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Developer's Guide

Testing with GWM Proxy

4/22/2025

Testing with GWM Proxy

The GWM Proxy is a development tool, which enables you to test your application without adding the JavaScript tracking code to your website. Once you have configured this proxy, you can launch it and start the Genesys Web Engagement servers to start testing your application by emulating a visit on your website. In a few clicks, without modifying your website, Genesys Web Engagement features will show up on a set of web pages, according to the rules and categories that you created.

There are two proxy tools available in the Genesys Web Engagement installation: Simple and Advanced. See the appropriate tabs below for details and configuration information.

Simple GWM Proxy

To use the Simple GWM Proxy, you must first complete a few procedures to configure the tool and your web browser.

Getting the GWM Proxy Port

Complete this procedure to retrieve the GWM Proxy port, which you will need later when you configure your web browser.

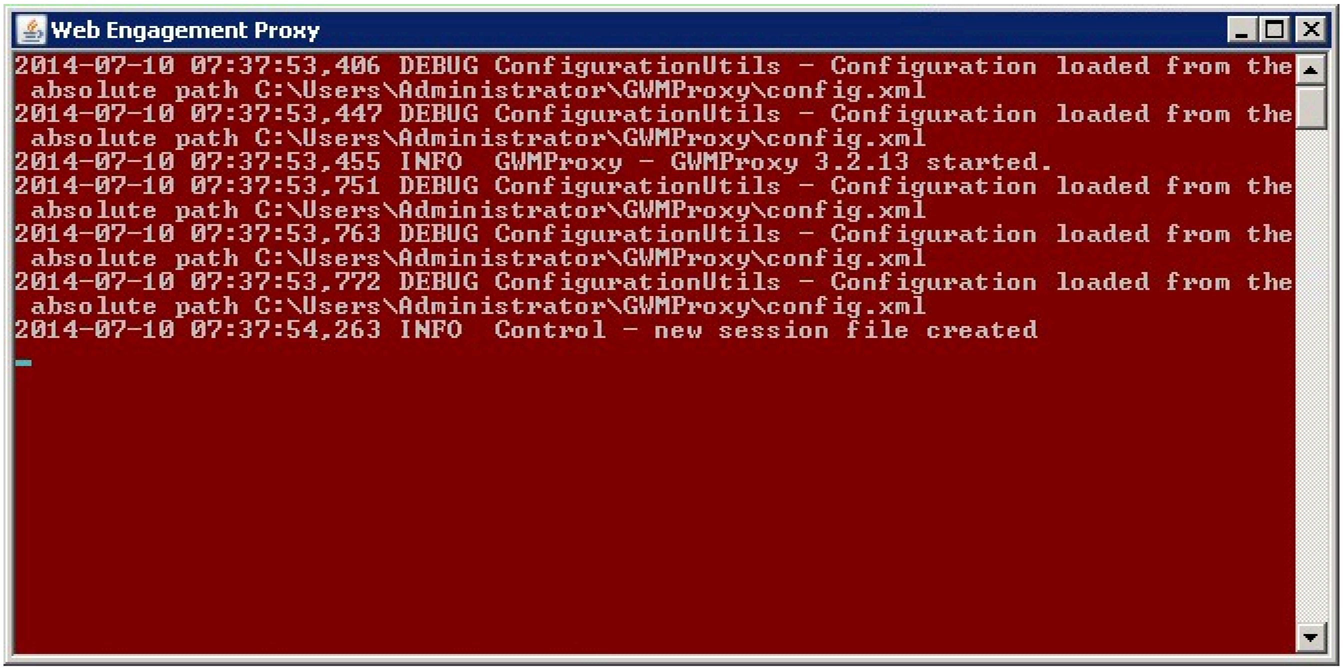
Start

1. Navigate to **C:\Users\*current user*\GWMProxy**.
   If this folder does not exist, navigate to your Web Engagement installation directory and launch **servers\proxy\startserver.bat** (on Windows) or **servers\proxy\startserver.sh** (on Linux). The **GWMProxy** folder appears automatically.
2. Edit **config.xml' *and find the*** *<proxy>* tag.
3. Check that the value of the **<ip>** tag is set to your host IP address.
   Note: You cannot use 127.0.0.1 or localhost for this value.
4. Note the value of the **<port>** tag (usually 15001).
5. Save your changes.

End

Starting the Proxy

Navigate to your Web Engagement installation directory and launch **servers\proxy\startserver.bat** (on Windows) or **servers\proxy\startserver.sh** (on Linux). The Simple GWM Proxy starts.



```
2014-07-10 07:37:53,406 DEBUG ConfigurationUtils - Configuration loaded from the
 absolute path C:\Users\Administrator\GWMProxy\config.xml
2014-07-10 07:37:53,447 DEBUG ConfigurationUtils - Configuration loaded from the
 absolute path C:\Users\Administrator\GWMProxy\config.xml
2014-07-10 07:37:53,455 INFO  GWMProxy - GWMProxy 3.2.13 started.
2014-07-10 07:37:53,751 DEBUG ConfigurationUtils - Configuration loaded from the
 absolute path C:\Users\Administrator\GWMProxy\config.xml
2014-07-10 07:37:53,763 DEBUG ConfigurationUtils - Configuration loaded from the
 absolute path C:\Users\Administrator\GWMProxy\config.xml
2014-07-10 07:37:53,772 DEBUG ConfigurationUtils - Configuration loaded from the
 absolute path C:\Users\Administrator\GWMProxy\config.xml
2014-07-10 07:37:54,263 INFO  Control - new session file created
```

