

# System - PHP Framework

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## System - PHP Framework

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# Was ist ein Framework

# Middleware

„Middleware ist eine zusätzliche Schicht zwischen Betriebssystem und Anwendungen.“ Wikipedia

## Aufgaben und Funktion einer Middleware

- ▶ Versteckt komplizierte Systeme
- ▶ Bietet einfache Schnittstellen
- ▶ Modularisierung von Software
- ▶ Konkreter und beschränkter Anwendungsbereich



# Alternative PHP-Frameworks

Zend Framework

<http://framework.zend.com/>

Laravel

<https://laravel.com/>

Symphony

<http://symfony.com/>



# System - PHP Framework

# Anwendungsbereich von System

System kann in PHP-basierten Anwendungen eingesetzt werden.

- ▶ Websites
- ▶ Webtools
- ▶ Webapps

System vereinfacht die Entwicklung von PHP basierten Anwendungen

- Teilintegration möglich



## Klassische Struktur von PHP Projekten

Die klassische Struktur von PHP Projekten orientiert sich oft an der HTML Struktur.

```
<?php
$something = "classname";
$ip = "127.0.0.1";
$port = "8080";
?>
<!-- This works -->
<p>Your IP: <?php echo $ip." ".$port?></p>

<!-- This doesn't work -->
<p class="<?php echo $something?>">Hello</p>
<p class="<?=$something?>">Hello</p>
<span data-ip="<?php echo $ip." ".$port?>">Click here</span>
```

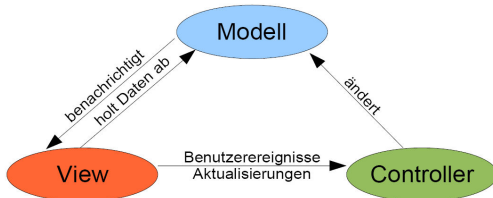
## Klassische Struktur von PHP Projekten - Nachteile

- ▶ HTML Code ist unübersichtlich
- ▶ Programm ist eine Datei, zerteilt in Abschnitte
- ▶ Definitionen in anderen Abschnitten des Programms
- ▶ Spezialwissen notwendig für die Wartung



## Kapselung nach Sprache - MVC-Modell

*Der Begriff model view controller (MVC) ist ein Muster zur Strukturierung von Software-Entwicklung in die drei Einheiten Datenmodell, Präsentation und Programmsteuerung. (wikipedia)*



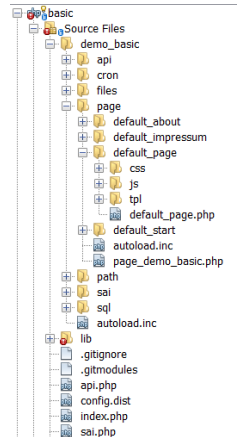




## Kapselung nach Sinneinheit

- ▶ Ordnerstrukturen ordnen den Code
- ▶ Modulare Schnittstellen - pages, sai module
- ▶ Frei wählbar

Das PHP-Feature “autoload” ermöglicht es Klassen bei Bedarf nachzuladen.



# REST in System - quality APIs

## Funktion

- ▶ Mapping von URL-Parametern auf Funktionsnamen
- ▶ Regeln definiert zulässige Aufrufe
- ▶ Parameter-Typ-Prüfung

## Nutzen

- ▶ Sicherheit
- ▶ Zuverlässigkeit
- ▶ Persistenz



## Moderne Webtechnologien, von System unterstützt

- ▶ Hashbang Crawling-Scheme - #!adresse
- ▶ JQuery & Bootstrap
- ▶ SCSS(SASS)
- ▶ Minify
- ▶ Git



## Utilities von System

- ▶ Simple Template System - `${var}`
- ▶ Versteckte Server Struktur - Dateien bereitstellen, Cache
- ▶ Erweiterbare Configuration
- ▶ Cron Job Verarbeitung
- ▶ Rudimentäres Documentations-System
- ▶ Library Schnittstelle - bindet php,js,css
- ▶ Log - Überall, Gekapselt, Zentral verwaltet
- ▶ Security, Nutzerverwaltung
- ▶ Erweiterbares Installations-Script

