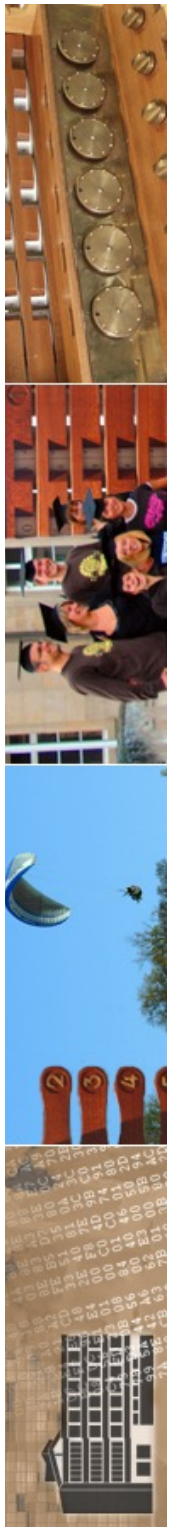

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MATHEMATISCH-
NATURWISSENSCHAFTLICHE FAKULTÄT
FACHBEREICH INFORMATIK
INFORMATIONSDIENSTE

Grundlagen der Web-Entwicklung

INF3172

Das Laminas-Framework

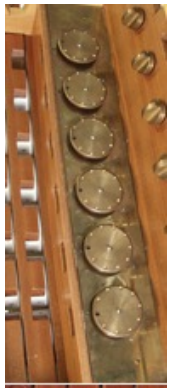
Thomas Walter

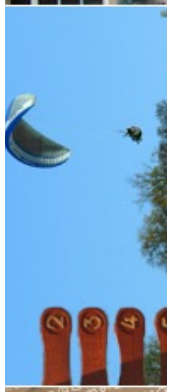
11.01.2024

Version 1.0

Laminas

Laminas






Cyberangriff auf Kliniken in Ostwestfalen

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Am 24.12. suchte nicht der Weihnachtsmann, sondern ein Erpressungstrojaner Kliniken in Ostwestfalen-Lippe heim. Die gesamte IT stehe still.

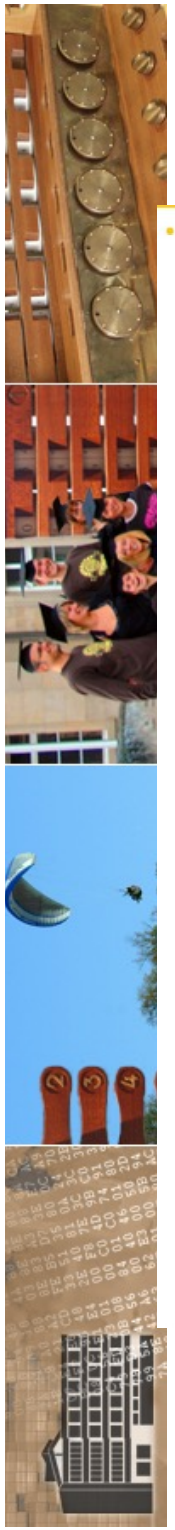
Lesezeit: **1 Min.** In Pocket speichern 345

(Bild: Skorzewiak/Shutterstock.com)

25.12.2023 12:57 Uhr | Security

Von Peter Siering

In den Krankenhäusern Franzikus Hospital Bielefeld, Sankt Vinzenz Hospital Rheda-Wiedenbrück und Mathilden Hospital Herford ist am frühen Morgen des 24. Dezember die komplette IT ausgefallen. Grund dafür sei ein Angriff auf die IT-Infrastrukur. Das meldet der Betreiber, die Katholische Hospitalvereinigung Ostwestfalen gGmbH.



Erklärungen zum „Traffic Light Protocol“ (TLP)[1]

TLP:WHITE – Unbegrenzte Weitergabe

Abgesehen von urheberrechtlichen Aspekten dürfen Informationen dieser Stufe ohne Einschränkungen frei weitergegeben werden.

TLP:GREEN – Organisationsübergreifende Weitergabe

Informationen dieser Stufe dürfen innerhalb der Organisationen und an deren Partner frei weitergegeben werden. Die Informationen dürfen jedoch nicht veröffentlicht werden.

TLP:AMBER – Eingeschränkte interne und organisationsübergreifende Weitergabe

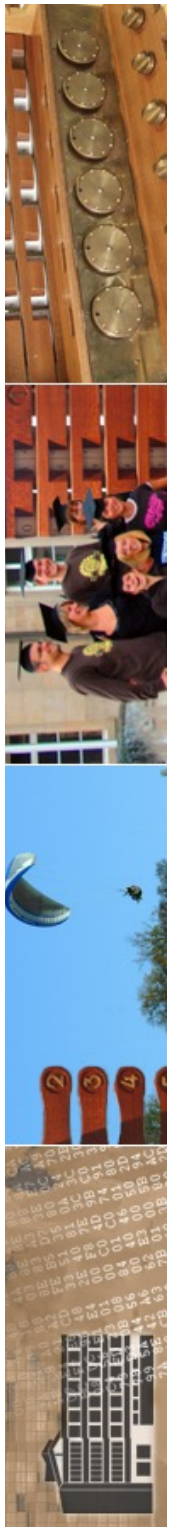
Informationen dieser Stufe darf der Empfänger innerhalb seiner Organisation auf Basis **Kenntnis nur, wenn nötig** weitergeben. Der Empfänger darf die Informationen zudem an Dritte weitergeben, soweit diese die Informationen zum Schutz des Empfängers oder zur Schadensreduktion beim Empfänger benötigen.

Hierfür muss er sicherstellen, dass die Dritten das TLP kennen und die damit verbundenen Regeln einhalten. Der Informationsersteller kann weitergehende oder zusätzliche Einschränkungen der Informationsweitergabe festlegen, diese müssen eingehalten werden.

TLP:RED – Persönlich, nur für bekannte Empfänger

Informationen dieser Stufe sind auf den Kreis der Anwesenden in einer Besprechung oder Video-/ Audiokonferenz bzw. auf die direkten Empfänger bei schriftlicher Korrespondenz beschränkt.

Eine Weitergabe ist untersagt. Meistens werden Informationen dieser Stufe mündlich oder persönlich übergeben.



