AuditLog

Contents

Purpose

Document all changes to tables and keep an auditlog with user who did those, timestamp, current and previous value.

Discussions about this: https://forums.appgini.com/phpbb/viewtopic.php?f=4&t=1369

Disclaimer

We have tried to make the installation as easy as possible. Landinialejandro provided a plugin that makes installation even easier – see below. However, with the certain knowledge that no matter how idiot proof you make something, nature will provide a better idiot, we feel we must add the following:

Despite the fact that this extension was used in several different applications, built with

AppGini, we in NO way take ANY responsibility for mistakes in the code or that YOU might make. ALWAYS backup you files and your database before attempting a major modification!

Installation as Plugin-Version (recommended)

This works only if you have acquired some other official AppGini plugin. If you do not have an official plugin or you want to use the manual installation instead, please read below: Manual Installation.

New from version 1.71: The AppGini forum member landinialejandro created a plugin which makes installation much easier. Please see the forum (https://forums.appgini.com/phpbb/viewtopic.php?f=4&t=1369) and/or the github page where he placed it (https://github.com/myappgini/sbm_audit_log)

If you decide to use this plugin for installation,

1. download the latest plugin from it's homepage https://github.com/myappgini/sbm_audit_log
2. read the README.md of the plugin.
3. If needed/wished, update the folder app-resources of the plugin by putting all files from this ZIP directly into that folder
4. upload the plugin to your AppGini generated site as usual
5. go to the admin area of your site and install the plugin as usual.

Possible Adjustments

Custom table name for the auditor table

If you prefer, you can easily change the name of the auditor table for example to match some table-prefix you are using. This should be done *before* running the installation via plugin as some file contents needs to be changed.
Note: table names are case-sensitive (at least in Linux). Therefor I suggest lowercase table names.

Open `audit_tableSQL.sql`

Search for

```
`auditor` (
```

replace with

```
`your_tablename_here` (
```

Open `auditLog_functions.php`

Search for

```
define("AUDITTABLENAME", 'auditor');
```

replace with

```
define("AUDITTABLENAME", 'your_tablename_here');
```

Open `auditLog.php`

Search for

```
define("AUDITTABLENAME", 'auditor');
```

replace with

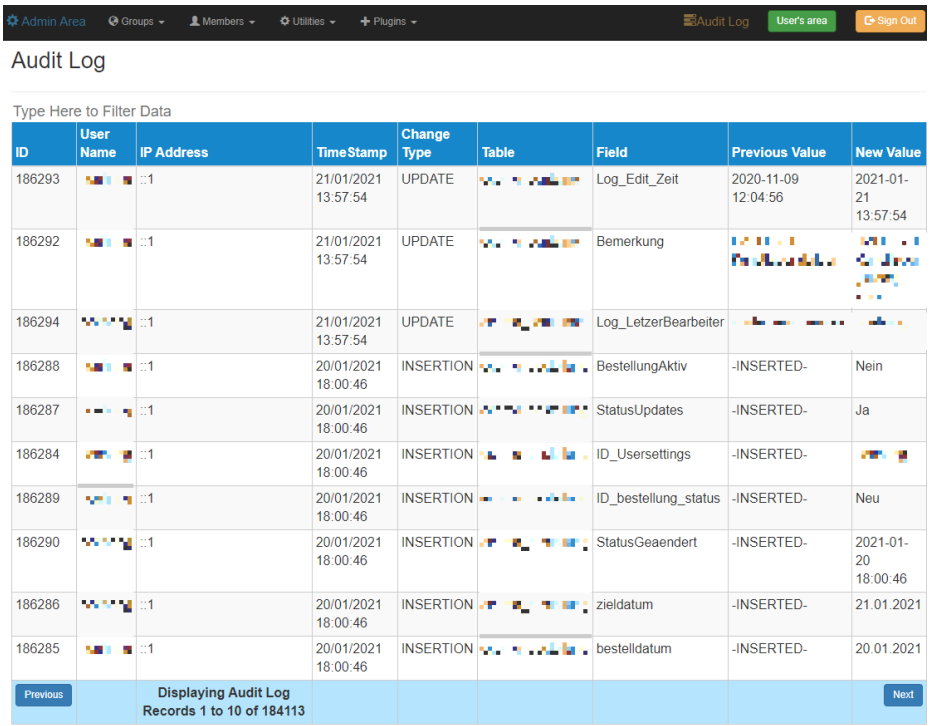
```
define("AUDITTABLENAME", 'your_tablename_here');
```

Now run the installation using the plugin.

