



TRASSIR SDK



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Basic information

TRASSIR's open platform makes it easy to integrate third-party applications. The set of resources that make this interaction possible is called the SDK.

Although the SDK is designed to be used in applications, all of its functions work from a browser. Moreover, the SDK comments suggest additional functions that may be called. All you have to do is copy the example to the address bar. **Try out all the functions using a browser!**



Note that before using the SDK, you must first [configure your server](#).

SDK functions respond in [JSON format](#). There are libraries for working with JSON available in any programming language. If the problem being solved does not require exact parsing of the responses, you can easily handle [regular expressions](#). This is precisely the approach used in the [python examples](#).

There are two ways to work with the SDK. You can use an SDK password and indicate the username and password of an arbitrary user in the system. Alternatively, you can – and in many instances must (for example, when viewing an archive) – use a session. The choice of which method depends on your [specific task](#).

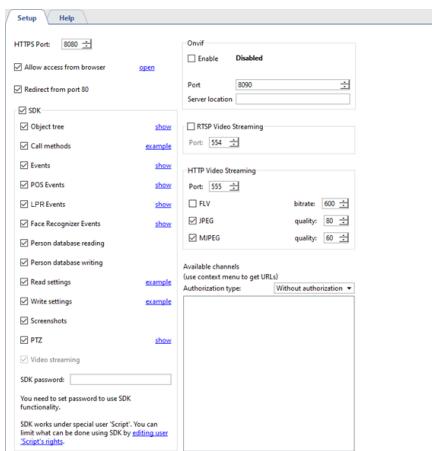


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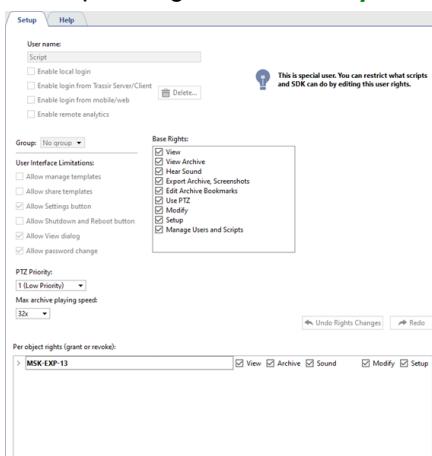
Configuring a server to work with the SDK

In order to enable the ability contact a TRASSIR server through the SDK, put a checkmark in the **SDK** checkbox. Depending on the functionality that you're going to use, check the following flags: **Object tree**, **Call methods**, **Events**, **POS events**, **AutoTRASSIR events**, **Read settings**, **Screenshots**, **PTZ**. You can use the item links for quick performance check of one or another feature, as well as a hint to **command** syntax. If you wish to get video from the server or play the archive, check the following flags: **FLV**, **JPEG**, **MJPEG**.

Enter random password into the **SDK password** field. This password will be used to get sessions or send commands while working via SDK password. You can also change the **Port** which will be used for server connection. The default value is 8080.



The **Enable login from mobile/web** flag should be checked in the user settings, which will be used for SDK. The rights to use the required functionality should be set, as well. When working via SDK password you should configure the required rights for the **Script** service user.



Read more about user right settings in administrator guidance.



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General form of a request

Depending on the task, you can work with the SDK by: indicating an SDK password, explicitly indicating the username and password of an arbitrary user in each request, or by using a session.

If the request includes only a password and not a username, the system will treat the request as being made using the SDK password with the rights of the **Script** user; if the username is indicated, the request will be made with the rights of the corresponding user. To avoid passing your credentials with every request, you can use a session. However, many commands require a session.

General form of a request that uses the SDK password:

```
https://server_address:port/command?password=password
```

General form of a request that uses the username and password of an arbitrary user:

```
https://server_address:port/command?username=user&password=password
```

General form of a request that uses a session:

```
https://server_address:port/command?sid=session_id
```

Key elements of the request:

- **server_address** - the server IP address in Ipv4 format, or the server NetBios name, e.g. **192.168.1.1**, or **videoserver**;
- **port** is a server port to connect to SDK, for example **8080**;
- **command** - the actual request that needs to be executed, for example: **health**;
- **user** - the username under which the operation will be executed, for example: **Admin**;
- **password** - the user's password, for example: **987654321**;
- **session_id** - the ID for the obtained session, for example: **e03qd0eg**;



Note that the request must begin with **https://** (the HTTPS protocol is used).

Examples of requests:

```
https://192.168.1.200:8080/health?username=Admin&password=987654321
https://192.168.1.200:8080/health?password=12345
https://192.168.1.200:8080/health?sid=e03qd0eg
```

In the examples of requests given above, data is transmitted to the server using the GET method. You can also use the POST method. Below is an example of a simple HTML form that illustrates this approach:

```
<html>
  <body>
    <form action="https://192.168.1.200:8000/objects/" method="POST">
      <label for="password">Enter SDK password:</label>
      <input id="password" type="password" name="password">
      <input type="submit" value="Send">
    </form>
  </body>
</html>
```

All of the **examples** that follow use the GET method in connection with a session.



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Commands used when working with the SDK

Depending on the current user, the list of available commands may vary; however, a number of commands must work through the session. The table below presents a list of possible commands, requirements for session use, and the availability of functions depending on the type of work selected.

Command	Description	Session use	SDK password	Any user
<code>/login</code>	create a new session	Not required	+	+
<code>/health</code>	output the server's health	Not required	+	+
<code>/settings</code>	read and write server settings	Not required	+	+
<code>/objects</code>	output the server's object tree implementing various methods to the server objects	Not required	+	-
<code>/classes</code>	output a description of the server's objects' classes	Not required	+	-
<code>/users</code>	creating users and user groups	Not required	+	-
<code>/channels</code>	quickly output the list of channels	Required	-	+
<code>/events</code>	get server events	Not required	+	-
<code>/pos_events</code>	get POS-terminal events	Not required	+	-
<code>/lpr_events</code>	get AutoTRASSIR events	Not required	+	-
<code>/fr_events</code>	receiving tracker/face recognizer events	Required	+	-
<code>/deep_detector</code>	obtaining neural object detector events	Required	+	-
<code>/screenshot</code>	request a screenshot	Not required	+	-
<code>/ptz</code>	control a PTZ camera	Required	-	+
<code>/archive_status</code>	output the archive state	Required	-	+
<code>/archive_command</code>	control an archive	Required	-	+
<code>/archive_events</code>	archive events request	Required	-	+
<code>/get_video</code>	get a link to a video	Required	-	+
<code>/archive_export</code> <code>/archive_export_ss</code> <code>/archive_export_ex</code> <code>/export_archive</code> <code>/export_task</code> <code>/export_cancel</code>	local archive export	Required	+	+
<code>/jit-export-task</code> <code>/jit-export-status</code> <code>/jit-export-download</code>	remote archive export	Required	+	+

/jit-export-cancel-task

When working with the login/password in the request, each time the response to the **/events**, **/pos_events**, **/lpr_events** and **/fr_events** commands will contain last 100 events.

When working through a session, the first request will return the last 100 events, while all subsequent requests will return only the new events since the last request. If no events arrive for a long time, the operation will timeout.



Note that the SDK does not perform a database search for events, rather it returns only those events that have accumulated since the automation module was started.

We also recommend you to get acquainted with more detailed *commands description and usage examples*.



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Command descriptions and usage examples

In most cases, if a request contains an error, the system will return a detailed response indicating exactly what was incorrectly specified in the request, e.g. invalid username or password, invalid session id, invalid object, required argument missing, etc.

To avoid passing your credentials with every request, you can use a session. Many commands will work without a session, but bear in mind that *a number of commands* require a session. Thus, in the overwhelming majority of cases, it is better to use a session ID when working with the SDK. All of the examples that follow will use one.

Below is a list of examples that use various SDK commands:

- *Get a session ID*
- *Request for the object tree*
- *Request for a description of the server's objects' classes*
- *Method implementation to an objects of the server*
- *Reading and writing server settings*
- *Request for the state of the server's health*
- *Request a screenshot*
- *Get a channel list*
- *Getting video and audio streams*
- *Archive management*
- *Request for archive state*
- *Request for archive events*
- *Local archive export*
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- *Request for server events*
- *Request for AutoTRASSIR events*
- *Request for ActivePOS events*
- *Tracker/face recognizer events request*
- *Neural object detector event request*
- *PTZ-camera control*



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Get a session ID

There are two ways to get a session ID: by indicating your SDK password, or by indicating an arbitrary user's username and password. The method to use depends on the [specific task](#). The [/login](#) is used to get a session ID.

Example of a request that uses the SDK password:

```
https://192.168.1.200:8080/login?password=12345
```

Example of a request that uses the username and password of an arbitrary user:

```
https://192.168.1.200:8080/login?username=Admin&password=987654321
```

In either case, the response will look the same:

```
{
  "success" : 1,
  "sid" : "e03qD0eg"
}
```

In this example, the response contains:

- **"success" : 1** - the authorization request was processed successfully;
- **"sid" : "e03qD0eg"** - the unique session ID;

If the credentials use or invalid, the response will work as follows:

```
{
  "success" : "0",
  "error_code" : "invalid username or password"
}

/*
Username and Password should match to one of the server users.
*/
```



The session lifetime is 15 minutes. It "dies" due to the absence of constant requests. Any request made within this session lifetime using one and the same **sid** makes its lifetime equal to 15 minutes.



The following types of protection against unauthorized access are built into WEB-server:

- **Protection against a large number of connections from a single IP-address.** No more than 99 connections can be established to SDK from a single IP address. All connections above this limit will be rejected, and a corresponding entry will appear in the TRASSIR log.
- **Protection against frequent authorization.** The WEB-Server allows you to request **sid** no more than once within 5 seconds. Too frequent attempts to send a request may result in blocking the IP address.



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Object tree request

All the devices that exist in the system are represented as an object tree. Use the `/objects/` command to get it. Note the `"/"` at the end; it is required.

Example of a request:

```
https://192.168.1.200:8080/objects/?sid=gbnVFUit
```

Example of a server response:

```
[
  {
    "name" : "Control post",
    "guid" : "MBZZ3Y3o",
    "class" : "Channel",
    "parent" : "shMa536E"
  },
  {
    "name" : "a-maltsev",
    "guid" : "UQS60Nr1",
    "class" : "Server",
    "parent" : "UQS60Nr1"
  },
  {
    "name" : "Operator a-maltsev's interface",
    "guid" : "operatororgui_UQS60Nr1",
    "class" : "OperatorGUI",
    "parent" : "UQS60Nr1"
  },
  {
    "name" : "DS-2CD8153F-E",
    "guid" : "shMa536E",
    "class" : "IP Device",
    "parent" : "UQS60Nr1"
  },
  {
    "name" : "2x2",
    "guid" : "JM07fBTb",
    "class" : "Template",
    "parent" : "operatororgui_UQS60Nr1"
  }
]
```

Properties	Values	Description	Software version
<code>"name"</code>		System object name.	≥3.2
<code>"guid"</code>		Unique object identifier.	≥3.2
<code>"class"</code>	"Server" - class of connected servers "IP Device" - class of IP-devices "Channel" - class of channels "OperatorGUI" - class of operator's interface "Template" - class of templates etc.	The class to which the object belongs defines the possible object parameters and statuses.	≥3.2
<code>"parent"</code>		Shows relations between the objects. In the given example the Control post channel object belongs to DS-2CD8153F-E IP-camera object, which belongs to a-maltsev server object.	≥3.2



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Request for a description of the server's objects' classes

Each server object belongs to a certain class (type). The class describes the possible states of the object and the methods that apply to it. There are many different classes and to find out which class the object belongs to, use the command `/objects`. The `/classes` command is used to query class parameters.

Example of a request:

```
https://192.168.1.200:8080/classes/Channel?sid=gbnVFUiT
```



Note that class names (`Channel` in our example) are case-sensitive.

Example of a server response:

```
{
    "possible_states_vector" : [
        {
            "name" : "signal",
            "values" : [
                "No Signal",
                "Signal"
            ]
        },
        {
            "name" : "motion",
            "values" : [
                "No Motion",
                "Motion"
            ]
        },
        {
            "name" : "recording",
            "values" : [
                "Not Recording",
                "Recording"
            ]
        },
        {
            "name" : "recording_on_device",
            "values" : [
                "Not Recording (on device)",
                "Recording (on device)"
            ]
        },
        {
            "name" : "sound_detector",
            "values" : [
                "Disabled",
                "Silent",
                "Loud"
            ]
        }
    ],
    "methods" : [
        {
            "name" : "record",
            "parameters" : [
                {
                    "name" : "turn_on_record",
                    "type" : "integer"
                }
            ]
        },
        {
            "name" : "record_on",
            "parameters" : [
            ]
        },
        {
            "name" : "record_off",
            "parameters" : [
            ]
        }
    ]
}
```

```
{
    "name" : "set_watermark",
    "parameters" : [
        {
            "name" : "watermark_text",
            "type" : "string"
        },
        {
            "name" : "watermark_position",
            "type" : "integer"
        },
        {
            "name" : "timestamp_position",
            "type" : "integer"
        }
    ]
},
{
    "name" : "manual_record_start",
    "parameters" : [
    ]
},
{
    "name" : "manual_record_stop",
    "parameters" : [
    ]
},
{
    "name" : "ptz_preset",
    "parameters" : [
        {
            "name" : "preset_n",
            "type" : "integer"
        }
    ]
},
{
    "name" : "screenshot",
    "parameters" : [
    ]
},
{
    "name" : "screenshot_ex",
    "parameters" : [
        {
            "name" : "timestamp",
            "type" : "string"
        },
        {
            "name" : "directory",
            "type" : "string"
        }
    ]
},
{
    "name" : "screenshot_v2",
    "parameters" : [
        {
            "name" : "time_YYYYMMDD_HHMMSS",
            "type" : "string"
        },
        {
            "name" : "Screenshot_filename",
            "type" : "string"
        },
        {
            "name" : "Screenshot_folder",
            "type" : "string"
        },
        {
            "name" : "make_thumb",
            "type" : "integer"
        }
    ]
}
}
```

In this example, the response contains:

```

"possible_states_vector" : [
    {
        "name" : "signal",
        "values" : [
            "No Signal",
            "Signal"
        ]
    }
]

```

- **"possible_states_vector"** - a description block for the statuses of an object of the given class and their possible states;
- **"name" : "signal"** - a status name; in this example, it indicates if the channel has a signal;
- **"values" :** - the possible values; in this example: **"No Signal"** – there is no signal, **"Signal"** – there is a signal.

In this example, the response contains:

```

"methods" : [
    {
        "name" : "ptz_preset",
        "parameters" : [
            {
                "name" : "preset_n",
                "type" : "integer"
            }
        ]
    }
]

```

- **"methods"** : - a description block for the methods that are applicable to an object of the given class;
- **"name" : "ptz_preset"** - a method name; in this example, to switch a PTZ camera to a specific camera preset;
- **"parameters"** : - the required parameters;
- **"name" : "preset_n", "type" : "integer"** - a parameter name and type; in this example, the camera preset number, formatted as an integer.



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Method implementation to server objects

You can apply a method to each server object that *corresponds to the class* that the object belongs to. To find out which class the object belongs to, use the command `/objects`. To query class parameters, use the command `/classes`. Method call example:

```
https://192.168.1.200:8080/objects/operatorgui_CyPy6vF5/change_view_settings?  
name=opts_common_show_channel_name&value=1&sid=gbnVFUit
```

Request contains:

- **operatorgui_CyPy6vF5** - is an object which belongs to "OperatorGUI" class (operator's interface) in this example;
- **change_view_settings** - is a method of "OperatorGUI" class changing form settings of a displayed channel;
- **name=opts_common_show_channel_name** - is a method changing parameter, in this example - channel name display;
- **value=1** - value assigned to a parameter.

Example of a server response:

```
{  
    "success" : "1"  
}
```



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Read and write server settings

The server object settings are displayed as a tree with subfolders. When sending the `/settings/` command, the server will return a subfolder tree describing all server settings. Note the `"/"` at the end.

Example of a request:

```
https://192.168.1.200:8080/settings/?sid=e03qD0eg
```

Example of a server response:

```
{
    "name" : "CyPy6vF5",
    "type" : "LocalServer",
    "subdirs" : [
        "ad",
        "archive",
        "audit",
        "auto_trassir",
        "boards",
        "channels",
        "cloud",
        "eskuel",
        "fortnet-k0DMhmOb",
        "gate-EHukOXSy",
        "health",
        "ip_cameras",
        "map",
        "netrec",
        "network",
        "orion",
        "pos_folder2",
        "reports",
        "screenshots",
        "scripts",
        "serialports",
        "sphinx-LrzsfDr",
        "system_wide_options",
        "templates",
        "users",
        "webserver"
    ],
    "values" : [
        "name",
        "folder",
        "icon",
        "media_route"
    ]
}
```



Be careful - some folder names use a unique identifier. These are generally the folders connected to the TRASSIR ACS.

In order to change any particular server setting, you must know the exact path to the desired setting. It is easy to find out by consecutively executing commands and switching to the required subfolder. For example, find out the bit rate specified in the settings for a camera's mainstream, send a request like this:

```
https://192.168.1.200:8080/settings/ip_cameras/shMa536E/channel100_video_bitrate?sid=e03qD0eg
```

In the request:

- **`ip_cameras`** - the folder containing the settings for all of the system's IP devices;
- **`shMa536E`** - the device's guid;
- **`channel100_video_bitrate`** - the parameter of the ultimately-required setting.

Example of a server response:

```
{
    "directory" : "ip_cameras/shMa536E/",
    "name" : "channel100_video_bitrate",
```

```
        "type" : "integer",
        "value" : "2048"
    }
```

To change a stream's bit rate, assign a new value to the parameter using the **"=**" sign:

```
https://192.168.1.200:8080/settings/ip_cameras/shMa536E/channel100_video_bitrate=8192?sid=e03qd0eg
```

Example of a server response:

```
{
    "success" : "1"
}
```

The new value has been applied. This can be verified by sending the command again:

```
https://192.168.1.200:8080/settings/ip_cameras/shMa536E/channel100_video_bitrate?sid=e03qd0eg
```



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Request for the state of the server's health

Examples of the requests:

<https://192.168.1.200:8080/health?sid=e03qD0eg>

or:

<https://192.168.1.200:8080/health?password=12345>

where:

- **sid=e03qD0eg** is the session ID;
- **password=12345** is the SDK password.

Example of a server response:

```
{
  "disks": "1",
  "database": "1",
  "channels_total": "10",
  "channels_online": "5",
  "uptime": "12902",
  "cpu_load": "22.50",
  "network": "1",
  "automation": "1",
  "disks_stat_main_days": "56.15",
  "disks_stat_priv_days": "35.03",
  "disks_stat_subs_days": "40.20"
}
```

Properties	Values	Description	Software version
" disks "	" 0 " - errors occurred " 1 " - no errors	Indicates if there have been disk errors on the server	≥3.1
" database "	" 0 " - errors occurred " 1 " - no errors	Indicates if there have been errors when connecting to the server's database	≥3.1
" channels_total "		Total number of connected cameras	≥3.1
" channels_online "		Number of cameras that are working properly	≥3.1
" uptime "		Server uptime, in seconds	≥3.1
" cpu_load "	from " 1.00 " to " 100.00 "	The CPU's current load, as a percentage	≥3.1
" network "	" 0 " - errors occurred " 1 " - no errors	Indicates if there have been errors in connections with other servers	≥3.1
" automation "	" 0 " - errors occurred " 1 " - no errors	Indicates if there have been errors while executing scripts on the server	≥3.1
" disks_stat_main_days "		The main stream's current archive depth, in days	≥3.1
" disks_stat_priv_days "		Privileged channels' current archive depth, in days	≥3.1
" disks_stat_priv_days "		The auxiliary stream's current archive depth, in days	≥3.1



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Requests for adding new users or user groups

Requests to create a user group should be made in the following order:

```
https://[server_address]:[port]/settings/users/user_add/new_group_name=[group_name]?sid=[session_id]
https://[server_address]:[port]/settings/users/user_add/create_group_now=1?sid=[session_id]
```

Response received after each request:

```
{
  "success" : "1"
}
```

Requests to create a new user should be made in the following order:

```
https://[server_address]:[port]/settings/users/user_add/new_user_name=[user_name]?sid=[session_id]
https://[server_address]:[port]/settings/users/user_add/new_user_password=[user_password]?sid=[session_id]
https://[server_address]:[port]/settings/users/user_add/create_now=1?sid=[session_id]
```



[user_password] must not be empty.

Response received after each request:

```
{
  "success" : "1"
}
```

Request for user removal:

```
https://[server_address]:[port]/settings/users/user_add/delete_user_id=[user_id]?sid=[session_id]
```

Response:

```
{
  "success" : "1"
}
```



You can see requests for configuring user and user group settings in [User settings description](#).



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Request a screenshot

Use the **screenshot** command to get the screenshot of the video stream.

Examples of the requests:

```
https://192.168.1.200:8080/screenshot/XjwUsj8w?sid=OhiEj3U
https://192.168.1.200:8080/screenshot/XjwUsj8w?figures=1&sid=OhiEj3U
https://192.168.1.200:8080/screenshot?channel=XjwUsj8w&figures=1&password=12345
```

The requests use the following parameters:

- **XjwUsj8w** or **channel=XjwUsj8w** - GUID of the channel from which the screenshot is requested;
- **figures=1** a parameter that adds figures to the screenshot;
- **sid=OhiEj3U** - session id.

You will receive a frame from the specified channel with figures on it, as a response.

When connecting to multiple servers, you can request a screenshot from the channel connected to one of them.

Example of a request:

```
https://192.168.1.200:8080/screenshot?server=HTwUsj8I&channel=XjwUsj8w&sid=OhiEj3U
```

The request uses the following parameters:

- **server=HTwUsj8I** - GUID of server from which the screenshot is requested;
- **channel=XjwUsj8w** - GUID of server channel;
- **sid=OhiEj3U** - session id.

A frame from the specified channel on one of the connected servers will be received as a response to the request.



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The same command **screenshot** with the **timestamp** parameter, with the date and time, is used to take a screenshot from the archive.

Examples of the requests:

```
https://192.168.1.200:8080/screenshot/XjwUsj8w?timestamp=20140225T112001&sid=XOhiEj3I
https://192.168.1.200:8080/screenshot/XjwUsj8w?timestamp=20140225T11200&figures=1&sid=XOhiEj3I
https://10.16.16.89:8080/screenshot?channel=XjwUsj8w&timestamp=20140225T112001&figures=1&password=12345
```

The requests use the following parameters:

- **XjwUsj8w** or **channel=XjwUsj8w** - GUID of the channel from which the screenshot is requested;
- **timestamp=20140225T112001** - The time of a frame saved in the archive, specified in one of the following formats:
 - **YYYY-MM-DD HH:MM:SS**
 - **YYYY-MM-DDTHH:MM:SS**
 - **YYYYMMDD-HHMMSS**
 - **YYYYMMDDTHHMMSS**
 - or UNIX(10 characters) or TIMESTAMP(16 characters) formats.



If **timestamp=0** or is omitted, then the last saved frame is requested.



The time is indicated according to time zone configured on the server.

- **figures=1** a parameter that adds figures to the screenshot;

- **sid=XOhjEj3I** - The session ID.

A frame from the specified channel will be received in response to the request.

Request for a channel list

Example of a request:

```
https://192.168.1.200:8080/channels?sid=zxRc8Y7w
```

Example of a server response:

```
{
    "channels" : [
        {
            "guid" : "thwfBTDO",
            "name" : "AC-D4011",
            "rights" : "783",
            "codec" : "h264",
            "have_mainstream" : "1",
            "have_substream" : "1",
            "have_ptz" : "0"
        },
        {
            "guid" : "zXbI18iN",
            "name" : "AC-D6034",
            "rights" : "783",
            "codec" : "h264",
            "have_mainstream" : "0",
            "have_substream" : "0",
            "have_hardware_archive": "0",
            "have_ptz" : "0",
            "fish_eye": 0,
            "have_voice_comm": "1",
            "aspect_ratio": "auto",
            "flip": "",
            "rotate": "rotate90"
        }
    ],
    "remote_channels" : [
        {
            "guid" : "KYfarktm",
            "name" : "TR-D7101IR1",
            "rights" : "783",
            "codec" : "h264",
            "have_mainstream" : "1",
            "have_substream" : "1",
            "have_hardware_archive": "0",
            "have_ptz" : "0"
        },
        {
            "guid" : "exQtceka",
            "name" : "DS-2DF7284-A 1",
            "rights" : "783"
        },
        {
            "guid" : "jrR09DoE",
            "name" : "AC-D7121IR1v2 2",
            "netrec_server_name": "",
            "rights" : "783"
        }
    ],
    "zombies" : [
        {
            "guid" : "JM07fBTb",
            "name" : "2x2",
            "columns" : "2",
            "rows" : "2",
            "channels" : [
                "kKHVfb1S",
                "u8OU0fAD",
                "FxTH0kTi",
                "qKJH1C5I"
            ]
        }
    ],
    "templates" : [
        {
            "guid" : "JM07fBTb",
            "name" : "2x2",
            "columns" : "2",
            "rows" : "2",
            "channels" : [
                "kKHVfb1S",
                "u8OU0fAD",
                "FxTH0kTi",
                "qKJH1C5I"
            ]
        }
    ]
}
```

```

        ]
    }
}

/*
channel rights is a 16-bit mask of rights, as described below

      512      1
      |         |
0000 0000 0000 0000
      ||       ||
      ||       |||  view live video
      ||       ||`--> view archive
      ||       |`--> adjust minor params, start record
      ||       `--> adjust major params like ip address
      |`--> export archive or make a screenshot
      `--> PTZ control
*/

```

The response in the given example contains the following:

- **channels** - channels on local server;
- **remote_channels** - remote and cloud channels;
- **zombies** - lost channels;
- **templates** -operator's templates.

