



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*.

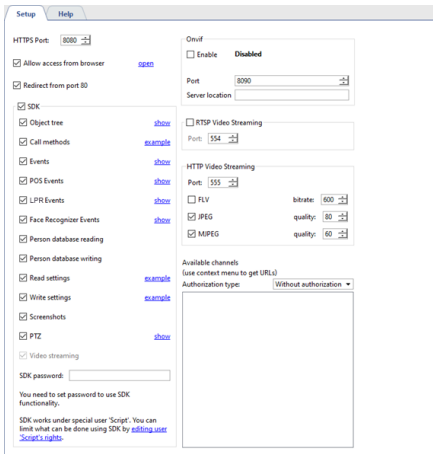


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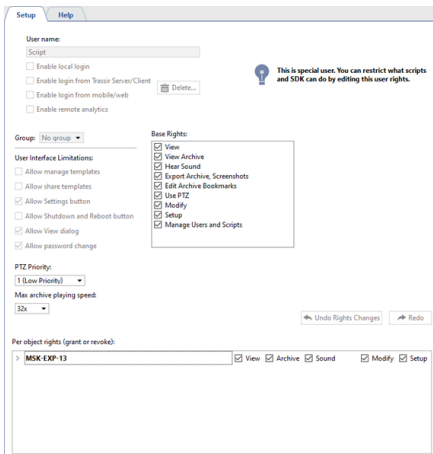
Configuring a server to work with the SDK


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 **videosever**;
- **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.

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



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*
- *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 TRASSIR 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 TRASSIR 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" : "operatorgui_UQS60Nr1",
    "class" : "OperatorGUI",
    "parent" : "UQS60Nr1"
  },
  {
    "name" : "DS-2CD8153F-E",
    "guid" : "shMa536E",
    "class" : "IP Device",
    "parent" : "UQS60Nr1"
  },
  {
    "name" : "2x2",
    "guid" : "JM07fBTb",
    "class" : "Template",
    "parent" : "operatorgui_UQS60Nr1"
  }
]
```

Properties	Values	Description	Software version
"name"		System object name.	≥3.2
"guid"		Unique object identifier.	≥3.2
"class"	"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
"parent"		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-LrzsfxDr",
    "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/channel00_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/channel00_video_bitrate?sid=e03qD0eg
```



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Request for the state of the server's health

Example of a request:

```
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 a screenshot. Note the `"/` at the end; it is required.

Example of a request:

```
https://192.168.1.200:8080/screenshot/HTwUsj8U?timestamp=20140225T112001&sid=XOhiEj3I
```

The request uses the following parameters:

- **HTwUsj8U** - The GUID of the channel from which a screenshot is being 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.

- **sid=XOhiEj3I** - The session ID.

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

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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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" : "TRASSIR TR-D7101IR1",
      "rights" : "783",
      "codec" : "h264",
      "have_mainstream" : "1",
      "have_substream" : "1",
      "have_hardware_archive": "0",
      "have_ptz" : "0",
      "fish_eye": 0,
      "have_voice_comm": "0",
      "aspect_ratio": "16:9",
      "flip": "hmirror",
      "rotate": "",
      "server_name": "e.evseenkova@trassir.com",
      "server_guid": "CLDY-dba8d35263c06537"
    }
  ],
  "zombies" : [
    {
      "guid" : "exQtceka",
      "name" : "DS-2DF7284-A 1",
      "rights" : "783"
    },
    {
      "guid" : "jrR09DoE",
      "name" : "AC-D7121IR1v2 2",
      "netrec_server_name": "",
      "rights" : "783"
    }
  ],
  "templates" : [
    {
      "guid" : "JM07fBTb",
      "name" : "2x2",
      "columns" : "2",
      "rows" : "2",
      "channels" : [
        "kKHVfblS",
        "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=pcmu**).

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).

Examples of the **Token** request from the **channel=CKq5LLiO** channel:

- 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

Example of a request:


https://192.168.1.200:8080/lpr_events?sid=zxRc8Y7w

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" : []
},
{
  "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" : []
}
]
```

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
"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

Properties	Values	Description	Software version
" <i>template</i> "		AutoTRASSIR template used for license plate number detection	≥3.1
" <i>time_bestview</i> "		The time the license plate number is recognized most qualitatively	≥3.1
" <i>time_enter</i> "		Time of the license plate appearance in the detection zone	≥3.1
" <i>time_leave</i> "		Time of the license plate number leaving the detection zone	≥3.1
" <i>track_points</i> "		The recognized numbers coordinates. The example of the coordinate request is described below	≥3.1

 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 escribed 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	<i>LPR</i>
1	+2	<i>LPR</i>
2	+4	<i>LPR_E</i>
3	+8	<i>LPR_I</i>
4	+16	<i>LPR</i>
5	+32	<i>LPR_EX</i>

Bit number	Values	Flags
6	+64	<i>LPR_C</i>
29	+536 870 912	<i>LPR_F</i>
30	+1 073 741 824	<i>LPR_SE</i>
29,30	+1 610 612 736	<i>LPR_T</i>

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" : "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" : [
  {
    "h" : 8.25,
    "w" : 18.75,
    "x" : 41.5,
    "y" : 35.75
  },
  {
    "h" : 7.5,
    "w" : 17.25,
    "x" : 40,
    "y" : 37.25
  }
]
}
]

```

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": "G7D1uymM",
    "pos_terminal_name": "POS1",
    "position": "0",
    "price": 2750,
    "receipt_timestamp": "1315903058000000",
    "quantity": 1,
    "type": "POSNG_PAYMENT_CASH",
    "text": "",
    "weight": "0",
  },
  {
    "event_timestamp": "1575472220598461",
    "flags": 0,
    "op_id": "8262B3D2-DDE3-11E0-8E9D-0050FB005F2A",
    "pos_terminal": "G7D1uymM",
    "pos_terminal_name": "POS1",
    "position": "0",
    "price": "40100",
    "receipt_timestamp": "1315903058000000",
    "type": "POSNG_RECEIPT_CHANGE",
    "text": "",
    "quantity": "0",
    "weight": "0",
  },
  {
    "event_timestamp": "1575472227473028",
    "flags": 0,
    "op_id": "8262B3D2-DDE3-11E0-8E9D-0050FB005F2A",
    "pos_terminal": "G7D1uymM",
    "pos_terminal_name": "POS1",
    "price": "1250",
    "position": "0",
    "quantity": "0",
    "receipt_timestamp": "1315903058000000",
    "type": "POSNG_RECEIPT_NUMBER",
    "text": "7768-50797",
    "weight": "0",
  },
  {
    "event_timestamp": "1575472229976199",
    "flags": 0,
    "op_id": "8262B3D2-DDE3-11E0-8E9D-0050FB005F2A",
    "pos_terminal": "G7D1uymM",
    "pos_terminal_name": "POS1",
    "position": "0",
    "price": "16660",
    "quantity": "0",
    "receipt_timestamp": "1315903058000000",
    "text": "7768-50797",
    "type": "POSNG_RECEIPT_OPEN",
    "weight": "0",
  },
  {
    "event_timestamp": "1575472239973205",
    "flags": 0,
    "op_id": "8262B3D2-DDE3-11E0-8E9D-0050FB005F2A",
    "pos_terminal": "G7D1uymM",
    "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": "v9HGCU0A",
      "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": "u5gah7rpBQB0AAACCCAABA=="
  "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
" <i>person_server</i> "		GUID of server in the database of which information about the person is stored	≥4.1
" <i>score</i> "	from <i>0</i> to <i>10000</i>	The degree of similarity between the recognized person and the person from the DB	≥4.1
" <i>server</i> "		GUID of server from which the event was received	≥4.1
" <i>track_guid</i> "		Track identifier	≥4.2
" <i>ts_appeared</i> "		The time the face was recognized	≥4.1
" <i>ts_best_view</i> "		The time the face was recognized most qualitatively	≥4.1
" <i>ts_disappeared</i> "		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.

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=fjMlBJ0I
```

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=fjMlBJ0I
```

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=fjMlBJ0I
```

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=fjMlBJ0I
```

- Diaphragm setting:

```
https://192.168.1.200:8080/ptz?command=iris&speed=1&sid=fjMlBJ0I
```

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=fjMlBJ0I
```
- PTZ-camera rotation:

```
https://192.168.1.200:8080/ptz?command=turn&speed_x=1&speed_y=-1&sid=fjMlBJ0I
```

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=fjMlBJ0I
```

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*
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## 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 a request:

- 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×tamp=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 request:

- **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](#)
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## 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" : "iW1B1M1D",
 "time" : "2014-02-24 14:17:00",
 "speed" : "0.000000",
 "state" : "1",
 "state_desc" : "",
 "state_time" : "1393237022489381"
 }
]
```

In this example, the response contains:

- **"token" : "iW1B1M1D"** - 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" : "iW1B1M1D",
 "calendar" : [
 "2014-02-20",
 "2014-02-21",
 "2014-02-24"
]
 }
]
```

In this example, the response contains:

- **"token" : "iW1B1M1D"** - 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" : "iW1B1M1D",
 "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" : "iW1B1M1D"** - 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**.



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



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## 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/operatorgui_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/operatorgui_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/operatorgui_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;
- **operatorgui\_[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\_fliprotate"** - *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\"blurring\" : false,\n\t\t\t\"class_detection\" : \"head\", \n\t\t\t\"need_research_detectors\" : false\n\t\t}\n\t}\n",
 "created_ts" : "1571922911615786",
 "export_finish_ts" : "0",
 "export_start_ts" : "1571922911615786",
 "filename" : "C:/VMS/Screenshots/TR-D8121WDIRv2 1_20191024-132119--20191024-132727.avi",
 "fragments" :
 [
 {
 "channel" : "gK301b5k_OsnJuSGv",
 "end_ts" : "1571911565998605",
 "filename" : "",
 "start_ts" : "1571911180998846"
 },
 {
 "channel" : "gK301b5k_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=MdFYrjy
```