Access to Audit Log

Standard Audit Log Table

Once installed (plugin, or manual with auditor-table-link in the admin area) you as superadmin have the opportunity to see all changes in the application. This view provides all information, but in a *very basic* form. If you want to have easier access and better filters, please read below: Advanced Audit Log Table (recommended):



Admin Area | Groups | Members | Utilities | Plugins | Audit Log | User's area | Sign Out

Audit Log

Type Here to Filter Data

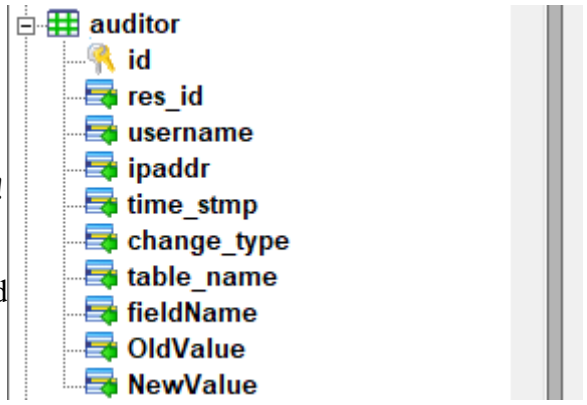
ID	User Name	IP Address	TimeStamp	Change Type	Table	Field	Previous Value	New Value
186293		::1	21/01/2021 13:57:54	UPDATE		Log_Edit_Zeit	2020-11-09 12:04:56	2021-01-21 13:57:54
186292		::1	21/01/2021 13:57:54	UPDATE		Bemerkung		
186294		::1	21/01/2021 13:57:54	UPDATE		Log_LetzerBearbeiter		
186288		::1	20/01/2021 18:00:46	INSERTION		BestellungAktiv	-INSERTED-	Nein
186287		::1	20/01/2021 18:00:46	INSERTION		StatusUpdates	-INSERTED-	Ja
186284		::1	20/01/2021 18:00:46	INSERTION		ID_Usersettings	-INSERTED-	
186289		::1	20/01/2021 18:00:46	INSERTION		ID_bestellung_status	-INSERTED-	Neu
186290		::1	20/01/2021 18:00:46	INSERTION		StatusGeaendert	-INSERTED-	2021-01-20 18:00:46
186286		::1	20/01/2021 18:00:46	INSERTION		zieldatum	-INSERTED-	21.01.2021
186285		::1	20/01/2021 18:00:46	INSERTION		bestelldatum	-INSERTED-	20.01.2021

Previous | Displaying Audit Log Records 1 to 10 of 184113 | Next

Standard Audit Log in the admin area. Please note, that the IP address is correct. The screenshot was done in a local testing environment, this it's the IPv6 format of the localhost address (IPv4: 127.0.0.1).

Advanced Audit Log Table (recommended)

You can have a much better display and search capabilities when you add an extra table to your AppGini application. Just create a simple table in your AppGini project and make sure it has the same name and the same fields as the auditor table in the database!

