

ONVIF scripting tools

Windows scripting tools for query profile, playback live stream and record live stream from any ONVIF camera. handy tools for sys admin. :)

the scripting tool allow sys admin to have unlimited ways of using ONVIF camera.

Sys admin can schedule a video recording session via scheduled task.

Sys admin can even schedule a jpeg snapshot via scheduled an interval task.

the scripting tools require the following library

1.) FFmpeg

<https://ffmpeg.zeranoe.com/builds/>

download the static standalone exe (ffplay.exe & ffmpeg.exe) and place them on the folder will do.

2.) VLC player

<https://www.videolan.org/vlc/download-windows.html>

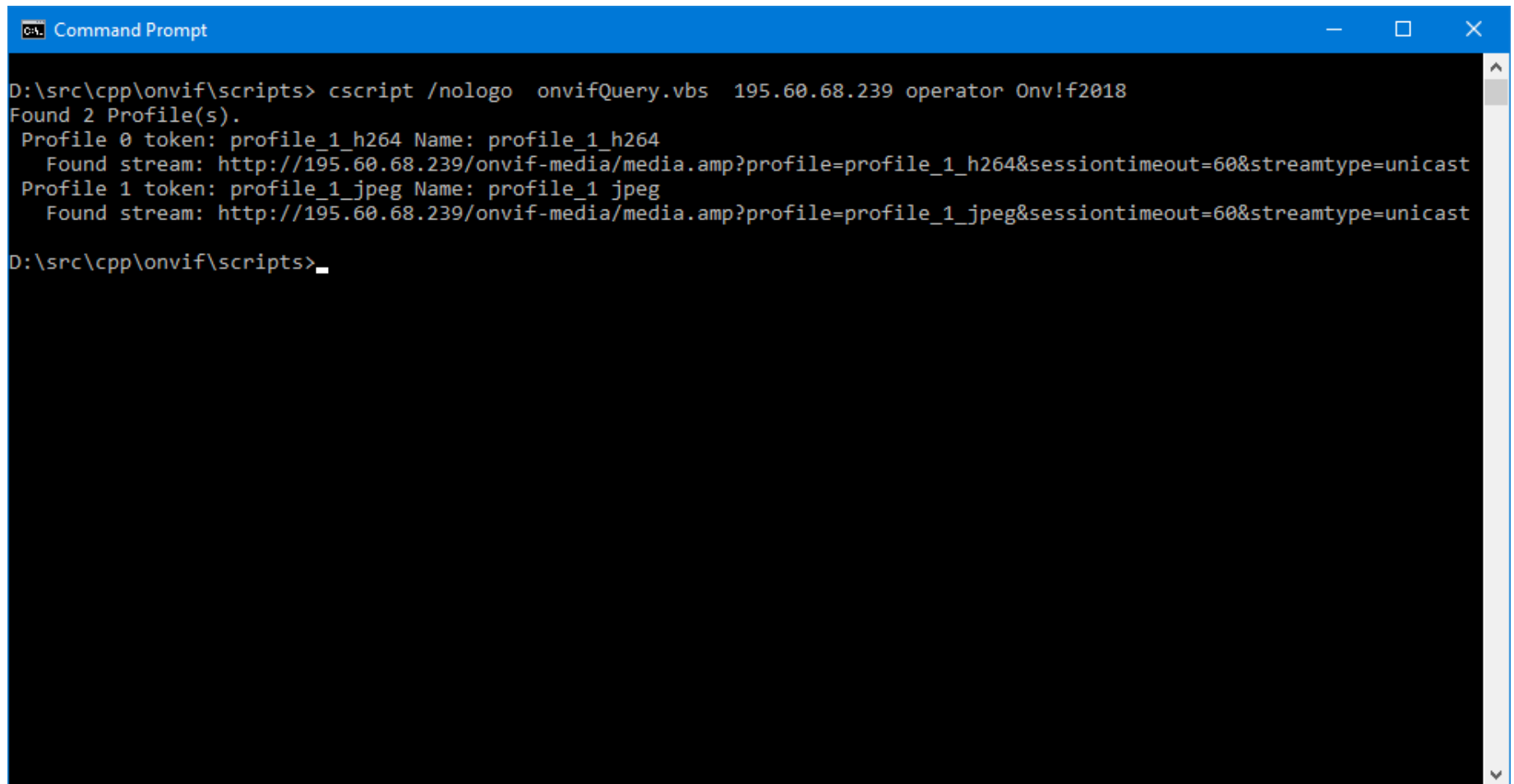
onvifQuery.vbs

onvifQuery.vbs allow user to query the profile of the ONVIF camera.

```
cscript /nologo onvifQuery.vbs camera_IP userID password
```

e.g

cscript /nologo onvifQuery.vbs 195.60.68.239 operator Onv!f2018



```
C:\> Command Prompt

D:\src\cpp\onvif\scripts> cscript /nologo onvifQuery.vbs 195.60.68.239 operator Onv!f2018
Found 2 Profile(s).
Profile 0 token: profile_1_h264 Name: profile_1_h264
    Found stream: http://195.60.68.239/onvif-media/media.amp?profile=profile_1_h264&sessiontimeout=60&streamtype=unicast
Profile 1 token: profile_1_jpeg Name: profile_1 jpeg
    Found stream: http://195.60.68.239/onvif-media/media.amp?profile=profile_1_jpeg&sessiontimeout=60&streamtype=unicast
D:\src\cpp\onvif\scripts>_