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&param2=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 |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| <i>manual_record_start</i> | Enable recording of channel archive.                                                                                                                                                                                                                                          | ≥3.1             |
| <i>manual_record_stop</i>  | Disable recording of channel archive.                                                                                                                                                                                                                                         | ≥3.1             |
| <i>ptz_position_query</i>  | Receive a position of PTZ-camera                                                                                                                                                                                                                                              | ≥3.2             |
| <i>ptz_preset</i>          | Switch PTZ-camera to preset<br>Parameter:<br><ul style="list-style-type: none"> <li>• <i>preset_n</i> (integer)</li> </ul>                                                                                                                                                    | ≥3.1             |
| <i>record</i>              | Parameter:<br><ul style="list-style-type: none"> <li>• <i>turn_on_record</i> (integer)</li> </ul>                                                                                                                                                                             | ≥3.1             |
| <i>record_off</i>          | Disable manual recording of channel archive.                                                                                                                                                                                                                                  | ≥3.1             |
| <i>record_on</i>           | Enable manual recording of channel archive.                                                                                                                                                                                                                                   | ≥3.1             |
| <i>screenshot</i>          | Save screenshot                                                                                                                                                                                                                                                               | ≥3.1             |
| <i>screenshot_ex</i>       | Save screenshot from an archive<br>Parameters:<br><ul style="list-style-type: none"> <li>• <i>timestamp</i> (string)</li> <li>• <i>directory</i> (string)</li> </ul>                                                                                                          | ≥3.1             |
| <i>screenshot_v2</i>       | Save screenshot from an archive<br>Parameters:<br><ul style="list-style-type: none"> <li>• <i>time_YYYYMMDD_HHMMSS</i> (string)</li> <li>• <i>screenshot_filename</i> (string)</li> <li>• <i>screenshot_folder</i> (string)</li> <li>• <i>make_thumb</i> (integer)</li> </ul> | ≥3.2             |
| <i>set_watermark</i>       | Add a text in a video<br>Parameters:<br><ul style="list-style-type: none"> <li>• <i>watermark_text</i> (string)</li> <li>• <i>value</i> (string)</li> <li>• <i>timestamp_position</i> (integer)</li> </ul>                                                                    | ≥3.1             |

## Operation methods with operator interface

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

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

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



## Operation methods with "Orion Pro" system

| Method                     | Description of methods and their parameters | Software version |
|----------------------------|---------------------------------------------|------------------|
| <i>refresh_device_list</i> | 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]

