MongoDB Authentication (VM, PC, SCA)

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 MongoDB authentication for compliance scans.

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? Yes, required for compliance scans.

Are my credentials safe?

Yes, credentials are exclusively used for READ ACCESS ONLY 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.

Which technologies are supported?

For the most current list of supported authentication technologies and the versions that have been certified for VM and PC by record type, please refer to the following article:

Authentication Technologies Matrix

What are the steps?

First, set up a MongoDB user account and privileges (on target hosts) for authenticated scanning. Then, using Qualys Policy Compliance, complete these steps: 1) Add a MongoDB authentication record, 2) Launch a compliance scan, and 3) Run the Authentication Report to view the authentication status (Passed or Failed) for each scanned host.

MongoDB Credentials

We've provided a set of scripts below to help you set up an account and privileges which must exist prior to running scans. Note - These scripts require a super-user account which has privilege to createRole, createUser and grantRole. For example, accounts with userAdmin or dbOwner role.

Please run the scripts provided, in the order shown. The role and scan account needs to be created in the admin database to run successfully.

1) Create a Role for the Scan Account within the ‘MongoDB’ Database

This script creates a role for the user account to be used for scanning. It also grants privileges to the role needed for successful authentication and compliance scanning. We recommend creating a role called qualys_Role and provide a password before running the script.

```
use admin
db.createRole(
   {
     role: "qualys_Role",
     privileges: [
       { resource: { db: "", collection: "" }, actions: [ "viewRole", "viewUser" ]},
       { resource: { "cluster" : true }, actions: [ "getCmdLineOpts" ]},
       { resource: { db: "admin", collection: "system.users" }, actions: [ "find" ]},
       { resource: { db: "admin", collection: "system.roles" }, actions: [ "find" ]}
     ],
     roles: []
   }
)
```

2) Create a User Account

This script creates a user account to be used for scanning. Please provide a password before running the script. The script also grants the role created in Step 1 (qualys_Role) to the account.

We recommend you create an account called qualys_scan and provide a password before running the script.

```
use admin
db.createUser(
    {
      user: "qualys_scan",
      pwd: "<password>",
      roles: [ "qualys_Role"]
   }
)
```

If a user identified by its X509 subject is created for scanning, please grant the role created in Step 1 (qualys_Role) to the user account.

3) Verify Privileges on the Scan Account

Verify that the qualys_scan account has all the privileges in the admin database to run a successful compliance scan. Log into the instance using the “qualys_scan” account, then run the following queries to see if access is available to the account.

3a)

```
use admin
db.runCommand({getCmdLineOpts:1})
```

Sample Expected Output:

```
{
        "argv" : [
                "/usr/bin/mongod",
                "--config",
                "/etc/mongodb1.conf"
        ],
        "parsed" : {
                "config" : "/etc/mongodb1.conf",
                "net" : {
                        "port" : 27017
                        }
                },
                "security" : {
                        "authorization" : "enabled"
                },
                "storage" : {
                        "dbPath" : "/usr/local/mongodb1/data",
                        "journal" : {
                                "enabled" : true
                        }
                },
                "systemLog" : {
                        "destination" : "file",
                        "logAppend" : true,
                        "path" : "/var/log/mongodb1.log",
                        "quiet" : false
                }
        },
        "ok" : 1
}
```

3b)

```
use admin
db.runCommand({"find":"system.users","filter":{},limit:1,"projection":{"user":1,"_id":
0}})
```

Sample Expected Output:

```
{
        "cursor" : {
                "firstBatch" : [
                        {
                                "user" : "qualys_scan"
                        }
                ],
                "id" : NumberLong(0),
                "ns" : "admin.system.users"
        },
        "ok" : 1
}
```

3c)

```
use admin
db.runCommand({"find":"system.roles","filter":{},limit:1,"projection":{"role":1,"_id":
0}})
```