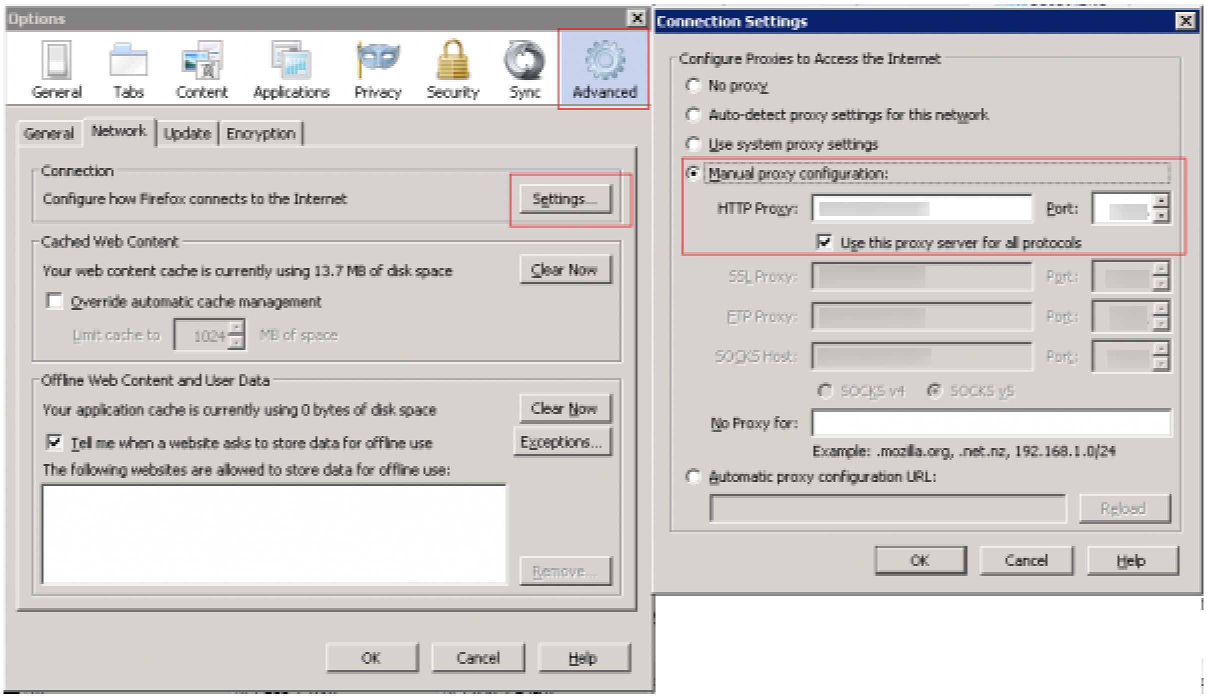
The Simple GWM Proxy

Setting Up your Web Browser

Configure your web browser to use the Simple GWM Proxy.

Start

1. Start your web browser.
2. Open your Internet settings. For instance, in Mozilla Firefox, select **Tools > Options'*. The* *Options* dialog window appears.
3. Select **Advanced'*, and in the* *Network* tab click **Settings...** The **Connection Settings** dialog windows appears.
4. Select the **Manual proxy configuration** option:
    - Enter your host IP address in the **HTTP** proxy text box.
    - Enter the port used by the GWMProxy in the **Port** text box. This is the value you retrieved in "Getting the GWMProxy Port".
    - Select the option **Use this proxy server for all protocols**.



Options

Connection

Configure how Firefox connects to the Internet

Cached Web Content

Your web content cache is currently using 13.7 MB of disk space

☐ Override automatic cache management

Limit cache to 1024 MB of space

Offline Web Content and User Data

Your application cache is currently using 0 bytes of disk space

☑ Tell me when a website asks to store data for offline use

The following websites are allowed to store data for offline use:

Connection Settings

Configure Proxies to Access the Internet

○ No proxy

○ Auto-detect proxy settings for this network

○ Use system proxy settings

● Manual proxy configuration:

HTTP Proxy: Port:

☑ Use this proxy server for all protocols

SSL Proxy: Port:

FTP Proxy: Port:

SOCKS Host: Port:

○ SOCKS v4 ● SOCKS v5

No Proxy for:

Example: .mozilla.org, .net.nz, 192.168.1.0/24

○ Automatic proxy configuration URL:

GWMProxy used in Firefox

5. Click **OK**. Now your browser is set up for the GWM Simple Proxy. To use the proxy, all you need to do is navigate to the site where you want the proxy to inject the Web Engagement instrumentation script and browse through the web pages.

End

Modifying the Script in the GWM Proxy (Optional)

You can edit the **map.xml** file in the **/tools/proxy** directory to customize the code injected in the HTTP response retrieved through the proxy.

To do this, add your code under the **<content></content>** element with CDATA masking.

If you want to browse a secure domain, insert your code under **<secure><content>...</content></secure>** elements; otherwise, use the **<simple><content>...</content></simple>** element.

In the root **<map>** tag, the "replace" attribute uses regular expressions to specify where the code must be injected. For instance, the string "%s </head>" means that the "%s" code must be added before the "</head>" tag.

> **Important**
>
> Do not forget to restart GWM Proxy after making modifications to the **map.xml** file so

> that your changes will take effect.