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-LrzsfxDr",
 "system_wide_options",
 "templates",
 "users",
 "webserver"
],
 "values" : [
 "name",
 "folder",
 "icon",
 "media_route"
]
}
```

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

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

Retrieve a value (R):

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

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

Write a value (W):

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

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

| values                              | Description                                                      | Type    |   | Software version |
|-------------------------------------|------------------------------------------------------------------|---------|---|------------------|
|                                     | <b>1</b> - yes, <b>0</b> - no                                    |         |   |                  |
| <b>db_is_slow</b>                   | Error - Databases work slowly:<br><b>1</b> - yes, <b>0</b> - no  | integer | R | ≥3.1             |
| <b>db_last_error</b>                | Last database error occurred                                     | string  | R | ≥3.1             |
| <b>disks_error_count</b>            | Disks errors:<br><b>1</b> - yes, <b>0</b> - no                   | integer | R | ≥3.1             |
| <b>disks_is_slow</b>                | Error - Disks work slowly:<br><b>1</b> - yes, <b>0</b> - no      | integer | R | ≥3.1             |
| <b>disks_last_error</b>             | Last disk error                                                  | string  | R | ≥3.1             |
| <b>disks_stalled</b>                |                                                                  | string  | R | ≥4.0             |
| <b>disks_stat_amerger_main_days</b> | Calculated value of main streams synchronization, days           | real    | R | ≥4.0             |
| <b>disks_stat_amerger_main_gb</b>   | Calculated value of main streams synchronization, gigabytes      | real    | R | ≥4.0             |
| <b>disks_stat_amerger_subs_days</b> | Calculated value of sub streams synchronization, days            | real    | R | ≥4.0             |
| <b>disks_stat_amerger_subs_gb</b>   | Calculated value of sub streams synchronization, gigabytes       | real    | R | ≥4.0             |
| <b>disks_stat_hwmerge_days</b>      | Calculated value of the device archive merge, days               | real    | R | ≥4.0             |
| <b>disks_stat_hwmerge_gb</b>        | Calculated value of the device archive merge, GB                 | real    | R | ≥4.0             |
| <b>disks_stat_main_days</b>         | Calculated value of main stream archive depth, days              | real    | R | ≥3.1             |
| <b>disks_stat_main_gb</b>           | Calculated value of main stream archive depth, gigabytes         | real    | R | ≥3.1             |
| <b>disks_stat_priv_days</b>         | Calculated value of privileged channels archive depth, days      | real    | R | ≥3.1             |
| <b>disks_stat_priv_gb</b>           | Calculated value of privileged channels archive depth, gigabytes | real    | R | ≥3.1             |
| <b>disks_stat_subs_days</b>         | Calculated value of sub stream archive depth, days               | real    | R | ≥3.1             |
| <b>disks_stat_subs_gb</b>           | Calculated value of sub stream archive depth, gigabytes          | real    | R | ≥3.1             |
| <b>features</b>                     |                                                                  | string  | R | ≥4.0             |
| <b>gpu_usage</b>                    | Video processor load, per cent                                   | real    | R | ≥4.0             |
| <b>grabberpack_level</b>            | ID devices driver version                                        | string  | R | ≥3.1             |
| <b>icon</b>                         | Path to the icon:<br><b>:/settings/thermometer.png</b>           | string  | R | ≥3.1             |
| <b>ifconfig_error</b>               |                                                                  | string  | R | ≥3.1             |
| <b>ip_devices_connected</b>         | Number of connected and working IP devices                       | integer | R | ≥3.1             |
| <b>ip_devices_total</b>             | Total amount of connected IP devices                             | integer | R | ≥3.1             |
| <b>iscsi_error</b>                  | Network storage connection error                                 | integer | R | ≥3.1             |
| <b>license_expires_in_sec</b>       | License expiration time, seconds                                 | integer | R | ≥4.0             |
| <b>license_info</b>                 | License info                                                     | string  | R | ≥4.0             |
| <b>license_type</b>                 | License type                                                     | string  | R | ≥4.0             |
| <b>licensed_unloaded_plugins</b>    |                                                                  | string  | R | ≥4.0             |
| <b>lm_connected</b>                 | License server connected:                                        | integer | R | ≥4.0             |

| values                               | Description                                                           | Type    |    | Software version |
|--------------------------------------|-----------------------------------------------------------------------|---------|----|------------------|
|                                      | <b>1</b> - yes, <b>0</b> - no                                         |         |    |                  |
| <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:<br><b>1</b> - yes, <b>0</b> - no       | integer | R  | ≥4.1             |
| <i>plugins_warning</i>               | Plugins have errors:<br><b>1</b> - yes, <b>0</b> - no                 | integer | R  | ≥4.1             |
| <i>scripts_ok</i>                    | Scripts work without mistakes:<br><b>1</b> - yes, <b>0</b> - 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:<br><b>1</b> - yes, <b>0</b> - 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<br><b>1</b> - yes, <b>0</b> - 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_kpalive_count",
 "dtun_hole_kpalive_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 |
|-------------|-------------|------------------|
| <i>news</i> |             | ≥3.1             |
| <i>stat</i> |             | ≥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 |
|---------------------------------------|------------------------------------------------------------------------|---------|----|------------------|
| <i>account_password</i>               | TRASSIR Cloud user password                                            | string  | RW | 3.1-3.2          |
| <i>account_username</i>               | TRASSIR Cloud username                                                 | string  | RW | 3.1-3.2          |
| <i>amerge_enable</i>                  | Archive merge to the cloud:<br><b>1</b> - enabled, <b>0</b> - disabled | integer | R  | ≥3.2             |
| <i>bind_to_cloud_user</i>             | Bind to the cloud user:<br><b>1</b> - yes, <b>0</b> - no               | integer | RW | ≥3.2             |
| <i>cloud_connect_enable</i>           | Cloud Connect enabled:<br><b>1</b> - yes, <b>0</b> - no                | integer | RW | ≥3.2             |
| <i>cloud_enable</i>                   | Cloud enabled:<br><b>1</b> - yes, <b>0</b> - no                        | integer | RW | 3.1              |
| <i>cloud_enabled</i>                  | Cloud enabled:<br><b>1</b> - yes, <b>0</b> - no                        | integer | RW | ≥4.0             |
| <i>cloud_host</i>                     |                                                                        |         |    | 3.1              |
| <i>cloud_host_binding</i>             |                                                                        |         |    | 3.3              |
| <i>cloud_login</i>                    | Cloud user login enabled:<br><b>1</b> - yes, <b>0</b> - no             | integer | RW | ≥3.3             |
| <i>cloudbackup_automatic</i>          | Automatic backup of the server configuration                           | integer | RW | ≥3.2             |
| <i>cloudbackup_download_now</i>       |                                                                        | string  | RW | ≥3.1             |
| <i>cloudbackup_last_made</i>          | Last server configuration cloud save                                   | string  | R  | ≥3.2             |
| <i>cloudbackup_upload_now</i>         |                                                                        | integer | RW | ≥3.2             |
| <i>depersonalised_stats_enabled</i>   | Anonymous stats enabled:<br><b>1</b> - yes, <b>0</b> - no              | integer | RW | ≥3.2             |
| <i>dtun_decay_timeout_sec</i>         |                                                                        | integer | R  | ≥4.1             |
| <i>dtun_hole_expire_timeout_sec</i>   |                                                                        | integer | R  | ≥4.1             |
| <i>dtun_hole_kpalive_count</i>        |                                                                        | integer | R  | ≥4.1             |
| <i>dtun_hole_kpalive_interval_sec</i> |                                                                        | integer | R  | ≥4.1             |
| <i>dtun_max_holes</i>                 |                                                                        | integer | R  | ≥4.1             |
| <i>dtun_num_fast_ports</i>            |                                                                        | integer | R  | ≥4.1             |
| <i>dtun_num_symm_ports</i>            |                                                                        | integer | R  | ≥4.1             |
| <i>dtun_probe_addr</i>                |                                                                        | string  | R  | ≥4.1             |
| <i>dtun_reconnect_timeout_sec</i>     |                                                                        | integer | R  | ≥4.1             |
| <i>dtun_rendezvous_addr</i>           |                                                                        | string  | R  | ≥4.1             |
| <i>enable_vtrassir</i>                |                                                                        | string  | R  | 3.3              |
| <i>export_ticket</i>                  |                                                                        | string  | R  | ≥3.3             |
| <i>export_username</i>                | User name in TRASSIR Cloud personal cabinet                            | string  | R  | ≥3.3             |
| <i>force_refresh</i>                  |                                                                        | integer | R  | ≥3.3             |
| <i>health_enable</i>                  |                                                                        | integer | RW | ≥3.2             |
| <i>import_channels_enabled</i>        | Display cloud channels:<br><b>1</b> - yes, <b>0</b> - no               | integer | RW | ≥3.2             |
| <i>import_username</i>                |                                                                        | string  | R  | ≥3.2             |
| <i>import_users_enable</i>            |                                                                        | integer | R  | ≥3.2             |
| <i>import_password</i>                |                                                                        | integer | R  | 3.2              |
| <i>predefined_user</i>                | TRASSIR Cloud local user login                                         | integer | RW | ≥3.2             |

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

Request to get the settings:

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]

| values     | Description | Type   |   | Software version |
|------------|-------------|--------|---|------------------|
| <i>url</i> |             | string | R | ≥3.1             |

Request for connection state parameters

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_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]`

| values                               | Description                                            | Type    |   | Software version |
|--------------------------------------|--------------------------------------------------------|---------|---|------------------|
| <b>balance</b>                       | Current balance                                        | string  | R | ≥3.1             |
| <b>balance_received</b>              | Balance refilled:<br><b>1</b> - yes, <b>0</b> - no     | integer | R | ≥4.0             |
| <b>cloud_backups</b>                 | Cloud backups                                          | string  | R | ≥3.2             |
| <b>cloud_license_backup</b>          | Cloud license backup:<br><b>1</b> - yes, <b>0</b> - no | integer | R | ≥4.0             |
| <b>cloudbackup_download_progress</b> |                                                        | integer | R | ≥3.2             |
| <b>cloudbackup_upload_progress</b>   |                                                        | integer | R | ≥3.2             |
| <b>connected</b>                     | Connection established                                 | integer | R | 3.1              |
| <b>export_accounts</b>               |                                                        | string  | R | ≥4.0             |
| <b>import_accounts</b>               |                                                        | string  | R | ≥4.0             |
| <b>kicked_out</b>                    |                                                        | integer | R | ≥4.0             |
| <b>last_error_code</b>               | Last error code                                        | string  | R | ≥3.1             |
| <b>last_error_code_bkp</b>           | Last backup copy error code                            | string  | R | ≥4.0             |
| <b>last_error_code_cc</b>            |                                                        | string  | R | ≥4.0             |
| <b>last_error_code_cl</b>            |                                                        | string  | R | ≥4.0             |
| <b>last_health_report</b>            | Last health status report                              | string  | R | ≥3.2             |
| <b>last_health_report</b>            | Last authorization                                     | string  | R | ≥3.2             |
| <b>last_registration_result</b>      |                                                        | string  | R | 3.2              |
| <b>local_httpserver_port</b>         | HTTP server port                                       | integer | R | ≥4.0             |
| <b>redirector_state</b>              |                                                        | string  | R | ≥4.0             |
| <b>update_message</b>                | 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",
 "prebuffer",
 "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 |
|--------------------|-------------------------------------------------------------------|------------------|
| <i>[disk_name]</i> | 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 |
|---------------------------------------|---------------------------------------------------------------------|---------|----|------------------|
| <i>add_mount_point_local8bit</i>      | Add local path to a new mounting point                              | string  | RW | ≥3.1             |
| <i>add_mount_point_stornix_iplist</i> | Add Stornix IP address to a new mounting point                      | string  | RW | ≥4.0             |
| <i>disks_black_list</i>               | Disks black list                                                    | string  | RW | ≥4.1             |
| <i>encryption_nonempty</i>            | The write password has been set:<br><b>0</b> - No<br><b>1</b> - Yes | integer | R  | 3.2              |
| <i>encryption_nonempty_rp</i>         | Archive reading password is set:<br><b>0</b> - No<br><b>1</b> - Yes | integer | R  | ≥3.2             |
| <i>encryption_nonempty_wp</i>         | Read write password set:<br><b>0</b> - No                           | integer | R  | ≥3.2             |

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

Response:

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

}

| <b>subdirs</b> | <b>Description</b>                                                               | <b>Software version</b> |
|----------------|----------------------------------------------------------------------------------|-------------------------|
| <b>stats</b>   | 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]`

| <b>values</b>                    | <b>Description</b>                                              | <b>Type</b> |    | <b>Software version</b> |
|----------------------------------|-----------------------------------------------------------------|-------------|----|-------------------------|
| <b>autodetected</b>              | Disk detected automatically:<br><b>0</b> - No<br><b>1</b> - Yes | integer     | R  | ≥3.1                    |
| <b>capacity_gb</b>               | Disk volume, gigabytes                                          | real        | R  | ≥3.1                    |
| <b>disk_id</b>                   | Disk ID                                                         | string      | R  | ≥3.1                    |
| <b>enable</b>                    | Disk connected:<br><b>0</b> - No<br><b>1</b> - Yes              | integer     | RW | ≥3.1                    |
| <b>forever_read_only</b>         | Always read only:<br><b>0</b> - No<br><b>1</b> - Yes            | integer     | R  | ≥3.1                    |
| <b>format</b>                    |                                                                 | string      | RW | ≥3.1                    |
| <b>format_needed</b>             | Formatting is required:<br><b>0</b> - No<br><b>1</b> - Yes      | integer     | R  | ≥3.1                    |
| <b>fsck_in_progress</b>          |                                                                 | integer     | RW | ≥3.2                    |
| <b>iqn</b>                       |                                                                 | string      | R  | ≥3.2                    |
| <b>model</b>                     |                                                                 | string      | R  | ≥3.1                    |
| <b>path_local8bit</b>            | Disk or mount point path                                        | string      | R  | ≥3.1                    |
| <b>read_only</b>                 | Read only:<br><b>0</b> - No<br><b>1</b> - Yes                   | integer     | RW | ≥3.1                    |
| <b>reserve_gb</b>                | Volume reserved on disk, gigabytes                              | real        | RW | ≥3.1                    |
| <b>serial</b>                    |                                                                 | string      | R  | ≥3.2                    |
| <b>stored_settings</b>           |                                                                 | integer     | R  | ≥4.0                    |
| <b>stornix_datacenter</b>        |                                                                 | string      | W  | ≥4.0                    |
| <b>stornix_datacenter_remote</b> |                                                                 | integer     | W  | ≥4.0                    |
| <b>stornix_iplist</b>            | List of Stornix IP addresses                                    | string      | RW | ≥4.0                    |
| <b>stornix_password</b>          | Stornix partition password                                      | string      | RW | ≥4.0                    |
| <b>system_drive</b>              | System drive:<br><b>0</b> - No<br><b>1</b> - Yes                | integer     | R  | ≥3.1                    |
| <b>unusable</b>                  | Unused:<br><b>0</b> - No<br><b>1</b> - 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 |
|--------------------------|--------------------------------------------------------|---------|----|------------------|
| <b>archive_size_days</b> | Archive depth, days                                    | integer | R  | ≥3.2             |
| <b>current_speed_mbs</b> | Current speed, Mbps                                    | real    | R  | ≥3.2             |
| <b>disk_read_mbs</b>     | Disk reading speed, Mbps                               | real    | R  | ≥3.2             |
| <b>disk_write_mbs</b>    | Disk writing speed, Mbps                               | integer | R  | ≥3.2             |
| <b>error_counter</b>     | Archive has errors:<br><b>0</b> - No<br><b>1</b> - Yes | integer | RW | ≥3.2             |
| <b>in_use_by_db</b>      | Used by database:<br><b>0</b> - No<br><b>1</b> - Yes   | integer | R  | ≥3.2             |
| <b>last_error_code</b>   | Last error code                                        | string  | RW | ≥3.2             |
| <b>set_error_code</b>    |                                                        | string  | RW | ≥4.1             |
| <b>sync_mode</b>         |                                                        | integer | R  | ≥3.2             |
| <b>unavailable</b>       | Unavailable:<br><b>0</b> - No<br><b>1</b> - 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 |
|--------------|-------------|------------------|
| <i>stats</i> |             | ≥3.1             |

Retrieve a value (R):

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

| values          | Description | Type    |   | Software version |
|-----------------|-------------|---------|---|------------------|
| <i>licensed</i> |             | integer | R | ≥3.1             |
| <i>setup</i>    |             | 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;UE1HFM9Y::-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 webservice settings

Request to get the settings:

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

Response:

