X.509 Authentication

This feature is only available if you use Niagara with a version superior or equal to 4.11

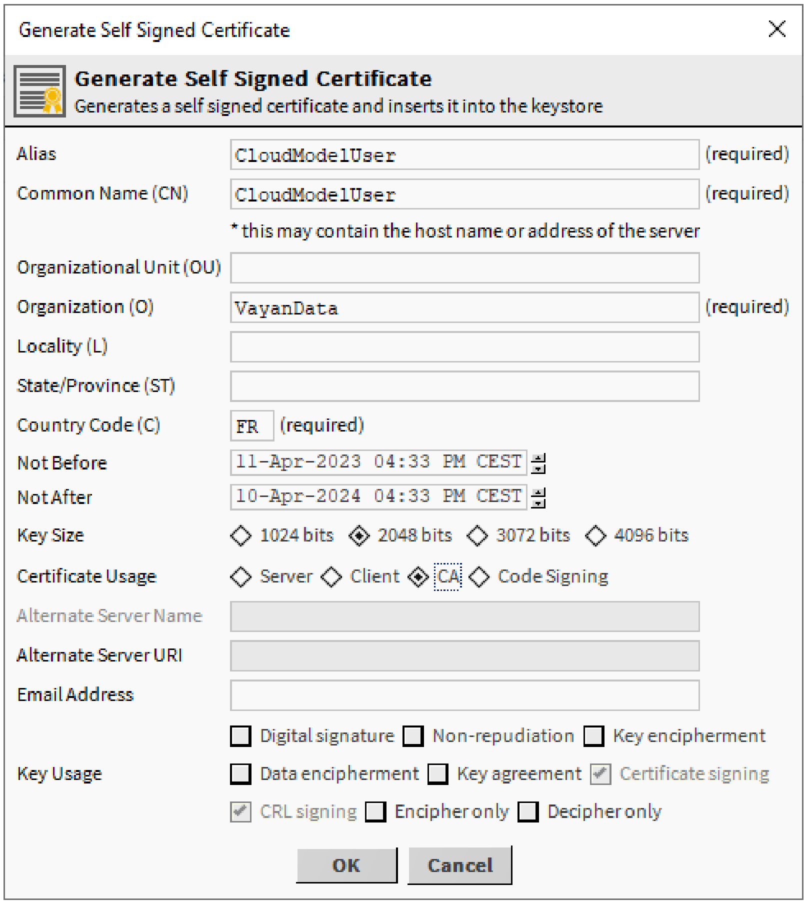
You can also authenticate using a certificate. Here's a tutorial on how to create a certificate for an Atlas database.

1. Create the certificate.

1.1 Create the Certificate Authority

First you will need a Certificate Authority (CA).

In Platform > Certificate Management, in the User Key Store tab, create a new certificate by clicking on the "New" button.
A popup asking for information will appear, fill at least the required input fields, and select "CA" as the Certificate Usage and click on OK. Enter a password and click on OK. After some time your certificate should appear in the User Key Store Tab.



