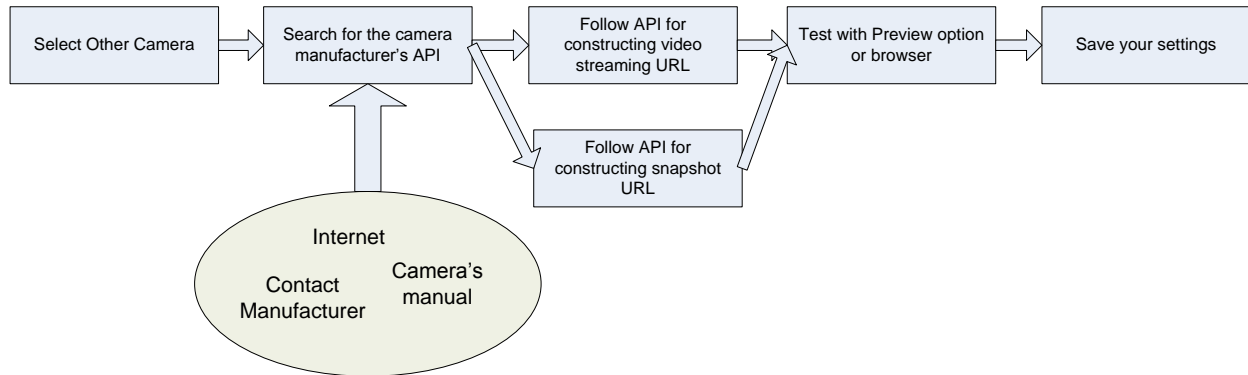


'Other camera' configuration for OST Gate View

The general process that one has to follow is seen below:



1 Example 1: AXIS M1101

1.1 Step 1: Select Other Camera

For adding a new camera which does not appear in the drop down menu of the camera list please select 'Other camera'. See picture 1.

Version: 2.00.14

OpenStage Gate View

181admin Logout

OverviewSurveillanceRecordingsStatusAdministration

Add Camera

Name:

Brand:

Axis

IP Address:

Camera Port:

Username:

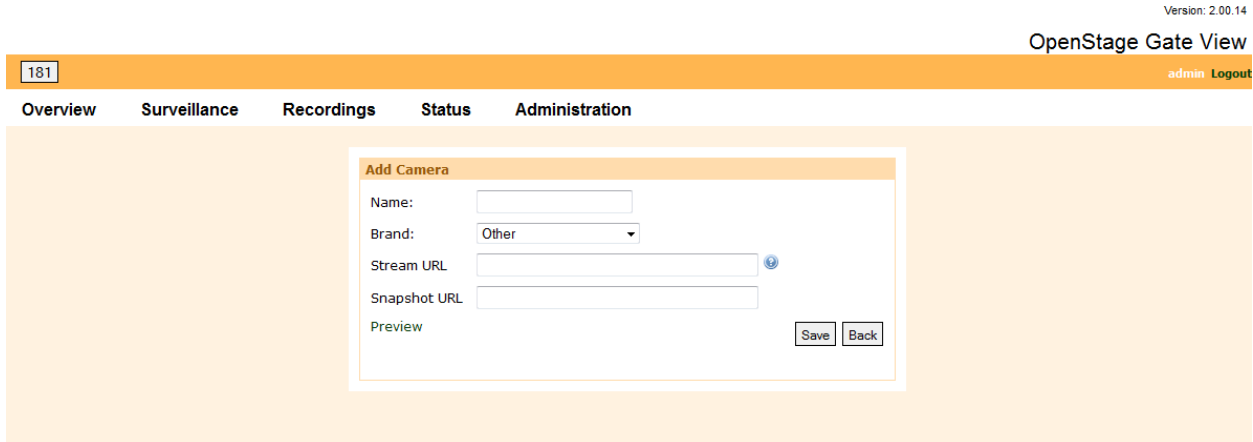
Password:

Axis
Axis 215PTZ
Axis 241Q
Axis 247S
Axis M7001
Axis M1113
Behnke
Hama 00053111
Hama 00053104
LevelOne FSC-5030
LevelOne FCS-1101
Mobotix Generic
Panasonic BL-C1
Samsung SNC-B2315
Samsung SNC-M300
Vivotek
Other

