# Basic HTTP Commands;

It's an API Jim, but not as we know it

The WebUI and camera server communicate entirely via HTTP requests and responses; this makes controlling all functions of the camera via GET requests possible. An API in effect.

## URI's

### Http Port

* / - Default index
* /?view=full|simple|portal - Go direct to specific index
* /capture - Return a Jpeg snapshot image
* /status - Returns a JSON string with all camera status / pairs listed
* /control?var=<key>&val=<val> - Set <key> to <val>
* /dump - Status page
* /stop - End all active streams

### Stream Port

* / - Raw stream
* /view - Stream viewer

## *key / val* settings and commands

Call the /status URI to recieve a JSON response containing all the available settings and current value.

Call /control?var=<key>&val=<val> with a settings key and value to set camera properties or trigger actions.

#### Settings

lamp - Lamp value in percent; integer, 0 - 100 (-1 = disabled)

framesize - See below

min\_frame\_time - Minimal frame duration in ms; used to limit max FPS. Must be positive integer

quality - 10 to 63 (ov3660: 4 to 10)

contrast - -2 to 2 (ov3660: -3 to 3)

brightness - -2 to 2 (ov3660: -3 to 3)

saturation - -2 to 2 (ov3660: -4 to 4)

sharpness - (ov3660: -3 to 3)

denoise - (ov3660: 0 to 8)

ae\_level - (ov3660: -5 to 5)

special\_effect - 0=No Effect, 1=Negative, 2=Grayscale, 3=Red Tint, 4=Green Tint, 5=Blue Tint, 6=Sepia

awb - 0 = disable, 1 = enable

awb\_gain - 0 = disable, 1 = enable

wb\_mode - if awb enabled: 0=Auto, 1=Sunny, 2=Cloudy, 3=Office, 4=Home

aec - 0 = disable, 1 = enable

aec\_value - 0 to 1200 (ov3660: 0 to 1536)

aec2 - 0 = disable, 1 = enable

ae\_level - -2 to 2 (not ov3660)

agc - 0 = disable, 1 = enable

agc\_gain - 0 to 30 (ov3660: 0 to 64)

gainceiling - 0 to 6 (ov3660: 0 to 511)

bpc - 0 = disable, 1 = enable

wpc - 0 = disable, 1 = enable

raw\_gma - 0 = disable, 1 = enable

lenc - 0 = disable, 1 = enable

hmirror - 0 = disable, 1 = enable

vflip - 0 = disable, 1 = enable

rotate - Rotation Angle; integer, only -90, 0, 90 values are recognised

dcw - 0 = disable, 1 = enable

colorbar - Overlays a color test pattern on the stream; integer, 1 = enabled

face\_detect - Face Detection; 1 = enabled, Only settable if framesize <= 4 (CIF)

face\_recognize - Face recognition; 1 = enabled, only settable if Face detection is already enabled

#### Read Only

These values are returned in the /status JSON response, but cannot be set via the /control URI.

cam\_name - Camera Name; String

code\_ver - Code compile date and time; String

stream\_url - Raw stream URL; string

##### Framesize values

These may vary between different ESP framework releases

0 - THUMB (96x96)

1 - QQVGA (160x120)

3 - HQVGA (240x176)

5 - QVGA (320x240)

6 - CIF (400x296)

7 - HVGA (480x320)

8 - VGA (640x480)

9 - SVGA (800x600)

10 - XGA (1024x768)

11 - HD (1280x720)

12 - SXGA (1280x1024)

13 - UXGA (1600x1200)

Only for 3Mp+ camera modules:

14 - FHD (1920x1080)

17 - QXGA (2048x1536)

#### Commands

These are commands; they can be sent by calling the /control URI with them as the <key> *(a <val> must also be supplied, but can be any value and is ignored)*.

face\_enroll - Enroll a new face in the FaceDB (only when face recognition is avctive)

save\_prefs - Saves preferences file

clear\_prefs - Deletes the preferences file

reboot - Reboots the camera

## Examples

* Flash light: on/mid/off
  + http://<IP-ADDRESS>/control?var=lamp&val=100
  + http://<IP-ADDRESS>/control?var=lamp&val=50
  + http://<IP-ADDRESS>/control?var=lamp&val=0
* Set resolution to VGA
  + http://<IP-ADDRESS>/control?var=framesize&val=8
* Show camera details and settings
  + All settings are returned via single status call in [JSON](https://www.json.org/) format.
  + http://<IP-ADDRESS>/status
  + Returns: {"lamp":0,"autolamp":0,"min\_frame\_time":0,"framesize":9,"quality":10,"xclk":8,"brightness":0,"contrast":0,"saturation":0,"sharpness":0,"special\_effect":0,"wb\_mode":0,"awb":1,"awb\_gain":1,"aec":1,"aec2":0,"ae\_level":0,"aec\_value":204,"agc":1,"agc\_gain":0,"gainceiling":0,"bpc":0,"wpc":1,"raw\_gma":1,"lenc":1,"vflip":1,"hmirror":1,"dcw":1,"colorbar":0,"cam\_name":"ESP32 test camera","code\_ver":"Mar 10 2022 @ 14:00:45","rotate":"0","stream\_url":"http://10.0.0.181:81/"}
* Reboot the camera
  + http://<IP-ADDRESS>/control?var=reboot&val=0

You can try these yourself in a browser address bar, from the commandline with curl and co. or use them programatically from your scripting language of choice.