Properties	Values	Description	Software version
" guid "		Unique object identifier	≥3.1
" name "		Object name	≥3.1
" rights "		User rights on channel	≥3.1
" codec "		Vide codec on channel	≥3.1
" have_mainstream "	0 -no, 1 - yes	Main stream is enabled on the channel	≥3.1
" have_substream "	0 -no, 1 - yes	Sub stream is enabled on channel	≥3.1
" have_hardware_archive "	0 -no, 1 - yes	Device archive is available	≥3.1
" have_ptz "	0 -no, 1 - yes	PTZ protocol is used on channel	≥3.1
" fish_eye "	0 -no, 1 - yes	Software dewarp for fisheye cameras	≥4.0
" have_voice_comm "			≥4.0
" aspect_ratio "	auto , 4:3 , 16:9	Aspect ratio	≥4.0
" flip "	hmirror , vmirror	Flip	≥4.0
" rotate "	rotate90 , rotate180 , rotate270	Rotation	≥4.0
" server_name "		Remote channel server name	≥3.1
" server_guid "		Unique server identifier	≥3.1
" netrec_server_name "		The name of the server on which the lost channel archive is stored	≥3.1
" columns "		Number of rows in a template	≥3.1

Properties	Values	Description	Software version
"rows"		Number of lines in a template	≥3.1
"channels"		ID of channels displayed in a template	≥3.1



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Getting video and audio streams

Get real-time video streams using the SDK as follows:

1. A stream request command, containing the following **mandatory parameters** is sent to the server:

channel - The channel's GUID;

stream - The type of stream being requested:

- **main** - The main stream;
- **sub** - The auxiliary stream;
- **archive_main** - The archive of the main stream;
- **archive_sub** - The archive of the auxiliary stream.

container - The format of the ingoing stream:

- **flv** - The stream in Flash format;
- **jpeg** - The stream in the form of a single frame in JPG format;
- **mjpeg** - The stream in MJPEG format;
- **rtsp** - RTSP stream;
- **hls** - HLS stream;
- **custom** - The audio stream.

sid - The unique session ID.

You can also add **optional parameters** to the command:

quality - stream compression quality from 0 to 100% for JPG (**container=jpeg**) and MJPEG(**container=mjpeg**).

framerate - for MJPEG(**container=mjpeg**) flow rate (from 0 to 60000):

- **0** - Real-time stream;

- **60000** - One frame per minute speed.

audio - for RTSP (**container=rtsp**) enable audio stream alongside with the video stream (**audio=pcm**).

hw - boolean parameter containing archive request from the device:

- **true** - in the device archive stream;

- **false** - in the server's archive stream.

2. In response, the server issues a unique **Token** that is used to form the final string to receive the audio or video stream.



You can find the channel's GUID using the [request for the object tree /objects](#), or using the quick command to [request the channel list /channels](#).



Note that all commands related to receiving video: [/channels](#), [/archive_status](#), [/archive_command](#), and [/get_video](#), must be executed using a [session](#) obtained under any user (NOT using an SDK password).

The examples of the **Token** requests from channel **channel=CKq5LLiO**:

- receiving mainstream (**stream=main**) at rate of 1 frame per second (**framerate=1000**), decoded into MJPEG format (**container=mjpeg**) with 80% compression quality (**quality=80**):

```
https://192.168.1.200:8080/get_video?  
channel=CKq5LLiO&container=mjpeg&quality=80&stream=main&framerate=1000&sid=WP6IRcrQ
```

- receiving RTSP stream (**container=rtsp**) of the substream (**stream=sub**):

```
https://192.168.1.200:8080/get_video?channel=CKq5LLiO&container=rtsp&stream=sub&sid=WP6IRcrQ
```

- receiving the archive of the mainstream (**stream=archive_main**) decoded in MJPEG (**container=mjpeg**):

```
https://192.168.1.200:8080/get_video?channel=CKq5LLiO&container=mjpeg&stream=archive_main&sid=WP6IRcrQ
```

- receiving audio (**container=custom**) of the mainstream (**stream=main**):

```
https://192.168.1.200:8080/get_video?channel=CKq5LLiO&container=custom&stream=main&sid=WP6IRcrQ
```

Example of a server response:

```
{  
    "success" : 1,  
    "token" : "c4Z0qkuu"  
}
```

In this example, the response contains:

- **"success" : 1** - the authorization was successful;
- **"token" : "c4Z0qkuu"** - the unique Token for the requested video;

Examples of the requests to receive video and audio streams:

- of the main and substreams and their archives:

```
http://192.168.1.200:555/c4Z0qkuu
```

- of the RTSP stream

```
rtsp://192.168.1.200:555/c4Z0qkuu
```

- stream in HLS:

```
https://192.168.1.200:8080/hls/c4Z0qkuu/master.m3u8
```

- of the audio stream:

```
http://192.168.1.200:555/media/c4Z0qkuu?stream=audio&container=ogg&channels=2&bitrate=64000&samplerate=44100
```

In these examples the request contains:

- **c4Z0qkuu** - The Token received previously;
- **stream=audio** - Send the audio stream;
- **container=ogg** - The audio stream's codec (aac or ogg);
- **channels=2** - The number of channels in the audio stream being sent;
- **bitrate=64000** - The level of audio compression;
- **samplerate=44100** - The audio stream's sampling rate (8000, 11025, 16000, 22050, 24000, 32000, 44100 or 48000).



The life span of the **Token** is 10 seconds and it "deceases" in the absence of constant requests. To prolong its life span during pause while reviewing an archive or watching videos of high **framerate**, you should execute the following query:

```
http://192.168.1.200:555/c4Z0qkuu?ping
```



Receiving the archive stream is executed by the following algorithm:

1. Make **Token** request with the **container=archive_main** or **container=archive_sub** parameter.
2. Execute the stream inquiry via **Token**.
3. With **archive management commands** set the playback starting point and start the playback.



Note that the stream is transmitted using http (http:// appears at the front of the IP address) over port 555 (you can change the port in the **server settings**). To receive the stream on RTSP protocol, rtsp:// is typed at the front of the IP address and 555 port is also used.



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Request for server events

Example of a request:

```
https://192.168.1.200:8080/events?sid=zxRc8Y7w
```

Example of a server response:

```
[
  {
    "timestamp" : "1393398252126919",
    "type" : "Motion Start",
    "origin" : "bN8mjs2L"
  },
  {
    "timestamp" : "1393398252201923",
    "type" : "Motion Stop",
    "origin" : "bN8mjs2L"
  },
  {
    "timestamp" : "1393398259196323",
    "type" : "Smoke Detected",
    "origin" : "yAdY84gR"
  },
  {
    "timestamp" : "1393398261689466",
    "type" : "Object Size Alarm",
    "origin" : "FRi0Xbcb"
  },
  {
    "timestamp" : "1393398263778585",
    "type" : "Smoke Stopped",
    "origin" : "yAdY84gR"
  },
  {
    "timestamp": "1571919747381928",
    "type": "Login Successful, %1 from %2",
    "origin": "fFa27WVD",
    "username": "Admin",
    "ip_address": "localhost"
  },
  {
    "timestamp": "1571919747382135",
    "type": "Connected To %1 under %2",
    "origin": "fFa27WVD",
    "server_address": "EXP-US-H6 (172.16.13.85)",
    "under_username": "Admin"
  }
]
```

Properties	Values	Description	Software version
"timestamp"		The time when the event occurred.	≥3.2
"type"	"Signal Lost", "Object Size Alarm", "Motion Start", "No Connection to Cloud" etc.	Event type.	≥3.2
"origin"		GUID of object to which the event is related.	≥3.2
"server_address"		Name or IP address of the server on which the event occurred.	≥3.2
"under_username"		User name authorized on the remote server.	≥3.2
"username"		User name authorized on local server.	≥3.2
"ip_address"		Local server IP address on which the event occurred.	≥3.2



The response time is indicated in microseconds in *UNIX-time* format according to time zone configured on the server.



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Request for AutoTRASSIR events

Examples of the requests:

```
https://192.168.1.200:8080/lpr_events?password=12345
https://192.168.1.200:8080/lpr_events?sid=zxRc8Y7w
https://192.168.1.200:8080/lpr_events?sid=zxRc8Y7w&dedup_timeout_sec=5
```

The requests use the following parameters:

- **password=12345** is the SDK password;
- **sid=zxRc8Y7w** is the session ID;
- **dedup_timeout_sec=5** - the parameter that prevents republishing of an event with the same license plate number if it occurred within a specified time (e.g. 5 seconds) after the previous one. The parameter works only when authorization is performed using the **sid** parameter.

Example of a server response:

```
[
{
  "best_guess" : "b663kt777",
  "channel" : "ill0UhRy",
  "flags" : "1073741825",
  "id" : "63191",
  "lane" : "2",
  "lists" : "",
  "plate" : "b663kt777",
  "quality" : "98.90",
  "server" : "CyPy6vF5",
  "speed" : "0.00",
  "template" : "ru/rux3xx3-v1",
  "time_bestview" : "1393329818921734",
  "time_enter" : "1393329818802482",
  "time_leave" : "1393329819239768",
  "track_points" : [],
  "vehicle_type" : "car"
},
{
  "best_guess" : "p066ok77",
  "channel" : "ill0UhRy",
  "flags" : "2147483717",
  "id" : "63190",
  "lane" : "1",
  "lists" : "",
  "plate" : "p066ok77",
  "quality" : "65.60",
  "server" : "CyPy6vF5",
  "speed" : "0.00",
  "template" : "ru/rux3xx2-v1",
  "time_bestview" : "1393329818524229",
  "time_enter" : "1393329818524229",
  "time_leave" : "1393329818762729",
  "track_points" : [],
  "vehicle_type" : "car"
}
]
```

Properties	Values	Description	Software version
"best_guess"		The most qualitatively recognized license plate number	≥4.0
"channel"		GUID of channel on which AutoTRASSIR module is used	≥3.1
"flags"		Flags describing event.	≥3.1
"id"		AutoTRASSIR event ID	≥3.1
"lane"		Traffic lane	≥3.1

Properties	Values	Description	Software version
"lists"		The list in which the given license plate number was detected	≥3.1
"plate"		Recognized AutoTRASSIR license plate number	≥3.1
"quality"		The best quality rate of the license plate number recognition	≥3.1
"server"		Server ID	≥3.1
"speed"		Vehicle speed	≥3.1
"template"		AutoTRASSIR template used for license plate number detection	≥3.1
"time_bestview"		The time the license plate number is recognized most qualitatively	≥3.1
"time_enter"		Time of the license plate appearance in the detection zone	≥3.1
"time_leave"		Time of the license plate number leaving the detection zone	≥3.1
"track_points"		The recognized numbers coordinates. The example of the coordinate request is described below	≥3.1
"vehicle_type"	car, motorcycle, bus, truck, van	Recognized vehicle body type	≥4.5



The response time is indicated in microseconds in [UNIX-time](#) format according to time zone configured on the server.

The **flags** parameter contains the description of AutoTRASSIR events: the driving direction, the lane number and the name of the list containing the recognized number. Each event is described with the help of bit mask, in which each bit corresponds to the specific information about the recognized number.

Bit number	Values	Flags
0	+1	L
1	+2	LPR
2	+4	LPR_E
3	+8	LPR_I

Bit number	Values	Flags
4	+16	LPR_UP
5	+32	LPR_EXTENDED
6	+64	LPR_C
29	+536 870 912	LPR_F
30	+1 073 741 824	LPR_SECOND_LANE
29,30	+1 610 612 736	LPR_UP LPR_INFO LPR_CORRECTED LPR_THIRD_LANE

The meaning of the flags in the example above is:

- **1073741825** is the value sum ($1+1073741824$) that corresponds to **LPR_UP** and **LPR_SECOND_LANE**. It means that the vehicle with this number is moving in the second lane upwards.
- **1610612805** is the value sum ($1+4+64+1610612736$) that corresponds to **LPR_UP**, **LPR_INFO**, **LPR_CORRECTED** and **LPR_THIRD_LANE**. That means that the vehicle with this number is moving in the second lane upwards, and the vehicle number was edited by the operator after that detection and found in the information list.

To get the coordinates of the recognized license plates add to request `&track_points=true`.
Example of requesting AutoTRASSIR events with the coordinates of recognized license plates:

https://192.168.1.200:8080/lpr_events?sid=zxRc8Y7w&track_points=true

Example of a server response:

```
[
{
  "best_guess" : "b663kt777",
  "channel" : "iLLOUhRy",
  "flags" : "1073741825",
  "id" : "63191",
  "lane" : "2",
  "lists" : "",
  "plate" : "b663kt777",
  "quality" : "98.90",
  "server" : "CyPy6vF5",
  "speed" : "0.00",
  "template" : "ru/rux3xx3-v1",
  "time_bestview" : "1393329818921734",
  "time_enter" : "1393329818802482",
  "time_leave" : "1393329819239768",
  "track_points" : [
    {
      "h" : 8.25,
      "w" : 18.75,
      "x" : 41.5,
      "y" : 35.75
    },
    {
      "h" : 7.5,
      "w" : 17.25,
      "x" : 40,
      "y" : 37.25
    }
  ],
  "vehicle_type" : "car"
}
]
```

Properties	Values	Description	Software version
" h "		The height of the recognized license plate number	≥3.1
" w "		The width of the recognized license plate	≥3.1
" x "		Horizontal axis position of the top left corner of the recognized license plate number in the frame	≥3.1
" y "		Vertical axis position of the top left corner of the recognized license plate number in the frame	≥3.1



Parameter values are indicated as a percentage of the frame size.



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Request for ActivePOS events

Example of a request:

```
https://192.168.1.200:8080/pos_events?sid=zxRc8Y7w
```

Example of a server response:

```
[
  {
    "event_timestamp": "1575472218724478",
    "flags": 0,
    "op_id" : "8262B3D2-DDE3-11E0-8E9D-0050FB005F2A",
    "pos_terminal" : "G7D1uyM",
    "pos_terminal_name" : "POS1",
    "position": "0",
    "price": 2750,
    "receipt_timestamp" : "1315903058000000",
    "quantity": 1,
    "type" : "POSGN_PAYMENT_CASH",
    "text" : "",
    "weight" : "0",
  },
  {
    "event_timestamp": "1575472220598461",
    "flags": 0,
    "op_id" : "8262B3D2-DDE3-11E0-8E9D-0050FB005F2A",
    "pos_terminal" : "G7D1uyM",
    "pos_terminal_name" : "POS1",
    "position" : "0",
    "price" : "40100",
    "receipt_timestamp" : "1315903058000000",
    "type" : "POSGN_RECEIPT_CHANGE",
    "text" : "",
    "quantity" : "0",
    "weight" : "0",
  },
  {
    "event_timestamp": "1575472227473028",
    "flags": 0,
    "op_id" : "8262B3D2-DDE3-11E0-8E9D-0050FB005F2A",
    "pos_terminal" : "G7D1uyM",
    "pos_terminal_name" : "POS1",
    "price" : "1250",
    "position" : "0",
    "quantity" : "0",
    "receipt_timestamp" : "1315903058000000",
    "type" : "POSGN_RECEIPT_NUMBER",
    "text" : "7768-50797",
    "weight" : "0",
  },
  {
    "event_timestamp": "1575472229976199",
    "flags": 0,
    "op_id" : "8262B3D2-DDE3-11E0-8E9D-0050FB005F2A",
    "pos_terminal" : "G7D1uyM",
    "pos_terminal_name" : "POS1",
    "position" : "0",
    "price" : "16660",
    "quantity" : "0",
    "receipt_timestamp" : "1315903058000000",
    "text" : "7768-50797",
    "type" : "POSGN_RECEIPT_OPEN",
    "weight" : "0",
  },
  {
    "event_timestamp": "1575472239973205",
    "flags": 0,
    "op_id" : "8262B3D2-DDE3-11E0-8E9D-0050FB005F2A",
    "pos_terminal" : "G7D1uyM",
    "pos_terminal_name" : "POS1",
    "position" : "1",
    "price" : "1887",
    "quantity" : "1",
    "receipt_timestamp" : "1315919540000000",
    "text" : "Oranges (1 kg price)",
  }
]
```

```

        "type" : "POSNG_POSITION_ADD",
        "weight" : "572",
    }
]

```

Properties	Values	Description	Software version
"event_timestamp"		Event time	≥3.2
"flags"		Flags	≥3.2
"op_id"		ActivePOS event ID	≥3.2
"pos_terminal"		Terminal GUID	≥3.2
"pos_terminal_name"		Terminal name	≥3.2
"position"		Position number	≥3.2
"price"		Item price	≥3.2
"quantity"		Item quantity	≥3.2
"receipt_timestamp"		Time of the document creation	≥3.2
"text"		Text	≥3.2
"type"		Event type	≥3.2
"weight"		Item weight	≥3.2



The response time is indicated in microseconds in [UNIX-time](#) format according to time zone configured on the server.



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Request of tracker/face recognizer events

Example of a request:

```
https://192.168.1.200:8080/fr_events?sid=zxRc8Y7w
```

As a response to the **fr_events** query, TRASSIR can return duplicate events for the same person. To receive only one event, you can use the **filter** parameter. This parameter is optional, and has the following values available:

- **all** - several events can be received for one person;
- **no_duplicates** - only one event will be received for one person.

Example of a request:

```
https://192.168.1.200:8080/fr_events?sid=zxRc8Y7w&filter=no_duplicates
```

Example of a server response:

```
[  
  {  
    "channel_guid": "MhZYJMti",  
    "liveness": "1"  
    "persons": [  
      {  
        "ext_person_id": "",  
        "ext_system_id": "",  
        "folder": "",  
        "name": "Andy",  
        "person_guid": "v9HGU0A",  
        "person_server": "wcR21ALR",  
        "score": 7128  
      },  
      {  
        "ext_person_id": "",  
        "ext_system_id": "",  
        "name": "Michael",  
        "folder": "",  
        "person_guid": "larD5BXn",  
        "person_server": "wcR21ALR",  
        "score": 6735  
      }  
    ],  
    "server": "wcR21ALR",  
    "track_guid": "u5gah7rpBQB0AAACCAABA=="  
    "ts_appeared": "1576083863830093",  
    "ts_best_view": "1576083871632610",  
    "ts_disappeared": "1576083871632610"  
  }  
]
```

Properties	Values	Description	Software version
"channel_guid"		Channel GUID	≥4.1
"liveness"	0 - photo, 1 - human	Face liveness	≥4.2
"persons"		Information on the recognized person (if the person added to the database)	≥4.1
"ext_person_id"			≥4.1
"ext_system_id"			≥4.1
"folder"		The path to the folder where the recognized person is located	≥4.2
"name"		Name of person from the database	≥4.1
"person_guid"		GUID of person in the database	≥4.1

Properties	Values	Description	Software version
" person_server "		GUID of server in the database of which information about the person is stored	≥4.1
" score "	from 0 to 10000	The degree of similarity between the recognized person and the person from the DB	≥4.1
" server "		GUID of server from which the event was received	≥4.1
" track_guid "		Track identifier	≥4.2
" ts_appeared "		The time the face was recognized	≥4.1
" ts_best_view "		The time the face was recognized most qualitatively	≥4.1
" ts_disappeared "		The time of the recognized face last appearance in the frame	≥4.1



The response time is indicated in microseconds in *UNIX-time* format according to time zone configured on the server.

Neural object detector event request



In order to get the neural detector events, set the **Deep Events** or **Neural detector events** flags in the *server settings*.

In order to obtain the events of the neural detector from all channels of the server, the **/deep_detector** command, with the ip address of the server and a unique session ID **sid** is used:

Example of the request:

```
https://192.168.1.200:8080/deep_detector?sid=zxRc8Y7w
```

In order to get neural detector events from the specific channel, use the **/deep_detector** command and specify the server IP address, the unique session ID **sid**, and the channel GUID **channel_guid**:

Example of the request:

```
https://192.168.1.200:8080/deep_detector?channel_guid=xV7uyA19&sid=zxRc8Y7w
```

Example of the server response:

```
[
{
    "channel_guid": "xV7uyA19",
    "zones": [
        {
            "objects_inside": [
                {
                    "class_id": "vehicle",
                    "confidence": "1.0000",
                    "id": "1"
                }
            ],
            "tracking_state": {
                "current_people_number": "1"
            },
            "zone_name": "Zone 1"
        },
        {
            "objects_inside": [],
            "tracking_state": {
                "current_people_number": "0"
            },
            "zone_name": "Zone 2"
        }
    ]
}
```

Parameters	Values	Parameter description	Software version
"channel_guid"		Channel GUID	≥4.4
"zones"		List of zones and their states	≥4.4
"objects_inside"		List of records of recognized objects in a zone	≥4.4
"class_id"		Class of object: human, vehicle, etc.	≥4.4
"confidence"		Confidence of the neural network that it can see exactly the specified object	≥4.4
"id"		Unique object ID	≥4.4
"current_people_number"		Number of objects in a zone, the zone state	≥4.4

Parameters	Values	Parameter description	Software version
"zone_name"		Zone name as set in the detector settings	≥4.4

PTZ-camera control

To control PTZ-camera you need to get an access to it.

Example of a request:

```
https://192.168.1.200:8080/ptz?command=open&channel=FByNlKIq&sid=fjM1BJ0I
```

Key elements of the request:

- **command=open** - command to get an access to PTZ-camera control;
- **channel=[guid_channel]** - guid PTZ-camera channel;
- **sid=[id_session]** - id of a session in which a request is being processed (see example [Get a session ID](#)).

Example of a server response:

```
{
    "success" : "1",
}
```

You can control and set PTZ-camera using the following requests:

- Zoom in/Zoom out:

```
https://192.168.1.200:8080/ptz?command=zoom&speed=1&sid=fjM1BJ0I
```

where

- **speed=[value]** - zoom in/zoom out speed (from -10 to 10).

- Focus:

```
https://192.168.1.200:8080/ptz?command=focus&speed=1&sid=fjM1BJ0I
```

where

- **speed=[value]** - focus point from the farthest(-10) to the closest(10).

- To turn on autofocus function:

```
https://192.168.1.200:8080/ptz?command=autofocus&sid=fjM1BJ0I
```

- Diaphragm setting:

```
https://192.168.1.200:8080/ptz?command=iris&speed=1&sid=fjM1BJ0I
```

where

- **speed=[value]** - open diaphragm size (from -10 to 10).

- To turn on diaphragm autotuning function:

```
https://192.168.1.200:8080/ptz?command=autoiris&sid=fjM1BJ0I
```

- PTZ-camera rotation:

```
https://192.168.1.200:8080/ptz?command=turn&speed_x=1&speed_y=-1&sid=fjM1BJ0I
```

where

- **speed_x=[value]** - rotation speed around the vertical axis (from -10 to 10).

- **speed_y=[value]** - rotation speed around the horizontal axis (from -10 to 10).

- Rotation of PTZ-camera to given coordinates:

```
https://192.168.1.200:8080/ptz?command=position_set&speed_x=1&pan=0.0&tilt=0.0&zoom=0.0&sid=fjM1BJ0I
```

where

- **pan=[value]** - camera rotation angle.

- ***tilt=[value]*** - camera tilt angle.
- ***zoom=[value]*** - approximation grade.
- Stop rotation/approximation/deletion of PTZ-camera:

`https://192.168.1.200:8080/ptz?command=stop&sid=fjM1BJ0I`

- Rotation of PTZ-camera to a defined preset:

`https://192.168.1.200:8080/ptz?&command=preset_goto&preset=1&sid=fjM1BJ0I`

where

- ***preset=[value]*** - preset number.
- To save camera position as preset:

`https://192.168.1.200:8080/ptz?&command=preset_save&preset=1&sid=fjM1BJ0I`

where

- ***preset=[value]*** - preset number.
- To delete camera preset:

`https://192.168.1.200:8080/ptz?&command=preset_delete&preset=1&sid=fjM1BJ0I`

where

- ***preset=[value]*** - preset number.
- To run tracking function:

`https://192.168.1.200:8080/ptz?&command=preset_patrol_start&preset=1&sid=fjM1BJ0I`

where

- ***preset=[value]*** - tracking number.
- Control commands of OSD-menu in PTZ-camera:

`https://192.168.1.200:8080/ptz?&command=[command]&sid=fjM1BJ0I`

where

- ***command=menu_on*** - enter OSD-menu;
- ***command=menu_off*** - exit OSD-menu;
- ***command=menu_up*** - arrow up;
- ***command=menu_down*** - arrow down;
- ***command=menu_down*** - arrow down;
- ***command=menu_right*** - arrow right;
- ***command=menu_zoom_in*** - Z+ button;
- ***command=menu_zoom_out*** - Z- button;
- ***command=menu_escape*** - ESC button;
- ***command=menu_enter*** - ENTER button;

To finish PTZ-camera operation send the request:

`https://192.168.1.200:8080/ptz?&command=[command]&sid=fjM1BJ0I`



- *General form of a request*
- *Commands used when working with the SDK*
- *Command descriptions and usage examples*

Archive management



You can manage an archive only after receiving the stream by the following algorithm:

1. Execute ***Token request*** with ***stream=archive_main*** or ***stream=archive_sub***.
2. By ***Token*** execute the ***stream request***.
3. Using archive management commands set the playback starting point and start video playback.

