Usage Tracking for IBM® InfoSphere® Information Governance Catalog

Contents

Overview

InfoSphere Information Governance Catalog[1] includes a feature that allows you to track usage of InfoSphere Information Governance Catalog through web analytics tools such as IBM NetInsight, Google Analytics or Piwik, in a way that does not interfere with InfoSphere Information Governance Catalog code and that can be maintained from release to release.

The feature tracks web browser page hits on each InfoSphere Information Governance Catalog page. The tracking process detects page hits for both IBM Glossary Anywhere (and its precursor, InfoSphere Business Glossary Anywhere) and InfoSphere Information Governance Catalog when accessed from a web browser.[2]

To implement this feature, you create a simple file based on a template that is provided in this article, and add code to it that is specific to the tracking tool that you are using. Then, in WebSphere Administration Server, you configure a system property to point to the file.

This document explains how to configure the tracking feature, using as its example the open source tool Piwik. Piwik is available at http://www.piwik.org.

This step-by-step example shows you how to modify the provided file, configure WebSphere Application Server, and then provide a sample of the results.

1. Installing Piwik and its prerequisites

Installing prerequisites

To run Piwik, which is used as an example, you must also have the following prerequisites:

- Web server
- PHP
- MySQL

Refer to the Piwik web site at www.piwik.org for the specific versions of these prerequisites that are required and other recommendations. For this example, the open source package WampServer is used to provide these prerequisites.

To install the WampServer package:

1. From the computer that you want to host your web server on, navigate to www.wampserver.com.

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[1] Also available in InfoSphere Business Glossary Version 8.7 and 9.1.

[2] In InfoSphere Business Glossary Version 8.7, hits on InfoSphere Business Glossary Anywhere are not included.

2. Download and install a version of WampServer that corresponds to your computer (32-bit or 64-bit). During installation, click **Next** at every prompt to use the defaults.
   Note: You might want to change the email address.
   The directory in which you install should look like this:
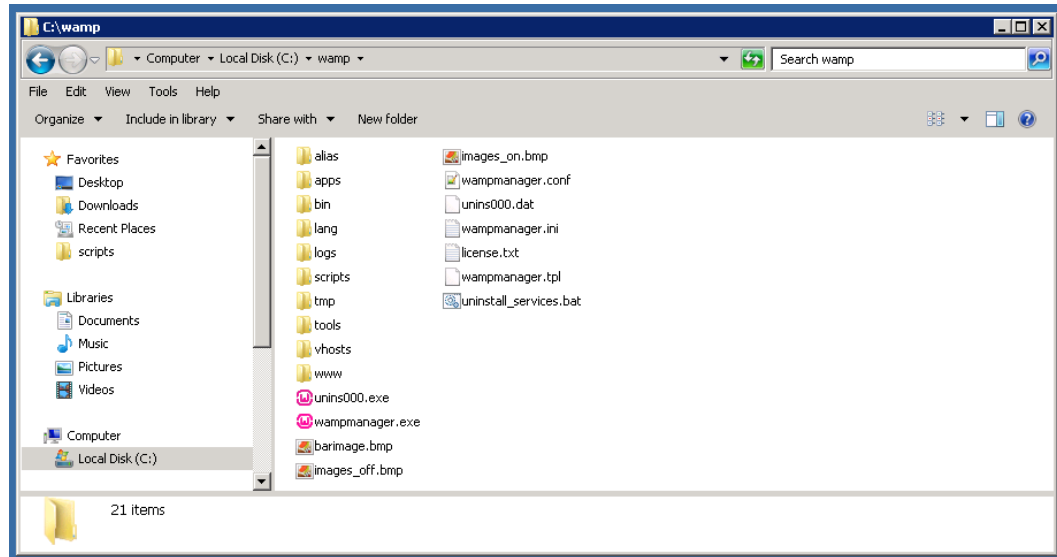
3. For 11.3 and later, configure WampServer to work with HTTPS as described this forum thread http://forum.wampserver.com/read.php?2,32986.
4. Make sure that WampServer is running and online before you move to the next step (Installing Piwik). The WampServer icon (⬛) is displayed in your Windows system tray. If WampServer is running, the icon is green. To further verify that WampServer is running or to access the stop and start menu, click the WampServer icon.

Installing Piwik

Note: The instructions in this section describe one method of installing Piwik. Refer to the information at the Piwik web site for alternative methods, including the use of web servers other than WampServer.

