WebSpa
Single HTTP/S Request Authorisation Web Knocking
User Guide
_v0.8

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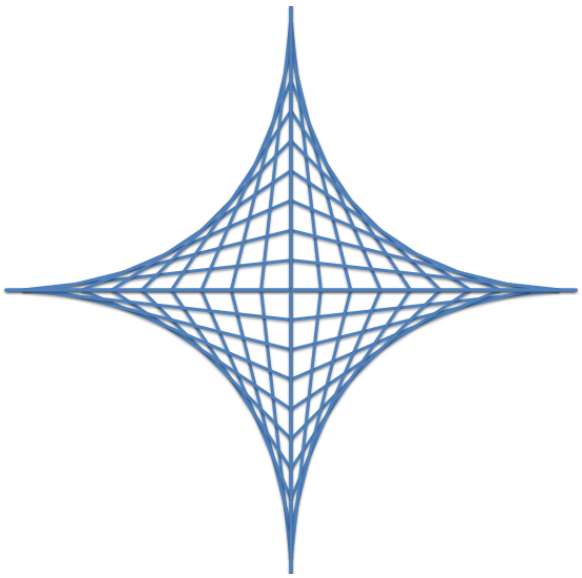

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1 Welcome

Thank you for taking an interest in WebSpa. As the user guide, this document aims to put you in control of *"speaking"* to your web server in a covert manner. After reading this, you should have a clear understanding of how to issue Operating System (O/S) commands via submitting a URL request to a web server.

This introductory section describes where this user guide fits in the wider remit of WebSpa documentation. It gives a definition of what WebSpa is and provides an outline on how the sections of this document are structured.

1.1 This Guide & Other Supporting Documentation

The discrepant event discussed herein is web knocking. This document is one of three, with the purpose of describing how WebSpa can be used. The three documents are:

- **WebSpa Administration Guide** This document describes how to setup and use the WebSpa server. It details how to create new users and add new action numbers with respective O/S commands assigned to them
- **WebSpa Specification Guide** This document describes the actual design detailing the use case, specification, requirements and actual attacks, which this tool has been engineered to withstand
- **WebSpa User Guide** This document describes how to use the WebSpa client for issuing commands through a URL request to a web server.

This user guide aims to enable anyone who would be interested in using WebSpa to do so. As soon as you install the server side component and decide what actions to allow, you'll be ready to use the corresponding client for issuing direct actions that work for you.

If this is your first time of using WebSpa, please note that the client operations described in this document, will not work if a server WebSpa instance has not been configured to receive them.

Thus, knowing a client implementation goes hand-in-hand with a server instance for it, please also have a look at the WebSpa administration guide document to see how the two can be used in tandem.

1.2 What is WebSpa?

WebSpa is a complete client/server tool that allows you to send premeditated commands to the system your web server is running on.

1.3 How To Read This User Guide

There is one main section to this user guide, entitled *"Running the WebSpa Client"*. This section has five sub-sections, taking the reader through the 3 necessary steps in order for a web-knock to be created.

This document concludes with the observation that a WebSpa knock URL request is only valid for the current minute running and that a new web-knock would have to be created for every minute.

2 Obtaining WebSpa

This section provides important installation information to help you quickly get started using WebSpa on Windows, Mac OS and Linux operating systems.

2.1 System Requirements

You need a computer with the following:

- An Operating System (O/S) of your choice with Java Runtime Environment (JRE) 6 later installed
- 128 megabytes (MB), or greater, of RAM
- 10 MB of free hard-disk space

2.2 The Download

You can obtain the latest release of WebSpa from:

- https://sourceforge.net/projects/webspa/files/

At the time or writting, the current version is webspa-06.zip (∼5MB) The download contains the following files:

- INSTALL
- LICENSE
- README
- docs
- src
- web-spa-0.7.jar
- web-spa.sh

Both client and server are bundled into a single executable jar. With the exception of a small shell script, some notes and documentation, all you need is the jar file to run WebSpa.

2.3 Documentation

Within the *docs* folder of the WebSpa download, you can find three files in PDF format. These are:

- docs\00-web-spa-administration-guide.pdf
- docs\00-web-spa-specification-guide.pdf
- docs\00-web-spa-user-guide.pdf

These three guides constitute the supporting documentation for this tool.

2.4 No Installer?

We have intentionally made WebSpa lightweight. As a result, no further configuration or install is required. This is part of the design, in order to keep all that is required to run this tool in a single directory.

