MigratoryData Client API for Ruby

Developer's Guide and Reference Manual

April 11, 2014

Copyright Information

Copyright © 2007-2014 Migratory Data Systems. ALL RIGHTS RESERVED.

THIS DOCUMENT IS PROVIDED “AS IS” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NON-INFRINGEMENT.

THIS DOCUMENT COULD INCLUDE TECHNICAL INACCURACIES OR TYPOGRAPHICAL ERRORS. CHANGES ARE PERIODICALLY ADDED TO THE INFORMATION HEREIN; THESE CHANGES WILL BE INCORPORATED IN NEW EDITIONS OF THE DOCUMENT. MIGRATORY DATA SYSTEMS MAY MAKE IMPROVEMENTS AND/OR CHANGES IN THE PRODUCT DESCRIBED IN THIS DOCUMENT AT ANY TIME.

Contents

1 Developer's Guide **1**

1.1 Overview . . . 1

1.2 Creating Ruby clients for MigratoryData Server . . . 1

1.2.1 Step 1 - Include the library . . . 1

1.2.2 Step 2 - Attach an entitlement token . . . 1

1.2.3 Step 3 - Define the cluster of MigratoryData servers where to connect to . . . 1

1.2.4 Step 4 - Create messages . . . 1

1.2.5 Step 5 - Publish messages . . . 2

1.3 Examples . . . 2

2 Class Index **3**

2.1 Class List . . . 3

3 Class Documentation **5**

3.1 MigratoryDataClient Class Reference . . . 5

3.1.1 Detailed Description . . . 5

3.1.2 Member Function Documentation . . . 6

3.1.2.1 setEntitlementToken . . . 6

3.1.2.2 setServers . . . 6

3.1.2.3 publish . . . 6

3.1.3 Member Data Documentation . . . 7

3.1.3.1 NOTIFY_PUBLISH_OK . . . 7

3.1.3.2 NOTIFY_PUBLISH_FAILED . . . 7

3.1.3.3 NOTIFY_PUBLISH_DENIED . . . 7

3.1.3.4 NOTIFY_PUBLISH_NO_SUBSCRIBER . . . 7

3.1.3.5 NOTIFY_PUBLISH_TIMEOUT . . . 7

3.2 MigratoryDataException Class Reference . . . 7

3.2.1 Detailed Description . . . 8

3.2.2 Member Function Documentation . . . 8

3.2.2.1 getCode . . . 8

3.2.2.2 getCause . . . 9

3.2.2.3 getDetail . . . 9

3.2.3 Member Data Documentation . . . 9
3.2.3.1 E_INVALID_SUBJECT . . . 9
3.2.3.2 E_TRANSPORT_INIT_FAILED . . . 9
3.2.3.3 E_CONNECTION_FAILED . . . 9
3.2.3.4 E_MSG_NULL . . . 9
3.2.3.5 E_MSG_INVALID . . . 9
3.2.3.6 E_MSG_FIELD_INVALID . . . 10
3.2.3.7 E_CLUSTER_MEMBERS_CONNECTION_FAILED . . . 10
3.2.3.8 E_INVALID_URL_LIST . . . 10
3.2.3.9 E_INVALID_URL . . . 10
3.2.3.10 E_INVALID_PROTOCOL . . . 10
3.2.3.11 E_ENTITLEMENT_TOKEN . . . 10
3.3 MigratoryDataField Class Reference . . . 10
3.3.1 Detailed Description . . . 10
3.3.2 Constructor & Destructor Documentation . . . 11
3.3.2.1 MigratoryDataField . . . 11
3.3.3 Member Function Documentation . . . 11
3.3.3.1 getName . . . 11
3.3.3.2 getValue . . . 11
3.4 MigratoryDataMessage Class Reference . . . 11
3.4.1 Detailed Description . . . 11
3.4.2 Constructor & Destructor Documentation . . . 12
3.4.2.1 MigratoryDataMessage . . . 12
3.4.3 Member Function Documentation . . . 12
3.4.3.1 getSubject . . . 12
3.4.3.2 getContent . . . 12
3.4.3.3 getFields . . . 12

Index **12**

Chapter 1

Developer's Guide

This guide includes the following sections:

- Overview
- Creating Ruby clients for MigratoryData Server
- Examples

1.1 Overview

This client Application Programming Interface (API) library contains all the necessary operation for connecting to a cluster of MigratoryData servers and publishing real-time messages.

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

1.2 Creating Ruby clients for MigratoryData Server

A typical API usage is as follows:

1.2.1 Step 1 - Include the library

```
$LOAD_PATH.unshift File.expand_path('../../lib/')
require 'migratorydata_client'
```

1.2.2 Step 2 - Attach an entitlement token

Use the method MigratoryDataClient.setEntitlementToken() to assign an entitlement token to the client.

