Webslayer

How to brute force web applications

OWASP

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OWASP IBWAS 2010
Lisbon

The OWASP Foundation
http://www.owasp.org

Who am I?

- Practice Lead of Threat and Vulnerability Consulting at Verizon Business – EMEA
- Cofounder of Edge-Security
- President of FIST Conferences
- OPST, OPSA, CEH, CISSP, CISA, CISM
- OWASP Webslayer, Project Leader
- WhattheHack!,Source Conference, Hack.lu, OWASP Spain IV,VI, etc

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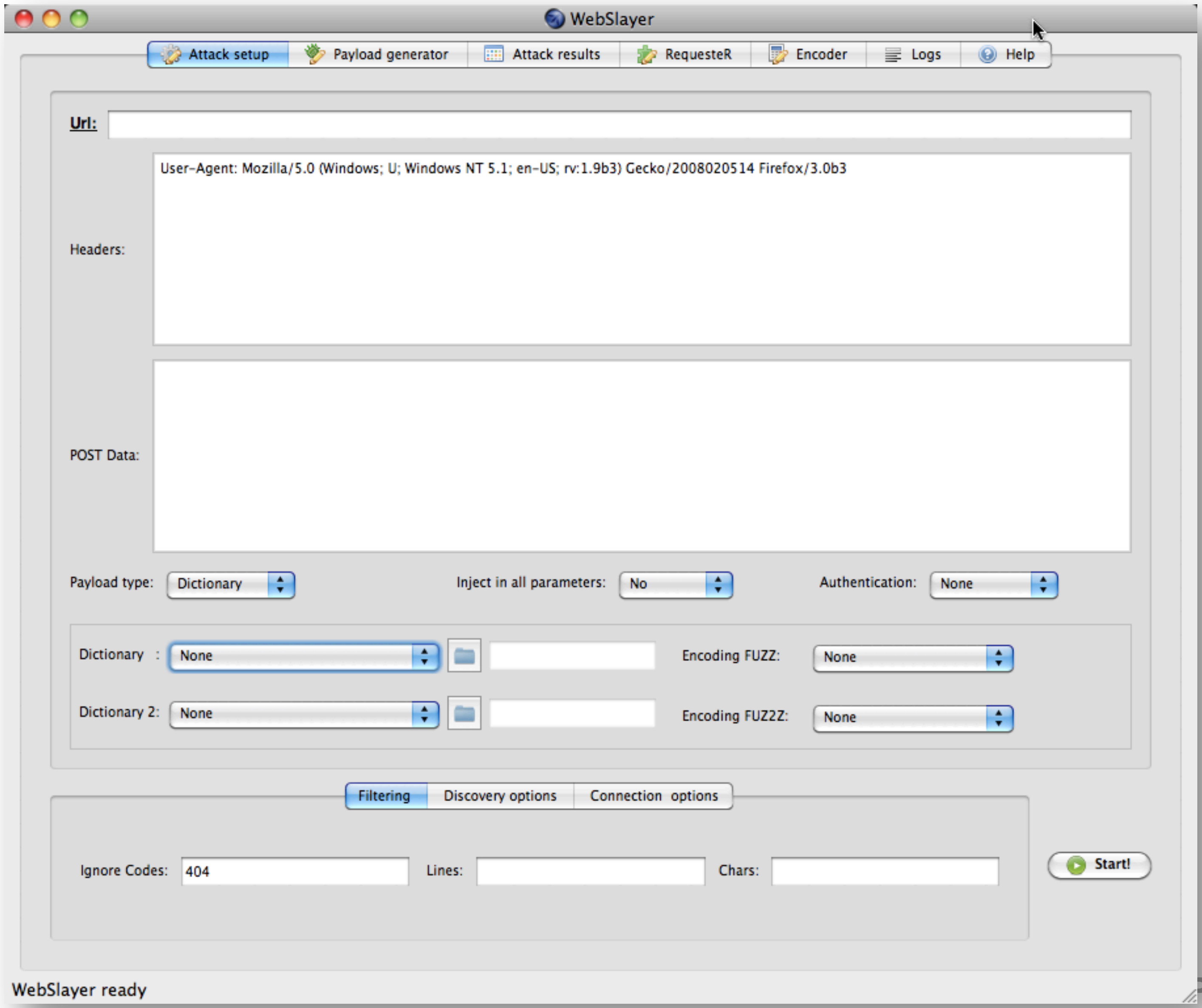
Introduction