Examples of the requests:

- Play an archive fragment

```
https://192.168.1.200:8080/archive_command?
command=play&start=20180117T110734&stop=20180117T110834&speed=1&sid=e03qD0eg&token=P2FYkjcp
```

- Stop the playback

```
https://192.168.1.200:8080/archive_command?command=stop&sid=e03qD0eg&token=P2FYkjcp
```

- Move a certain time period towards the closest archive segment

```
https://192.168.1.200:8080/archive_command?
command=seek&timestamp=20180117T110734&direction=0&sid=e03qD0eg&token=P2FYkjcp
```

- Move to the next frame of the archive segment

```
https://192.168.1.200:8080/archive_command?command=frame_next&sid=e03qD0eg&token=P2FYkjcp
```

- Move to the previous frame of the archive segment

```
https://192.168.1.200:8080/archive_command?command=frame_prev&sid=e03qD0eg&token=P2FYkjcp
```

- Move to the first frame of the archive segment

```
https://192.168.1.200:8080/archive_command?command=frame_first&sid=e03qD0eg&token=P2FYkjcp
```

- Move to the last frame of the archive segment

```
https://192.168.1.200:8080/archive_command?command=frame_last&sid=e03qD0eg&token=P2FYkjcp
```

Key elements of the requests:

- ***command=[command]*** - The archive control command:

- ***stop*** - Stop archive playback;
- ***play*** - Being archive playback;
- ***seek*** - Seek through the archive;
- ***next*** - Skip to the next archive segment;
- ***prev*** - Skip to the previous archive segment;
- ***frame_first*** - Skip to the first frame of the archive segment;
- ***frame_last*** - Skip to the last frame of the archive segment;
- ***frame_next*** - Skip to the next frame of the archive segment;
- ***frame_prev*** - Skip to the previous frame of the archive segment.
- ***start=[date and time]*** and ***stop=[date and time]*** - date and time of the beginning and the end of the playing archive fragment;

- **speed=[number]** - archive playback speed (from 1 to 16);
- **timestamp=[date and time]** - date and time of the archive segment playback start;
- **direction=[number]** - the search direction of the closest archive fragment:
 - **1** - search for the closest frame in front of the date on the **timestamp**;
 - **-1** - search for the closest frame behind the date on the **timestamp**;
 - **0** - search for the closest frame in both directions from the date on the **timestamp**.
- **sid=[session_id]** - The identifier for the session in which the request is being made (see [Get a session ID](#));
- **token=[Token]** - The video's unique Token (see [Getting video and audio streams](#)).



The date and time should be submitted in one of the following formats:

- **YYYY-MM-DD HH:MM:SS**
- **YYYY-MM-DDTHH:MM:SS**
- **YYYYMMDD-HHMMSS**
- **YYYYMMDDTHHMMSS**
- and also in UNIX (10 characters) and TIMESTAMP (16 characters) formats.

Example of a server response:

```
{  
    "success" : "1",  
}
```



- [General form of a request](#)
- [Commands used when working with the SDK](#)
- [Command descriptions and usage examples](#)

Request for archive state



The request of the archive state is possible only after receiving the archive stream on the following algorithm:

1. Execute ***Token request*** with ***stream=archive_main*** or ***stream=archive_sub***.
2. Make the ***stream request*** by the ***Token***.
3. Run the command to request the archive status.

Example of the archive state request:

```
https://192.168.1.200:8080/archive_status?type=[state_type]&sid=sid=[session_id]
```

Key elements of the request:

- ***type=[state_type]*** - The type of state being requested:
 - ***state*** - The archive's current state;
 - ***calendar*** - The archive's calendar;
 - ***timeline*** - The archive's timeline.
- ***sid=[session_id]*** - The identifier for the session in which the request is being made (see [Get a session ID](#)).

Example of a request for an archive's current state:

```
https://192.168.1.200:8080/archive_status?type=state&sid=e03qd0eg
```

Example of a server response:

```
[  
  {  
    "token" : "iWIB1MID",  
    "time" : "2014-02-24 14:17:00",  
    "speed" : "0.000000",  
    "state" : "1",  
    "state_desc" : "",  
    "state_time" : "1393237022489381"  
  }  
]
```

In this example, the response contains:

- ***"token" : "iWIB1MID"*** - A unique Token to obtain the archive's video (see [Getting video and audio streams](#));
- ***"time" : "2014-02-24 14:17:00"*** - date and time of the replayed archive;
- ***"speed" : "0.000000"*** - current speed of the archive replay;
- ***"state" : "1"*** - The archive's current state:
 - ***1*** - Archive playback is stopped;
 - ***2*** - Archive is being played back;
 - ***4*** - Seek operation in progress;
 - ***8*** - There was an error;
 - ***10*** - The disks are busy.
- ***"state_desc" : ""*** - description of state of the replayed archive;

- **"state_time" : "1393237022489381"** -time of the archive state change in the format.

Example of a request for an archive's calendar:

```
https://192.168.1.200:8080/archive_status?type=calendar&sid=e03qd0eg
```

Example of a server response:

```
[  
  {  
    "token" : "iWIB1M1D",  
    "calendar" : [  
      "2014-02-20",  
      "2014-02-21",  
      "2014-02-24"  
    ]  
  }  
]
```

In this example, the response contains:

- **"token" : "iWIB1M1D"** - A unique Token to obtain the archive's video (see [Getting video and audio streams](#));
- **"calendar" : []** - list of dates, containing the archive.



The **"calendar" : []** contains the list of dates, corresponding to the given Token, not all server channels.

Example of a request for an archive's timeline:

```
https://192.168.1.200:8080/archive_status?type=timeline&sid=e03qd0eg
```

Example of a server response:

```
[  
  {  
    "token" : "iWIB1M1D",  
    "day_start" : "2014-02-24",  
    "timeline" : [  
      {  
        "begin" : "43090",  
        "end" : "43094"  
      },  
      {  
        "begin" : "43149",  
        "end" : "44506"  
      },  
      {  
        "begin" : "44592",  
        "end" : "44844"  
      },  
      {  
        "begin" : "45201",  
        "end" : "50573"  
      },  
      {  
        "begin" : "50628",  
        "end" : "50628"  
      },  
      {  
        "begin" : "51088",  
        "end" : "51327"  
      }  
    ]  
  }  
]
```

In this example, the response contains:

- **"token" : "iWIB1M1D"** - A unique Token to obtain the archive's video (see [Getting video and audio streams](#));
- **"day_start" : "2014-02-24"** - date of the replayed archive;
- **"timeline" : []** - list of the continuous archive fragments where:

- "***begin***" : "" - time of the archive fragment start;
- "***end***" : "" - time of the archive fragment end.



The time of the archive fragment start and end is specified in seconds from the start of the date, ranging **0** to **86400**.



- *General form of a request*
- *Commands used when working with the SDK*
- *Command descriptions and usage examples*

Request for archive events



The request to the archive event is possible only after receiving the archive stream on the following algorithm:

1. Make the **Token** request with the **stream=archive_main** or **stream=archive_sub** parameter.
 2. Make the **stream request** by the **Token**.
 3. Make archive events request command.

Example of a request for archive events:

https://192.168.1.200:8080/archive_events?token=isaoPJAb&sid=e03qD0eg

Key elements of the request:

- **`token=[Token]`** - The video's unique Token (see [Getting video and audio streams](#)).
 - **`sid=[session_id]`** - The identifier for the session in which the request is being made (see [Get a session ID](#)).

Example of a server response:

```

    "activities" : "FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF"
    "FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF"
    "FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF"
    "FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF"
    "FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF"
  }
]

}

```

In this example the response contains the following archive events:

- **"event_name" : "CalendarEvent"**
"calendar" : [] - list of dates, containing the archive.



The **"calendar" : []** contains the list of dates, corresponding to the given Token, not all server channels.

- **"event_name" : "SpeedEvent"**
"speed" : "0.000000" - current speed of the archive replay.
- **"event_name" : "SpeedLimitEvent"**
"speed_limit" : "0" -greatest possible speed of the archive replay.
- **"event_name" : "StateTransitionEvent"**
"state" : "1" - current archive state:
 - **1** - archive playback stopped;
 - **2** - archive is being replayed;
 - **4** - archive search;
 - **8** - an error occurred;
 - **10** - the drives are occupied.**"state_desc" : ""** - description of state.
"state_time" : "2014-02-24 14:24:54" - time of the state change.
- **"event_name" : "TimeChangedEvent"**
"time" : "2014-02-24 14:24:53" - time of the state change.
- **"event_name" : "TimelineEvent"**
"day_start" : "2014-02-24" - date of the replayed archive.
"timeline" : "" - sequence of numbers in hexadecimal system where each bit corresponds to one second of recording on that day:
 - **0** - no record;
 - **1** - there is a record.
- **"event_name" : "ActivityLevelEvent"**
"day_start" : "2014-02-24" - date of the replayed archive.
"activities" : "" - a sequence of numbers in a hexadecimal system, where each bit contains information about the presence or absence of motion on the channel:
 - **0** - no motion;
 - **1** - there is motion.



Unlike "**event_name** : "TimelineEvent" event, the "**event_name** : "ActivityLevelEvent" event contains info only on the seconds of the archive recordings.



- *General form of a request*
- *Commands used when working with the SDK*
- *Command descriptions and usage examples*

Local archive export

The local archive export starts the archive export and saves the resulting file in the [screenshots folder](#). Several methods of local archive export are supported:

- Methods performed using the [**operator's interface**](#) object.

Examples of the requests without flexible export parameters setting option:

```
https://192.168.1.200:8080/objects/operatororgui_jmxwAqxm/archive_export?
channel_name_or_guid=HsnnGa9B&start_time_YYYYMMDD_HHMMSS=2014-11-26
17:34:00&end_time_YYYYMMDD_HHMMSS=2014-11-26 17:35:00&filename=export.avi&archive_on_device=0&sid=e03qD0eg
https://192.168.1.200:8080/objects/operatororgui_jmxwAqxm/archive_export_ss?
channel_name_or_guid=HsnnGa9B&start_time_YYYYMMDD_HHMMSS=2014-11-26
17:34:00&end_time_YYYYMMDD_HHMMSS=2014-11-26 17:35:00&filename=export.avi&archive_on_device=0&sid=e03qD0eg
```

Example of a request with flexible export parameters setting option:

```
https://192.168.1.200:8080/objects/operatororgui_jmxwAqxm/archive_export_ex?
channel_name_or_guid=HsnnGa9B&start_time_YYYYMMDD_HHMMSS=2014-11-26
17:34:00&end_time_YYYYMMDD_HHMMSS=2014-11-26 17:35:00&filename=export.avi&sid=e03qD0eg&options={"is_hardware":0,
"video_codec": "MPEG4", "video_bitrate":3000}
```



Methods of local archive export performed using [**operator's interface**](#) object do not operate under the following conditions:

- the method runs on a "blind" TRASSIR OS server (with inactive operator's interface);
- method runs on a Windows server, where the server application runs as a service.

- The method executed using the [**channel**](#) object. This method does not depend on the operator interface availability. It can be run on any server.

Examples of a request:

```
https://192.168.1.200:8080/objects/CKq5LLiO/export_archive?start_time_YYYYMMDD_HHMMSS=2014-11-26
17:34:00&end_time_YYYYMMDD_HHMMSS=2014-11-26 17:35:00&filename=export.avi&sid=e03qD0eg&options={"is_hardware":1}
```

Key elements of a request:

- [**archive_export, archive_export_ss**](#) - commands to call export of main or sub stream archive;
- [**archive_export_ex, \[channel_GUID\]/export_archive**](#) - the command to call the customizable archive export of any stream;
- [**operatororgui_\[interface_GUID\]**](#) - operator interface id;
- [**channel_name_or_guid=\[GUID_channel\]**](#) - identifier of a channel from which an export is made;
- [**start_time_YYYYMMDD_HHMMSS=2014-11-26 17:34:00**](#) - date and time of export start;
- [**end_time_YYYYMMDD_HHMMSS=2014-11-26 17:35:00**](#) - date and time of export finish;
- [**filename=\[file_name.avi\]**](#) - file name;
- [**archive_on_device=0**](#) - select archive source:
 - **0** - server archive;
 - **1** - device archive.
- [**options={\[parameters\]}**](#) - a set of export parameters in JSON format:
 - [**"is_hardware"**](#) - select archive source:
 - **0** - server archive (default value);
 - **1** - device archive.

"want_ss" - select stream:

- **0** - main stream (default);
- **1** - sub stream.

"video_codec" - select export file video codec:

- **""** - without transcoding (default);
- **"MPEG4"** - transcode to MPEG4;
- **"WMV"** - transcode to WMV (not supported by TRASSIR OS).

"video_resolution" - select video stream resolution (in case the transcoding is used):

- **""** - original video stream resolution (default);
- **"2560x1920", "1920x1080", "1600x1200", "1280x1024", "1280x960", "1280x720", "1024x768", "800x600", "720x576", "704x576", "640x480", "352x288", "320x240", "176x144"** - variations of resolutions.

"video_bitrate" - select exported file bitrate (in case the transcoding is used):

- **200, 400, 600, 800, 1000, 2000, 2500, 3000, 5000, 7500, 10000, 16000** - bitrate variations.

"audio_codec" - select audio codec for exported audio file:

- **""** - without transcoding (default);
- **"No audio"** - sound off;
- **"PCM"** - transcode to PCM;
- **"WMA"** - transcode to WMA (not supported in TRASSIR OS).

"audio_bitrate" - select exported file audio stream bitrate (in case the transcoding to WMA is used):

- **64, 128** - bitrate variations.

"need_channel_name_watermark" - print channel name on video:

- **0** - do not print (default);
- **1** - print.

"need_timestamp_watermark" - print date and time on video:

- **0** - do not print (default);
- **1** - print.

"watermark_align" - position of the text on video:

- **1** - left upper corner default);
- **2** - right upper corner;
- **3** - left lower corner;
- **4** - right lower corner.

video **"need_fiprotate"** - *flip and rotate*:

- **0** - do not use (default);
- **1** - use.

"watermark_need_figures" - print *figures or subtitles* on video:

- **0** - do not print (default);
- **1** - print.

- **sid=[id_session]** - id of a session in which a request is being processed (see example [Get a session ID](#)).



The time is indicated according to time zone configured on the server.

Example of a server response:

```
{  
    "success" : "1",  
}
```

Commands for managing local export tasks

Request for current local export tasks

Example of a request:

```
https://192.168.1.200:8080/export_tasks?sid=e03qD0eg
```

Key elements of the request:

- ***sid=[id_session]*** - id of a session in which a request is being processed (see example [Get a session ID](#)).

Example of a server response:

```
[{
  "additional_data" : "{\n\t\"extras\" : \n\t{\n\t\t\"bluring\" : false,\n\t\t\"class_detection\" : \"head\",\\n\\t\n\t\t\"need_research_detectors\" : false\\n\t}\\n}\\n",
  "created_ts" : "1571922911615786",
  "export_finish_ts" : "0",
  "export_start_ts" : "1571922911615786",
  "filename" : "C:/VMS/Screenshots/TR-D8121WDIR2v2_1_20191024-132119--20191024-132727.avi",
  "fragments" :
  [
    {
      "channel" : "qK30lb5k_OsnJuSGv",
      "end_ts" : "1571911565998605",
      "filename" : "",
      "start_ts" : "1571911180998846"
    },
    {
      "channel" : "qK30lb5k_OsnJuSGv",
      "end_ts" : "1571912847980932",
      "filename" : "",
      "start_ts" : "1571912479981939"
    }
  ],
  "id" : "uzbijs1A",
  "out_format" : 0,
  "postponed_until_ts" : "1571922910083000",
  "progress_percent" : "30",
  "state" : 1,
  "state_desc" : "in_progress"
}]
```

The response in the given example contains the following:

- ***"additional_data"*** - a set of parameters of local export task;
- ***"created_ts"*** - local export task creation time;
- ***"export_start_ts"*** - local export task start time;
- ***"export_finish_ts"*** - local export task completion time;
- ***"filename"*** - file name and path (in case several fragments are being exported);
- ***"fragments"*** - the list of exported fragments:
 - ***"channel"*** - unique channel id in [channel_GUID]_[server_GUID] format;
 - ***"start_ts"*** - exported fragment start time;
 - ***"end_ts"*** - exported fragment finish time;
 - ***"filename"*** - file name and path (in case a signal fragment is being exported);
- ***"id"*** - local export task unique identifier;
- ***"out_format"*** - export file format (0 - AVI, 1 - [TRAVI](#));

- **"postponed_until_ts"** - time of scheduled task start (in case the postponed export is used);
- **"progress_percent"** - task completion percentage;
- **"state"** - task state:
 - **0** - the task is waiting;
 - **1** - the task is in progress;
 - **2** - the task is completed.
- **"state_desc"** - state description:
 - **"postponed"** - the task is pending;
 - **"in_progress"** - the task is in progress;
 - **"completed"** - the task is completed.



The time is in microseconds in ***UNIX time*** format based on the timezone configured on server.

Request for local export task removal

Example of a request:

```
https://192.168.1.200:8080/export_cancel?sid=e03qd0eg&task_id=uzbijs1A
```

Key elements of the request:

- ***sid=[id_session]*** - id of a session in which a request is being processed (see example [Get a session ID](#));
- ***task_id=[task_id]*** - local export task unique id.

Example of a server response:

```
{
  "success" : "1"
}
```



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Remote archive export

Unlike the command describe in section [Local archive export](#) the **Remote Archive Export** command allows you to request a fragment of the archive from any server and download it.



Consider the following when using the **Remote archive export** command:

- The remote archive export tasks are not displayed in the [control panel](#).
- Only one remote archive export task can be executed at time. Besides, the new task of the remote archive export will be executed only after the existing tasks of local archive export are completed. The new local archive export tasks will not start until the current remote archive export task completes.
- The time period within which the archive is being exported should not exceed 30 minutes.
- The exported file is saved in **.mp4**.

The remote archive export is performed the following way:

1. Request for remote archive export task creation

Example of a request:

```
https://192.168.1.200:8080/jit-export-create-task?sid=MdFYYrjy
```

The request is sent using the POST method. The body of the request should contain the following data in JSON format:

```
{
  "resource_guid": "zwzmk1Ki",
  "start_ts": 1596552540000000,
  "end_ts": 1596552600000000,
  "is_hardware": 0,
  "prefer_substream": 0
}
```

where:

- **"resource_guid": "zwzmk1Ki"** - channel GUID;
- **"start_ts": 1596552540000000** - the exported archive fragment start time;
- **"end_ts": 1596552600000000** - the exported archive fragment end time;
- **"is_hardware": 0** - archive source (0 - server archive, 1 - device archive);
- **"prefer_substream": 0** - archive stream (0 - main stream, 1 - sub stream).



The time is in microseconds in [UNIX time](#) format based on the timezone configured on server.

Example of a server response:

```
{
  "success" : "1",
  "task_id" : "JgZN323E"
}
```

In this example, the response contains:

- **"success" : "1"** - request successful message;
- **"task_id" : "JgZN323E"** - unique task id.

If the request body contains an interval longer than 30 minutes or there is no archive in the specified interval, the server will respond with an error message:

```
{
  "success" : "0",
  "error_code": "bad interval"
}
```

2. Request to get export file



Request to get export file should be executed within 10 seconds after task creation request execution.
After 10 seconds, the remote export task will be deleted.

Example of a request:

https://192.168.1.200:8080/jit-export-download?sid=MdFYrjy&task_id=JgZN323E

The request is sent by GET method. The parameters of the request contains the following data:

- **sid=MdFYrjy** - unique session id;
- **task_id=JgZN323E** - previously created task id.

The server will send the exported file as a response.

3. Task state request

Example of a request:

<https://192.168.1.200:8080/jit-export-task-status?sid=MdFYrjy>

The request is sent using the POST method. The body of the request should contain the following data in JSON format:

```
{
  "task_id": "JgZN323E"
}
```

where:

- **"task_id": "JgZN323E"** - previously created task id.

Example of a server response:

```
{
  "active" : true,
  "done" : false,
  "progress" : 3,
  "sended" : 30456,
  "success" : 1
}
```

In this example, the response contains:

- **"active" : true** - the state of the task (true - the task is processing, false - the task is not processing);
- **"done" : false** - task completion identifier on the server (true - the task successfully completed, false - the task is not completed);
- **"progress" : 3** - task completion percentage, from 0 to 100;
- **"sended" : 30456** - the number of video bytes sent by the server;
- **"success" : 1** - successful request message.

4. Request for remote export task removal

Example of a request:

https://192.168.1.200:8080/jit-export-cancel-task?sid=MdFYrjy&task_id=JgZN323E

The request is sent by GET method. The parameters of the request contains the following data:

- ***sid=MdFYYrjy*** - unique session id;
- ***task_id=JgZN323E*** - id of the task to be deleted.

Example of a server response:

```
{  
    "success" : "1"  
}
```



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Python language examples of using the SDK

The **Python** as the easiest programming language is used in the examples on this page. These examples should run as a standalone program unlike the examples described in administrator guidance. Install Python to run.

Although the SDK is designed to be used in applications, all of its functions work from a browser. Moreover, the SDK comments suggest additional functions that may be called. All you have to do is copy the example to the address bar. **Try out all the functions using a browser!**

The SDK functions require either an SDK password or a session ID. Use your password instead of "123" in the examples.

/login lets you receive a session ID if you have a password. For most of the SDK functions, it does not matter if you pass a session ID or directly pass a password. Only functions for getting events change their behavior: given a password, they return all recent events; given a session ID, then return only new events.

/objects allows you to get an object tree, find objects within the server, for example all channels.

```
import urllib, re, ssl
s = urllib.urlopen("https://127.0.0.1:8080/objects/?password=12345",
context=ssl._create_unverified_context()).read()
for x in s.replace("\n", "").split("{"):
    m = re.search('"name"\s*:\s*(.*?)".*Channel', x)
    if not m: continue
    print m.group(1)
```

The example removes all newline characters ("\n") from the string, uses a delimiter ("{") to split the result into a list of strings, and searches each of them for "name" : "NAME" ... Channel using a regular expression. If an instance is found, NAME is printed.

/objects/id.object lets you examine the state of an object. You can view an object's possible states in the rule editor and class description.

/objects/id.object/method?param1=val1¶m2=val2 lets you call a method on an object. You can find an object's identifier in the object tree. You can find the names of methods and parameters in the rule editor or class description.

/classes/id.class lets you view the states of objects of a given class as well as available methods, including the names and types of parameters.

/settings/folder/field allows you to read and write settings. The settings in the server are divided into folders that contain fields of one of three types: integer, real, string. The names of the folders and fields can be viewed by pressing F4 in the admin interface. This mode allows you to view and edit settings, bypassing dialogs. This mode allows you to experiment with how the system behaves when certain settings are modified.

If the field name is omitted in the request, the SDK will return a list of available fields and subfolders.

/events lets you get system events. In the response, "timestamp" uses **UNIX time** in microseconds. You can view the possible event types in the rule editor. The "origin" field contains the object's identifier. You can get the object's name and other properties from the object tree. Some events contain additional fields. For example, the "Connected to %1 under %2" event contains two fields: "server_address" and "under_username".

```
import urllib, re
s = urllib.urlopen("https://localhost:8080/login?password=123").read()
sid = re.search('"sid"\s*:\s*(.*?)"', s).group(1)
print "my session: %s" % sid
while 1:
    s = urllib.urlopen("https://127.0.0.1:8085/events?sid=%s" % sid).read()
    print s
```

This example receives and prints events as they come in.

/pos_events lets you get POS events in a similar manner. The event format is exactly the same as ActivePOS events in scripts.

/lpr_events lets you get AutoTRASSIR events in a similar manner. The event format is exactly the same as AutoTRASSIR events in scripts.



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Description of work methods with an objects of the server

The methods corresponding to the same class of objects are applied to server objects belonging to a particular class. To execute a method to an object it is necessary to implement a request of the following type:

```
https://[address_server]:[port]/objects/[GUID_object]/[method]?
[parameter_1]=[value_1]&[parameter_2]=[value_2]&sid=[id_session]
```

Key elements of the request:

- **[GUID_object]** - guid of server object(see example [Object tree request](#));
- **[method]** - a method implemented to an object (list of methods implemented to a server objects below);
- **[parameter_x]=[value_x]** - parameter and its value used by a method;
- **sid=[id_session]** - id of a session in which request is being implemented (see example [Get a session ID](#)).