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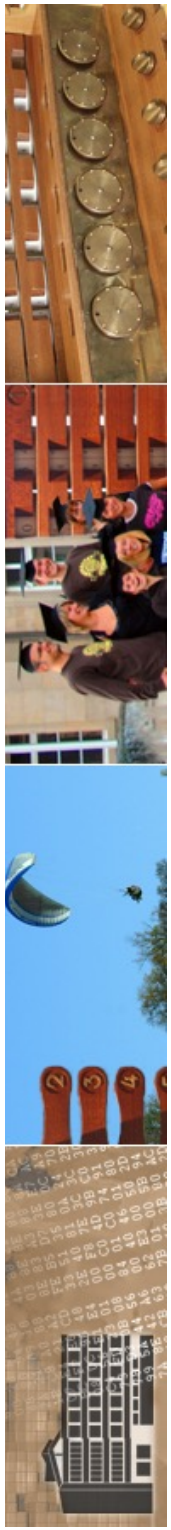
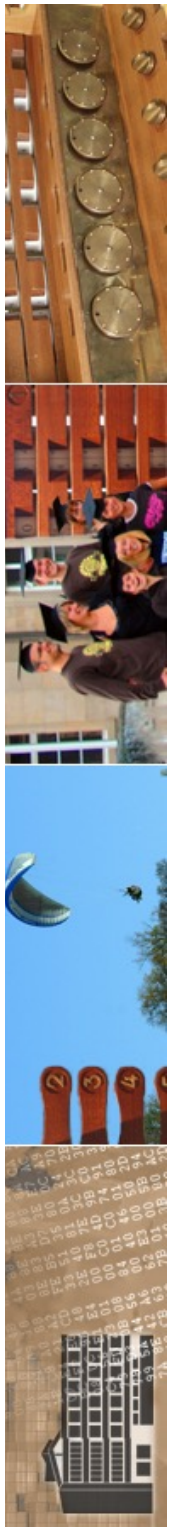


Frameworks

- Framework: wiederverwertbares Softwaresystem mit bereits implementierter, genereller (generischer) Funktionalität
  - Spezialisierung führt zu konkreter Anwendung
  - Framework setzt Architektur um
  - Framework folgt Design Pattern
  - Beispiele
    - Ruby: Ruby on Rails
    - PHP: ZEND Framework, Cake-PHP, Symfony,FLOW3, Laravel
    - Python: Django



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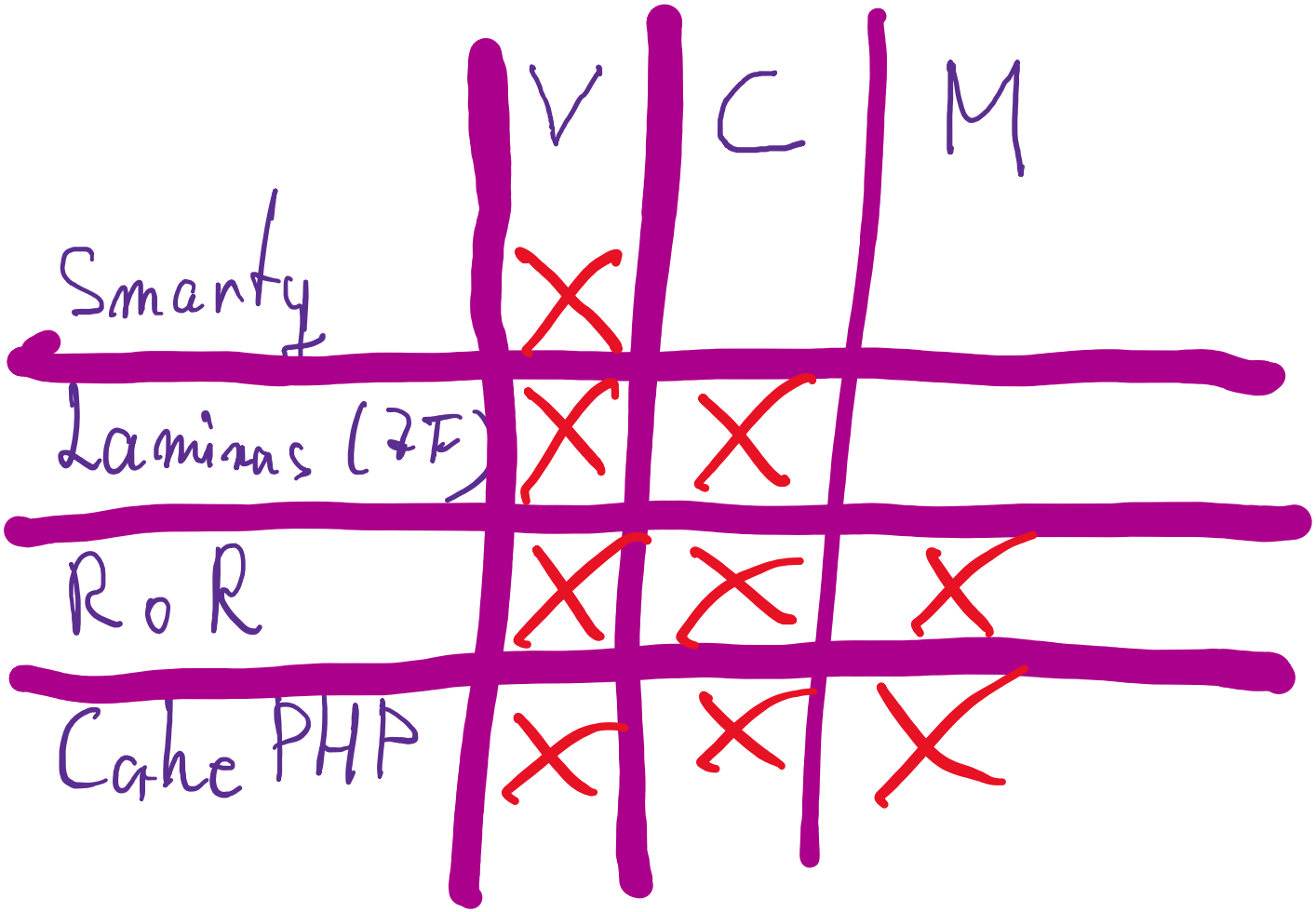
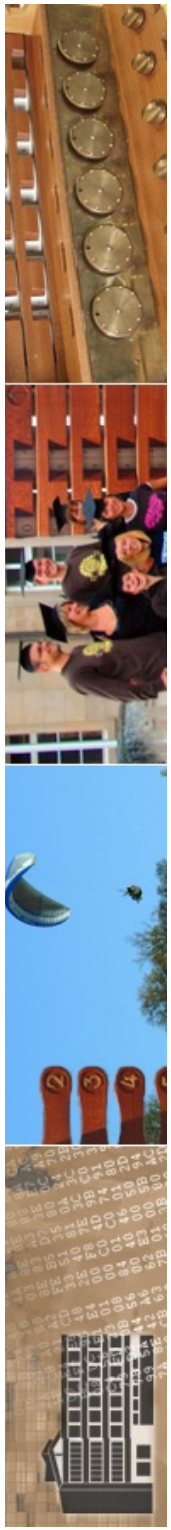
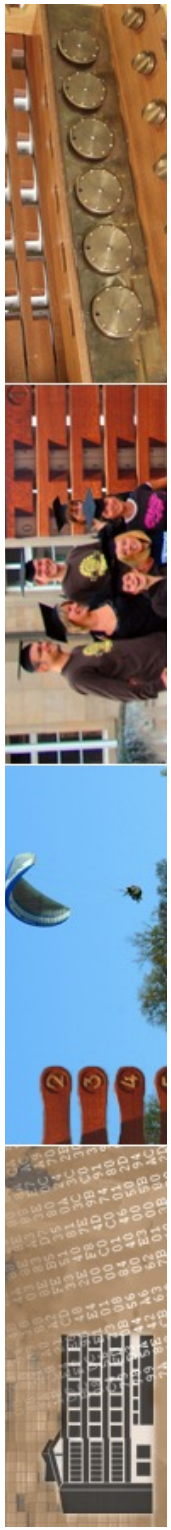
Frameworks (serverseitig) und MVC





der Begriff "ZEND"