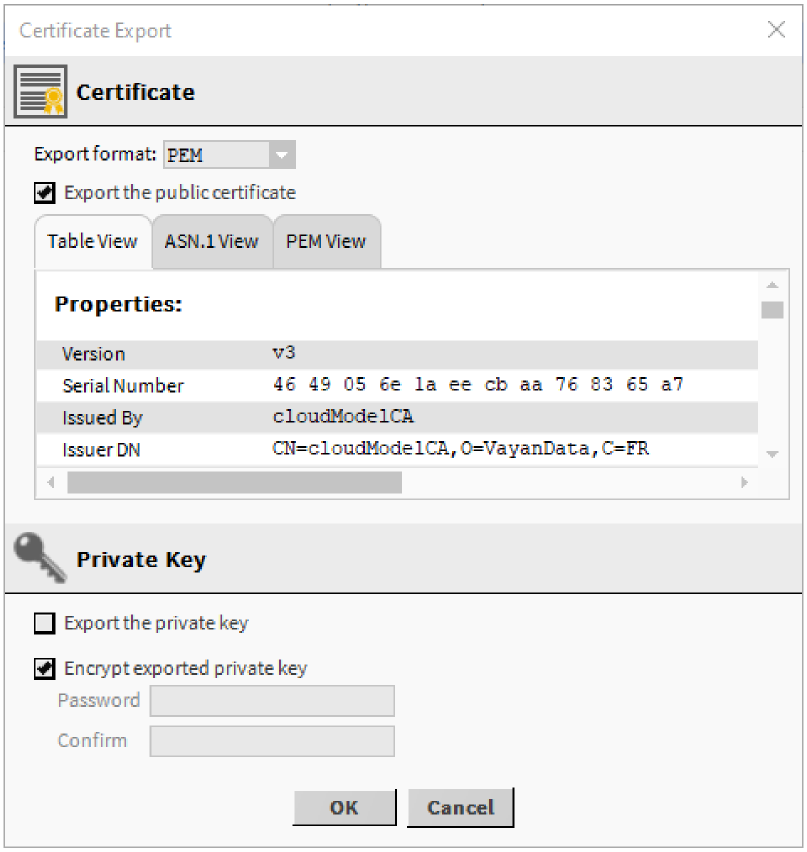
Generate Self Signed Certificate

Generate Self Signed Certificate
Generates a self signed certificate and inserts it into the keystore

Alias	CloudModelUser	(required)
Common Name (CN)	CloudModelUser * this may contain the host name or address of the server	(required)
Organizational Unit (OU)		
Organization (O)	VayanData	(required)
Locality (L)		
State/Province (ST)		
Country Code (C)	FR (required)	
Not Before	11-Apr-2023 04:33 PM CEST	
Not After	10-Apr-2024 04:33 PM CEST	
Key Size	○ 1024 bits ● 2048 bits ○ 3072 bits ○ 4096 bits	
Certificate Usage	○ Server ○ Client ● CA ○ Code Signing	
Alternate Server Name		
Alternate Server URI		
Email Address		
Key Usage	□ Digital signature □ Non-repudiation □ Key encipherment □ Data encipherment □ Key agreement ☑ Certificate signing ☑ CRL signing □ Encipher only □ Decipher only	

Select your newly created certificate, and using the "Export" button, export it.

A popup will appear, no modification is needed, click OK.



Certificate Export

Certificate

Export format: PEM

☑ Export the public certificate

Properties:

Version	v3
Serial Number	46 49 05 6e 1a ee cb aa 76 83 65 a7
Issued By	cloudModelCA
Issuer DN	CN=cloudModelCA,O=VayanData,C=FR

