/redhat-release and execute "rpm" (if the target is running Red Hat), and 3) read /etc/debian_version and execute "dpkg" (if the target is running Debian).

There are many more commands that must be performed. The *NIX Authenticated Scan Process and Commands article describes the types of commands run, and gives you an idea of the breadth and scope of the commands executed. It includes a list of commands that a Qualys service account might run during a scan. Not every command is run every time, and *nix distributions differ. This list is neither comprehensive nor actively maintained.

Are my credentials safe?

Yes, credentials are exclusively used for READ access to your system. The service does not modify or write anything on the device in any way. Credentials are securely handled by the service and are only used for the duration of the scan.

What are the steps?

First, set up a NetScaler user account and privileges on target hosts (we'll help you with this below). Then, using Qualys Vulnerability Management, complete these steps: 1) Add Unix authentication records (NetScaler uses Unix Authentication record for authentication. Use new Authentication and select Unix Authentication). 2) Launch a vulnerability scan. 3) Run the Authentication Report to view the detailed report for each scanned host. For vulnerability scans you must enable authentication in an option profile and then select the profile at scan time. Go to Scans > Option Profiles. Edit an option profile (or create a new one), go to the Scan section and select each type of authentication you want to use.

Can I have multiple records?

Yes. You can create multiple records with different IP addresses. Each IP address may be included in one Unix type record.

NetScaler Authentication for PC

Why use authentication?

With authentication, we can remotely log in to each target system with credentials that you provide, and because we're logged in, we can do more thorough testing. This will give you better visibility into each system's security posture. Is it required? It's required for compliance scans.

What privileges are needed for compliance scans?

In order to evaluate all compliance checks you must provide an account with superuser (root) privileges. The compliance scan confirms that full UID=0 access has been granted even if the initial SSH access has been granted to a non-root user. Without full UID=0 access, the scan will not proceed. Note also the account must be configured with the "sh" or "bash" shell.

We support use of Sudo or PowerBroker root delegation for systems where remote root login has been disabled for the system to be scanned. However, you cannot use a restricted Unix/Linux account by delegating specific root level commands to the account specified in the sudoers file or equivalent. A non-root account can be used to establish the initial SSH connection, but that account must be able to execute a "sudo su –" command (or equivalent) so that account can gain root level (UID=0) access for the compliance scan to proceed.

Are my credentials safe?

Yes, credentials are exclusively used for READ access to your system. The service does not modify or write anything on the device in any way. Credentials are securely handled by the service and are only used for the duration of the scan.

What are the steps?

First, set up a NetScaler user account and privileges on target hosts (we'll help you with this below). Then, using Qualys Policy Compliance, complete these steps: 1) Add Unix authentication records (NetScaler uses Unix Authentication record for authentication and assessment of controls, please use new Authentication and select Unix Authentication). 2) Launch a compliance scan. 3) Run the Authentication Report to view the authentication status for each scanned host.

Can I have multiple records?

Yes. You can create multiple records with different IP addresses. Each IP address may be included in one Unix type record.

