



OMRON CORPORATION
ELECTRONIC AND MECHANICAL
COMPONENTS COMPANY



HVC-C2W

Web API Specification Document

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■ Revision History

Rev	Contents	Prepared by	Reviewed by	Approved by
A	First release	AOB 15.12.16 T.Inoue	AOB 15.12.25 S.Manabe	AOB 15.12.29 O.Matsutake

■ Additional Notes

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1 Outline

The **OKAO™ Vision** HVC-C2W Web API Specification documentation (hereafter referred to as “this documentation”) provides definitions for the communication protocol specifications used for the service interface (hereafter referred to as “Web API”) provided by the cloud server. The client application is based on this documentation and facilitates the correct use of the Web API provided by the client server.

2 Related Ratings

This documentation conforms to the following ratings.

No.	Rating	Version	Submitted by
1	RFC 2616/7230 – 7235 Hypertext Transfer Protocol (HTTP)	-	IETF
2	RFC 6101 The Secure Sockets Layer (SSL) Protocol	-	IETF
3	RFC 2246/4346/5246 The Transport Layer Security (TLS) Protocol Version 1.1	-	IETF
4	RFC 4627 The application/son Media Type for JavaScript Object Notation (JSON)	-	IETF
5	RFC 7159 The JavaScript Object Notation (SON) Data Interchange Format	-	IETF

3 Basic Specifications

This documentation includes basic information about the communication protocols required when using the Web API provided by the cloud server.

3.1 Basic Communication Parameter

Communication between the cloud server and the client application will require the use of SSL (HTTPS). The basic communication parameters are as follows.

No.	Communication parameters	Contents
1	Communication protocols	HTTP+SSL (HTTPS) only (not accessible through HTTP)
2	Communication port	443
3	Japanese encoding	UTF-8 (during requests and response encoding)
4	Response type	Content-Type: application/json
5	Cloud server domain name	developer.hvc.omron.com
6	Request base URL	https://developer.hvc.omron.com/c2w Display <SERVICE URL> in text
7	Request HTTP method	GET/POST

3.2 HTTP Status Code

When an error occurs within the HTTP(S) protocol and it is due to a wrong call of the client application, the error will be sent back in the HTTP status code. The following HTTP status code will be used.

No.	Status	Status value	Contents
1	OK	200	Web API was successfully called.
2	Bad Request	400	Request was invalid (format different from specifications)
3	Unauthorized	401	Request requires authentication but the authentication failed.
4	Not Found	404	Requested Web API URL is incorrect.
5	Internal Server Error	500	Request failed due to an error on the cloud server side.

3.3 Web API Result Code

Set the result codes for the responses to all Web API. The results codes sent back as responses are as follows.

No.	Result code	Result message	Contents
1	W2C00000	success	Web API process was successfully executed.
2	W2C00001	invalid_parameter	Web API process was unsuccessful due to invalid Web API parameter settings.
3	W2C00002	already_exists	Specified resource already exists.
4	W2C00003	not_found	Info was not found.
5	W2C00011	include_non_owner_camera	Tried to change settings of non-owned camera.
6	W2C00012	include_own_address	Set your own address.
7	W2C00013	include_not_share_user	Email address set does not belong to a shared user.
8	W2C00014	user_not_found	Specified user was not found.
9	W2C00015	camera_not_found	Specified camera was not found.
10	W2C00101	cannot_send_email	Email was not sent to the specified address.
11	W2C00401	access_token_expired	Access token duration expired.
12	W2C99999	failure	Web API process was unsuccessful due to an unforeseen error.

4 Web API Specification List

The Web API specification provided by the cloud server service is as follows.

No.	Web API	Contents
1	Register user account	Register an email address to create a login account.
2	Login	Log in to the cloud server service using a login account.
3	Logout	Log out of the cloud server service.
4	Change password	Change the password of a login account.
5	Reset password	Send a request to reset the login password.
6	Get camera list	Get the list of cameras attached to the user logged in.
7	Change camera name	Change the name of a camera.
8	Remove camera	Remove a camera from the list of cameras attached to a login account.
9	Share camera	Share a camera owned by the logged-in user with other users.
10	Get camera sharing user list	Get the list of users with whom the logged-in user is sharing a camera.
11	Get shared camera info	Get info on the camera shared by the logged-in user for a different specified shared user.
12	Removed shared user	Remove a user from the list of users sharing an owned camera.
13	Get live user list	Get the list of users currently using live view.