Here is an example of a modified **map.xml** file that injects the DSL code in the HTTP response.

```
<?xml version="1.0"?>
<mapping>
    <map replace="%s </head>" domains="genesyslab.com;www.genesyslab.com;www-
ssl.genesyslab.com;">
        <simple>
            <content>
<![CDATA[
<script>
                var _gt = _gt || [];
                _gt.push(['config', {
                                dslResource:      ( 'https:' == document.location.protocol ?
'https://demosrv:8443' :
                    'http://demosrv:8081') + '/frontend/resources/dsl/domain-model.xml',
                                httpEndpoint:        'http://demosrv:8081',
                                httpsEndpoint:     'https://demosrv:8443'
                                }]);

                var _gwc = {
                                widgetUrl: ( 'https:' == document.location.protocol ?
'https://demosrv:8443' :
                    'http://demosrv:8081') + '/frontend/resources/chatWidget.html'
                };

                (function(gpe, gwc) {
                                if (document.getElementById(gpe)) return;
                                var s = document.createElement('script'); s.id = gpe;
                                s.src = ( 'https:' == document.location.protocol ?
'https://demosrv:8443' :

'http://demosrv:8081') + '/frontend/resources/js/build/GPE.min.js';
                                s.setAttribute('data-gpe-var', gpe);
                s.setAttribute('data-gwc-var', gwc);
                                (document.getElementsByTagName('head')[0] ||
document.body).appendChild(s);
                })('_gt', '_gwc');
</script>
]]>
            </content>
        </simple>
    </map>
</mapping>
```

Advanced GWM Proxy

The Advanced GWM Proxy is based on the OWASP Zed Attack Proxy Project (ZAProxy). In addition to acting as a proxy, the Advanced GWM Proxy also provides a UI and validates vulnerabilities in your website at the same time.

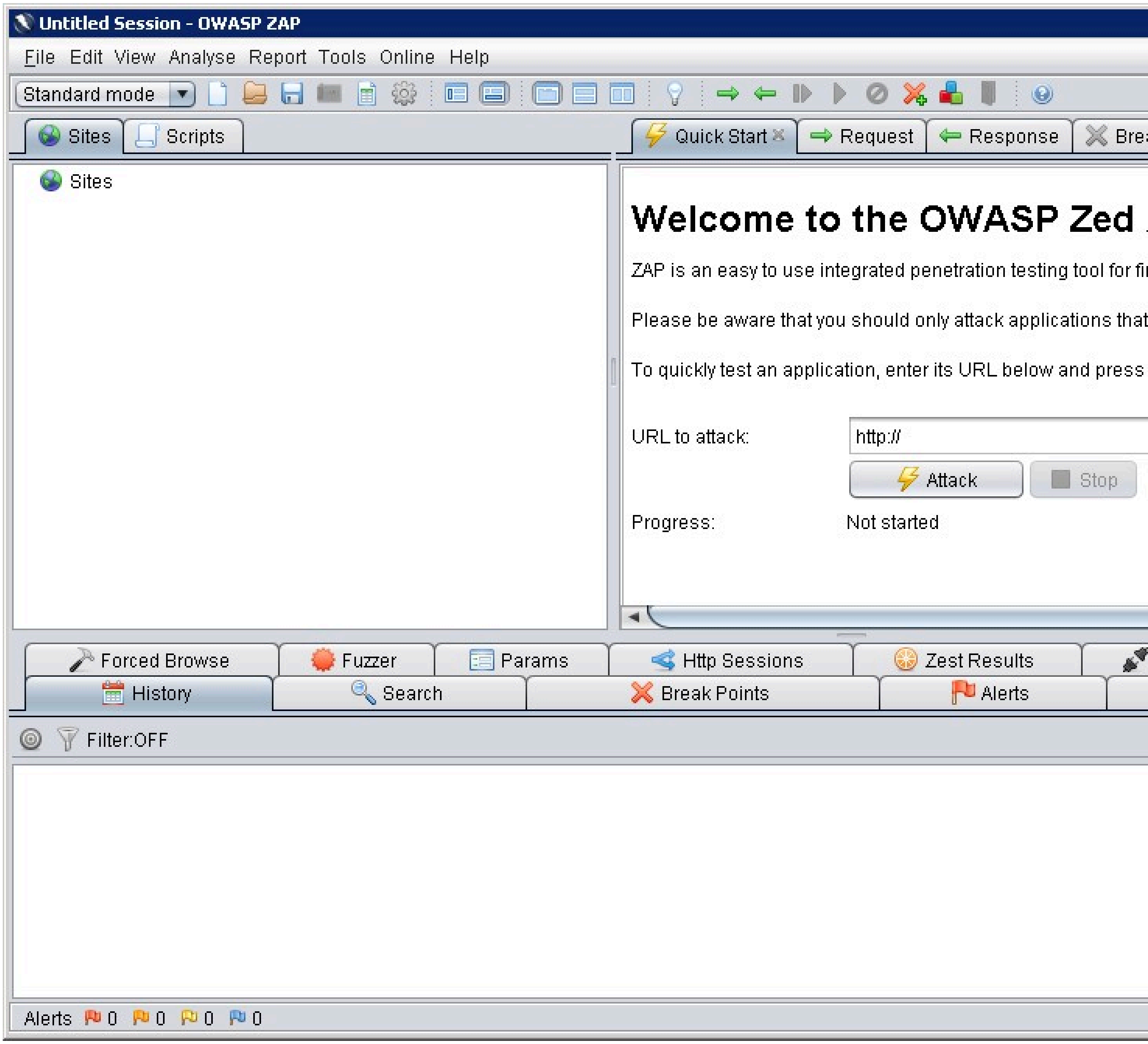
Important

While Genesys Web Engagement requires a minimum of Java version 1.6, the Advanced GWM Proxy requires **JDK 1.7 or higher**.

To use the Advanced GWM Proxy, you must first complete a few procedures to configure the tool.

Starting the Proxy

Navigate to your Web Engagement installation directory and launch **servers\proxy2\zap.bat** (on Windows) or **servers\proxy2\zap.sh** (on Linux). The proxy starts.



