

AJA Control Room

Application Note

Python Scripting Tutorial

AJA has implemented a Python Scripting interface for the AJA Control Room application.

Under Python script control you can:

- Name the file to be captured
- Start Capturing
- Stop Capturing
- Load Files into the bin
- Use transport controls
- Get a list of files in the bin
- Set the mode (Capture, Playback, Edit To Tape)
- Show/Hide the Bin and Settings panes

NOTE: Our implementation is based upon Python v2.7. Version 3.4 will not work.

Python Installation

Windows

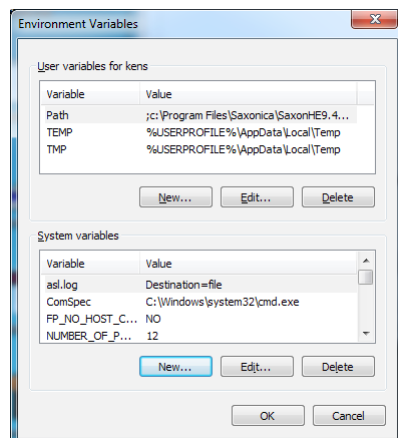
The Python libraries are not installed with Windows by default. You can get the Python 2.7.6 installer from:

<https://www.python.org/downloads/windows/>

Once this is installed, you must set an environmental variable to point to your Python installation. To add an Environmental Variable for Python:

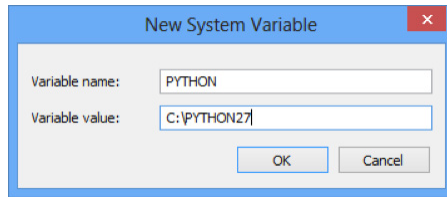
1. Right-click My Computer, and then click Properties.
2. Click the Advanced System Settings.
3. Click Environment Variables.

Figure 1. Environment Variables Screen



4. Click one the New buttons to add either a User or a System variable:
5. Enter the name and value.

Figure 2. Python Environment Variable Window



6. Click OK.

Apple Macintosh

Python v2.7 is installed as part of the standard Mac OSX 10.8 and 10.9 system install. No additional installation is necessary.

AJA Control Room Setup for Python Scripting

1. Copy the python folder to your desktop. It can be copied anywhere, but for this example we will expect it to be on your Desktop
2. Launch the AJA Control Room application
3. Open the AJA Control Room Preferences
4. Select the Scripting pane
 - Make sure Enable Scripting Server is checked
 - The Scripting server port defaults to Port 8080.

NOTE: You can change this if desired but our example code expects it to be set to Port 8080. If you modify this port number you must change the appropriate value in the code to match.

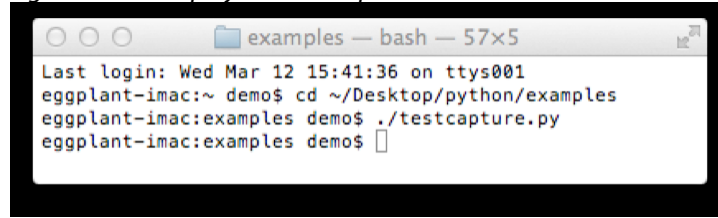
5. Select the General pane and
 - Make sure Hold onto device when app is in background is checked
 - Make sure a Capture Path is specified
6. Dismiss Preferences window
7. Select Capture tab in Main window
 - Specify desired File Type
 - Specify desired Video Codec
 - Specify desired Audio Codec
 - Specify number of Audio Channels
 - Confirm that the checkbox next to the File Name field is checked

Macintosh Instructions

1. Make sure the AJA Control Room app is running and is set up as described above.
2. Open the Terminal application
3. Type `cd ~/Desktop/python/examples`
4. Type `./testcapture.py` to run the testcapture Python script.

The testcapture script tells AJA Control Room to capture a 1 second clip called "testClip". The captured clip will appear in the bin.

Figure 3. Desktop Python Examples



```
examples — bash — 57x5
Last login: Wed Mar 12 15:41:36 on ttys001
eggplant-imac:~ demo$ cd ~/Desktop/python/examples
eggplant-imac:examples demo$ ./testcapture.py
eggplant-imac:examples demo$
```

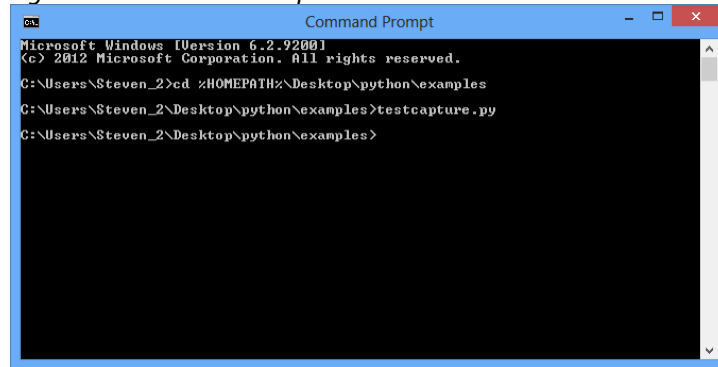
Windows Instructions

The following instructions expect the AJA Python folder to be on your Desktop. Make sure the AJA Control Room application is running.