Private Key

☐ Export the private key

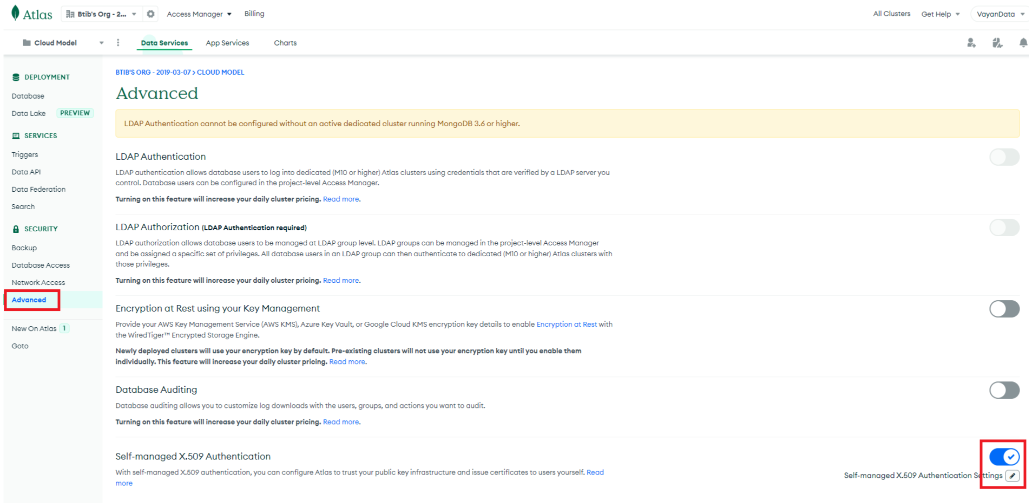
☑ Encrypt exported private key

Password

Confirm

1.2 Add the Certificate Authority to Atlas

In the Atlas UI, select your Project in the left side Panel, select Advanced in the Security section.
Enable the Self-managed X.509 Authentication, edit the settings (click on the pencil button), upload your Certificate Authority and save.



BTIB'S ORG - 2019-03-07 › CLOUD MODEL

Advanced

LDAP Authentication cannot be configured without an active dedicated cluster running MongoDB 3.6 or higher.

LDAP Authentication

LDAP authentication allows database users to log into dedicated (M10 or higher) Atlas clusters using credentials that are verified by a LDAP server you control. Database users can be configured in the project-level Access Manager.

Turning on this feature will increase your daily cluster pricing. Read more.

LDAP Authorization **(LDAP Authentication required)**

LDAP authorization allows database users to be managed at LDAP group level. LDAP groups can be managed in the project-level Access Manager and be assigned a specific set of privileges. All database users in an LDAP group can then authenticate to dedicated (M10 or higher) Atlas clusters with those privileges.

Turning on this feature will increase your daily cluster pricing. Read more.

Encryption at Rest using your Key Management

Provide your AWS Key Management Service (AWS KMS), Azure Key Vault, or Google Cloud KMS encryption key details to enable Encryption at Rest with the WiredTiger™ Encrypted Storage Engine.

Newly deployed clusters will use your encryption key by default. Pre-existing clusters will not use your encryption key until you enable them individually. This feature will increase your daily cluster pricing. Read more.

Database Auditing

Database auditing allows you to customize log downloads with the users, groups, and actions you want to audit.

Turning on this feature will increase your daily cluster pricing. Read more.

Self-managed X.509 Authentication

With self-managed X.509 authentication, you can configure Atlas to trust your public key infrastructure and issue certificates to users yourself. Read more

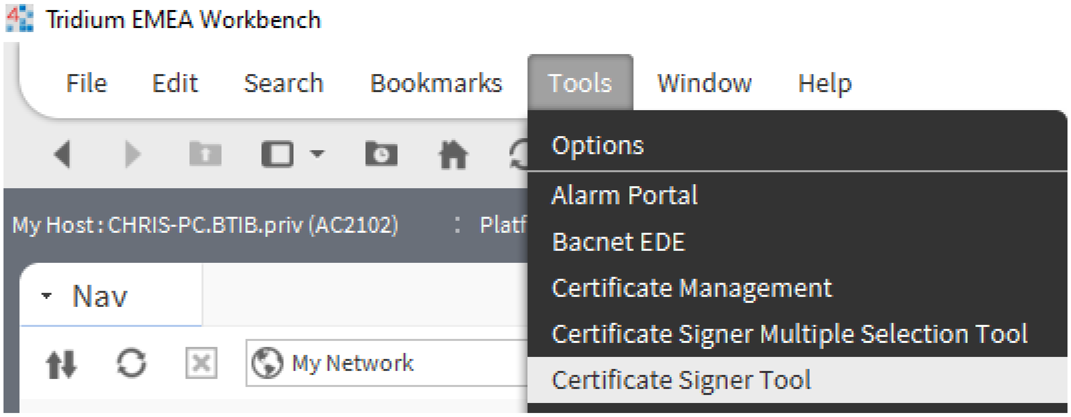
Self-managed X.509 Authentication Settings

1.3 Create the Client Certificate

In the same way as in the 1.1 step, create a new certificate, but this time, select "Client" as the Certificate Usage.

