

DENSO WAVE

Q-platform provider

Version 1.0.1

User's guide

July 17, 2018

Remarks:

[Revision history]

Version	Date	Content
1.0.0	2017-12-29	First edition
1.0.1	2018-7-17	Fix typo was corrected. Memory leak support.

[Supported version]

Version	Date	Content
1.0.0	2017-12-29	WebAPI 1.6 supported

Content

1. Introduction.....	4
2. Overview of this provider	5
2.1. Installation.....	5
2.2. Overview	5
3. Method and Property.....	6
3.1. CaoWorkspace::AddController method.....	6
3.2. CaoController::AddFile method.....	6
4. Command reference.....	8
4.1. Controller class	8
4.1.1. CaoController::Execute(“SetRequestHeader”) command	8
4.1.2. CaoController::Execute(“SetTimeout”) command	9
4.1.3. CaoController::AddVariable() command	9
4.2. File class.....	10
4.2.1. CaoFile:Execute(“FQRCreate”) command.....	10
4.2.2. CaoFile:Execute(“FQRDecode”) command	10
4.2.3. CaoFile::AddVariable() command.....	11
5. Variable list.....	12
5.1. Controller class	12
5.2. File class	12
6. Sample program.....	26

1. Introduction

Q-platform is an ORiN provider that enables to create and read Frame QR code by connecting to DENSO Q-platform via HTTP communication .

To use Q-platform WebAPI, you need to contract separately. Please inquire about details from DENSO WAVE website (<https://www.denso-wave.com>).

This document describes the overview of Q-platform provider and implemented CAO interface (function specifications).

2. Overview of this provider

2.1. Installation

Q-platform provider module consists of the following DLL. You do not need to install it manually if it is installed by ORiN2 SDK. To install manually, use information of Table 2-1.

Table 2-1 Q-platform provider

File name	CaoProvQ-PlatForm.dll
ProgID	CaoProv.DENSO. Q-PlatForm
Registration	regsvr32 CaoProvQ-PlatForm.dll
De-registration	regsvr32 /u CaoProvQ-PlatForm.dll

2.2. Overview

Q-platform creates and reads a Frame QR code by connecting to DENSO WAVE Q-platform via HTTP communication.

3. Method and Property

3.1. CaoWorkspace::AddController method

Syntax AddController (<bstrCtrlName:BSTR>, <bstrProvName:BSTR>, <bstrPcName:BSTR>, [**<bstrOption:BSTR>**])

< bstrCtrlName > : [in] Controller name
 < bstrProvName > : [in] Provider name. Fixed to =“CaoProv.DENSO.Q-PlatForm”
 <bstrPcName> : [in] Computer name where provider runs (not used)
 <bstrOption> : [in] Option string

Enter the following options with comma delimiters.

Server : Specify a connection destination (required)
 Just after “Server =”, enter a URL of Q platform to connect.
 Example) Server=https://q-platform.com
 UserId : Enter an authentication ID of HTTP communication (POST).(required)
 Example) UserId=testUser
 Password : Enter an authentication password of HTTP communication (POST).(required)
 Example) Password =testPassword

3.2. CaoController::AddFile method

Syntax AddFile (<bstrName:BSTR>, <bstrOption:BSTR>)

For bstrName, specify a variable name according to the mode to use.

To create a Frame QR (hereafter, MAKE mode) :FQR_MAKE

To decode a Frame QR (hereafter, DECODE mode):FQR_DECODE

For bstrOption, specify an application ID, service ID, and file format that are used when Q platform server executes POST.

< bstrName > : [In] File name
 Prefixes are as follows
 When MAKE mode is used:FQR_MAKE_
 When DECODE mode is used:FQR_DECODE_

<bstrOption> : [in] Option string
 Enter the following options with comma delimiters.

AppId	:	Specify an application ID (required)
SrvId	:	Specify a service ID (required)
Opformat	:	Specify a file format (required only for MAKE mode)

Example

```
CaoFile retFile  
= m_caoController.AddFile("FQR_DECODE_TEST", "AppId=appId,SrvId=srvId")
```

4. Command reference

4.1. Controller class

Table 4-1 CaoController::Execute command list

Command	Function
SetRequestHeader	Specifies the header items other than necessary items at posting time.
SetTimeout	Specifies the session timeout at posting time.