1. In your web browser, open www.piwik.org.
2. Download the piwik.zip file. Extract the content into a new directory.
3. Copy the extracted Piwik directory to the `www` directory of the Apache server that was installed with WampServer. For example, if you extracted Piwik to the directory `C:/piwik`, and WampServer to `C:/wamp`, then copy the contents of the `C:/piwik` directory to the `C:/wamp/www` directory.
4. Add the following line to the piwik configuration file `config/config.ini.php`, under the [General] section[3]:
   `force_ssl=1`

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[3] http://piwik.org/faq/how-to/faq_91/ - How do I force Piwik to use SSL (https) for improved security?

5. Enter the address of the new web site in your web browser. For example, if you installed the WampServer on a machine with host 9.147.56.248, enter `9.147.56.248/piwik.`

6. Follow the prompts for the Piwik installation. Use the following values for the fields listed below:

   - login: root
   - password: none — leave this field empty
   - database name: piwik
   - super user login: This creates a super-user account for Piwik. This user should have administrative privileges on the system that hosts Piwik.
   - website name: Configure the web site in the format `host_name:port/ibm/iis/igc.` For example: `9.147.56.248:9443/ibm/iis/igc`

7. At the end of the Piwik installation process, a window opens that contains the code that you must add to the tracking file. Retain a copy of this code. You will place it in the required location in a later step. The code is similar to the following example. However, use the code as displayed by the Piwik version that you installed because it might change.

```html
<!-- Piwik -->
<script type="text/javascript">
  var _paq = _paq || [];
  _paq.push(['trackPageView']);
  _paq.push(['enableLinkTracking']);
  (function() {
    var u="//9.147.56.248/piwik/";
    _paq.push(['setTrackerUrl', u+'piwik.php']);
    _paq.push(['setSiteId', 1]);
    var d=document, g=d.createElement('script'),
s=d.getElementsByTagName('script')[0];
    g.type='text/javascript'; g.async=true; g.defer=true;
g.src=u+'piwik.js'; s.parentNode.insertBefore(g,s);
  })();
</script>
<noscript><p><img
src="//localhost/piwik/piwik.php?idsite=1"
style="border:0;" alt="" /></p></noscript>
<!-- End Piwik Code -->
```

2. Creating the tracking file

1. With a text editor, create a file that contains the text shown in **bold** in the template below. The file name must end with the extension `html`. You will add content to this file in later steps.

```html
<!--
 Place optional JavaScript usage tracking code here or in
file defined by system property 'bg.tracking.include'
 All code must be placed within <script> tags
-->
```

```
<script>
function bgTrackPageEvent(url, pageTitle, fullTitle) {
    // place custom tracking code here
}
```

2. In the file that you just created, add the usage tracking code. For example, for Piwik,
   add the code that you copied from the Piwik web site between the lines:
   `<!-- Piwik -->` and `<!-- End Piwik Code -->`.

3. In the same file, add the callbacks to the tracking tool after the `bgTrackPageEvent`
   function. For Piwik, for example, add:

```
function bgTrackPageEvent(url, pageTitle, fullTitle) {
    _paq.push(['setDocumentTitle', pageTitle]);
    _paq.push(['trackPageView']);
}
```

4. Optional: To track search keywords, implement the function
   `bgTrackSearchEvent(url, search, result)`. For Piwik, for example, add:

```
function bgTrackSearchEvent(url, search, result) {
    // place custom search tracking code here, e.g.
    //   console.log(search);
    //   console.log(result);
    _paq.push(['trackSiteSearch',
        search.searchText, false, result.numResults]);
}
```

The following example shows a sample file with the Piwik tracking code and callbacks:

```
<!-- Piwik -->
<script type="text/javascript">
  var _paq = _paq || [];
  _paq.push(['trackPageView']);
  _paq.push(['enableLinkTracking']);
  (function() {
    var u="//9.147.56.248/piwik/";
    _paq.push(['setTrackerUrl', u+'piwik.php']);
    _paq.push(['setSiteId', 1]);
    var d=document, g=d.createElement('script'),
s=d.getElementsByTagName('script')[0];
    g.type='text/javascript'; g.async=true; g.defer=true;
g.src=u+'piwik.js'; s.parentNode.insertBefore(g,s);
  })();
</script>
<noscript><p><img src="//localhost/piwik/piwik.php?idsite=1"
style="border:0;" alt="" /></p></noscript>
<!-- End Piwik Code -->

<script>
function bgTrackPageEvent(url, pageTitle, fullTitle) {
    // place custom tracking code here
    _paq.push(['setDocumentTitle', pageTitle]);
    _paq.push(['trackPageView']);
}

function bgTrackSearchEvent(url, search, result) {
    // place custom search tracking code here, e.g.
    //   console.log(search);
```

```
//   console.log(result);
   _paq.push(['trackSiteSearch', search.searchText, false,
result.numResults]);
}
</script>
```

3. Configuring WebSphere Application Server

You must configure WebSphere Application Server Liberty Core or WebSphere Application Server with the tracking system property.