```
{
 "name" : "webservice",
 "type" : "WebService",
 "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",
 "videosever_port"
]
}
```

Retrieve a value (R):

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

Write a value (W):

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

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

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

| values                    | Description                                                                                                        | Type    |    | Software version |
|---------------------------|--------------------------------------------------------------------------------------------------------------------|---------|----|------------------|
| <i>sdk_ptz</i>            | Allow PTZ control:<br><b>0</b> - yes, <b>1</b> - no<br>(see <a href="#">PTZ-camera control</a> )                   | integer | RW | ≥3.1             |
| <i>sdk_screenshot</i>     | Allow screenshot request:<br><b>0</b> - yes, <b>1</b> - no<br>(see <a href="#">Request a screenshot</a> )          | integer | RW | ≥3.1             |
| <i>sdk_settings_read</i>  | Allow settings reading:<br><b>0</b> - yes, <b>1</b> - no<br>(see <a href="#">Read and write server settings</a> )  | integer | RW | ≥3.1             |
| <i>sdk_settings_write</i> | Allows settings writing:<br><b>0</b> - yes, <b>1</b> - no<br>(see <a href="#">Read and write server settings</a> ) | integer | RW | ≥3.1             |
| <i>videoserver_port</i>   | 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 |
|----------------------|------------------------------------|------------------|
| <b>[report_GUID]</b> | 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 |
|-------------------------------|-------------|------|------------------|
| <b>create_now</b>             |             |      | ≥3.1             |
| <b>erase</b>                  |             |      | ≥3.1             |
| <b>new_template_guid</b>      |             |      | ≥3.1             |
| <b>new_template_name</b>      |             |      | ≥3.1             |
| <b>new_template_type</b>      |             |      | ≥3.1             |
| <b>supported_report_types</b> |             |      | ≥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]`

| values                               | Description | Type | Software version |
|--------------------------------------|-------------|------|------------------|
| <i>history</i>                       |             |      | ≥3.1             |
| <i>history_timestamps</i>            |             |      | ≥3.1             |
| <i>name</i>                          |             |      | ≥3.1             |
| <i>state_abort</i>                   |             |      | ≥3.1             |
| <i>state_auto_gen_next</i>           |             |      | ≥3.1             |
| <i>state_error</i>                   |             |      | ≥3.1             |
| <i>state_run_now</i>                 |             |      | ≥3.1             |
| <i>state_started_at</i>              |             |      | ≥3.1             |
| <i>template_auto_gen_periodicity</i> |             |      | ≥3.1             |
| <i>template_classes</i>              |             |      | ≥3.1             |
| <i>template_event_types</i>          |             |      | ≥3.1             |
| <i>template_f1</i>                   |             |      | ≥3.1             |
| <i>template_f2</i>                   |             |      | ≥3.1             |
| <i>template_fac_persons</i>          |             |      | ≥3.1             |
| <i>template_objects</i>              |             |      | ≥3.1             |
| <i>template_time_preset</i>          |             |      | ≥3.1             |
| <i>type</i>                          |             |      | ≥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 |
|-----------------------|-----------------------------------------------------------|---------|----|------------------|
| <b>dbhost</b>         | The address of the server where the database is installed | string  | RW | ≥3.1             |
| <b>dbname</b>         | The name of the database                                  | string  | RW | ≥3.1             |
| <b>dbpassword</b>     | The user's password                                       | string  | RW | ≥3.1             |
| <b>dbport</b>         | The server port                                           | string  | RW | ≥3.2             |
| <b>dbuser</b>         | The username                                              | string  | RW | ≥3.1             |
| <b>erase_old_days</b> | The record retention period, in days                      | integer | RW | ≥3.1             |
| <b>server_type</b>    | The type of server:<br><b>1</b> - 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]`

Response:

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

| subdirs             | Description                   | Software version |
|---------------------|-------------------------------|------------------|
| <b>Admin</b>        | Admin user settings           | ≥3.1             |
| <b>Demo</b>         | Demo user settings            | ≥3.1             |
| <b>Script</b>       | Settings of Script user       | ≥3.1             |
| <b>[GUID_user]</b>  | User settings                 | ≥3.1             |
| <b>[GUID_group]</b> | Settings of group user rights | ≥3.1             |
| <b>user_add</b>     | 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]`

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]`

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_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_user]/[setting]=[value]?sid=[id_session]

```

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

| values                        | Description                                                                            | Type    |    | Software version |
|-------------------------------|----------------------------------------------------------------------------------------|---------|----|------------------|
| <b>enable_remote</b>          | User is allowed remote connection:<br><b>0</b> - no, <b>1</b> - yes                    | integer | RW | ≥3.1             |
| <b>enable_web</b>             | User is allowed connecting via browser/mobile app:<br><b>0</b> - no, <b>1</b> - yes    | integer | RW | ≥4.1             |
| <b>from_cloud</b>             | Cloud user:<br><b>0</b> - no, <b>1</b> - yes                                           | integer | RW | ≥3.3             |
| <b>group</b>                  | User group GUID                                                                        | string  | RW | ≥3.2             |
| <b>group_changed</b>          |                                                                                        | integer | RW | ≥3.2             |
| <b>icon</b>                   | User/group icon path                                                                   | string  | RW | ≥3.1             |
| <b>internal_revision</b>      |                                                                                        | integer | RW | ≥3.2             |
| <b>last_login_address</b>     | Last user login address                                                                | string  | RW | ≥3.1             |
| <b>last_login_time</b>        | Last user login date and time in <i>UNIX time</i> format                               | string  | R  | ≥3.1             |
| <b>name</b>                   | Group/user name                                                                        | string  | RW | ≥3.1             |
| <b>notes</b>                  |                                                                                        | string  | RW | ≥3.1             |
| <b>password</b>               | User password                                                                          | string  | W  | ≥3.1             |
| <b>password_empty_warning</b> |                                                                                        | integer | RW | ≥3.1             |
| <b>ptz_priority</b>           | PTZ priority                                                                           | integer | RW | ≥3.1             |
| <b>random_passwords</b>       |                                                                                        | string  | W  | ≥3.3             |
| <b>roles</b>                  | Cloud user rights                                                                      | string  | R  | ≥4.0             |
| <b>saveable_icon</b>          | User/group icon path                                                                   | string  | RW | ≥3.1             |
| <b>settings_button</b>        | The "Settings" button is allowed to a user/group:<br><b>0</b> - no, <b>1</b> - yes     | integer | RW | ≥3.1             |
| <b>shutdown_button</b>        | Allow shutdown button                                                                  | integer | RW | ≥3.1             |
| <b>templates_managing</b>     | User/group is allowed template managing:<br><b>0</b> - no, <b>1</b> - yes              | integer | RW | ≥3.1             |
| <b>templates_sharing</b>      | User/group is allowed sharing templates to the cloud:<br><b>0</b> - no, <b>1</b> - yes | integer | RW | ≥4.0             |
| <b>timer_id</b>               |                                                                                        | string  | R  | ≥4.0             |
| <b>view_button</b>            | A "View" button is allowed user/group:<br><b>0</b> - no, <b>1</b> - 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               | Us                                |
|------------|---------------------|-----------------------------------|
| 3          | + 8                 | Settings allowed                  |
| 5          | + 32                | Archive bookmarks editing is a    |
| 6          | + 64                | User and script settings are allo |
| 8          | + 256               | Archive, screenshot export is a   |
| 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 PZT is not allowed          |
| 42         | + 4 398 046 511 104 | Listening to sound is not allowe  |

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](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 **PMPNyRZ** object:

<https://192.168.1.200:8080/settings/users/o7J4zntS/ac1=/PMPNyRZ/channels.2199023256576?sid=shMa536E>

In request:

- **o7J4zntS** - unique user guid;
- **PMPNyRZ** - 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*.



- *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 audit settings

Request to get the settings:

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

Response:

```
{
 "name" : "audit",
 "type" : "Audit",
 "subdirs" : [

],
 "values" : [

]
}
```



- *General form of a request*
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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 |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| <i>DVS_board[X]</i> | The name of the microprocessor belonging to the compression card processing the signal from the camera, where <i>[X]</i> 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" : [
 "channel00_audio_bitrate",
 "channel00_audio_codec",
 "channel00_audio_default",
 "channel00_audio_enabled",
 "channel00_bright_default",
 "channel00_brightness",
 "channel00_bz_setup",
 "channel00_codec",
 "channel00_color",
 "channel00_compression",
 "channel00_contrast",
 "channel00_deinterlace",
 "channel00_ext_audio_bitrate",
 "channel00_ext_audio_enabled",
 "channel00_ext_color",
 "channel00_ext_compression",
 "channel00_ext_enabled",
 "channel00_ext_fps",
 "channel00_ext_gop",
 "channel00_ext_resolution",
 "channel00_ext_video_bitrate",
 "channel00_ext_video_bitrate_type",
 "channel00_fps",
 "channel00_gop",
 "channel00_guid",
 "channel00_hue",
 "channel00_main_enabled",
 "channel00_md_enable",
 "channel00_md_setup",
 "channel00_mic_gain",
 "channel00_mic_volume",
 "channel00_record_mode_hardware",
 "channel00_resolution",
]
}
```

```

"channel00_saturation",
"channel00_video_bitrate",
"channel00_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 |
|-----------------|-------------|------------------|
| <b>bz_caps</b>  |             | ≥3.1             |
| <b>caps</b>     |             | ≥3.1             |
| <b>feedback</b> |             | ≥3.1             |
| <b>md_caps</b>  |             | ≥3.1             |