```

take note of the profile token

for the above example it's

Profile 0 token: **profile_1_h264** Name: profile_1_h264

Found stream: http://195.60.68.239/onvif-media/media.amp?profile=profile_1_h264&sessiontimeout=60&streamtype=unicast

Profile 1 token: **profile_1_jpeg** Name: profile_1 jpeg

Found stream: http://195.60.68.239/onvif-media/media.amp?profile=profile_1_jpeg&sessiontimeout=60&streamtype=unicast

onvifPlay ffmpeg.vbs

onvifPlay.ffmpeg.vbs allow user to playback a live stream of a specific profile of the ONVIF camera using FFmpeg player.

```
cscript /nologo onvifPlay.ffmpeg.vbs camera_IP userID password profile_token
```

e.g

```
cscript /nologo onvifPlay.ffmpeg.vbs 195.60.68.239 operator Onv!f2018 profile_1_h264
```

```
Command Prompt
D:\src\cpp\onvif\scripts>cscript /nologo onvifPlay.ffmpeg.vbs 195.60.68.239 operator Onv!f2018 profile_1_h264
Found 2 Profile(s).
Profile 0 token: profile_1_h264 Name: profile_1_h264
Found stream: http://195.60.68.239/onvif-media/media.amp?profile=profile_1_h264&sessiontimeout=60&streamtype=unicast
Token matched.
Using the stream: http://195.60.68.239/onvif-media/media.amp?profile=profile_1_h264&sessiontimeout=60&streamtype=unicast

Launching ffmpeg using D:\src\cpp\onvif\scripts\ffmpeg -rtsp_transport tcp -i "rtsp://operator:Onv!f2018@195.60.68.239/onvif-media/media.amp?profile=profile_1_h264&sessiontimeout=60&streamtype=unicast"

D:\src\cpp\onvif\scripts>
```