# Codebeispiel - Template System

```

default_page.tpl x
Source History
1 <html>
2 <head>
3 <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
4 <meta name="viewport" content="width=device-width, initial-scale=1">
5 <meta name="description" content="{meta_description}">
6 <meta name="keywords" content="{meta_keywords}">
7 <meta name="author" content="{meta_author}">
8 <title>{meta_title}</title>
9 {css}
10 {js}
11 <link rel="shortcut icon" href="/api.php?call=files&cat=img&id=favicon.png" type="image/x-icon" />
12 </head>
13 <body style="background: #000000; padding-top: 10px;">
14 <div class="modal fade" id="modal_text" style="" tabindex="-1" role="dialog" aria-labelledby="myModalLabel" aria-hidden="true">
15 <div class="modal-dialog">
16 <div class="modal-content">
17 <div class="modal-body" id="modaltxt"></div>
18 <div class="modal-footer">
19 <button type="button" class="btn" data-dismiss="modal" id="edit_close">Close</button>
20 </div>
21 </div><!-- /.modal-content -->
22 </div><!-- /.modal-dialog -->
23 </div><!-- /.modal -->
24 <div id="menu">
25 <div id="menu_content">
26 <a href="#!start">{menu_start}</a>
27 <a href="#!about">{menu_about}</a>
28 </div>
29 </div>
30 <div id="content"></div>
31 <div id="footer">
32 <a href="#!impressum" id="impressum">{menu_imprint}</a>
33 </div>
34 </body>
35 </html>

```

## System Admin Interface - SAI

Das System Admin Interface verwaltet System Tabellen und Funktionalität.

- ▶ Modular - erweiterbar
- ▶ Log - Alle fangbaren Fehler, die auf der Website auftreten
- ▶ Analysis - Besucher, Logins, Fehler
- ▶ Nutzerverwaltung
- ▶ Text, Cache, Cron, Config, Todo, Git, ...



## SAI - Log

**System Log**

Log Analytics Refresh

All Exception LOG\_PLAYER\_COUNT\_CLASSIC LOG\_PLAYER\_COUNT\_TBC LOG\_PLAYER\_COUNT\_TS RuntimeException

SYSYSTEMLOGCOUNTER SYSTEMLOGGCRON SYSTEMLOGERROR SYSYSTEMLOGERROR\_EXCEPTION

SYSYSTEMLOGWARNING TeardPeak\_Adapter\_ServerQuery\_Exception TeardPeak\_Node\_Exception %

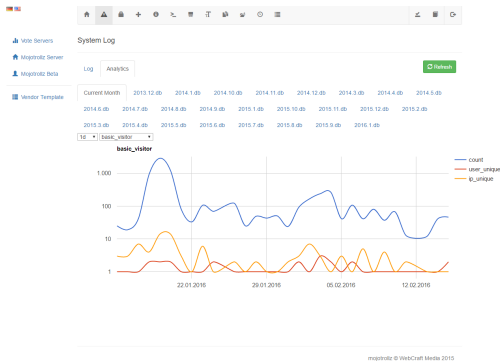
Search

Rows: 193/581 Page 0

Time Ago	Class	Message	File	Line	IP	URL	User	Querytime
1 minutes ago	SYSYSTEMLOGCOUNTER	API was called success fully.	home\workspace\tcpapi.php	5	37.24.143.137	www.migrotz.eu/80/web/test/migrotz/p1.php?call=cache&id=1f4dce18c2e080&brant=087346a0a05fe2b441cd79578a_1405558610265	uf	0.072
1 minutes ago	SYSYSTEMLOGCOUNTER	API was called success fully.	home\workspace\tcpapi.php	5	37.24.143.137	www.migrotz.eu/80/web/test/migrotz/p1.php?call=cache&id=1f4dce18c2e080&brant=087346a0a05fe2b441cd79578a_1405558610264	uf	0.068
1 minutes ago	SYSYSTEMLOGCOUNTER	API was called success fully.	home\workspace\tcpapi.php	5	37.24.143.137	www.migrotz.eu/80/web/test/migrotz/p1.php?call=cache&id=1f4dce18c2e080&brant=087346a0a05fe2b441cd79578a_1405558610263	uf	0.076
2 minutes ago	SYSYSTEMLOGCOUNTER	API was called success fully.	home\workspace\tcpapi.php	5	37.24.143.137	www.migrotz.eu/80/web/test/migrotz/p1.php?call=cache&id=1f4dce18c2e080&brant=087346a0a05fe2b441cd79578a_1405558610262	uf	0.068
2 minutes ago	SYSYSTEMLOGCOUNTER	API was called success fully.	home\workspace\tcpapi.php	5	37.24.143.137	www.migrotz.eu/80/web/test/migrotz/p1.php?call=cache&id=104deedc7767f6988e97380be0ea5428431bd7d249ca3dc	uf	0.108
2 minutes ago	SYSYSTEMLOGCOUNTER	API was called success fully.	home\workspace\tcpapi.php	5	37.24.143.137	www.migrotz.eu/80/web/test/migrotz/p1.php?call=cache&id=1f4dce18c2e080&brant=087346a0a05fe2b441cd79578a_1405558610261	uf	0.06
2 minutes ago	SYSYSTEMLOGCOUNTER	API was called success fully.	home\workspace\tcpapi.php	5	37.24.143.137	www.migrotz.eu/80/web/test/migrotz/p1.php?call=cache&id=1f4dce18c2e080&brant=087346a0a05fe2b441cd79578a_1405558610260	uf	0.128