Methods of operation with channels

Method	Description of methods and their parameters	Software version
<code>manual_record_start</code>	Enable recording of channel archive.	≥3.1
<code>manual_record_stop</code>	Disable recording of channel archive.	≥3.1
<code>ptz_position_query</code>	Receive a position of PTZ-camera	≥3.2
<code>ptz_preset</code>	Switch PTZ-camera to preset Parameter: <ul style="list-style-type: none">• <code>preset_n</code> (integer)	≥3.1
<code>record</code>	Parameter: <ul style="list-style-type: none">• <code>turn_on_record</code> (integer)	≥3.1
<code>record_off</code>	Disable manual recording of channel archive.	≥3.1
<code>record_on</code>	Enable manual recording of channel archive.	≥3.1
<code>screenshot</code>	Save screenshot	≥3.1
<code>screenshot_ex</code>	Save screenshot from an archive Parameters: <ul style="list-style-type: none">• <code>timestamp</code> (string)• <code>directory</code> (string)	≥3.1
<code>screenshot_v2</code>	Save screenshot from an archive Parameters: <ul style="list-style-type: none">• <code>time_YYYYMMDD_HHMMSS</code> (string)• <code>screenshot_filename</code> (string)• <code>screenshot_folder</code> (string)• <code>make_thumb</code> (integer)	≥3.2
<code>set_watermark</code>	Add a text in a video Parameters: <ul style="list-style-type: none">• <code>watermark_text</code> (string)• <code>value</code> (string)• <code>timestamp_position</code> (integer)	≥3.1

Operation methods with operator interface

Method	Description of methods and their parameters	Software version
<code>archive_export</code>	Export of main stream from channel archive Parameters: <ul style="list-style-type: none">• <code>channel_name_or_guid</code> (string)• <code>start_time_YYYYMMDD_HHMMSS</code> (string)• <code>end_time_YYYYMMDD_HHMMSS</code> (string)• <code>filename</code> (string)• <code>archive_export</code>	≥3.1
<code>archive_export_ss</code>	Export of substream from channel archive Parameters: <ul style="list-style-type: none">• <code>channel_name_or_guid</code> (string)• <code>start_time_YYYYMMDD_HHMMSS</code> (string)• <code>end_time_YYYYMMDD_HHMMSS</code> (string)• <code>filename</code> (string)• <code>archive_export</code>	≥3.2
<code>archive_export</code>	Open channel archive Parameters: <ul style="list-style-type: none">• <code>channel_or_template</code> (string)• <code>start_time_YYYYMMDD_HHMMSS</code> (string)	≥3.2
<code>assign_channels</code>	Parameter: <ul style="list-style-type: none">• <code>csv_channels</code> (string)	≥3.2
<code>change_view_settings</code>	Change form settings of camera window Parameters: <ul style="list-style-type: none">• <code>name</code> (string)• <code>value</code> (string)	≥3.2
<code>eco_start</code>	Enable economic mode Parameters: <ul style="list-style-type: none">• <code>channel_name</code> (string)• <code>monitor_n</code> (integer)	≥3.2
<code>eco_stop</code>	Disable economic mode Parameters: <ul style="list-style-type: none">• <code>channel_name</code> (string)• <code>monitor_n</code> (integer)	≥3.2
<code>ptz_start</code>	Enable PTZ-camera control Parameters:	≥3.2

Method	Description of methods and their parameters	Software version
	<ul style="list-style-type: none"> • channel_name (string) • monitor_n (integer) 	
ptz_stop	Disable PTZ-camera control Parameters: <ul style="list-style-type: none"> • channel_name (string) • monitor_n (integer) 	≥3.2
raise_monitor	Show monitor on top of all windows Parameter: <ul style="list-style-type: none"> • monitor_n (integer) 	≥3.2
screenshot	Save screenshot from an archive Parameters: <ul style="list-style-type: none"> • channel_name (string) • time_YYYYMMDD_HHMMSS (string) • screenshot_filename (string) 	≥3.1
screenshot_ex	Save screenshot from an archive Parameters: <ul style="list-style-type: none"> • channel_name (string) • time_YYYYMMDD_HHMMSS (string) • screenshot_filename (string) • screenshot_folder (string) • make_thumb (integer) 	≥3.2
show	Display a channel or a template on monitor Parameters: <ul style="list-style-type: none"> • channel_or_template (string) • monitor_n (integer) 	≥3.1
show_archive	Show channel archive on a monitor or in a template Parameters: <ul style="list-style-type: none"> • channel_name_or_guid (string) • monitor_n (integer) • start_time_YYYYMMDD_HHMMSS (string) • end_time_YYYYMMDD_HHMMSS (string) 	≥3.1
show_channel	Display a channel in a monitor Parameters: <ul style="list-style-type: none"> • channel_name (string) • monitor_n (integer) 	≥3.1
show_html	Display html-page	≥3.2

Method	Description of methods and their parameters	Software version
	<p>Parameters:</p> <ul style="list-style-type: none"> • source (string) • url (string) 	
show_html_on_monitor	<p>Display html-page on a monitor</p> <p>Parameters:</p> <ul style="list-style-type: none"> • monitor_n (integer) • source (string) • url (string) 	≥3.2
show_html_on_monitor	<p>Display html-page in a template</p> <p>Parameters:</p> <ul style="list-style-type: none"> • monitor_n (integer) • start_time_YYYYMMDD_HHMMSS (string) • source (string) • url (string) 	≥3.2
show_template	<p>Display a template on a monitor</p> <p>Parameters:</p> <ul style="list-style-type: none"> • start_time_YYYYMMDD_HHMMSS (string) • monitor_n (integer) 	≥3.1
show_template_by_guid	<p>Display a template on a monitor</p> <p>Parameters:</p> <ul style="list-style-type: none"> • start_time_YYYYMMDD_HHMMSS (string) • monitor_n (integer) 	≥3.1
update_active_monitor	<p>Update active monitor</p> <p>Parameters:</p> <ul style="list-style-type: none"> • csv_channels (string) 	≥3.2

Operation methods with "Orion Pro" system

Method	Description of methods and their parameters	Software version
<code>refresh_device_list</code>	Update list of a devices.	≥3.1



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Server setting descriptions

Request to get the settings:

[https://\[server_address\]:\[port\]/settings/?sid=\[session_id\]](https://[server_address]:[port]/settings/?sid=[session_id])

Response:

```
{
    "name" : "CyPy6vF5",
    "type" : "LocalServer",
    "subdirs" : [
        "ad",
        "archive",
        "audit",
        "auto_trassir",
        "boards",
        "channels",
        "cloud",
        "eskuel",
        "fortnet-k0DMhmOb",
        "gate-EHukOXSy",
        "health",
        "ip_cameras",
        "map",
        "netrec",
        "network",
        "orion",
        "pos_folder2",
        "reports",
        "screenshots",
        "scripts",
        "serialports",
        "sphinx-LrzsfDr",
        "system_wide_options",
        "templates",
        "users",
        "webserver"
    ],
    "values" : [
        "name",
        "folder",
        "icon",
        "media_route"
    ]
}
```

subdirs	Description	Software version
health	<i>Server health metrics</i>	≥3.1
system_wide_options		≥3.1
cloud	<i>TRASSIR Cloud connection settings</i>	≥3.1
archive	<i>Archive settings</i>	≥3.1
netrec	<i>Network channel recording settings</i>	≥3.1
screenshots	<i>Screenshot settings</i>	≥3.1
webserver	<i>Web server settings</i>	≥3.1
map	Map settings	≥3.1
reports	<i>Report settings</i>	≥3.1
eskuel	<i>Database settings</i>	≥3.1
users	<i>User settings</i>	≥3.1
audit	<i>Audit settings</i>	≥3.2
ip_cameras	<i>IP device settings</i>	≥3.1
boards	<i>Compression card settings</i>	≥3.1
serialports	<i>Serial port settings</i>	≥3.1

subdirs	Description	Software version
channels	<i>Channel settings</i>	≥3.1
network	<i>Network settings</i>	≥3.1
templates	Template settings	≥3.1
ad	<i>ActiveDome settings</i>	≥3.1
pos_folder	ActivePOS settings	3.1
pos_folder2	ActivePOS settings	≥3.2
auto_trassir	<i>AutoTRASSIR settings</i>	≥3.1
fortnet-[guid]	FortNet ACS settings	≥3.1
gate-[guid]	Gate ACS settings	≥3.1
sphinx-[guid]	Sphinx ACS settings	≥3.1
orion	Orion ACS settings	≥3.1

Retrieve a value (R):

`https://[server_address]:[port]/settings/[setting]?sid=[session_id]`

values	Description	Type		Software version
name	Server name	string	R	≥3.1
folder	The name of the group	string	R	≥3.1
icon	Path to the icon: <code>:/settings/setup-server.png</code>	string	R	≥3.1
media_route		string	R	≥3.1



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Description of server health metrics

Request to get the settings:

`https://[server_address]:[port]/settings/health/?sid=[session_id]`

Response:

```
{
  "name" : "health",
  "type" : "Health",
  "subdirs" : [
    ],
  "values" : [
    "additionspack_level",
    "amerge_error",
    "architecture",
    "archive_last_error",
    "automatic_update_state",
    "channels_bitrate_exceeded",
    "channels_board_online",
    "channels_board_total",
    "channels_detector_error",
    "channels_detector_warning",
    "channels_network_online",
    "channels_network_total",
    "cloud_client_accounts",
    "cloud_client_username",
    "cloud_have_error",
    "cloud_last_error",
    "cloud_server_accounts",
    "cloud_login_sid",
    "cpu_usage",
    "crash_count",
    "crash_count_update",
    "custom_indicators",
    "db_connected",
    "db_is_slow",
    "db_last_error",
    "disks_error_count",
    "disks_is_slow",
    "disks_last_error",
    "disks_stalled",
    "disks_stat_amerge_main_days",
    "disks_stat_amerge_main_gb",
    "disks_stat_amerge_subs_days",
    "disks_stat_amerge_subs_gb",
    "disks_stat_hwmerge_days",
    "disks_stat_hwmerge_gb",
    "disks_stat_main_days",
    "disks_stat_main_gb",
    "disks_stat_priv_days",
    "disks_stat_priv_gb",
    "disks_stat_subs_days",
    "disks_stat_subs_gb",
    "features",
    "gpu_usage",
    "grabberpack_level",
    "icon",
    "ifconfig_error",
    "ip_devices_connected",
    "ip_devices_total",
    "iscsi_error",
    "license_expires_in_sec",
    "license_info",
    "license_type",
    "licensed_unloaded_plugins",
    "lm_connected",
    "lm_last_error",
    "lm_licenses_lacked",
    "local_operator",
    "local_rpchttp_sid",
    "network_error_node",
    "network_last_error",
    "network_really_connected",
    "network_should_be_connected",
    "nvr_subtype",
  ]
}
```

```

    "nvr_type",
    "os_version",
    "pg_move_count",
    "platform_name",
    "plugins_ok",
    "plugins_warning",
    "scripts_ok",
    "scripts_total",
    "server_ok",
    "servicepack_level",
    "startup_ts",
    "travi_stat_count",
    "user_defined_health_indicator",
    "user_defined_indicator",
    "watchdog"
]
}
}

```

Retrieve a value (R):

[https://\[server_address\]:\[port\]/settings/health/\[setting\]?sid=\[session_id\]](https://[server_address]:[port]/settings/health/[setting]?sid=[session_id])

Write a value (W):

[https://\[server_address\]:\[port\]/settings/health/\[setting\]=\[value\]?sid=\[session_id\]](https://[server_address]:[port]/settings/health/[setting]=[value]?sid=[session_id])

values	Description	Type		Software version
additionspack_level	Additions pack version	string	R	≥4.0
amerge_error	There is an archive synchronization error on server: 1 - yes, 0 - no	integer	R	≥4.0
architecture	Server architecture	string	R	≥3.2
archive_last_error	Last archive error	string	R	≥4.0
automatic_update_state	Auto update state	integer	R	≥3.1
channels_bitrate_exceeded	Error - Bitrate exceeded on channel: 1 - yes, 0 - no	integer	R	≥4.0
channels_board_online	The number of channels working through the video capture card	integer	R	≥3.1
channels_board_total	Total amount of channels on video capture card	integer	R	≥3.1
channels_detector_error	Server has channels with detector errors: 1 - yes, 0 - no	integer	R	≥4.0
channels_detector_warning	Server has channels with detector warnings: 1 - yes, 0 - no	integer	R	≥4.0
channels_network_online	Number of network channels online	integer	R	≥3.1
channels_network_total	Network channels total	integer	R	≥3.1
cloud_client_accounts	TRASSIR Cloud account in client	string	R	≥4.0
cloud_client_username	TRASSIR Cloud username on client	integer	R	≥3.1
cloud_have_error	Cloud has errors: 1 - yes, 0 - no	integer	R	≥3.3
cloud_last_error	Last cloud error	string	R	≥3.3
cloud_server_accounts	TRASSIR Cloud accounts on server	string	R	≥4.0
cloud_login_sid	Current cloud session ID			3.3
cpu_usage	CPU load	real	R	≥3.1
crash_count		integer	R	≥3.1
crash_count_update		integer	R	≥3.1
custom_indicators	User indicators	string	RW	≥3.2
db_connected	Database connected:	integer	R	≥3.1

values	Description	Type		Software version
	1 - yes, 0 - no			
db_is_slow	Error - Databases work slowly: 1 - yes, 0 - no	integer	R	≥3.1
db_last_error	Last database error occurred	string	R	≥3.1
disks_error_count	Disks errors: 1 - yes, 0 - no	integer	R	≥3.1
disks_is_slow	Error - Disks work slowly: 1 - yes, 0 - no	integer	R	≥3.1
disks_last_error	Last disk error	string	R	≥3.1
disks_stalled		string	R	≥4.0
disks_stat_amege_main_days	Calculated value of main streams synchronization, days	real	R	≥4.0
disks_stat_amege_main_gb	Calculated value of main streams synchronization, gigabytes	real	R	≥4.0
disks_stat_amege_subs_days	Calculated value of sub streams synchronization, days	real	R	≥4.0
disks_stat_amege_subs_gb	Calculated value of sub streams synchronization, gigabytes	real	R	≥4.0
disks_stat_hwmerge_days	Calculated value of the device archive merge, days	real	R	≥4.0
disks_stat_hwmerge_gb	Calculated value of the device archive merge, GB	real	R	≥4.0
disks_stat_main_days	Calculated value of main stream archive depth, days	real	R	≥3.1
disks_stat_main_gb	Calculated value of main stream archive depth, gigabytes	real	R	≥3.1
disks_stat_priv_days	Calculated value of privileged channels archive depth, days	real	R	≥3.1
disks_stat_priv_gb	Calculated value of privileged channels archive depth, gigabytes	real	R	≥3.1
disks_stat_subs_days	Calculated value of sub stream archive depth, days	real	R	≥3.1
disks_stat_subs_gb	Calculated value of sub stream archive depth, gigabytes	real	R	≥3.1
features		string	R	≥4.0
gpu_usage	Video processor load, per cent	real	R	≥4.0
grabberpack_level	ID devices driver version	string	R	≥3.1
icon	Path to the icon: :/settings/thermometer.png	string	R	≥3.1
ifconfig_error		string	R	≥3.1
ip_devices_connected	Number of connected and working IP devices	integer	R	≥3.1
ip_devices_total	Total amount of connected IP devices	integer	R	≥3.1
iscsi_error	Network storage connection error	integer	R	≥3.1
license_expires_in_sec	License expiration time, seconds 0 - for servers that do not use License Manager	integer	R	≥4.0
license_info	License info	string	R	≥4.0
license_type	License type	string	R	≥4.0
licensed_unloaded_plugins		string	R	≥4.0

values	Description	Type		Software version
<i>lm_connected</i>	License server connected: 1 - yes, 0 - no	integer	R	≥4.0
<i>lm_last_error</i>	Last error of the license server connection	string	R	≥4.0
<i>lm_licenses_lacked</i>	Remaining server licenses	string	R	≥4.0
<i>local_rpchttp_sid</i>		string	R	≥4.0
<i>network_error_node</i>		string	R	≥3.1
<i>network_last_error</i>	Last network error	string	R	≥3.1
<i>network_really_connected</i>	Number of successful network connections	integer	R	≥3.1
<i>network_should_be_connected</i>	Total amount of network connections	integer	R	≥3.1
<i>nvr_subtype</i>	NVR subtype	string	R	≥4.1
<i>nvr_type</i>	NVR type	string	R	≥4.0
<i>os_version</i>	Operating system	string	R	≥4.0
<i>pg_move_count</i>		integer	R	≥4.1
<i>platform_name</i>	The name of the platform on which the server is running	string	R	≥4.0
<i>plugins_ok</i>	Plugins work without mistakes: 1 - yes, 0 - no	integer	R	≥4.1
<i>plugins_warning</i>	Plugins have errors: 1 - yes, 0 - no	integer	R	≥4.1
<i>scripts_ok</i>	Scripts work without mistakes: 1 - yes, 0 - no	integer	R	≥3.1
<i>scripts_total</i>	Number of scripts on server	integer	R	≥3.1
<i>server_ok</i>	Server works without mistakes: 1 - yes, 0 - no	integer	R	≥3.1
<i>servicepack_level</i>	Main plugins version	string	R	≥3.1
<i>startup_ts</i>	The date and time of the server start, in the <i>UNIX time</i> format	string	R	≥3.1
<i>travi_stat_count</i>		string	R	≥4.1
<i>user_defined_health_indicator</i>	User health indicator	integer	RW	≥4.1
<i>user_defined_indicator</i>	User indicator	integer	RW	≥3.2
<i>watchdog</i>	The server started via watchdog 1 - yes, 0 - no	integer	R	≥3.1



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Description of TRASSIR Cloud connection settings

Request to get the settings:

`https://[server_address]:[port]/settings/cloud/?sid=[session_id]`

Response:

```
{
    "name" : "cloud",
    "type" : "Cloud40",
    "subdirs" : [
        "news",
        "stat"
    ],
    "values" : [
        "account_password",
        "account_username",
        "amerge_enable",
        "bind_to_cloud_user",
        "cloud_connect_enable",
        "cloud_enabled",
        "cloud_host_binding",
        "cloud_login",
        "cloudbackup_automatic",
        "cloudbackup_download_now",
        "cloudbackup_last_made",
        "cloudbackup_upload_now",
        "depersonalised_stats_enabled",
        "dtun_decay_timeout_sec",
        "dtun_hole_expire_timeout_sec",
        "dtun_hole_kalive_count",
        "dtun_hole_kalive_interval_sec",
        "dtun_max_holes",
        "dtun_num_fast_ports",
        "dtun_num_symm_ports",
        "dtun_probe_addr",
        "dtun_reconnect_timeout_sec",
        "dtun_rendezvous_addr",
        "enable_vtrassir",
        "export_ticket",
        "export_username",
        "force_refresh",
        "health_enable",
        "import_channels_enabled",
        "import_username",
        "import_users_enable",
        "import_password",
        "predefined_user_login",
        "predefined_user_password",
        "register",
        "send_test_email",
        "send_test_sms",
        "tube_facility",
        "tube_verbosity",
        "webdog_enable",
        "webdog_max_interval_minutes",
        "webdog_min_interval_minutes"
    ]
}
```

subdirs	Description	Software version
news		≥3.1
stat		≥3.1

Retrieve a value (R):

`https://[server_address]:[port]/settings/cloud/[setting]?sid=[session_id]`

Write a value (W):

`https://[server_address]:[port]/settings/cloud/[setting]=[value]?sid=[session_id]`

values	Description	Type		Software version
account_password	TRASSIR Cloud user password	string	RW	3.1-3.2
account_username	TRASSIR Cloud username	string	RW	3.1-3.2
amerge_enable	Archive merge to the cloud: 1 - enabled, 0 - disabled	integer	R	≥3.2
bind_to_cloud_user	Bind to the cloud user: 1 - yes, 0 - no	integer	RW	≥3.2
cloud_connect_enable	Cloud Connect enabled: 1 - yes, 0 - no	integer	RW	≥3.2
cloud_enable	Cloud enabled: 1 - yes, 0 - no	integer	RW	3.1
cloud_enabled	Cloud enabled: 1 - yes, 0 - no	integer	RW	≥4.0
cloud_host				3.1
cloud_host_binding				3.3
cloud_login	Cloud user login enabled: 1 - yes, 0 - no	integer	RW	≥3.3
cloudbackup_automatic	Automatic backup of the server configuration	integer	RW	≥3.2
cloudbackup_download_now		string	RW	≥3.1
cloudbackup_last_made	Last server configuration cloud save	string	R	≥3.2
cloudbackup_upload_now		integer	RW	≥3.2
depersonalised_stats_enabled	Anonymous stats enabled: 1 - yes, 0 - no	integer	RW	≥3.2
dtun_decay_timeout_sec		integer	R	≥4.1
dtun_hole_expire_timeout_sec		integer	R	≥4.1
dtun_hole_kalive_count		integer	R	≥4.1
dtun_hole_kalive_interval_sec		integer	R	≥4.1
dtun_max_holes		integer	R	≥4.1
dtun_num_fast_ports		integer	R	≥4.1
dtun_num_symm_ports		integer	R	≥4.1
dtun_probe_addr		string	R	≥4.1
dtun_reconnect_timeout_sec		integer	R	≥4.1
dtun_rendezvous_addr		string	R	≥4.1
enable_vtrassir		string	R	3.3
export_ticket		string	R	≥3.3
export_username	User name in TRASSIR Cloud personal cabinet	string	R	≥3.3
force_refresh		integer	R	≥3.3
health_enable		integer	RW	≥3.2
import_channels_enabled	Display cloud channels: 1 - yes, 0 - no	integer	RW	≥3.2
import_username		string	R	≥3.2
import_users_enable		integer	R	≥3.2
import_password		integer	R	3.2
predefined_user	TRASSIR Cloud local user login	integer	RW	≥3.2

values	Description	Type		Software version
	1 - enabled, 0 - disabled			
predefined_user_login	TRASSIR Cloud local username	string	RW	≥3.2
predefined_user_password	TRASSIR Cloud local user password	string	R	≥3.2
register		string	RW	3.2
send_test_email	Send test email	integer	RW	3.2
send_test_sms	Send test SMS	integer	RW	3.2
tube_facility		string	RW	3.1
tube_verbosity		integer	RW	≥3.1
webdog_enable			R	3.1
webdog_max_interval_minutes		integer	R	≥3.2
webdog_min_interval_minutes		integer	R	≥3.2

Request to get the settings:

[https://\[server_address\]:\[port\]/settings/cloud/news/?sid=\[session_id\]](https://[server_address]:[port]/settings/cloud/news/?sid=[session_id])

Response:

```
{
  "name" : "news",
  "type" : "CloudNews",
  "subdirs" : [
    ],
    "values" : [
      "url"
    ]
}
```

Retrieve a value (R):

[https://\[server_address\]:\[port\]/settings/cloud/news/\[setting\]?sid=\[session_id\]](https://[server_address]:[port]/settings/cloud/news/[setting]?sid=[session_id])

values	Description	Type		Software version
url		string	R	≥3.1

Request for connection state parameters

[https://\[server_address\]:\[port\]/settings/cloud/stat/?sid=\[session_id\]](https://[server_address]:[port]/settings/cloud/stat/?sid=[session_id])

Response:

```
{
  "name" : "stat",
  "type" : "CloudStat40",
  "subdirs" : [
    ],
    "values" : [
      "balance",
      "balance_received",
      "cloud_backups",
      "cloud_license_backup",
      "cloudbackup_download_progress",
      "cloudbackup_upload_progress",
      "export_accounts",
      "import_accounts",
      "kicked_out",
      "last_error_code",
      "last_error_code_bkp",
      "last_error_code_cc",
      "last_error_code_cl",
      "last_health_report",
      "last_error_code_cc",
      "last_error_code_cl"
    ]
}
```

```

        "last_login",
        "last_registration_result",
        "local_httpserver_port",
        "redirector_state",
        "update_message",
    ]
}

```

Retrieve a value (R):

[https://\[server_address\]:\[port\]/settings/cloud/stat/\[setting\]?sid=\[session_id\]](https://[server_address]:[port]/settings/cloud/stat/[setting]?sid=[session_id])

values	Description	Type		Software version
balance	Current balance	string	R	≥3.1
balance_received	Balance refilled: 1 - yes, 0 - no	integer	R	≥4.0
cloud_backups	Cloud backups	string	R	≥3.2
cloud_license_backup	Cloud license backup: 1 - yes, 0 - no	integer	R	≥4.0
cloudbackup_download_progress		integer	R	≥3.2
cloudbackup_upload_progress		integer	R	≥3.2
connected	Connection established	integer	R	3.1
export_accounts		string	R	≥4.0
import_accounts		string	R	≥4.0
kicked_out		integer	R	≥4.0
last_error_code	Last error code	string	R	≥3.1
last_error_code_bkp	Last backup copy error code	string	R	≥4.0
last_error_code_cc		string	R	≥4.0
last_error_code_cl		string	R	≥4.0
last_health_report	Last health status report	string	R	≥3.2
last_health_report	Last authorization	string	R	≥3.2
last_registration_result		string	R	3.2
local_httpserver_port	HTTP server port	integer	R	≥4.0
redirector_state		string	R	≥4.0
update_message	Update message	string	R	≥4.0



