QUALYS® Scanning Tips

VMware Authentication

September 26, 2016

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 and fewer false positives. This document provides tips and best practices for setting up VMware authentication.

A few things to consider

Why should I 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 and recommended for vulnerability scans.

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 VMware user account and privileges (on target hosts) for authenticated scanning. Then, using Qualys, complete these steps: 1) Add a VMware authentication record to associate credentials with hosts . 2) Launch a scan using an option profile with authentication enabled (it's always enabled in compliance profiles). 3) Run the Authentication Report to find out if authentication passed or failed for each scanned host.

What's supported?

You can perform authenticated mapping and scanning of VMware vSphere components running VMware ESXi 4.x, 5.x and 6.x, and ESX 3.5 and above. VMware authentication is supported for maps, vulnerability scans and compliance scans. For authenticated maps, the discovery includes only ESXi hosts and the map results identify detected ESXi servers and their guest systems.

What credentials should I use?

In order to successfully authenticate and audit each ESXi host, we'll need a service credential with at least Read-Only access to the host. You'll need to add these additional privileges to the Read-Only role: Global > Settings and Host > Configuration. (*Tip - The system defined Read-Only role cannot be changed so you'll need to make a clone in order to add privileges*.)

If the ESXi hosts are joined to an Active Directory domain, then a Domain-level credential can be used. If the ESXi targets are not AD Domain members, then an individual credential on each target machine will be required.

Tell me about authenticated maps

If you run a map using VMware authentication, we'll use a vSphere API call to retrieve a list of virtual guest hosts residing on a VMware server. Only running virtual guests will be enumerated by the vSphere API and shown in your map results. Note only virtual guests that have VMware Tools installed appear in map results.

Communications with VMware

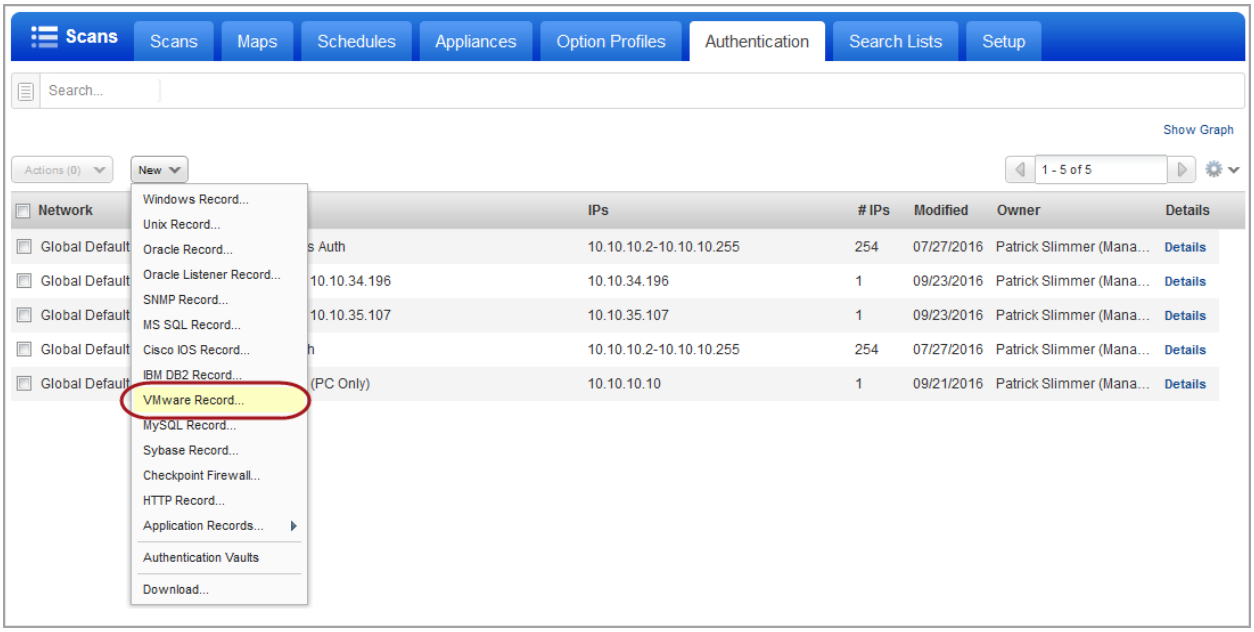
We establish communication against the vSphere API/VI API (port 443 by default) which is provided by each ESXi host. The vSphere API is a SOAP API used by all vSphere components. This is the same API the VI Client uses to communicate with ESXi hosts. Routing and firewalls between scanner appliances and this API must allow this communication.