Welcome to the OWASP Zed

ZAP is an easy to use integrated penetration testing tool for fi

Please be aware that you should only attack applications that

To quickly test an application, enter its URL below and press

URL to attack: http://

Progress: Not started

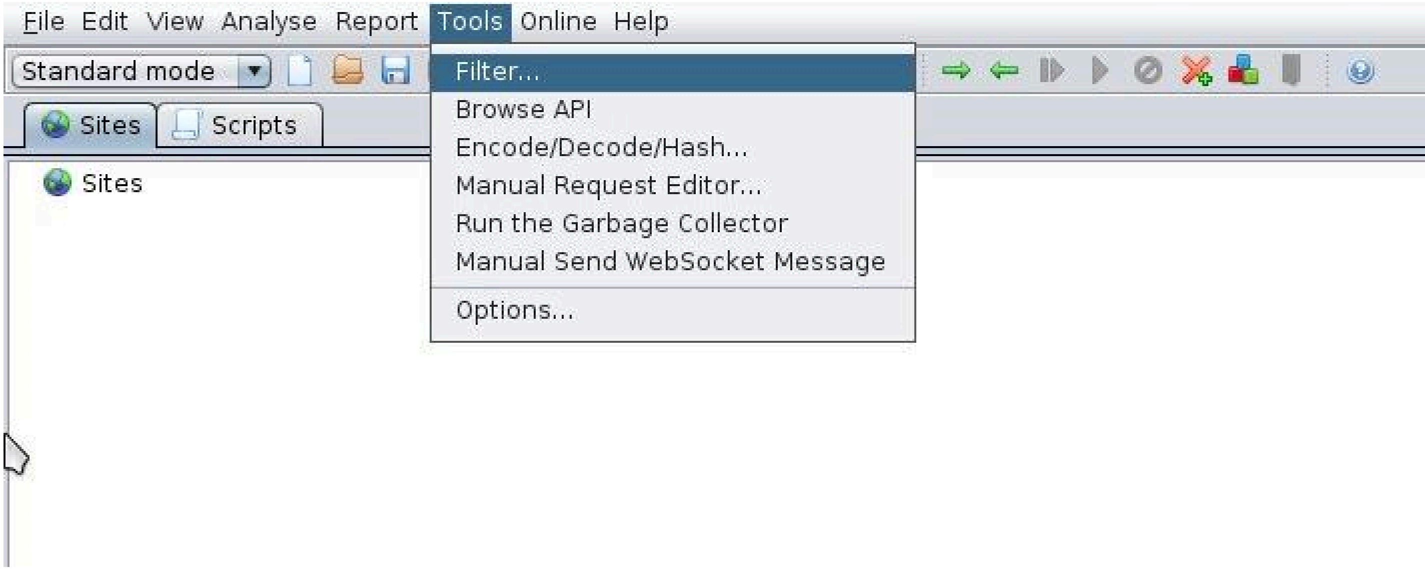
The Advanced GWM Proxy

Configuring the Proxy

Once the proxy is running, you can configure it using the GUI.