A DOS window and a video windows will pop up

```
D:\src\cpp\onvif\scripts\ffplay.exe
ffplay version 3.4.2 Copyright (c) 2003-2018 the FFmpeg developers
  built with gcc 7.3.0 (GCC)
  configuration: --enable-gpl --enable-version3 --enable-sdl2 --enable-bzlib --enable-fontconfig --enable-gnutls --enable-l
e-iconv --enable-libass --enable-libbluray --enable-libfreetype --enable-libmp3lame --enable-libopencore-amrnb --enable-
libopencore-amrwb --enable-libopenjpeg --enable-libopus --enable-libshine --enable-lbsnappy --enable-libsoxr --enable-l
ibtheora --enable-libtwolame --enable-libvpx --enable-libwavpack --enable-libwebp --enable-libx264 --enable-libx265 --en
able-libxml2 --enable-libzimg --enable-lzma --enable-zlib --enable-gmp --enable-libvidstab --enable-libvorbis --enable-l
ibvo-amrwbenc --enable-libmysofa --enable-libspeex --enable-libxvid --enable-libmfx --enable-cuda --enable-cuvid --enabl
e-d3d11va --enable-nvenc --enable-dxva2 --enable-avisynth
  libavutil      55. 78.100 / 55. 78.100
  libavcodec     57.107.100 / 57.107.100
  libavformat    57. 83.100 / 57. 83.100
  libavdevice    57. 10.100 / 57. 10.100
  libavfilter    6.107.100 / 6.107.100
  libswscale     4.  8.100 / 4.  8.100
  libswresample  2.  9.100 / 2.  9.100
  libpostproc   54.  7.100 / 54.  7.100
Input #0, rtsp, from 'rtsp://operator:Onvif2018@195.60.68.239/onvif-media/media.amp?profile=profile_1_h264&sessiontimeou
t=60&streamtype=unicast':
  Metadata:
    title           : Session streamed with GStreamer
    comment          : rtsp-server
  Duration: N/A, start: 0.100011, bitrate: N/A
    Stream #0:0: Video: h264 (Main), yuvj420p(pc, bt709, progressive), 1280x720 [SAR 1:1 DAR 16:9], 30 tbr, 90k tbn, 180
k tbc
[swscaler @ 09d0fbe0] deprecated pixel format used, make sure you did set range correctly
 36.21 M-V:  0.020 fd=   0 aq=   0KB vq= 301KB sq=   0B f=0/0
```

Session streamed with GStreamer - rtsp://operatorOnvif2018@195.60.68.239/onvif-media/media.amp?profile=profile_1_h264&sessiontimeout=60&streamtype=unicast



onvifPlay.vlc.vbs

onvifPlay.vlc.vbs allow user to playback a live stream of a specific profile of the ONVIF camera using VLC player.

```
cscript /nologo onvifPlay.vlc.vbs camera_IP userID password profile token
```

e.g

```
cscript /nologo onvifPlay.vlc.vbs 195.60.68.239 operator Onv!f2018 profile_1_h264
```