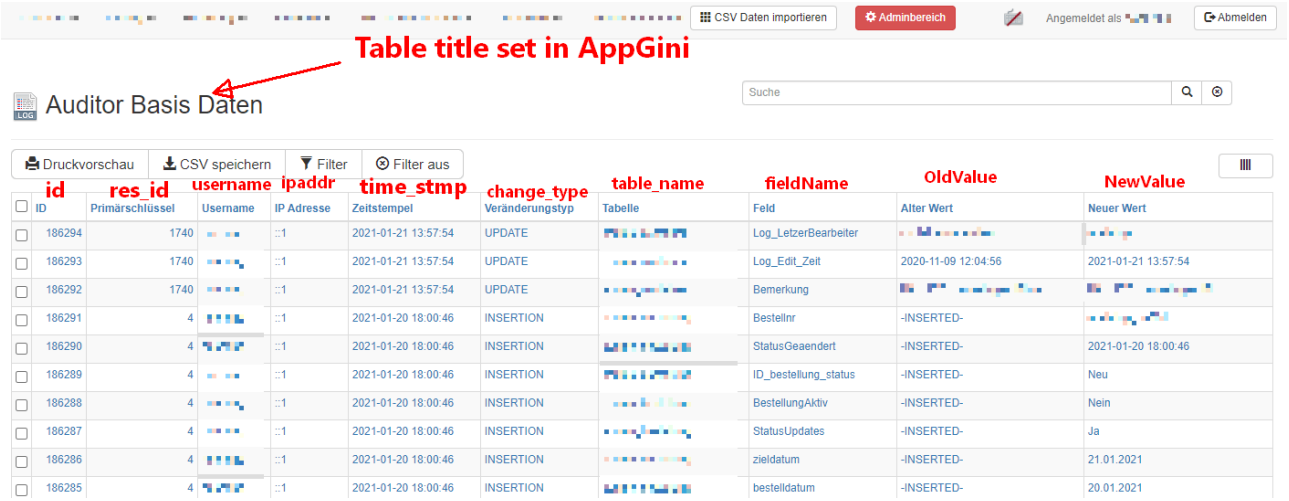


Auditor table in your AppGini project.

You can even copy the code for this AppGini table directly from this documentation into the clipboard and then paste it as a new table in AppGini. You find the code below: AppGini Code for Auditor table

Of course, you can label the fields as you like (in your own language)). When following this, AppGini will create a standard page for the table which you can search and filter with the standard AppGini functions which are far more advanced than the solution above.

Your table could look like this:



Auditor-Table created in the AppGini project and here in the generated application. Red descriptions added to show which labels are the columns from the auditor table.

You can – and should – **set permissions** to that Auditor table:

View permission is enough! It's suggested, that you **do not allow** anyone to insert, edit, update or delete in that table.

Exact position of audit call functions

The plugin-installation-script (and the Manual Installation instructions below) place the call for the audit log functions (`table_before_change` and `table_after_change`) directly after the opening of certain functions in the hooks/tablename.php file. You might have the need to adjust the position of the calls of the auditor functions.

For example, you may need to change some data directly after the user clicked the save-changes-button, this in the before_update function – or – that you need to change data after it has been saved. In these cases you need to move the call for the auditor function by hand to a position after your changes.

If you do this, everything should work, but once you run the installation plugin again, in these cases the plugin-installation-script will add the calls to the audit log functions again.

Extras

Documenting changes for another table: fct Audit_Manually

In version 1.7 of this script a new function was introduced: `Audit_Manually`

The function allows to manual add to Auditor-table (and/or save old value to session variable).

This is useful, in case you have table TA and table TB. TB is a child of TA (holds the foreign key of TA). The user does something in table TB. Following this change, you (your application) do some action to the parent(!) record in TA. If you want to add this action (done to a record in TA) also to the audit log, you use this function.

Example setting - you need to place the code in the correct functions! (maybe before_insert, after_insert, before_delete, after_delete):

TA has primary key field pkA. User is working in TB with parent record pkA=5 ($valueOfpkA)

Now the field TA.LogEdit ($fieldName) should be changed, once something in table TB happens.

Manual Installation

Attention

Note 1

For the Search/Replace it's recommended to use 'Notepad++' available here: Notepad++ Home Page

Note 2

We suggest that you wait till your application is ready to go to production before making these changes - although this is NOT essential - (with the proviso that you BACK UP YOUR FILES FIRST!)

Note 3

When it comes to the tedious task of doing the Search/Replace in the Hooks folder, we suggest that you copy the hook files ONLY for the tables you wish to monitor into a separate directory and then BACKUP that directory. This way, you can do it speedily using Notepad++'s Search/Replace facility 'Find in Files' and do them all in just six shots.

