

**VAPIX® VERSION 3**

**General System Settings**



# General System Settings

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# General System Settings

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## 1 Overview

### 1.1 Description

The HTTP-based video interface provides the functionality for configuring system settings. This document describes the general syntaxes, requests and values that are used for general configurations of your Axis product.

The following CGIs are described in this document:

|                                     |   |
|-------------------------------------|---|
| <code>pwdgrp.cgi</code>             | Add, delete and manage user accounts.   |
| <code>factorydefault.cgi</code>     | Reload factory default. Some parameters are not set to their factory default value. |
| <code>hardfactorydefault.cgi</code> | Reload factory default. All parameters are set to their factory default value.      |
| <code>firmwareupgrade.cgi</code>    | Upgrade the firmware version.   |
| <code>restart.cgi</code>            | Restart the Axis product.   |
| <code>serverreport.cgi</code>       | Get a server report from the Axis product.  |
| <code>systemlog.cgi</code>          | Get system log information.   |
| <code>accesslog.cgi</code>          | Get client log information.   |
| <code>date.cgi</code>               | Get or set the system date and time.  |

#### 1.1.1 URL Encoding

The URL for a request shall use the character encoding ISO/IEC 8859-1. The URL for a request must follow the standard way of writing a URL, (RFC 3986: Uniform Resource Identifiers (URI) Generic Syntax); that is, spaces and other reserved characters (";", "/", "?", ":", "@", "&", "=", "+", ",", "\$") within a *<argument>* or a *<value>* must be replaced with %<ASCII hex>.

## 1.2 Prerequisites

### 1.2.1 Identification

**Property:** `Properties.API.HTTP.Version=3`  
**Firmware:** 5.00 and later.

## 1.3 References

All VAPIX® references are available at:

<http://www.axis.com/vapix>

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## 2 Configurations

### 2.1 Add, Modify and Delete User Accounts

The `pwdgrp.cgi` is used to add a new user account with password and group membership, modify the information and remove a user account.

**Access control:** admin

**Method:** GET/POST

```
http://<servername>/axis-cgi/pwdgrp.cgi  
<argument>=<value> [&<argument>=<value>...]
```

With the following arguments and values:

| Argument  | Valid values                                    | Description  |
|---|---|--|
| <code>action=&lt;string&gt;</code>                                | add<br>update<br>remove<br>get                  | add = Create a new user account.<br>update = Change user account information of specified parameters if the user account exists.<br>remove = Remove an existing user account if it exists.<br>get = Get a list of the user accounts which belong to each group defined.  |
| <code>user=&lt;string&gt;<sup>1</sup></code>                      | A string  | The user account name (1-14 characters), a non-existing user account name. Valid characters are a-z, A-Z and 0-9.  |
| <code>pwd=&lt;string&gt;<sup>1</sup></code>                       | A string  | The unencrypted password (1-64 characters) for the account. ASCII characters from character code 32 to 126 are valid.  |
| <code>grp=&lt;string&gt;<sup>1</sup></code>                       | A string  | An existing primary group name of the account. The recommended value for this argument is <code>users</code> .   |
| <code>sgrp=&lt;string&gt; [:&lt;string&gt;...<sup>1</sup>]</code> | <code>&lt;string&gt;[:&lt;string&gt;...]</code> | Colon separated existing secondary group names of the account. This argument sets the user access rights for the user account.<br><br>The recommended values for this group are:<br><code>viewer</code> = Viewer access rights.<br><code>operator</code> = Operator and viewer access rights.<br><code>admin</code> = Admin, operator and viewer access rights.<br><code>ptz</code> = Access rights for PTZ control. |

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|   |          |   |
|---|----------|---|
|   |          | To create a user account with admin access rights the other user groups (viewer and operator) also need to be added to the request as shown in the first example below. |
| <code>comment=&lt;string&gt;<sup>1</sup></code> | A string | The comment field of the account.   |

1. Required if `action=add`. Adding a value to `comment` is optional.

### Example 1:

Create a new user account with viewer, operator, administrator and PTZ rights. The rights are set with the argument `sgrp` (secondary group).

```
http://myserver/axis-cgi/pwdgrp.cgi?action=add
&user=joe&pwd=foo&grp=users&sgrp=viewer:operator:admin:ptz&comment=Joe
```

### Response

**HTTP Code:** 200 OK

**Content-Type:** text/html

```
Created account joe.
```

### Example 2:

Change the password of an existing account.

```
http://myserver/axis-cgi/pwdgrp.cgi?action=update&user=joe&pwd=bar
```

