

ASP Web Tracker

The ASP Web Tracker is designed to gather data about visitors to your website. Built in C# using ASP .NET Technology it records movement on your website and records the result to an SQL database.

Two different variants of the tracker are available:

- **ASP Tracker Always**

This variant of the tracker records every single page a user has visited on your website. It records details such as the name of the page they visited and how long they viewed it for. After each page is visited a record is stored in the SQL database. Depending on the scale of your site this will record a lot of data which may be useful to you depending on your intended use of the data.

- **ASP Tracker Subscribe**

This variant of the tracker works in a similar manner to the previous variant however rather than storing to an SQL database after each page visit the data is stored in session state. This tracker is designed to capture information about people who subscribe to the website. Therefore this tracker allows a user to 'subscribe' to a website newsletters, subscribing list etc. by providing their name and e-mail address. This information is stored into the SQL database. Once they subscribe information regarding any pages they have visited is also stored into the SQL database (taken from session state). This information can then be used to see which areas an individual subscriber visited before they decided to subscribe to the site. An example of how this information could be used would be to target newsletters to a subscriber depending on what pages they viewed.

Implementing the tracker into the website is a simple task and only requires a few lines of code added to a web page to function. After this everything is managed by the plugin.

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ASP Tracker Always

Overview

This variant of the tracker records every single page a user has visited on your website.

When a user loads a webpage the tracker is called and records the date and time the page was opened. After this nothing happens until the user closes the page. When the page is closed the tracker runs and gets the date and time the user closed the pages. From comparing the times the page was opened and closed it can work out the duration of time the user spent on this page. From here the tracker posts this information along with the other recorded information to the SQL database.

The following pieces of information are recorded by this tracker after each page visit:

- IP Address
- User Agent (Web Browser)
- Date/Time Page Opened
- Page Name Visited
- Duration of Time Spent on Page

To make a web page use this plugin a few lines of code need to be added to the top of the page. See installation instructions below.

Requirements

- As this plugin is built using ASP .NET technology it will need to be run on a windows server that supports ASP .NET.
- An SQL database where ONE table will be needed

Installation

1) Setup SQL Database

One table will be needed to store information from the tracker. Running the following SQL Query on your database will produce a table name 'track_Records' with the relevant fields and settings.

Note: If you wish to change the table name provided in the query below please make note of the new table name as you will need it in a later stage.

```
CREATE TABLE track_Records(  
    ID int IDENTITY(1,1) PRIMARY KEY NOT NULL,  
    ipAddress text NULL,  
    userAgent text NULL,  
    visitedPage text NULL,  
    dateTime datetime2(0) NULL,  
    duration time(0) NULL,  
)
```

Once you have run this query your SQL database is now ready for use by the tracker.

2) Copy Files

The next step is to copy the tracker to your web server. The location of where you place the plugin folder is up to you. However we recommend you place the plugin folder in the same directory as where your web pages are.

The files for this plugin are stored in the directory 'asp_tracker_always' in this archive. In this folder are two directories, 'test_pages' and 'asp_tracker'.

'asp_tracker' contains the plugin files so copy this folder to your web server.

Note: You are free to change the name of this folder. If you change the folder name please make note of the new name as you will need it at a later stage. We recommend leaving it as it is.

3) Configure SQL Connection Settings

Now you have copied the tracker to your web server it is time to configure the SQL settings. Inside the tracker folder is a file 'config.cfg'. This file contains the settings used to connect to your SQL server. Here you can edit two options:

connection_string=

This is the connection string that is used to connect to your SQL database. If you are unsure of your connection string the following website can help you to configure one.

(<http://www.connectionstrings.com/>).

table_name=

This is the name of your table in the SQL database. If you did not change the table name in step 1 (setting up SQL database) then you can leave this as default (track_Records). If you did change the name make sure you update the table name in this config here.

Note: Please ensure you place all settings AFTER the equal's symbol next to a setting name. Also ensure all text for a single setting is on ONE line (next to the setting name). This will prevent errors from occurring while running the plugin.

The tracker always uses the SQL connection and table name settings from this file. This means you never have to configure settings like this when adding the tracker to different pages etc.

4) Add Tracker to your Web Pages

Now the web tracker is setup and configured it is time to add the tracker to your web pages. All you need to do is copy the following few lines of code to the top of your web files:

```
<script type="text/javascript" src="asp_tracker/asp_tracker_onLoad.aspx"></script>
<script type="text/javascript">window.onbeforeunload = function () {
    document.write('<script type="text/javascript"
        src="asp_tracker/asp_tracker_onUnload.aspx"></script>');
}
</script>
```

Notice the two areas highlighted in red. These are links to the files in the tracker folders. You need to ensure for the tracker to work these links point to the correct location of the tracker. In the code given above they are looking for the tracker folder in the same folder as the web page. If the tracker folder is in a different location to the web pages folder you need to update the src links.