4.1.1. CaoController::Execute("SetRequestHeader") command

Add a header item when POST is executed.

Argument must be specified in array, such as {request header key},{request header value}.

※The second element or later of an array should be delimited with commas to concatenate these request headers into one request header.

If the same request key is specified twice or more, the older request header value will be overwritten.

You do not need to set Content-Type, Content-Length, and Authorization because the provider set them automatically.

Setting example: test-Key,testValue1,testValue2

Syntax SetRequestHeader (<Data>)

< Data > : [in] Request header key and the value to be added
(VT_BSTR | VT_ARRAY)

Example

```
Dim headerArray() As String = {"testHeaderKey","HeaderValue"}
m_caoController.Execute("SetRequestHeader", headerArray)
```

4.1.2. CaoController::Execute("SetTimeout") command

Specifies the communication timeout at the request sending to Q platform server. Unit is milliseconds. Enter 0 or higher value. If this entry is omitted, 5000 (5 seconds) will be set.

Syntax SetRequestHeader (<Data>)

< Data > : [in] Timeout period requested by HTTP (millisecond)
(VT_I4)

Example

```
result = m_caoFile.Execute("SetTimeout", 1000)
```

4.1.3. CaoController::AddVariable() command

Adds variety of variables.

Syntax AddVariable(<variable name>[, <option string>])

<variable name> : [in] Variable name to add.
For a variable name, variables defined in [Variable list 5.1.Controller class](#) are available.

<option string> : [in] null

Return value : [out] Variable added.

Example

```
CaoVariable retVal = m_caoController.AddVariable("@SERVER", null)
```

4.2. File class

Table 4-2 CaoController::Execute command list

Command	Function
FQRCreate	Creates a fQR code.
FQRDecode	Decodes a fQR code.

4.2.1. CaoFile:Execute("FQRCreate") command

Converts a given character string to a QR code.

By using an option arguments at AddFile, a system variable of CaoFile, and an option argument of Execute, create a Json string then post it to a Q-platform server.

The return value shows a byte array of created Frame QR code.

Syntax FQRCreate (<Data>
 < Data > : [in] string to be sent
 (VT_BSTR)

Example

```
Dim result As Byte() = m_caoFile.Execute("FQRCreate", "test")
```

4.2.2. CaoFile:Execute("FQRDecode") command

Decodes fQR code and convert the result to the character string array.

By using an option arguments at AddFile, a system variable of CaoFile, and an option argument of Execute, create a Json string then post it to a Q-platform server.

The return value shows a character string array of the analysis (in order of public decode data, private decode data, and service application)

Syntax FQRDecode(<Data>
 < Data > : [in] Option string array (BSTR| ARRAY)

The following options can be specified by a character string array.

CodeType : Specify a code type (required)

Specify one of the followings.

Q0 : **QR code**

Q1 : QR(GS1)

Q3 : SQRC

Q4 : SQRC(GS1)

	Q5	:	FreamQR
	G0	:	iQR
	G1	:	iQR(GS1)
Row Number	:	Number of cells which constitute the vertical side of the code to be decoded (required)	
Column Number	:	Number of cells which constitute the horizontal side of the code to be decoded (required)	
Decode Cell	:	Black-and-white information of cells which constitute the code to be decoded (required)	

Example

```
Dim paramArray As String() = {"Q5", "29", "29", "FE31..."}
Dim retArray As String() = m_caoFile.Execute("FQRDecode", paramArray)

Dim dcdPublicData As String = retArray(0)
Dim dcdPrivateData As String = retArray(1)
Dim srvApp As String = retArray(2)
```

4.2.3. CaoFile::AddVariable() command

Adds variety of variables

Syntax AddVariable(<Variable name>[, <option string>])

<Variable name> : [in] Variable name to add.
 For a variable name, only items listed on [Variable list 5.2. File class](#) are available.

<option string> : [in] null

Return value : [out] Variable added

Example

```
CaoVariable retVal = m_caoFile.AddVariable("@APPID", null)
```

5. Variable list

5.1. Controller class

Table 4-1 CaoController class system variable list

Variable name	Data type	Description	Attribute	
			get	put
@SERVER	VT_BSTR	Specify the connection destination's URL. This is equal to the option argument (Server) at AddController.	✓	✓
@USER_ID	VT_BSTR	Authentication user ID of HTTP communication (POST). This is equal to the option argument (UserId) at AddController.	✓	✓
@PASSWORD	VT_BSTR	Enter an authentication password of HTTP communication (POST). This is equal to the option argument (Password) at AddController.	✓	✓

5.2. File class

If you set a value in a system variable listed in Table 4-2, it will be set as a request parameter of WebAPI that is executed at Execute("FQRCreate").