- Buchstaben einiger PHP-Entwickler:
  - www.zend.com
  - **Andi** Gutmans und **Zee**v Suraski
- ZEND-Engine
  - nicht-freie PHP-Engine mit besserer Performance etc.
- ZEND Studio
  - professionelle, kommerzielle IDE für PHP



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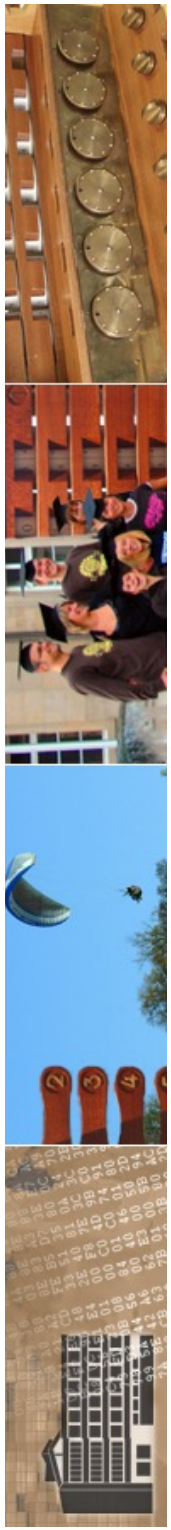
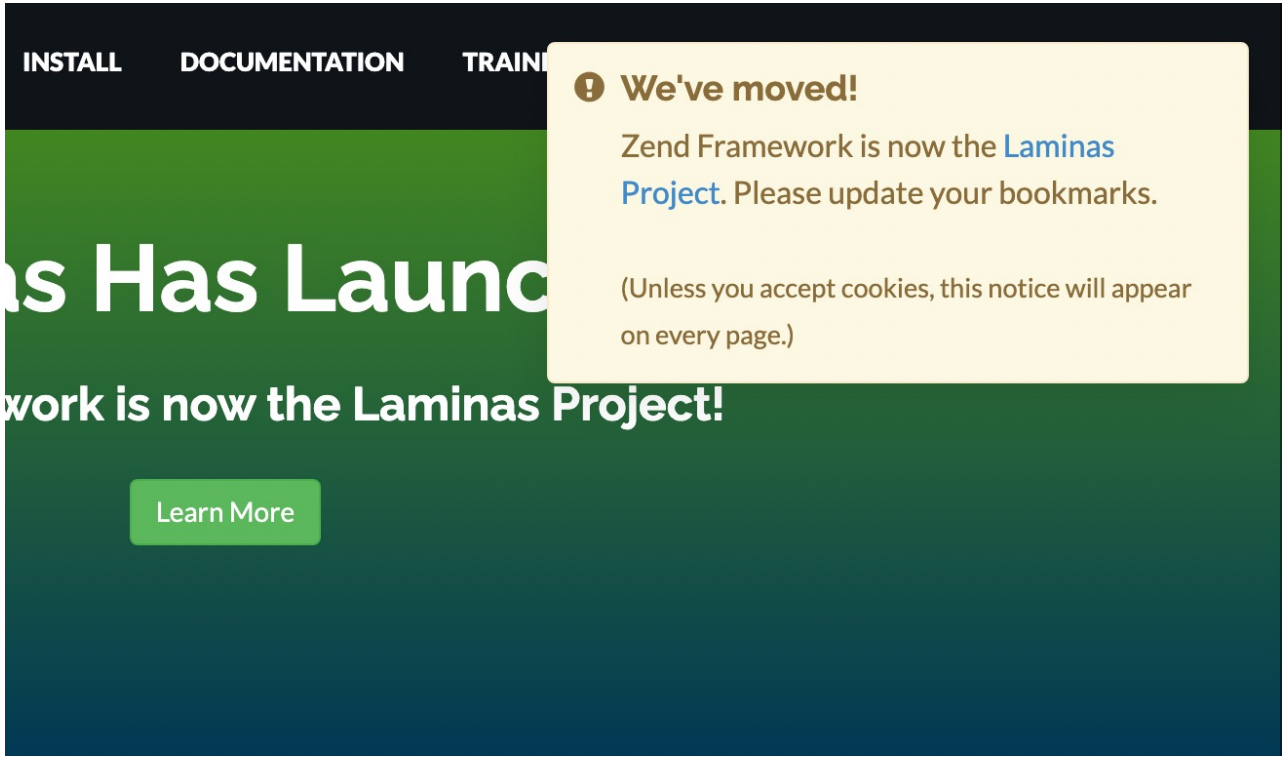
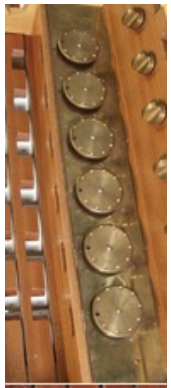
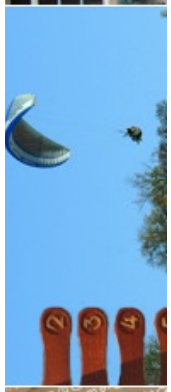
von ZF zu Lamias

- Zend Framework wechselte 2019 zur Linux Foundation




INSTALL
DOCUMENTATION
TRAIN
We've moved!
Zend Framework is now the Laminas Project. Please update your bookmarks.
(Unless you accept cookies, this notice will appear on every page.)
s Has Launc
work is now the Laminas Project!
Learn More






The Linux Foundation forms new Laminas project to support continued growth of Zend Framework and PHP tooling

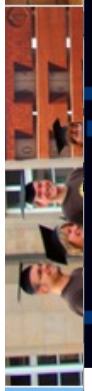
In conjunction with Zend Technologies and Rogue Wave Software, we are excited to announce that the Zend Framework is transitioning to the Linux Foundation and will launch later this year as a new project called Laminas.

The Zend Framework is a collection of professional PHP packages that can be used to develop web applications and services using PHP 5.6+, and it provides 100% object-oriented code using a broad spectrum of language features.

Over the years, the Zend Framework has seen wide adoption across industries and application types with **more than 400 million lifetime installs.** It is used by companies including the BBC, BNP Paribas, and Offers.com. It has formed the basis of numerous business applications and services including eCommerce platforms, content management, healthcare systems, entertainment platforms and portals, messaging services, APIs, and many others.

The Linux Foundation will provide a vendor-neutral home for the Zend Framework community to continue to advance PHP tooling for the next generation of web services and APIs, while maintaining existing Zend Framework components, including the Apigility and Expressive subprojects.

To learn more about the Laminas project and how to get involved, please visit GetLaminas.org.

zend.com

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PERFORCE

PHP Security Center | Blog | Store | Downloads | Company | Contact

zend

SOLUTIONS | SERVICES | TRAINING | RESOURCES | SUPPORT | TRY FREE

Enterprise PHP Solutions, Groundbreaking PHP Support.

Support Your Mission-Critical Applications With Secure PHP Runtimes From Zend

TRY ZENDPHP

PHP Expertise & Support on Your Schedule

Working with PHP? Zend can help support, migrate, or modernize your PHP application.

Upgrade Flexibility

Zend supports older versions of PHP with security patches and updates, so you can upgrade on your own schedule.

Long-Term Support

Zend offers 3+ years of security and defect fixes after community support ends, meaning peace of mind for non-LTS PHP apps.