5) Complete

The tracker is now setup and should be fully working if you have configured the tracker correctly. Try visiting some of the pages you have added the tracker to and you should start seeing records appear in the table in your SQL Database.

Provided in the `asp_tracker_always` directory of this achieve are some test webpages you can use to test the functionality of the tracker. Simply copy everything in the 'test_pages folder' (not the actual folder) to the folder where the tracker folder is located on your server. These pages allow you to test the tracker functionally and view the data directly from the SQL database.

The test pages have the tracker code implemented into them and will record details when you view each of the pages.

Note: I do not suggest leaving these test pages on your web server all the time. This is due to the fact that one these test pages allow you to view all data stored in the SQL database (it runs an SQL query selecting all results from the table). This is not secure and as long as somebody has the link they are able to view all data in your database. We recommend only keeping these pages on your server for testing purposes only.

ASP Tracker Subscribe

Overview

This variant of the tracker works in a similar manner to the previous variant however rather than storing to an SQL database after each page visit the data is stored in session state. This tracker is designed to capture information about people who subscribe to the website. Therefore this tracker allows a user to 'subscribe' to a website newsletters, subscribing list etc. by providing their name and e-mail address. This information is stored into the SQL database. Once they subscribe information regarding any pages they have visited is also stored into the SQL database (taken from session state).

When a user loads a webpage the tracker is called and records the date and time the page was opened. After this nothing happens until the user closes the page. When the page is closed the tracker runs and gets the date and time the user closed the pages. From comparing the times the page was opened and closed it can work out the duration of time the user spent on this page. From here the tracker posts this information along with the other recorded information to the session state.

The plugin gathers the subscriber's info by taking two pieces of information (name and email) from text fields on your subscription web page. All you need to do is tell the tracker what the IDs are for these text fields and the plugin will collect the information. More information is provided in installation instructions below.

The following pieces of information are recorded by this tracker when a user subscribes:

- IP Address
- User Agent (Web Browser)
- Date/Time Page Opened
- Page Name Visited
- Duration of Time Spent on Page
- User Name
- User eMail Address

The information is stored over two tables in the SQL database and linked via a foreign key. The subscriber table holds the subscriber ID, name and email address. The pages visited table holds the rest of the information (ip address, user agent etc.) and also a link to the subscriber ID (foreign key). This way you can run a query to easily find out what pages an individual subscriber visited.

To make a web page use this plugin a few lines of code need to be added to the top of the page. Extra code will also need to be added to the page where the user subscribes. See installation instructions below.

Requirements

- As this plugin is built using ASP .NET technology it will need to be run on a windows server that supports ASP .NET.
- An SQL database where TWO tables will be needed

Installation

1) Setup SQL Database

Two tables will be needed to store information from the tracker (subscriber table and pages visited table). Running the following SQL Queries on your database will produce two tables named 'track_Subscribers' and 'track_VisitedPages'

Note: If you wish to change the table names provided in the queries below please make note of the new table names as you will need them at a later stage.

Subscriber Table

```
CREATE TABLE track_Subscribers(  
    ID int IDENTITY(1,1) PRIMARY KEY NOT NULL,  
    name text NOT NULL,  
    email varchar(254) NOT NULL,  
)
```

Visited Pages Table

```
CREATE TABLE track_VisitedPages(  
    ID int IDENTITY(1,1) PRIMARY KEY NOT NULL,  
    subscriberID int NOT NULL,  
    ipAddress text NULL,  
    userAgent text NULL,  
    visitedPage text NULL,  
    dateTime datetime2(0) NULL,  
    duration time(0) NULL  
)
```

Once you have run these queries your SQL database is now ready for use by the tracker.

2) Copy Files

The next step is to copy the tracker to your web server. The location of where you place the plugin folder is up to you. However we recommend you place the plugin folder in the same directory as where your web pages are.

The files for this plugin are stored in the directory 'asp_tracker_subscribe' in this archive. In this folder are two directories, 'test_pages' and 'asp_tracker'.

'asp_tracker' contains the plugin files so copy this folder to your web server.

Note: You are free to change the name of this folder. If you change the folder name please make note of the new name as you will need it at a later stage. We recommend leaving it as it is.