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Description of archive settings

Request to get the settings:

```
https://[server_address]:[port]/settings/archive/?sid=[session_id]
```

Response:

```
{
  "name" : "archive",
  "type" : "Archive",
  "subdirs" : [
    "c",
    "d",
    "e",
    "g"
  ],
  "values" : [
    "add_mount_point_local8bit",
    "add_mount_point_stornix_iplist",
    "disks_black_list",
    "encryption_nonempty_rp",
    "encryption_nonempty_wp",
    "encryption_rp",
    "encryption_wp",
    "on_server",
    "postgresql_disk",
    "postrecord",
    "prefbuffer",
    "ring_privileged_store_period",
    "ring_ss_longer_storage_period",
    "ring_ss_store_longer",
    "ring_ss_use",
    "settings_disk",
    "settings_mode",
    "stall_timeout",
    "stornix_additional_datacenters",
    "what_to_do_with_new_disk"
  ]
}
```

subdirs	Description	Software version
[disk_name]	The name of the archive disk being used to retrieve its settings.	≥3.1

Retrieve a value (R):

```
https://[server_address]:[port]/settings/archive/[setting]?sid=[session_id]
```

Change the value of an archive setting (W):

```
https://[server_address]:[port]/settings/archive/[setting]=[value]?sid=[session_id]
```

values	Description	Type		Software version
add_mount_point_local8bit	Add local path to a new mounting point	string	RW	≥3.1
add_mount_point_stornix_iplist	Add Stornix IP address to a new mounting point	string	RW	≥4.0
disks_black_list	Disks black list	string	RW	≥4.1
encryption_nonempty	The write password has been set: 0 - No 1 - Yes	integer	R	3.2
encryption_nonempty_rp	Archive reading password is set: 0 - No 1 - Yes	integer	R	≥3.2
encryption_nonempty_wp	Read write password set: 0 - No	integer	R	≥3.2

values	Description	Type		Software version
	1 - Yes			
encryption_rp	Set the archive's read password	string	RW	≥3.2
encryption_wp	Set the write password	string	RW	≥3.2
on_server		integer	R	≥3.1
postgresql_disk	PostgreSQL database storage disk	string	RW	≥3.2
postrecord	Time to reset detector (post-recording)	real	RW	≥3.1
prebuffer	Recording prebuffer	real	RW	≥3.1
ring_privileged_store_period	Store privileged channels, in days	integer	RW	≥3.1
ring_ss_longer_storage_period	Substream retention period, in days	integer	RW	≥3.1
ring_ss_store_longer	Save substream exactly: 0 - No 1 - Yes	integer	RW	≥3.1
ring_ss_use	Retain the substream: 0 - No 1 - Yes	integer	RW	≥3.1
settings_disk		string	RW	≥4.0
settings_mode		integer	RW	≥4.0
stall_timeout		integer	RW	≥4.0
stornix_additional_datacenters		string	RW	≥4.0
what_to_do_with_new_disk	Action to take when a new disk is detected: 0 - None 1 - Mount for reading 2 - Mount for writing	integer	RW	≥3.1

Request for the archive's disk settings:

[https://\[server_address\]:\[port\]/settings/archive/\[disk_name\]/?sid=\[session_id\]](https://[server_address]:[port]/settings/archive/[disk_name]/?sid=[session_id])

Response:

```
{
  "name" : "d",
  "type" : "ArchiveMountPoint",
  "subdirs" : [
    "stats"
  ],
  "values" : [
    "autodetected",
    "capacity_gb",
    "disk_id",
    "enable",
    "forever_read_only",
    "format",
    "format_needed",
    "fsck_in_progress",
    "iogn",
    "model",
    "path_local8bit",
    "read_only",
    "reserve_gb",
    "serial",
    "stored_settings",
    "stornix_datacenter",
    "stornix_datacenter_remote",
    "stornix_iplist",
    "stornix_password",
    "system_drive",
    "unusable"
  ]
}
```

}

subdirs	Description	Software version
stats	A subdirectory with a list of parameters pertaining to the archive disk's state.	≥3.1

Retrieve a value (R):

`https://[server_address]:[port]/settings/archive/[disk_name]/[setting]?sid=[session_id]`

Write a value (W):

`https://[server_address]:[port]/settings/archive/[disk_name]/[setting]=[value]?sid=[session_id]`

values	Description	Type		Software version
autodetected	Disk detected automatically: 0 - No 1 - Yes	integer	R	≥3.1
capacity_gb	Disk volume, gigabytes	real	R	≥3.1
disk_id	Disk ID	string	R	≥3.1
enable	Disk connected: 0 - No 1 - Yes	integer	RW	≥3.1
forever_read_only	Always read only: 0 - No 1 - Yes	integer	R	≥3.1
format		string	RW	≥3.1
format_needed	Formatting is required: 0 - No 1 - Yes	integer	R	≥3.1
fsck_in_progress		integer	RW	≥3.2
iqn		string	R	≥3.2
model		string	R	≥3.1
path_local8bit	Disk or mount point path	string	R	≥3.1
read_only	Read only: 0 - No 1 - Yes	integer	RW	≥3.1
reserve_gb	Volume reserved on disk, gigabytes	real	RW	≥3.1
serial		string	R	≥3.2
stored_settings		integer	R	≥4.0
stornix_datacenter		string	W	≥4.0
stornix_datacenter_remote		integer	W	≥4.0
stornix_iplist	List of Stornix IP addresses	string	RW	≥4.0
stornix_password	Stornix partition password	string	RW	≥4.0
system_drive	System drive: 0 - No 1 - Yes	integer	R	≥3.1
unusable	Unused: 0 - No 1 - Yes	integer	R	≥3.1

Request for the parameters pertaining to the archive disk's state:

`https://[server_address]:[port]/settings/archive/[disk_name]/stats/?sid=[session_id]`

Response:

```
{
  "name" : "stats",
  "type" : "ArchiveStats",
  "subdirs" : [
    ],
  "values" : [
    "archive_size_days",
    "current_speed_mbs",
    "disk_read_mbs",
    "disk_write_mbs",
    "error_counter",
    "in_use_by_db",
    "last_error_code",
    "set_error_code",
    "sync_mode",
    "unavailable"
  ]
}
```

Retrieve the value of an archive disk setting (R):

`https://[server_address]:[port]/settings/archive/[disk_name]/stats/[setting]?sid=[session_id]`

values	Description	Type		Software version
archive_size_days	Archive depth, days	integer	R	≥3.2
current_speed_mbs	Current speed, Mbps	real	R	≥3.2
disk_read_mbs	Disk reading speed, Mbps	real	R	≥3.2
disk_write_mbs	Disk writing speed, Mbps	integer	R	≥3.2
error_counter	Archive has errors: 0 - No 1 - Yes	integer	RW	≥3.2
in_use_by_db	Used by database: 0 - No 1 - Yes	integer	R	≥3.2
last_error_code	Last error code	string	RW	≥3.2
set_error_code		string	RW	≥4.1
sync_mode		integer	R	≥3.2
unavailable	Unavailable: 0 - No 1 - Yes	integer	R	≥3.2



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Description of net channel recording settings

Request to get the settings:

`https://[address_server]:[port]/settings/netrec/?sid=[id_session]`

Response:

```
{
  "name" : "netrec",
  "type" : "Netrec",
  "subdirs" : [
    "stats"
  ],
  "values" : [
    "licensed",
    "setup"
  ]
}
```

subdirs	Description	Software version
stats		≥3.1

Retrieve a value (R):

`https://[address_server]:[port]/settings/netrec/[setting]?sid=[id_session]`

values	Description	Type	Software version
licensed		integer	R ≥3.1
setup		string	R ≥3.1

Request to get the settings:

`https://[address_server]:[port]/settings/netrec/stats/?sid=[id_session]`

Response:

```
{
  "name" : "stats",
  "type" : "NetrecStats",
  "subdirs" : [
    ],
  "values" : [
    "stats"
  ]
}
```

Retrieve a value (R):

`https://[address_server]:[port]/settings/netrec/stats/stats?sid=[id_session]`

Response:

```
{
  "directory" : "netrec/stats/",
  "name" : "stats",
  "type" : "string",
  "value" : "SnsraPHF::24.53/19.21;UELHFM9Y::-1.00/0.00;"
}
```



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Description of screenshot settings

Request to get the settings:

`https://[server_address]:[port]/settings/screenshots/?sid=[session_id]`

Response:

```
{  
    "name" : "screenshots",  
    "type" : "Screenshots",  
    "subdirs" : [  
  
    ],  
    "values" : [  
  
    ]  
}
```



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Description of webserver settings

Request to get the settings:

`https://[address_server]:[port]/settings/webserver/?sid=[id_session]`

Response:

```
{
    "name" : "webserver",
    "type" : "WebServer",
    "subdirs" : [
        ],
    "values" : [
        "channels",
        "connections_per_ip",
        "connections_summary",
        "echd_address",
        "echd_enable",
        "echd_export_dir",
        "enable_80_port",
        "enable_flv",
        "enable_http_port",
        "enable_jpeg",
        "enable_mjpeg",
        "enable_persons_reading",
        "enable_persons_writing",
        "enable_rtsp",
        "enable_sdk",
        "enable_webview",
        "flv_bitrate",
        "http_80_port",
        "http_port",
        "jit_export_max_interval_min",
        "jpeg_quality",
        "mjpeg_quality",
        "rtsp_authorization_type",
        "rtsp_port",
        "sdk_auto_events",
        "sdk_events",
        "sdk_face_recognizer_events",
        "sdk_method_calls",
        "sdk_object_tree",
        "sdk_password",
        "sdk_pos_events",
        "sdk_ptz",
        "sdk_screenshot",
        "sdk_settings_read",
        "sdk_settings_write",
        "videoserver_port"
    ]
}
```

Retrieve a value (R):

`https://[address_server]:[port]/settings/webserver/[setting]?sid=[id_session]`

Write a value (W):

`https://[address_server]:[port]/settings/webserver/[setting]=[value]?sid=[id_session]`

values	Description	Type		Software version
channels	GUID of channels available without password	integer	RW	≥3.1
connections_per_ip		integer	RW	≥4.0
connections_summary		integer	RW	≥4.0
echd_address	Data center address	string	RW	≥4.0
echd_enable	Allow connection to data center: 0 - yes, 1 - no	integer	RW	≥4.0
echd_export_dir	Data center data export directory	string	RW	≥4.0
enable_80_port	Use port 80 to watch via web interface:	string	RW	≥3.3

values	Description	Type		Software version
0 - yes, 1 - no				
enable_flv	FLV streaming: 0 - disabled, 1 - enabled	integer	RW	≥3.1
enable_http_port	Use HTTP port to watch via Web interface: 0 - yes, 1 - no	integer	RW	≥4.0
enable_flv	JPEG streaming: 0 - disabled, 1 - enabled	integer	RW	≥3.1
enable_mjpeg	Streaming in MJPEG quality 0 - disabled, 1 - enabled	integer	RW	≥3.1
enable_persons_reading	Enable reading from persons base: 0 - yes, 1 - no	integer	RW	≥4.1
enable_persons_writing	Enable writing to persons base: 0 - yes, 1 - no	integer	RW	≥4.1
enable_rtsp	Streaming by RTSP 0 - disabled, 1 - enabled	integer	RW	≥3.1
enable_sdk	Disable SDK: 0 - yes, 1 - no	integer	RW	≥3.1
enable_webview	Enable viewing via Web interface: 0 - yes, 1 - no	integer	RW	≥3.1
flv_bitrate	FLV bitrate	integer	RW	≥3.1
http_80_port		integer	RW	≥4.0
http_port	HTTPS port	integer	RW	≥3.1
jit_export_max_interval_min		integer	RW	≥4.1
jpeg_quality	JPEG quality	integer	RW	≥3.1
mjpeg_quality	MJPEG quality	integer	RW	≥3.1
rtsp_authorization_type	Authorization type: 0 - without authorization, 1 - RTSP authorization	integer	RW	≥4.0
rtsp_port	RTSP port	integer	RW	≥3.1
sdk_auto_events	Allow AutoTRASSIR events request: 0 - yes, 1 - no	integer	RW	≥3.1
sdk_events	Allow server events request: 0 - yes, 1 - no (see Request for server events)	integer	RW	≥3.1
sdk_face_recognizer_events	Allow face detection events request: 0 - yes, 1 - no	integer	RW	≥4.1
sdk_method_calls	Allow methods call: 0 - yes, 1 - no (see Description of work methods with an objects of the server)	integer	RW	≥3.1
sdk_object_tree	Allow object tree request: 0 - yes, 1 - no (see Object tree request)	integer	RW	≥3.1
sdk_password	SDK password:	string	W	≥3.1
sdk_pos_events	Allow POS events request: 0 - yes, 1 - no (see Request for ActivePOS events)	integer	RW	≥3.1

values	Description	Type		Software version
sdk_ptz	Allow PTZ control: 0 - yes, 1 - no (see PTZ-camera control)	integer	RW	≥3.1
sdk_screenshot	Allow screenshot request: 0 - yes, 1 - no (see Request a screenshot)	integer	RW	≥3.1
sdk_settings_read	Allow settings reading: 0 - yes, 1 - no (see Read and write server settings)	integer	RW	≥3.1
sdk_settings_write	Allows settings writing: 0 - yes, 1 - no (see Read and write server settings)	integer	RW	≥3.1
videoserver_port	Streaming port by HTTP	integer	RW	≥3.1



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Description of report settings

Request to get the settings:

`https://[server_address]:[port]/settings/reports/?sid=[session_id]`

Response:

```
{
  "name" : "reports",
  "type" : "ReportsFolder",
  "subdirs" : [
    "AjSQ9E4d",
    "EWKNsHO9"
  ],
  "values" : [
    "create_now",
    "erase",
    "new_template_guid",
    "new_template_name",
    "new_template_type",
    "supported_report_types"
  ]
}
```

subdirs	Description	Software version
<code>[report_GUID]</code>	The GUID of the generated reports.	≥3.1

Retrieve a value (R):

`https://[server_address]:[port]/settings/reports/[setting]?sid=[session_id]`

Write a value (W):

`https://[server_address]:[port]/settings/reports/[setting]=[value]?sid=[session_id]`

values	Description	Type	Software version
<code>create_now</code>			≥3.1
<code>erase</code>			≥3.1
<code>new_template_guid</code>			≥3.1
<code>new_template_name</code>			≥3.1
<code>new_template_type</code>			≥3.1
<code>supported_report_types</code>			≥3.1

Request to get the settings:

`https://[server_address]:[port]/settings/reports/[report_GUID]/?sid=[session_id]`

Response:

```
{
  "name" : "EWKNsHO9",
  "type" : "ReportTemplate",
  "subdirs" : [
  ],
  "values" : [
    "history",
    "history_timestamps",
    "name",
    "state_abort",
    "state_auto_gen_next",
    "state_error",
    "state_run_now",
    "state_started_at",
    "template_auto_gen_periodicity",
    "template_classes",
  ]
}
```

```

        "template_event_types",
        "template_f1",
        "template_f2",
        "template_fac_persons",
        "template_objects",
        "template_time_preset",
        "type"
    ]
}

```

Retrieve a value (R):

[https://\[server_address\]:\[port\]/settings/reports/\[report_GUID\]/\[setting\]?sid=\[session_id\]](https://[server_address]:[port]/settings/reports/[report_GUID]/[setting]?sid=[session_id])

values	Description	Type		Software version
history				≥3.1
history_timestamps				≥3.1
name				≥3.1
state_abort				≥3.1
state_auto_gen_next				≥3.1
state_error				≥3.1
state_run_now				≥3.1
state_started_at				≥3.1
template_auto_gen_periodicity				≥3.1
template_classes				≥3.1
template_event_types				≥3.1
template_f1				≥3.1
template_f2				≥3.1
template_fac_persons				≥3.1
template_objects				≥3.1
template_time_preset				≥3.1
type				≥3.1



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Description of database settings

Request to get the settings:

`https://[server_address]:[port]/settings/eskuel/?sid=[session_id]`

Response:

```
{
    "name" : "eskuel",
    "type" : "Eskuel",
    "subdirs" : [
        ],
    "values" : [
        "dbhost",
        "dbname",
        "dbpassword",
        "dbport",
        "dbuser",
        "erase_old_days",
        "server_type",
    ]
}
```

Retrieve a value (R):

`https://[server_address]:[port]/settings/eskuel/[setting]?sid=[session_id]`

Write a value (W):

`https://[server_address]:[port]/settings/eskuel/[setting]=[value]?sid=[session_id]`

values	Description	Type		Software version
dbhost	The address of the server where the database is installed	string	RW	≥3.1
dbname	The name of the database	string	RW	≥3.1
dbpassword	The user's password	string	RW	≥3.1
dbport	The server port	string	RW	≥3.2
dbuser	The username	string	RW	≥3.1
erase_old_days	The record retention period, in days	integer	RW	≥3.1
server_type	The type of server: 1 - PostgreSQL	integer	RW	≥3.1



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User settings description

Request to get the settings:

[https://\[address_server\]:\[port\]/settings/users/?sid=\[id_session\]](https://[address_server]:[port]/settings/users/?sid=[id_session])

Response:

```
{
  "name" : "users",
  "type" : "UsersFolder",
  "subdirs" : [
    "Admin",
    "Demo",
    "IXWkytqU",
    "Script",
    "XZoJlPC2",
    "user_add"
  ],
  "values" : [
    "local_operator",
    "local_operator_logout"
  ]
}
```

subdirs	Description	Software version
Admin	Admin user settings	≥3.1
Demo	Demo user settings	≥3.1
Script	Settings of Script user	≥3.1
[GUID_user]	User settings	≥3.1
[GUID_group]	Settings of group user rights	≥3.1
user_add	Create new user or new group	≥3.1

Request to get settings for a user group:

[https://\[address_server\]:\[port\]/settings/users/\[GUID_group\]/?sid=\[id_session\]](https://[address_server]:[port]/settings/users/[GUID_group]/?sid=[id_session])

Response:

```
{
  "name" : "IXWkytqU",
  "type" : "Group",
  "subdirs" : [
  ],
  "values" : [
    "acl",
    "archive_speed_limit",
    "base_rights",
    "can_change_password",
    "icon",
    "name",
    "notes",
    "ptz_priority",
    "saveable_icon",
    "settings_button",
    "shutdown_button",
    "templates_managing",
    "templates_sharing",
    "view_button"
  ]
}
```

Request to get user settings:

[https://\[address_server\]:\[port\]/settings/users/\[GUID_user\]/?sid=\[id_session\]](https://[address_server]:[port]/settings/users/[GUID_user]/?sid=[id_session])

Response:

```
{
```

```

"name" : "XZoJlPC2",
"type" : "User",
"subdirs" : [
],
"values" : [
    "acl",
    "analytics_rights",
    "archive_speed_limit",
    "base_rights",
    "can_change_password",
    "cloud_login_offline_ttl_sec",
    "cloud_utc_offset_minutes",
    "enable_analytics",
    "enable_local",
    "enable_remote",
    "enable_web",
    "from_cloud",
    "group",
    "group_changed",
    "icon",
    "internal_revision",
    "last_login_address",
    "last_login_time",
    "name",
    "notes",
    "password",
    "password_empty_warning",
    "ptz_priority",
    "random_passwords",
    "roles",
    "saveable_icon",
    "settings_button",
    "shutdown_button",
    "templates_managing",
    "templates_sharing",
    "timer_id",
    "view_button"
]
}

```

Retrieve a value (R):

[https://\[address_server\]:\[port\]/settings/users/\[GUID_group\]/\[setting\]?sid=\[id_session\]](https://[address_server]:[port]/settings/users/[GUID_group]/[setting]?sid=[id_session])
[https://\[address_server\]:\[port\]/settings/users/\[GUID_user\]/\[setting\]?sid=\[id_session\]](https://[address_server]:[port]/settings/users/[GUID_user]/[setting]?sid=[id_session])

Write a value (W):

[https://\[address_server\]:\[port\]/settings/users/GUID_group/\[setting\]=\[value\]?sid=\[id_session\]](https://[address_server]:[port]/settings/users/GUID_group/[setting]=[value]?sid=[id_session])
[https://\[address_server\]:\[port\]/settings/users/\[GUID_user\]/\[setting\]=\[value\]?sid=\[id_session\]](https://[address_server]:[port]/settings/users/[GUID_user]/[setting]=[value]?sid=[id_session])

values	Description	Type		Software version
acl	User rights for individual objects, written in the following format: <i>/[object1_GUID]/channels.[rights_values_sum1],/[object2_GUID]/channels.rights_values_sum2</i>	string	RW	≥3.1
analytics_rights	User rights for analytics	string	RW	≥4.0
archive_speed_limit	Archive writing speed limit	integer	RW	≥4.0
base_rights	Group/user basic rights	integer	RW	≥3.1
can_change_password	User/user group is allowed to change password 0 - no, 1 - yes	integer	RW	≥3.3
cloud_login_offline_ttl_sec		integer	R	≥4.0
cloud_utc_offset_minutes		integer	R	≥4.0
enable_analytics	User is allowed network analytics: 0 - no, 1 - yes	integer	RW	≥4.0
enable_local	User is allowed local login: 0 - no, 1 - yes	integer	RW	≥3.1

values	Description	Type		Software version
enable_remote	User is allowed remote connection: 0 - no, 1 - yes	integer	RW	≥3.1
enable_web	User is allowed connecting via browser/mobile app: 0 - no, 1 - yes	integer	RW	≥4.1
from_cloud	Cloud user: 0 - no, 1 - yes	integer	RW	≥3.3
group	User group GUID	string	RW	≥3.2
group_changed		integer	RW	≥3.2
icon	User/group icon path	string	RW	≥3.1
internal_revision		integer	RW	≥3.2
last_login_address	Last user login address	string	RW	≥3.1
last_login_time	Last user login date and time in <i>UNIX time</i> format	string	R	≥3.1
name	Group/user name	string	RW	≥3.1
notes		string	RW	≥3.1
password	User password	string	W	≥3.1
password_empty_warning		integer	RW	≥3.1
ptz_priority	PTZ priority	integer	RW	≥3.1
random_passwords		string	W	≥3.3
roles	Cloud user rights	string	R	≥4.0
saveable_icon	User/group icon path	string	RW	≥3.1
settings_button	The "Settings" button is allowed to a user/group: 0 - no, 1 - yes	integer	RW	≥3.1
shutdown_button	Allow shutdown button	integer	RW	≥3.1
templates_managing	User/group is allowed template managing: 0 - no, 1 - yes	integer	RW	≥3.1
templates_sharing	User/group is allowed sharing templates to the cloud: 0 - no, 1 - yes	integer	RW	≥4.0
timer_id		string	R	≥4.0
view_button	A "View" button is allowed user/group: 0 - no, 1 - yes	integer	RW	≥3.2

The basic user/group rights **base_rights** and user rights for individual objects (**acl**) are created using a bitmask, in which each bit is responsible for a particular right. Thus, a user right is a sum of all values corresponding to the allowed (for **base_rights**) or allowed/forbidden right (for **acl**):

Bit number	Value	Us
0	+1	Viewing is allowed
1	+ 2	Archive viewing is allowed
2	+ 4	Managing is allowed

Bit number	Value	Usage
3	+ 8	Settings allowed
5	+ 32	Archive bookmarks editing is allowed
6	+ 64	User and script settings are allowed
8	+ 256	Archive, screenshot export is allowed
9	+ 512	PTZ can be used
10	+ 1 024	Listening to sound is allowed
32	+ 4 294 967 296	Viewing is not allowed
33	+ 8 589 934 592	Archive viewing is not allowed
34	+ 17 179 869 184	Managing is not allowed
35	+ 34 359 738 368	Setting is not allowed
41	+ 2 199 023 255 552	Using PTZ is not allowed
42	+ 4 398 046 511 104	Listening to sound is not allowed

In order to program base user rights (**Viewing is allowed**, **Archive viewing is allowed**, **Using PTZ is allowed**), perform the following request:

https://192.168.1.200:8080/settings/users/o7J4znts/base_rights=515?sid=shMa536E

In request:

- **o7J4znts** - unique user guid;
- **515** is a value sum (1 + 2 + 512), corresponding to user rights (**Viewing is allowed**, **Archive viewing is allowed**, **Using PTZ is allowed**).

Make the following request in order to program user rights (**Listening to sound is allowed** and **Using PTZ is not allowed**) for **PMAPNyRZ** object:

<https://192.168.1.200:8080/settings/users/o7J4znts/acl=/PMAPNyRZ/channels.2199023256576?sid=shMa536E>

In request:

- **o7J4znts** - unique user guid;
- **PMAPNyRZ** - object guid, which the user is assigned the rights to;
- **2199023256576** is the sum of values (1024 + 2199023255552), corresponding to user rights (**Sound listening is allowed** and **Using PTZ is not allowed**).