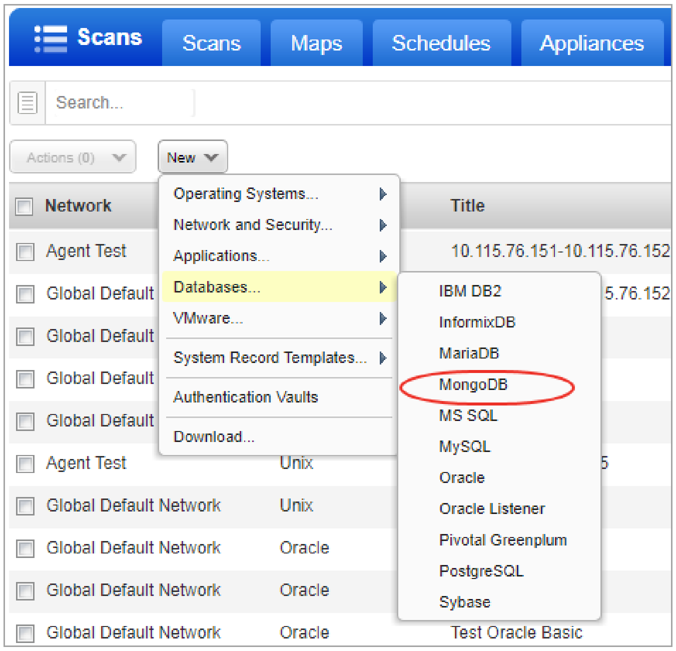
Sample Expected Output:

```
{
        "cursor" : {
                "firstBatch" : [
                        {
                                "role" : "qualys_Role"
                        }
                ],
                "id" : NumberLong(0),
                "ns" : "admin.system.roles"
        },
        "ok" : 1
}
```

Did you get different results? Contact your MongoDB DBA to ensure that privileges are set up correctly.

MongoDB Authentication Records

You'll need to create a separate authentication record for each MongoDB instance to be scanned. During scanning we'll authenticate to one or more MongoDB instances on a host using all the MongoDB authentication records in your account.

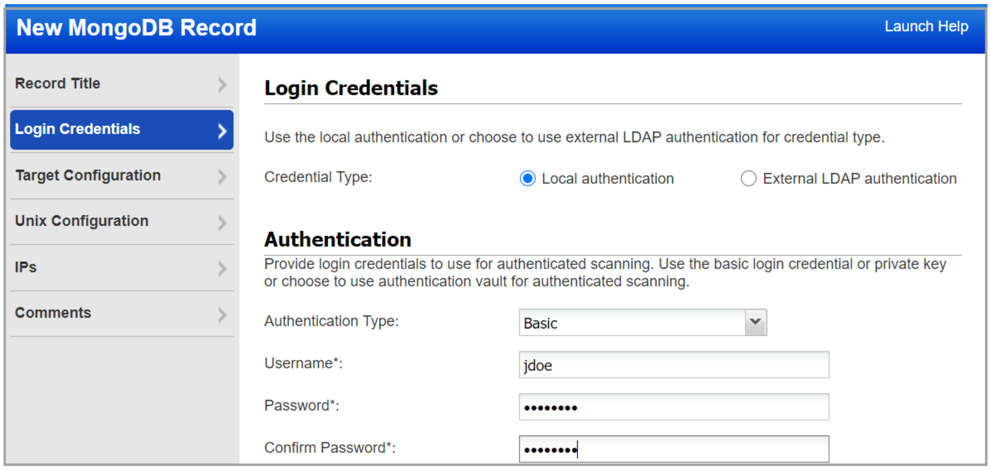


Where do I create records?

Go to Scans > Authentication > New > Databases > MongoDB Record.

Your login credentials

Local Authentication
Select Local Authentication credential type. Enter the login credentials (user name, password) our service will use to log in to Unix hosts at scan time.



Login Credentials

Use the local authentication or choose to use external LDAP authentication for credential type.

Credential Type: ● Local authentication ○ External LDAP authentication

Authentication

Provide login credentials to use for authenticated scanning. Use the basic login credential or private key or choose to use authentication vault for authenticated scanning.

Authentication Type: Basic

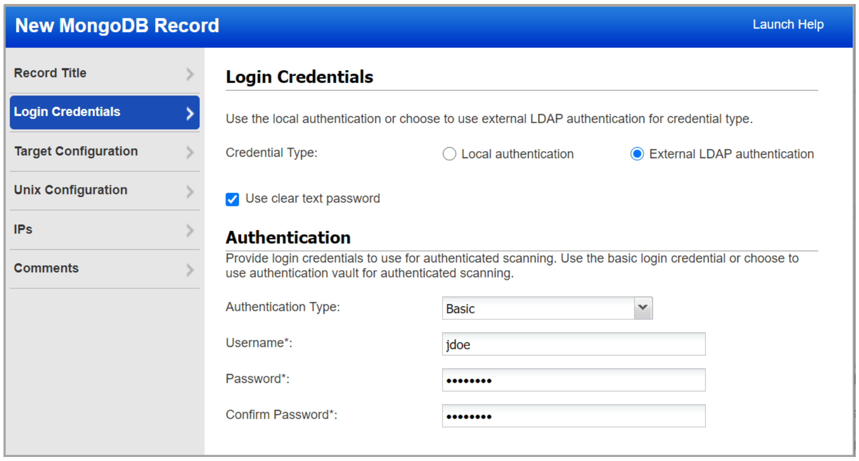
Username*: jdoe

Password*: ••••••••

Confirm Password*: ••••••••

External Authentication

Select External LDAP Authentication credential type. For external LDAP authentication, 'Use clear text password' check-box which enables to send cleartext password over unencrypted channel).
To authenticate a MongoDB server using an LDAP account, the password must be sent in the cleartext over the unencrypted channel. This cleartext password is then used by the MongoDB server to send a separate authentication request to the configured LDAP server.
Enter the login credentials (user name, password) our service will use to log in to Unix hosts at scan time.
For External LDAP authentication, only basic and vault based authentication type is supported.