Security & Compliance

ZendPHP runtimes are certified by PHP experts and include the latest security patches and updates for enhanced PHP security and compliance.

Expert Guidance

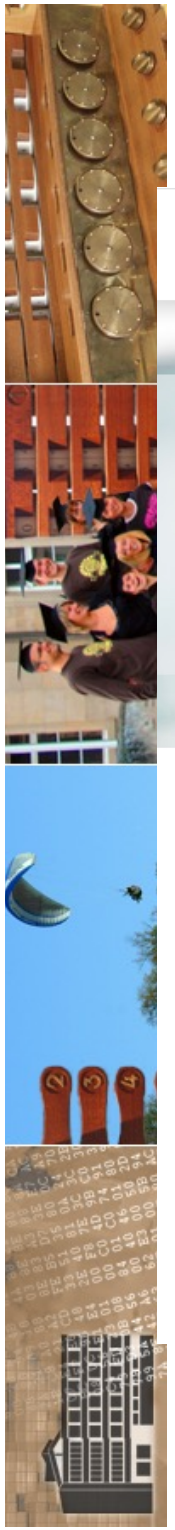
From migrations and performance audits to consultative support, Zend provides expert guidance for your PHP project.

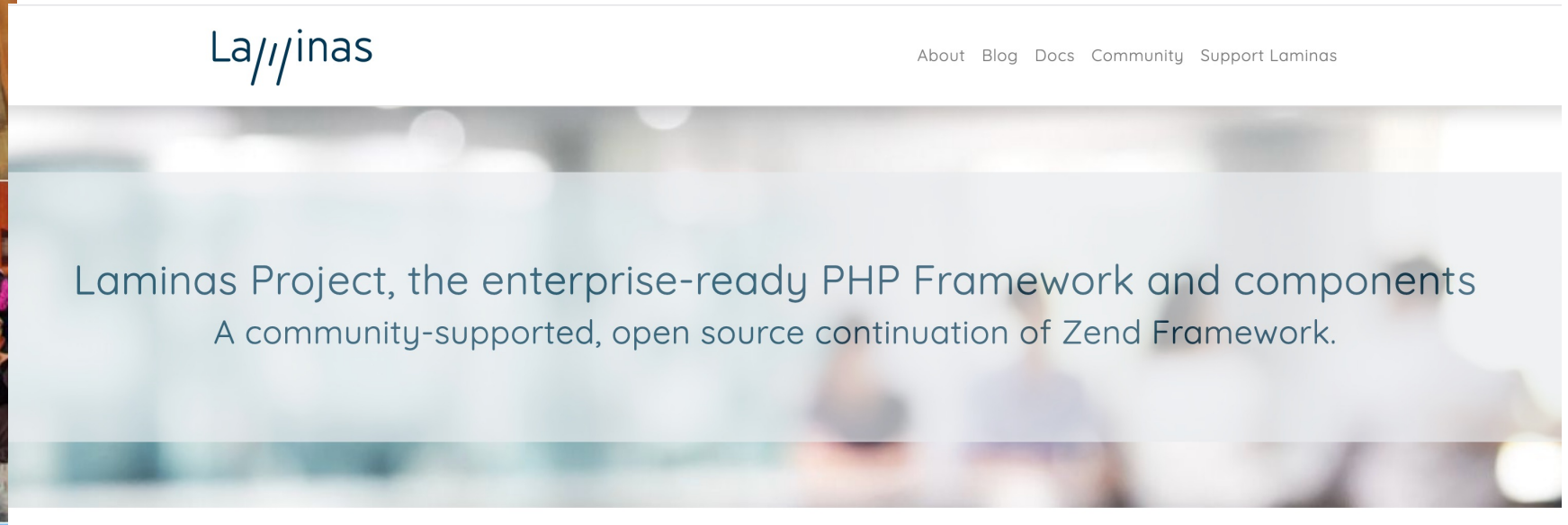
Framework Support

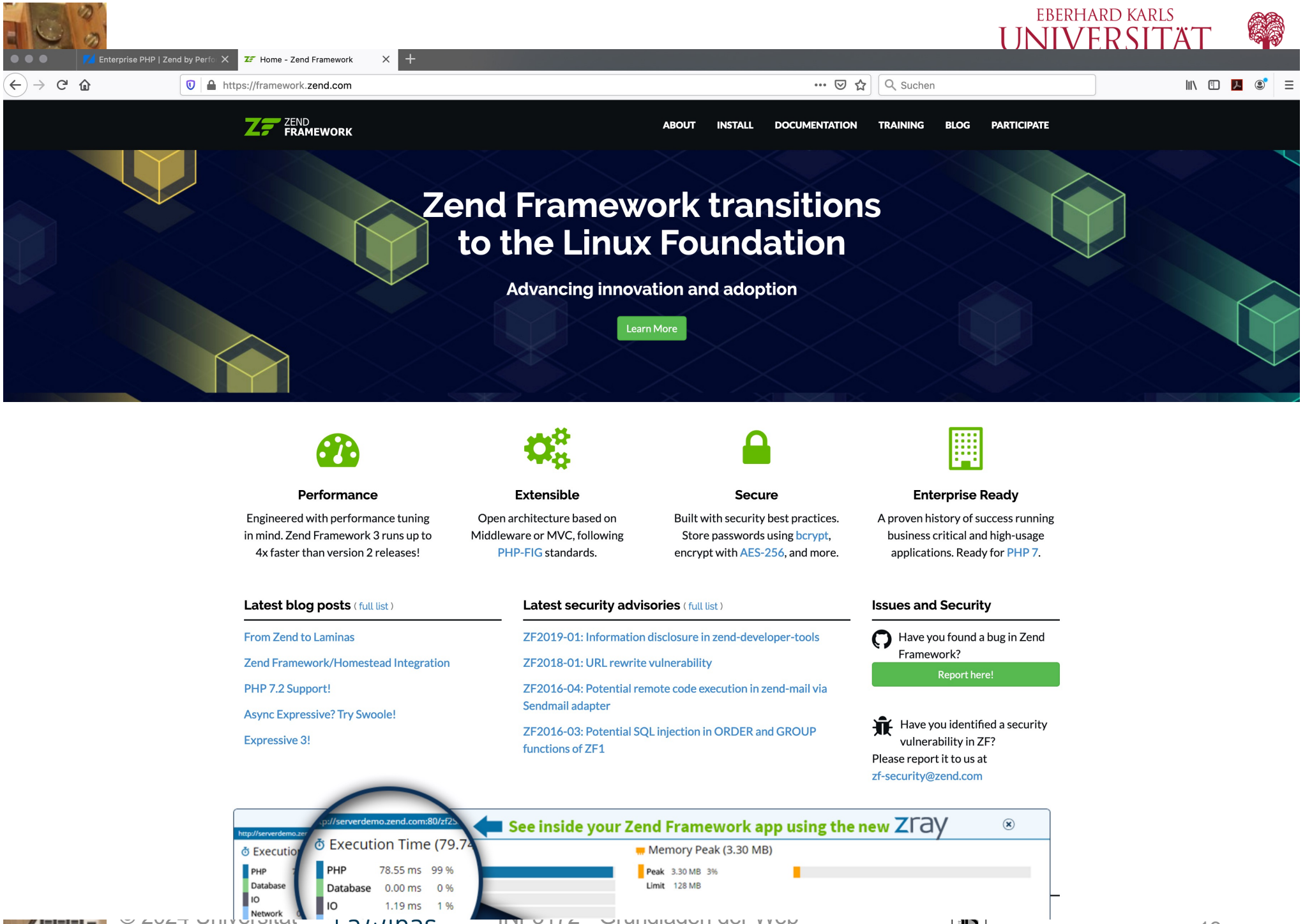
With enterprise support for Zend Framework and Laminas, you get ongoing security patches, expert consultative support, and more.