1.2.3 Step 3 - Define the cluster of MigratoryData servers where to connect to

Use the API method MigratoryDataClient.setServers() to specify a list of one or more MigratoryData servers to which the client will connect to. In fact, the client will connect to only one of the MigratoryData servers in this list. But, defining two or more MigratoryData servers is recommended in order to achieve load balancing and failover.

1.2.4 Step 4 - Create messages

Use the class MigratoryDataMessage to create messages.

1.2.5 Step 5 - Publish messages

Use the API call MigratoryDataClient.publish() to publish messages.

1.3 Examples

Examples built with this API are available in the folder `examples` of this API package; start with the README file which explains how to run them.

Chapter 2

Class Index

2.1 Class List

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

MigratoryDataClient
: This class implements all the necessary operations for connecting to a cluster of MigratoryData servers and publishing real-time messages 5

MigratoryDataException
: Define the *error codes* of the API, and their corresponding *error texts* and *error causes* 7

MigratoryDataField
: Represent a message field 10

MigratoryDataMessage
: Represent a message 11

Chapter 3

Class Documentation

3.1 MigratoryDataClient Class Reference

This class implements all the necessary operations for connecting to a cluster of MigratoryData servers and publishing real-time messages.

Public Member Functions

- MigratoryDataClient ()

  Create a MigratoryDataClient object.
- void setEntitlementToken (String token)

  Assign an authorization token to the client.
- void setServers (List< String > servers)

  Connect to a MigratoryData server in the list provided by the argument.
- String publish (MigratoryDataMessage message)

  Publish the message provided in argument.

Static Public Attributes

- static final String NOTIFY_PUBLISH_OK = "NOTIFY_PUBLISH_OK"

  Indicate that the client successfully published a message.
- static final String NOTIFY_PUBLISH_FAILED = "NOTIFY_PUBLISH_FAILED"

  Indicate that the client was unable to publish a message.
- static final String NOTIFY_PUBLISH_DENIED = "NOTIFY_PUBLISH_DENIED"

  Indicate that the client was unable to publish a message because it is not allowed by your entitlement rules.
- static final String NOTIFY_PUBLISH_NO_SUBSCRIBER = "NOTIFY_PUBLISH_NO_SUBSCRIBER"

  Indicate that the client was unable to publish a message because there is no client subscribed to the subject of the message.
- static final String NOTIFY_PUBLISH_TIMEOUT = "NOTIFY_PUBLISH_TIMEOUT"

  Indicate that the client timed out when trying to get a response for a message publication.

3.1.1 Detailed Description

This class implements all the necessary operations for connecting to a cluster of MigratoryData servers and publishing real-time messages.

3.1.2 Member Function Documentation

3.1.2.1 void MigratoryDataClient.setEntitlementToken (String *token*)

Assign an authorization token to the client.

To define which users of your application have access to which subjects, you will first have to configure the parameter `Entitlement` in the configuration file of the MigratoryData server — see the parameter `Entitlement` in the *MigratoryData Configuration Guide* (PDF, HTML).

Then, you will have to use the entitlement-related part of the MigratoryData Extension API to allow or deny certain users to subscribe / publish to certain subjects or use the Basic entitlement mode which do not require any programming.

Note

If you configured the `Basic` entitlement method in your MigratoryData servers using the parameter `Entitlement`, then, in order to be able to publish messages, the token defined by this API method must be equal to the value of the parameter `EntitlementAllowToken` of your servers.

Parameters

token	A string representing an authorization token.

3.1.2.2 void MigratoryDataClient.setServers (List< String > *servers*)

Connect to a MigratoryData server in the list provided by the argument.

Parameters

servers	The addresses of the MigratoryData servers in the cluster.

Exceptions

MigratoryDataException	Exceptions with the following error codes: • E_INVALID_URL_LIST • E_CLUSTER_MEMBERS_CONNECTION_FAILED • E_ENTITLEMENT_TOKEN

3.1.2.3 String MigratoryDataClient.publish (MigratoryDataMessage *message*)

Publish the message provided in argument.

Parameters

message	A MigratoryDataMessage object

Returns

A string representing the response received from the MigratoryData cluster:

- NOTIFY_PUBLISH_OK,
- NOTIFY_PUBLISH_FAILED,
- NOTIFY_PUBLISH_DENIED,
- NOTIFY_PUBLISH_NO_SUBSCRIBER, or

- NOTIFY_PUBLISH_TIMEOUT

Exceptions

MigratoryDataException	Exceptions with the following error codes: • E_MSG_NULL • E_MSG_FIELD_INVALID • E_MSG_INVALID • E_INVALID_SUBJECT • E_INVALID_PROTOCOL

3.1.3 Member Data Documentation

3.1.3.1 final String MigratoryDataClient.NOTIFY_PUBLISH_OK = "NOTIFY_PUBLISH_OK" [static]

Indicate that the client successfully published a message.