Figure 1: Other camera selection

After selecting Other camera, page is changed and gives three options:

1. Configure Name of camera (This is just a custom name that user can enter)
2. Stream URL
3. Snapshot URL



The screenshot shows the 'OpenStage Gate View' interface. At the top right, it says 'Version: 2.00.14'. Below the header, there's a navigation bar with tabs: 'Overview', 'Surveillance', 'Recordings', 'Status', and 'Administration'. The 'Administration' tab is active. In the center, there's a white box titled 'Add Camera'. Inside this box, there are four input fields: 'Name:' (a text box), 'Brand:' (a dropdown menu with 'Other' selected), 'Stream URL' (a text box with a blue help icon to its right), and 'Snapshot URL' (a text box). Below these fields is a 'Preview' label. At the bottom right of the 'Add Camera' box are two buttons: 'Save' and 'Back'.

Figure 2: Other camera Screen

1.2 Step 2: Find Camera API

User now has now the task to find the AXIS API document or site that describes how to construct the http request for Stream URL. In this document we shall demonstrate a way to find this kind of document. Sometimes manufacturers do not have it available and user has to ask for it.

Go to Google and search for AXIS API and press the first link (seems suitable)

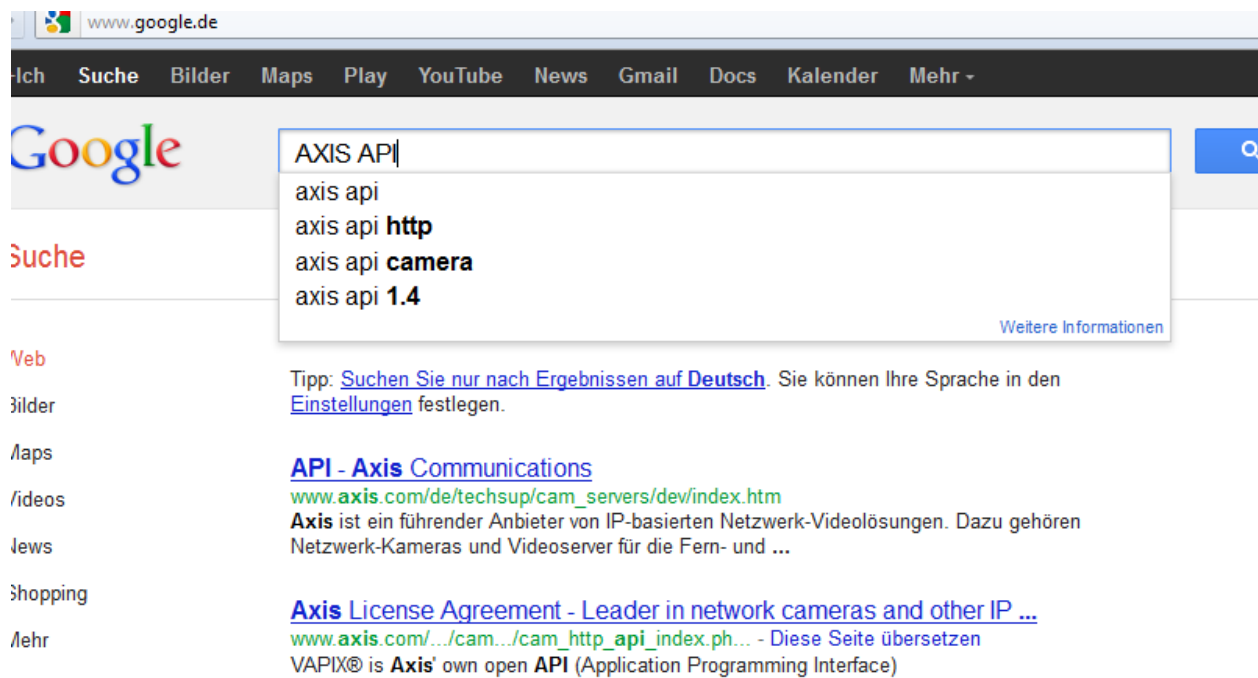












Figure 3: Search for AXIS API


[Home](#)
[Products](#)
[Solutions](#)
[Support](#)
[Where to buy](#)
[Corporate](#)

Language:
 









[Support](#)
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- Developer pages
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 - [AXIS Camera Application Platform](#)
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Network Video Developer Pages



The developer pages contain in-depth information and examples that will help you take full advantage of the easy application development that our products offer.