Step 1. Extract the *auditlog_files.zip* and copy files

The zip file contain only 2 files:

- `auditLog_functions.php` : The functions that allow the audit log to work. Copy this into the /hooks folder of your application
- `auditLog.php` : A table (filterable and pageable) that will be added to the Admin Menu Options. Copy this into the /admin folder of your application.

Step 2. Create the Audit Log Table using the *audit_tableSQL.sql* file provided.

You may want to adjust the auditor tablename before. See above: Custom table name for the auditor table.

Then just run the SQL with your favorite tool (https://www.phpmyadmin.net, https://www.adminer.org).

Step 3. Essential File Modifications

3.1 Include audit-base files: 'application_root/config.php'

Add the following to the bottom of the file.

```
if (session_status() == PHP_SESSION_NONE) { session_start(); }
$_SESSION['dbase'] = $dbDatabase;
if (!function_exists('table_before_change')) {
      $currDir = dirname(__FILE__);
      @require("$currDir/hooks/auditLog_functions.php");
}
```

3.2 Add page to the Admin Menu Options: 'admin/incHeader.php'

> Trick (as pictured and described in Advanced Audit Log Table (recommended), above):
> If you create a table in AppGini with the name as the Auditor table (i.e. Auditor) and the same fields (case sensitive) as the in the Auditor table, you can build a regular Audit-Table button from AppGini and let user access that with the regular permissions.
> Maybe you want to make sure, that noone can change anything in that table.
> If you to this, you do not need to make changes in 'admin/incHeader.php' as described now (and thus Auditor will stay in your application even when regenerated.

Do find for:

```
<a class="navbar-brand" href="pageHome.php"><span class="text-
warning"><i class="glyphicon glyphicon-wrench"></i> Admin
Area</span></a>
```

and replace with:

```
<a class="navbar-brand" href="pageHome.php"><span class="text-
warning"><i class="glyphicon glyphicon-wrench"></i> Admin
Area</span></a><a class="navbar-brand" href="auditLog.php"><span
class="text-warning-1"><i class="glyphicon glyphicon-tasks"></i> Audit
Log</span></a>
```

Step 4. Essential /hooks/folder-files modification

After you've read Note 3, above**!**

In the *temp* folder that contains the files from the hooks-folder for *all the tables that you wish to monitor*, make the following changes to all these files. Recommended: Do 'find in files'. Code changes/additions are **`color coded like this`**.

A. Do 'find in files' for: (Remember to set the correct directory!)

```
init(&$options, $memberInfo, &$args){
```

and replace with:

```
init(&$options, $memberInfo, &$args){
$_SESSION ['tablenam'] = $options->TableName;
$_SESSION ['tableID'] = $options->PrimaryKey;
```

B. Do 'find in files' for:

```
after_insert($data, $memberInfo, &$args){
```

and replace with:

```
after_insert($data, $memberInfo, &$args){
table_after_change ($_SESSION, $memberInfo, $data, 'INSERTION');
```

C. Do 'find in files' for:

```
before_update(&$data, $memberInfo, &$args){
```

and replace with:

```
before_update(&$data, $memberInfo, &$args){
table_before_change($_SESSION, $data['selectedID']);
```

D. Do 'find in files' for:

```
after_update($data, $memberInfo, &$args){
```

and replace with:

```
after_update($data, $memberInfo, &$args){
table_after_change ($_SESSION, $memberInfo, $data, 'UPDATE');
```

E. Do 'find in files' for:

```
before_delete($selectedID, &$skipChecks, $memberInfo, &$args){
```

and replace with:

```
before_delete($selectedID, &$skipChecks, $memberInfo, &$args){
table_before_change($_SESSION, $selectedID);
```

F. Do 'find in files' for:

```
after_delete($selectedID, $memberInfo, &$args){
```

and replace with:

```
after_delete($selectedID, $memberInfo, &$args){
table_after_change ($_SESSION, $memberInfo, $selectedID, 'DELETION');
```

Remember to copy the files from the temp directory created in Note 3 back to the original Hooks folder!