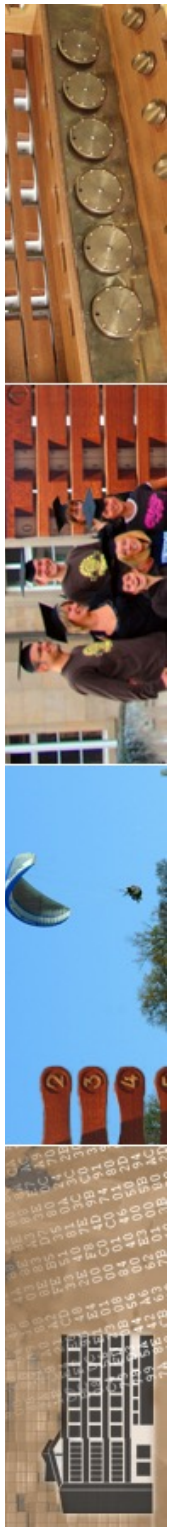
Performance Monitoring

Monitor performance of your PHP application and get custom alerts when your application needs attention with Zend Server and Z-Ray.




Laminas
About Blog Docs Community Support Laminas
Laminas Project, the enterprise-ready PHP Framework and components
A community-supported, open source continuation of Zend Framework.
Components and MVC
Enterprise-ready PHP components and MVC framework
Components for any PHP application, including dependency injection, event dispatchers, input validation and filtering, pagination and navigation, feed generation and parsing, and much, much more.
A standards-based, event-driven MVC framework with a flexible workflow.
Laminas documentation
Mezzio
PHP Middleware in Minutes
Build PHP middleware applications, using the PSR-7 (HTTP Messages) and PSR-15 (HTTP Request Handlers) specifications, using a variety of routing and templating options, and the dependency injection container you prefer.
Mezzio documentation
API Tools
Build Beautiful RESTful APIs
Build RESTful APIs using standards such as Hypertext Application Language and Problem Details for HTTP APIs, and provide validation, authentication, authorization, and versioning right out of the box!
API Tools documentation


Enterprise PHP | Zend by Perfo
Home - Zend Framework
https://framework.zend.com
Suchen
ZEND FRAMEWORK
ABOUT
INSTALL
DOCUMENTATION
TRAINING
BLOG
PARTICIPATE
Zend Framework transitions to the Linux Foundation
Advancing innovation and adoption
Learn More
Performance
Engineered with performance tuning in mind. Zend Framework 3 runs up to 4x faster than version 2 releases!
Extensible
Open architecture based on Middleware or MVC, following PHP-FIG standards.
Secure
Built with security best practices. Store passwords using bcrypt, encrypt with AES-256, and more.
Enterprise Ready
A proven history of success running business critical and high-usage applications. Ready for PHP 7.
Latest blog posts (full list)
From Zend to Laminas
Zend Framework/Homestead Integration
PHP 7.2 Support!
Async Expressive? Try Swoole!
Expressive 3!
Latest security advisories (full list)
ZF2019-01: Information disclosure in zend-developer-tools
ZF2018-01: URL rewrite vulnerability
ZF2016-04: Potential remote code execution in zend-mail via Sendmail adapter
ZF2016-03: Potential SQL injection in ORDER and GROUP functions of ZF1
Issues and Security
Have you found a bug in Zend Framework?
Report here!
Have you identified a security vulnerability in ZF?
Please report it to us at zf-security@zend.com
See inside your Zend Framework app using the new Zray
Execution Time (79.7
PHP 78.55 ms 99 %
Database 0.00 ms 0 %
IO 1.19 ms 1 %
Memory Peak (3.30 MB)
Peak 3.30 MB 3%
Limit 128 MB



ZEND FRAMEWORK ABOUT INSTALL DO

About

Overview

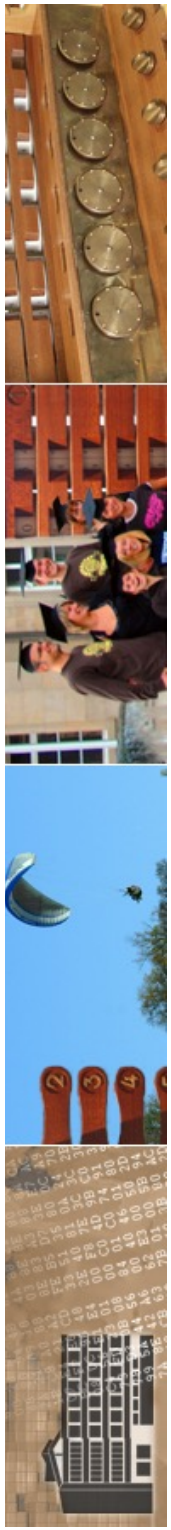
Zend Framework is a collection of professional PHP packages with **more than 480 million** installations. It can be used to develop web applications and services using PHP 5.6+, and provides 100% object-oriented code using a broad spectrum of language features.

Zend Framework uses Composer as a package dependency manager; PHPUnit to test all packages; and Travis CI as a Continuous Integration service. Zend Framework also follows PHP-FIG standards, and includes an implementation of PSR-7 for HTTP message interfaces (as shepherded by Matthew Weier O'Phinney, Zend Framework project lead).

Zend Framework 3 evolved from both Zend Framework 2 and 1; cumulatively, the previous versions were downloaded more than 15 million times.

The principal sponsor of Zend Framework is Zend, a Rogue Wave Company, but many others have contributed components or significant features to the framework. Companies such as Google, Microsoft, and StrikeIron have partnered with Zend to provide interfaces to web services and other technologies they wish to make available to ZF developers.

Zend Framework 3 could not deliver and support all of these features without the help of the vibrant community. Community members, including contributors, make themselves available on mailing lists, IRC channels and other forums. Whatever question you have about Zend Framework, the community is always available to address it.



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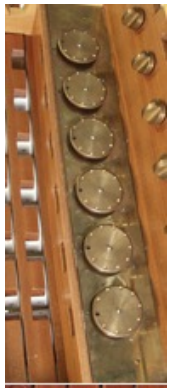
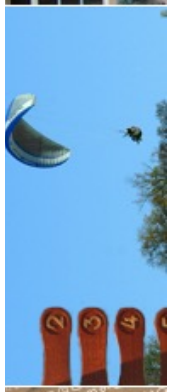
Laminas und ZEND-Framework

- ZF: erste Version 30.6.2007
  - Januar 2020: 3 und 2.5
  - Januar 2021: Lamias
- siehe `http://www.zend.com/de/community/framework`
  - wichtig: `http://framework.zend.com/manual`
- sehr flexible Lizenz, auch kommerzieller Einsatz
- **MVC direkt abgebildet**
- Internationalisierung und Lokalisierung





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Zend Framework

http://framework.zend.com/

Repositories 168 People 20 Projects 1

Grow your team on GitHub

GitHub is home to over 28 million developers working together. Join them to grow your own development teams, manage permissions, and collaborate on projects.