VAPIX®

VAPIX® is Axis' own open application programming interface (API) for cost-efficient, flexible, scalable and future-proof integration with other systems.

[VAPIX®](#)

AXIS Camera Application Platform

An open platform that enables development of third party applications that can be downloaded and installed on Axis network video products.

[AXIS Camera Application Platform](#)

Tools for Windows developers

Developer tools for Windows developers, such as ActiveX components for viewing Motion JPEG, MPEG-2, MPEG-4 and H.264 streams from Axis video products.

[Windows Development](#)

Embedded scripting (discontinued)

Axis Scripting Guide is applicable to Axis video products using firmware version 4.x.x. Note however that the scripting guide is discontinued and Axis does not provide support for this type of embedded development.

[Embedded scripting](#)

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Figure 4: APIs from AXIS

Then in the figure below we see that VAPIX is the general API from AXIS that enables us to use it for our integration.

[Application programming interface](#)

- [Windows development](#)

Other links

- [Partner program \(ADP\)](#)

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All Axis network cameras and video servers have an HTTP-based application programming interface. VAPIX® provides functionality for requesting images, controlling network camera functions (PTZ, relays etc.) and setting/retrieving internal parameter values. The purpose of the API is to make it easier for developers to build applications that support Axis video products.

VAPIX® Version 3

(For products using firmware version 5.xx)

- [Introduction to VAPIX®](#)
- [Event and Action Services](#)
- [Video Streaming API](#)
- [Cross Line Detection API](#)
- [Video Motion Detection API](#) ([Integration guide](#))
- [Pan/Tilt/Zoom API](#)
- [Guard Tour API](#)
- [Serial Port API](#)
- [Overlay API](#)
- [Media Clip API](#)
- [View Area API](#)
- [Audio API](#)
- [I/O Port API](#)
- [Stream Profile API 1.00](#)
- [HTTP API 3.00](#)
- [Parameter Management](#)
- [General System Settings](#)
- [Network Parameters](#)
- [Trigger Data](#)
- [Event Handling 1.01](#)
- [Capture Mode 1.00](#)
- [Cross Line Detection 1.00](#)
- [H.264 Migration Guide 1.04](#)


VAPIX® Version 2

(For products using firmware version 4.xx)

- [HTTP API](#)
- [Parameter specification](#)
- [RTSP API](#)

Figure 5: Video Streaming Section

The page above shows the document we desire that we can construct the http request for video streaming. AXIS cameras come with different firmware versions. Depending on which firmware your camera runs the related VAPIX version should be opened. AXIS M1101 supports firmware version 5.00 as it can be seen in the next figure from AXIS configuration screen.

**AXIS M1011-W Network Camera**

Live View | Setup | Help

Basic Setup

Instructions

1. Users

2. Wireless

3. TCP/IP

4. Date & Time

5. Video Stream

Video

Live View Config

Events

System Options

About

Basic Setup

Before using the AXIS M1011-W Network Camera, there are certain settings that should be made, most of which require Administrator access privileges. To quickly access these settings, use the numbered shortcuts to the left. All the settings are also available from the standard setup links in the menu.

Note that the only required setting is the IP address, which is set on the TCP/IP page. All other settings are optional. Please see the online help for more information.

Firmware version: 5.00
MAC address: 00:40:8C:AF:DF:BB

Figure 6: Check for firmware version

1.3 Step 3: API for constructing streaming URL

Then press Video Streaming API and VAPIX document will appear on your screen. From the table of contents we see 'Video Streaming over HTTP'. This is the section for requesting stream over http from the camera. Now user has to have in mind the restrictions OpenScape Office product gives for the requesting stream. These are: protocol: Motion JPEG , resolution $\leq 320 \times 240$ and fps ≤ 12 fps. First things first: Go to 2.6.3 for Motion JPEG Video CGI Request.