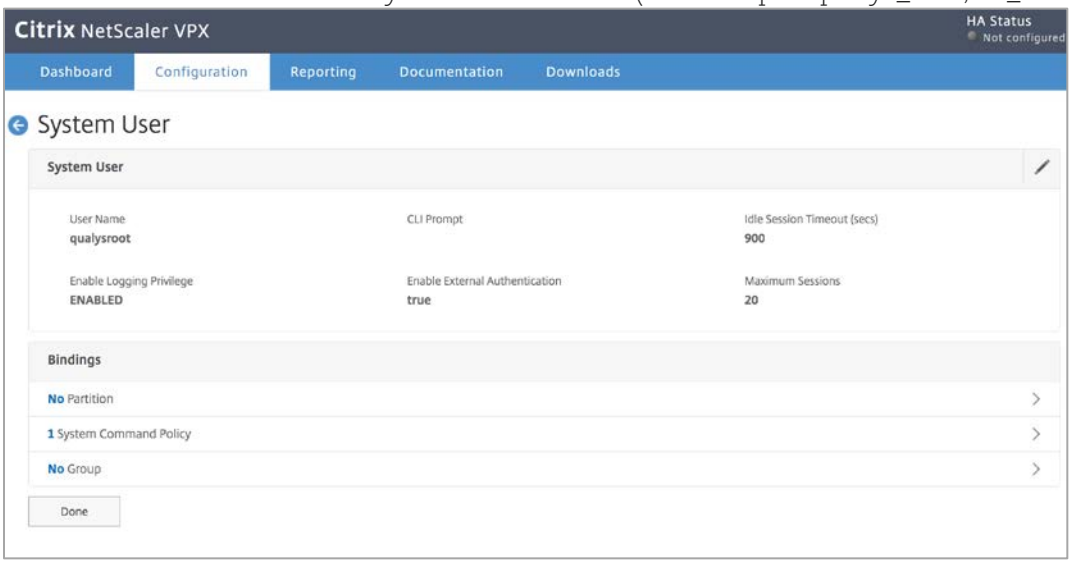
NetScaler Setup

In order for scans to work properly, the following account and privileges must exist prior to running the scan.

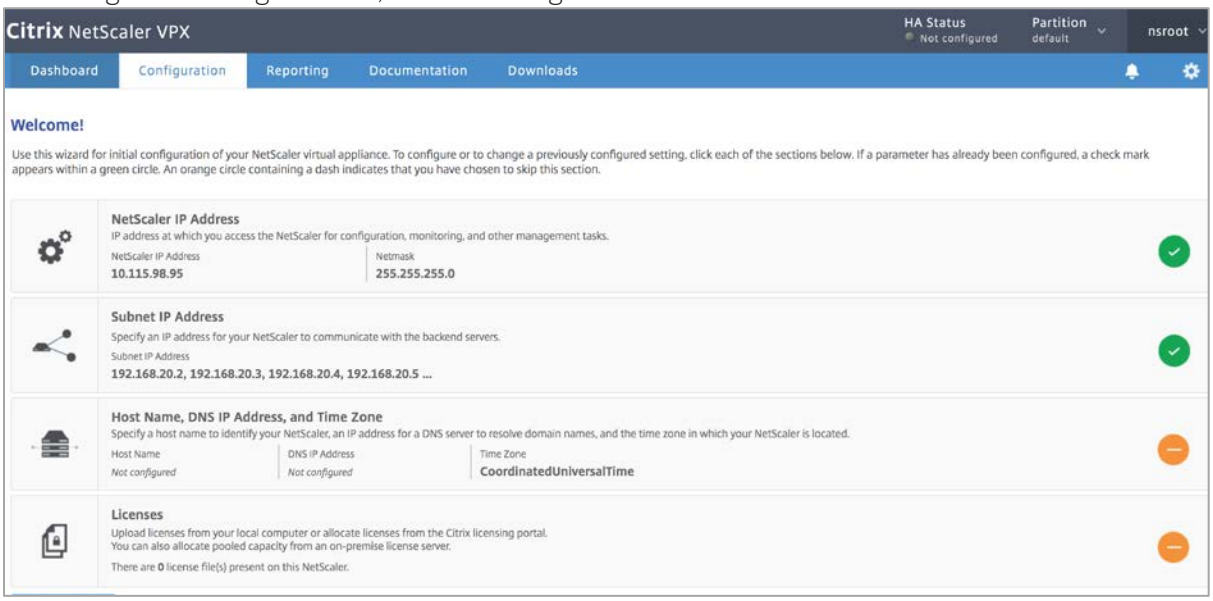
1) Create a User Account on NetScaler Instance

Create a user account called **scanuser** which is used to scan NetScaler devices.