See description of adding new users or user group requests in [*Requests for adding new users or user groups*](#).



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Description of audit settings

Request to get the settings:

```
https://[server_address]:[port]/settings/audit/?sid=[session_id]
```

Response:

```
{  
    "name" : "audit",  
    "type" : "Audit",  
    "subdirs" : [  
  
    ],  
    "values" : [  
  
    ]  
}
```



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Description of compression card settings

Request to get the compression card settings:

`https://[server_address]:[port]/settings/boards/?sid=[session_id]`

Response:

```
{
    "name" : "boards",
    "type" : "BoardsFolder",
    "subdirs" : [
        "DVS_board0",
        "DVS_board1"
    ],
    "values" : [
    ]
}
```

subdirs	Description	Software version
DVS_board[X]	The name of the microprocessor belonging to the compression card processing the signal from the camera, where [X] is the serial number of the compression card's microprocessor.	≥3.1

Request to get the compression card's microprocessor settings:

`https://[server_address]:[port]/settings/boards/DVS_board[X]/?sid=[session_id]`

Response:

```
{
    "name" : "DVS_board0",
    "type" : "Grabber",
    "subdirs" : [
        "bz_caps",
        "caps",
        "feedback",
        "md_caps"
    ],
    "values" : [
        "channel100_audio_bitrate",
        "channel100_audio_codec",
        "channel100_audio_default",
        "channel100_audio_enabled",
        "channel100_bright_default",
        "channel100_brightness",
        "channel100_bz_setup",
        "channel100_codec",
        "channel100_color",
        "channel100_compression",
        "channel100_contrast",
        "channel100_deinterlace",
        "channel100_ext_audio_bitrate",
        "channel100_ext_audio_enabled",
        "channel100_ext_color",
        "channel100_ext_compression",
        "channel100_ext_enabled",
        "channel100_ext_fps",
        "channel100_ext_gop",
        "channel100_ext_resolution",
        "channel100_ext_video_bitrate",
        "channel100_ext_video_bitrate_type",
        "channel100_fps",
        "channel100_gop",
        "channel100_guid",
        "channel100_hue",
        "channel100_main_enabled",
        "channel100_md_enable",
        "channel100_md_setup",
        "channel100_mic_gain",
        "channel100_mic_volume",
        "channel100_record_mode_hardware",
        "channel100_resolution",
    ]
}
```

```

    "channel100_saturation",
    "channel100_video_bitrate",
    "channel100_video_bitrate_type",
    "channels_enabled",
    "connection_ip",
    "connection_password",
    "connection_port",
    "connection_username",
    "economy_mode",
    "economy_mode_heart_beat_seconds",
    "economy_mode_use_md",
    "family",
    "folder",
    "grabber_enabled",
    "have_working_hdd",
    "icon",
    "input00_enable",
    "input00_folder",
    "input00_guid",
    "input00_name",
    "input00_normal",
    "model",
    "name",
    "output00_enable",
    "output00_folder",
    "output00_guid",
    "output00_name",
    "output00_startup",
    "ptz_associated_with",
    "reboot",
    "synchronize_time",
    "video_buffer_size",
    "web_page"
]
}

```

subdirs	Description	Software version
bz_caps		≥3.1
caps		≥3.1
feedback		≥3.1
md_caps		≥3.1

Retrieve a value (R):

[https://\[server_address\]:\[port\]/settings/boards/DVS_board\[X\]/\[setting\]?sid=\[session_id\]](https://[server_address]:[port]/settings/boards/DVS_board[X]/[setting]?sid=[session_id])

Write a value (W):

[https://\[server_address\]:\[port\]/settings/boards/DVS_board\[X\]/\[setting\]=\[value\]?sid=\[session_id\]](https://[server_address]:[port]/settings/boards/DVS_board[X]/[setting]=[value]?sid=[session_id])

values	Description	Type	Software version
channel[XX]_audio_bitrate			≥3.1
channel[XX]_audio_codec			≥3.1
channel[XX]_audio_default			≥3.2
channel[XX]_audio_enabled			≥3.1
channel[XX]_bright_default			≥3.1
channel[XX]_brightness			≥3.1
channel[XX]_bz_setup			≥3.1
channel[XX]_codec			≥3.1
channel[XX]_color			≥3.1
channel[XX]_compression			≥3.1
channel[XX]_contrast			≥3.1
channel[XX]_deinterlace			≥3.1

values	Description	Type		Software version
<i>channel[XX]_ext_audio_bitrate</i>				≥3.1
<i>channel[XX]_ext_audio_enabled</i>				≥3.1
<i>channel[XX]_ext_color</i>				≥3.1
<i>channel[XX]_ext_compression</i>				≥3.1
<i>channel[XX]_ext_enabled</i>				≥3.1
<i>channel[XX]_ext_fps</i>				≥3.1
<i>channel[XX]_ext_gop</i>				≥3.1
<i>channel[XX]_ext_resolution</i>				≥3.1
<i>channel[XX]_ext_video_bitrate</i>				≥3.1
<i>channel[XX]_ext_video_bitrate_type</i>				≥3.1
<i>channel[XX]_fps</i>				≥3.1
<i>channel[XX]_gop</i>				≥3.1
<i>channel[XX]_guid</i>				≥3.1
<i>channel[XX]_hue</i>				≥3.1
<i>channel[XX]_main_enabled</i>				≥3.1
<i>channel[XX]_md_enable</i>				≥3.1
<i>channel[XX]_md_setup</i>				≥3.1
<i>channel[XX]_mic_gain</i>				≥3.2
<i>channel[XX]_mic_volume</i>				≥3.2
<i>channel[XX]_record_mode_hardware</i>				≥3.1
<i>channel[XX]_resolution</i>				≥3.1
<i>channel[XX]_saturation</i>				≥3.1
<i>channel[XX]_video_bitrate</i>				≥3.1
<i>channel[XX]_video_bitrate_type</i>				≥3.1
<i>channels_enabled</i>				≥3.1
<i>connection_ip</i>				≥3.1
<i>connection_password</i>				≥3.1
<i>connection_port</i>				≥3.1
<i>connection_username</i>				≥3.1
<i>economy_mode</i>				≥3.1
<i>economy_mode_heart_beat_seconds</i>				≥3.1
<i>economy_mode_use_md</i>				≥3.1
<i>family</i>				≥3.1
<i>folder</i>				≥3.1
<i>grabber_enabled</i>				≥3.1
<i>have_working_hdd</i>				≥3.1
<i>icon</i>	Path to the icon:			≥3.1
<i>input[YY]_enable</i>				≥3.1
<i>input[YY]_folder</i>				≥3.1
<i>input[YY]_guid</i>				≥3.1
<i>input[YY]_name</i>				≥3.1

values	Description	Type		Software version
<i>input[YY]_normal</i>				≥3.1
<i>model</i>				≥3.1
<i>name</i>		string		≥3.1
<i>output[ZZ]_enable</i>				≥3.1
<i>output[ZZ]_folder</i>				≥3.1
<i>output[ZZ]_guid</i>				≥3.1
<i>output[ZZ]_name</i>				≥3.1
<i>output[ZZ]_startup</i>				≥3.1
<i>ptz_associated_with</i>				≥3.1
<i>reboot</i>				≥3.1
<i>synchronize_time</i>				≥3.1
<i>video_buffer_size</i>				≥3.1
<i>web_page</i>				≥3.1

where

- **[XX]** is the serial number of the channel being configured (from **00** to **15**), depending on the model of the compression card;
- **[YY]** is the serial number of the input being configured (from **00** to **15**), depending on the model of the compression card;
- **[ZZ]** is the serial number of the output being configured (from **00** to **15**), depending on the model of the compression card.

Request for black zone capabilities:

```
https://[server_address]:[port]/settings/boards/DVS_board[X]/bz_caps/?sid=[session_id]
```

Response:

```
{
  "name" : "bz_caps",
  "type" : "ZoneCaps",
  "subdirs" : [
    ],
  "values" : [
    "capabilities",
    "default_setup_string",
    "grid_h",
    "grid_w",
    "maximum_rects_count",
    "maximum_zones_count",
    "parameter_name1",
    "parameter_name2",
    "parameter_name3",
  ]
}
```

Retrieve a value (R):

```
https://[server_address]:[port]/settings/boards/DVS_board[X]/bz_caps/[setting]?sid=[session_id]
```

values	Description	Type		Software version
<i>capabilities</i>		integer	R	≥3.1
<i>default_setup_string</i>		string	R	≥3.1
<i>grid_h</i>		integer	R	≥3.1

values	Description	Type		Software version
grid_w		integer	R	≥3.1
maximum_rects_count		integer	R	≥3.1
maximum_zones_count		integer	R	≥3.1
parameter_name[X]	where [X] is the parameter's serial number (from 1 to 3)	string	R	≥3.1

Request for compression card capabilities:

`https://[server_address]:[port]/settings/boards/DVS_board[X]/caps/?sid=[session_id]`

Response:

```
{
  "name" : "caps",
  "type" : "GrabberCaps",
  "subdirs" : [
    ],
    "values" : [
      "audio_capabilities",
      "audio_channel_count",
      "audio_codecs",
      "audio_sample_rates",
      "defaults",
      "gpio_input_count",
      "gpio_output_count",
      "grabber_capabilities",
      "presets",
      "video_capabilities",
      "video_channel_count",
      "video_codecs",
      "video_main_bitrate_max",
      "video_main_bitrate_min",
      "video_resolution_default",
      "video_resolution_ext_default",
      "video_resolutions",
      "video_resolutions_ext",
      "video_sub_bitrate_max",
      "video_sub_bitrate_min"
    ]
}
```

Retrieve a value (R):

`https://[server_address]:[port]/settings/boards/DVS_board[X]/caps/[setting]?sid=[session_id]`

values	Description	Type		Software version
audio_capabilities		integer	R	≥3.1
audio_channel_count		integer	R	≥3.1
audio_codecs		string	R	≥3.1
audio_sample_rates		string	R	≥3.1
defaults		string	R	≥3.1
gpio_input_count		integer	R	≥3.1
gpio_output_count		integer	R	≥3.1
grabber_capabilities		integer	R	≥3.1
presets		string	R	≥3.1
video_capabilities		integer	R	≥3.1
video_channel_count		integer	R	≥3.1
video_codecs		string	R	≥3.1

values	Description	Type		Software version
video_main_bitrate_max		integer	R	≥3.1
video_main_bitrate_min		integer	R	≥3.1
video_resolution_default		string	R	≥3.1
video_resolution_ext_default		string	R	≥3.1
video_resolutions		string	R	≥3.1
video_resolutions_ext		string	R	≥3.1
video_sub_bitrate_max		integer	R	≥3.1
video_sub_bitrate_min		integer	R	≥3.1

Request to get a response:

`https://[server_address]:[port]/settings/boards/DVS_board[X]/feedback/?sid=[session_id]`

Response:

```
{
    "name" : "feedback",
    "type" : "GrabberFeedback",
    "subdirs" : [
        ],
    "values" : [
        "any_error",
        "last_error_message",
        "state"
    ]
}
```

Retrieve a value (R):

`https://[server_address]:[port]/settings/boards/DVS_board[X]/feedback/[setting]?sid=[session_id]`

values	Description	Type		Software version
any_error	0 - No errors	integer	R	≥3.1
last_error_message		string	R	≥3.1
state		integer	R	≥3.1

Request for motion detector capabilities:

`https://[server_address]:[port]/settings/boards/DVS_board[X]/md_caps/?sid=[session_id]`

Response:

```
{
    "name" : "md_caps",
    "type" : "ZoneCaps",
    "subdirs" : [
        ],
    "values" : [
        "capabilities",
        "default_setup_string",
        "grid_h",
        "grid_w",
        "maximum_rects_count",
        "maximum_zones_count",
        "parameter_name1",
        "parameter_name2",
        "parameter_name3",
    ]
}
```

Retrieve a value (R):

[https://\[server_address\]:\[port\]/settings/boards/DVS_board\[X\]/md_caps/\[setting\]?sid=\[session_id\]](https://[server_address]:[port]/settings/boards/DVS_board[X]/md_caps/[setting]?sid=[session_id])

values	Description	Type		Software version
capabilities		integer	R	≥3.1
default_setup_string		string	R	≥3.1
grid_h		integer	R	≥3.1
grid_w		integer	R	≥3.1
maximum_rects_count		integer	R	≥3.1
maximum_zones_count		integer	R	≥3.1
parameter_name[X]	where [X] is the parameter's serial number (from 1 to 3)	string	R	≥3.1



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Description of IP device settings

Request to get the settings:

```
https://[server_address]:[port]/settings/ip_cameras/?sid=[session_id]
```

Response:

```
{
  "name" : "ip_cameras",
  "type" : "IpCamerasFolder",
  "subdirs" : [
    "ip_camera_add",
    "AOig495k",
    "DSIBCqzj",
    "wQGQa0Vc"
  ],
  "values" : [
    "grabber_delete",
    "hw_analytics_available",
    "more_channels_licensed",
    "sw_dewarp_available"
  ]
}
```

subdirs	Description	Software version
ip_camera_add	Connection of a new IP device	≥3.1
[camera_GUID]	Connected device GUID	≥3.1

Retrieve a value (R):

```
https://[server_address]:[port]/settings/ip_cameras/[setting]?sid=[session_id]
```

values	Description	Type		Software version
grabber_delete	Request for device removal	string	W	≥3.1
hw_analytics_available		integer	R	≥4.1
more_channels_licensed	Total amount of licenses for adding IP devices	integer	R	≥3.1
sw_dewarp_available	Device supports software dewarp	integer	R	≥4.0

Request to get the settings:

```
https://[server_address]:[port]/settings/ip_camera_add/?sid=[session_id]
```

Response:

```
{
  "name" : "ip_camera_add",
  "type" : "GrabberAddStep1",
  "subdirs" : [
    "3S",
    "ACTi",
    "AVTech",
    "ActiveCam",
    "Axis",
    "Dahua",
    "Hikvision",
    "TRASSIR",
    "Vivotek",
    "Zavio",
    "File",
    "JPEG",
    "ONVIF",
    "RTSP"
  ],
  "values" : [
    "families"
  ]
}
```

subdirs	Description	Software version
[manufacturer_name]	IP device manufacturer name	≥3.1
File	Connected video files settings	≥3.1
ONVIF	ONVIF IP devices settings	≥3.1
RTSP	Settings of IP devices, connected via RTSP protocol	≥3.1
MJPEG	Settings for IP devices connected via RTSP and streamed in MJPEG format	≥3.1

Retrieve a value (R):

`https://[server_address]:[port]/settings/ip_cameras/[setting]?sid=[session_id]`

values	Description	Type		Software version
families	List of all IP device manufacturers	string	R	≥3.1

Request to get the settings:

`https://[server_address]:[port]/settings/ip_cameras/ip_camera_add/[manufacturer_name]?sid=[session_id]`

Response:

```
{
  "name" : "ActiveCam",
  "type" : "GrabberAddStep2",
  "subdirs" : [
    ],
    "values" : [
      "allocated_guid",
      "autodetect_result",
      "autodetect_status",
      "available_models",
      "create_address",
      "create_defaults",
      "create_disabled",
      "create_economy_mode",
      "create_model",
      "create_now",
      "create_password",
      "create_port",
      "create_username",
      "discovery_result",
      "discovery_start",
      "discovery_supported",
      "discovery_update_result",
      "enable_economy_mode",
      "initial_password",
      "initial_port",
      "initial_username",
      "license_allocation_error",
      "license_allocation_state",
      "load_dll",
      "load_dll_error",
      "model_detect_start",
      "model_detect_stop"
    ]
}
```

Retrieve a value (R):

`https://[server_address]:[port]/settings/ip_cameras/ip_camera_add/[manufacturer_name]/[setting]?sid=[session_id]`

values	Description	Type		Software version
allocated_guid		string	R	≥3.1
autodetect_result	Autodetection result	string	RW	≥3.2
autodetect_status	Autodetection status	string	RW	≥3.2

values	Description	Type		Software version
available_models	List of ID device models, found online and available for adding	string	R	≥3.1
create_address	Set IP address	string	W	≥3.1
create_defaults	Add device with default settings	string	W	≥4.0
create_disabled	Add and shut down device	integer	RW	≥4.0
create_economy_mode	Add device and set the Economy mode flag.	integer	RW	≥3.1
create_model	Add a particular model of device	string	RW	≥3.1
create_now	Create connection	integer	RW	≥3.1
create_password	Set password	string	W	≥3.1
create_port	Set port	integer	W	≥3.1
create_username	Set username	string	R	≥3.1
discovery_result	Search result	string	R	≥3.1
discovery_start	Start search	integer	RW	≥3.1
discovery_supported	Device supports online detection: 0 - no, 1 - yes	integer	R	≥3.1
discovery_update_result		integer	RW	≥3.1
enable_economy_mode	Economy mode on the device: 0 -disabled, 1 - enabled	integer	R	≥3.2
initial_password	Default password	string	R	≥3.1
initial_port	Default port	integer	R	≥3.1
initial_username	Default username	string	R	≥3.1
license_allocation_error		string	RW	≥4.0
license_allocation_state		string	RW	≥4.0
load_dll		integer	W	≥3.1
load_dll_error		string	R	≥3.1
model_detect_start	Start model search	integer	R	≥3.1
model_detect_stop	Stop model search	integer	R	≥3.1

Request to get the settings:

[https://\[server_address\]:\[port\]/settings/ip_cameras/\[camera_GUID\]/?sid=\[session_id\]](https://[server_address]:[port]/settings/ip_cameras/[camera_GUID]/?sid=[session_id])

Response:

```
{
    "name" : "AOig495k",
    "type" : "Grabber",
    "subdirs" : [
        "bz_caps",
        "caps",
        "feedback",
        "gpio",
        "md_caps",
        "roi_caps",
        "sd_caps"
    ],
    "values" : [
        "autodetect",
        "channel100_analytics_setup",
        "channel100_audio_bitrate",
        "channel100_audio_codec",
        "channel100_audio_default",
        "channel100_audio_enabled",
        "channel100_audio_sample_rate",
        "channel100_video_bitrate",
        "channel100_video_codec",
        "channel100_video_default",
        "channel100_video_enabled",
        "channel100_video_sample_rate"
    ]
}
```

```
"channel100_bright_default",
"channel100_brightness",
"channel100_bz_setup",
"channel100_camera_matrix",
"channel100_codec",
"channel100_color",
"channel100_compression",
"channel100_contrast",
"channel100_deinterlace",
"channel100_distortion_coeff",
"channel100_distortion_model",
"channel100_ext_audio_bitrate",
"channel100_ext_audio_enabled",
"channel100_ext_color",
"channel100_ext_compression",
"channel100_ext_enabled",
"channel100_ext_fps",
"channel100_ext_gop",
"channel100_ext_resolution",
"channel100_ext_video_bitrate",
"channel100_ext_video_bitrate_restriction",
"channel100_ext_video_bitrate_type",
"channel100_extcal_points",
"channel100_fps",
"channel100_gop",
"channel100_guid",
"channel100_hue",
"channel100_interval_capture_msec",
"channel100_main_enabled",
"channel100_md_enable",
"channel100_md_setup",
"channel100_mds_setup",
"channel100_mic_gain",
"channel100_output_mic_volume",
"channel100_record_mode_hardware",
"channel100_resolution",
"channel100_roi_setup",
"channel100_saturation",
"channel100_sd_enable",
"channel100_sd_sample_mult",
"channel100_sd_threshold",
"channel100_video_bitrate",
"channel100_video_bitrate_restriction",
"channel100_video_bitrate_type",
"channels_enabled",
"channels.hardware_dewarp",
"connection_ip",
"connection_password",
"connection_port",
"connection_username",
"created_manually",
"economy_mode",
"economy_mode_heart_beat_seconds",
"economy_mode_use_md",
"extra_flags",
"family",
"firmware_file_path",
"folder",
"force_software_dewarp",
"grabber_enabled",
"grabber_private_data",
"gui_parameters",
"have_working_hdd",
"hw_analytics_licensed_channels",
"icon",
"iframe_md",
"input00_enable",
"input00_folder",
"input00_guid",
"input00_name",
"input00_normal",
"license_mode",
"model",
"model_mismatch_off",
"name",
"output00_enable",
"output00_folder",
"output00_guid",
"output00_name",
```

```

    "output00_startup",
    "ptz_associated_with",
    "reboot",
    "setup_enabled",
    "setup_password",
    "sw_dewarp_enabled",
    "synchronize_time",
    "tube_version",
    "utc_offset_minutes",
    "video_buffer_size",
    "web_page"
]
}

```

Retrieve a value (R):

[https://\[server_address\]:\[port\]/settings/ip_cameras/\[camera_GUID\]/\[setting\]?sid=\[session_id\]](https://[server_address]:[port]/settings/ip_cameras/[camera_GUID]/[setting]?sid=[session_id])

values	Description	Type		Software version
autodetect		string	R	≥3.2
channel[XX]_audio_bitrate	Audio bitrate	integer	RW	≥3.1
channel[XX]_audio_codec	Audio codec	string	RW	≥3.1
channel[XX]_audio_default	Default audio settings	integer	RW	≥3.2
channel[XX]_audio_default	Sound on	integer	RW	≥3.1
channel[XX]_audio_sample_rate	Sampling frequency	string	RW	≥4.0
channel[XX]_bright_default	Default brightness	integer	RW	≥3.1
channel[XX]_brightness	Brightness	integer	RW	≥3.1
channel[XX]_bz_setup		string	RW	≥3.1
channel[XX]_camera_matrix		string	RW	≥4.0
channel[XX]_codec	Video codec	string	RW	≥3.1
channel[XX]_color	Color	integer	RW	≥3.1
channel[XX]_compression	Compression	integer	RW	≥3.1
channel[XX]_contrast	Contrast	integer	RW	≥3.1
channel[XX]_deinterlace		integer	RW	≥3.1
channel[XX]_distortion_coeff		string	RW	≥4.0
channel[XX]_distortion_model		string	RW	≥4.0
channel[XX]_ext_audio_bitrate		integer	RW	≥3.1
channel[XX]_ext_audio_enabled	Substream sound is on: 0 - no, 1 - yes	integer	RW	≥3.1
channel[XX]_ext_color	Substream color	integer	RW	≥3.1
channel[XX]_ext_compression	Substream compression	integer	RW	≥3.1
channel[XX]_ext_enabled	Channel substream is on: 0 - no, 1 - yes	integer	RW	≥3.1
channel[XX]_ext_fps	Substream FPS	integer	RW	≥3.1
channel[XX]_ext_gop	Substream GOP	integer	RW	≥3.1
channel[XX]_ext_resolution	Substream resolution	string	RW	≥3.1
channel[XX]_ext_video_bitrate	Substream video bitrate	string	RW	≥3.1
channel[XX]_ext_video_bitrate_restriction		integer	RW	≥4.0
channel[XX]_ext_video_bitrate_type	Substream bitrate type	integer	RW	≥3.1
channel[XX]_extcal_points		integer	RW	≥4.0
channel[XX]_fps	FPS	integer	RW	≥3.1

values	Description	Type		Software version
<code>channel[XX]_gop</code>	GOP	integer	RW	≥3.1
<code>channel[XX]_guid</code>	Channel ID on device	string	RW	≥3.1
<code>channel[XX]_hue</code>		integer	RW	≥3.1
<code>channel[XX]_interval_capture_msec</code>		integer	RW	≥4.0
<code>channel[XX]_main_enabled</code>	Channel main stream is on: 0 - no, 1 - yes	integer	RW	≥3.1
<code>channel[XX]_mapping_rvec</code>		integer	RW	≥4.0
<code>channel[XX]_mapping_tvec</code>		integer	RW	≥4.0
<code>channel[XX]_md_enable</code>	Channel motion detector is enabled: 0 - no, 1 - yes	integer	RW	≥3.1
<code>channel[XX]_md_setup</code>	Motion detector settings	string	RW	≥3.1
<code>channel[XX]_mds_setup</code>		string	RW	≥3.2
<code>channel[XX]_mic_gain</code>		integer	RW	≥3.2
<code>channel[XX]_mic_volume</code>		integer	RW	≥3.2
<code>channel[XX]_output_mic_volume</code>		integer	RW	≥3.2
<code>channel[XX]_record_mode_hardware</code>		integer	RW	≥3.1
<code>channel[XX]_resolution</code>	Resolution	string	RW	≥3.1
<code>channel[XX]_roi_setup</code>	ROI Settings	string	RW	≥3.2
<code>channel[XX]_saturation</code>		integer	RW	≥3.1
<code>channel[XX]_sd_enable</code>		integer	RW	≥4.0
<code>channel[XX]_sd_sample_mult</code>		integer	RW	≥4.0
<code>channel[XX]_sd_threshold</code>		integer	RW	≥4.0
<code>channel[XX]_video_bitrate</code>		integer	RW	≥3.1
<code>channel[XX]_video_bitrate_restriction</code>		integer	RW	≥4.0
<code>channel[XX]_video_bitrate_type</code>		integer	RW	≥3.1
<code>channels_enabled</code>	The IP device is enabled: 0 - no, 1 - yes	integer	R	≥3.1
<code>channels_hardware_dewarp</code>	Hardware image dewarp	integer	R	≥3.1
<code>connection_ip</code>	The IP address of the connected device	string	RW	≥3.1
<code>connection_password</code>	User password	string	W	≥3.1
<code>connection_port</code>	The device's connection port	integer	RW	≥3.1
<code>connection_username</code>	The username	string	RW	≥3.1
<code>created_manually</code>	Added manually: 0 - no, 1 - yes	integer	R	≥4.1
<code>economy_mode</code>	Economy mode is on: 0 - no, 1 - yes	integer	RW	≥3.1
<code>economy_mode_heart_beat_send_time</code>	Maximal time in seconds during which the server waits for a response from an IP device	integer	RW	≥3.1
<code>economy_mode_use_md</code>		integer	RW	≥3.1
<code>extra_flags</code>		integer	RW	≥3.2
<code>family</code>	The IP device's manufacturer	string	R	≥3.1
<code>firmware_file_path</code>	Device firmware path	string	RW	≥4.0