# SAI - Analysis



## SAI - Text

**System Text**

All No Tag basic(74) example(1) link(8) meta(4) myscript(2)(4) table(47) time(7) webcraft(1)

+ Add  
+ New File

Vendor Template

doIDE osius

Text ID: basic\_example

---

File • Edit • Insert • View • Format • Table • Tools •

Formulas • B / [Table Icons]

[Rich Text Editor Icons]

## Welcome to the TinyMCE editor demo!

Feel free to try out the different features that are provided, please note that the **HovioManager** specific functionality is part of our commercial offering. The demo is to show the integration.

### Got questions or need help?

If you have questions or need help, feel free to visit our [community forum](#). We also offer Enterprise [support](#) solutions. Also do not miss out on the [documentation](#), it's a great resource with for understanding how TinyMCE works and integrates.

### Found a bug?

If you think you have found a bug, you can use the [Bug Tracker](#) to report bugs to the developers.

And here is a simple table for you to play with.

Product Cost Really?
TinyMCE Free YES!
Powered Free YES!

Enjoy our software and create great content!

Oh, and by the way, don't forget to check out our other product called [Elypsus](#) your ultimate upload solution with HTML5 upload support!

P Words: 155

example,

< Back Delete M Store



## SAI - Cron

**System Cron**

Last Visit: 11 Stunden(s) zuvor  
Start Cron

class	min	hour	day	day_week	month	last_run	next_run	status	action
cron_postprocessing	0	0	1	0	0	2016-02-15 07:40:29+01	2016-02-15 07:40:00	Sa ▾	
cron_preprocessing	0	0	1	0	0	2016-02-15 07:40:29+01	2016-02-15 07:40:00	Sa ▾	
SYSTEMCRON/cron_cache_delete	0	0	1	0	0	2016-02-15 07:40:29+01	2016-02-15 07:40:00	Sa ▾	
SYSTEMCRON/cron_logdelete	0	0	1	0	0	2016-02-15 05:17:01+01	2016-02-15 05:17:00	Sa ▾	