4.1 Web API Specifications

■ Register user account

Register an email address to create a login account

The application will send a request for creating the login user account.

Request URL

<SERVICE_URL>/api/v1/signup.php

Request parameter

No.	Parameter	Type	Required	Description
1	apiKey	String	<input type="radio"/>	API key
2	Email	String	<input type="radio"/>	Specify the email address for user registration.

Response field

No.	Parameter	Type	Description
1	result.code	String	Error code w2C00000 if successful, different if failed
2	result.msg	String	Error description.

Request (example)

```
POST <SERVICE_URL>/api/v1/signup.php HTTP/1.1
connection: close
content-type: application/x-www-form-urlencoded

apiKey=0123456789abcdefgghijk&email=taro.omron@omron.co.jp&password=12345678
```

Response (example)

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "result": {
    "code": "W2C00000",
    "msg": "success"
  }
}
```

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "result": {
    "code": "W2C00101",
    "msg": "cannot_send_email"
  }
}
```

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "result": {
    "code": "W2C00002",
    "msg": "already_exists"
  }
}
```


■ Login

Log in to the cloud server service through the WebAPI provided for the client application.

Request URL

<SERVICE_URL>/api/v1/login.php

Request parameter

No.	Parameter	Type	Required	Description
1	apiKey	String	○	API key
2	deviceId	String	○	Device ID Set a unique device ID in a string of characters.
3	osType	Integer	○	Set the OS type of the device used to login. 0 : iOS 1 : Android 99 : other
4	email	String	○	Specify the email address for registration.
5	password	String	○	Specify the login password.
6	lang	String		Set the language code (ISO639-1) and country code (ISO3166-1) used in the device. Android : <code>Locale.getDefault().toString()</code> iOS : <code>objectForKey:NSLocaleIdentifier;</code> The default value will be ja JPN .
7	deviceModel	String		Set the model name of the device running the application. For iOS devices: <code>uname(&systemInfo);</code> <code>[NSString stringWithCString:systemInfo.machine encoding:NSUTF8StringEncoding];</code> For Android devices: <code>android.os.Build.MODEL</code>
8	deviceOSVersion	String		Set the OS version of the device running the application. For iOS devices: <code>[[UIDevice currentDevice] systemVersion];</code> For Android devices: <code>android.os.Build.VERSION.RELEASE;</code>

Response field

No.	Parameter	Type	Description
1	result.code	String	Result code W2C00000 if successful, different if failed.
2	result.msg	String	Message for the result code.
3	access.token	String	Set the access token character string only if the result code is W2C00000. Specify the access token in the authorization header and call other Web API.
4	access.expiresIn	Integer	Set the active duration of the access token only if the result code is W2C00000. Specify 0 for an unlimited token.

Request (example)

```
POST <SERVICE_URL>/api/v1/login.php HTTP/1.1
connection: close
content-type: application/x-www-form-urlencoded

apiKey=0123456789abcdefgghijk&deviceId=1d25c651207854c50561&os_type=0&
email=taro.sato@omron.co.jp&password=12345678
```

Response (example)

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "result": {
    "code": "W2C00000",
    "msg": "success"
  },
  "access": {
    "token": "e63b1457775e3a3be48ab688f0b8583b9149ad09",
    "expiresIn": "7200"
  }
}
```

■ Logout

Log out of the cloud server service.

Request URL

<SERVICE_URL>/api/v1/logout.php

Request parameter

None

Response field

No.	Parameter	Type	Description
1	result.code	String	Error code W2C00000 if successful, different if failed.
2	result.msg	String	Error description

Request (example)

```
POST <SERVICE_URL>/api/v1/logout.php HTTP/1.1
connection: close
Authorization: Bearer e63b1457775e3a3be48ab688f0b8583b9149ad09
```

Response (example)

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "result": {
    "code": "W2C00000",
    "msg": "success"
  }
}
```

■ Change password

Change the password of a login account.

Request URL

<SERVICE_URL>/api/v1/changePassword.php

Request parameter

No.	Parameter	Type	Required	Description
1	newPassword	String	<input type="radio"/>	Set the new password (over 8 letter/number characters).

Response field

No.	Parameter	Type	Description
1	result.code	String	Error code W2C00000 if successful, different if failed.
2	result.msg	String	Error description

Request (example)