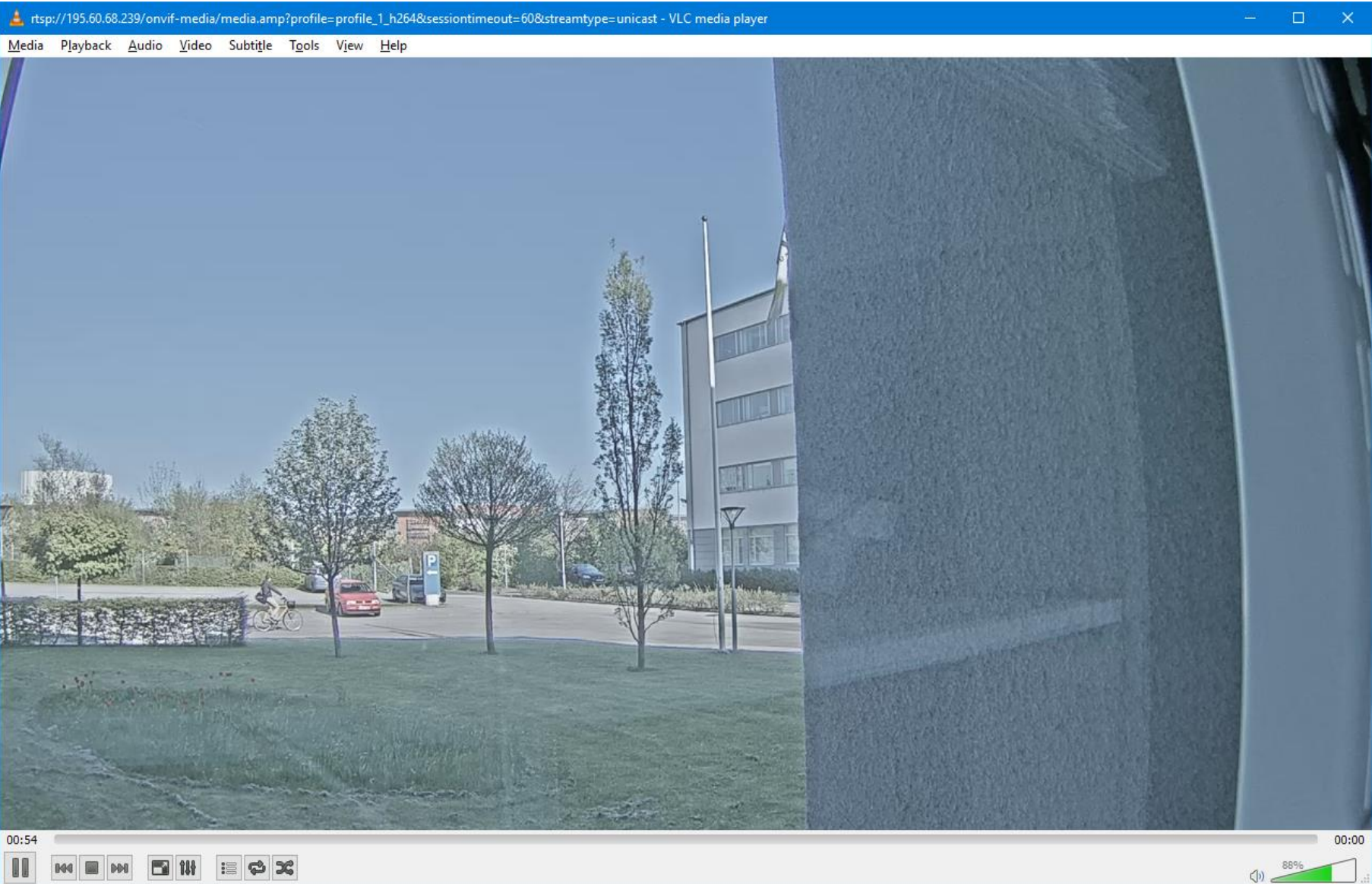
```
Command Prompt

D:\src\cpp\onvif\scripts>cscript /nologo onvifPlay.vlc.vbs 195.60.68.239 operator Onv!f2018 profile_1_h264
Found 2 Profile(s).
Profile 0 token: profile_1_h264 Name: profile_1_h264
Found stream: http://195.60.68.239/onvif-media/media.amp?profile=profile_1_h264&sessiontimeout=60&streamtype=unicast
Token matched.
Using the stream: http://195.60.68.239/onvif-media/media.amp?profile=profile_1_h264&sessiontimeout=60&streamtype=unicast

Launching ffplay using "D:\Program Files (x86)\VideoLAN\VLC\vlc.exe" "rtsp://operator:Onv!f2018@195.60.68.239/onvif-media/media.amp?profile=profile_1_h264&sessiontimeout=60&streamtype=unicast"

D:\src\cpp\onvif\scripts>
```

VLC player with the live stream window will pop up



onvifRec.ffmpeg.vbs

onvifRec.ffmpeg.vbs allow user to record a live stream of a specific profile of the ONVIF camera using FFmpeg recorder (recording duration configurable).

```
cscript /nologo onvifRec.ffmpeg.vbs camera_IP userID password profile_token filename_to_save "-t HH:MM:SS"
```

e.g to record 30 sec video file

```
cscript /nologo onvifRec.ffmpeg.vbs 195.60.68.239 operator Onvlf2018 profile_1_h264 output.mp4 "-t 00:00:30"
```