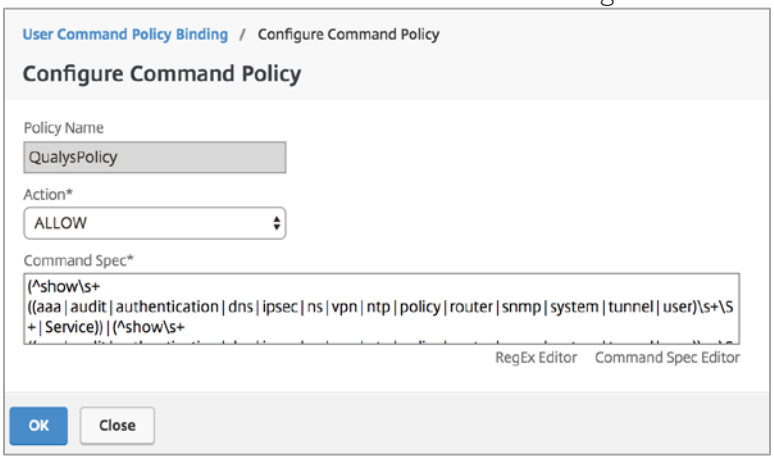
a. Users can be created locally on the device using IP address of the device under system and create a user with root keyword in it such as (for example: qualys_root, hs_root).



b. To change the configurations, use following screen:



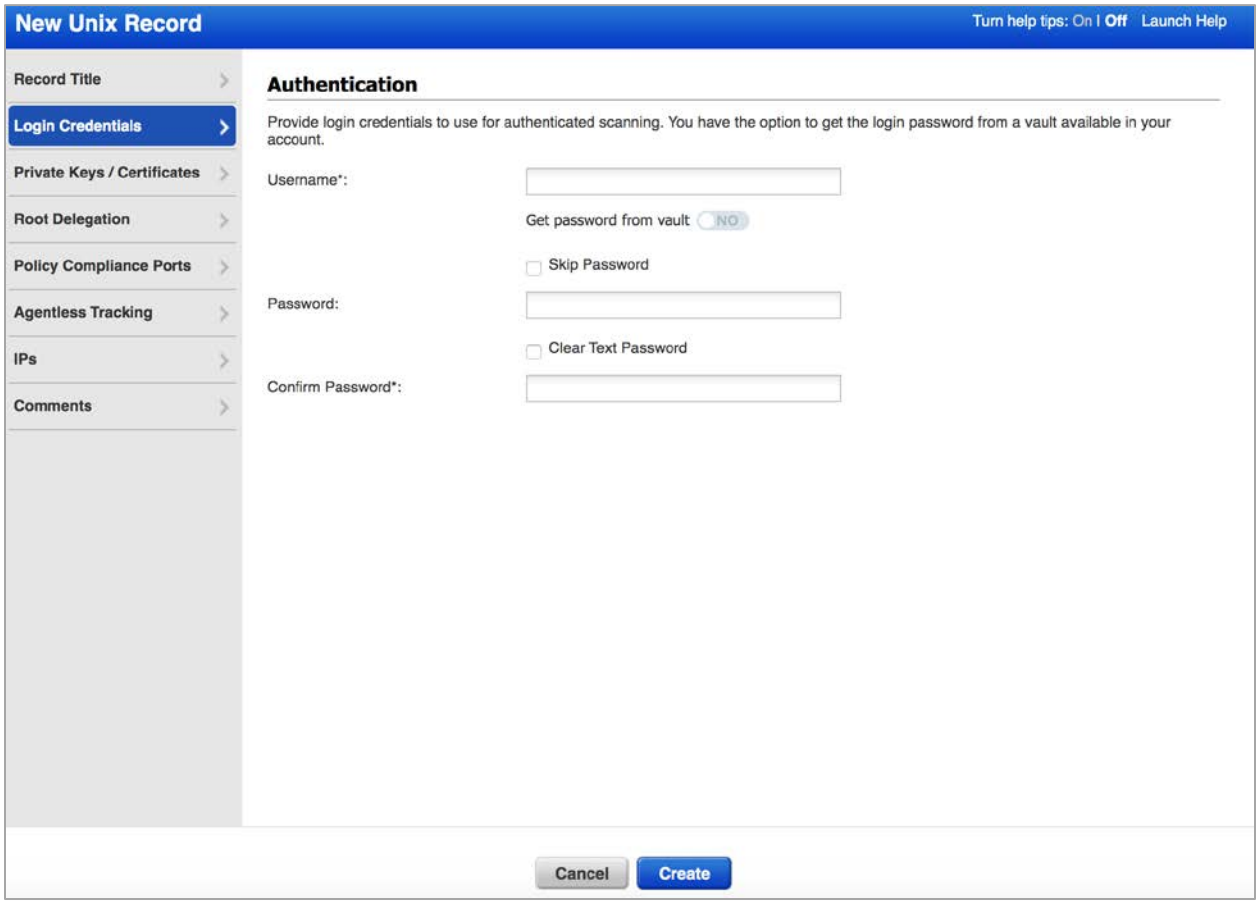
c. Once the user is created, assign a “read-only” policy directly or via the group to this user which will be used to assess the controls during the scan.