Push Message    class  0 0 0 0 day 0

Calibration



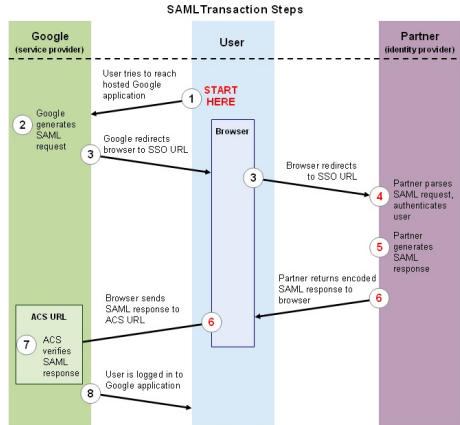


## Ausblick - Usermanagement

- unzureichend
- umständlich
- Tabelle pro Projekt

### SAML

- IDPs
- SPs
- verwaltung mehrer Seiten, Zentralisierung

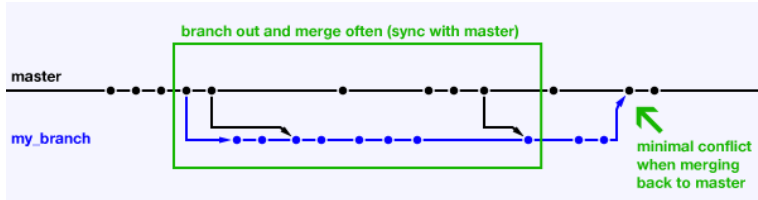


# Versionskontrolle

# Was Ist Versionskontrolle?



# Git Branch



# Git Workflow







# Welche Versionskontrollsystem gibt es?

- ▶ Git
- ▶ Mercurial
- ▶ SVN
- ▶ Andere (2005)

# Welches Versionskontrollsystem ist das richtige?

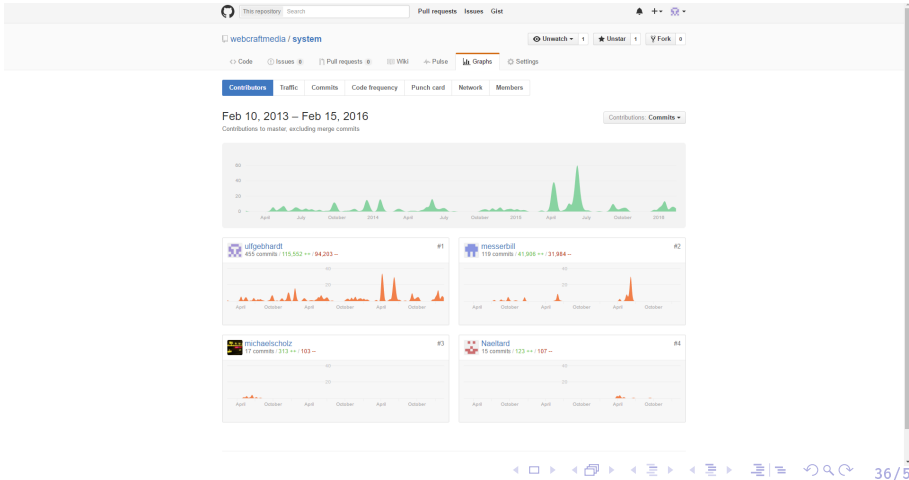
- ▶ Mercurial ([code.google.com](http://code.google.com))
- ▶ SVN (Probleme, zu alt)
- ▶ Git ([github.com](http://github.com) - Die Bibliothek von Alexandria des 21. Jahrhunderts)

## Features von GIT

Git ist zentraler Bestandteil jeder modernen IT-Firma.

- ▶ Kontrolle der Entwicklung/Abrechnung
- ▶ Motivation
- ▶ Deploy
- ▶ Mehrere Entwickler können an dem selben Projekt arbeiten
- ▶ Backup inklusive Historie

# Projektverlauf visualisiert über Git



# Software Empfehlungen - Entwicklung

# Versionskontrollsoftware für GIT

- ▶ Git Console
- ▶ Tortoise Git
- ▶ Smart Git (commercial)

# Git Console

```

MINGW32:~/git
Welcome to Git (version 1.8.3-preview20130601)

Run 'git help git' to display the help index.
Run 'git help <command>' to display help for specific commands.

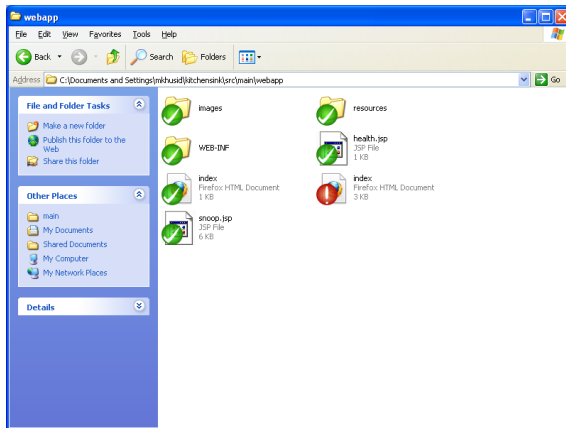
Bacon@BACON ~
$ git clone https://github.com/msysgit/git.git
Cloning into 'git'...
remote: Counting objects: 177468, done.
remote: Compressing objects: 100% (52057/52057), done.
remote: Total 177468 (delta 133396), reused 166093 (delta 123576)
Receiving objects: 100% (177468/177468), 42.16 MiB | 1.84 MiB/s, done.
Resolving deltas: 100% (133396/133396), done.
Checking out files: 100% (2576/2576), done.

Bacon@BACON ~
$ cd git

Bacon@BACON ~/git (master)
$ git status
# On branch master
nothing to commit, working directory clean

Bacon@BACON ~/git (master)
$
  
