

Youtube Fake View Script

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All code and documents are for academic purpose only.

Preface: How Youtube View Counts

Refer: [Quora-How does YouTube calculate its views?](#)

- Youtube has distributed log servers, the view count record is stored in one centralized server.
- When one Youtube view count goes over 300, the views will be verified (usually, it get stucked for few hours or 1 day). More, when the number 300 was decided by the designers, the programmer made the elementary careless mistake of using the age old ViewCount ≤ 300 instead of the ViewCount < 300 in their logic
- If a video is viewed in its entirety by someone who clicked on it, it is counted as one view.
- YouTube also considers views from the same IP in breaks of 6 to 8 hours. So one person viewing the same video repeatedly would only generate 3 to 5 views a day, after views cross 300.

Analysis Youtube Player Mechanism

1. HTML

In every Youtube page, it loads blank HTML for the player at first.

```
1 <div id="player-api" class="player-width player-height off-screen-target player-api"
  tabIndex="-1">
2 </div>
```

2. Youtube ytplayer Javascript Code

Then, the Javascript code will load the Youtube player (Adobe Flash Player).

```
1 <script>
2 var ytplayer = ytplayer || {};
3 ytplayer.config = {"min_version":"8.0.0",
4                   "url":"https://s.ytimg.com/yts/swfbin/player-vflenMUmo/watch_as3.swf"
5 ...
6 </script>
```

3. Loads Adobe Flash (SWF Player)

Here is how it looks like after the video is loaded. (The `<embed>` element is supported in all major browsers.)

```
1 <embed name="movie_player" id="movie_player" width="100%" height="100%" tabindex="0"
  type="application/x-shockwave-flash"
  src="https://s.ytimg.com/yts/swfbin/player-vflenMUmo/watch_as3.swf"
  allowscriptaccess="always" bgcolor="#000000" allowfullscreen="true" ...>
```

Script

In ordering to generate Youtube views, I've tried several approaches including using [PhantomJS](#) and [SeleniumHQ](#). And, PhantomJS won't work for increasing Youtube views since it's not supporting Flash Player; however, SeleniumHQ works nicely and is tested on Ubuntu Server.

1. PhamtonJS

Run:

```
1 make run_phamtonjs
```

And here are the details about the files:

phantomjs/fake_click_no_js.js: opens a Youtube page without executing its javascript.

phantomjs/fake_click.js: opens a Youtube page then executes its javascript. **However, by looking to its screenshot, we can learn that phantomjs is not supporting Adobe Flash Player.** Refer to: [phantomjs doesn't support flash player](#).

2. Selenium HQ

Run:

```
1 cd seleniumhq && ./run.sh
```

opens Youtube page using Firefox driver. (**X11 is required**)

To start browser headlessly, we should apply [Xvfb\(virtual framebuffer X server for X Version 11\)](#) as background process. Run:

```
1 cd seleniumhq && make run_headless_server
```

Or, just run following command at root directory:

```
1 make run_selenium
```

3. Faking User Agent using Selenium HQ

Give different parameters for fake_click.py to specify User Agent or Target, try:

```
1 > ./seleniumhq/fake_click.py --help
2 usage: Visit one website using Selenium [-h] [-u [USER_AGENT]] [-t [TARGET]]
3
4 optional arguments:
5   -h, --help            show this help message and exit
6   -u [USER_AGENT], --user-agent [USER_AGENT]
7                           specify a user agent for HTTP header
8   -t [TARGET], --target [TARGET]
9                           target URL
```

for example:

```
1 > ./seleniumhq/fake_click.py -u "my custom user agent code" -t  
    "https://www.youtube.com/watch?v=6_XjCeT6V1k"
```

Test

You can test the code by referring to our own local server by running:

```
1 cd seleniumhq && ./test_listener.py
```

then:

```
1 cd seleniumhq && ./fake_click.py
```

you should get following in your server console:

```
1 Connected by ('127.0.0.1', 51108)  
2 GET / HTTP/1.1  
3 Host: localhost:50007  
4 User-Agent: some UA string  
5 Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8  
6 Accept-Language: en-US,en;q=0.5  
7 Accept-Encoding: gzip, deflate  
8 Connection: keep-alive
```

Future Work

- Pick one platform or botnet as deploy platform, and write custom script for it (better would be shell code).
- Test different frequencies/patterns and their response on Youtube views.
- Record traffic packets and see if they can be reproduced.

Code

All the code mentioned in this document is on this [GitHub Repo](#).