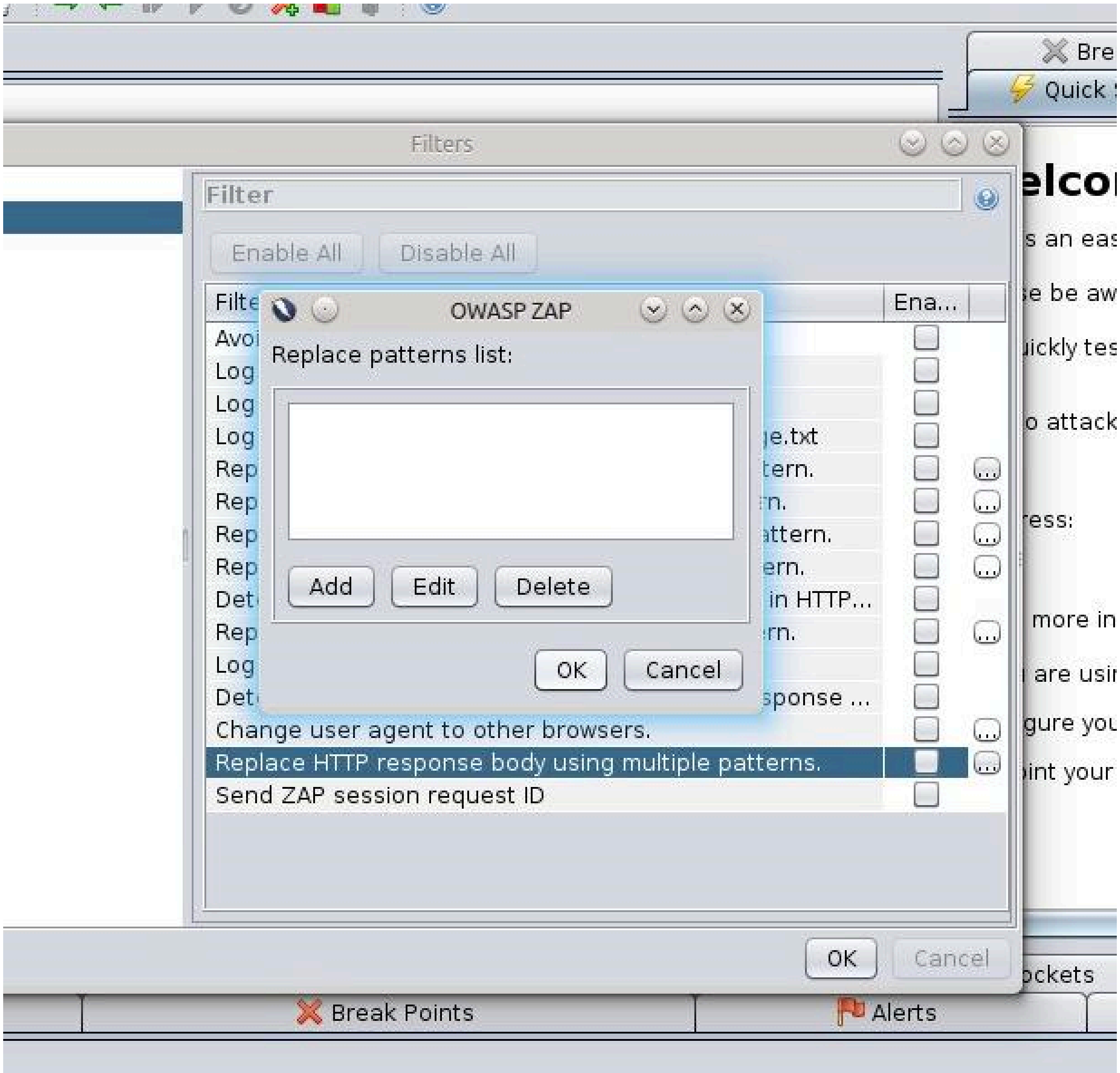
Start

1. Open **Tools > Filter...**.



Select the Filter menu item.

2. In the list of filters, select **Replace HTTP response body using multiple patterns** and click **...** to edit the filter.



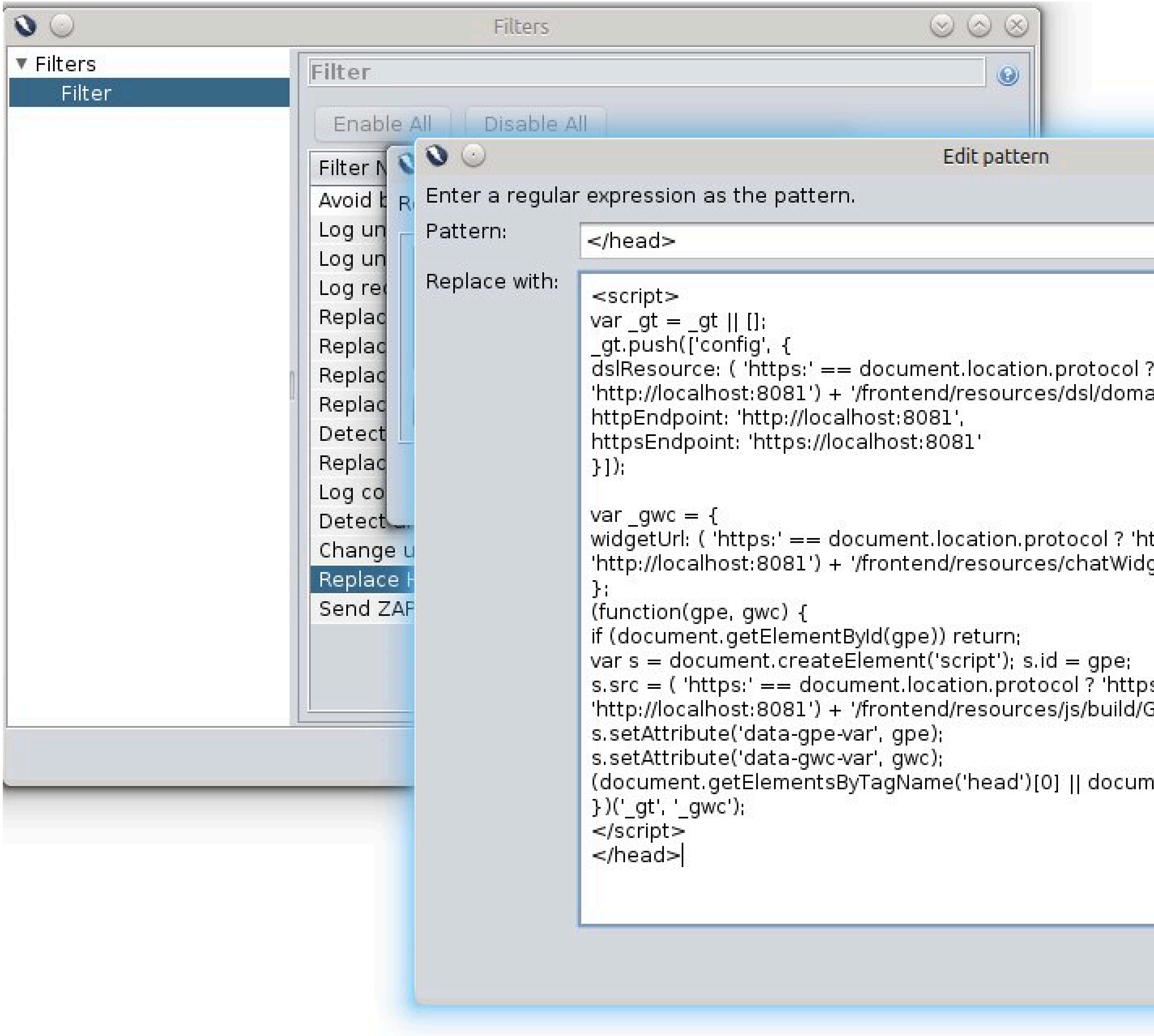
Select the filter.

