

MigratoryData Authorization Extension API

Developer's Guide and Reference Manual

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Chapter 1

Developer's Guide

This guide includes the following sections:

- [Overview](#)
- [Creating an Authorization Extension for MigratoryData Server](#)
- [Examples](#)

1.1 Overview

This Authorization Application Programming Interface (API) contains all the necessary operations for building authorization extensions for MigratoryData Server.

Before reading this manual, it is recommended to read *MigratoryData Architecture Guide* ([PDF](#), [HTML](#)).

1.2 Creating an Authorization Extension for MigratoryData Server

A typical API usage is as follows:

1.2.1 Step 1 - Implement the interface `MigratoryDataAuthorizationListener`

The interface `MigratoryDataAuthorizationListener` is available as part of the authorization library which can be found under the folder `doc/Extension/libs/authorization` of this package.

1.2.2 Step 2 - Build the jar of the extension

Build the JAR consisting of the object code of the class defined at Step 1. The JAR must also include a folder named `services` in its `META-INF` folder. Moreover, the folder `services` must include a file named `com.migratorydata.extensions.authorization.MigratoryDataAuthorizationListener` which must have as content the fully qualified name of the class defined at Step 1.

1.2.3 Step 3 - Install the extension

Rename the JAR built at Step 2 to `authorization.jar` and deploy it to the folder `extensions` of the root folder of your MigratoryData server installation. If you installed MigratoryData Server using the `deb/rpm` packages, then deploy the JAR to the folder `/usr/share/migratorydata/extensions`.

1.2.4 Step 4 - Configure the authorization type

In the configuration file of the MigratoryData server, configure the parameter `Authorization.Type` as follows:

```
Authorization.Type = Custom
```

1.2.5 Step 5 - Restart the MigratyData server

1.3 Examples

An example built with this API is available in the folder `doc/Extension/examples/authorization` of this package; start with the `README` file which explains how to compile and deploy the example authorization extension.

Chapter 2

Class Index

2.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

- [MigratoryDataAuthorizationListener.ClientCredentials](#)
Provide the credentials of the client which makes the authorization request 7
- [MigratoryDataAuthorizationListener](#)
Process authorization requests 8
- [MigratoryDataConnectRequest](#) 9
- [MigratoryDataPublishRequest](#) 10
- [MigratoryDataSubscribeRequest](#) 11

Chapter 3

Class Documentation

3.1 MigratoryDataAuthorizationListener.ClientCredentials Interface Reference

Provide the credentials of the client which makes the authorization request.

Public Member Functions

- String [getUserName](#) ()
- byte[] [getPassword](#) ()
- String [getClientId](#) ()
- String [getClientAddress](#) ()

3.1.1 Detailed Description

Provide the credentials of the client which makes the authorization request.

3.1.2 Member Function Documentation

3.1.2.1 String MigratoryDataAuthorizationListener.ClientCredentials.getUserName ()

Provides the user name of the client.

This methods applies for the clients using the MQTT protocol. For the clients using MigratoryData's Push Protocol, this method will return an empty string.

Returns

the user name of the client.

3.1.2.2 `byte [] MigratoryDataAuthorizationListener.ClientCredentials.getPassword ()`

Provides the password of the client.

If the client which makes the authorization request uses the MigratoryData's Push Protocol, then the value returned by this method will be the entitlement token assigned to the client on the client-side with the client API method `MigratoryDataClient.setEntitlementToken(String token)`.

Returns

the password of the client.

3.1.2.3 `String MigratoryDataAuthorizationListener.ClientCredentials.getClientId ()`

Provides the identifier of the client.

This methods applies for the clients using the MQTT protocol. For the clients using MigratoryData's Push Protocol, this method will return an empty string.

Returns

the identifier of the client

3.1.2.4 `String MigratoryDataAuthorizationListener.ClientCredentials.getClientAddress ()`

Provides the IP address of the client.

Returns

the IP address of the client.

3.2 MigratoryDataAuthorizationListener Interface Reference

Process authorization requests.

Classes

- interface [ClientCredentials](#)

Provide the credentials of the client which makes the authorization request.