Also, if you set a value in a system variable listed in Table 4-3, it will be set as a request parameter of WebAPI that is executed at Execute("FQRDecode").

Table 4-2 CaoFile class system variable list (in MAKE mode)

Variable name	Data type	Corresponding WebAPI property	Description	Attribute	
				get	put
@APPID	VT_BSTR	appid	Serial number of application Number of characters: 20 (maximum) This is equal to the optional argument (AppId) at AddFile.	✓	✓
@SRVID	VT_BSTR	srvid	Service ID Number of characters : 20 (maximum)	✓	✓

Variable name	Data type	Corresponding WebAPI property	Description	Attribute	
				get	put
			This is equal to the optional argument (SrvId) at AddFile.		
@OPTD	VT_BSTR	optd	Data sent arbitrarily Number of characters : Not limited	✓	✓
@TXT_INPUT	VT_BSTR	txt_Input	Input character string NULL: QR is not generated This is equal to Data at Execute.	✓	✓
@DD_VER	VT_I4	dd_Ver	Specifies a code version. 0: Generates a code in a best suited version automatically according to the input string. (Default value) 1: QR is not generated. An error is returned. 2 to 40: Generates a code in a specified code version. *Out-of-range value results in an error.	✓	✓
@DD_ECC_LVL	VT_I4	dd_EccLvl	Specifies a value for error correction level. 0: Error correction level L (7%) not generated 1: Error correction level M (15%) (Default value) 2: Error correction level Q (25%) 3: Error correction level H(30%) *Out-of-range value results in an error.	✓	✓
@DD_CANVAS_MODE	VT_I4	dd_canvas_mode	Canvas shape mode setting (0: FIX mode)	✓	✓
@DD_CELL_SIZE	VT_I4	dd_CellSize	Number of dots in the size of the cell to be drawn Specifies the size of a cell* to be drawn in units of pixels. *Cell: A unit of black or white which constitutes a code	✓	✓

Variable name	Data type	Corresponding WebAPI property	Description	Attribute	
				get	put
			1 to 100 *Out-of-range value is corrected to the minimum or maximum value. There are some cases when it is not generated even when it does not reach the maximum value due to code version, margin, QRsection size of fQR-K, etc. (Default value: 5)		
@DD_CELL_SHAPE	VT_I4	dd_CellShape	Cell shape 0 : ■(dark cell) (default value) 1 : ●(dark cell) 2 : ●(dark cell)○(light cell) *Out-of-range value is corrected to the minimum or maximum value. *When the output format is an eps, it forcefully becomes 0.	✓	✓
@DD_MARGIN	VT_I4	dd_Margin	Size of margin (Width of margin around QR) 0 to 144 *Out-of-range value is corrected to the minimum or maximum value. (Default value: 4)	✓	✓
@BGIMAGE	VT_UI1 VT_ARR AY	Bgimage	Background image • Image binary data : An image synthesis FrameQR is generated • NULL: A transparent canvas area FrameQR is generated	✓	✓
@BGIMAGE_TRIM_X	VT_R8	bgimg_trim_X	Image trimming position (X) *Depending on the size of posted image	✓	✓
@BGIMAGE_TRIM_Y	VT_R8	bgimg_trim_Y	Image trimming position (Y) *Depending on the size of posted	✓	✓