3. Click **Add** and enter the following information:
   - Pattern - **</head>**
   - Replace with -

```
<script>
 var _gt = _gt || [];
 _gt.push(['config', {
 dslResource: ( 'https:' == document.location.protocol ? 'https://localhost:8081' :
 'http://localhost:8081') + '/frontend/resources/dsl/domain-model.xml',
 httpEndpoint: 'http://localhost:8081',
 httpsEndpoint: 'https://localhost:8081'
 }]);

 var _gwc = {
```

```
widgetUrl: ( 'https:' == document.location.protocol ? 'https://localhost:8081 :
'http://localhost:8081') + '/frontend/resources/chatWidget.html'
};
(function(gpe, gwc) {
if (document.getElementById(gpe)) return;
var s = document.createElement('script'); s.id = gpe;
s.src = ( 'https:' == document.location.protocol ? 'https://localhost:8081' :
'http://localhost:8081') + '/frontend/resources/js/build/GPE.min.js';
s.setAttribute('data-gpe-var', gpe);
s.setAttribute('data-gwc-var', gwc);
(document.getElementsByTagName('head')[0] || document.body).appendChild(s);
})('_gt', '_gwc');
</script>
</head>
```



Enter a regular expression as the pattern.

Pattern: </head>

Replace with:

```
<script>
var _gt = _gt || [];
_gt.push(['config', {
dslResource: ( 'https:' == document.location.protocol ?
'http://localhost:8081') + '/frontend/resources/dsl/doma
httpEndpoint: 'http://localhost:8081',
httpsEndpoint: 'https://localhost:8081'
}]);

var _gwc = {
widgetUrl: ( 'https:' == document.location.protocol ? 'ht
'http://localhost:8081') + '/frontend/resources/chatWidg
};
(function(gpe, gwc) {
if (document.getElementById(gpe)) return;
var s = document.createElement('script'); s.id = gpe;
s.src = ( 'https:' == document.location.protocol ? 'https
'http://localhost:8081') + '/frontend/resources/js/build/G
s.setAttribute('data-gpe-var', gpe);
s.setAttribute('data-gwc-var', gwc);
(document.getElementsByTagName('head')[0] || docum
})('_gt', '_gwc');
</script>
</head>
```

Enter the pattern and text to replace it with

4. Click **OK** to save the pattern.

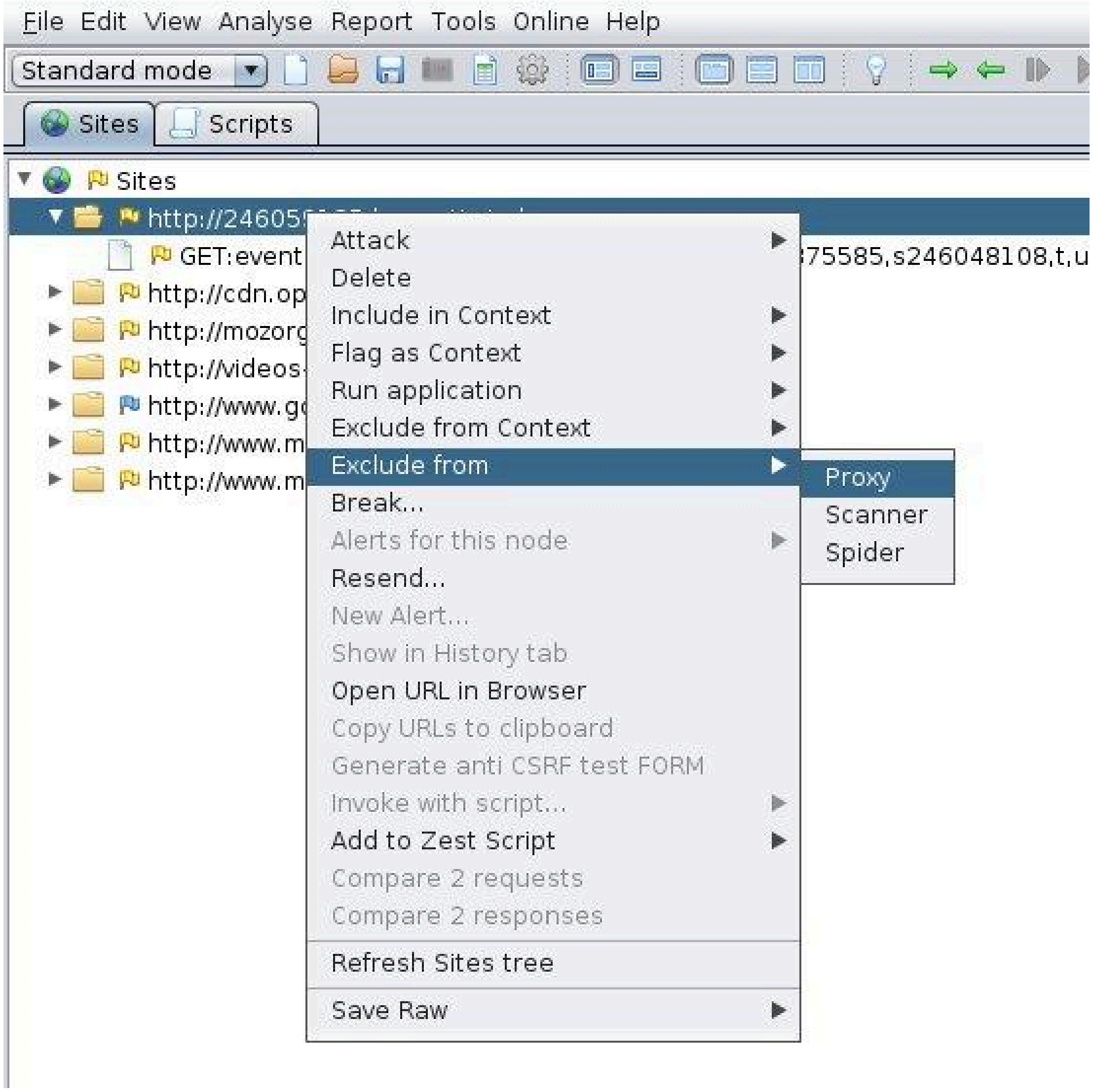
End

Configuring the URL Filter

Complete this procedure to use the GUI to configure URLs that the proxy should ignore.