1	Overview	6
1.1	Description	6
1.1.1	References	6
1.2	Unknown Arguments	6
2	Video Streaming Over HTTP	7
2.1	Prerequisites	7
2.1.1	Identification	7
2.2	Common Examples	7
2.3	Image Resolution	7
2.3.1	Image Resolution Request	7
2.3.2	Image Resolution Response	8
2.4	Video Status	9
2.4.1	Video Status Request	9
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2.5	Bitmap	10
2.5.1	Bitmap Image Request	10
2.5.2	Bitmap Image Response	10
2.6	JPEG/Motion JPEG	11
2.6.1	JPEG Image (Snapshot) CGI Request	11
2.6.2	JPEG Image Response	11
2.6.3	Motion JPEG Video CGI Request	12
2.6.4	Motion JPEG Video Response	13
2.7	Image Request Arguments	13

Figure 7: API document index

2.6.3 Motion JPEG Video CGI Request

The `mjpg/video.cgi` is used to request a Motion JPEG video stream with specified arguments. The arguments can be specified explicitly, or a predefined stream profile can be used. Image settings saved in a stream profile can be overridden by specifying new settings after the stream profile argument.

Access control: viewer

Method: GET

Syntax:

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

In addition to the arguments described in *Image Request Arguments*, on page 13 `mjpg/video.cgi` accepts the following arguments.

Argument	Valid values	Description
<code>streamprofile=<string></code>	<code><stream profile name></code>	Use a predefined stream profile. Supported stream profile names are stored in the <code>StreamProfile.S#.Name</code> parameters.
<code>duration=<int></code>	An unsigned integer	Specifies for how many seconds the video will be generated and pushed to the client. 0=unlimited.
<code>nbrofframes=<int></code>	An unsigned integer	Specifies how many frames the Axis

Figure 8: Motion JPEG video streaming http syntax

Now take a look at the syntax. Our request has to be like this together with some parameters which we shall look in the end. It is:

`http://<servername>/axis-cgi/mjpg/video.cgi`

<servername> is the IP of the AXIS camera we have assigned. In our case it is: 192.168.178.181

Hence the URL will be:

`http://192.168.178.181/axis-cgi/mjpg/video.cgi`

Have we finished? No, if we apply this URL then the video will indeed be captured however with the settings we have configured in AXIS administration page. If these are: resolution $\leq 640 \times 480$ and fps ≤ 12 fps then we are fine. Job is finished!!

However AXIS API gives us the opportunity to configure this on every capture instance we create for this camera. So let's navigate a little bit further down to the parameters.

		will be generated and pushed to the client. 0=unlimited.
<code>nbrofframes=<int></code>	An unsigned integer	Specifies how many frames the Axis product will generate and push. 0=unlimited.
<code>fps=<int></code>	An unsigned integer	Using fps it is possible to specify the frame rate from the Axis product. 0=unlimited.
General image arguments, see <i>Image Request Arguments</i> .		

Example 1:

Request a Motion JPEG video stream from video source 1 with resolution 320x240 and compression 25.

```
http://myserver/axis-cgi/mjpg/video.cgi?resolution=320x240
&compression=25&camera=1
```

Example 2:

Request a Motion JPEG video stream from the default video source with frame rate 5.

```
http://myserver/axis-cgi/mjpg/video.cgi?fps=5
```

Example 3:

Request a Motion JPEG video stream from the default video source with frame rate 5.

Figure 9: Parameters

There is one fps and luckily an example how to insert a parameter!

So the URL will now become:

<http://192.168.178.181/axis-cgi/mjpg/video.cgi?fps=12>

You may wonder where is the resolution? If you see there is an entry: 'General image arguments, see Image Request Arguments'. So you have to go to this section:

2.7 Image Request Arguments

The following arguments and values can be used in JPEG, Motion JPEG or bitmap CGI requests. Unless overridden by a argument it is the default values as configured via the GUI (or `param.cgi`) that decides the characteristics of the image or video.

Argument	Valid values	Description
<code>resolution=<string></code>	A string ¹	Resolution of the returned image. For supported resolutions, check in parameter <code>Properties.Image.Resolution</code> .
<code>camera=<string></code>	1 ... quad	Selects the video source. If omitted the default value <code>camera=1</code> is used. This argument is only valid for Axis products with more than one video source. That is cameras with multiple view areas and video encoders with multiple video channels.
<code>compression=<int></code>	0 ... 100 ¹	Adjusts the compression level of the

Figure 10: More parameters

...and here is the resolution, which will be obviously a string, for example 320x240.