Retrieve a value (R):

```
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]
```

| values                            | Description | Type | Software version |
|-----------------------------------|-------------|------|------------------|
| <b>channel[XX]_audio_bitrate</b>  |             |      | ≥3.1             |
| <b>channel[XX]_audio_codec</b>    |             |      | ≥3.1             |
| <b>channel[XX]_audio_default</b>  |             |      | ≥3.2             |
| <b>channel[XX]_audio_enabled</b>  |             |      | ≥3.1             |
| <b>channel[XX]_bright_default</b> |             |      | ≥3.1             |
| <b>channel[XX]_brightness</b>     |             |      | ≥3.1             |
| <b>channel[XX]_bz_setup</b>       |             |      | ≥3.1             |
| <b>channel[XX]_codec</b>          |             |      | ≥3.1             |
| <b>channel[XX]_color</b>          |             |      | ≥3.1             |
| <b>channel[XX]_compression</b>    |             |      | ≥3.1             |
| <b>channel[XX]_contrast</b>       |             |      | ≥3.1             |
| <b>channel[XX]_deinterlace</b>    |             |      | ≥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 |
|----------------------------|-----------------------------------------------------------------------------------|---------|---|------------------|
| <i>grid_w</i>              |                                                                                   | integer | R | ≥3.1             |
| <i>maximum_rects_count</i> |                                                                                   | integer | R | ≥3.1             |
| <i>maximum_zones_count</i> |                                                                                   | integer | R | ≥3.1             |
| <i>parameter_name[X]</i>   | where<br><i>[X]</i> is the parameter's serial number (from <b>1</b> to <b>3</b> ) | string  | R | ≥3.1             |

Request for compression card capabilities:

[https://\[server\\_address\]:\[port\]/settings/boards/DVS\\_board\[X\]/caps/?sid=\[session\\_id\]](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=\[session\\_id\]](https://[server_address]:[port]/settings/boards/DVS_board[X]/caps/[setting]?sid=[session_id])

| values                      | Description | Type    |   | Software version |
|-----------------------------|-------------|---------|---|------------------|
| <i>audio_capabilities</i>   |             | integer | R | ≥3.1             |
| <i>audio_channel_count</i>  |             | integer | R | ≥3.1             |
| <i>audio_codecs</i>         |             | string  | R | ≥3.1             |
| <i>audio_sample_rates</i>   |             | string  | R | ≥3.1             |
| <i>defaults</i>             |             | string  | R | ≥3.1             |
| <i>gpio_input_count</i>     |             | integer | R | ≥3.1             |
| <i>gpio_output_count</i>    |             | integer | R | ≥3.1             |
| <i>grabber_capabilities</i> |             | integer | R | ≥3.1             |
| <i>presets</i>              |             | string  | R | ≥3.1             |
| <i>video_capabilities</i>   |             | integer | R | ≥3.1             |
| <i>video_channel_count</i>  |             | integer | R | ≥3.1             |
| <i>video_codecs</i>         |             | string  | R | ≥3.1             |

| values                              | Description | Type    |   | Software version |
|-------------------------------------|-------------|---------|---|------------------|
| <i>video_main_bitrate_max</i>       |             | integer | R | ≥3.1             |
| <i>video_main_bitrate_min</i>       |             | integer | R | ≥3.1             |
| <i>video_resolution_default</i>     |             | string  | R | ≥3.1             |
| <i>video_resolution_ext_default</i> |             | string  | R | ≥3.1             |
| <i>video_resolutions</i>            |             | string  | R | ≥3.1             |
| <i>video_resolutions_ext</i>        |             | string  | R | ≥3.1             |
| <i>video_sub_bitrate_max</i>        |             | integer | R | ≥3.1             |
| <i>video_sub_bitrate_min</i>        |             | integer | R | ≥3.1             |

Request to get a response:

[https://\[server\\_address\]:\[port\]/settings/boards/DVS\\_board\[X\]/feedback/?sid=\[session\\_id\]](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=\[session\\_id\]](https://[server_address]:[port]/settings/boards/DVS_board[X]/feedback/[setting]?sid=[session_id])

| values                    | Description          | Type    |   | Software version |
|---------------------------|----------------------|---------|---|------------------|
| <i>any_error</i>          | <b>0</b> - No errors | integer | R | ≥3.1             |
| <i>last_error_message</i> |                      | string  | R | ≥3.1             |
| <i>state</i>              |                      | integer | R | ≥3.1             |

Request for motion detector capabilities:

[https://\[server\\_address\]:\[port\]/settings/boards/DVS\\_board\[X\]/md\\_caps/?sid=\[session\\_id\]](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]

| 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             |
| <i>grid_w</i>               |                                                                                   | integer | R | ≥3.1             |
| <i>maximum_rects_count</i>  |                                                                                   | integer | R | ≥3.1             |
| <i>maximum_zones_count</i>  |                                                                                   | integer | R | ≥3.1             |
| <i>parameter_name[X]</i>    | where<br><i>[X]</i> is the parameter's serial number (from <b>1</b> to <b>3</b> ) | string  | R | ≥3.1             |



- *General form of a request*
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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 |
|----------------------|-------------------------------|------------------|
| <i>ip_camera_add</i> | Connection of a new IP device | ≥3.1             |
| <i>[camera_GUID]</i> | 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 |
|-------------------------------|------------------------------------------------|---------|---|------------------|
| <i>grabber_delete</i>         | Request for device removal                     | string  | W | ≥3.1             |
| <i>hw_analytics_available</i> |                                                | integer | R | ≥4.1             |
| <i>more_channels_licensed</i> | Total amount of licenses for adding IP devices | integer | R | ≥3.1             |
| <i>sw_dewarp_available</i>    | Device supports software dewarp                | integer | R | ≥4.0             |

Request to get the settings:

`https://[server_address]:[port]/settings/ip_cameras/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",
 "MJPEG",
 "ONVIF",
 "RTSP"
],
 "values" : [
 "families"
]
}
```

| subdirs                    | Description                                                             | Software version |
|----------------------------|-------------------------------------------------------------------------|------------------|
| <i>[manufacturer_name]</i> | IP device manufacturer name                                             | ≥3.1             |
| <i>File</i>                | Connected video files settings                                          | ≥3.1             |
| <i>ONVIF</i>               | ONVIF IP devices settings                                               | ≥3.1             |
| <i>RTSP</i>                | Settings of IP devices, connected via RTSP protocol                     | ≥3.1             |
| <i>MJPEG</i>               | 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=\[session\\_id\]](https://[server_address]:[port]/settings/ip_cameras/[setting]?sid=[session_id])

| values          | Description                         | Type   |   | Software version |
|-----------------|-------------------------------------|--------|---|------------------|
| <i>families</i> | 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=\[session\\_id\]](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=\[session\\_id\]](https://[server_address]:[port]/settings/ip_cameras/ip_camera_add/[manufacturer_name]/[setting]?sid=[session_id])

| values                   | Description          | Type   |    | Software version |
|--------------------------|----------------------|--------|----|------------------|
| <i>allocated_guid</i>    |                      | string | R  | ≥3.1             |
| <i>autodetect_result</i> | Autodetection result | string | RW | ≥3.2             |
| <i>autodetect_status</i> | Autodetection status | string | RW | ≥3.2             |

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

Request to get the settings:

`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",
 "channel00_analytics_setup",
 "channel00_audio_bitrate",
 "channel00_audio_codec",
 "channel00_audio_default",
 "channel00_audio_enabled",
 "channel00_audio_sample_rate",
```

```
"channel00_bright_default",
"channel00_brightness",
"channel00_bz_setup",
"channel00_camera_matrix",
"channel00_codec",
"channel00_color",
"channel00_compression",
"channel00_contrast",
"channel00_deinterlace",
"channel00_distortion_coeff",
"channel00_distortion_model",
"channel00_ext_audio_bitrate",
"channel00_ext_audio_enabled",
"channel00_ext_color",
"channel00_ext_compression",
"channel00_ext_enabled",
"channel00_ext_fps",
"channel00_ext_gop",
"channel00_ext_resolution",
"channel00_ext_video_bitrate",
"channel00_ext_video_bitrate_restriction",
"channel00_ext_video_bitrate_type",
"channel00_extcal_points",
"channel00_fps",
"channel00_gop",
"channel00_guid",
"channel00_hue",
"channel00_interval_capture_msec",
"channel00_main_enabled",
"channel00_md_enable",
"channel00_md_setup",
"channel00_mds_setup",
"channel00_mic_gain",
"channel00_output_mic_volume",
"channel00_record_mode_hardware",
"channel00_resolution",
"channel00_roi_setup",
"channel00_saturation",
"channel00_sd_enable",
"channel00_sd_sample_mult",
"channel00_sd_threshold",
"channel00_video_bitrate",
"channel00_video_bitrate_restriction",
"channel00_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 |
|--------------------------------------------------|-----------------------------------------------------------|---------|----|------------------|
| <b>autodetect</b>                                |                                                           | string  | R  | ≥3.2             |
| <b>channel[XX]_audio_bitrate</b>                 | Audio bitrate                                             | integer | RW | ≥3.1             |
| <b>channel[XX]_audio_codec</b>                   | Audio codec                                               | string  | RW | ≥3.1             |
| <b>channel[XX]_audio_default</b>                 | Default audio settings                                    | integer | RW | ≥3.2             |
| <b>channel[XX]_audio_default</b>                 | Sound on                                                  | integer | RW | ≥3.1             |
| <b>channel[XX]_audio_sample_rate</b>             | Sampling frequency                                        | string  | RW | ≥4.0             |
| <b>channel[XX]_bright_default</b>                | Default brightness                                        | integer | RW | ≥3.1             |
| <b>channel[XX]_brightness</b>                    | Brightness                                                | integer | RW | ≥3.1             |
| <b>channel[XX]_bz_setup</b>                      |                                                           | string  | RW | ≥3.1             |
| <b>channel[XX]_camera_matrix</b>                 |                                                           | string  | RW | ≥4.0             |
| <b>channel[XX]_codec</b>                         | Video codec                                               | string  | RW | ≥3.1             |
| <b>channel[XX]_color</b>                         | Color                                                     | integer | RW | ≥3.1             |
| <b>channel[XX]_compression</b>                   | Compression                                               | integer | RW | ≥3.1             |
| <b>channel[XX]_contrast</b>                      | Contrast                                                  | integer | RW | ≥3.1             |
| <b>channel[XX]_deinterlace</b>                   |                                                           | integer | RW | ≥3.1             |
| <b>channel[XX]_distortion_coeff</b>              |                                                           | string  | RW | ≥4.0             |
| <b>channel[XX]_distortion_model</b>              |                                                           | string  | RW | ≥4.0             |
| <b>channel[XX]_ext_audio_bitrate</b>             |                                                           | integer | RW | ≥3.1             |
| <b>channel[XX]_ext_audio_enabled</b>             | Substream sound is on:<br><b>0</b> - no, <b>1</b> - yes   | integer | RW | ≥3.1             |
| <b>channel[XX]_ext_color</b>                     | Substream color                                           | integer | RW | ≥3.1             |
| <b>channel[XX]_ext_compression</b>               | Substream compression                                     | integer | RW | ≥3.1             |
| <b>channel[XX]_ext_enabled</b>                   | Channel substream is on:<br><b>0</b> - no, <b>1</b> - yes | integer | RW | ≥3.1             |
| <b>channel[XX]_ext_fps</b>                       | Substream FPS                                             | integer | RW | ≥3.1             |
| <b>channel[XX]_ext_gop</b>                       | Substream GOP                                             | integer | RW | ≥3.1             |
| <b>channel[XX]_ext_resolution</b>                | Substream resolution                                      | string  | RW | ≥3.1             |
| <b>channel[XX]_ext_video_bitrate</b>             | Substream video bitrate                                   | string  | RW | ≥3.1             |
| <b>channel[XX]_ext_video_bitrate_restriction</b> |                                                           | integer | RW | ≥4.0             |
| <b>channel[XX]_ext_video_bitrate_type</b>        | Substream bitrate type                                    | integer | RW | ≥3.1             |
| <b>channel[XX]_extcal_points</b>                 |                                                           | integer | RW | ≥4.0             |
| <b>channel[XX]_fps</b>                           | FPS                                                       | integer | RW | ≥3.1             |

| values                                       | Description                                                                                | Type    |    | Software version |
|----------------------------------------------|--------------------------------------------------------------------------------------------|---------|----|------------------|
| <i>channel[XX]_gop</i>                       | GOP                                                                                        | integer | RW | ≥3.1             |
| <i>channel[XX]_guid</i>                      | Channel ID on device                                                                       | string  | RW | ≥3.1             |
| <i>channel[XX]_hue</i>                       |                                                                                            | integer | RW | ≥3.1             |
| <i>channel[XX]_interval_capture_msec</i>     |                                                                                            | integer | RW | ≥4.0             |
| <i>channel[XX]_main_enabled</i>              | Channel main stream is on:<br><b>0</b> - no, <b>1</b> - yes                                | integer | RW | ≥3.1             |
| <i>channel[XX]_mapping_rvec</i>              |                                                                                            | integer | RW | ≥4.0             |
| <i>channel[XX]_mapping_tvec</i>              |                                                                                            | integer | RW | ≥4.0             |
| <i>channel[XX]_md_enable</i>                 | Channel motion detector is enabled:<br><b>0</b> - no, <b>1</b> - yes                       | integer | RW | ≥3.1             |
| <i>channel[XX]_md_setup</i>                  | Motion detector settings                                                                   | string  | RW | ≥3.1             |
| <i>channel[XX]_mds_setup</i>                 |                                                                                            | string  | RW | ≥3.2             |
| <i>channel[XX]_mic_gain</i>                  |                                                                                            | integer | RW | ≥3.2             |
| <i>channel[XX]_mic_volume</i>                |                                                                                            | integer | RW | ≥3.2             |
| <i>channel[XX]_output_mic_volume</i>         |                                                                                            | integer | RW | ≥3.2             |
| <i>channel[XX]_record_mode_hardware</i>      |                                                                                            | integer | RW | ≥3.1             |
| <i>channel[XX]_resolution</i>                | Resolution                                                                                 | string  | RW | ≥3.1             |
| <i>channel[XX]_roi_setup</i>                 | ROI Settings                                                                               | string  | RW | ≥3.2             |
| <i>channel[XX]_saturation</i>                |                                                                                            | integer | RW | ≥3.1             |
| <i>channel[XX]_sd_enable</i>                 |                                                                                            | integer | RW | ≥4.0             |
| <i>channel[XX]_sd_sample_mult</i>            |                                                                                            | integer | RW | ≥4.0             |
| <i>channel[XX]_sd_threshold</i>              |                                                                                            | integer | RW | ≥4.0             |
| <i>channel[XX]_video_bitrate</i>             |                                                                                            | integer | RW | ≥3.1             |
| <i>channel[XX]_video_bitrate_restriction</i> |                                                                                            | integer | RW | ≥4.0             |
| <i>channel[XX]_video_bitrate_type</i>        |                                                                                            | integer | RW | ≥3.1             |
| <i>channels_enabled</i>                      | The IP device is enabled:<br><b>0</b> - no, <b>1</b> - yes                                 | integer | R  | ≥3.1             |
| <i>channels_hardware_dewarp</i>              | Hardware image dewarp                                                                      | integer | R  | ≥3.1             |
| <i>connection_ip</i>                         | The IP address of the connected device                                                     | string  | RW | ≥3.1             |
| <i>connection_password</i>                   | User password                                                                              | string  | W  | ≥3.1             |
| <i>connection_port</i>                       | The device's connection port                                                               | integer | RW | ≥3.1             |
| <i>connection_username</i>                   | The username                                                                               | string  | RW | ≥3.1             |
| <i>created_manually</i>                      | Added manually:<br><b>0</b> - no, <b>1</b> - yes                                           | integer | R  | ≥4.1             |
| <i>economy_mode</i>                          | Economy mode is on:<br><b>0</b> - no, <b>1</b> - yes                                       | integer | RW | ≥3.1             |
| <i>economy_mode_heart_beat_seconds</i>       | The maximal time in seconds during which the server waits for a response from an IP device | integer | RW | ≥3.1             |
| <i>economy_mode_use_md</i>                   |                                                                                            | integer | RW | ≥3.1             |
| <i>extra_flags</i>                           |                                                                                            | integer | RW | ≥3.2             |
| <i>family</i>                                | The IP device's manufacturer                                                               | string  | R  | ≥3.1             |
| <i>firmware_file_path</i>                    | 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:<br><b>0</b> - no, <b>1</b> - 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:<br><b>-1</b> - are not supported, <b>0</b> - are missing, <b>1</b> - operate properly                                                | integer | R  | ≥3.1             |
| <i>hw_analytics_licensed_channels</i> |                                                                                                                                           | integer | RW | ≥4.0             |
| <i>icon</i>                           | The IP device's icon:<br><b>:/settings/grabber.png</b> - Device is enabled<br><b>:/settings/grabber-disabled.png</b> - Device is disabled | string  | R  | ≥3.1             |
| <i>iframe_md</i>                      |                                                                                                                                           | integer | RW | ≥3.2             |
| <i>input[YY]_enable</i>               | Use input:<br><b>0</b> - no, <b>1</b> - 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:<br><b>0</b> - unlocked <b>1</b> - 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<br><b>0</b> - no, <b>1</b> - 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:<br><b>0</b> - no, <b>1</b> - 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:<br><b>0</b> - disabled on start, <b>1</b> - enabled on start <b>2</b> - save state                                       | integer | RW | ≥3.1             |
| <i>ptz_associated_with</i>            | Associated PTZ channel:<br><b>0</b> - do not use                                                                                          | integer | RW | ≥3.1             |
| <i>reboot</i>                         | Reload IP device:<br><b>1</b> - yes                                                                                                       | integer | W  | ≥3.1             |
| <i>setup_enabled</i>                  | Setting enabled:<br><b>0</b> - no, <b>1</b> - 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 |
|---------------------------|--------------------------------------------------|---------|----|------------------|
|                           | <b>0</b> - no, <b>1</b> - yes                    |         |    |                  |
| <b>synchronize_time</b>   | Synchronize time on IP device:<br><b>1</b> - yes | integer | RW | ≥3.1             |
| <b>tube_version</b>       |                                                  | integer | R  | ≥4.0             |
| <b>utc_offset_minutes</b> |                                                  | string  | RW | ≥4.0             |
| <b>video_buffer_size</b>  |                                                  | integer | RW | ≥3.1             |
| <b>web_page</b>           | 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.



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

## 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",
 "j1qB4f00"
],
 "values" : [
 "dumps",
 "port_create_now",
 "port_erase",
 "port_new_guid",
 "supported_ptz_protocols",
 "moxa_ports_connected",
 "moxa_ports_total"
]
}
```