WebSphere Application Server Liberty Core

1. Log in to the system that hosts InfoSphere Information Server.
2. Change directories to
   (Windows):
   > `C:\IBM\InformationServer\wlp\usr\servers\mis`
   (Linux or other UNIX-based systems):
   > `opt/IBM/InformationServer/wlp/usr/servers/mis`
3. Open the file `jvm.options` with a text editor. Add the following line to the `jvm.options` file:
   > `-Dbg.tracking.include=`*`full_path`*`/`*`tracking_file`*`.html`
   where *`tracking_file`*`.html` is the name of the file that you created in step 2. *`full_path`* is the directory path to *`tracking_file`*`.html`.
   For example:
   > `-Dbg.tracking.include=C:\ibm\iis\igc\igc_tracking.html`

WebSphere Application Server

1. Log in to the WebSphere Application Server Integrated Solutions Console.
2. Select **Servers** > **Server types > WebSphere application servers > server1.**
3. Under **Server Infrastructure**, select **Java and Process Management** > **Process definition**.
4. Under **Additional Properties**, select **Java Virtual Machine**.
5. Under **Additional Properties**, select **Custom properties**.
6. Click **New**.
7. Enter the Name, Value, and optional Description of the tracking system property where **Name** is `bg.tracking.include` **Value** is the full path to the `HTML` file that you created.

For example:

8. Click **Apply**.
9. Click **Save** at the top of the window to save the changes to the WebSphere Application Server master configuration.
10. Stop and restart WebSphere Application Server.

Results

Here is an example of the results returned by Piwik 2.9.1. You can customize the "dashboard" of results.
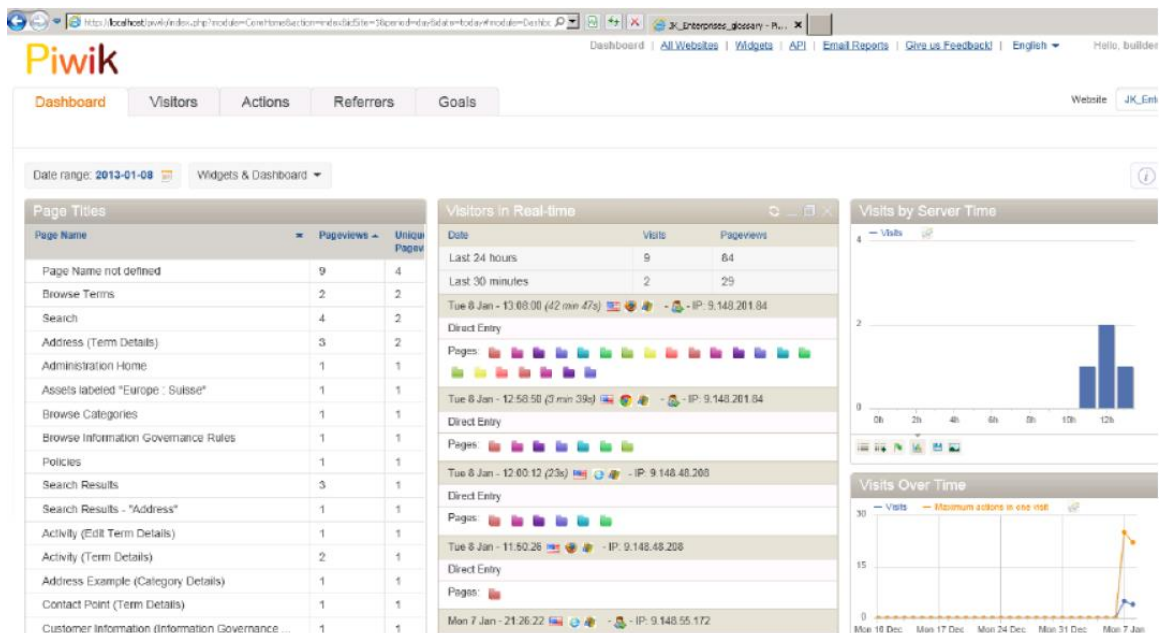
Troubleshooting common problems

If you followed the instructions and no results are registered on the Piwik website, try the following solutions.

Make sure that the html file is injected properly

To check whether the `html` file that you created, for example `igc_tracking.html`, is injected properly, complete the following steps:

1. Open the main page of Information Governance Catalog in the web browser. For example, https://9.147.56.248:9443/ibm/iis/igc/.