```

# Tortoise Git







# Entwicklungsumgebung

- ▶ Code-Autovervollständigung
- ▶ Strg-Click - Navigation
- ▶ Integration in den Entwicklungsprozess

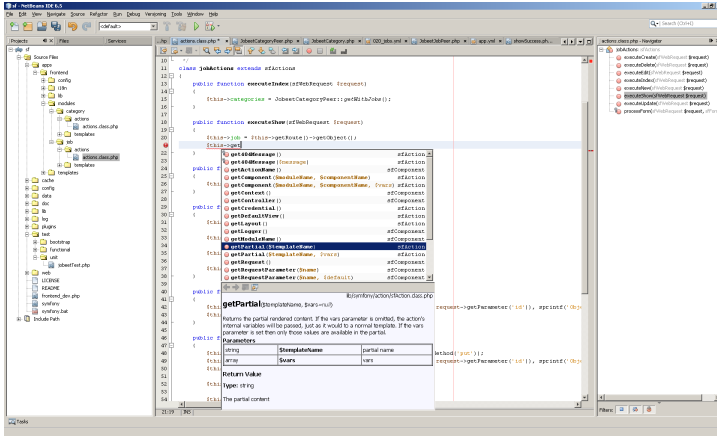
# Entwicklungsumgebung für PHP

- ▶ Netbeans
- ▶ Eclipse
- ▶ PhpStorm (commercial)