| subdirs            | Description          | Software version |
|--------------------|----------------------|------------------|
| <b>[GUID_port]</b> | 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 |
|--------------------------------|---------------------------|---------|----|------------------|
| <b>dumps</b>                   |                           | integer | RW | ≥3.1             |
| <b>port_create_now</b>         | New port creation request | string  | RW | ≥3.1             |
| <b>port_erase</b>              | Port removal request      | string  | W  | ≥3.1             |
| <b>port_new_guid</b>           | Last connected port GUID  | string  | R  | ≥3.1             |
| <b>supported_ptz_protocols</b> | Supported PTZ protocols   | string  | R  | ≥3.1             |
| <b>moxa_ports_connected</b>    | Connected MOXA ports      | integer | R  | ≥3.2             |
| <b>moxa_ports_total</b>        | 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",
 "port_name",
 "stop_bits"
]
}

```

| subdirs               | Description                 | Software version |
|-----------------------|-----------------------------|------------------|
| <i>[GUID_channel]</i> | 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 |
|-----------------------|----------------------------------------------------------|---------|----|------------------|
| <i>baud_rate</i>      | Speed                                                    | integer | RW | ≥3.1             |
| <i>create_now_fac</i> | Manual panel adding request                              | integer | RW | ≥3.1             |
| <i>create_now_ptz</i> | PTZ device adding request                                | integer | RW | ≥3.1             |
| <i>data_bits</i>      | Data bits                                                | integer | RW | ≥3.1             |
| <i>erase_now</i>      |                                                          | string  | W  | ≥3.1             |
| <i>flow_control</i>   | Stream control enabled:<br><b>0</b> - no, <b>1</b> - yes | integer | RW | ≥3.1             |
| <i>new_guid</i>       | New GUID                                                 | string  | R  | ≥3.1             |
| <i>parity</i>         | Parity:<br><b>0</b> - even, <b>1</b> - uneven            | integer | RW | ≥3.1             |
| <i>port_name</i>      | Port name                                                | string  | RW | ≥3.1             |
| <i>stop_bits</i>      | 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]`

Write a value (W):

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

| values                        | Description        | Type    |    | Software version |
|-------------------------------|--------------------|---------|----|------------------|
| <i>ctime</i>                  |                    | real    | RW | ≥3.1             |
| <i>device_id</i>              | Device ID          | integer | RW | ≥3.1             |
| <i>ptz_associated_channel</i> | Associated channel | string  | RW | ≥3.1             |
| <i>ptz_associated_channel</i> | 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" : [
 "CROMi1H1",
 "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 |
|-----------------------|---------------------------------------|------------------|
| <b>[GUID_channel]</b> | 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 |
|--------------------------------|-----------------------------------------------------------|---------|---|------------------|
| <b>icon</b>                    | Path to the icon:<br><b>:/settings/setup-channels.png</b> | string  | R | ≥3.1             |
| <b>[module_name]_licensed</b>  | Number of free licenses for plugin <b>[plugin_name]</b>   | integer | R | ≥3.1             |
| <b>[plugin_name]_total</b>     | Total amount o licenses for the given plugin on channel   | integer | R | ≥4.0             |
| <b>[plugin_name]_used</b>      | Plugin used on channel                                    | integer | R | ≥4.0             |
| <b>[plugin_name]_available</b> | 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" : "CROMi1H1",
 "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_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 |
|----------------------|---------------------------------------------------------------|------------------|
| <i>arch_stats</i>    | Channel archive recording stats                               | ≥4.0             |
| <i>flags</i>         | Flags for the channel's current state                         | ≥3.1             |
| <i>info</i>          | Channel info                                                  | ≥3.1             |
| <i>stats</i>         | The channel's current statistics                              | ≥3.1             |
| <i>optics</i>        | Optics settings (for models with the support of this setting) | ≥4.1             |
| <i>ptz</i>           | PTZ settings (for PTZ cameras)                                | ≥4.1             |
| <i>[plugin_name]</i> | 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 |
|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|----|------------------|
| <i>archive_minimal_days</i>        |                                                                                                                                                                   | integer | RW | 3.1-3.2          |
| <i>archive_minimal_days_enable</i> |                                                                                                                                                                   | string  | RW | 3.1-3.2          |
| <i>archive_storage_days_main</i>   |                                                                                                                                                                   | integer | RW | ≥4.0             |
| <i>archive_storage_days_sub</i>    |                                                                                                                                                                   | integer | RW | ≥4.0             |
| <i>archive_zombie_erase</i>        | Hide lost channel archive:<br><b>0</b> - no<br><b>1</b> - yes                                                                                                     | integer | RW | ≥3.1             |
| <i>archive_zombie_flag</i>         | Display <b>Hide lost channel archive</b> button in the settings:<br><b>0</b> - no<br><b>1</b> - yes                                                               | integer | RW | ≥3.1             |
| <i>aspect_ratio</i>                | Aspect ratio: <i>[along_the_horizontal]: [along_the_vertical]</i>                                                                                                 | string  | RW | ≥3.1             |
| <i>default_sound</i>               | Default sound                                                                                                                                                     | string  | RW | ≥4.1             |
| <i>detectors_decoder</i>           | Software detectors                                                                                                                                                | string  | RW | ≥4.0             |
| <i>detectors_source_stream</i>     | The stream being decompressed for the motion detector:<br><b>0</b> - Select automatically<br><b>1</b> - Primary stream<br><b>2</b> - Auxiliary stream (substream) | integer | RW | ≥3.1             |

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

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

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

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

| values                         | Description                                                                                                                                                                                       | Type    |    | Software version |
|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|----|------------------|
| <b>software_md_setup</b>       | Motion detector settings                                                                                                                                                                          | string  | RW | ≥3.1             |
| <b>software_sd_enable</b>      | Sound detector:<br><b>0</b> - Disable<br><b>1048576</b> - Any sound                                                                                                                               | integer | RW | ≥3.2             |
| <b>software_sd_threshold</b>   | Sound detector trigger threshold:<br>from <b>0</b> to <b>100</b>                                                                                                                                  | integer | RW | ≥3.2             |
| <b>sounds_setup</b>            | Sound settings                                                                                                                                                                                    | string  | RW | ≥4.1             |
| <b>thumbnail</b>               | Video preview                                                                                                                                                                                     | string  | R  | ≥3.1             |
| <b>use_hw_fd</b>               |                                                                                                                                                                                                   | integer | RW | ≥4.1             |
| <b>utc_offset_minutes</b>      |                                                                                                                                                                                                   | string  | RW | ≥4.0             |
| <b>watermark_text</b>          | Text on video                                                                                                                                                                                     | string  | RW | ≥3.1             |
| <b>watermark_text_position</b> | Location of text on video:<br><b>0</b> - Do not display<br><b>1</b> - Left upper corner<br><b>2</b> - Right upper corner<br><b>3</b> - Bottom left corner<br><b>4</b> - Bottom right corner       | integer | RW | ≥3.1             |
| <b>watermark_time_position</b> | Date and time location on video:<br><b>0</b> - Do not display<br><b>1</b> - Left upper corner<br><b>2</b> - Right upper corner<br><b>3</b> - Bottom left corner<br><b>4</b> - Bottom right corner | integer | RW | ≥3.1             |
| <b>workplace_setup</b>         | 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 |
|--------------------------------------|--------------------------------------------|---------|---|------------------|
| <i>archive_stat_data</i>             | Channel archive recording data             | string  | R | ≥4.0             |
| <i>forecast_gb_per_day</i>           | Estimated archive depth per day, GB        | real    | R | ≥4.0             |
| <i>gb_per_day</i>                    | Storage depth, GB                          | real    | R | ≥4.0             |
| <i>gb_per_day_reliable</i>           |                                            | integer | R | ≥4.0             |
| <i>gb_per_week</i>                   | Estimated archive depth per seven days, GB | integer | R | ≥4.0             |
| <i>gb_per_week_reliable</i>          |                                            | integer | R | ≥4.0             |
| <i>mainstream_depth</i>              | Mainstream depth, days                     | real    | R | ≥4.0             |
| <i>second_stream_days_presented</i>  |                                            | integer | R | ≥4.0             |
| <i>second_stream_gb_per_day</i>      |                                            | real    | R | ≥4.0             |
| <i>second_stream_gb_per_week</i>     |                                            | real    | R | ≥4.0             |
| <i>second_stream_hours_presented</i> |                                            | integer | R | ≥4.0             |
| <i>substream_depth</i>               | Substream depth, days                      | real    | R | ≥4.0             |
| <i>update_time</i>                   |                                            | 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 |
|-----------------------------|--------------------------------------------------------------------|---------|---|------------------|
| <b>abrmobj</b>              | Left object detector:<br><b>0</b> - Disable<br><b>1</b> - Enable   | integer | R | ≥4.0             |
| <b>activity</b>             |                                                                    | integer | R | ≥3.3             |
| <b>allow_dynamic_dewarp</b> |                                                                    | integer | R | ≥4.0             |
| <b>appearing</b>            |                                                                    | integer | R | ≥4.0             |
| <b>aruco_detection</b>      | ArUco detector:<br><b>0</b> - Disable<br><b>1</b> - Enable         | integer | R | ≥4.1             |
| <b>audio_detect</b>         | Sound detector:<br><b>0</b> - Off<br><b>1</b> - On                 | integer | R | ≥4.1             |
| <b>bag_detection</b>        | Bags counter:<br><b>0</b> - Off<br><b>1</b> - On                   | integer | R | ≥4.1             |
| <b>bitrate_exceeded</b>     | Bitrate exceeded:<br><b>0</b> - Yes<br><b>1</b> - No               | integer | R | ≥4.0             |
| <b>crossline</b>            | Border crossed:<br><b>0</b> - Yes<br><b>1</b> - No                 | integer | R | ≥3.3             |
| <b>direction</b>            | Motion in the preset direction:<br><b>0</b> - Yes<br><b>1</b> - No | integer | R | ≥4.0             |
| <b>entering</b>             | Zone intrusion:<br><b>0</b> - Yes<br><b>1</b> - No                 | integer | R | ≥4.0             |
| <b>exiting</b>              | Exiting zone:<br><b>0</b> - Yes<br><b>1</b> - No                   | integer | R | ≥4.0             |