So now the final URL will take the form of:

<http://192.168.178.181/axis-cgi/mjpg/video.cgi?fps=12&resolution=320x240>

Still however we haven't finished. For security reasons IP cameras require username and password to be accessed! But where do we put this information inside the URL? Unfortunately VAPIX does not specify this because this is a general http request option. Normally this information inserted at the beginning of URL such as here:

`http://<username>:<password>@<servername>`

Hence our URL will now become:

<http://root:pass@192.168.178.181/axis-cgi/mjpg/video.cgi?fps=12&resolution=320x240>

where root and pass the default values of username and password of AXIS cameras respectively.

1.4 Step 4: Test your settings

Now that we have constructed our URL we have to see if this works. There are plenty of ways to do this. Either run it at the browser:



Figure 11: Test the URL at a browser

It works! Please see that firefox hides username and password after we have inserted the full link.

OpenStage Gate View however provides the opportunity to test this link from WBM with the Preview option. So if we insert the URL in the Stream URL section of figure 1 and press preview, an image like the below will appear:

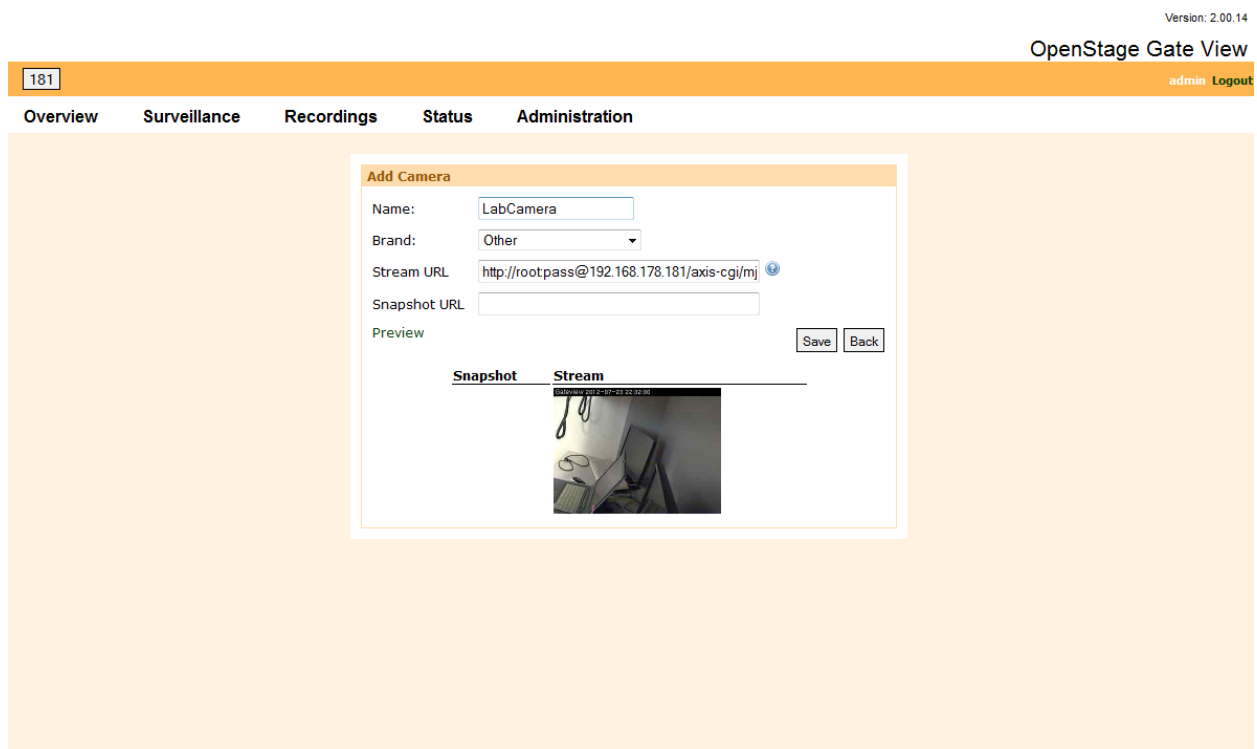


Figure 12: Test the URL at the OpenStage Gate View configuration page with Preview option

1.5 Step 3(snapshot URL): Follow API for constructing snapshot URL

So far so good. Now it is possible to see video in (1) surveillance mode and (2) on OpenStage devices.