```
POST <SERVICE_URL>/api/v1/changePassword.php HTTP/1.1
connection: close
Authorization: Bearer e63b1457775e3a3be48ab688f0b8583b9149ad09
content-type: application/x-www-form-urlencoded

newPassword=aDigH7fY
```

Response (example)

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "result": {
    "code": "W2C00000",
    "msg": "success"
  }
}
```

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "result": {
    "code": "W2C00001",
    "msg": "invalid_parameter"
  }
}
```

■ Reset password

Send a request to reset the login password.

Request URL

<SERVICE_URL>/api/v1/forgetPassword.php

Request parameter

No.	Parameter	Type	Required	Description
1	apiKey	String	○	API key
2	email	String	○	Set password recovery email.

Response field

No.	Parameter	Type	Description
1	result.code	String	Error code W2C00000 if successful, different if failed.
2	result.msg	String	Error description

Request (example)

```
POST <SERVICE_URL>/api/v1/changePassword.php HTTP/1.1
connection: close
content-type: application/x-www-form-urlencoded

apiKey=0123456789abcdefghijkl&email=taro.sato@omron.co.jp
```

Response (example)

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "result": {
    "code": "W2C00000",
    "msg": "success"
  }
}
```

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "result": {
    "code": "W2C00101",
    "msg": "cannot_send_email"
  }
}
```

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "result": {
    "code": "W2C00401",
    "msg": "access_token_expired"
  }
}
```

■ Get camera list

Get the list of cameras attached to the user logged in.

Request URL

<SERVICE_URL>/api/v1/getCameraList.php

Request parameter

None

Response field

No.	Parameter	Type	Description
1	result.code	String	Error code W2C00000 if successful, different if failed.
2	result.msg	String	Error description
3	cameraList	-	Send back the camera list.
4	cameraId	String	Camera ID
5	cameraName	String	Camera name
6	cameraMacAddr	String	Camera MAC address
7	appId	Integer	100
8	ownerType	Integer	Owner type 0 : Logged in user is the owner 1 : Another user is the owner
9	ownerEmail	String	Owner email address

Request (example)

```
POST <SERVICE_URL>/api/v1/changePassword.php HTTP/1.1
connection: close
Authorization: Bearer e63b1457775e3a3be48ab688f0b8583b9149ad09
```

Response (example)

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "result": {
    "code": "W2C00000",
    "msg": "success"
  },
  "cameraList": [
    {
      "cameraId": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX",
      "cameraName": "Sato no Camera",
      "cameraMacAddr": "002436ABCD",
      "appId": "100",
      "ownerType": "0",
      "ownerEmail": "taro.sato@omron.co.jp"
    },
    {
      "cameraId": "YYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYY",
      "cameraName": "Suzuki no Camera",
      "cameraMacAddr": "002436EFGH",
      "appId": "100",
      "ownerType": "1",
      "ownerEmail": "taro.suzuki@omron.co.jp"
    }
  ]
}
```

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "result": {
    "code": "W2C00401",
    "msg": "access_token_expired"
  }
}
```

■ Change camera name

Change the name of a specified camera.

Request URL

<SERVICE_URL>/api/v1/renameCamera.php

Request parameter

No.	Parameter	Type	Required	Description
1	cameraId	String	<input type="radio"/>	Camera ID
2	newName	String	<input type="radio"/>	New camera name

Response field

No.	Parameter	Type	Description
1	result.code	String	Error code W2C00000 if successful, different if failed
2	result.msg	String	Error description

Request (example)

```
POST <SERVICE_URL>/api/v1/changePassword.php HTTP/1.1
connection: close
Authorization: Bearer e63b1457775e3a3be48ab688f0b8583b9149ad09
content-type: application/x-www-form-urlencoded

cameraId=XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX&newName=front door camera
```

Response (example)

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "result": {
    "code": "W2C00000",
    "msg": "success"
  }
}
```

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "result": {
    "code": "W2C00001",
    "msg": "invalid_parameter"
  }
}
```