Sign up

Dismiss

Find a repository... Type: All Language: All

zend-test

Test component from Zend Framework

PHP ★ 12 35 Updated 2 hours ago

zend-http

Http component from Zend Framework

PHP ★ 90 76 Updated 2 hours ago

zend-problem-details

Provides Problem Details for HTTP APIs (RFC 7807) support for PSR-7 applications.

api php rest zend-expressive psr-7 zend-framework

PHP ★ 41 15 Updated 5 hours ago

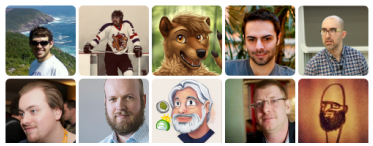
Top languages

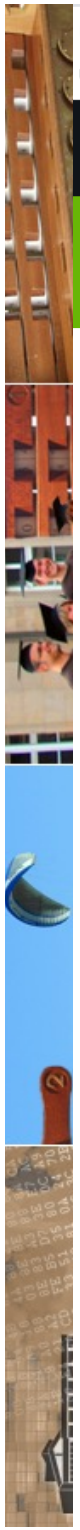
PHP HTML CoffeeScript CSS

Most used topics

php psr-7 psr-11 zend-framework zendframework

People 20 ›





https://framework.zend.com/learn

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ZEND FRAMEWORK

ABOUT INSTALL DOCUMENTATION TRAINING BLOG PARTICIPATE

Documentation

Zend Framework 3

Zend Framework is a collection of **60+ packages** for professional PHP development. Each package is available on GitHub and can be installed via Composer.

Tutorials

We provide tutorials for getting started with zend-mvc, understanding advanced topics of many components, and migration from version 2 to version 3.

Read tutorials

zend-authentication

Authenticate users via a variety of adapters, and provide the authenticated identity to your application.

Github Documentation

zend-barcode

Programmatically create and render barcodes as images or in PDFs.

Github Documentation

zend-cache

Caching implementation with a variety of storage options, as well as codified caching strategies for callbacks, classes, and output.

Github Documentation

zend-captcha

Generate and validate CAPTCHAs using Figlets, images, ReCaptcha, and more.

Github Documentation

Zend Framework 3

- Overview
- Getting started
- Tutorials

Zend Framework 2

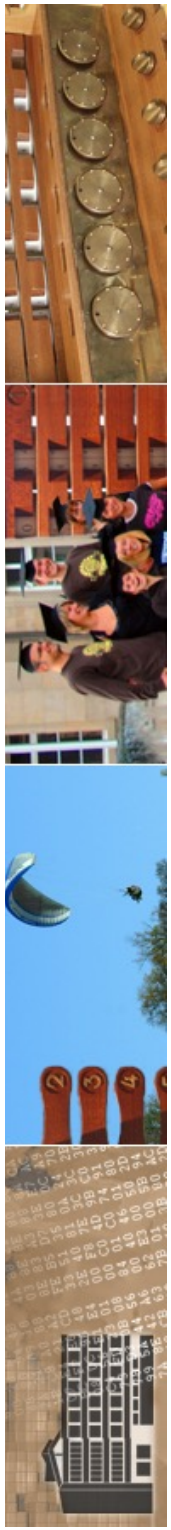
- Getting started
- Reference guide
- API

Zend Framework 1

- Getting started
- Reference guide
- API

Services

- Training & Certification
- Support & Consulting
- Webinars



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A Dependency Manager for PHP

Latest: **2.6.6** (changelog)

Getting Started | Download

Documentation | Browse Packages

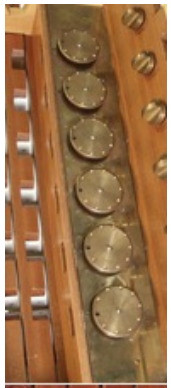
Issues | GitHub

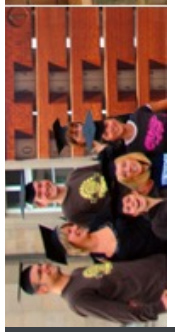
Authors: Nils Adermann, Jordi Boggiano and many community contributions

Sponsored by:

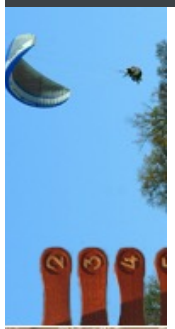
PRIVATE PACKAGIST

Logo by: WizardCat





```
$ composer create-project mezzio/mezzio-skeleton mezzio
```



LTE für ZEND und Lamias

Long Term Support

Periodically, we will announce a Long Term Support (LTS) version. LTS versions are supported for a duration of 3 years from the time of release with security and critical bug fixes.

Adopting an LTS version

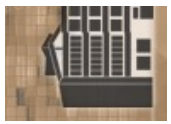
Opting-in to an LTS version can be done by modifying the Composer requirement for Zend Framework:

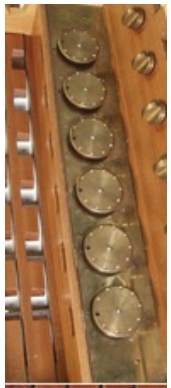
```
$ composer require "zendframework/zendframework:~2.4.0"
```

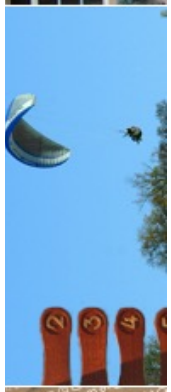
The above will modify your `composer.json` to pin to the semantic version `2.4.0`, ensuring you only get updates in the 2.4 series. If you want to pin to a different LTS version, specify the `X.Y.0` version for it instead.

Versions

Version	Released	LTS Ends
Zend Framework 1.12	2015-04-13	2016-09-28
Zend Framework 2.4	2015-03-31	2018-03-31





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JBINGEN

Support and Long Term Support Policies

We provide two support policies, one governing general support for components, and another governing long term support for skeleton applications.

Terminology

- **Active support**: During this period, a package may receive new features, bugfixes, and/or security patches.
- **Security support**: During this period, a package may receive security patches and/or criticial bugfixes only.
- **Security patches (or fixes)**: Patches created due to a report of a potential or known security vulnerability, as verified by the security team.
- **Critical bugfixes**: Fixes for bugs introduced within a new minor release cycle.
- **Skeleton package**: Any package defined as a Composer "project" type, for the purpose of initiating a new project/application.
- **LTS**: Long-Term Support.

Component support policy

This policy governs individual component packages.