All it's left is to configure Snapshot URL in order to watch video at Mobile Clients and iPhone Application.

In AXIS we do a similar job. Remember again the restrictions: protocol: JPEG. We seek now for how to capture a JPEG. At section '2.6.1 JPEG Image (Snapshot) CGI Request' we can see the format of the URL:

2.6 JPEG/MOTION JPEG

The requests specified in this section refer to Axis products that are set to use JPEG and Motion JPEG encoding.

2.6.1 JPEG Image (Snapshot) CGI Request

The `jpg/image.cgi` is used to request a JPEG image (snapshot). A JPEG image (snapshot) should only be used when requiring less than 1 fps.

Access control: viewer

Method: GET

Syntax:

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

With the following arguments and values:

Argument	Description
JPEG image arguments.	See <i>Image Request Arguments</i> for arguments.

Example 1:

Request a JPEG image from video source 1 with resolution 320x240 and compression 25.

Figure 13: Construct Snapshot URL

It is:

`http://<servername>/axis-cgi/jpg/image.cgi`

Hence final snapshot URL will be

`http://root:pass@192.168.178.181/axis-cgi/jpg/image.cgi`

Above we point out the differences with the streaming URL.

1.6 Step 4 (snapshot URL): Test your settings

We can test this again by inserting the link in the corresponding box in OpenStage Gate View administration for Other Camera:

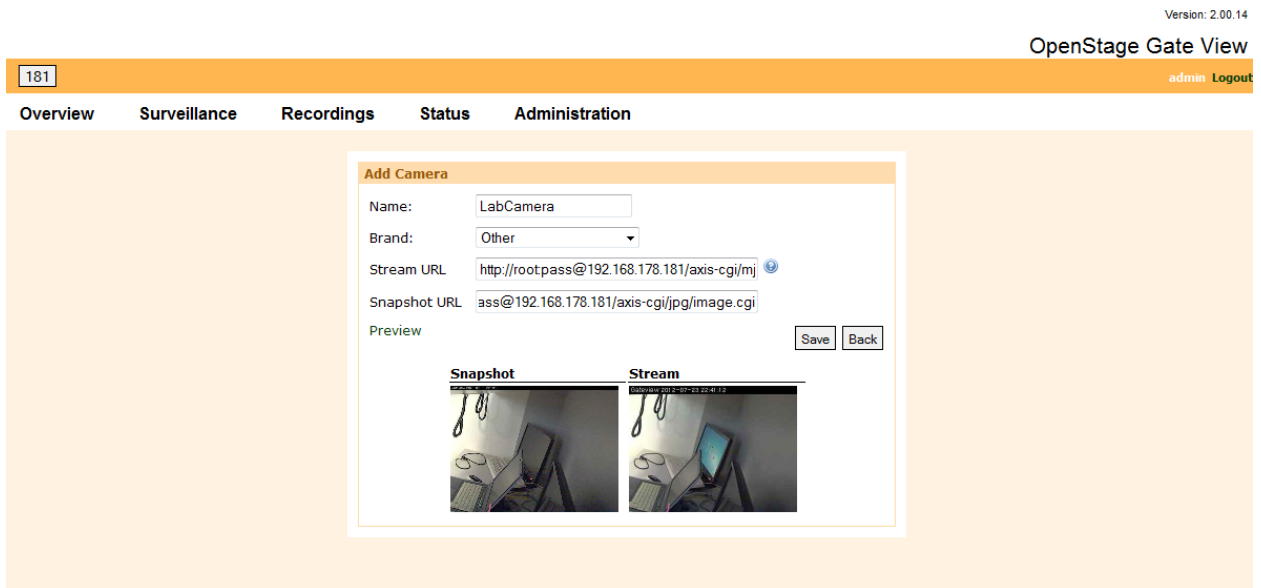


Figure 14: Test both URLs with preview option.

If you see both screens this means everything will work fine with your configuration.

1.7 Step 5: Save your settings

Now press Save!