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "result": {
    "code": "W2C00401",
    "msg": "access_token_expired"
  }
}
```

■ Remove camera (erase registration data)

Remove a camera from the list of cameras attached to a login account.

Request URL

<SERVICE_URL>/api/v1/removeCamera.php

Request parameter

No.	Parameter	Type	Required	Description
1	cameraId	String	○	Set camera ID (Multiple camera IDs can be specified in a string).

Response field

No.	Parameter	Type	Description
1	result.code	String	Error code W2C00000 if successful, different if failed.
2	result.msg	String	Error description

Request (example)

```
POST <SERVICE_URL>/api/v1/changePassword.php HTTP/1.1
connection: close
Authorization: Bearer e63b1457775e3a3be48ab688f0b8583b9149ad09
content-type: application/x-www-form-urlencoded

cameraId=XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
```

```
POST <SERVICE_URL>/api/v1/changePassword.php HTTP/1.1
connection: close
Authorization: Bearer e63b1457775e3a3be48ab688f0b8583b9149ad09
content-type: application/x-www-form-urlencoded

cameraId[]=XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX&cameraId[]=YYYYYYYYYYYYYYYY
YYYYYYYYYYYYYYYYYYYY
```

Response (example)

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "result": {
    "code": "W2C00000",
    "msg": "success"
  }
}
```

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "result": {
    "code": "W2C00001",
    "msg": "invalid_parameter"
  }
}
```

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "result": {
    "code": "W2C00011",
    "msg": "include_non_owner_camera"
  }
}
```

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "result": {
    "code": "W2C00401",
    "msg": "access_token_expired"
  }
}
```

■ Share camera

Share a camera owned by the logged-in user with other users.

Request URL

<SERVICE_URL>/api/v1/shareCamera.php

Request parameter

No.	Parameter	Type	Required	Description
1	shareUserEmail	String	<input type="radio"/>	Set the email address of the user to share a camera with.
2	cameraId	String	<input type="radio"/>	Set the ID of the camera to be shared. Multiple camera IDs can be specified but make sure to check the isShared parameter and the parameter order.
3	isShared	String	<input type="radio"/>	Set the shared status of a camera. true : share false : remove shared status

Response field

No.	Parameter	Type	Description
1	result.code	String	Error code W2C00000 if successful, different if failed
2	result.msg	String	Error description

Request (example)

```
POST <SERVICE_URL>/api/v1/shareCamera.php HTTP/1.1
connection: close
Authorization: Bearer e63b1457775e3a3be48ab688f0b8583b9149ad09

shareUserEmail=taro.suzuki@omron.co.jp&cameraId[]=XXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXX"&isShared[]=true&cameraId[]=YYYYYYYYYYYYYYYYYYYYYYYYYYYYYY
```

Response (example)

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "result": {
    "code": "W2C00000",
    "msg": "success"
  }
}
```

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "result": {
    "code": "W2C00001",
    "msg": "invalid_parameter"
  }
}
```

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "result": {
    "code": "W2C00011",
    "msg": "include_non_owner_camera"
  }
}
```

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "result": {
    "code": "W2C00401",
    "msg": "access_token_expired"
  }
}
```

■ Get camera sharing user list

Get the list of users with whom the logged-in user is sharing a camera.

Request URL

<SERVICE_URL>/api/v1/getSharedUserList.php

Request parameter

None

Response field

No.	Parameter	Type	Description
1	result.code	String	Error code W2C00000 if successful, different if failed
2	result.msg	String	Error description
3	sharedUserList	-	Send back list of owned cameras
4	shareUserEmail	String	Shared user email

Request (example)

```
POST <SERVICE_URL>/api/v1/changePassword.php HTTP/1.1
connection: close
Authorization: Bearer e63b1457775e3a3be48ab688f0b8583b9149ad09
```

Response (example)

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "result": {
    "code": "W2C00000",
    "msg": "success"
  },
  "shareUserList": [
    {
      "shareUserEmail": "taro.suzuki@omron.co.jp"
    },
    {
      "shareUserEmail": "taro.tanaka@omron.co.jp"
    },
    {
      "shareUserEmail": "taro.omron@omron.co.jp"
    }
  ]
}
```