Command Specification

```
(^man.*)|(^show\s+(?!system)(?!configstatus)(?!ns ns\.conf)(?!ns
savedconfig)(?!ns runningConfig)(?!gslb runningConfig)(?!audit
messages)(?!techsupport).*)|(^stat.*)
```

2) NetScaler uses Unix Authentication record for authentication and assessment of controls so, please use new Authentication and select Unix Authentication.

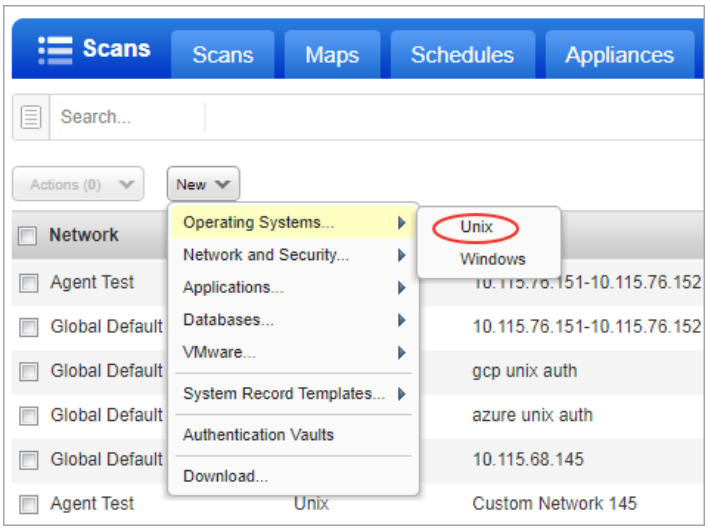


3) Following are the list of commands that are executed on the device to assess compliance controls. Supported Versions are 10.x, 11.x and 12.x.