3 Running the WebSpa Client

As this tool is a command-line tool, in this section we take you through the steps required to run WebSpa in *client mode*.

3.1 Specifying the Client Parameter

To run WebSpa in *client mode* at the command prompt type:

```
user@bath-spa:~# java -jar web-spa-0.7.jar -client
```

This will produce a welcome screen and ask the user to enter 3 necessary inputs, in order for the web-knock request to be created. These are:

1. The host name & protocol
2. Your unique pass-phrase
3. Your selected action number

We will go through each of these in detail now.

3.2 Specifying the Host Name & Protocol

This can be an IP Address or a DNS entry with a protocol specification of either that of the Hypertext Transfer Protocol (HTTP) or the Hypertext Transfer Protocol Secure (HTTPS).

What you will next see on screen is:

```
user@bath-spa:~# java -jar web-spa-0.7.jar -client

WebSpa - Single HTTP/S Request Authorisation
version 0.7 (web-spa@seleucus.net)

=[Required] Host [e.g. https://localhost/]:
```

Assuming that the server running WebSpa in *server mode* is

1. www.mywebknockjumphost.com
2. Using HTTPS

Simply type:

```
=[Required] Host [e.g. https://localhost/]:
https://www.mywebknockjumphost.com
```

And press enter.

3.3 Entering Your Unique Pass-Phrase

As a user of WebSpa, your administrator would have given you through an *out-of-band* channel your unique pass-phrase. Enter this now:

```
=[Required] Your pass-phrase for that host:
```

Please note that your pass-phrase will not appear on the screen. You will be asked to re-enter your pass-phrase in order to make certain you are generating a web-knock using the correct value.

```
=[Required] Please enter your pass-phrase for that host:
=[Required] Re-enter the above value:
```

If the values entered don't match, you will be asked to start again, as this is a required input, necessary to generate a web-knock request.

3.4 Selecting an Action Number

As a user of WebSpa, your administrator would have given you a maximum of 10 O/S commands, mapped to a unique single digit from [0-9]. An example set view can be seen below:

```
------------------------------------------------------------
 #  O/S Command                    Last Executed
------------------------------------------------------------
 0  sh -c "service apache2 star...  2013-08-10 21:06:42.255
 1  sh -c "service apache2 stop...  has never been executed
 2  sh -c "/etc/init.d/ssh star...  2013-08-22 11:04:17.133
 3  sh -c "/etc/init.d/ssh stop...  has never been executed
 4  sh -c "service mysql start;...  2013-08-10 21:07:21.300
 5  sh -c "service mysql stop; ...  2013-08-10 21:07:11.600
------------------------------------------------------------
```

Based on the above example set view, let's assume that you as a user want to start the Secure Shell (SSH). For this, select action number 2:

```
=[Required] The action number [0,9]: 2
```

And press enter.

3.5 Your WebSpa Knock

The next screen will display your WebSpa knock. In case the target host uses an unknown/untrusted SSL certificate, the fingerprint of the certificate will be displayed and you will be prompted to either trust the certificate, or the cancel the operation.

WebSpa creates a file containing all trusted SSL fingerprints, similar to the *known_hosts* file in SSH:

```
[2013-12-21 22-34-40] Your WebSpa Knock is:

http://localhost/LfO-rQ22xRxRMhxr8CyFEcC81oA2MFTYTpXSCZm
0ySNcD4-B6prSFNQHXRZzdyNbHnP9-IosVW_n7JNn9NpnuWA6YdPU6PA8W2eK/

-[Optional] Send the above URL [Y/n]:

[2013-12-21 22-34-40] Starting to send the above HTTPS request
RSA key fingerprint is (SHA1) 32:F6:37:2E:EB:3A:32:AD:68:03:72:48:CB:A5:C5:AF:48:02:8A:EA
=[Required] Are you sure you want to continue connecting [y/n]: y

[2013-12-21 22-34-40] Reponse received
[2013-12-21 22-34-40] Response Code : 404
[2013-12-21 22-34-40] Goodbye!

user@bath-spa:~#
```

Please note, that this knock is only valid for the current minute running. If the current minute in time changes, you will need to execute the above process again, as your above displayed request will be invalid.

4 Abbreviations

HTTP/S	Hypertext Transfer Protocol / Secure
JRE	Java Runtime Environment
O/S	Operating System
SSH	Secure Shell