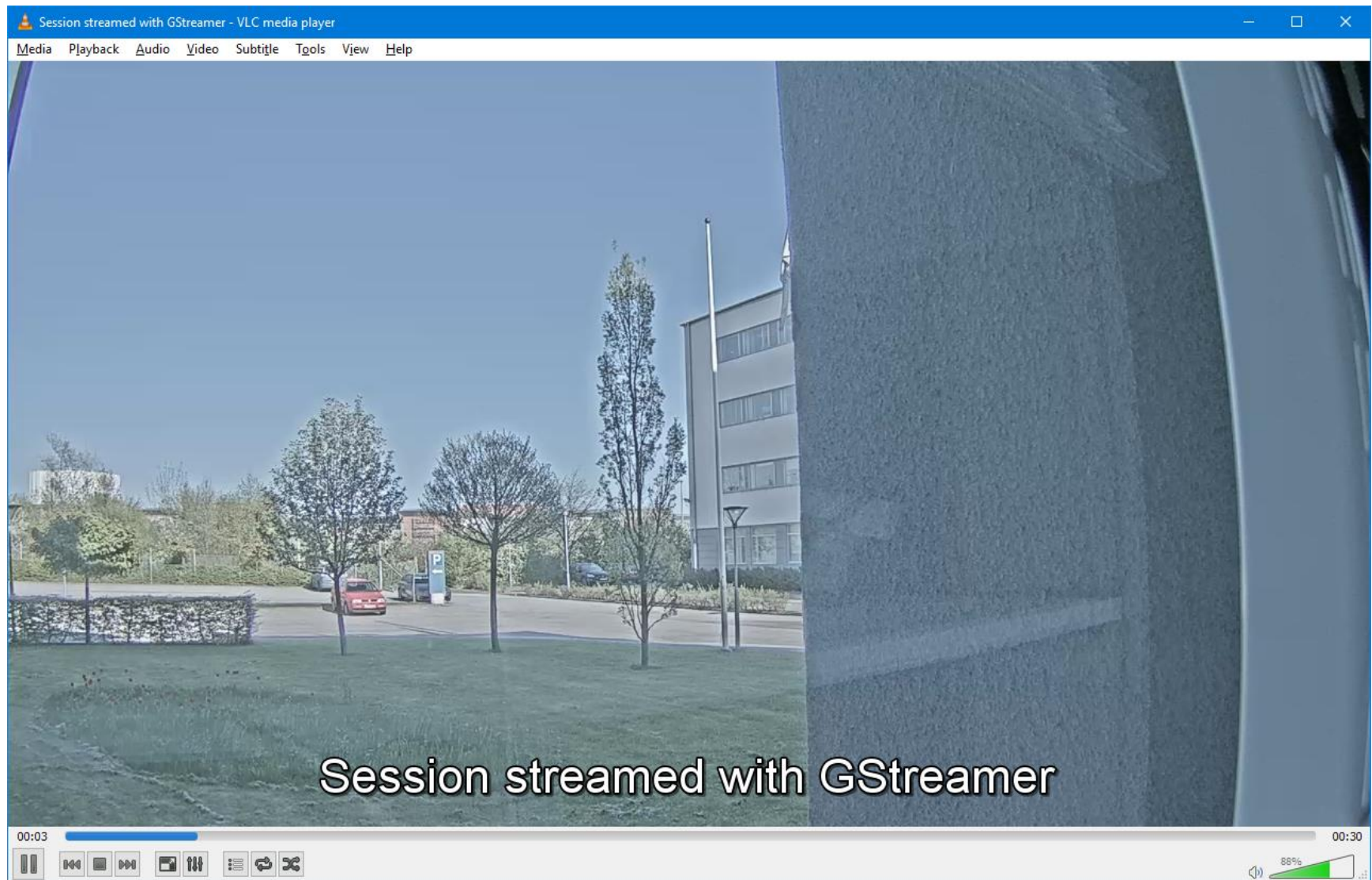
```
Command Prompt
D:\src\cpp\onvif\scripts>cscript /nologo onvifRec.ffmpeg.vbs 195.60.68.239 operator Onv!f2018 profile_1_h264 output.mp4 "-t 00:00:30"
Found 2 Profile(s).
Profile 0 token: profile_1_h264 Name: profile_1_h264
Found stream: http://195.60.68.239/onvif-media/media.amp?profile=profile_1_h264&sessiontimeout=60&streamtype=unicast
Token matched.
Using the stream: http://195.60.68.239/onvif-media/media.amp?profile=profile_1_h264&sessiontimeout=60&streamtype=unicast

Launching ffmpeg using D:\src\cpp\onvif\scripts\ffmpeg -y -rtsp_transport tcp -t 00:00:30 -i "rtsp://operator:Onv!f2018@195.60.68.239/onvif-media/media.amp?profile=profile_1_h264&sessiontimeout=60&streamtype=unicast" -acodec copy -vcodec copy D:\src\cpp\onvif\scripts/output.mp4
D:\src\cpp\onvif\scripts>
```