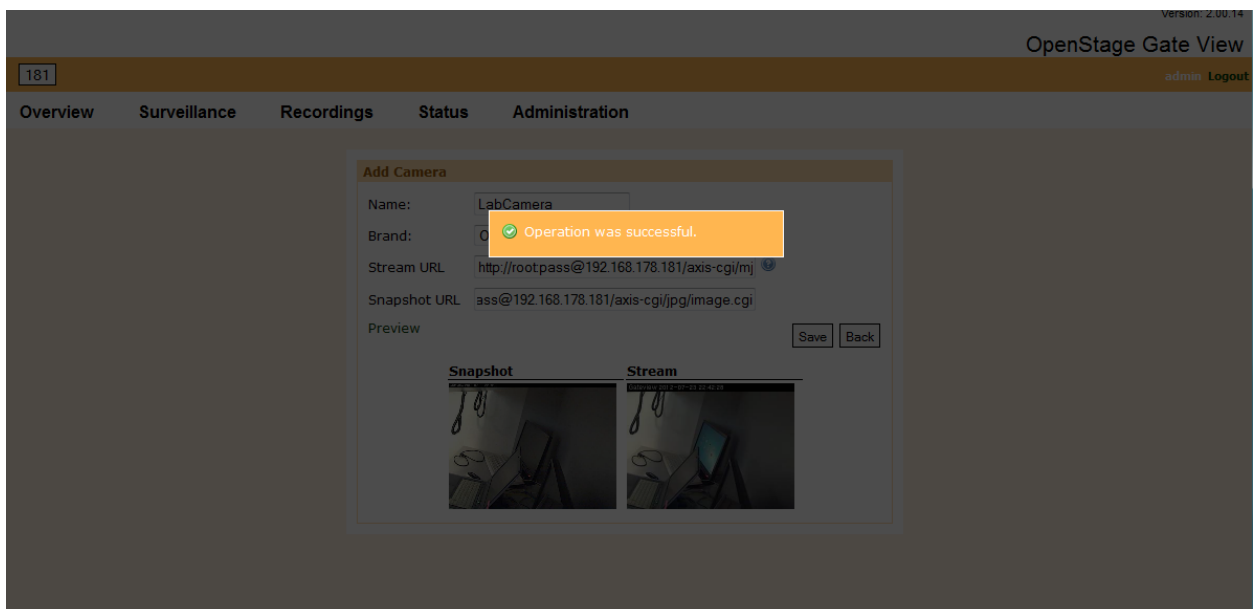


Figure 15: Save configuration

Test your OpenStage Device and your iPhone to check if everything works!

Note: Of course VAPIX comes with some ready examples for the users such as below. So if you are lucky then manufacturer could offer you some common examples as in section 2.2. Under these examples one can see how Motion JPEG video is acquired. That

2.2 Common Examples

Example 1:
Check supported VAPIX® version.

```
http://myserver/axis-cgi/param.cgi?action=list&group=Properties.API.HTTP.Version
```

Example 2:
Check supported resolutions.

```
http://myserver/axis-cgi/param.cgi?action=list&group=Properties.Image.Resolution
```

Example 3:
Check supported image formats.

```
http://myserver/axis-cgi/param.cgi?action=list&group=Properties.Image.Format
```

Example 4:
Check the default resolution of video source 1.

```
http://myserver/axis-cgi/imagesize.cgi?camera=1
```

Example 5:
Request a Motion JPEG video stream.

```
http://myserver/axis-cgi/mjpg/video.cgi
```

Figure 16: AXIS API common examples for constructing URL faster

Or even this

		will be generated and pushed to the client. 0=unlimited.
nbrofframes=<int>	An unsigned integer	Specifies how many frames the Axis product will generate and push. 0=unlimited.
fps=<int>	An unsigned integer	Using fps it is possible to specify the frame rate from the Axis product. 0=unlimited.
General image arguments, see <i>Image Request Arguments</i> .		

Example 1:
Request a Motion JPEG video stream from video source 1 with resolution 320x240 and compression 25.

```
http://myserver/axis-cgi/mjpg/video.cgi?resolution=320x240&compression=25&camera=1
```

Example 2:
Request a Motion JPEG video stream from the default video source with frame rate 5.

```
http://myserver/axis-cgi/mjpg/video.cgi?fps=5
```

Example 3:

Figure 17: AXIS API common examples for constructing URL faster II