| <b>explosion</b>            |                                                                    | integer | R | ≥4.1             |
| <b>face</b>                 | Face in a frame:<br><b>0</b> - No<br><b>1</b> - Yes                | integer | R | ≥3.1             |
| <b>fastmove</b>             |                                                                    | integer | R | ≥4.1             |
| <b>fire</b>                 | Fire in a frame:<br><b>0</b> - No<br><b>1</b> - Yes                | integer | R | ≥3.1             |
| <b>gathering</b>            |                                                                    | integer | R | ≥4.1             |
| <b>glassbreak</b>           |                                                                    | integer | R | ≥4.1             |
| <b>gunshot</b>              |                                                                    | integer | R | ≥4.1             |

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

| values                | Description                                          | Type    |   | Software version |
|-----------------------|------------------------------------------------------|---------|---|------------------|
|                       | <b>1</b> - Yes                                       |         |   |                  |
| <i>speed</i>          |                                                      | integer | R | ≥4.0             |
| <i>stop</i>           |                                                      | integer | R | ≥4.0             |
| <i>thermal_signal</i> |                                                      | integer | R | ≥4.0             |
| <i>voice</i>          | Voice in a frame:<br><b>0</b> - No<br><b>1</b> - 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 |
|----------------------------------|------------------------------------------------------------------|---------|---|------------------|
| <i>abandonment_status</i>        | Left object detector:<br><b>0</b> - Disable<br><b>1</b> - Enable | integer | R | ≥4.0             |
| <i>address_audio_main</i>        |                                                                  | string  | R | ≥3.1             |
| <i>address_audio_raw</i>         |                                                                  | string  | R | ≥3.1             |
| <i>address_audio_ss</i>          |                                                                  | string  | R | ≥3.1             |
| <i>address_figures_detector</i>  |                                                                  | string  | R | ≥3.1             |
| <i>address_figures_subtitles</i> |                                                                  | string  | R | ≥3.1             |
| <i>address_video_main</i>        |                                                                  | string  | R | ≥3.1             |

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

Request for the channel's current statistics:

`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>kpbs_hw_merge</i>       | Synchronization speed with the device archive | real   | R | ≥4.0             |
| <i>kpbs_main</i>           | Mainstream bitrate                            | real   | R | ≥3.1             |
| <i>kpbs_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             |



- *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 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 |
|--------------------------|--------------------|------------------|
| <i>cloudtrassir</i>      | Cloud connection   | 3.3              |
| <i>[GUID_connection]</i> | Connection ID      | ≥3.1             |
| <i>network_node_add</i>  | 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 |
|-------------------------------|----------------------------------------------------------------|---------|----|------------------|
| <i>banned_server_guids</i>    |                                                                |         |    | ≥4.0             |
| <i>cloud_connect_enable</i>   | Connection via Cloud Connect:<br><b>0</b> - no, <b>1</b> - yes | integer | RW | ≥3.2             |
| <i>cloud_connect_login</i>    | Cloud user                                                     | string  | RW | ≥3.2             |
| <i>cloud_connect_password</i> | Password of cloud user                                         | string  | W  | ≥3.2             |
| <i>icon</i>                   | Network connection icon path                                   | string  | RW | ≥3.1             |
| <i>limit_client_count</i>     | Maximal number of connections to this server                   | string  | RW | ≥3.2             |
| <i>mnauth_available</i>       |                                                                | integer | R  | ≥3.2             |
| <i>offline_passwords</i>      |                                                                |         |    | ≥4.0             |
| <i>upnp_gate</i>              |                                                                | string  | RW | ≥4.0             |
| <i>upnp_prefix</i>            |                                                                | string  | RW | ≥4.0             |
| <i>video_protection_level</i> |                                                                | integer | RW | ≥4.1             |

Request to get connection settings:

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 |
|--------------|-----------------|------------------|
| <b>stats</b> | Connection info | ≥3.1             |

Retrieve a value (R):

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]

| values                         | Description                                                                                    | Type    |    | Software version |
|--------------------------------|------------------------------------------------------------------------------------------------|---------|----|------------------|
| <b>accepted_fingerprint</b>    | SSL Fingerprint                                                                                | string  | RW | ≥3.1             |
| <b>address_from_cc_success</b> |                                                                                                | integer | RW | ≥3.3             |
| <b>autocredentials</b>         | Local Cloud user automatic login:<br><b>0</b> - no, <b>1</b> - yes                             | integer | RW | ≥3.3             |
| <b>buffering</b>               |                                                                                                | integer | RW | ≥3.1             |
| <b>cc_mode</b>                 | Cloud Connect connection mode:<br><b>0</b> - auto, <b>1</b> - P2P only, <b>2</b> - enable DTUN | string  | RW | ≥4.0             |
| <b>cloud_id</b>                | Cloud identifier                                                                               | string  | RW | ≥3.1             |
| <b>disable_mainstream</b>      | Main stream disabled on all channels:<br><b>0</b> - no, <b>1</b> - yes                         | integer | RW | ≥3.1             |
| <b>economy_mode</b>            | Economy mode is on:<br><b>0</b> - no, <b>1</b> - yes                                           | integer | RW | ≥3.1             |
| <b>generated</b>               | Connection generated by script:<br><b>0</b> - no, <b>1</b> - 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:<br><b>0</b> - no, <b>1</b> - yes                 | integer | RW | ≥3.1             |
| <i>use_cloud_connect</i>       | Cloud Connect connection is used:<br><b>0</b> - no, <b>1</b> - 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:<br><b>0</b> - no, <b>1</b> - yes                                                               | integer | R | ≥3.1             |
| <i>connected_using</i>   |                                                                                                                        | string  | R | ≥4.0             |
| <i>dtun_connection</i>   | Connection via DTUN:<br><b>0</b> -disabled, <b>1</b> - enabled, <b>-1</b> - 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 |
|-------------------------|----------------------|---------|----|------------------|
| <i>last_error</i>       | Last error           | string  | R  | ≥3.1             |
| <i>relay_connection</i> | Connection via Cloud | integer | R  | ≥4.0             |
| <i>resolve_warning</i>  |                      | string  | R  | ≥3.1             |
| <i>trail_connection</i> |                      | integer | RW | ≥4.0             |

Request to create a new connection:

[https://\[address\\_server\]:\[port\]/settings/network/network\\_node\\_add/?sid=\[id\\_session\]](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=\[id\\_session\]](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=\[id\\_session\]](https://[address_server]:[port]/settings/network/network_node_add/[setting]=[value]?sid=[id_session])

| values                            | Description                       | Type    |    | Software version |
|-----------------------------------|-----------------------------------|---------|----|------------------|
| <i>create_now</i>                 | Create connection                 | integer | RW | ≥3.1             |
| <i>create_now</i>                 | Delete connection                 | integer | W  | ≥3.1             |
| <i>new_node_autocredentials</i>   | Automatic login under local user  | string  | W  | ≥3.3             |
| <i>new_node_cloud_id</i>          | New cloud identifier              | string  | W  | ≥3.3             |
| <i>new_node_economy</i>           | New connection economy mode       | string  | W  | ≥3.3             |
| <i>new_node_generated</i>         |                                   | string  | W  | ≥3.3             |
| <i>new_node_id</i>                | New connection identifier         | string  | W  | ≥3.1             |
| <i>new_node_name</i>              | New connection name or IP address | string  | RW | ≥3.1             |
| <i>new_node_password</i>          | Password                          | string  | W  | ≥3.1             |
| <i>new_node_port_rpc</i>          | Port (control)                    | integer | RW | ≥3.1             |
| <i>new_node_port_video</i>        | Port (video)                      | integer | RW | ≥3.1             |
| <i>new_node_use_cloud_connect</i> | New connection via Cloud Connect  | integer | RW | ≥3.2             |
| <i>new_node_username</i>          | 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 |
|---------------------|-------------------------------------------------------------------------|------------------|
| <b>[scene_GUID]</b> | 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 |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|---------|----|------------------|
| <b>fix_licensed_left</b> | Number of available licenses for adding overview cameras.                                                                                                | integer | RW | ≥3.1             |
| <b>ptz_licensed_left</b> | Number of available licenses for adding PTZ cameras.                                                                                                     | integer | RW | ≥3.1             |
| <b>scene_erase</b>       | The command to delete an ActiveDome scene. The scene GUID is used as a parameter.<br><br><code>/settings/ad/scene_erase=[scene_GUID]?sid=e03qD0eg</code> | string  | W  | ≥3.1             |
| <b>scene_create_now</b>  | The command to create a new ActiveDome scene. When a scene is created it will be assigned a GUID from the <b>scene_new_guid</b> setting.                 | integer | RW | ≥3.1             |
| <b>scene_new_guid</b>    | The GUID of the next ActiveDome scene to be created using the <b>scene_create_now</b> 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]`

**Write a value (W):**

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

| values                | Description                                                                                  | Type    |    | Software version |
|-----------------------|----------------------------------------------------------------------------------------------|---------|----|------------------|
| <b>corrupted</b>      |                                                                                              | integer | R  | ≥3.1             |
| <b>enable_plus</b>    | Enable automatic object tracking using SIMT (ActiveDome+)<br><b>0</b> - No<br><b>1</b> - Yes | integer | RW | ≥3.1             |
| <b>fix_list</b>       | Comma-delimited GUIDs of channels included in the list of overview cameras.                  | string  | RW | ≥3.1             |
| <b>name</b>           | The name of the scene                                                                        | string  | RW | ≥3.1             |
| <b>ptz_list</b>       | Comma-delimited GUIDs of channels included in the list of PTZ cameras.                       | string  | RW | ≥3.1             |
| <b>switch_timeout</b> | 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 |
|------------------------------------|-------------|---------|----|------------------|
| <i>extdb_new_guid</i>              |             | string  | W  | ≥3.1             |
| <i>extdb_name</i>                  |             | string  | W  | ≥3.1             |
| <i>extdb_dbname</i>                |             | string  | W  | ≥3.2             |
| <i>license_total</i>               |             | string  | W  | ≥3.1             |
| <i>license_countries</i>           |             | string  | W  | ≥3.1             |
| <i>parking_rate_per_minute_day</i> |             | string  | W  | ≥3.1             |
| <i>extdb_create_now</i>            |             | integer | RW | 3.1              |
| <i>parking_entrance_fee</i>        |             | string  | W  | ≥3.1             |
| <i>extdb_direction</i>             |             | string  | W  | ≥3.1             |

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



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