A DOS window will pop up and disappear after 30sec (recording duration)

```
D:\src\cpp\onvif\scripts\ffmpeg.exe
libavfilter      7. 13.100 /  7. 13.100
libswscale       5.  0.102 /  5.  0.102
libswresample    3.  0.101 /  3.  0.101
libpostproc     55.  0.100 / 55.  0.100
Input #0, rtsp, from 'rtsp://operator:Onvif2018@195.68.239/onvif-media/media.amp?profile=profile_1_h264&sessiontimeout=60&streamtype=unicast':
  Metadata:
    title           : Session streamed with GStreamer
    comment          : rtsp-server
  Duration: N/A, start: 0.099989, bitrate: N/A
    Stream #0:0: Video: h264 (Main), yuvj420p(pc, bt709, progressive), 1280x720 [SAR 1:1 DAR 16:9], 30 tbr, 90k tbn, 180k tbc
Output #0, mp4, to 'D:\src\cpp\onvif\scripts\output.mp4':
  Metadata:
    title           : Session streamed with GStreamer
    comment          : rtsp-server
    encoder          : Lavf58.10.100
    Stream #0:0: Video: h264 (Main) (avc1 / 0x31637661), yuvj420p(pc, bt709, progressive), 1280x720 [SAR 1:1 DAR 16:9], q=2-31, 30 tbr, 90k tbn, 90k tbc
Stream mapping:
  Stream #0:0 -> #0:0 (copy)
Press [q] to stop, [?] for help
[mp4 @ 0000029d8567f6c0] Timestamps are unset in a packet for stream 0. This is deprecated and will stop working in the future. Fix your code to set the timestamps properly
[mp4 @ 0000029d8567f6c0] Non-monotonous DTS in output stream 0:0; previous: 0, current: 0; changing to 1. This may result in incorrect timestamps in the output file.
frame= 332 fps= 14 q=-1.0 size= 3840kB time=00:00:25.36 bitrate=1240.1kbits/s speed=1.08x
```

and the file will be save to output.mp4.