values	Description	Type		Software version
<i>folder</i>		string	RW	≥3.1
<i>force_software_dewarp</i>		integer	RW	≥4.0
<i>grabber_enabled</i>	Enable the IP device: 0 - no, 1 - yes	integer	RW	≥3.1
<i>grabber_private_data</i>		string	R	≥4.0
<i>gui_parameters</i>		string	RW	≥4.0
<i>have_working_hdd</i>	HDD: - 1 - are not supported, 0 - are missing, 1 - operate properly	integer	R	≥3.1
<i>hw_analytics_licensed_channels</i>		integer	RW	≥4.0
<i>icon</i>	The IP device's icon: <i>:/settings/grabber.png</i> - Device is enabled <i>:/settings/grabber-disabled.png</i> - Device is disabled	string	R	≥3.1
<i>iframe_md</i>		integer	RW	≥3.2
<i>input[YY_enable</i>	Use input: 0 - no, 1 - yes	integer	RW	≥3.1
<i>input[YY_folder</i>		string	RW	≥3.1
<i>input[YY_guid</i>	Input ID	string	RW	≥3.1
<i>input[YY_name</i>	Input name	string	RW	≥3.1
<i>input[YY_normal</i>	Normal state: 0 - unlocked 1 - locked	integer	RW	≥3.1
<i>license_mode</i>		string	RW	≥4.1
<i>model</i>	The IP device's model	string	R	≥3.1
<i>model_mismatch_off</i>	Disable "Model mismatch" mistake in IP device settings 0 - no, 1 - yes	integer	RW	≥4.0
<i>name</i>	The name of the IP device	string	RW	≥3.1
<i>output[ZZ_enable</i>	Use output: 0 - no, 1 - yes	integer	RW	≥3.1
<i>output[ZZ_folder</i>		string	RW	≥3.1
<i>output[ZZ_guid</i>	Output ID	string	RW	≥3.1
<i>output[ZZ_name</i>	Output name	string	RW	≥3.1
<i>output[ZZ_startup</i>	On system start: 0 - disabled on start, 1 - enabled on start 2 - save state	integer	RW	≥3.1
<i>ptz_associated_with</i>	Associated PTZ channel: 0 - do not use	integer	RW	≥3.1
<i>reboot</i>	Reload IP device: 1 - yes	integer	W	≥3.1
<i>setup_enabled</i>	Setting enabled: 0 - no, 1 - yes	integer	RW	≥4.1
<i>setup_password</i>		integer	W	≥4.0
<i>sw_dewarp_enabled</i>	Software image dewarp is enabled on the device channel:	integer	RW	≥4.0

values	Description	Type		Software version
	0 - no, 1 - yes			
synchronize_time	Synchronize time on IP device: 1 - yes	integer	RW	≥3.1
tube_version		integer	R	≥4.0
utc_offset_minutes		string	RW	≥4.0
video_buffer_size		integer	RW	≥3.1
web_page	A link to the IP device's web interface	string	R	≥3.1

where

- **[XX]** is the serial number of the channel being configured (from **00** to **15**), depending on the model of the compression card;
- **[YY]** is the serial number of the input being configured (from **00** to **15**), depending on the model of the compression card;
- **[ZZ]** is the serial number of the output being configured (from **00** to **15**), depending on the model of the compression card.



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Setting description of serial ports

Request to get the settings:

```
https://[address_server]:[port]/settings/serialports/?sid=[id_session]
```

Response:

```
{
  "name" : "serialports",
  "type" : "SerialFolder",
  "subdirs" : [
    "Y4fZMht3",
    "jlqB4f00"
  ],
  "values" : [
    "dumps",
    "port_create_now",
    "port_erase",
    "port_new_guid",
    "supported_ptz_protocols",
    "moxa_ports_connected",
    "moxa_ports_total"
  ]
}
```

subdirs	Description	Software version
[GUID_port]	GUID of serial port.	≥3.1

Retrieve a value (R):

```
https://[address_server]:[port]/settings/serialports/[setting]?sid=[id_session]
```

Write a value (W):

```
https://[address_server]:[port]/settings/serialports/[setting]=[value]?sid=[id_session]
```

values	Description	Type		Software version
dumps		integer	RW	≥3.1
port_create_now	New port creation request	string	RW	≥3.1
port_erase	Port removal request	string	W	≥3.1
port_new_guid	Last connected port GUID	string	R	≥3.1
supported_ptz_protocols	Supported PTZ protocols	string	R	≥3.1
moxa_ports_connected	Connected MOXA ports	integer	R	≥3.2
moxa_ports_total	Available MOXA ports	integer	R	≥3.2

Request to get a port settings:

```
https://[address_server]:[port]/settings/serialports/[GUID_port]/?sid=[id_session]
```

Response:

```
{
  "name" : "Y4fZMht3",
  "type" : "SerialPort",
  "subdirs" : [
    "X3B8ZCgn"
  ],
  "values" : [
    "baud_rate",
    "create_now_fac",
    "create_now_ptz",
    "data_bits",
    "erase_now",
    "flow_control",
    "new_guid",
    "parity"
  ]
}
```

```

        "parity",
        "port_name",
        "stop_bits"
    ],
}

```

subdirs	Description	Software version
[GUID_channel]	GUID of associated channel.	≥3.1

Retrieve a value (R):

`https://[address_server]:[port]/settings/serialports/[GUID_port]/[setting]?sid=[id_session]`

Write a value (W):

`https://[address_server]:[port]/settings/serialports/[GUID_port]/[setting]=[value]?sid=[id_session]`

values	Description	Type		Software version
baud_rate	Speed	integer	RW	≥3.1
create_now_fac	Manual panel adding request	integer	RW	≥3.1
create_now_ptz	PTZ device adding request	integer	RW	≥3.1
data_bits	Data bits	integer	RW	≥3.1
erase_now		string	W	≥3.1
flow_control	Stream control enabled: 0 - no, 1 - yes	integer	RW	≥3.1
new_guid	New GUID	string	R	≥3.1
parity	Parity: 0 - even, 1 - uneven	integer	RW	≥3.1
port_name	Port name	string	RW	≥3.1
stop_bits	Stop bits	integer	RW	≥3.1

Access control panel adding request:

`https://[server_address]:[port]/settings/serialports/[port_GUID]/create_now_fac=1?sid=[session_id]`

Response:

```
{
    "success": "1"
}
```

PTZ device adding request:

`https://[server_address]:[port]/settings/serialports/[port_GUID]/create_now_ptz=1?sid=[session_ID]`

Response:

```
{
    "success": "1"
}
```

Request to get a settings of associated channel:

`https://[address_server]:[port]/settings/serialports/[GUID_port]/[GUID_channel]?sid=[id_session]`

Response:

```
{
    "name" : "X3B8ZCgn",
    "type" : "SerialPtzRecord",
    "subdirs" : [
        ],
    "values" : [
        ]
}
```

```

    "ctime",
    "device_id",
    "ptz_associated_channel",
    "ptz_protocol"
]
}

```

Retrieve a value (R):

[https://\[address_server\]:\[port\]/settings/serialports/\[GUID_port\]/\[setting\]?sid=\[id_session\]](https://[address_server]:[port]/settings/serialports/[GUID_port]/[setting]?sid=[id_session])

Write a value (W):

[https://\[address_server\]:\[port\]/settings/serialports/\[GUID_port\]/\[setting\]=\[value\]?sid=\[id_session\]](https://[address_server]:[port]/settings/serialports/[GUID_port]/[setting]=[value]?sid=[id_session])

values	Description	Type		Software version
ctime		real	RW	≥3.1
device_id	Device ID	integer	RW	≥3.1
ptz_associated_channel	Associated channel	string	RW	≥3.1
ptz_associated_channel	PTZ protocol	string	RW	≥3.1



- *General form of a request*
- *Commands used when working with the SDK*
- *Command descriptions and usage examples*
- *Python language examples of using the SDK*

Description of channel settings

Request to get the settings:

`https://[server_address]:[port]/settings/channels/?sid=[session_id]`

Response:

```
{
    "name" : "channels",
    "type" : "ChannelsFolder",
    "subdirs" : [
        "CR0Mi1H1",
        "zXbI18iN",
        "zzBrx1ON"
    ],
    "values" : [
        "icon",
        "retail_analyt_licensed",
        "simt_licensed",
        "archive_bluring_head_available",
        "people_base_used",
        "lpr4_used",
        "hw_archive_use_limit",
        "hw_merge_license_total",
        "hw_merge_max_depth",
        "hw_archive_use_limit"
    ]
}
```

subdirs	Description	Software version
[GUID_channel]	Channel GUID used to get the settings	≥3.1

Retrieve a value (R):

`https://[server_address]:[port]/settings/channels/[setting]?sid=[session_id]`

values	Description	Type		Software version
icon	Path to the icon: ./settings/setup-channels.png	string	R	≥3.1
[module_name]_licensed	Number of free licenses for plugin [plugin_name]	integer	R	≥3.1
[plugin_name]_total	Total amount o licenses for the given plugin on channel	integer	R	≥4.0
[plugin_name]_used	Plugin used on channel	integer	R	≥4.0
[plugin_name]_available	Plugin available on channel	integer	R	≥4.0

Request for the channel settings:

`https://[server_address]:[port]/settings/channels/[channel_GUID]?sid=[session_id]`

Response:

```
{
    "name" : "CR0Mi1H1",
    "type" : "Channel",
    "subdirs" : [
        "arch_stats",
        "flags",
        "info",
        "stats",
        "optics",
        "ptz",
        "bags",
        "face_recognizer"
    ],
    "values" : [
        "archive_minimal_days",
        "archive_minimal_days_enable",
        "archive_storage_days_main",
        "archive_storage_days_sub",
        "archive_minimal_hours",
        "archive_minimal_hours_enable",
        "archive_storage_hours_main",
        "archive_storage_hours_sub",
        "archive_minimal_months",
        "archive_minimal_months_enable",
        "archive_storage_months_main",
        "archive_storage_months_sub",
        "archive_minimal_years",
        "archive_minimal_years_enable",
        "archive_storage_years_main",
        "archive_storage_years_sub",
        "archive_minimal_hours",
        "archive_minimal_hours_enable",
        "archive_storage_hours_main",
        "archive_storage_hours_sub",
        "archive_minimal_months",
        "archive_minimal_months_enable",
        "archive_storage_months_main",
        "archive_storage_months_sub",
        "archive_minimal_years",
        "archive_minimal_years_enable",
        "archive_storage_years_main",
        "archive_storage_years_sub"
    ]
}
```

```
"archive_zombie_erase",
"archive_zombie_flag",
"aspect_ratio",
"default_sound",
"detectors_decoder",
"detectors_source_stream",
"dewarp_max_theta",
"dyn_heatmap_duration",
"enable_abandonment",
"enable_anomaly",
"enable_anomaly_train",
"enable_aruco",
"enable_bags",
"enable_deep_people",
"enable_face",
"enable_facer",
"enable_fire_smoke",
"enable_floor",
"enable_head",
"enable_left_objects",
"enable_lpr5",
"enable_motion_search",
"enable_people",
"enable_sabotage",
"enable_shelf",
"enable_shelf_v2",
"enable_slow_down",
"enable_vizir",
"enable_workplace",
"erase_anomaly",
"erase_aruco",
"erase_bags",
"erase_deep_people",
"erase_face_recognizer",
"erase_floor",
"erase_head_zones",
"erase_left_objects",
"erase_lpr",
"erase_lpr5",
"erase_optics",
"erase_people_zones",
"erase_sabotage",
"erase_shelf_zones",
"erase_shelves",
"erase_simt",
"erase_workplace_zones",
"fire_smoke_setup",
"flip",
"folder",
"generate_motion_events",
"generate_sound_events",
"health_ignore",
"hw_merge_dest_channel",
"hw_merge_intervals",
"hw_merge_mode",
"hw_merge_start_ts",
"icon",
"jumper_setup",
"label_setup",
"lpr_enable",
"lpr_hardware_enable",
"merge_source_server",
"name",
"netrec_server_name",
"offload_server_abandonment",
"offload_server_aruco",
"offload_server_bags",
"offload_server_deep_people",
"offload_server_lpr4",
"offload_server_lpr5",
"offload_server_sabotage",
"offload_server_shelves",
"offload_server_tracklet",
"people_setup",
"record_manual",
"record_mode_local",
"record_on_sound",
"record_privileged",
"record_script",
```

```

    "restrictions",
    "rotate",
    "save_md_figures_to_archive",
    "slow_down_setup",
    "software_md_enable",
    "software_md_setup",
    "software_sd_enable",
    "software_sd_threshold",
    "sounds_setup",
    "thumbnail",
    "use_hw_fd",
    "utc_offset_minutes",
    "watermark_text",
    "watermark_text_position",
    "watermark_time_position",
    "workplace_setup"
]
}

```

subdirs	Description	Software version
arch_stats	Channel archive recording stats	≥4.0
flags	Flags for the channel's current state	≥3.1
info	Channel info	≥3.1
stats	The channel's current statistics	≥3.1
optics	Optics settings (for models with the support of this setting)	≥4.1
ptz	PTZ settings (for PTZ cameras)	≥4.1
[plugin_name]	Plugin settings	≥4.1

Retrieve a value (R):

`https://[server_address]:[port]/settings/channels/[channel_GUID]/[setting]?sid=[session_id]`

Write a value (W):

`https://[server_address]:[port]/settings/channels/[channel_GUID]/[setting]=[value]?sid=[session_id]`

values	Description	Type		Software version
archive_minimal_days		integer	RW	3.1-3.2
archive_minimal_days_enable		string	RW	3.1-3.2
archive_storage_days_main		integer	RW	≥4.0
archive_storage_days_sub		integer	RW	≥4.0
archive_zombie_erase	Hide lost channel archive: 0 - no 1 - yes	integer	RW	≥3.1
archive_zombie_flag	Display Hide lost channel archive button in the settings: 0 - no 1 - yes	integer	RW	≥3.1
aspect_ratio	Aspect ratio: [along_the_horizontal] : [along_the_vertical]	string	RW	≥3.1
default_sound	Default sound	string	RW	≥4.1
detectors_decoder	Software detectors	string	RW	≥4.0
detectors_source_stream	The stream being decompressed for the motion detector: 0 - Select automatically 1 - Primary stream 2 - Auxiliary stream (substream)	integer	RW	≥3.1

values	Description	Type		Software version
<code>dewarp_max_theta</code>		real	RW	≥4.0
<code>dyn_heatmap_duration</code>		string	RW	≥3.2
<code>enable_abandonment</code>	Left object detector: 0 - Disable 1 - Enable	integer	RW	≥4.0
<code>enable_anomaly</code>		integer	RW	≥4.0
<code>enable_anomaly_train</code>		integer	RW	≥4.0
<code>enable_aruco</code>	ArUco detector: 0 - Disable 1 - Enable	integer	RW	≥4.0
<code>enable_bags</code>	Bags counter: 0 - Disable 1 - Enable	integer	RW	≥4.0
<code>enable_deep_people</code>	Neuro Detector: 0 - Disable 1 - Enable	integer	RW	≥4.0
<code>enable_face</code>	Face detector: 0 - Disable 1 - Enable	integer	RW	≥3.1
<code>enable_facer</code>	Face tracker/Recognizer: 0 - Disable 1 - Enable	integer	RW	≥4.0
<code>enable_fire_smoke</code>	Fire/smoke detector: 0 - Disable 1 - Enable	integer	RW	≥3.1
<code>enable_floor</code>	Floor mapping: 0 - Disable 1 - Enable	integer	RW	≥4.0
<code>enable_head</code>	Head tracker: 0 - Disable 1 - Enable	integer	RW	≥3.2
<code>enable_left_objects</code>	Left object detector: 0 - Disable 1 - Enable	integer	RW	≥4.0
<code>enable_lpr5</code>	AutoTRASSIR (LPR5) license plate recognizer: 0 - Disable 1 - Enable	integer	RW	≥4.1
<code>enable_motion_search</code>	ActiveSearch: 0 - Disable 1 - Enable	integer	RW	≥3.1
<code>enable_people</code>	Queue detector: 0 - Disable 1 - Enable	integer	RW	≥3.2
<code>enable_sabotage</code>	Sabotage detector: 0 - Disable 12 - Enable 13 - Enable shift detection	integer	RW	≥3.1

values	Description	Type		Software version
	14 - Enable defocus detection 15 - Enable shift and defocus detection			
enable_shelf	Empty shelf detector: 0 - Disable 1 - Enable	integer	RW	≥3.2
enable_shelf_v2	Neural empty shelf detector: 0 - Disable 1 - Enable	integer	RW	≥4.1
enable_slow_down	Left object detector: 0 - Disable 1 - Enable	integer	RW	≥3.1
enable_vizir		integer	RW	≥4.1
enable_workplace	Workplace detector: 0 - Disable 1 - Enable	integer	RW	≥3.3
erase_anomaly		integer	RW	≥4.0
erase_aruco	Delete ArUco detector settings: 0 - No 1 - Yes	integer	RW	≥4.0
erase_bags	Delete bags counter settings: 0 - No 1 - Yes	integer	RW	≥4.1
erase_deep_people	Delete Neuro Detector settings: 0 - No 1 - Yes	integer	RW	≥4.0
erase_face_recognizer	Delete face tracker/recognizer settings: 0 - No 1 - Yes	integer	RW	≥4.0
erase_floor	Delete floor mapping settings: 0 - No 1 - Yes	integer	RW	≥4.0
erase_head_zones	Delete head tracker zone settings: 0 - No 1 - Yes	integer	RW	≥3.2
erase_left_objects	Delete left object detector settings: 0 - No 1 - Yes	integer	RW	≥4.0
erase_lpr	Delete AutoTRASSIR (LPR1/LPR3) license plate recognizer settings: 0 - No 1 - Yes	integer	RW	≥4.0
erase_lpr5	Delete AutoTRASSIR (LPR5) license plate recognizer settings: 0 - No 1 - Yes	integer	RW	≥4.1
erase_optics	Delete optics settings: 0 - No 1 - Yes	integer	RW	≥3.1

values	Description	Type		Software version
<code>erase_people_zones</code>	Delete queue detector settings: 0 - No 1 - Yes	integer	RW	≥3.2
<code>erase_sabotage</code>	Delete sabotage detector settings: 0 - No 1 - Yes	integer	RW	≥4.0
<code>erase_shelf_zones</code>	Delete empty shelf detector settings: 0 - No 1 - Yes	integer	RW	≥3.2
<code>erase_shelves</code>	Delete neural empty shelf detector: 0 - No 1 - Yes	integer	RW	≥4.0
<code>erase_simt</code>	Delete SIMT settings: 0 - No 1 - Yes	integer	RW	≥3.1
<code>erase_workplace_zones</code>	Delete workplace detector settings: 0 - No 1 - Yes	integer	RW	≥3.3
<code>fire_smoke_setup</code>	Fire/smoke detector settings:	integer	RW	≥3.1
<code>flip</code>	Flip: hmirror - Mirror vertically vmirror - Mirror horizontal empty string - No mirroring	string	RW	≥3.1
<code>folder</code>	The name of the group	string	RW	≥3.1
<code>generate_motion_events</code>	Generate events when motion is detected: 0 - No 1 - Yes	integer	RW	≥3.1
<code>generate_sound_events</code>	Generate events when sound is detected: 0 - No 1 - Yes	integer	RW	≥3.2
<code>health_ignore</code>		string	RW	≥3.1
<code>hw_merge_dest_channel</code>		string	RW	≥4.0
<code>hw_merge_intervals</code>		string	RW	≥4.0
<code>hw_merge_mode</code>	Hardware archive merge is on: 0 - No 1 - Yes	integer	RW	≥3.3
<code>hw_merge_start_ts</code>		string	RW	≥4.0
<code>icon</code>	Path to the icon: :/settings/camera.png	string	RW	≥3.1
<code>jumper_setup</code>	Configuring a teleport to a camera: [X]:[Y]:[channel_GUID]_[server_GUID]	string	RW	≥3.2
<code>label_setup</code>	Label settings	string	RW	≥4.0
<code>lpr_enable</code>	AutoTRASSIR (LPR1/LPR3) license plate recognizer settings 0 - Disable 1 - Enable	integer	RW	≥3.1
<code>lpr_hardware_enable</code>	Hardware license plate recognizer	integer	RW	≥3.2

values	Description	Type		Software version
	0 - Disable 1 - Enable			
merge_source_server		integer	RW	≥4.0
name	The name of the channel	string	RW	≥3.1
netrec_server_name	Network channel recording server name	string	RW	≥3.1
offload_server_abandonment	Left object detector analytics server	string	RW	≥4.0
offload_server_aruco	ArUco detector analytics server	string	RW	≥4.0
offload_server_bags	Bags counter analytics server	string	RW	≥4.1
offload_server_deep_people	Neuro Detector analytics server	string	RW	≥4.0
offload_server_lpr4	License plate recognizer (LPR4) analytics server	string	RW	≥4.0
offload_server_lpr5	(LPR5) license plate recognizer module server	string	RW	≥4.1
offload_server_sabotage	Sabotage detector analytics server	string	RW	≥4.0
offload_server_shelves	Neural empty shelf detector analytics server	string	RW	≥4.1
offload_server_tracklet		string	RW	≥4.1
people_setup	Neuro detector settings	string	RW	≥3.2
record_manual	Manual recording: 0 - Disable 1 - Enable	integer	RW	≥3.1
record_mode_local	Archive recording: 0 - Disable 1 - Continuous 2 - Manual recording 3 - On detector	integer	RW	≥3.1
record_on_sound	Record on Sound 0 - Disable 1 - Enable	integer	RW	≥3.2
record_privileged	0 - Ordinary channel 1 - Privileged channel	integer	RW	≥3.1
record_script		integer	RW	≥3.1
restrictions	Channel restrictions	string	RW	≥4.0
rotate	Rotate: empty string - No rotation rotate90 - 90 degrees rotate180 - 180 degrees rotate270 - 270 degrees	string	RW	≥3.1
save_md_figures_to_archive	Save objects recognized by motion detector to the archive 0 - no 1 - yes	integer	RW	≥4.0
slow_down_setup	Slowdown detector settings	string	RW	≥3.1
software_md_enable	Motion detector: 0 - Disable 1 - Enable activity detector 2 - Enable moving objects detector (SIMT) 3 - Enable hardware detector 11 - Enable activity detector HD	integer	RW	≥3.1

values	Description	Type		Software version
software_md_setup	Motion detector settings	string	RW	≥3.1
software_sd_enable	Sound detector: 0 - Disable 1048576 - Any sound	integer	RW	≥3.2
software_sd_threshold	Sound detector trigger threshold: from 0 to 100	integer	RW	≥3.2
sounds_setup	Sound settings	string	RW	≥4.1
thumbnail	Video preview	string	R	≥3.1
use_hw_fd		integer	RW	≥4.1
utc_offset_minutes		string	RW	≥4.0
watermark_text	Text on video	string	RW	≥3.1
watermark_text_position	Location of text on video: 0 - Do not display 1 - Left upper corner 2 - Right upper corner 3 - Bottom left corner 4 - Bottom right corner	integer	RW	≥3.1
watermark_time_position	Date and time location on video: 0 - Do not display 1 - Left upper corner 2 - Right upper corner 3 - Bottom left corner 4 - Bottom right corner	integer	RW	≥3.1
workplace_setup	Workplace detector settings	string	RW	≥3.3

Request for getting channel archive record statistics:

[https://\[server_address\]:\[port\]/settings/channels/\[channel_GUID\]/arch_stats/?sid=\[session_id\]](https://[server_address]:[port]/settings/channels/[channel_GUID]/arch_stats/?sid=[session_id])