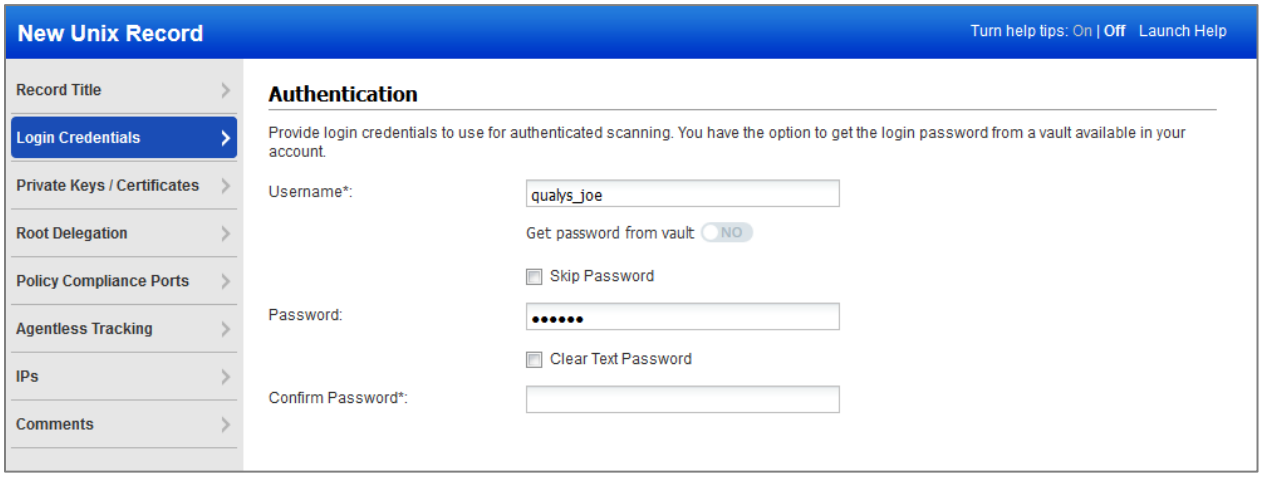
```
show ns version
show ns feature
show ns mode
show ssl parameter
show vpn parameter
show ntp server | grep NTP
show audit nslogParams
show snmp alarm | grep UNSET
show ns mode | grep -w SRADV
show ns mode | grep -w SRADV6
show ns mode | grep -w DRADV
show ns mode | grep -w DRADV6
show ns mode | grep -w IRADV
show ns mode | grep -w BridgeBPDUs
show aaa ldapParams
Show aaa tacacsParams
Show aaa radiusParams
show ns tcpbufParam
show ntp sync
show system user | grep User name
show tcpParam
show run | grep bind system user
shell 'nsconmsg -d stats | grep small_window |
sed -E \s/ +/|:|/g\'
shell 'nsconmsg -d stats | grep small_window |
sed -E \s/ +/|:|/g\'
shell 'nsconmsg -d stats | grep small_window |
sed -E \s/ +/|:|/g\'
shell 'nsconmsg -d stats | grep small_window |
sed -E \s/ +/|:|/g\'
shell cat /etc/sshd_config | grep
AllowTcpForwarding
```

Unix Authentication Record

Go to Scans > Authentication. Then select New > Operating Systems > Unix. You might be interested in Unix subtypes. You'll see records for Cisco authentication and Checkpoint Firewall authentication under Network and Security.