1. Open up a Command Prompt
2. Type `cd %HOMEPATH%\Desktop\python\examples`
3. Type `testcapture.py` to run the testcapture Python script.

The testcapture script tells AJA Control Room to capture a 1 second clip called "testClip". The captured clip will appear in the bin.

Figure 4. Command Prompt Entries



```
Command Prompt
Microsoft Windows [Version 6.2.9200]
(c) 2012 Microsoft Corporation. All rights reserved.
C:\Users\Steven_2>cd %HOMEPATH%\Desktop\python\examples
C:\Users\Steven_2\Desktop\python\examples>testcapture.py
C:\Users\Steven_2\Desktop\python\examples>
```

Simple Modifications

Following is the code for testcapture.py

You can change the duration of the capture by changing the number (in seconds) in the parentheses in line 15 `time.sleep(1)`

The name of the file to be captured comes from the word in quotes in line 26 ("testClip" in the example below) `captureTest(client, "testClip")`

This script is meant to control the AJA Control Room app on the local computer, however you can control an AJA Control Room app on a different computer on the network by replacing 'localhost' on line 22 with the IP address (e.g. 10.192.168.40) of another computer on your network. If the Scripting server port in the Scripting Preferences has been changed you must match that port number in line 23. An instance of the AJA Control Room app must be running on the remote computer.

Figure 5. Example Python script "testcapture.py"

```
1  #!/usr/bin/python
2  # vim: tabstop=8 expandtab shiftwidth=4 softtabstop=4
3
4  import sys
5
6  sys.path.append("../")
7
8  from aja.controlroom.client import Client
9  import time
10
11
12  def captureTest(client,file):
13      client.capture.setFileName(file)
14      client.capture.startRecord()
15      time.sleep(1)
16      client.capture.stopRecord()
17
18  def main():
19      """
20      Used for testing
21      """
22      server = 'localhost'
23      port = '8080'
24
25      client = Client(server,port)
26      captureTest(client,"testClip")
27
28
29
30
31  if __name__ == '__main__':
32      status = main()
33      sys.exit(status)
34
```

Figure 6. Example Python script “testplayback.py”

```
File Path: ~/Desktop/python/examples/testplayback.py
testplayback.py (no symbol selected)

1 #!/usr/bin/python
2 # vim: tabstop=8 expandtab shiftwidth=4 softtabstop=4
3
4 import sys
5 import os
6 sys.path.append("../")
7
8 from aja.controlroom.client import Client
9 import time
10
11
12 def simplePlayback(client,file):
13     #setup the window to viewer only
14     client.app.setPosition(300,100)
15     client.app.setSize(1000,700)
16     client.bin.setVisible(True)
17     client.viewer.setMode("playback")
18
19     #make sure file is in bin
20     filesInBin = client.bin.files()
21     if any(file in filePath for filePath in filesInBin) == False:
22         client.bin.addFile(file)
23         #wait a bit
24         time.sleep(1.0)
25
26     client.viewer.playFile(file)
27
28
29 def main():
30     """
31     Used for testing
32     """
33     server = 'localhost'
34     port = '8080'
35
36     # Example - load and playback file. Replace filename with file on your system
37     client = Client(server,port)
38     simplePlayback(client,"/Users/steven/Movies/Testmovie.mov")
39
40     # Example - Add files to bin. Replace filenames with files on your system
41     # client.bin.addFiles (["/Users/steven/Movies/Movie1.mov", "/Users/steven/Movies/Movie2.mov"])
42
43     # Example - Print list of files in bin
44     #print client.bin.files()
45
46     #Example - Load files from directory. Replace moviePath with valid path to movies on your system
47     # moviePath = "/Users/demo/Desktop/movies/"
48     # movieFiles = os.listdir(moviePath)
49
50     # for file in movieFiles:
51     #     print (moviePath+file)
52     #     client.bin.addFile(moviePath+file)
53
54
55 if __name__ == '__main__':
56     status = main()
57     sys.exit(status)
58
59
60
```