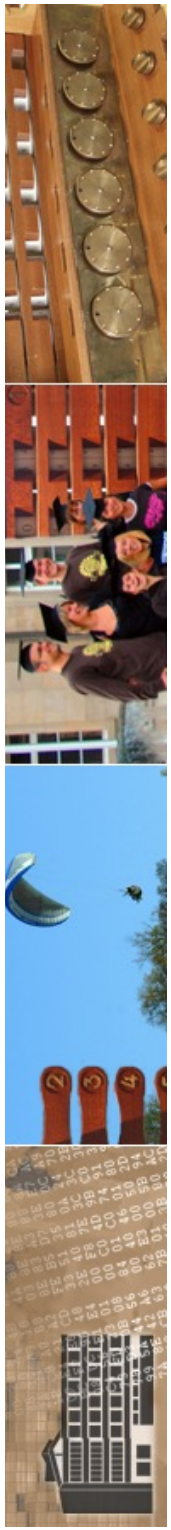
- When a new major release of a component is made, the previous minor release enters its *security support* phase for a period of 12 months, receiving only critical bugfixes and security fixes.
- Otherwise, a component remains in *active support* unless we provide notice of deprecation/abandonment. Once such a notice is made, the component will enter a *security support* phase for a period of 12 months.
- When a new minor release of a component is made, the previous minor release is no longer supported and will not receive security fixes.

Users are encouraged to update to the latest supported version. As we follow semantic versioning, your code will continue to work without changes within the same major version.

Long Term Support Policy

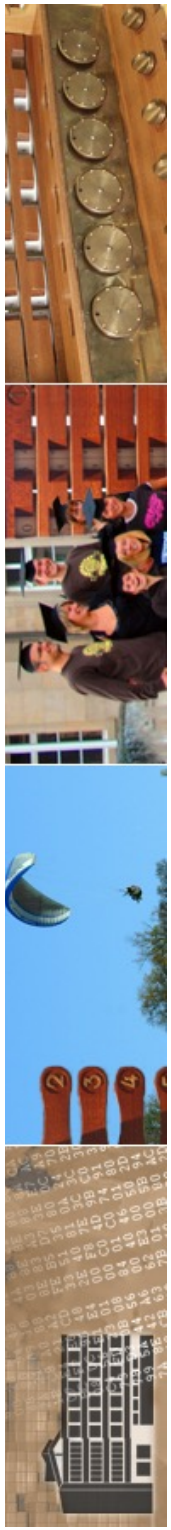
This policy governs *skeleton packages* and their direct dependencies. Direct dependencies are any Zend Framework dependencies listed in the skeleton `composer.json`. At the time of publication, skeleton applications we provide include:

- zf-apigility-skeleton (Apigility applications)
- ZendSkeletonApplication (zend-mvc applications)
- zend-expressive-skeleton (Expressive applications)



Entwicklungsumgebung für das ZEND/Laminas-Framework

- IDE: Integrierte Entwicklungsumgebung
- ZEND-Studio for Eclipse
  - http://www.zend.com/de/products/studio/
  - **nicht** frei



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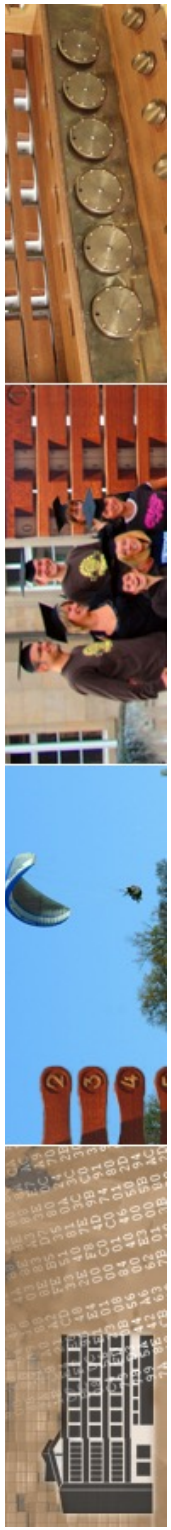
ZF Version 1 und Version 2

- Unterschiede in der Version 2
  - neues Lizenzmodell (BSD)
  - noch stärker modularisiert
  - neuer ModulManager
  - neue Sicherheitsfunktionen (Kryptographie)
  - ZF1 wird noch weiter gepflegt



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ZF Version 3

- Release Juni 2016

- Performance!
- PHP7
- entkoppeln von Paketen für bessere Wiederverwertbarkeit
- verbesserte Dokumentation

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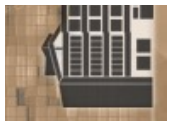
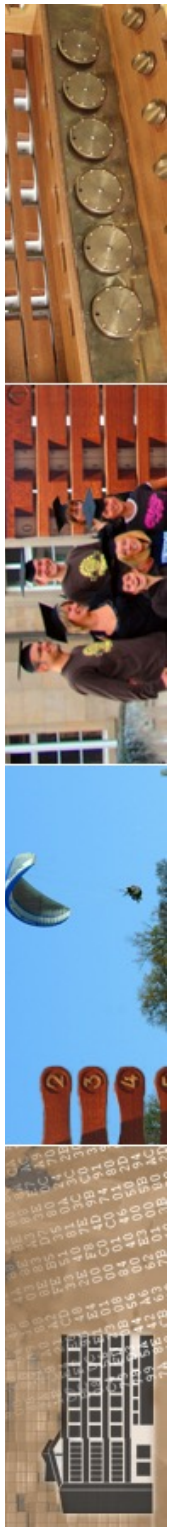
Laminas

Original Project	Original GitHub Organization	Original PHP Namespace	New Project Name	New GitHub Organization	New PHP Namespace
Zend Framework (Components)	zendframework	Zend	Laminas (Components)	laminas	Laminas
Zend Framework MVC	zendframework	Zend	Laminas (MVC)	laminas	Laminas
Apigility	zfcampus	ZF/ZF\Apigility	Laminas API Tools	laminas-api-tools	Laminas\ApiTools
Expressive	zendframework	Zend\Expressive	Mezzio	mezzio	Mezzio





Laminas | Documentation

All Docs Community

Overview

Laminas Documentation

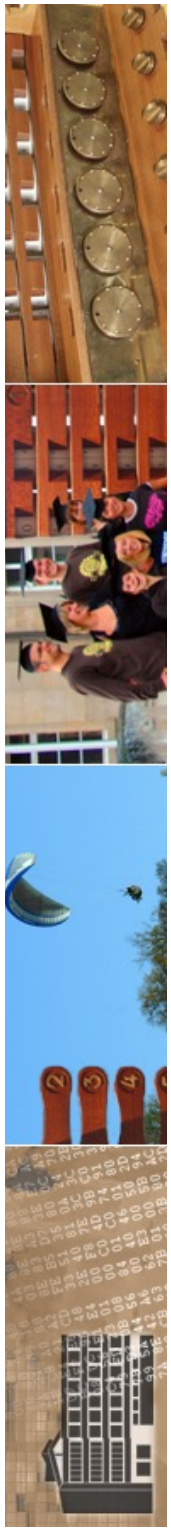
Laminas Mezzio	Laminas Components	Laminas MVC	Laminas API Tools
Mezzio	**Components**	**MVC**	**API Tools**
PSR-15 Middleware in Minutes	Components for Enterprise Applications	MVC for Enterprise Applications	Build RESTful APIs in Minutes
previously Expressive			previously Apigility

Migration

Migrate your application or library to Laminas from Zend Framework, Expressive, or Apigility

Tutorials

Learn how to create laminas-mvc applications, get in-depth guides into components, and discover how to migrate your applications to version 3!