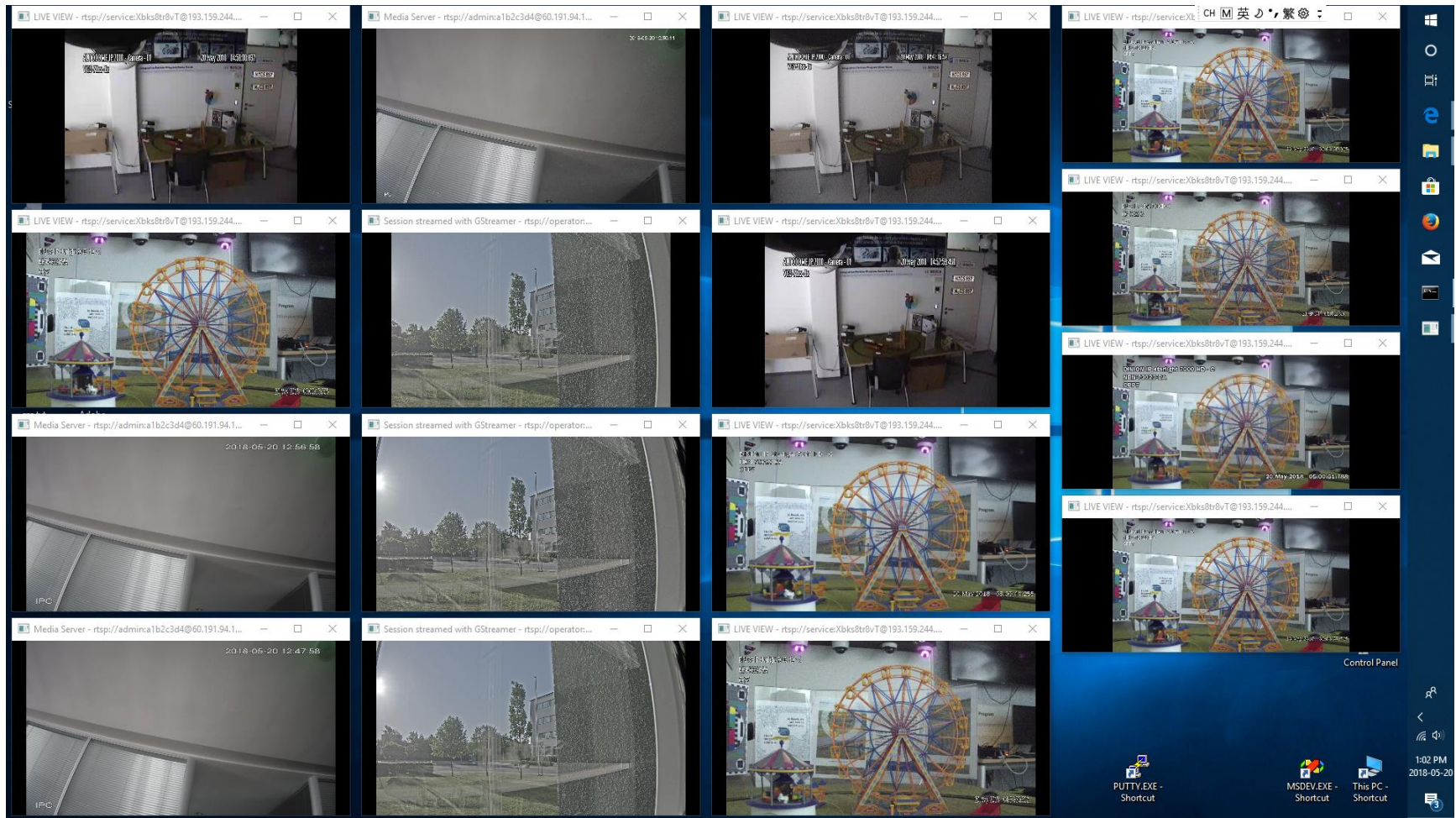
to continuously recording use "-t 00:00:00"

DOS Batch File examples

AllCamerasPlay.ffmpeg.bat or AllCamerasPlay.vlc.bat

AllCamerasPlay.ffmpeg.bat / AllCamerasPlay.vlc.bat is a batch file that play back all live stream of all the profile of the test ONVIF cameras (IP Camera Logins - Sheet1.csv) using FFmpeg or VLC player.

AllCamerasPlay.ffmpeg.bat or AllCamerasPlay.vlc.bat



AllCamerasQuery.bat

AllCamerasQuery.bat is a batch file that query all the profile of the test ONVIF cameras (IP Camera Logins - Sheet1.csv) .