Variable name	Data type	Corresponding WebAPI property	Description	Attribute	
				get	put
			image		
@BGIMAGE_TRIM_LENGTH	VT_R8	bgimg_trim_Len	Image size (X/Y length) *Depending on the size of posted image	✓	✓
@TXT_FP_CELL_W	VT_BSTR	txt_FpCell_W	Color of FP cell (light cell) (Default value: #FFFFFF)	✓	✓
@TXT_FP_CELL_B	VT_BSTR	txt_FpCell_B	Color of FP cell (dark cell) (Default value: #000000)	✓	✓
@TXT_DATA_CELL_W	VT_BSTR	txt_DataCell_W	Color of data cell (light cell) (Default value: #FFFFFF)	✓	✓
@TXT_DATA_CELL_B	VT_BSTR	txt_DataCell_B	Color of data cell (dark cell) (Default value: #000000)	✓	✓
@TXT_CNVS_CELL	VT_BSTR	txt_CnvsCell	Color of canvas edge (Default value: #000000)	✓	✓
@DD_ALPHA_FPW	VT_I4	dd_alpha_FPW	Transparency of FP cell (light cell) 0: Perfect transparent (transparent) 255: Zero transparency (opaque) *Out-of-range value is corrected to the minimum or maximum value.	✓	✓
@DD_ALPHA_FPB	VT_I4	dd_alpha_FPB	Transparency of FP cell (dark cell) 0: Perfect transparent (transparent) 255: Zero transparency (opaque) *Out-of-range value is corrected to the minimum or maximum value.	✓	✓
@DD_ALPHA_DTW	VT_I4	dd_alpha_DTW	Transparency of data cell (light color) 0: Perfect transparent (transparent) 255: Zero transparency (opaque) *Out-of-range value is corrected to the minimum or maximum value.	✓	✓
@DD_ALPHA_DTB	VT_I4	dd_alpha_DTB	Transparency of data cell (dark cell) 0: Perfect transparent (transparent) 255: Zero transparency (opaque) *Out-of-range value is corrected to the	✓	✓

Variable name	Data type	Corresponding WebAPI property	Description	Attribute	
				get	put
			minimum or maximum value.		
@DD_ALPHA_CVS	VT_I4	dd_alpha_CVS	Transparency of canvas edge 0: Perfect transparent (transparent) 255: Zero transparency (opaque) *Out-of-range value is corrected to the minimum or maximum value.	✓	✓
@DD_SHAPE_NO	VT_I4	dd_ShapeNo	Canvas shape number 0 : Rectangle (default value) 1 : Triangle 2 : Circle 3 : Pentagon 4 : Hexagon 5 : Octagon 6 : FiveStar 7 : SixStar 8 : Heart 9 : Diamond 10: Trapezoid 11: Cross 12: Homebase 13: Donut 14: Rtriangle 15: Arrow ※Out-of-range value is fixed to 0.	✓	✓
@DD_HEADER_AREA	VT_I4	dd_HeaderArea	Code placement pattern Specifies a placement pattern which can be set in canvas area. 0: BOTHSIDE (Places a canvas in a place other than upper side and left side of a code)(Default value) 1: ONESIDE (Places a canvas in a place other than upper side of a code)*Usually BOTHESIDE is	✓	✓

Variable name	Data type	Corresponding WebAPI property	Description	Attribute	
				get	put
			recommended, because it is more resistant to large stains. If it is necessary to place a wide illustration which goes beyond left side and right side of a code, specify ONESIDE. *Out-of-range value results in an error.		
@DD_CENTER_X	VT_I4	dd_CenterX	Center position of canvas (X) <ul style="list-style-type: none"> • -127 to 127: Places a canvas in the specified X position • -10,000: Places a canvas in the default (center) position *The maximum value varies according to its version. When a value exceeding the maximum value is specified, it is corrected to the maximum value. *When CenterX is omitted or set to -10,000, it is ignored	✓	✓
@DD_CENTER_Y	VT_I4	dd_CenterY	Center position of canvas (Y) <ul style="list-style-type: none"> • -127 to 127: Places a canvas in the specified Y position • -10,000: Places a canvas in the default (center) position *The maximum value varies according to its version. When a value exceeding the maximum value is specified, it is corrected to the maximum value. *When CenterX is omitted or set to -10,000, it is ignored	✓	✓
@DD_SIZE_X	VT_I4	dd_SizeX	Radius of canvas (X direction) <ul style="list-style-type: none"> 0 to 127: Places a canvas in a specified size -1: Places a canvas in a default size *The maximum value varies according	✓	✓