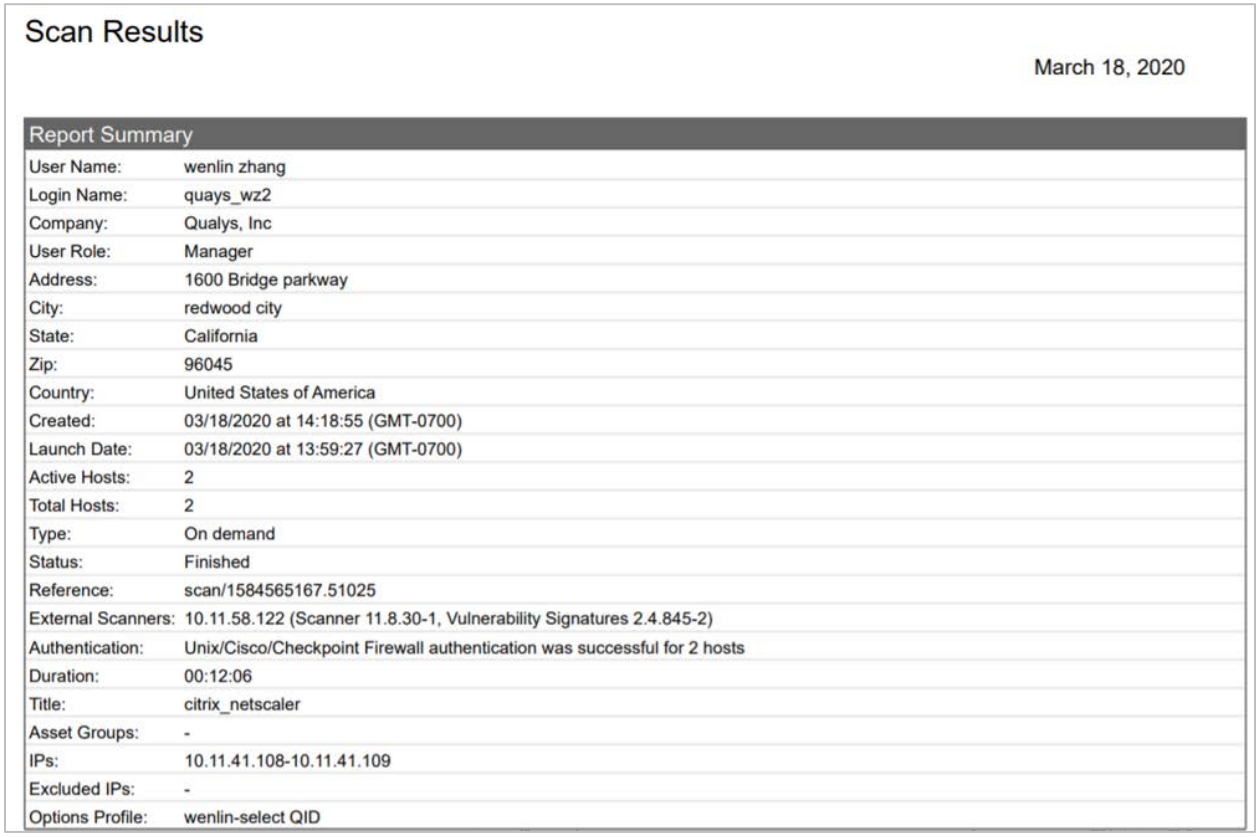


Enter the Unix login credentials (user name, password) our service will use to log in to Unix hosts at scan time. Then walk thru our wizard to select the options you want for private keys, root delegation, policy compliance and target IPs. Our online help is always available to assist you.