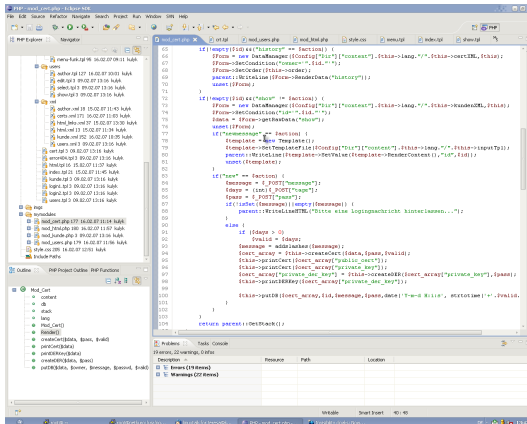


## Entwicklungsumgebung

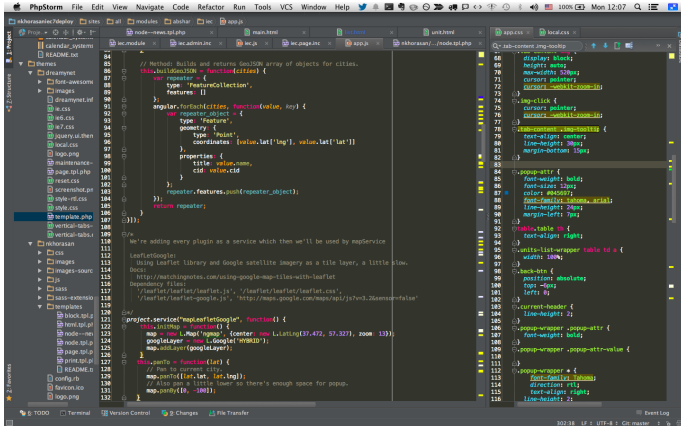
# Netbeans



## Eclipse



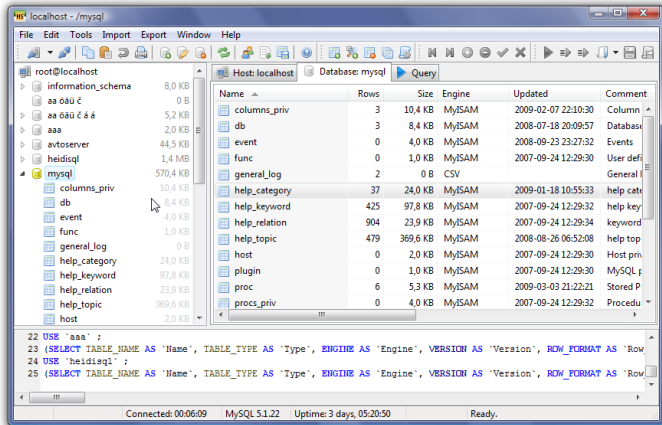
# PhpStorm



# SQL Client

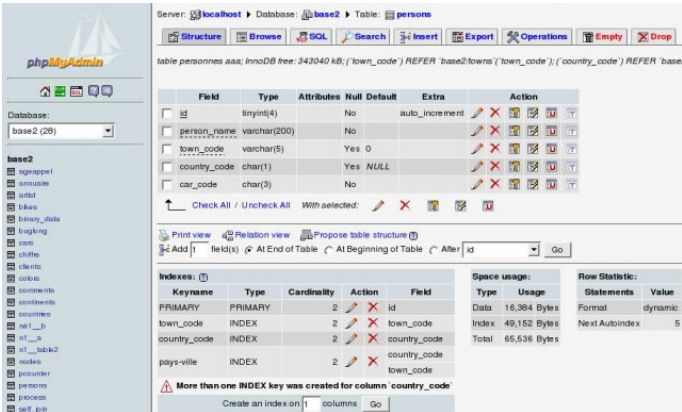
- ▶ Heidi SQL
- ▶ phpMyAdmin
- ▶ Navicat (commercial)

# Heidi SQL





# phpMyAdmin



Server: localhost Database: base2 Table: persons

Structure Browse SQL Search Insert Export Operations Empty Drop

table personnes aaa; InnoDB free: 343040 kB; ('town\_code') REFER 'base2:towns' ('town\_code'); ('country\_code') REFER 'base2:countries' ('country\_code')

Field	Type	Attributes	Null	Default	Extra	Action
<input type="checkbox"/> id	tinyint(4)		No		auto_increment	
<input type="checkbox"/> person_name	varchar(200)		No			
<input type="checkbox"/> town_code	varchar(5)		Yes 0			
<input type="checkbox"/> country_code	char(1)		Yes NULL			
<input type="checkbox"/> car_code	char(3)		No			

Check All / Uncheck All With selected:

Print view Relation view Propose table structure

Add 1 field(s) At End of Table At Beginning of Table After id Go

Keyname	Type	Cardinality	Action	Field
PRIMARY	PRIMARY	2		id
town_code	INDEX	2		town_code
country_code	INDEX	2		country_code
pays-ville	INDEX	2		country_code town_code

Space usage:

Type	Usage
Data	16,384 Bytes
Index	49,152 Bytes
Total	65,536 Bytes

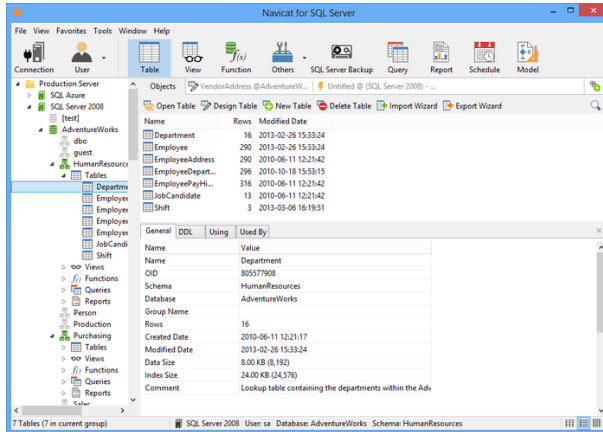
Row Statistic:

Statements	Value
Format	dynamic
Next Autoindex	5

More than one INDEX key was created for column 'country\_code'

Create an index on 1 columns Go

# Navicat



# Outro

# Fragen

# Danke für Ihre Aufmerksamkeit

## System - Gems

- ▶ API - REST in System
- ▶ Quick Query - Sichere SQL Querys

# System - Gems

# API - REST in System

## URL

`http://www.example.com/?page=start`

## Regeln

system_api (7x1)						
ID	group	type	parentID	parentValue	name	verify
1	1	0	-1	(NULL)	page	(NULL)