Variable name	Data type	Corresponding WebAPI property	Description	Attribute	
				get	put
			to its version. When a value exceeding the maximum value is specified, it is corrected to the maximum value. *When dd_SizeX is omitted or set to -1, it is ignored (Its default value is used)		
@DD_SIZE_Y	VT_I4	dd_SizeY	Radius of canvas (Y direction) 0 to 127: Places a canvas in a specified size -1: Places a canvas in a default size *The maximum value varies according to its version. When a value exceeding the maximum value is specified, it is corrected to the maximum value. *When dd_SizeX is omitted or set to -1, it is ignored (Its default value is used)	✓	✓
@DD_ANGLE	VT_I4	dd_Angle	Specification of rotation of canvas 0 to 127 1: Places a canvas at the default angle (0 degree) and in default size *The maximum value varies according to its version. When a value exceeding the maximum value is specified, it is corrected to the maximum value. *The unit varies according to its version.	✓	✓
@OPFORMAT	VT_BSTR	Opformat	Output format (Extension) • jpg • bmp • tiff • gif • png	✓	✓

Variable name	Data type	Corresponding WebAPI property	Description	Attribute	
				get	put
			<ul style="list-style-type: none"> • eps Since it is used to specify a MIME type for return value, it is handled as an error if there is no specification or a format other than the ones above is specified This is equal to the optional argument (Opformat) at AddFile.		
@CODE_ROTATE	VT_I4	codeRotate	Specify the rotation of FQR (Every 90 degrees, clockwise) 0: 0 degree (default value) 1: 90 degrees 2: 180 degrees 3: 270 degrees *Out-of-range value is fixed to 0.	✓	✓
@DD_TRIMMING_MODE	VT_I4	dd_TrimingMode	Specify the image trimming mode to be synthesized. 0: After trimming the image, magnify or reduce it. (Default value) 1: After magnifying or reducing the image, trim it. ※Out-of-range value is fixed to 0.	✓	✓
@DD_STRETCH_MODE	VT_I4	dd_StretchMode	Specify the mode for magnifying or reducing the image to be synthesized. 0: Ignoring a ratio, magnify or reduce the image.(Default value) 1: Keeping a ratio, magnify or reduce the image. ※Out-of-range value is fixed to 0.	✓	✓
@TXT_CNVS_BASE	VT_BSTR	txt_CnvsBase	Background color of canvas (Default value: # FFFFFFFF)	✓	✓
@DD_ALPHA_CVSB	VT_I4	dd_alpha_CVSB	Transparency of the canvas background color	✓	✓

Variable name	Data type	Corresponding WebAPI property	Description	Attribute	
				get	put
			0: Perfectly transparent (transparent) (default value) 255: Zero transparency (opaque) *Out-of-range value is corrected to the minimum or maximum value.		
@TXT_MARGIN	VT_BSTR	txt_Margin	Margin color (Default value: #000000)	✓	✓
@DD_ALPHA_MARGIN	VT_I4	dd_alpha_Margin	Transparency of margin color 0: Perfect transparent (transparent) 255: Zero transparency (opaque) *Out-of-range value is corrected to the minimum or maximum value.	✓	✓
@KNGR_MODE	VT_I4	KngrMode	Specification of fQR-K generation 0: Not enabled (Default value) 1: Enabled *Out-of-range value is fixed to 0.	✓	✓
@NUM_KNGL_SIZE	VT_I4	num_knglsize	Cell size of fQR-K QR section Specify the cell size of fQR-K QR section in units of 0.1. 10 to 50 (10: original size, 50: 5.0 times) *Out-of-range value is corrected to the minimum or maximum value. (Default value :10)	✓	✓
@KNGL_RT	VT_I4	kngl_rt	Specification of rotation of fQR-K QR section (Every 90 degrees, clockwise) 0: 0 degrees 1: 90 degrees 2: 180 degrees 3: 270 degrees *Out-of-range value is fixed to 0.	✓	✓
@KNGL_CVS_SIZE	VT_I4	kngl_cvs_size	Size of fQR-K QR section area.	✓	✓