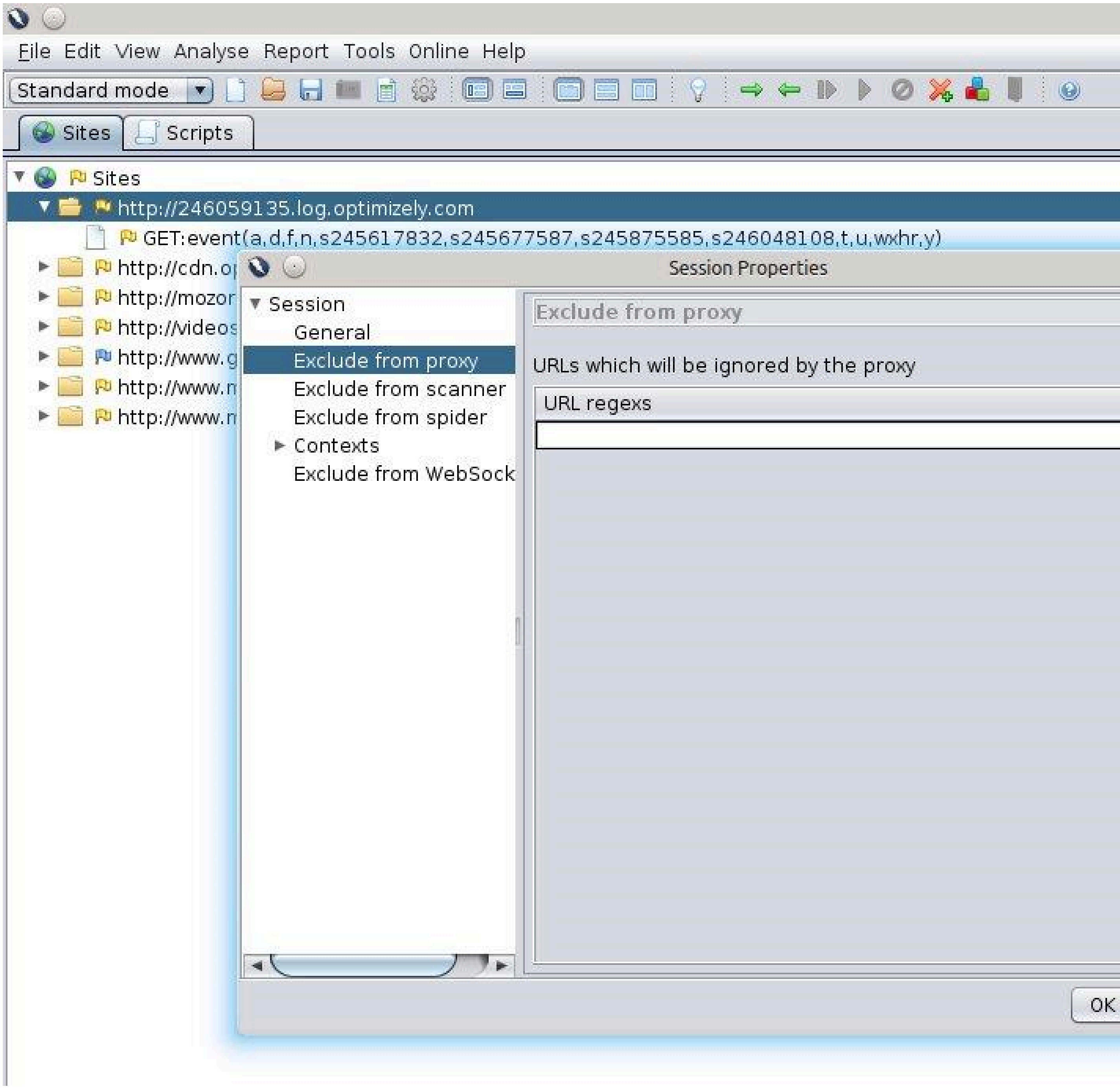
Start You can exclude a site in one of two ways:

- In the **Sites** tab, right-click on a site and select **Exclude from > Proxy**.



Select a site to exclude

- Select **File > Properties**. In the Session Properties window, select **Exclude from proxy**, add your URL, and click **OK**.