- Webslayer is a tool to perform brute force attacks on web applications
- It allows a security tester to brute force attacks of any kind in any part of the HTTP request (POST,GET, HEADERS, Authentication, etc)
- Is an enhancement of WFUZZ
- Multiplatform

Interface Overview



Url:

Headers: User-Agent: Mozilla/5.0 (Windows; U; Windows NT 5.1; en-US; rv:1.9b3) Gecko/2008020514 Firefox/3.0b3

POST Data:

Payload type: Dictionary

Inject in all parameters: No

Authentication: None

Dictionary : None

Encoding FUZZ: None

Dictionary 2: None

Encoding FUZ2Z: None

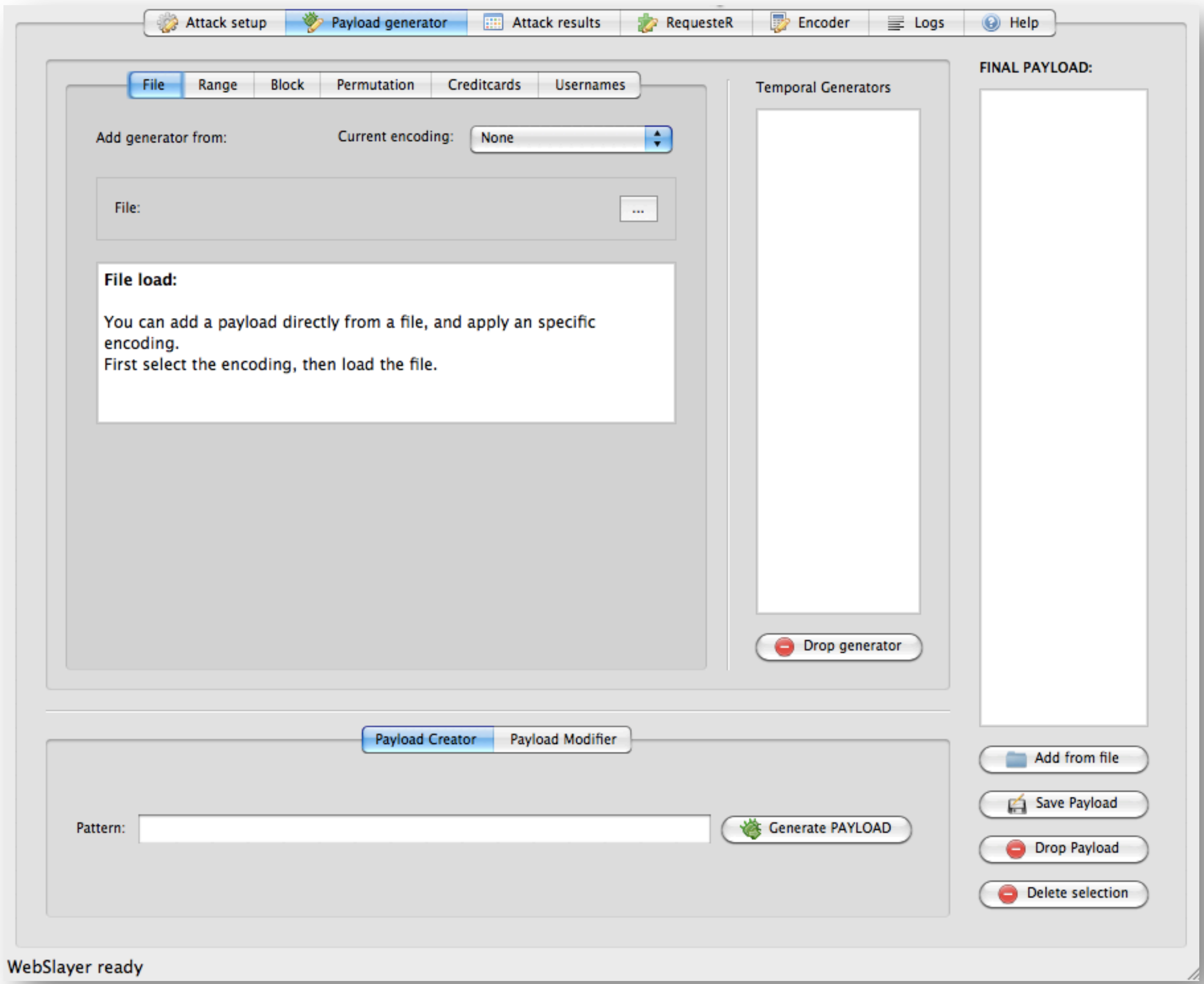
Ignore Codes: 404

Lines:

Chars:

WebSlayer ready

Interface Overview



Add generator from:

Current encoding: None

File:

File load:

You can add a payload directly from a file, and apply an specific encoding.
First select the encoding, then load the file.

Pattern:

WebSlayer ready

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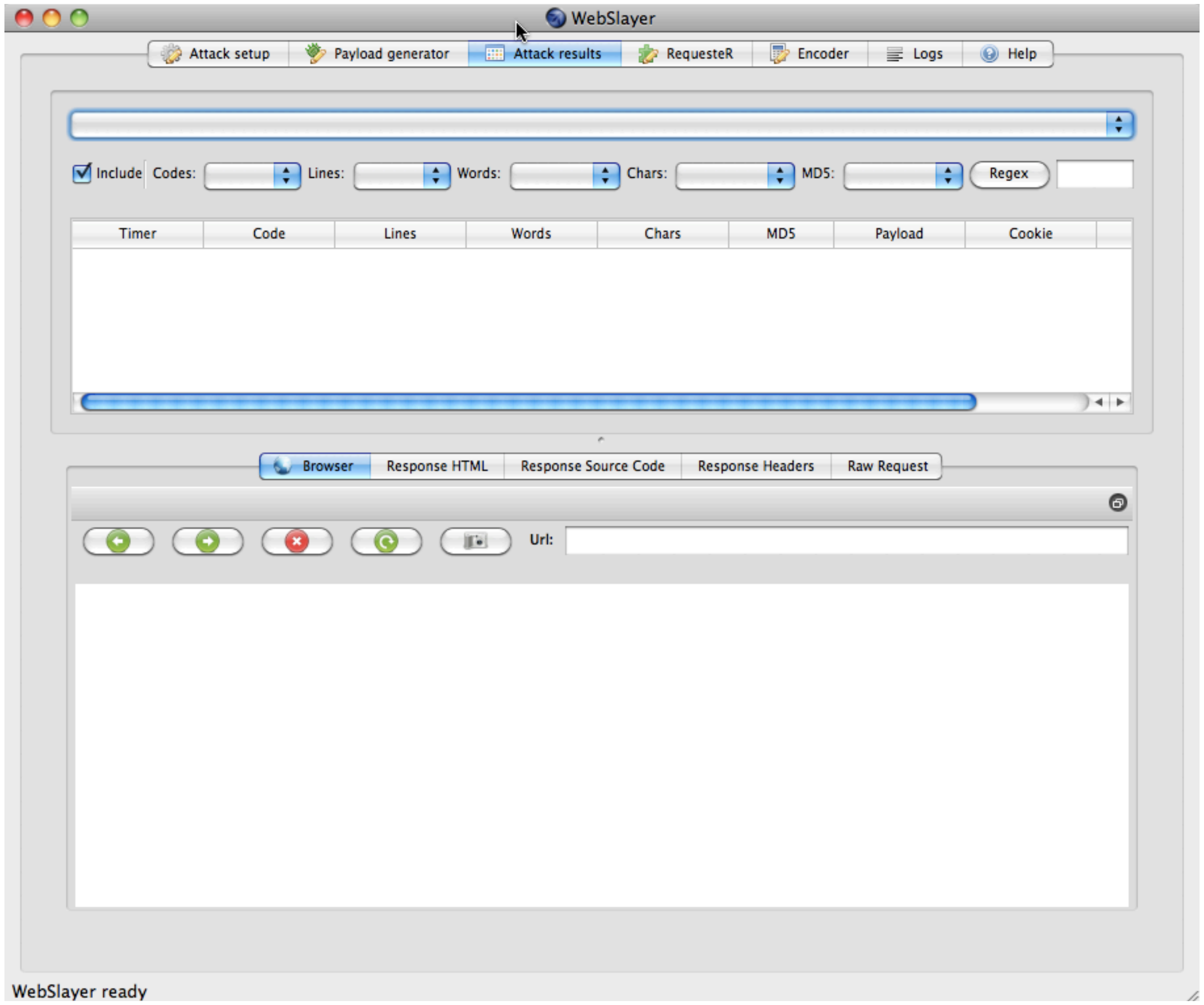