Login Credentials

Use the local authentication or choose to use external LDAP authentication for credential type.

Credential Type: ○ Local authentication ● External LDAP authentication

☑ Use clear text password

Authentication

Provide login credentials to use for authenticated scanning. Use the basic login credential or choose to use authentication vault for authenticated scanning.

Authentication Type: Basic

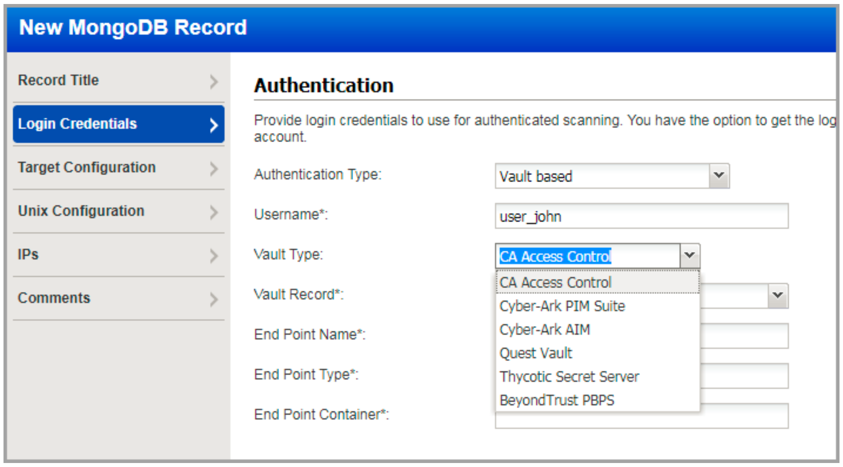
Username*: jdoe

Password*: ••••••••

Confirm Password*: ••••••••

Can I access a password in a vault?

Yes. We support integration with multiple third party password vaults. 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 name. At scan time, we'll authenticate to hosts using the account name in your record and the password we find in your vault.



Authentication

Provide login credentials to use for authenticated scanning. You have the option to get the log account.

Authentication Type: Vault based

Username*: user_john

Vault Type: CA Access Control

Vault Record*:

End Point Name*:

End Point Type*:

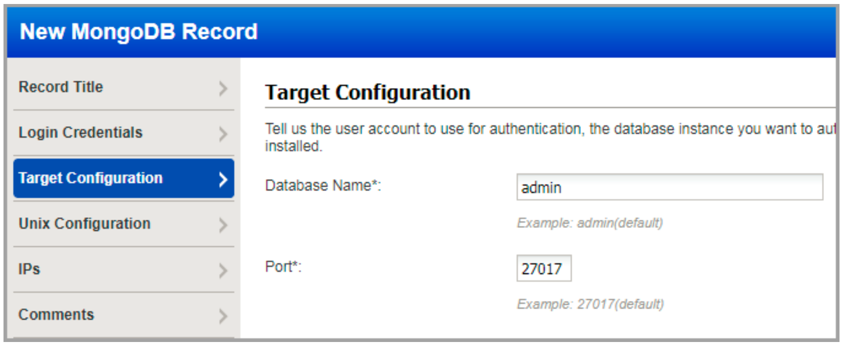
End Point Container*:

Using private keys

For MongoDB authentication key authentication is supported. You can define private keys in MongoDB authentication records.

What database information is required?

Tell us the database name to authenticate to and the port the database is running on (or use the default database name and port).



Target Configuration

Tell us the user account to use for authentication, the database instance you want to aut installed.