### Response

**HTTP Code:** 200 OK

**Content-Type:** text/html

```
Modified account joe.
```

### Example 3:

Remove an account.

```
http://myserver/axis-cgi/pwdgrp.cgi?action=remove&user=joe
```

### Response

**HTTP Code:** 200 OK

**Content-Type:** text/html

```
Removed account joe.
```

### Example 4:

List groups and users.

```
http://myserver/axis-cgi/pwdgrp.cgi?action=get
```

### Response:

**HTTP Code:** 200 OK

**Content-Type:** text/html

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```
root="root"
bin="root,bin,daemon"
daemon="root,bin,daemon"
sys="root,bin"
tty="ptzadm"
disk="root,axisns,event,streamer,motion"
lp="daemon"
mem=""
kmem=""
wheel="root"
mail=""
audio="streamer"
shadow="streamer"
utmp="streamer"
video="daemon,video_ctrlld,triggerd,streamer,motion,maskd,ptzadm"
ftp=""
viewer="root"
operator="root"
admin="root,joe"
system="root"
ptz="root,joe"
anonymous="anonymous"
template="ptzadm"
crypto="stunnel"
gpio="led,iod,video_ctrlld,axisns,environment,event,streamer,acd,mediacclipcgi,ptzadm"
users="joe"
messagebus="messagebus"
bw="bw"
motion="motion"
event="event,streamer"
streamer="streamer,storage,mediacclipcgi"
axisns="axisns"
mld="mld"
iod="iod"
lang_handler="lang_handler"
ptzadm="ptzadm"
gtourd="gtourd"
upnp="upnp"
rendezvous="rendezvous"
stunnel="stunnel"
acd="acd"
triggerd="triggerd"
storage="streamer,storage"
video_ctrlld="video_ctrlld"
sessioncgi="sessioncgi"
maskd="maskd"
environment="environment"
wsdd="wsdd"
wsd="wsd,wsdd"
certcgi="certcgi"
led="led"
nogroup="mediacclipcgi"
digusers="root,joe"
```

### Error Responses:

#### Example 5:

**HTTP Code:** 200 OK

**Content-Type:** text/html

```
Error: consult the system log file.
```



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### Example 6:

If the action is omitted or is not one of "add", "update", "remove" or "get".

**HTTP Code:** 200 OK

**Content-Type:** text/html

```
Error: action operation type.
```

### Example 7:

No user name supplied, or the user name contains characters other than A-Z, a-z or 0-9.

**HTTP Code:** 200 OK

**Content-Type:** text/html

```
Error: account user name.
```

### Example 8:

The user name is not appropriate for the action.

**HTTP Code:** 200 OK

**Content-Type:** text/html

```
Error: malformed action operation, <action>.
```

### Example 9:

Only root can modify itself.

**HTTP Code:** 200 OK

**Content-Type:** text/html

```
The root account may only be modified by root.
```

## 2.2 Factory Default

The `factorydefault.cgi` is used to reset to factory default. All settings are set to their factory default values except.

- The boot protocol (`Network.BootProto`).
- The static IP address (`Network.IPAddress`).
- The default router (`Network.DefaultRouter`).
- The subnet mask (`Network.SubnetMask`).
- The broadcast IP address (`Network.Broadcast`).
- The system time.
- The IEEE 802.1X settings.

Since these parameters are not reset the Axis product can be accessed on the same address. This is especially important when using NAT router. After the Axis product has been reset to factory default it is restarted as part of this function.

**Access control:** admin

**Method:** GET

**Syntax:**

```
http://<servername>/axis-cgi/factorydefault.cgi
```

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### Response:

HTTP Code: 200 OK

Content-Type: text/html

```
<html response>
```

## 2.3 Hard Factory Default

The `hardfactorydefault.cgi` is used to reset to factory default. All settings, including the IP addresses, are set to their factory default values. After the Axis product has been reset to factory default it is restarted as part of this function.

Access control: admin

Method: GET

### Syntax:

```
http://<servername>/axis-cgi/hardfactorydefault.cgi
```

### Response:

HTTP Code: 200 OK

Content-Type: text/html

```
<html response>
```

## 2.4 Firmware Upgrade

The `firmwareupgrade.cgi` is used to upgrade the firmware version. After the Axis product has been upgraded with a new firmware it is restarted as part of this function.

Access control: admin

Method: POST

### Syntax:

```
http://<servername>/axis-cgi/firmwareupgrade.cgi[?<argument>=<value>]
```

With the following arguments and values:

| Argument                         | Valid values                                       | Description  |
|----------------------------------|--|--|
| <code>type=&lt;string&gt;</code> | <code>normal</code><br><code>factorydefault</code> | Specifies the type of firmware upgrade.<br><br><code>normal</code> = Upgrade and restore old settings.<br><code>factorydefault</code> = All parameters are set to their default value.<br><br>Default: <code>normal</code> . |

The file content is provided in the HTTP body according to the format given in RFC 1867. The body is created automatically by the browser if using HTML form with input type "file".

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### Body:

```
POST /axis-cgi/firmwareupgrade.cgi?type=normal HTTP/1.0
Content-Type: multipart/form-data; boundary=<boundary>
Content-Length: <content length>

--<boundary>
Content-Disposition: form-data; name=<name>;
filename="<file name>"
Content-Type: application/octet-stream

<firmware file content>

--<boundary>
```

## 2.5 Restart Server

The `restart.cgi` is used to restart the Axis product.

**Access control:** admin

**Method:** GET

### Syntax:

```
http://<servername>/axis-cgi/restart.cgi
```

### Response:

**HTTP Code:** 200 OK

**Content-Type:** text/html

```
<html response>
```

## 2.6 Server report

The `serverreport.cgi` is used to generate and return a server report. This report is useful as an input when requesting support. The report includes product information, parameter settings and system logs.

**Access control:** admin

**Method:** GET

### Syntax:

```
http://<servername>/axis-cgi/serverreport.cgi
```

### Return:

**HTTP Code:** 200 OK

**Content-Type:** text/plain

### Body:

```
<server report>
```

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### 2.7 Logs

#### 2.7.1 Parameters

##### 2.7.1.1 Log.Access

These parameters control inclusion of information in the client access log.

###### [Log.Access]

| Parameter     | Default values | Valid values          | Access control     | Description   |
|---------------|----------------|-----------------------|--------------------|---|
| MaxSize       | 40000          | 1000 ...<br>100000    | admin: read, write | The maximum size of the access log.   |
| Critical      | detailed       | off<br>on<br>detailed | admin: read, write | Set the level of critical messages that should be shown in the access log.  |
| Warning       | detailed       | off<br>on<br>detailed | admin: read, write | Set the level of warning messages that should be shown in the access log.<br><br>off = No warning messages will be shown.<br>on = All suspected intrusions are shown.<br>detailed = All suspected intrusions and access denied events are shown.  |
| Informational | off            | off<br>on<br>detailed | admin: read, write | Set the level of informational messages that should be shown in the access log.<br><br>off = No informational messages will be shown.<br>on = Most access information will be shown, but some similar and trivial messages are filtered out.<br>detailed = All information will be shown. |

##### 2.7.1.2 Log.System

These parameters control inclusion of information in the system log.

###### [Log.System]

| Parameter | Default values | Valid values       | Access control     | Description                         |
|-----------|----------------|--------------------|--------------------|-------------------------------------|
| MaxSize   | 40000          | 1000 ...<br>100000 | admin: read, write | The maximum size of the system log. |

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### [Log.System] (Continued)

|               |          |                       |                    |   |
|---------------|----------|-----------------------|--------------------|---|
| Critical      | detailed | off<br>on<br>detailed | admin: read, write | <p>Set the level of critical messages that should be shown in the system log.</p> <p>off = No critical messages will be shown.<br/>on = All critical messages will be shown.<br/>detailed = All critical messages will be shown.</p> <p>Note: Today there is no difference setting the level to on or detailed.</p>                     |
| Warning       | detailed | off<br>on<br>detailed | admin: read, write | <p>Set the level of warning messages that should be shown in the system log.</p> <p>off = No warning messages will be shown.<br/>on = All warning messages will be shown.<br/>detailed = All warning messages will be shown.</p> <p>Note: Today there is no difference setting the level to on or detailed.</p>                         |
| Informational | off      | off<br>on<br>detailed | admin: read, write | <p>Set the level of informational messages that should be shown in the system log.</p> <p>off = No informational messages will be shown.<br/>on = All informational messages will be shown.<br/>detailed = All informational messages will be shown.</p> <p>Note: Today there is no difference setting the level to on or detailed.</p> |

### 2.7.1.3 MailLogd

Parameters for log levels to send as e-mail.

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### [MailLogd]

| Parameter    | Default values | Valid values | Access control     | Description   |
|--------------|----------------|--------------|--------------------|---|
| LogSendLevel | 0              | 0 ... 3      | admin: read, write | Message that are sent in e-mail:<br><br>0 = None.<br>1 = Critical.<br>2 = Critical and Warning.<br>3 = Critical, Warning and Information. |
| ToEmail      |                | <string>     | admin: read, write | The e-mail address to where log messages are sent.  |

## 2.7.2 HTTP API

### 2.7.2.1 System Log

The `systemlog.cgi` is used to retrieve system log information. The level of information included in the log is set in the `Log.System` parameter group.

**Access control:** admin  
**Method:** GET

**Syntax:**