WebSlayer
Attack setup
Payload generator
Attack results
RequesteR
Encoder
Logs
Help
Include
Codes:
Lines:
Words:
Chars:
MD5:
Regex
Timer
Code
Lines
Words
Chars
MD5
Payload
Cookie
Browser
Response HTML
Response Source Code
Response Headers
Raw Request
Url:
WebSlayer ready

Payloads overview

- We call payload to any list of strings that we can use to brute force the web application
- Most of the payloads are inherited from DIRB (www.open-labs.org)
- Now most of the payloads are included in FUZZDB
- Examples: common directory and files names, default installation files for different servers (jboss, apache, weblogic, etc), usernames, passwords, injections,etc

Use the force.

Basic discovery

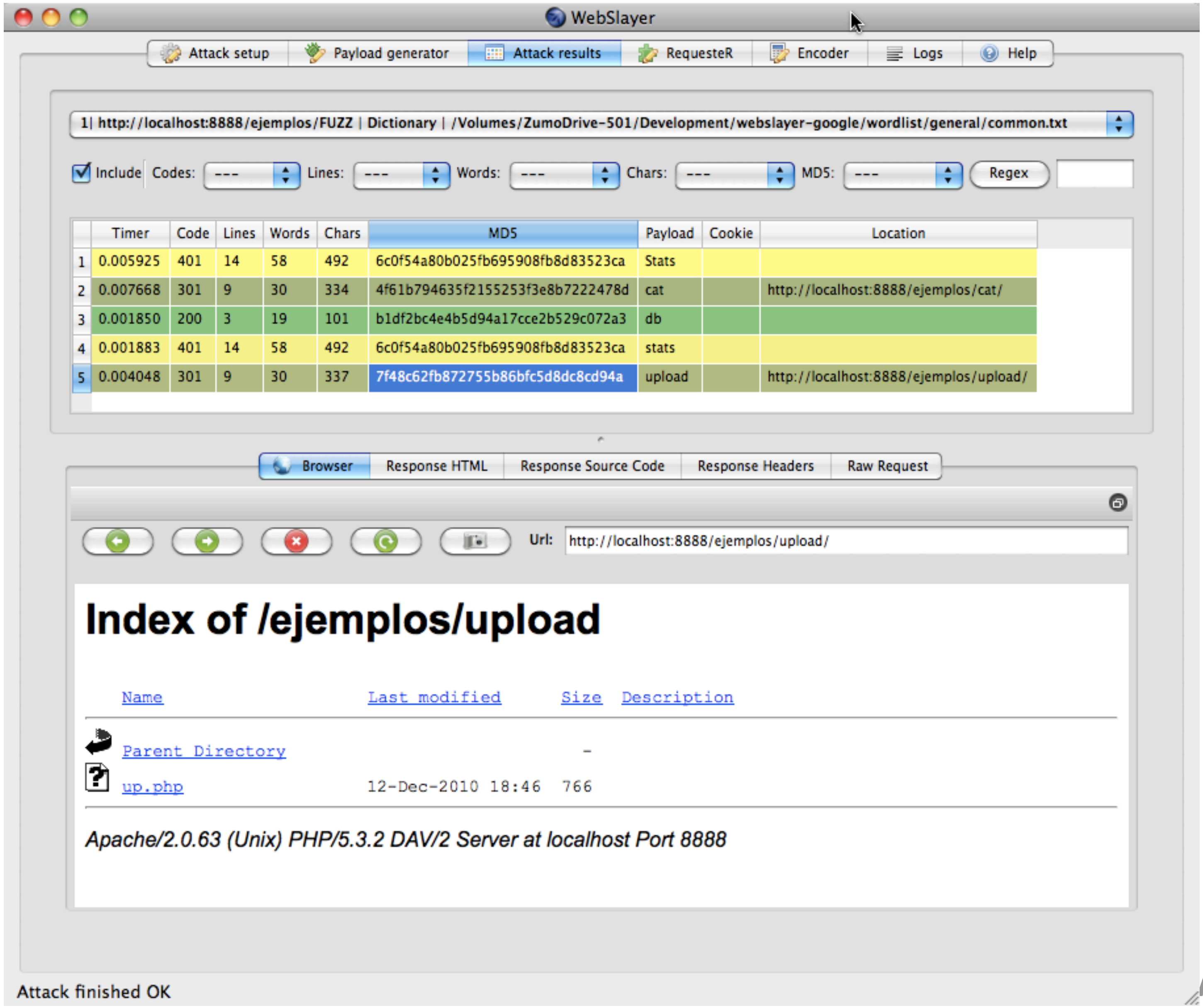
- We are going to launch a basic directory discovery