## Funktion

```
public static function page_start()
```

# API Class Beispiel

```

1 <?php
2 class api_dasense extends \SYSTEM\API\api_system{
3
4     //Sensor & Geopoint
5     public static function call_page_page_sensor($sensorid){
6         return page_sensor::json($sensorid);
7     }
8     public static function call_page_page_geopoint($lat,$long,$radius,$datatype){
9         return page_geopoint::json($lat, $long, $radius, $datatype);
10    }
11    public static function call_page_page_geopoint_flag_explore($lat,$long,$radius,$datatype){
12        return page_geopoint_explore::json($lat, $long, $radius, $datatype);
13    }
14
15    //Accountcalls
16    public static function call_account_action_login_flag_compatibility($username, $password_sha, $password_md5, $locale, $deviceinfo){
17        return DasenseAccount::login($username, $password_sha, $password_md5, $locale, $deviceinfo);
18    }
19    public static function call_account_action_login_flag_repairSHA($username, $password_sha_wrong, $password_md5, $password_sha_new, $locale, $deviceinfo){
20        return DasenseAccount::login($username, $password_sha_wrong, $password_md5, $locale, $deviceinfo, $password_sha_new);
21    }
22    public static function call_account_action_create_flag_compatibility($username, $password_sha, $email, $locale, $deviceinfo){
23        return DasenseAccount::create($username, $password_sha, $email, $locale, $deviceinfo);
24    }
25    public static function call_account_action_update_change_password($username, $password_sha_old, $password_sha_new){
26        return DasenseAccount::changePassword($username, $password_sha_old, $password_sha_new);
27    }
28    public static function call_account_action_resetpassword($username, $email){
29        return DasenseAccount::resetPassword($username, $email);
30    }
31    public static function call_account_action_login_flag_data($username, $password_sha, $password_md5, $locale, $deviceinfo, $data){
32        return DasenseAccount::login_data($username, $password_sha, $password_md5, $locale, $deviceinfo, $data);
33    }
34
35    // [06.04.2013] Push Message: register a device for push notification service
36    public static function call_account_action_msg_method_register($userid,$deviceid,$token,$os){
37        return MessageController::handleRegistrationToken($userid,$deviceid,$token,$os);
38    }
39
40    // [06.04.2013] Push Message: allows users to invite friends via email
41    public static function call_account_action_msg_method_invite($userid,$recipient_email,$msg){
42        return MessageController::inviteUser($userid,$recipient_email,$msg);
43    }
44
45    // [09.04.2013] Profile: get user's public profile
46    public static function call_account_action_profile_get_public($userid){
47        return ProfileController::getPublicProfile($userid);
48    }
49
50    //Logging system
51    /* public static function call_log($json){
52
53    }
54
55    }
56
57
58
59
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91
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100

```



# Quick Query - Sichere SQL Querys

QQ

```
k?php
2 namespace SYSTEM\SQL;
3 class SYS_CACHE_DELETE_ALL extends \SYSTEM\DB\QQ {
4     public static function get_class(){return \get_class();}
5     public static function pgsql(){return
6         'DELETE FROM system.cache;';
7     }
8     public static function mysql(){return
9         'DELETE FROM system_cache;';
10    }
11 }
```

QP

```
k?php
2 namespace SYSTEM\SQL;
3 class SYS_CACHE_DELETE extends \SYSTEM\DB\QP {
4     public static function get_class(){return \get_class();}
5     public static function pgsql(){return
6         'DELETE FROM system.cache'.
7         ' WHERE "CacheID" = $1 AND'.
8         ' "Ident" = $2;';
9     }
}
```

## Quick Query - Sichere SQL Querys

### Q1 - Eine Zeile

```
$res = SYS_SAIMOD_API_SELECT::Q1(array($ID,$group));
```

### QA - Alle Zeilen

```
$res = SYS_SAIMOD_API_SELECT::QA(array($ID,$group));
```

### QQ - Selber Interrieren

```
$res = SYS_SAIMOD_API_SELECT::QQ(array($ID,$group));
```

### QI - Einfügen/Löschen

```
$res = SYS_SAIMOD_API_SELECT::QI(array($ID,$group));
```