Public Member Functions

- void [onConnect](#) ([MigratoryDataConnectRequest](#) req)
- void [onSubscribe](#) ([MigratoryDataSubscribeRequest](#) req)
- void [onPublish](#) ([MigratoryDataPublishRequest](#) req)

3.2.1 Detailed Description

Process authorization requests.

Thread safety

The methods exposed by this interface are always called from the same thread.

3.2.2 Member Function Documentation

3.2.2.1 void MigratoryDataAuthorizationListener.onConnect (MigratoryDataConnectRequest req)

Process a connect authorization request.

Parameters

<i>req</i>	the connect authorization request
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3.2.2.2 void MigratoryDataAuthorizationListener.onSubscribe (MigratoryDataSubscribeRequest req)

Process a subscribe authorization request.

Parameters

<i>req</i>	the subscribe authorization request
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3.2.2.3 void MigratoryDataAuthorizationListener.onPublish (MigratoryDataPublishRequest req)

Process a publish authorization request.

Parameters

<i>req</i>	the publish authorization request.
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3.3 MigratoryDataConnectRequest Interface Reference

Public Member Functions

- ClientCredentials [getClientCredentials](#) ()
- void [setAllowed](#) (boolean allowed)

3.3.1 Detailed Description

Represent a connect authorization request and an allow/deny response.

3.3.2 Member Function Documentation

3.3.2.1 ClientCredentials MigratoryDataConnectRequest.getClientCredentials ()

Provides the credentials of the client.

Returns

the credentials of the client.

3.3.2.2 void MigratoryDataConnectRequest.setAllowed (boolean allowed)

Allows or denies the publish authorization request.

Parameters

<i>allowed</i>	<code>true</code> if the client with the credentials provided by getClientCredentials() is allowed to connect, and <code>false</code> otherwise.
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3.4 MigratoryDataPublishRequest Interface Reference

Public Member Functions

- ClientCredentials [getClientCredentials](#) ()
- String [getTopic](#) ()
- void [setAllowed](#) (boolean allowed)

3.4.1 Detailed Description

Represent a publish authorization request and an allow/deny response.

3.4.2 Member Function Documentation

3.4.2.1 ClientCredentials MigratoryDataPublishRequest.getClientCredentials ()

Provides the credentials of the client.

Returns

the credentials of the client.

3.4.2.2 String MigratoryDataPublishRequest.getTopic ()

Provides the topic of the message to be authorized for publication.

Returns

the topic of the message to be published.

3.4.2.3 void MigratoryDataPublishRequest.setAllowed (boolean *allowed*)

Allows or denies the publish authorization request.

Parameters

<i>allowed</i>	<code>true</code> if the client with the credentials provided by <code>getClientCredentials()</code> is allowed to publish the message with the topic provided by <code>getTopic()</code> , and <code>false</code> otherwise.
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3.5 MigratoryDataSubscribeRequest Interface Reference

Public Member Functions

- ClientCredentials `getClientCredentials ()`
- List< String > `getTopics ()`
- void `setAllowed (String topic, boolean allowed)`

3.5.1 Detailed Description

Represent a subscribe authorization request and an allow/deny response.

3.5.2 Member Function Documentation

3.5.2.1 ClientCredentials MigratoryDataSubscribeRequest.getClientCredentials ()

Provides the credentials of the client.

Returns

the credentials of the client.

3.5.2.2 List<String> MigratoryDataSubscribeRequest.getTopics ()

Provides the list of topics to be authorized for subscription.

Returns

the topics to be subscribed.

3.5.2.3 void MigratoryDataSubscribeRequest.setAllowed (String *topic*, boolean *allowed*)

Allows or denies the subscribe authorization request.

This method should be used to authorize the subscription for each topic in the list provided by [getTopics\(\)](#).

Parameters

<i>topic</i>	the topic of the list provided by getTopics() to be authorized for subscription.
<i>allowed</i>	<code>true</code> if the client with the credentials provided by getClientCredentials() is allowed to subscribe to the topic defined by the first argument, and <code>false</code> otherwise.

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