  Target: X.X.X.X

  Payload: Dictionary (common)

- Filtering: 404 (will hide all the responses with 404)
- Non Standard Code detection:
  - Will try to determine what is the default error response, and will hide the responses that match this one.

Working with the results



1| http://localhost:8888/ejemplos/FUZZ | Dictionary | /Volumes/ZumoDrive-501/Development/webslayer-google/wordlist/general/common.txt

	Timer	Code	Lines	Words	Chars	MD5	Payload	Cookie	Location
1	0.005925	401	14	58	492	6c0f54a80b025fb695908fb8d83523ca	Stats		
2	0.007668	301	9	30	334	4f61b794635f2155253f3e8b7222478d	cat		http://localhost:8888/ejemplos/cat/
3	0.001850	200	3	19	101	b1df2bc4e4b5d94a17cce2b529c072a3	db		
4	0.001883	401	14	58	492	6c0f54a80b025fb695908fb8d83523ca	stats		
5	0.004048	301	9	30	337	7f48c62fb872755b86bfc5d8dc8cd94a	upload		http://localhost:8888/ejemplos/upload/

Url: http://localhost:8888/ejemplos/upload/

Index of /ejemplos/upload

```
Name                    Last modified      Size  Description
Parent Directory                            -
up.php                  12-Dec-2010 18:46  766
```

Apache/2.0.63 (Unix) PHP/5.3.2 DAV/2 Server at localhost Port 8888

Attack finished OK

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Advanced discovery

- We are going to play with the rest of settings:

- Threads
- NSC Detection (Non Standard Code)
- Filtering
- Recursion
- File extensions
- Proxies

Login Brute force

- We are going to brute force a login form. We need to get a request template for the login.

1. Open firefox
2. Enable LiveHTTPHeaders
3. Perform a login
4. Copy the request information to Webslayer
5. Replace password value by FUZZ
6. Select a dictionary with common password
7. Launch the attack

- hints: common_pass.txt user:admin

Basic authentication Brute force

- Now we are going to brute force the BASIC authentication that protects a directory.

- Select Authentication: BASIC
- Type the admin:FUZZ
- Select Dictionary
- Analyze results

- Hints: common_pass.txt

Local file inclusion Brute Force

- Suppose that we find a Local file inclusion vulnerability, and we want to search for valid files in the server.
- We can use a LFI dictionary, and launch the attack.
- Target: /training/php_include.php?file=hello.html