We do not currently communicate with/through vCenter Server.

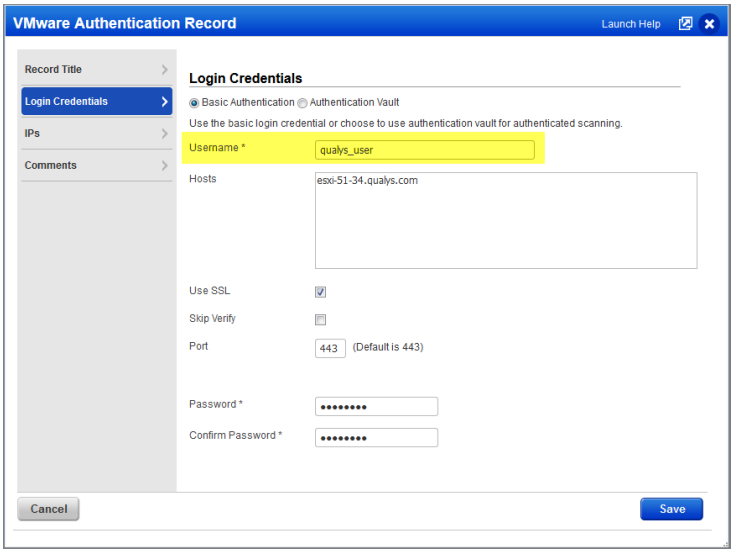
VMware Authentication Records

You'll create VMware authentication records in Qualys to associate credentials with hosts.

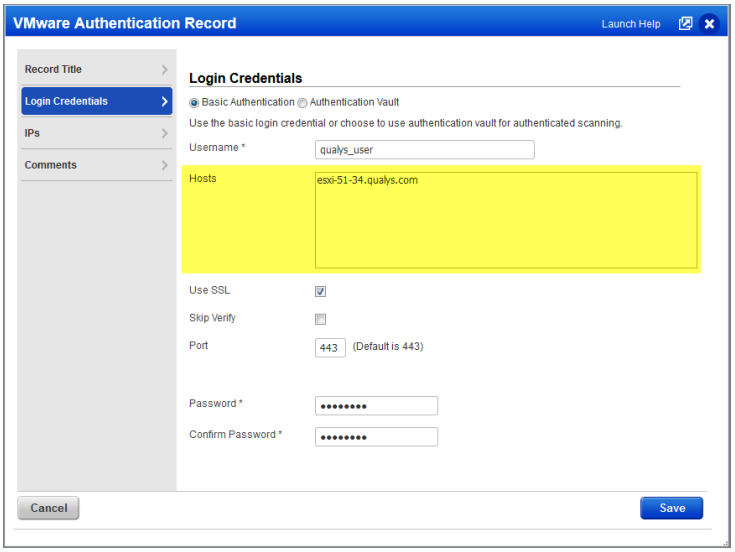
Where do I create records?
Go to Scans > Authentication > New > VMware Record.



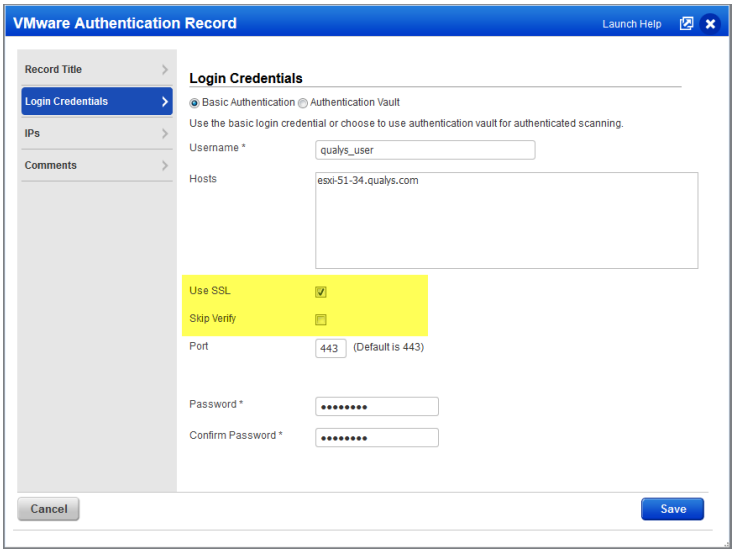
What do I enter in the Username field?
Enter an ESXi user name or a Windows domain user name in the format domain\username.