Variable name	Data type	Corresponding WebAPI property	Description	Attribute	
				get	put
			Specify the area of fQR-K QR section with the number of cells of fQR. Half of the number of vertical cells from 1 to fQR *Out-of-range value is corrected to the minimum or maximum value. (Default value: 9)		
@NUM_KNGL_MGN_IN	VT_I4	num_kngl_mgn_in	Size of margin of fQR-K QR section (inside) Specify the margin (number of cells) of the inside (in the fQR side direction) of fQR-K QR section. 0 to 144 *Out-of-range value is corrected to the minimum or maximum value. (Default value: 4)	✓	✓
@NUM_KNGL_MGN_OUT	VT_I4	num_kngl_mgn_out	Size of margin of fQR-K QR section (outside) Specify the margin (number of cells) of the inside (in the fQR side direction) of fQR-K QR section. 0 to 144 *Out-of-range value is corrected to the minimum or maximum value. (Default value: 4)	✓	✓
@TXT_QR_CELL_W	VT_BSTR	txt_QRCell_W	Color of fQR-K QR section data cell (Light cell) ※Valid only when it is KngrMode = 1 (Default value: #FFFFFF)	✓	✓
@TXT_QR_CELL_B	VT_BSTR	txt_QRCell_B	Color of fQR-K QR section data cell (Dark cell) ※Valid only when it is KngrMode = 1 (Default value: #000000)	✓	✓

Variable name	Data type	Corresponding WebAPI property	Description	Attribute	
				get	put
@DD_ALPHA_QR_W	VT_I4	dd_alpha_QR W	Transparency of fQR-K QR section data cell (Light cell) 0: Perfect transparent (transparent) 255: Zero transparency (opaque) *Out-of-range value is corrected to the minimum or maximum value.	✓	✓
@DD_ALPHA_QR_B	VT_I4	dd_alpha_QR B	Transparency of fQR-K QR section data cell (Dark cell) 0: Perfect transparent (transparent) 255: Zero transparency (opaque) *Out-of-range value is corrected to the minimum or maximum value.	✓	✓
@TXT_KNGL_URL	VT_BSTR	txt_kngl_Url	fQR-K QR section data Specify XX among "http://A.FQRAP.COM/XX" of fQR-K QR section data. 00 to 09 -1 : Specify the QR section data to "http://fqrld.com/". *Out-of-range value results in an error.	✓	✓
@MODEL	VT_I4	model	Specify the fQR generation model. 0: Model 1 (Default value) 1: Model 2 *Out-of-range value is corrected to the default value.	✓	✓
@LAST_ERROR_CODE	VT_BSTR		Response error code at Execute("FQRCreate").	✓	✓
@LAST_ERROR_INFO	VT_BSTR		Response error information at Execute("FQRCreate")	✓	✓

Table 4-3 CaoFile class system variable list (in DECODE mode)

Variable name	Data type	Corresponding webAPI property	Description	Attribute	
				get	put
@APPID	VT_BSTR	appid	Serial number of app Number of characters : 20 (maximum) This is equal to the optional argument (AppId) at AddFile.	✓	✓
@SRVID	VT_BSTR	srvid	Service ID Number of characters : 20 (maximum) This is equal to the optional argument (SrvId) at AddFile.	✓	✓
@OPTD	VT_BSTR	optd	Data sent arbitrarily Number of characters : Not limited	✓	✓
@VERSION	VT_BSTR	version	Version of the data format to be decoded • Number of characters: 4 (fixed) • Type of characters: Alphanumeric characters (Default value: 0000)	✓	✓
@SYMBOL	VT_BSTR	Symbol	Type of the code to be decoded • Number of characters: 2 (fixed) • Type of characters : Q0,Q1,Q3,Q4,Q5,G0,G1 This is equal to the optional argument (CodeType) at Execute.	✓	✓
@ROW_NUM	VT_I4	row_num	Number of cells which constitute the vertical side of the code to be decoded 0 to 422 This is equal to the optional argument (Row Number) at Execute.	✓	✓
@COLUMN_NUM	VT_I4	column_num	Number of cells which constitute the horizontal side of the code to be decoded	✓	✓

Variable name	Data type	Corresponding webAPI property	Description	Attribute	
				get	put
			0 to 422 This is equal to the optional argument (Column Number) at Execute.		
@CELL	VT_BSTR	cell	Black-and-white information of cells which constitute the code to be decoded <ul style="list-style-type: none"> • Number of characters: 44732 (maximum) • Units of bytes, and each byte contains black-and-white information of cells (a black cell is handled as 1 and a white cell is handled as 0) constituting a side of a code starting from the upper left. The remaining digits are padded with 0. This is equal to the optional argument (Decode Cell) at Execute.	✓	✓
@KEY	VT_BSTR	key	Encryption key of SQRC or others <ul style="list-style-type: none"> • Number of characters : 16 (fixed)*8 • Type of characters : 0 to 9, A to F (16 types) • If it is omitted, no private data is acquired 	✓	✓
@CLI_ID	VT_BSTR	cli_id	Mobile device ID <ul style="list-style-type: none"> • Number of characters: 50 (maximum) 	✓	✓
@CLI_LAT	VT_I4	cli_lat	Mobile device latitude <ul style="list-style-type: none"> • World Geodetic System DEG format (decimal) • Range : -90 to 90 	✓	✓
@CLI_LON	VT_I4	cli_lon	Mobile device longitude <ul style="list-style-type: none"> • World Geodetic System DEG format 	✓	✓