To be accepted by mongo, this certificate needs to be signed.
Select the certificate and click on "Cert Request" and click OK in the popup and save.

In the Workbench, select the Tools tab and select the "Certificate Signer Tool"



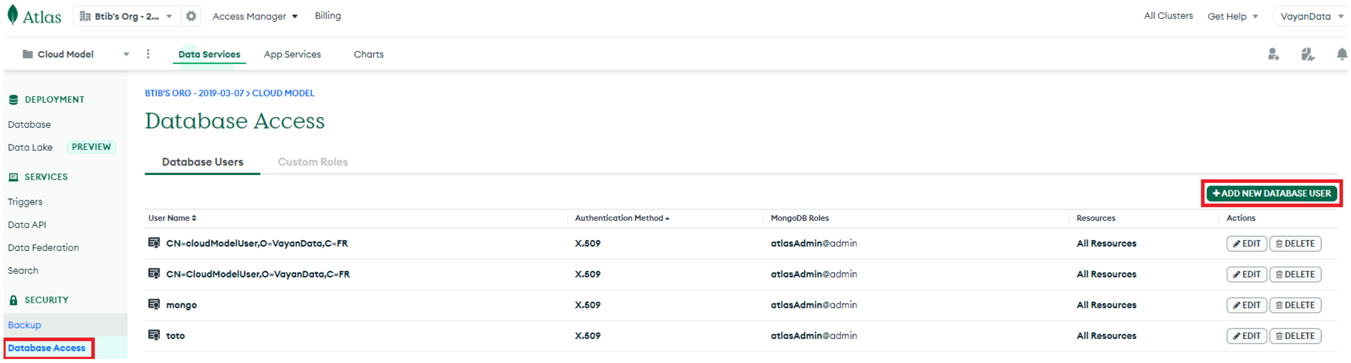
In the popup, select your newly created .csr file, select the CA alias created in step 1.1 with the password you used, and click OK. Now, choose a location for your pem file.

Next, click on import in the Certificate Manager and import the pem file that you just generated. Your certificate should now have a green shield ✓.

Export this certificate but this time, with the private key. And import it in the User Key Store in your Station (Services > PlatformServices > CertManagerService).

1.4 Create a Mongo User

Go back in the Atlas UI, in your project and select the Database Access. And add a new User.



User Name	Authentication Method	MongoDB Roles	Resources	Actions
CN=cloudModelUser,O=VayanData,C=FR	X.509	atlasAdmin@admin	All Resources	EDIT DELETE
CN=CloudModelUser,O=VayanData,C=FR	X.509	atlasAdmin@admin	All Resources	EDIT DELETE
mongo	X.509	atlasAdmin@admin	All Resources	EDIT DELETE
toto	X.509	atlasAdmin@admin	All Resources	EDIT DELETE

In the popup, select Certificate, and add the common name.
The common name must be the RFC2253 formatted subject from the client certificate. Here is a command line to obtain it (you might need to install openssl) :

```
openssl x509 -in <pathToClientPEM> -inform PEM -subject -nameopt RFC2253
```

Select a role and add the user.

2. Setup the connector

2.1 Put the Connection String

When a certificate is used to authenticate, the connection string is a bit different from the username+password one. It should look like this:

```
mongodb+srv://<hostname>/?authSource=%24external&authMechanism=MONGODB-X509&retryWrites=true&w=majority&tls=true
```

(the main difference is the presence of the authsource, and the authMechanism).

Fill this ConnectionString with your hostname and add it to your connector in the connectionString slot and fill the databaseName slot.

2.2 Put the Certificate

Drag and drop a ClientCertificateAuthentication from the palette (in the Authentication folder) in the AuthenticationSchemes component in your connector and select your certificateAlias.

Enable the Connector and it should successfully connect to your database.

Since the 4.13, certificates can now have passwords, the slots in the ClientCertificateAuthentication have been adapted so you can enter the password