2. View page source.

   2.1. If the `igc_tracking.html` file is injected, you can see the following script:

   ```
   <!-- Piwik -->
   <script type="text/javascript">
     var _paq = _paq || [];
     /* tracker methods like "setCustomDimension" should be called before "trackPageView" */
     _paq.push(['trackPageView']);
     _paq.push(['enableLinkTracking']);
     (function() {
       var u="//9.128.105.5/piwik2/";
       _paq.push(['setTrackerUrl', u+'piwik.php']);
       _paq.push(['setSiteId', '1']);
       var d=document, g=d.createElement('script'), s=d.getElementsByTagName('script')[0];
       g.type='text/javascript'; g.async=true; g.defer=true; g.src=u+'piwik.js'; s.parentNode.insertBefore(g,s);
     })();
   </script>
   <!-- End Piwik Code -->
   <script>
   function bgTrackPageEvent(url, pageTitle, fullTitle) {
    _paq.push(['setDocumentTitle', pageTitle]);
    _paq.push(['trackPageView']);
   }
   </script>
   ```

   2.2. If the `igc_tracking.html` file is not injected, you can see the following script:

   ```
   <!--
       Place optional JavaScript usage tracking code here or in file defined by system property 'bg.tracking.include'
       All code must be placed within <script> tags
   -->

   <script>
   function bgTrackPageEvent(url, pageTitle, fullTitle) {
       // place custom tracking code here
   }

   function bgTrackSearchEvent(url, search, result) {
       // Parameters:
       //  url - current page URL
       //  search - a JavaScript object that contains the following fields:
       //      searchText - string being searched for
       //      assetTypes - array of Strings (e.g. ["Term"  , "Category"])
       //  result - a JavaScript object that contains the following fields:
       //      numResults - integer, total number of results returned
       //
       // place custom search tracking code here, e.g.
       //  console.log(search);
       //  console.log(result);
   }
   </script>
   ```

   If the `igc_tracking.html` file is not injected, you must manually configure WebSphere files. Complete the following steps:

   1. Go to
      `C:\IBM\WebSphere\AppServer\profiles\<profile_name>\installedApps\`
      `<app_name>\igc-web.ear\igc-web.war`.

   2. Create a backup copy of the `igc_tracking.html` file. This file by default has the same content as provided in step 2.2 earlier.

3. Replace the content of the `igc_tracking.html` file with the Piwik script. The example of such script is provided in section 2. Creating the tracking file.
4. Open the main page of Information Governance Catalog in the web browser, and view page source to verify that the script is injected.

Make sure that the HTTPS protocol is used

To check whether the HTTPS protocol is used, complete the following steps:

1. In your web browser, open network developer tools.
2. Open the main page of Information Governance Catalog in the web browser. For example, https://9.147.56.248:9443/ibm/iis/igc/.
3. In network developer tools pane, look for the `piwik.js` entry. If the SSL configuration is correct, Piwik entry has the following status:

	200	GET	path.js		9.128.105.5:9443
O	200	GET	dojo_en.js	🔒	9.128.105.5:9443
O	200	GET	piwik.js	🔒	9.128.105.5
●	200	GET	piwik.php?action_name=&idsite=1&rec=1&r=351417&h=14&m=31&s=53&url=ht...	🔒	9.128.105.5
●	200	POST	services?services.preventCache=1497493916382_0.8689692508248442	🔒	9.128.105.5:9443

If no status is provided, or the lock icon is not green, the SSL configuration is incorrect. Complete the following steps:

1. Make sure that keys and certificates are generated, and that WampServer configuration files are modified as mentioned in the instruction http://forum.wampserver.com/read.php?2,32986.
2. In the `httpd.conf` file, uncomment the following line:
   `LoadModule socache_shmcb_module modules/mod_socache_shmcb.so`
3. Restart the WampServer.

If the status code is 403, there is an access issue. Complete the following steps:

1. In the `httpd-ssl.conf` file, in the `<VirtualHost _default_:443>` tag, add the following script:
```
<FilesMatch "\.(cgi|shtml|phtml|php)$">
    SSLOptions +StdEnvVars
       Options Indexes FollowSymLinks MultiViews ExecCGI
       Order allow,deny
       Require all granted
       AllowOverride All
       Allow from all
</FilesMatch>
```
2. Restart the WampServer.

Notices

The instructions in this document apply to Piwik 2.15.0 and WampServer 2.5. Installation instructions for other versions of these tools might differ from what is described in this document. Refer to the web sites www.piwik.org and www.wampserver.com for current installation instructions and support for Piwik and WampServer, respectively.

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