3) Configure SQL Connection Settings

Now you have copied the tracker to your web server it is time to configure the SQL settings. Inside the tracker folder is a file 'config.cfg'. This file contains the settings used to connect to your SQL server as well as messages displayed to the user when subscribing. Here you can edit six options:

connection_string=

This is the connection string that is used to connect to your SQL database. If you are unsure of your connection string the following website can help you to configure one.

(<http://www.connectionstrings.com/>).

table_name_subscriber=

This is the name of the table in the SQL database that holds the subscriber information. If you did not change the table name in step 1 (setting up SQL database) then you can leave this as default (track_Subscribers). If you did change the name make sure you update the table name in this config here.

table_name_pages=

This is the name of the table in the SQL database that holds the visited pages information. If you did not change the table name in step 1 (setting up SQL database) then you can leave this as default (track_VisitedPages). If you did change the name make sure you update the table name in this config here.

subscribe_email_exists_error=

This is the message that is displayed to the user if they try to register an email address that is already registered on the system. You can change this message to anything you want.

subscribe_email_success=

This is the message that is displayed to the user when they have successfully registered to the system. You can change this message to anything you want.

no_input_error=

This is the message that is displayed to the user if they leave one of the text fields (name or email) blank. You can change this message to anything you want.

Note: Please ensure you place all settings AFTER the equal's symbol next to a setting name. Also ensure all text for a single setting is on ONE line (next to the setting name). This will prevent errors from occurring while running the plugin.

The tracker always uses the SQL connection and table name settings from this file. This means you never have to configure settings like this when adding the tracker to different pages etc.

4) Add Tracker to your Web Pages

Now the web tracker is setup and configured it is time to add the tracker to your web pages. All you need to do is copy the following few lines of code to the top of your web files:

```
<script type="text/javascript" src="asp_tracker/asp_tracker_onLoad.aspx"></script>
<script type="text/javascript">window.onbeforeunload = function () {
    document.write('<script type="text/javascript"
        src="asp_tracker/asp_tracker_onUnload.aspx"></script>');
}
</script>
```

Notice the two areas highlighted in red. These are links to the files in the tracker folders. You need to ensure for the tracker to work these links point to the correct location of the tracker. In the code given above they are looking for the tracker folder in the same folder as the web page. If the tracker folder is in a different location to the web pages folder you need to update the src links.

When it comes to the page where the user enters their details to subscribe a different script is needed. You DO NOT need to use the above script on this page just the following one:

```
<script "text/javascript" src="asp_tracker/asp_tracker_onLoad.aspx"></script>
<script "text/javascript">
    window.onbeforeunload = function () {
        document.write('<script type="text/javascript"
            src="asp_tracker/asp_tracker_onUnload.aspx"></script>');
    }
    function subscribe() {
        var script = document.createElement('script');
        script.src = 'asp_tracker/asp_tracker_onUnload.aspx';
        document.body.appendChild(script);
        var name = document.getElementById('name').value;
        var email = document.getElementById('email').value;
        var link = "asp_tracker/asp_tracker_onSubscribe.aspx?name=" + name + "&email=" + email + "";
        window.open(link, '_blank', 'width=250, height=150');
    }
</script>
```

Similar to above notice the four lines highlighted in red. These are links to the files in the tracker folders. You need to ensure for the tracker to work these links point to the correct location of the tracker.

The two words in orange are the IDs of the text boxes. Make sure they match the IDs of the text boxes on your page where the user enters their name and email.

The function name in green (subscribe()) is what is run when the user clicks the submit button on your subscription page. Make sure the buttons onclick parameter points to 'subscribe()'.

5) Complete

The tracker is now setup and should be fully working if you have configured the tracker correctly. Try visiting some of the pages you have added the tracker and try subscribing to the website. You should then start seeing records appear in the tables in your SQL Database.

Provided in the 'asp_tracker_subscribe' directory of this achieve are some test webpages you can use to test the functionality of the tracker. Simply copy everything in the 'test_pages folder' (not the actual folder) to the folder where the tracker folder is located on your server. These pages allow you to test the tracker functionally and view the data directly from the SQL database.

The test pages have the tracker code implemented into them and will record details of every page you view and store them to the SQL database when you subscribe.

Note: I do not suggest leaving these test pages on your web server all the time. This is due to the fact that one these test pages allow you to view all data stored in the SQL database (it runs an SQL query selecting all results from the table). This is not secure and as long as somebody has the link they are able to view all data in your database. We recommend only keeping these pages on your server for testing purposes only.