Database Name*: admin

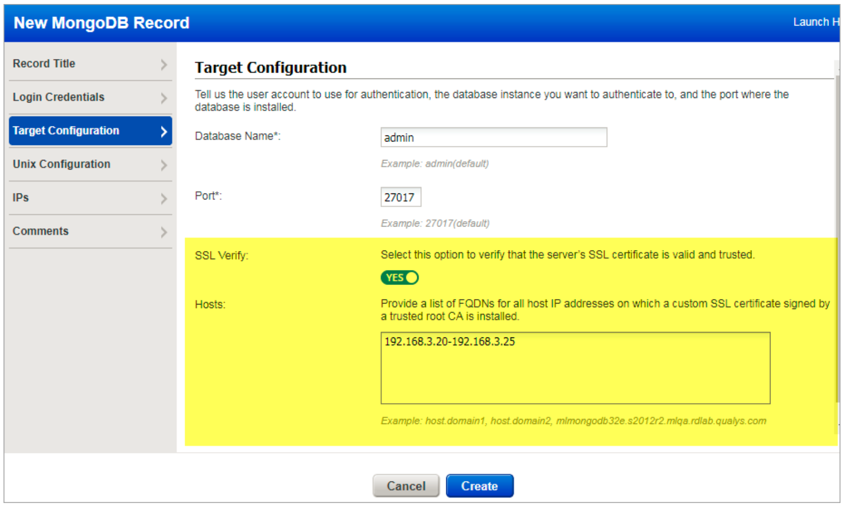
Example: admin(default)

Port*: 27017

Example: 27017(default)

Should I use SSL?

Using SSL provides a secure connection to your database. By selecting “SSL Verify”, and if your database server supports SSL, you will be requesting a SSL secured link. The server SSL certificate verification is also enforced. By default, this option is set to false.



Target Configuration

Tell us the user account to use for authentication, the database instance you want to authenticate to, and the port where the database is installed.

Database Name*: admin

Example: admin(default)

Port*: 27017

Example: 27017(default)

SSL Verify: Select this option to verify that the server's SSL certificate is valid and trusted. YES

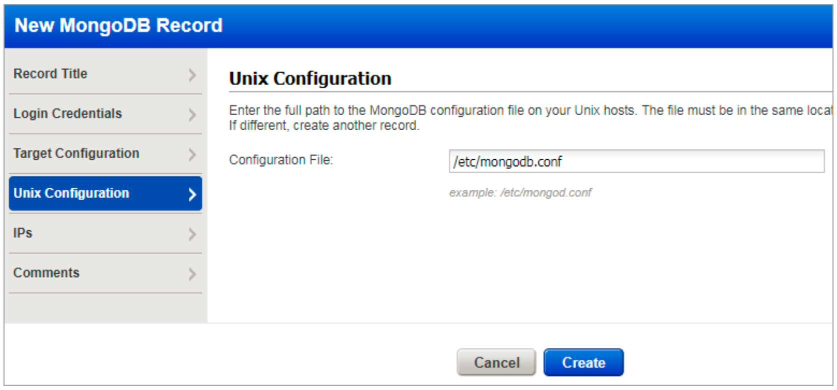
Hosts: Provide a list of FQDNs for all host IP addresses on which a custom SSL certificate signed by a trusted root CA is installed.

192.168.3.20-192.168.3.25

Example: host.domain1, host.domain2, mlmongodb32e.s2012r2.mlqa.rdlab.qualys.com

Your MongoDB configuration file

It is essential, though not required, that you provide the location of the MongoDB configuration file within the authentication record. This file is required for certain checks. For Unix, this file helps us gather the information needed to provide the information you are looking for.



Unix Configuration

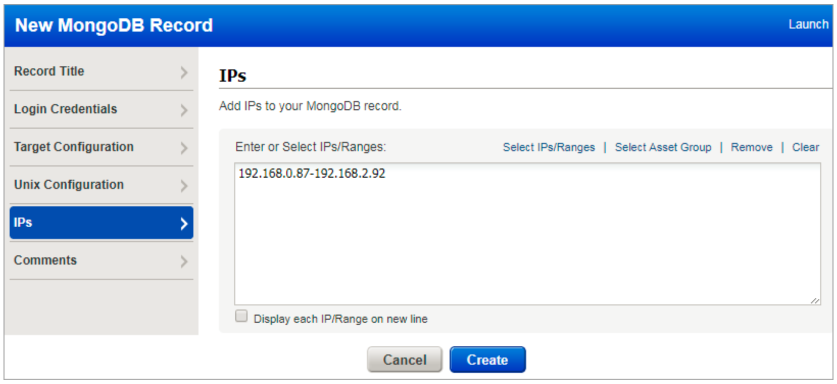
Enter the full path to the MongoDB configuration file on your Unix hosts. The file must be in the same locat If different, create another record.

Configuration File: /etc/mongodb.conf

example: /etc/mongod.conf

Add IPs to the record

Select the IP addresses for the MongoDB databases that the scanning engine should log into using the provided credentials.



IPs

Add IPs to your MongoDB record.

Enter or Select IPs/Ranges:

192.168.0.87-192.168.2.92

□ Display each IP/Range on new line

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