This constant is used to indicate that the publication of a message has succeeded.

3.1.3.2 final String MigratoryDataClient.NOTIFY_PUBLISH_FAILED = "NOTIFY_PUBLISH_FAILED" [static]

Indicate that the client was unable to publish a message.

This constant is used to indicate that the publication of a message has failed.

3.1.3.3 final String MigratoryDataClient.NOTIFY_PUBLISH_DENIED = "NOTIFY_PUBLISH_DENIED" [static]

Indicate that the client was unable to publish a message because it is not allowed by your entitlement rules.

This constant is used to indicate that the publication of a message has failed. The publication failed because the client – identified with the token defined with the API method MigratoryDataClient.setEntitlementToken() – is not allowed to publish on the subject of the message.

3.1.3.4 final String MigratoryDataClient.NOTIFY_PUBLISH_NO_SUBSCRIBER = "NOTIFY_PUBLISH_NO_SUBSCRIBER" [static]

Indicate that the client was unable to publish a message because there is no client subscribed to the subject of the message.

This constant is used to indicate that the publication of the message has failed. The publication failed because there is no client then subscribed to the subject of the message.

3.1.3.5 final String MigratoryDataClient.NOTIFY_PUBLISH_TIMEOUT = "NOTIFY_PUBLISH_TIMEOUT" [static]

Indicate that the client timed out when trying to get a response for a message publication.

This constant is used to indicate that the publication of the message timeout without knowing if the message was published or not.

3.2 MigratoryDataException Class Reference

Define the *error codes* of the API, and their corresponding *error texts* and *error causes*.

Public Member Functions

- int getCode ()

  Get the error code.
- String getCause ()

  Get the error cause.
- String getDetail ()

  Get the error text.

Public Attributes

- int E_INVALID_SUBJECT = 1

  Indicate an invalid subject syntax.
- int E_TRANSPORT_INIT_FAILED = 2

  Indicate a transport initialization failure.
- int E_CONNECTION_FAILED = 3

  Indicate a connection failure.
- int E_MSG_NULL = 4

  Indicate that the message supplied for delivery is null.
- int E_MSG_INVALID = 5

  Indicate that the message supplied for delivery is invalid.
- int E_MSG_FIELD_INVALID = 6

  Indicate that the message supplied for delivery has an invalid field.
- int E_CLUSTER_MEMBERS_CONNECTION_FAILED = 7

  Indicate that the client failed to connect to all MigratoryData servers in the cluster.
- int E_INVALID_URL_LIST = 8

  Indicate an invalid list of MigratoryData servers.
- int E_INVALID_URL = 9

  Indicate an invalid address for a MigratoryData server.
- int E_INVALID_PROTOCOL = 10

  Indicate an internal error during communication with a MigratoryData server.
- int E_ENTITLEMENT_TOKEN = 11

  Indicate that the entitlement token was not supplied.

3.2.1 Detailed Description

Define the *error codes* of the API, and their corresponding *error texts* and *error causes*.

3.2.2 Member Function Documentation

3.2.2.1 int MigratoryDataException.getCode ( )

Get the error code.

Returns

The error code.

3.2.2.2 String MigratoryDataException.getCause ( )

Get the error cause.

Returns

The error cause.

3.2.2.3 String MigratoryDataException.getDetail ( )

Get the error text.

Returns

The error text.

3.2.3 Member Data Documentation

3.2.3.1 int MigratoryDataException.E_INVALID_SUBJECT = 1

Indicate an invalid subject syntax.

This error code indicates that the subject used to build a new message has an invalid syntax.

The corresponding error cause contains the invalid subject itself.

3.2.3.2 int MigratoryDataException.E_TRANSPORT_INIT_FAILED = 2

Indicate a transport initialization failure.

This error code indicates that the client was not able to establish the transport connection to a MigratoryData server.

The corresponding error cause contains the address of the MigratoryData server to which the client failed to establish the trasport connection.

3.2.3.3 int MigratoryDataException.E_CONNECTION_FAILED = 3

Indicate a connection failure.

This error code indicates that the client was not able to connect to a MigratoryData server.

The corresponding error cause contains the address of the MigratoryData server to which the client failed to connect.

3.2.3.4 int MigratoryDataException.E_MSG_NULL = 4

Indicate that the message supplied for delivery is null.

The message supplied for delivery is null

3.2.3.5 int MigratoryDataException.E_MSG_INVALID = 5

Indicate that the message supplied for delivery is invalid.

The message supplied for delivery is invalid.

3.2.3.6 int MigratoryDataException.E_MSG_FIELD_INVALID = 6

Indicate that the message supplied for delivery has an invalid field.