Reports

Sample VM Report

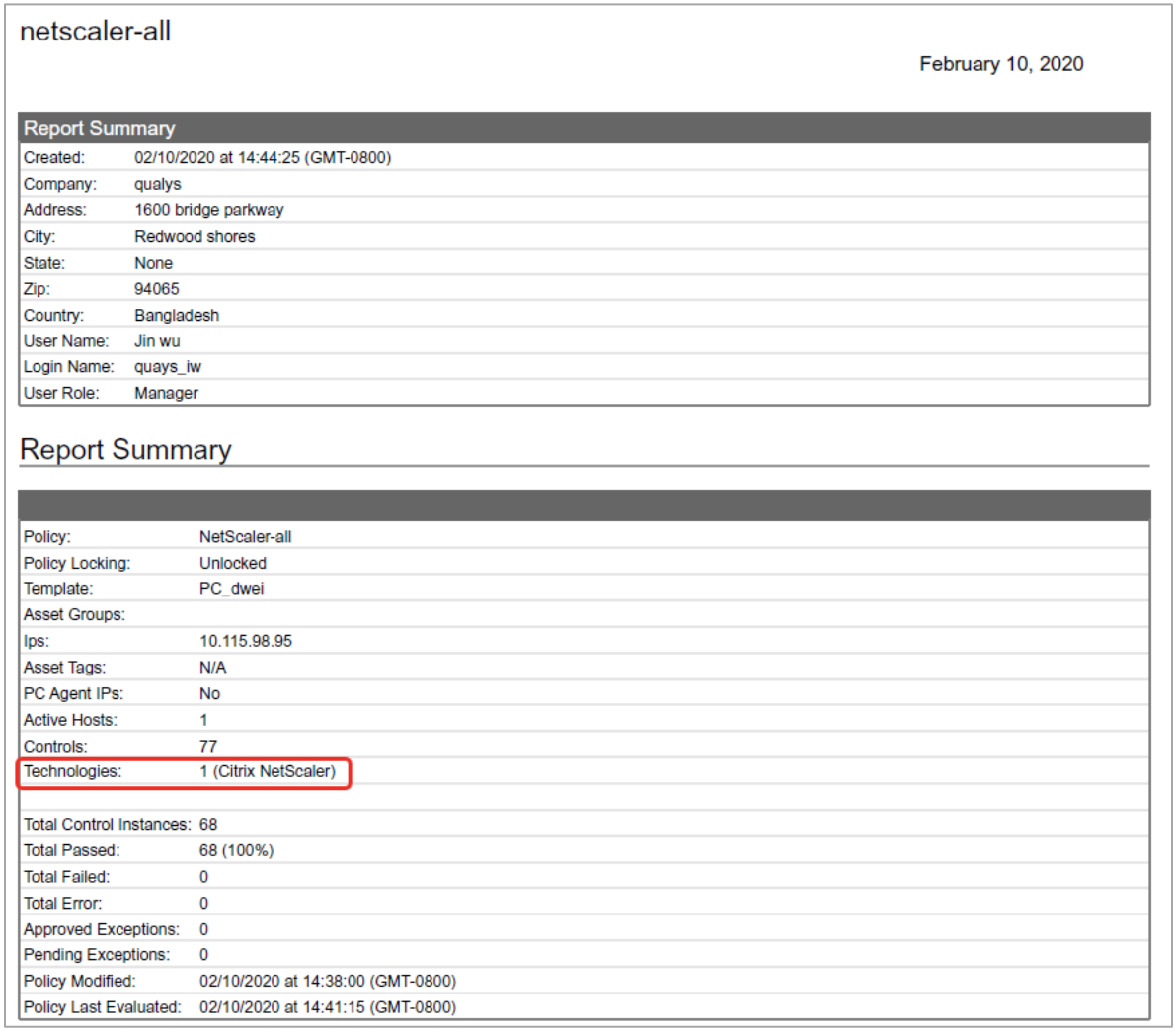


Scan Results

March 18, 2020

Report Summary	
User Name:	wenlin zhang
Login Name:	quays_wz2
Company:	Qualys, Inc
User Role:	Manager
Address:	1600 Bridge parkway
City:	redwood city
State:	California
Zip:	96045
Country:	United States of America
Created:	03/18/2020 at 14:18:55 (GMT-0700)
Launch Date:	03/18/2020 at 13:59:27 (GMT-0700)
Active Hosts:	2
Total Hosts:	2
Type:	On demand
Status:	Finished
Reference:	scan/1584565167.51025
External Scanners:	10.11.58.122 (Scanner 11.8.30-1, Vulnerability Signatures 2.4.845-2)
Authentication:	Unix/Cisco/Checkpoint Firewall authentication was successful for 2 hosts
Duration:	00:12:06
Title:	citrix_netscaler
Asset Groups:	-
IPs:	10.11.41.108-10.11.41.109
Excluded IPs:	-
Options Profile:	wenlin-select QID

Sample PC Report



netscaler-all

February 10, 2020

Report Summary	
Created:	02/10/2020 at 14:44:25 (GMT-0800)
Company:	qualys
Address:	1600 bridge parkway
City:	Redwood shores
State:	None
Zip:	94065
Country:	Bangladesh
User Name:	Jin wu
Login Name:	quays_iw
User Role:	Manager

Report Summary

Policy:	NetScaler-all
Policy Locking:	Unlocked
Template:	PC_dwei
Asset Groups:	
Ips:	10.115.98.95
Asset Tags:	N/A
PC Agent IPs:	No
Active Hosts:	1
Controls:	77
Technologies:	1 (Citrix NetScaler)
Total Control Instances:	68
Total Passed:	68 (100%)
Total Failed:	0
Total Error:	0
Approved Exceptions:	0
Pending Exceptions:	0
Policy Modified:	02/10/2020 at 14:38:00 (GMT-0800)
Policy Last Evaluated:	02/10/2020 at 14:41:15 (GMT-0800)

Last updated: June 19, 2020