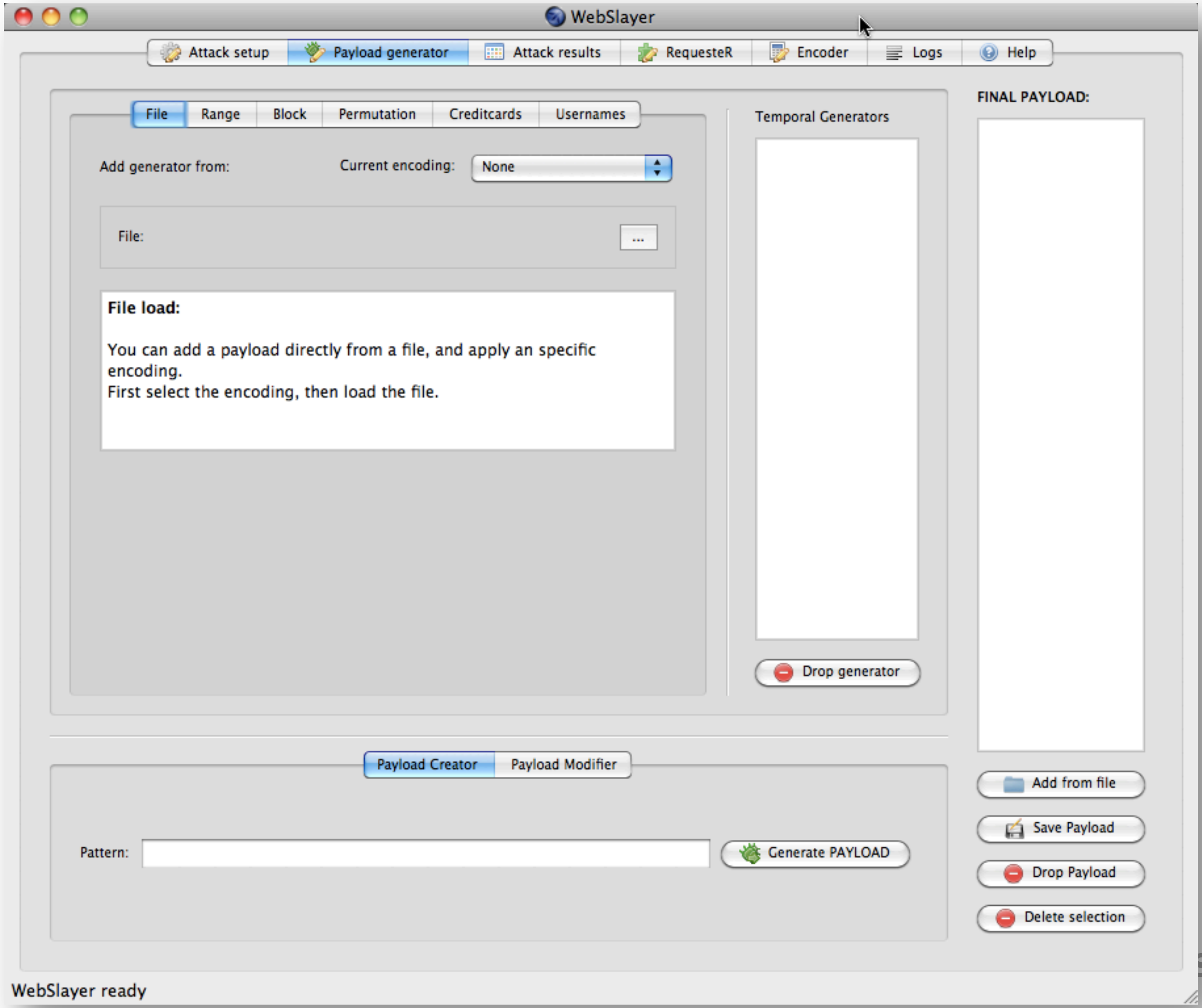
User-agent brute force

- Some applications can have a different set of functionalities depending on the user-agent.
- We can try to perform a brute force attack on the User-Agent and analyze for changes in the responses

- We are going to replace the User-Agent by FUZZ
  - User-Agent: FUZZ

- Select mobile-agents.txt from the root directory
- Analyze the results

Custom payload generation



Add generator from:

Current encoding: None

File:

File load:

You can add a payload directly from a file, and apply an specific encoding.
First select the encoding, then load the file.

Pattern:

WebSlayer ready

Custom payload generation

- We have the following options to create a payload:

  - File
  - Range
  - Block
  - Permutation
  - Credit Cards
  - Usernames

- Patterns -> Final Payload

Custom payload generation

- Let´s create a payload with the following pattern:
    - admin-001
    - admin-020
    - guest-001

Encoded parameters brute force

Many times we see parameters encoded with different methods like MD5, base64, we can easily brute force this parameters with webslayer

- Target:

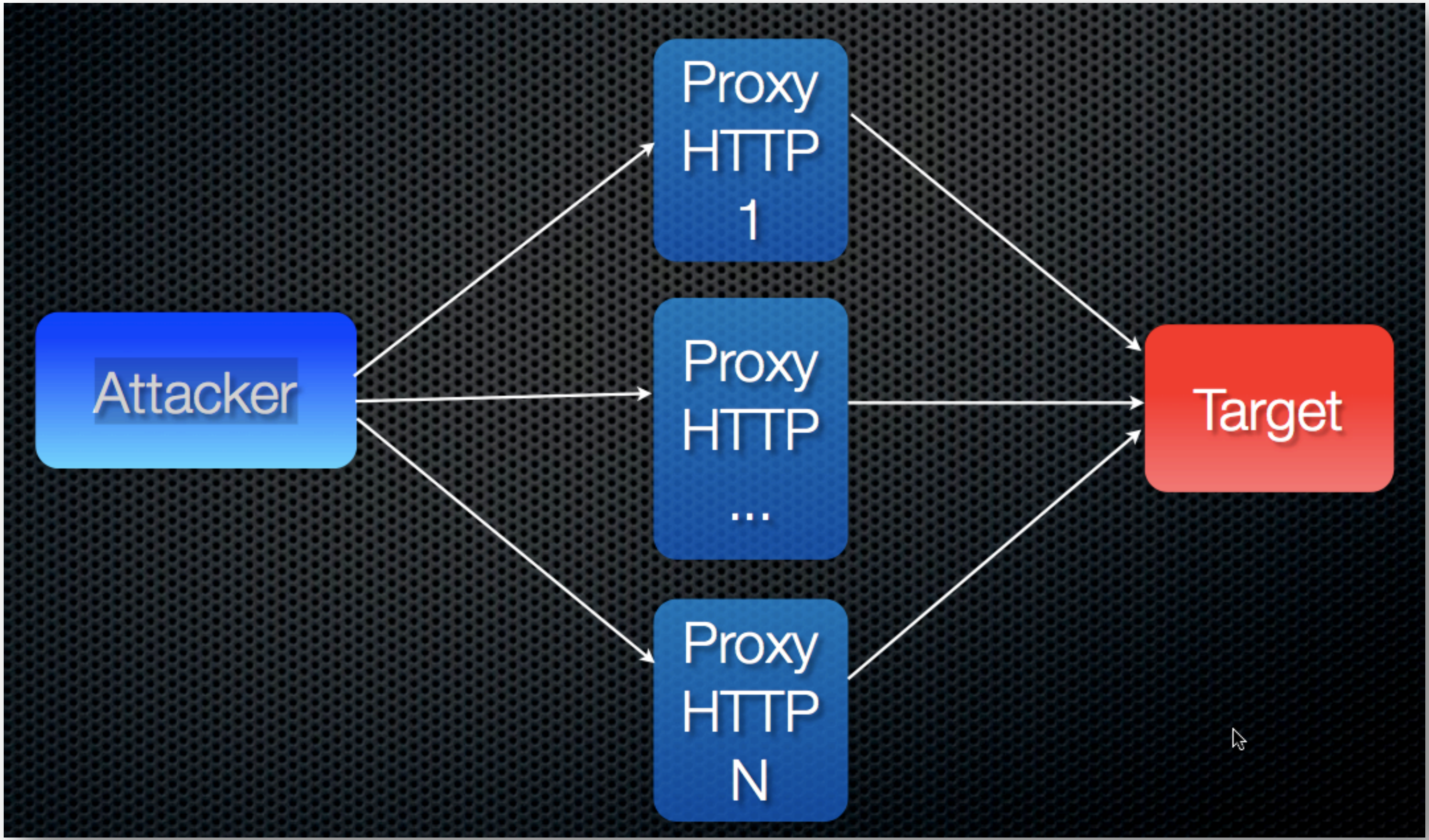
/training/encoded.php?var=126b7016a916a4b178dd72b947c15123

- Hint: Encode the payload, test

Advanced uses & techniques

- Finding the same file in different servers
- Finding a file in different directories
- Multiple servers discovery
- Proxy discovery
- Source ip balancing
- Random order (diagonal, horizontal, vertical)
  - FUZ2Z-FUZZ Horizontal

Source ip balancing



Advanced techniques

- **Horizontal scanning**: we try un password for all the users
- **Diagonal scanning**: different username/ password (randomized)
- **Three dimension:** (H,V,D) + Time
- **Four dimension:** (H,V,D) + Time + Balancing source IP

Question, ideas?

?

"MAY THE FORCE BE WITH YOU"

Thank you

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16/12/2010

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