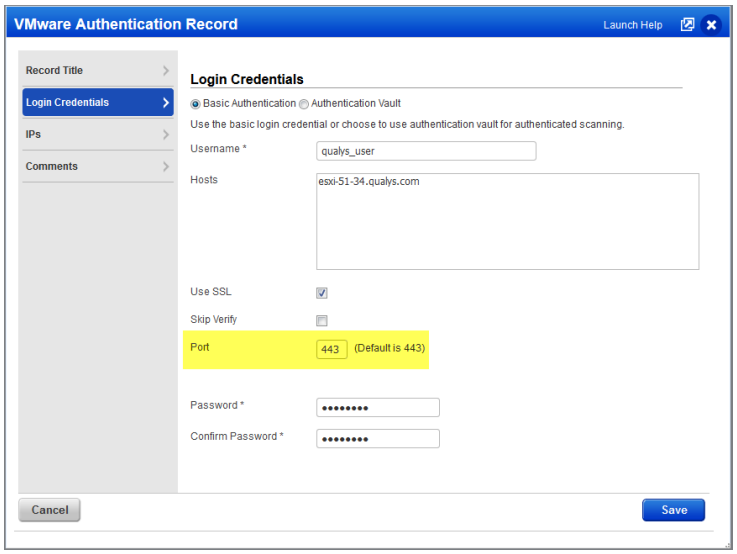
What do I enter in the Hosts field?
Provide a list of FQDNs for the hosts that correspond to all ESXi host IP addresses on which a custom SSL certificate signed by a trusted root CA is installed. Multiple hosts are comma separated.



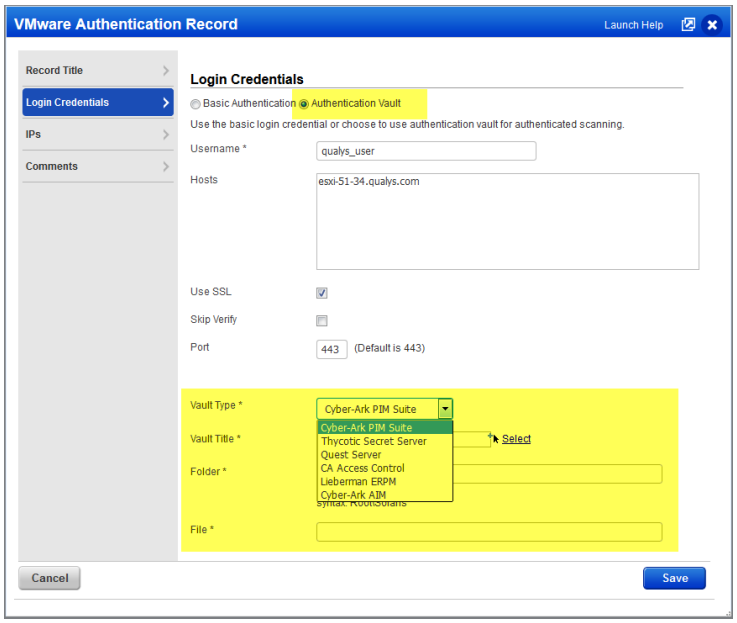
Certificate validation options
Select the “Use SSL” option for a complete SSL certificate validation. Select “Skip Verify” if the host SSL certificate is self-signed or uses an SSL certificate signed by a custom root CA. A list of host FQDNs is not required in this case.



Tell me about the Port setting
By default the service communicates with ESXi web services on port 443. This can be customized.



Can I access a password in a vault?
Yes. We support integration with multiple third party password vaults, including Cyber-Ark PIM Suite, Thycotic Secret Server, Lieberman ERPM, and more. Go to Scans > Authentication > New > Authentication Vaults and tell us about your vault system. Then choose "Authentication Vault" in your record and select your vault type & name. At scan time, we'll authenticate to hosts using the account name in your record and the password we find in your vault.



Which IPs should I add to my record?
Add the IP addresses for the ESXi servers that the scanning engine should log into using the specified credentials. Note you can add one particular ESXi server to only one VMware record in your account.