AllCamerasQuery.bat


```
Command Prompt
C:\Users\mrrekuf>D:\src\cpp\onvif\scripts\AllCamerasQuery.bat

C:\Users\mrrekuf>echo off
Bosch (Dinion7000HD) 193.159.244.134 service Xbks8tr8vT
Found 7 Profile(s).
Profile 0 token: 0 Name: H26x_L1S1
Found stream: http://193.159.244.134/rtsp_tunnel?profile=0&h26x=4&enableaudio=1&audio_mode=1&vcd=2
Profile 1 token: 1 Name: H26x_L1S2
Found stream: http://193.159.244.134/rtsp_tunnel?profile=1&inst=2&h26x=4&enableaudio=1&audio_mode=1
Profile 2 token: 2 Name: JPEG_L1S3
Found stream: http://193.159.244.134/rtsp_tunnel?h26x=0&enableaudio=1&audio_mode=1
Profile 3 token: IJ720x1280 Name: IJ720x1280
Found stream: http://193.159.244.134/rtsp_tunnel?h26x=0&enableaudio=1&audio_mode=1
Profile 4 token: IH720x1280 Name: IH720x1280
Found stream: http://193.159.244.134/rtsp_tunnel?profile=IH720x1280&h26x=4&enableaudio=1&audio_mode=1
Profile 5 token: IJ1080x1776 Name: IJ1080x1776
Found stream: http://193.159.244.134/rtsp_tunnel?h26x=0&enableaudio=1&audio_mode=1
Profile 6 token: IH1080x1776 Name: IH1080x1776
Found stream: http://193.159.244.134/rtsp_tunnel?profile=IH1080x1776&h26x=4&enableaudio=1&audio_mode=1

Bosch (Autodom7000) 193.159.244.132 service Xbks8tr8vT
Found 3 Profile(s).
Profile 0 token: 0 Name: H26x_L1S1
Found stream: http://193.159.244.132/rtsp_tunnel?profile=0&h26x=4&enableaudio=1&audio_mode=1&vcd=2
Profile 1 token: 1 Name: H26x_L1S2
Found stream: http://193.159.244.132/rtsp_tunnel?profile=1&inst=2&h26x=4&enableaudio=1&audio_mode=1
Profile 2 token: 2 Name: JPEG_L1S3
Found stream: http://193.159.244.132/rtsp_tunnel?h26x=0&enableaudio=1&audio_mode=1

Axis 195.60.68.239 operator Onvif2018
Found 3 Profile(s).
Profile 0 token: profile_1_h264 Name: profile_1_h264
Found stream: http://195.60.68.239/onvif-media/media.amp?profile=profile_1_h264&sessiontimeout=60&streamtype=unicast
Profile 1 token: profile_1_jpeg Name: profile_1_jpeg
Found stream: http://195.60.68.239/onvif-media/media.amp?profile=profile_1_jpeg&sessiontimeout=60&streamtype=unicast
Profile 2 token: profile0 Name: patate
Found stream: http://195.60.68.239/onvif-media/media.amp?profile=profile0&sessiontimeout=60&streamtype=unicast

Hikvision 123.157.208.28:81 admin abcd1234
Found 3 Profile(s).
Profile 0 token: Profile_1 Name: mainStream
Found stream: http://10.17.114.161:81/Streaming/Channels/101?transportmode=unicast&profile=Profile_1
Profile 1 token: Profile_2 Name: subStream
Found stream: http://10.17.114.161:81/Streaming/Channels/102?transportmode=unicast&profile=Profile_2
Profile 2 token: Profile_3 Name: thirdStream
Found stream: http://10.17.114.161:81/Streaming/Channels/103?transportmode=unicast&profile=Profile_3

Uniview (UNV) 61.164.52.166:88 admin Uniview2018
Found 3 Profile(s).
Profile 0 token: media_profile1 Name: media_profile1
Profile 1 token: media_profile2 Name: media_profile2
Found stream: http://61.164.52.166:88/media/video2
Profile 2 token: media_profile3 Name: media_profile3

Dahua 60.191.94.122:8086 admin a1b2c3d4
Found 4 Profile(s).
Profile 0 token: IH1080x1920 Name: IH1080x1920
Found stream: http://60.191.94.122:554/cam/realmonitor?channel=1&subtype=0&unicast=true&proto=Onvif
Profile 1 token: IJ1080x1920 Name: IJ1080x1920
Found stream: http://60.191.94.122:554/cam/realmonitor?channel=1&subtype=1&unicast=true&proto=Onvif
Profile 2 token: MediaProfile000 Name: MediaProfile_Channel1_MainStream
Found stream: http://60.191.94.122:554/cam/realmonitor?channel=1&subtype=0&unicast=true&proto=Onvif
Profile 3 token: MediaProfile001 Name: MediaProfile_Channel1_SubStream1
Found stream: http://60.191.94.122:554/cam/realmonitor?channel=1&subtype=1&unicast=true&proto=Onvif
```