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "result": {
    "code": "W2C00401",
    "msg": "access_token_expired"
  }
}
```

■ Get shared camera info

Get info on the camera shared by the logged-in user for a different specified shared user.

Request URL

<SERVICE_URL>/api/v1/getSharedCameraInfo.php

Request parameter

No.	Parameter	Type	Required	Description
1	shareUserEmail	String	○	Set the email address of a shared user in order to obtain the shared camera info.

Response field

No.	Parameter	Type	Description
1	result.code	String	Error code W2C00000 if successful, different if failed
2	result.msg	String	Error description
3	sharedInfo	-	Shared info
4	userEmail	String	shareUserEmail specified by request
5	cameraList	-	Send back list of owned cameras
6	cameraId	String	Camera ID
7	cameraName	String	Camera name
8	cameraMacAddr	String	Camera MAC address
9	isShared	String	Set the shared status of the camera. true : shared false : not shared

Request (example)

```
POST <SERVICE_URL>/api/v1/changePassword.php HTTP/1.1
connection: close
Authorization: Bearer e63b1457775e3a3be48ab688f0b8583b9149ad09

shareUserEmail= taro.suzuki@omron.co.jp
```

Response (example)

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "result": {
    "code": "W2C00000",
    "msg": "success"
  },
  "sharedInfo": {
    "userEmail": "taro.suzuki@omron.co.jp",
    "cameraList": [
      {
        "cameraId": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX",
        "cameraName": "front door camera",
        "cameraMacAddr": "002416ABCDEF",
        "isShared": "true"
      },
      {
        "cameraId": "123456789012345678901234567890123456",
        "cameraName": "living room camera",
        "cameraMacAddr": "002416GHIJKL",
        "isShared": "false"
      }
    ]
  }
}
```

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "result": {
    "code": "W2C00401",
    "msg": "access_token_expired"
  }
}
```

■ Erase shared user info

Remove a user from the list of users sharing an owned camera.

Request URL

<SERVICE_URL>/api/v1/removeShare.php

Request parameter

No.	Parameter	Type	Required	Description
1	shareUserEmail	String	○	Set the email address of shared users. Multiple addresses can be specified in a string.

Response field

No.	Parameter	Type	Description
1	result.code	String	Error code W2C00000 if successful, different if failed
2	result.msg	String	Error description

Request (example)

```
POST <SERVICE_URL>/api/v1/removeShare.php HTTP/1.1
connection: close
Authorization: Bearer e63b1457775e3a3be48ab688f0b8583b9149ad09
content-type: application/x-www-form-urlencoded

shareUserEmail=taro.omron@omron.co.jp
```

```
POST <SERVICE_URL>/api/v1/removeShare.php HTTP/1.1
connection: close
Authorization: Bearer e63b1457775e3a3be48ab688f0b8583b9149ad09
content-type: application/x-www-form-urlencoded

shareUserEmail[]=taro.omron@omron.co.jp&
shareUserEmail[]=taro.suzuki@omron.co.jp
```

Response (example)

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "result": {
    "code": "W2C00000",
    "msg": "success"
  }
}
```

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "result": {
    "code": "W2C00001",
    "msg": "invalid_parameter"
  }
}
```

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "result": {
    "code": "W2C00013",
    "msg": "include_not_share_user"
  }
}
```

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "result": {
    "code": "W2C00401",
    "msg": "access_token_expired "
  }
}
```

■ Get live user list

Get the list of users currently using live view.

Request URL

<SERVICE_URL>/api/v1/getWatchUserList.php

Request parameter

No.	Parameter	Type	Required	Description
1	cameraId	String	○	Camera ID

Response field

No.	Parameter	Type	Description
1	result.code	String	Error code W2C00000 if successful, different if failed
2	result.msg	String	Error description
3	userIdList	String	Create a list of users currently watching live on the camera

Request (example)

```
POST <SERVICE_URL>/api/v1/getNotification.php HTTP/1.1
connection: close
Authorization: Bearer e63b1457775e3a3be48ab688f0b8583b9149ad09

cameraId=XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
```

Response (example)

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "result": {
    "code": "W2C00000",
    "msg": "success"
  },
  "userIdList": [
    "taro.omron@omron.co.jp",
    "taro.suzuki@omron.co.jp"
  ]
}
```

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "result": {
    "code": "W2C00401",
    "msg": "access_token_expired"
  }
}
```