The message supplied for delivery has an invalid field.

3.2.3.7 int MigratoryDataException.E_CLUSTER_MEMBERS_CONNECTION_FAILED = 7

Indicate that the client failed to connect to all MigratoryData servers in the cluster.

The client failed to connect to all MigratoryData servers in the cluster.

3.2.3.8 int MigratoryDataException.E_INVALID_URL_LIST = 8

Indicate an invalid list of MigratoryData servers.

The list of MigratoryData servers is incorrectly specified.

3.2.3.9 int MigratoryDataException.E_INVALID_URL = 9

Indicate an invalid address for a MigratoryData server.

The address of a MigratoryData server is incorrectly specified.

3.2.3.10 int MigratoryDataException.E_INVALID_PROTOCOL = 10

Indicate an internal error during communication with a MigratoryData server.

Internal communication error.

3.2.3.11 int MigratoryDataException.E_ENTITLEMENT_TOKEN = 11

Indicate that the entitlement token was not supplied.

Use the method MigratoryDataClient.setEntitlementToken() to define an entitement token.

3.3 MigratoryDataField Class Reference

Represent a message field.

Public Member Functions

- MigratoryDataField (String name, String value)

  Create a MigratoryDataField object.
- String getName ()

  Get the field name.
- String getValue ()

  Get the field value.

3.3.1 Detailed Description

Represent a message field.

3.3.2 Constructor & Destructor Documentation

3.3.2.1 MigratoryDataField.MigratoryDataField (String *name,* String *value*)

Create a MigratoryDataField object.

Parameters

name	The field name
value	The field value

3.3.3 Member Function Documentation

3.3.3.1 String MigratoryDataField.getName ( )

Get the field name.

Returns

A string representing the field name.

3.3.3.2 String MigratoryDataField.getValue ( )

Get the field value.

Returns

A string representing the field value.

3.4 MigratoryDataMessage Class Reference

Represent a message.

Public Member Functions

- MigratoryDataMessage (String subject, String content, List< MigratoryDataField > fields)

  Create a MigratoryDataMessage object.
- String getSubject ()

  Get the subject of the message.
- String getContent ()

  Get the content of the message.
- List< MigratoryDataField > getFields ()

  Get the fields of the message.

3.4.1 Detailed Description

Represent a message.

3.4.2 Constructor & Destructor Documentation

3.4.2.1 MigratoryDataMessage.MigratoryDataMessage (String *subject,* String *content,* List< MigratoryDataField > *fields*)

Create a MigratoryDataMessage object.

Parameters

subject	The subject of the message
content	The content of the message
fields	The fields of the message (Optional)

Exceptions

MigratoryDataException	An expection with the E_INVALID_SUBJECT code

3.4.3 Member Function Documentation

3.4.3.1 String MigratoryDataMessage.getSubject ( )

Get the subject of the message.

Returns

A string representing the subject of the message

3.4.3.2 String MigratoryDataMessage.getContent ( )

Get the content of the message.

Returns

A string representing the content of the message

3.4.3.3 List<MigratoryDataField> MigratoryDataMessage.getFields ( )

Get the fields of the message.

Returns

The fields of the message as a list of MigratoryDataField objects

Index

E_INVALID_PROTOCOL
    MigratoryDataException, 10
E_INVALID_SUBJECT
    MigratoryDataException, 9
E_INVALID_URL
    MigratoryDataException, 10
E_MSG_INVALID
    MigratoryDataException, 9
E_MSG_NULL
    MigratoryDataException, 9

getCause
    MigratoryDataException, 8
getCode
    MigratoryDataException, 8
getContent
    MigratoryDataMessage, 12
getDetail
    MigratoryDataException, 9
getFields
    MigratoryDataMessage, 12
getName
    MigratoryDataField, 11
getSubject
    MigratoryDataMessage, 12
getValue
    MigratoryDataField, 11

MigratoryDataClient, 5
    NOTIFY_PUBLISH_OK, 7
    publish, 6
    setEntitlementToken, 6
    setServers, 6
MigratoryDataException, 7
    E_INVALID_SUBJECT, 9
    E_INVALID_URL, 10
    E_MSG_INVALID, 9
    E_MSG_NULL, 9
    getCause, 8
    getCode, 8
    getDetail, 9
MigratoryDataField, 10
    getName, 11
    getValue, 11
    MigratoryDataField, 11
    MigratoryDataField, 11
MigratoryDataMessage, 11
    getContent, 12
    getFields, 12
    getSubject, 12
    MigratoryDataMessage, 12
    MigratoryDataMessage, 12

NOTIFY_PUBLISH_OK
    MigratoryDataClient, 7

publish
    MigratoryDataClient, 6

setEntitlementToken
    MigratoryDataClient, 6
setServers
    MigratoryDataClient, 6