```
http://<servername>/axis-cgi/systemlog.cgi
```

**Response:**

**HTTP Code:** 200 OK  
**Content-Type:** text/plain

**Body:**

```
<system log information>
```

### 2.7.2.2 Access Log

The `accesslog.cgi` is used to retrieve client access log information. The level of information included in the log is set in the `Log.Access` parameter group.

**Access control:** admin  
**Method:** GET

**Syntax:**

```
http://<servername>/axis-cgi/accesslog.cgi
```

**Response:**

**HTTP Code:** 200 OK  
**Content-Type:** text/plain

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Body:

```
<access log information>
```

## 2.8 System Date and Time

Get or set the system date and time.

### 2.8.1 Parameters

#### 2.8.1.1 Time

The parameters in the `time` group control the common time information for the time zone, how date and time are synchronized and the offset related to the chosen time zone and Coordinated Universal Time, UTC.

[Time]

| Parameter      | Default values               | Valid values   | Access control                       | Description  |
|----------------|------------------------------|--|--------------------------------------|--|
| ObtainFromDHCP | yes                          | yes<br>no  | admin: read, write                   | DHCP servers may provide names/IP addresses for local/remote NTP servers. Enable this feature by setting this parameter to <code>yes</code> .                                      |
| ServerDate     |                              | <string>   | admin: read, write                   | The date ( <code>yyyy-mm-dd</code> ) when the time was set, manually or synchronized with the computer.  |
| ServerTime     |                              | <string>   | admin: read, write                   | The time ( <code>hh:mm:ss</code> ) when the Axis product's time was set manually or synchronized with the computer.  |
| SyncSource     | Product/release dependent.   | PC<br>NTP<br>None <sup>1</sup>   | admin: read, write                   | The source to synchronize the time with.<br><br>PC = Synchronize the time with the connected PC.<br>NTP = Synchronize the time with a NTP server.<br>None = Set the time manually. |
| POSIXTimeZone  | GMT0BST,M3.5.0/<br>1,M10.5.0 | <name><offset><br>[<dst name>[dst<br>offset>[<start<br>rule>,<stop<br>rule>]]] <sup>2</sup><br><br>The ':' prefixed format is not allowed. | admin: read, write<br>operator: read | This parameter specifies the time zone with and/or without DST. See section 2.8.1.3 <i>Time Zone</i> for more information.   |

1. Product/release dependent. Check the product's release notes.

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## [Time] (Continued)

2. POSIX TZ rule strings as defined for the TZ variable in Chapter 8.3, The Open Group Base Specifications Issue 6 IEEE Std 1003.1, 2004.

### Example 10:

Set the TimeZone.

```
http://myserver/axis-cgi/param.cgi?action=update&Time.POSIXTime-  
Zone=GMT0BST,M3.5.0/1,M10.5.0
```

This timezone, standard time named GMT and daylight saving time named BST, has daylight saving time. The standard local time is GMT. Daylight saving time, 1 hour ahead of GMT, starts the last Sunday in March at 01:00 and ends the last Sunday in October at 02:00.

### 2.8.1.2 Time.DST

The parameter in the Time.DST group controls the Daylight Saving Time (DST).

#### [Time.DST]

| Parameter | Default values | Valid values | Access control | Description   |
|-----------|----------------|--------------|----------------|---|
| Enabled   | no             | yes<br>no    | admin: read    | Enable/disable DST.<br><br>yes = Enable DST.<br>no = Disable DST. |

### 2.8.1.3 Time Zone

POSIXTimeZone specifies the time zone with or without DST. The value is added according to the following syntax:

```
<name><offset>[<dst name>[dst offset>[<start rule>,<stop rule>]]]
```

<name> and <dst name> = The name of the time zone without and with DST. A name is at least 3 characters long and at most 6 characters long. It can be unquoted or quoted. An unquoted name may only contain the characters A-Z and a-z. A quoted name starts with the < character and ends with a > character. It can have the characters A-Z, a-z, 0-9, - and +.

<offset> and <dst offset> = The offset for the time zone and the daylight saving time, respectively. An offset specifies the amount of time that when added to the local time is equal to UTC. For example the offset for Paris, France, without daylight saving time, is -1 and the offset for Chicago, Ill., without daylight saving time, is +6. Offsets are specified as HH:MM:SS (hours, 0-24; minutes 0-59 and seconds 0-59) preceded by '-' indicating a negative offset or an optional '+', indicating a positive offset. Minutes and seconds are optional, thus the valid formats are "HH" "HH:MM" "HH:MM:SS". The dst offset may be omitted and will then default to one hour ahead of the zone's standard time.

<start rule> and <stop rule> = The daylight saving time start and stop rules are specified in the form *date* or *date/time*. The date is specified in the form *Month.Week.Day*, *Jday*, or *day*. The *Month.Week.Day* form sets the month (1-12), week (1-5, with 5 meaning the last week in Month that Day occurs) and day (0-6, 0 is Sunday). The *Jn* form sets the *n*:th day (1-365, leap days are not counted). The *n* form sets the day (0-365, leap days are counted; day 365 thus only exists in leap years).

The time is specified as *HH*, *HH:MM* or *HH:MM:SS*, as the offsets above. It is the local time for the DST transition. The time is always positive and must not be preceded by a sign. If the time is omitted the daylight saving time transition occurs at 02:00:00.

*Example:* If a zone has a 1 hour DST to standard time offset and the transition time to DST is 02:00 then 01:59:59 will be followed by 03:00:00. If the transition time from DST to standard time in the same zone is 02:00 then 01:59:59 (daylight saving time) will be followed by 01:00:00 (standard time).

### 2.8.1.4 Time.NTP

The parameters in the Time.NTP set time and date with the NTP protocol.



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### [Time.NTP]

| Parameter      | Default values | Valid values                  | Access control     | Description  |
|----------------|----------------|-------------------------------|--------------------|--|
| Server         | 0.0.0.0        | An IP address or a host name. | admin: read, write | The NTP server to connect to when synchronizing the time in the Axis product.  |
| VolatileServer |                | An IP address or a host name. | admin: read        | The name/IP address of the NTP server, received from the DHCP server. Only one NTP server is currently supported. The NTP server name/IP address will be valid only until the next DHCP renewal or reboot. |

## 2.8.2 HTTP API

### 2.8.2.1 Get or Set the System Date and Time

The `date.cgi` is used to get or set the system date and time.

**Access control:** admin

**Method:** GET/POST

**Syntax:**

```
http://<servername>/axis-cgi/date.cgi?<argument>=<value>
```

With the following argument and values:

| Argument                           | Valid values | Description   |
|------------------------------------|--------------|---|
| <code>action=&lt;string&gt;</code> | get<br>set   | get = get the current date and time.<br>set = set the current date and/or time. |

### 2.8.2.2 Get System Date and Time

**Access control:** admin

**Syntax:**

```
http://<servername>/axis-cgi/date.cgi?action=get
```

**Response:**

The response is the month (first three letters in the month), the day (DD), year (YYYY) and the time (HH:MM:SS).

**HTTP Code:** 200 OK

**Content-Type:** text/plain

**Body:**

```
<month> <day>, <year> <hour>:<minute>:<second>
```

**Example 11:**

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**HTTP Code:** 200 OK  
**Content-Type:** text/plain

```
Oct 03, 2008 15:16:04
```

### 2.8.2.3 Set System Date and Time

Change the system date and time.

#### Note

The settings made here require that the Axis product is not configured to synchronize with an NTP server. NTP has precedence.

**Access control:** admin

**Syntax:**

```
http://<servername>/axis-cgi/date.cgi?action=set [<argument>=<value>...]
```

With the following arguments and values:

| Argument          | Valid values  | Description  |
|-------------------|---------------|--|
| year=<int>        | 1970 ... 2031 | Current year.  |
| month=<int>       | 1 ... 12      | Current month.   |
| day=<int>         | 1 ... 31      | Current day.   |
| hour=<int>        | 0 ... 23      | Current hour.  |
| minute=<int>      | 0 ... 59      | Current minute.  |
| second=<int>      | 0 ... 59      | Current second.  |
| timezone=<string> | GMT           | Specifies the time zone that the new date and/or time is given in. The Axis product translates the time into the product's local time using its configured time zone. If omitted the new date and/or time is assumed to be in local time. Currently only GMT is considered valid input.<br><br>Note: Requires that the time mode of the Axis product is not to synchronize with an NTP server. |

#### Example 12:

Set the date to October 5, 2008.

```
http://myserver/axis-cgi/date.cgi?action=set&year=2008&month=10&day=5
```

The set action produces one of the following responses:

**Success**

**Response:**

**HTTP Code:** 200 OK  
**Content-Type:** text/plain

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---

**Body:**

OK

**Failure**

Settings or syntax are incorrect.

**Response:**

**HTTP Code:** 200 OK

**Content-Type:** text/plain

**Body:**

Request failed: *<error message>*