AuditLog should now be working! Using this technique will allow you to keep other modifications made to the Hooks folder.

AppGini Code for Auditor table

The following text is in size 1pt (as it would be too long at the regular size ;-))! Select it, and copy it to the clipboard. Afterwards go to your AppGini Application and insert it using the *AppGini* toolbar. A new table with the name `auditor` will be created with all fields. When you copy the lines below they need to be on a single line when you paste them for example into NotePad++!


```
<table><name>auditor</name><allowInsert>False</allowInsert><allowUpdate>False</allowUpdate><allowCSV>True</allowCSV><allowDelete>False</allowDelete><allowDeleteOfParents>False</allowDeleteOfParents><allowFilters>True</allowFilters><filterFirst>False</filterFirst><allowPrint>True</allowPrint><allowMassDelete>False</allowMassDelete><homepageShowCount>False</homepageShowCount><allowDVPrint>True</
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History / Versions / Changes

Adjustments by Olaf Nöhring, 2021-02 (https://datenbank-projekt.de) for v1.77:

- corrected manual installation table_after_change call, usiing $selectedID instead of $data (which does not exist at this point)
- adjusted function table_after_change to accept $selectedID as direct variable (not array)

- corrected error when inserting a new record and calling table_before_change to document all values

Adjustments by Olaf Nöhring, 2021-02 (https://datenbank-projekt.de) for v1.76:
- Fixed and updated manual installation _init code
- added AppGini Code for Auditor table for easy, quick and correct creation of the auditor table in your AppGini application.
- cooperation with landinialejandro to make code cleaner for use in installation plugin

Adjustments by Olaf Nöhring, 2021-01 (https://datenbank-projekt.de) for v1.74:
- Added example screenshots of Audit Log view to docs
- Added hint how to deal with the need for exact position of audit-log calls

Adjustments by Olaf Nöhring, 2021-01 (https://datenbank-projekt.de) for v1.73:
- Adjusted docs for more clarity

Adjustments by Olaf Nöhring, 2021-01 (https://datenbank-projekt.de) for v1.72:
- Added link to docs for the wonderful plugin extension from landinialejandro which makes installation a walk in the park. Please see below
- Modified file structure of the zip files that holds the audit log to adjust for use in combination with the plugin.
- Changed formatting of the docs for better readability
- Restructured docs for plugin
- Added hint for auditor tablename to docs

Adjustments by Olaf Nöhring, 2021-01 (https://datenbank-projekt.de):
- removed bug when record is deleted (v1.71)
- added possibility to easily define the name of your auditor table in the beginning of the the files auditLog_functions.php and /admin/auditLog.php
- changed code in the way that now the order of fields in the database must not match the order of fields in your AppGini application anymore. In previous versions the order must be the same, otherwise it would mess up the logging. Now this problem should be solved.
- added a new function `Audit_Manually` which allows checking for changes on another table and documenting those (see description below for more information).
- transformed docs to PDF for easier editing
- changed audit_tableSQL.sql to make larger fields for table and fieldnames

Adjustments by Olaf Nöhring, 2019-12 (https://datenbank-projekt.de):
- improved INSERTION: Now, all non-empty fields are written to the auditor table after insert. Until now, only the new primary key was written.
- you can easily use a different table name for the auditor. Simply adjust
  $audittablename = "auditor";
  in function table_after_change in auditLog_functions.php (and the setup sql or course). - changed auditor table name from Auditor to auditor (script and setup). Note: On Linux systems the tablenames are case sensitive!

Adjustments by Olaf Nöhring, 2019-06 (https://datenbank-projekt.de):

- Trick: Added in docs. Remove access to Auditor from Admin menu, but use regular AppGini table instead, so Auditor stays even when application is regenerated.
- Trick: Remove changes from 'application_root/lib.php', instead place code in config.php which stays in place, even when the application is regenerated.
- Changes to auditLog_functions.php, added , $eo to SQL queries (following vaalonv tip)
  Instead of foreign keys you will see the values the user actually selected (old code to see FKs still in the file). For this to work correct, make sure the order of the fields in your database is exactly like the order of the fields in specific table in AppGini!