Response:

```
{
  "name" : "arch_stats",
  "type" : "ChannelArchiveStats",
  "subdirs" : [
    ],
  "values" : [
    "archive_stat_data",
    "forecast_gb_per_day",
    "gb_per_day",
    "gb_per_day_reliable",
    "gb_per_week",
    "gb_per_week_reliable",
    "mainstream_depth",
    "second_stream_days_presented",
    "second_stream_gb_per_day",
    "second_stream_gb_per_week",
    "second_stream_hours_presented",
    "substream_depth",
    "update_time"
  ]
}
```

Retrieve a value (R):

[https://\[server_address\]:\[port\]/settings/channels/\[channel_GUID\]/arch_stats/\[setting\]?sid=\[session_id\]](https://[server_address]:[port]/settings/channels/[channel_GUID]/arch_stats/[setting]?sid=[session_id])

values	Description	Type		Software version
<code>archive_stat_data</code>	Channel archive recording data	string	R	≥4.0
<code>forecast_gb_per_day</code>	Estimated archive depth per day, GB	real	R	≥4.0
<code>gb_per_day</code>	Storage depth, GB	real	R	≥4.0
<code>gb_per_day_reliable</code>		integer	R	≥4.0
<code>gb_per_week</code>	Estimated archive depth per seven days, GB	integer	R	≥4.0
<code>gb_per_week_reliable</code>		integer	R	≥4.0
<code>mainstream_depth</code>	Mainstream depth, days	real	R	≥4.0
<code>second_stream_days_presented</code>		integer	R	≥4.0
<code>second_stream_gb_per_day</code>		real	R	≥4.0
<code>second_stream_gb_per_week</code>		real	R	≥4.0
<code>second_stream_hours_presented</code>		integer	R	≥4.0
<code>substream_depth</code>	Substream depth, days	real	R	≥4.0
<code>update_time</code>		string	R	≥4.0

Request for the channel's state flags:

[https://\[server_address\]:\[port\]/settings/channels/\[channel_GUID\]/flags/?sid=\[session_id\]](https://[server_address]:[port]/settings/channels/[channel_GUID]/flags/?sid=[session_id])

Response:

```
{
  "name" : "flags",
  "type" : "ChannelFlags",
  "subdirs" : [
    ],
  "values" : [
    "abrmobj",
    "activity",
    "allow_dynamic_dewarp",
    "appearing",
    "aruco_detection",
    "audio_detect",
    "bag_detection",
    "bitrate_exceeded",
    "crossline",
    "direction",
    "entering",
    "exiting",
    "face",
    "fastmove",
    "fire",
    "gathering",
    "glassbreak",
    "gunshot",
    "hw_archive",
    "intrusion",
    "item_abandoned",
    "item_missing",
    "loitering",
    "lpr_detection",
    "motion",
    "motion_like_activity",
    "passing",
    "people",
    "presence",
    "recording_hw",
    "recording_local",
    "sabotage",
    "scream",
    "shelf_detection",
    "signal",
    "slow_down",
    "smoke",
    "sound",
    "speed",
  ]
}
```

```

        "stop",
        "thermal_signal",
        "voice"
    ]
}

```

Retrieve a value (R):

[https://\[server_address\]:\[port\]/settings/channels/\[channel_GUID\]/flags/\[setting\]?sid=\[session_id\]](https://[server_address]:[port]/settings/channels/[channel_GUID]/flags/[setting]?sid=[session_id])

values	Description	Type		Software version
abrmobj	Left object detector: 0 - Disable 1 - Enable	integer	R	≥4.0
activity		integer	R	≥3.3
allow_dynamic_dewarp		integer	R	≥4.0
appearing		integer	R	≥4.0
aruco_detection	ArUco detector: 0 - Disable 1 - Enable	integer	R	≥4.1
audio_detect	Sound detector: 0 - Off 1 - On	integer	R	≥4.1
bag_detection	Bags counter: 0 - Off 1 - On	integer	R	≥4.1
bitrate_exceeded	Bitrate exceeded: 0 - Yes 1 - No	integer	R	≥4.0
crossline	Border crossed: 0 - Yes 1 - No	integer	R	≥3.3
direction	Motion in the preset direction: 0 - Yes 1 - No	integer	R	≥4.0
entering	Zone intrusion: 0 - Yes 1 - No	integer	R	≥4.0
exiting	Exiting zone: 0 - Yes 1 - No	integer	R	≥4.0
explosion		integer	R	≥4.1
face	Face in a frame: 0 - No 1 - Yes	integer	R	≥3.1
fastmove		integer	R	≥4.1
fire	Fire in a frame: 0 - No 1 - Yes	integer	R	≥3.1
gathering		integer	R	≥4.1
glassbreak		integer	R	≥4.1
gunshot		integer	R	≥4.1

values	Description	Type		Software version
<i>hw_archive</i>		integer	R	≥3.1
<i>intrusion</i>	Zone intrusion captured: 0 - No 1 - Yes	integer	R	≥3.2
<i>item_abandoned</i>	Abandoned item in a frame: 0 - No 1 - Yes	integer	R	≥3.2
<i>item_missing</i>	Item disappeared from the frame: 0 - No 1 - Yes	integer	R	≥3.2
<i>loitering</i>		integer	R	≥4.1
<i>lpr_detection</i>	License plate recognized: 0 - No 1 - Yes	integer	R	≥4.1
<i>motion</i>	Motion in a frame: 0 - No 1 - Yes	integer	R	≥3.1
<i>motion_like_activity</i>		integer	R	≥4.1
<i>passing</i>		integer	R	≥4.0
<i>people</i>	Person in a frame: 0 - No 1 - Yes	integer	R	≥3.2
<i>presence</i>		integer	R	≥4.0
<i>recording_hw</i>	Archive recording to device: 0 - Off 1 - On	integer	R	≥3.1
<i>recording_local</i>	Archive recoding to server disks: 0 - Off 1 - On	integer	R	≥3.1
<i>sabotage</i>	Sabotage detector enabled: 0 - No 1 - Yes	integer	R	≥3.1
<i>scream</i>		integer	R	≥4.1
<i>shelf_detection</i>	Empty shelf detector enabled: 0 - No 1 - Yes	integer	R	≥4.1
<i>signal</i>	Signal on: 0 - No 1 - Yes	integer	R	≥3.1
<i>slow_down</i>	Left object detector enabled: 0 - No 1 - Yes	integer	R	≥3.1
<i>smoke</i>	Smoke detected in a frame: 0 - No 1 - Yes	integer	R	≥3.1
<i>sound</i>	Sound detected: 0 - No	integer	R	≥3.2

values	Description	Type		Software version
	1 - Yes			
speed		integer	R	≥4.0
stop		integer	R	≥4.0
thermal_signal		integer	R	≥4.0
voice	Voice in a frame: 0 - No 1 - Yes	integer	R	≥3.2

Request for information about a channel:

[https://\[server_address\]:\[port\]/settings/channels/\[channel_GUID\]/info/?sid=\[session_id\]](https://[server_address]:[port]/settings/channels/[channel_GUID]/info/?sid=[session_id])

Response:

```
{
  "name" : "info",
  "type" : "ChannelInfo",
  "subdirs" : [
    ],
  "values" : [
    "abandonment_status",
    "address_audio_main",
    "address_audio_raw",
    "address_audio_ss",
    "address_figures_detector",
    "address_figures_subtitles",
    "address_video_main",
    "address_video_raw",
    "address_video_ss",
    "addrflags",
    "aruco_status",
    "bags_status",
    "deep_people_status",
    "economy_mode",
    "grabber_channel_n",
    "grabber_error",
    "grabber_path",
    "lpr4_status",
    "lpr5_status",
    "merge_too_slow",
    "sabotage_status",
    "shelves_status",
    "tracklet_status"
  ]
}
```

Retrieve a value (R):

[https://\[server_address\]:\[port\]/settings/channels/\[channel_GUID\]/info/\[setting\]?sid=\[session_id\]](https://[server_address]:[port]/settings/channels/[channel_GUID]/info/[setting]?sid=[session_id])

values	Description	Type		Software version
abandonment_status	Left object detector: 0 - Disable 1 - Enable	integer	R	≥4.0
address_audio_main		string	R	≥3.1
address_audio_raw		string	R	≥3.1
address_audio_ss		string	R	≥3.1
address_figures_detector		string	R	≥3.1
address_figures_subtitles		string	R	≥3.1
address_video_main		string	R	≥3.1

values	Description	Type		Software version
address_video_raw		string	R	≥3.1
address_video_ss		string	R	≥3.1
addrflags		string	R	≥3.1
bags_status	Bags counter: 0 - Disable 1 - Enable	integer	R	≥4.1
deep_people_status	Neuro Detector: 0 - Disable 1 - Enable	integer	R	≥4.0
economy_mode	Economy mode: 0 - Disable 1 - Enable	integer	R	≥3.1
grabber_channel_n	Number of channels, available in driver	string	R	≥3.1
grabber_error	Device driver error	string	R	≥4.0
grabber_path	Device driver path	string	R	≥3.1
lpr4_status	AutoTRASSIR license plate recognizer (LPR4): 0 - Disable 1 - Enable	integer	R	≥4.0
lpr5_status	AutoTRASSIR (LPR5) license plate recognizer: 0 - Disable 1 - Enable	integer	R	≥4.1
merge_too_slow	Error - Slow synchronization: 0 - No 1 - Yes	integer	R	≥4.0
sabotage_status	Sabotage detector: 0 - Disable 1 - Enable	integer	R	≥4.0
shelves_status	Neural empty shelf detector: 0 - Disable 1 - Enable	integer	R	≥4.1
tracklet_status		integer	R	≥4.1

Request for the channel's current statistics:

[https://\[server_address\]:\[port\]/settings/channels/\[channel_GUID\]/stats/?sid=\[session_id\]](https://[server_address]:[port]/settings/channels/[channel_GUID]/stats/?sid=[session_id])

Response:

```
{
  "name" : "stats",
  "type" : "ChannelStats",
  "subdirs" : [
    ],
  "values" : [
    "debt_sec_hw_merge",
    "fps_main",
    "fps_ss",
    "kbps_hw_merge",
    "kbps_main",
    "kbps_ss",
    "last_error_hw_merge"
  ]
}
```

Retrieve a value (R):

`https://[server_address]:[port]/settings/channels/[channel_GUID]/stats/[setting]?sid=[session_id]`

values	Description	Type		Software version
<i>debt_sec_hw_merge</i>	Storage depth	real	R	≥4.0
<i>fps_main</i>	Mainstream FPS	real	R	≥3.1
<i>fps_ss</i>	Sub stream FPS	real	R	≥3.1
<i>kbps_hw_merge</i>	Synchronization speed with the device archive	real	R	≥4.0
<i>kbps_main</i>	Mainstream bitrate	real	R	≥3.1
<i>kbps_ss</i>	Sub stream bitrate	real	R	≥3.1
<i>last_error_hw_merge</i>	Last merge error with the device archive	string	R	≥4.0



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Description of network settings

Request to get the settings:

```
https://[address_server]:[port]/settings/network/?sid=[id_session]
```

Response:

```
{
  "name" : "network",
  "type" : "NetworkFolder",
  "subdirs" : [
    "cloudtrassir",
    "IfSn4Y9n",
    "network_node_add"
  ],
  "values" : [
    "banned_server_guid",
    "cloud_connect_enable",
    "cloud_connect_login",
    "icon",
    "cloud_connect_password",
    "limit_client_count",
    "offline_passwords",
    "upnp_gate",
    "upnp_prefix",
    "video_protection_level"
  ]
}
```

subdirs	Description	Software version
cloudtrassir	Cloud connection	3.3
[GUID_connection]	Connection ID	≥3.1
network_node_add	Add new connection	≥3.1

Retrieve a value (R):

```
https://[address_server]:[port]/settings/network/[setting]?sid=[id_session]
```

Write a value (W):

```
https://[address_server]:[port]/settings/network/[settings]=[value]?sid=[id_session]
```

values	Description	Type		Software version
banned_server_guids				≥4.0
cloud_connect_enable	Connection via Cloud Connect: 0 - no, 1 - yes	integer	RW	≥3.2
cloud_connect_login	Cloud user	string	RW	≥3.2
cloud_connect_password	Password of cloud user	string	W	≥3.2
icon	Network connection icon path	string	RW	≥3.1
limit_client_count	Maximal number of connections to this server	string	RW	≥3.2
mmauth_available		integer	R	≥3.2
offline_passwords				≥4.0
upnp_gate		string	RW	≥4.0
upnp_prefix		string	RW	≥4.0
video_protection_level		integer	RW	≥4.1

Request to get connection settings:

[https://\[address_server\]:\[port\]/settings/network/\[GUID_connection\]?sid=\[id_session\]](https://[address_server]:[port]/settings/network/[GUID_connection]?sid=[id_session])

Response:

```
{
    "name" : "IfSn4Y9n",
    "type" : "NetworkNode",
    "subdirs" : [
        "stats"
    ],
    "values" : [
        "accepted_fingerprint",
        "address_from_cc_success",
        "autocredentials",
        "buffering",
        "cc_mode",
        "cloud_id",
        "disable_mainstream",
        "economy_mode",
        "generated",
        "icon",
        "ip_address",
        "ip_addresses",
        "last_cc_timestamp",
        "name",
        "network_recurse_level",
        "origin_account",
        "password",
        "port_rpc",
        "port_video",
        "reachable_via_this_node",
        "should_be_connected",
        "use_cloud_connect",
        "username"
    ]
}
```

subdirs	Description	Software version
stats	Connection info	≥3.1

Retrieve a value (R):

[https://\[address_server\]:\[port\]/settings/network/\[GUID_connection\]/\[setting\]?sid=\[id_session\]](https://[address_server]:[port]/settings/network/[GUID_connection]/[setting]?sid=[id_session])

Write a value (W):

[https://\[address_server\]:\[port\]/settings/network/\[GUID_connection\]/\[setting\]=\[value\]?sid=\[id_session\]](https://[address_server]:[port]/settings/network/[GUID_connection]/[setting]=[value]?sid=[id_session])

values	Description	Type		Software version
accepted_fingerprint	SSL Fingerprint	string	RW	≥3.1
address_from_cc_success		integer	RW	≥3.3
autocredentials	Local Cloud user automatic login: 0 - no, 1 - yes	integer	RW	≥3.3
buffering		integer	RW	≥3.1
cc_mode	Cloud Connect connection mode: 0 - auto, 1 - P2P only, 2 - enable DTUN	string	RW	≥4.0
cloud_id	Cloud identifier	string	RW	≥3.1
disable_mainstream	Main stream disabled on all channels: 0 - no, 1 - yes	integer	RW	≥3.1
economy_mode	Economy mode is on: 0 - no, 1 - yes	integer	RW	≥3.1
generated	Connection generated by script: 0 - no, 1 - yes	integer	RW	≥3.3

values	Description	Type		Software version
<i>icon</i>	Icon path	string	RW	≥3.1
<i>ip_address</i>	Connection IP address	string	RW	≥3.1
<i>ip_addresses</i>		string	RW	3.3
<i>last_cc_timestamp</i>	Cloud Connect last login time	string	RW	≥3.3
<i>name</i>	Connection name	string	RW	≥3.1
<i>network_recurse_level</i>	Recursion level	integer	RW	≥3.1
<i>origin_account</i>	Cloud account	string	R	≥4.0
<i>password</i>	Password	string	W	≥3.1
<i>port_rpc</i>	Port (control)	integer	RW	≥3.1
<i>port_video</i>	Port (video)	integer	RW	≥3.1
<i>reachable_via_this_node</i>		string	R	≥3.1
<i>should_be_connected</i>	Allow connection: 0 - no, 1 - yes	integer	RW	≥3.1
<i>use_cloud_connect</i>	Cloud Connect connection is used: 0 - no, 1 - yes	integer	RW	≥3.2
<i>username</i>	User name	string	RW	≥3.1

Connection info request:

[https://\[address_server\]:\[port\]/settings/network/\[GUID_connection\]/stats/?sid=\[id_session\]](https://[address_server]:[port]/settings/network/[GUID_connection]/stats/?sid=[id_session])

Response:

```
{
  "name" : "stats",
  "type" : "NetworkNodeStats",
  "subdirs" : [
    ],
  "values" : [
    "connected",
    "connected_using",
    "dtun_connection",
    "fingerprint",
    "interface_version",
    "last_error",
    "relay_connection",
    "resolve_warning",
    "trail_connection"
  ]
}
```

Retrieve a value (R):

[https://\[address_server\]:\[port\]/settings/network/\[GUID_connection\]/stats/\[setting\]?sid=\[id_session\]](https://[address_server]:[port]/settings/network/[GUID_connection]/stats/[setting]?sid=[id_session])

values	Description	Type		Software version
<i>connected</i>	Connection established: 0 - no, 1 - yes	integer	R	≥3.1
<i>connected_using</i>		string	R	≥4.0
<i>dtun_connection</i>	Connection via DTUN: 0 -disabled, 1 - enabled, -1 - host address connection method is selected	integer	R	≥4.1
<i>fingerprint</i>	Fingerprint	string	R	≥3.1
<i>interface_version</i>	Interface version	integer	R	≥4.0

values	Description	Type		Software version
last_error	Last error	string	R	≥3.1
relay_connection	Connection via Cloud	integer	R	≥4.0
resolve_warning		string	R	≥3.1
trail_connection		integer	RW	≥4.0

Request to create a new connection:

```
https://[address_server]:[port]/settings/network/network_node_add/?sid=[id_session]
```

Response:

```
{
    "name" : "network_node_add",
    "type" : "NetworkNodeAdd",
    "subdirs" : [
        ],
    "values" : [
        "create_now",
        "delete_node_id",
        "new_node_autocredentials",
        "new_node_cc_mode",
        "new_node_cloud_id",
        "new_node_economy",
        "new_node_generated",
        "new_node_id",
        "new_node_name",
        "new_node_password",
        "new_node_port_rpc",
        "new_node_port_video",
        "new_node_use_cloud_connect",
        "new_node_username",
        "new_origin_account"
    ]
}
```

Retrieve a value (R):

```
https://[address_server]:[port]/settings/network/network_node_add/[setting]?sid=[id_session]
```

Write a value (W):

```
https://[address_server]:[port]/settings/network/network_node_add/[setting]=[value]?sid=[id_session]
```

values	Description	Type		Software version
create_now	Create connection	integer	RW	≥3.1
create_now	Delete connection	integer	W	≥3.1
new_node_autocredentials	Automatic login under local user	string	W	≥3.3
new_node_cloud_id	New cloud identifier	string	W	≥3.3
new_node_economy	New connection economy mode	string	W	≥3.3
new_node_generated		string	W	≥3.3
new_node_id	New connection identifier	string	W	≥3.1
new_node_name	New connection name or IP address	string	RW	≥3.1
new_node_password	Password	string	W	≥3.1
new_node_port_rpc	Port (control)	integer	RW	≥3.1
new_node_port_video	Port (video)	integer	RW	≥3.1
new_node_use_cloud_connect	New connection via Cloud Connect	integer	RW	≥3.2
new_node_username	User name	string	W	≥3.1



Set up connection parameters and make the following request to add a new connection:

```
https://[server_address]:[port]/settings/network/network_node_add/create_now=1?sid=session_id
```



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Description of ActiveDome settings

Request to get the settings:

`https://[server_address]:[port]/settings/ad/?sid=[session_id]`

Response:

```
{
  "name" : "ad",
  "type" : "AdFolder",
  "subdirs" : [
    "geqXRTHa",
    "ofrxx75F"
  ],
  "values" : [
    "fix_licensed_left",
    "ptz_licensed_left",
    "scene_erase",
    "scene_create_now",
    "scene_new_guid"
  ]
}
```

subdirs	Description	Software version
[scene_GUID]	The GUID of the ActiveDome scene being used to retrieve scene settings.	≥3.1

Retrieve a value (R):

`https://[server_address]:[port]/settings/ad/[setting]?sid=[session_id]`

Write a value (W):

`https://[server_address]:[port]/settings/ad/[setting]=[value]?sid=[session_id]`

values	Description	Type		Software version
fix_licensed_left	Number of available licenses for adding overview cameras.	integer	RW	≥3.1
ptz_licensed_left	Number of available licenses for adding PTZ cameras.	integer	RW	≥3.1
scene_erase	The command to delete an ActiveDome scene. The scene GUID is used as a parameter. <code>/settings/ad/scene_erase=[scene_GUID]?sid=e03qd0eg</code>	string	W	≥3.1
scene_create_now	The command to create a new ActiveDome scene. When a scene is created it will be assigned a GUID from the scene_new_guid setting.	integer	RW	≥3.1
scene_new_guid	The GUID of the next ActiveDome scene to be created using the scene_create_now command.	string	R	≥3.1

Request for ActiveDome scene settings:

`https://[server_address]:[port]/settings/ad/[scene_GUID]/?sid=[session_id]`

Response:

```
{
  "name" : "geqXRTHa",
  "type" : "AdScene",
  "subdirs" : [
  ],
  "values" : [
    "corrupted",
  ]
}
```

```

    "enable_plus",
    "fix_list",
    "name",
    "ptz_list",
    "switch_timeout"
]
}

```

Retrieve a value (R):

[https://\[server_address\]:\[port\]/settings/ad/\[scene_GUID\]/\[setting\]?sid=\[session_id\]](https://[server_address]:[port]/settings/ad/[scene_GUID]/[setting]?sid=[session_id])

Write a value (W):

[https://\[server_address\]:\[port\]/settings/ad/\[GUID_scene\]/\[setting\]=\[value\]?sid=\[session_id\]](https://[server_address]:[port]/settings/ad/[GUID_scene]/[setting]=[value]?sid=[session_id])

values	Description	Type		Software version
corrupted		integer	R	≥3.1
enable_plus	Enable automatic object tracking using SIMT (ActiveDome+) 0 - No 1 - Yes	integer	RW	≥3.1
fix_list	Comma-delimited GUIDs of channels included in the list of overview cameras.	string	RW	≥3.1
name	The name of the scene	string	RW	≥3.1
ptz_list	Comma-delimited GUIDs of channels included in the list of PTZ cameras.	string	RW	≥3.1
switch_timeout	The switch timeout, in seconds	real	RW	≥3.1



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Description of AutoTRASSIR settings

Request to get the settings:

```
https://[server_address]:[port]/settings/auto_trassir/?sid=[session_id]
```

Response:

```
{
    "name" : "auto_trassir",
    "type" : "LprGeneral",
    "subdirs" : [
        ],
    "values" : [
        "extdb_new_guid",
        "extdb_name",
        "extdb_dbname",
        "license_total",
        "license_countries",
        "parking_rate_per_minute_day",
        "extdb_create_now",
        "parking_entrance_fee",
        "extdb_direction",
        "parking_rate_per_minute_night",
        "parking_day_definition",
        "license_used",
        "parking_currency",
        "extdb_password",
        "template_country",
        "extdb_case",
        "extdb_skiplines",
        "extdb_is_textfile",
        "extdb_reaction",
        "parking_free_minutes",
        "extdb_enable",
        "extdb_sql",
        "extdb_erase",
        "extdb_port",
        "extdb_path",
        "parking_enable",
        "extdb_charset",
        "extdb_login",
        "extdb_encoding",
        "parking_round_up_to_minutes",
        "extdb_host"
    ]
}
```

Retrieve a value (R):

```
https://[server_address]:[port]/settings/auto_trassir/[setting]?sid=[session_id]
```

Write a value (W):

```
https://[server_address]:[port]/settings/auto_trassir/[setting]=[value]?sid=[session_id]
```

values	Description	Type		Software version
extdb_new_guid		string	W	≥3.1
extdb_name		string	W	≥3.1
extdb_dbname		string	W	≥3.2
license_total		string	W	≥3.1
license_countries		string	W	≥3.1
parking_rate_per_minute_day		string	W	≥3.1
extdb_create_now		integer	RW	3.1
parking_entrance_fee		string	W	≥3.1
extdb_direction		string	W	≥3.1

values	Description	Type		Software version
<code>parking_rate_per_minute_night</code>		string	W	≥3.1
<code>parking_day_definition</code>		string	W	≥3.1
<code>license_used</code>		string	W	≥3.1
<code>parking_currency</code>		string	W	≥3.1
<code>extdb_password</code>			W	3.1
<code>template_country</code>		string	W	≥3.1
<code>extdb_case</code>			W	3.1
<code>extdb_skiplines</code>		string	W	≥3.1
<code>extdb_is_textfile</code>		string	W	≥3.1
<code>extdb_reaction</code>		string	W	≥3.1
<code>parking_free_minutes</code>		string	W	≥3.1
<code>extdb_enable</code>		string	W	≥3.1
<code>extdb_sql</code>		string	W	≥3.1
<code>extdb_erase</code>		string	W	≥3.1
<code>extdb_port</code>		string	W	≥3.2
<code>extdb_path</code>		string	W	≥3.1
<code>parking_enable</code>		string	W	≥3.1
<code>extdb_charset</code>		string	W	≥3.1
<code>extdb_login</code>		string	W	≥3.1
<code>extdb_encoding</code>		string	W	≥3.1
<code>parking_round_up_to_minutes</code>		string	W	≥3.1
<code>extdb_host</code>		string	W	≥3.2



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