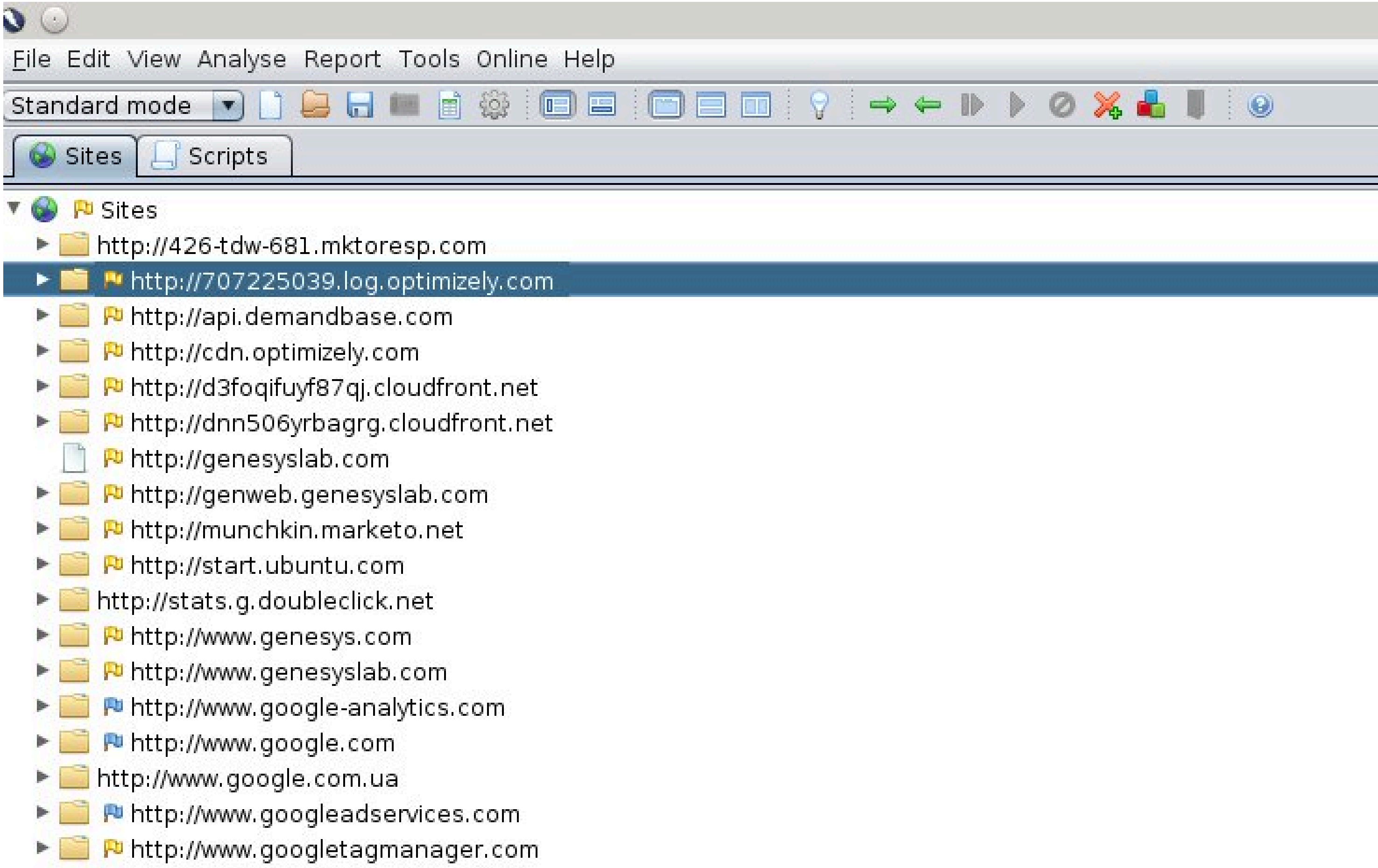
Enter a URL to exclude.

- If you want the proxy to remember the excluded URLs beyond the current session, select **File > Persist session...** and select a file to save your session.

End

Working with the Proxy

After you have configured the proxy, keep it open and open up a web browser. Now you can browse through your web pages that are instrumented with Genesys Web Engagement and they will be displayed in the **Sites** tab of the proxy GUI:



- Sites
  - http://426-tdw-681.mktoresp.com
  - http://707225039.log.optimizely.com
  - http://api.demandbase.com
  - http://cdn.optimizely.com
  - http://d3foqifuyf87qj.cloudfront.net
  - http://dnn506yrbagrg.cloudfront.net
  - http://genesyslab.com
  - http://genweb.genesyslab.com
  - http://munchkin.marketo.net
  - http://start.ubuntu.com
  - http://stats.g.doubleclick.net
  - http://www.genesys.com
  - http://www.genesyslab.com
  - http://www.google-analytics.com
  - http://www.google.com
  - http://www.google.com.ua
  - http://www.googleadservices.com
  - http://www.googletagmanager.com

Your instrumented pages show up in the **Sites** tab

For more information about working with ZAProxy, see https://www.owasp.org/index.php/OWASP_Zed_Attack_Proxy_Project

Security Testing with ZAProxy

Genesys performs security testing with OWASP Zed Attack Proxy (ZAProxy) to make sure the Genesys Web Engagement solution is invincible to known attacks.

ZAP Overview

The ZAProxy is an easy-to-use, integrated penetration testing tool for finding vulnerabilities in websites and web applications.

Among others, ZAProxy supports the follow methods for penetration security testing:

- passive scan
- active scan

Genesys uses both methods.

Passive Scan Overview

ZAP is an Intercepting Proxy. It allows you to see all of the requests made to a website/web app and all of the responses received from it. For example, you can see AJAX calls that might not otherwise be obvious.

Once set up, ZAP automatically passively scans all of the requests to and responses from the web application being tested.

While mandatory use cases for the application that is being tested are followed (either manually or automatically), ZAProxy analyzes the requests to verify the usual operations are safe.

Active Scan Overview

Active scanning attempts to find potential vulnerabilities by using known web attacks against the selected targets. Active scanning is an attack on those targets. ZAProxy emulates known attacks when active mode is used.

Through active scanning, Genesys Web Engagement is verified against the following types of attacks:

- **Spider attack** — Automatically discovers all URL links found on a web resource, sends requests, and analyzes results (including src attributes, comments, low-level information disclosure, and so on).
- **Brute browsing** (based on the Brute Force technique) — Systematically makes requests to find secure resources based on known (commonly used) rules. For example, backup, configuration files, temporary directories, and so on.
- **Active scan** — Attempts to perform a predefined set of attacks on all resources available for the web resource. You can find the default set of rules here.
- **Ajax spider** — Automatically discovers web resources based on presumed rules of AJAX control (JS scripts investigation, page events, common rules, dynamic DOM, and so on).

Important

Requests to other web applications must be excluded from scanning in order to see a report for a particular web application.

Important

Web applications that are being tested should be started on the local box because some types of verification (like active scanning) can be forbidden by network administrators.

References

If you want to examine your website against vulnerabilities in a similar way, refer to the OWASP Zed Attack Proxy Project or other documentation to learn about how to perform security testing with ZAP.