Variable name	Data type	Corresponding webAPI property	Description	Attribute	
				get	put
			(decimal) • Range : -180 to 180		
@CLI_LANG	VT_BSTR	cli_lang	Mobile device language • Number of characters: 50 (maximum)	✓	✓
@CLI_OS	VT_BSTR	cli_os	Mobile device OS • Number of characters: 50 (maximum)	✓	✓
@CLI_MODEL	VT_BSTR	cli_model	Mobile device model • Number of characters: 50 (maximum)	✓	✓

6. Sample program

This chapter provides a sample program written in C# that uses Q platform provider.

List 6-1

Q-Platform_Sample

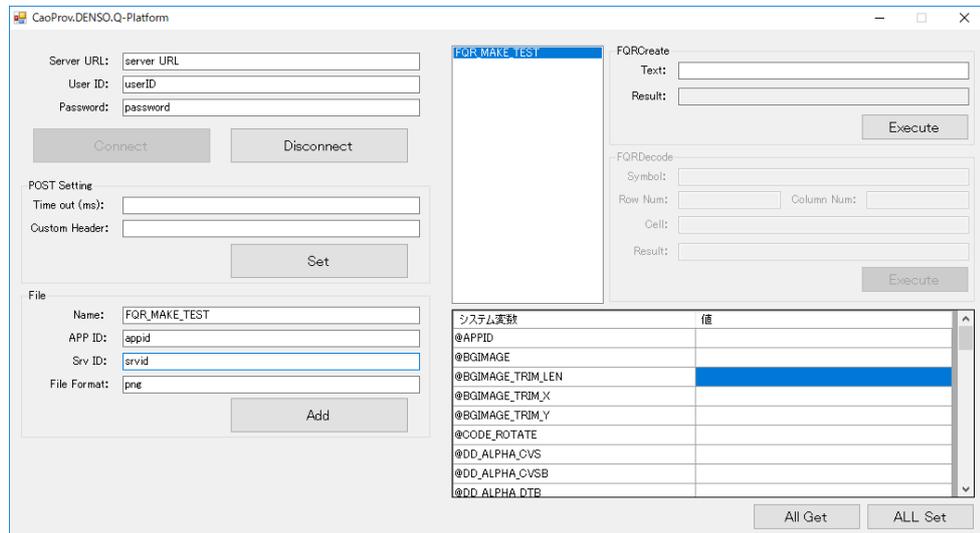


Figure 6-1 Q-PlatForm Client

Sample program

```
// Controller
CaoEngine engine = new CaoEngine();
String optionStr = "server=testServer, userId=testUserId, password=testPassword";
CaoController ctrl = engine.Workspaces.Item(0).AddController("QPlatForm", "CaoProv.DENSO.Q-PlatForm", "", optionStr);
ctrl.Execute("SetTimeout", 100);
ctrl.Execute("SetRequestHeader", new string[] { "headerKey", "headerValue" });
CaoVariable server = ctrl.AddVariable("@SERVER", "");

// File (MakeMode)
CaoFile makeFile = ctrl.AddFile("FQR_MAKE_TEST", "appId=testAppId, srvId=testSrvId,opformat=png");
object retByteArray = (byte[])makeFile.Execute("FQRCreate", "testString");
CaoVariable appId = makeFile.AddVariable("@APPID", "");

// File(DecodeMode)
CaoFile decodeFile = ctrl.AddFile("FQR_DECODE_TEST", " appId=testAppId ,srvId=testSrvId");
object retArray = (string[])decodeFile.Execute("FQRDecode", new string[] { "Q2", "57", "57", " FE31B9..." });
```

```
CaoVariable srvId = decodeFile.AddVariable("@SRVID", "");
```