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Migration

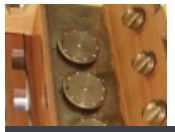
La///inas | Documentation

Migration to Laminas

Migration to Laminas

On this page

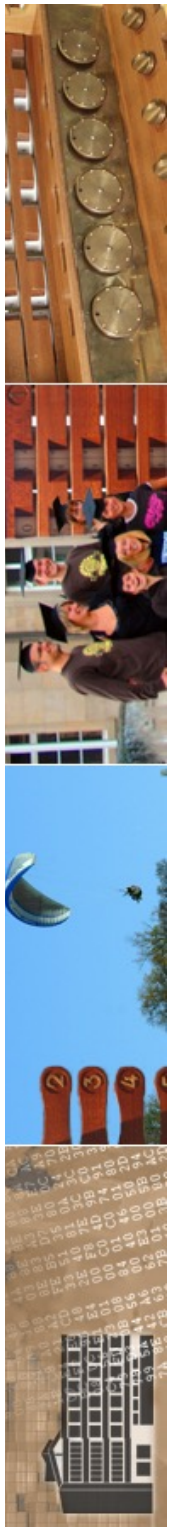
Laminas and its subprojects are an open source continuation of Zend Framework and its subprojects, and are the official fork of the project now that it has been archived and abandoned.



Migration from Zend Framework v2 to v3

Zend Framework v2 to v3 has been intended as an incremental upgrade. We have even made efforts in the past year to provide forwards compatibility features in v2 versions of components, to allow users to prepare their code for upgrade.

This is not a comprehensive migration guide, however. While we know the majority of the areas where breakage can and will occur, we also know that only when developers are actually updating will we see the full situation. As such, treat this as a work in progress, and please feel free to propose updates or changes via issues or pull requests so we can improve!



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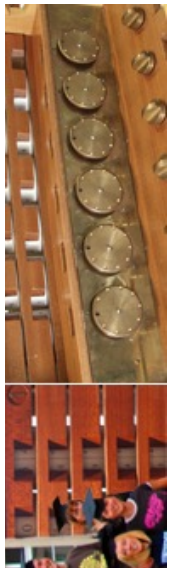
Installation V 1/2

- das eigentliche Framework besteht aus PHP-Sourcen
  - herunterladen, entpacken
  - Apache mit PHP entsprechend konfigurieren
    - in **`php.ini`** ist die Direktive **`include_path`** anzupassen



Installation V3
(und V2 ab 2.5)

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Get started

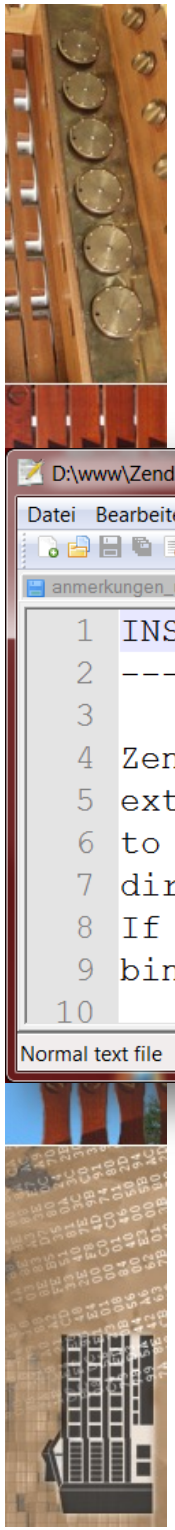
Installation of Zend Framework is only a Composer command away:

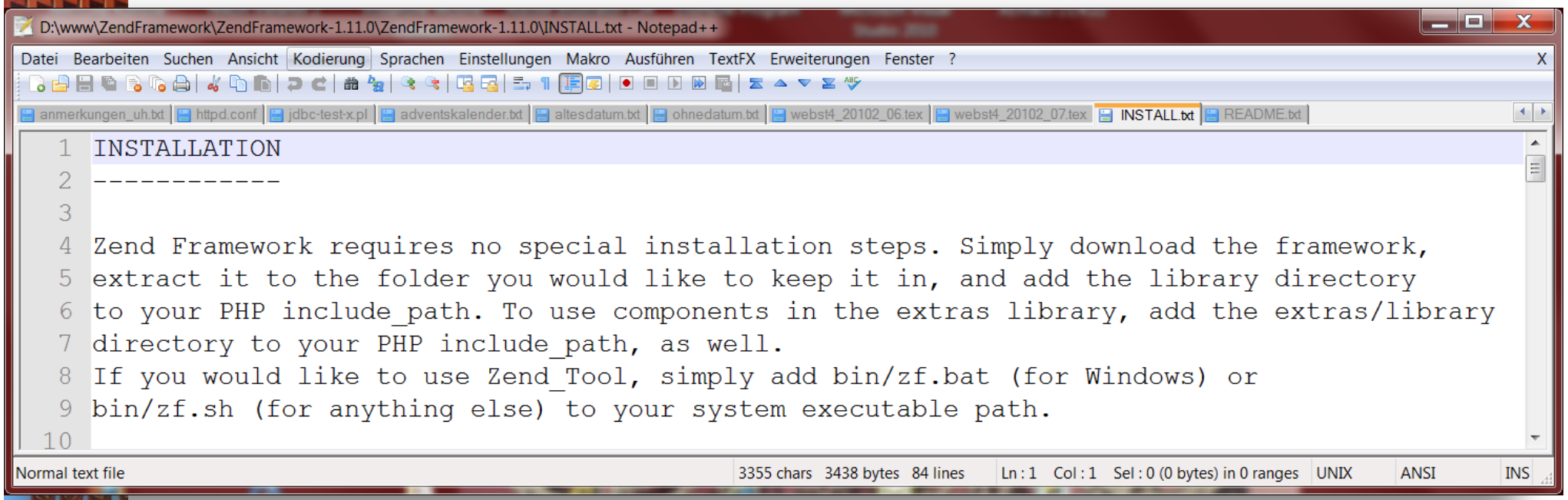
```
$ composer require zendframework/zendframework
```

This will install all **61** packages required in composer.json. Alternately, all Zend Framework packages can be installed individually; for instance, if you need only the MVC package, you can install with the following command:

```
$ composer require zendframework/zend-mvc
```

A list of all the packages can be found in the documentation page.




D:\www\ZendFramework\ZendFramework-1.11.0\ZendFramework-1.11.0\INSTALL.txt - Notepad++
Datei Bearbeiten Suchen Ansicht Kodierung Sprachen Einstellungen Makro Ausführen TextFX Erweiterungen Fenster ?
anmerkungen_uh.txt httpd.conf jdbc-test-x.pl adventskalender.txt altesdatum.txt ohnedatum.txt webst4_20102_06.tex webst4_20102_07.tex INSTALL.txt README.txt
1 INSTALLATION
2 ------------
3
4 Zend Framework requires no special installation steps. Simply download the framework,
5 extract it to the folder you would like to keep it in, and add the library directory
6 to your PHP include_path. To use components in the extras library, add the extras/library
7 directory to your PHP include_path, as well.
8 If you would like to use Zend_Tool, simply add bin/zf.bat (for Windows) or
9 bin/zf.sh (for anything else) to your system executable path.
10
Normal text file 3355 chars 3438 bytes 84 lines Ln : 1 Col : 1 Sel : 0 (0 bytes) in 0 ranges UNIX ANSI INS

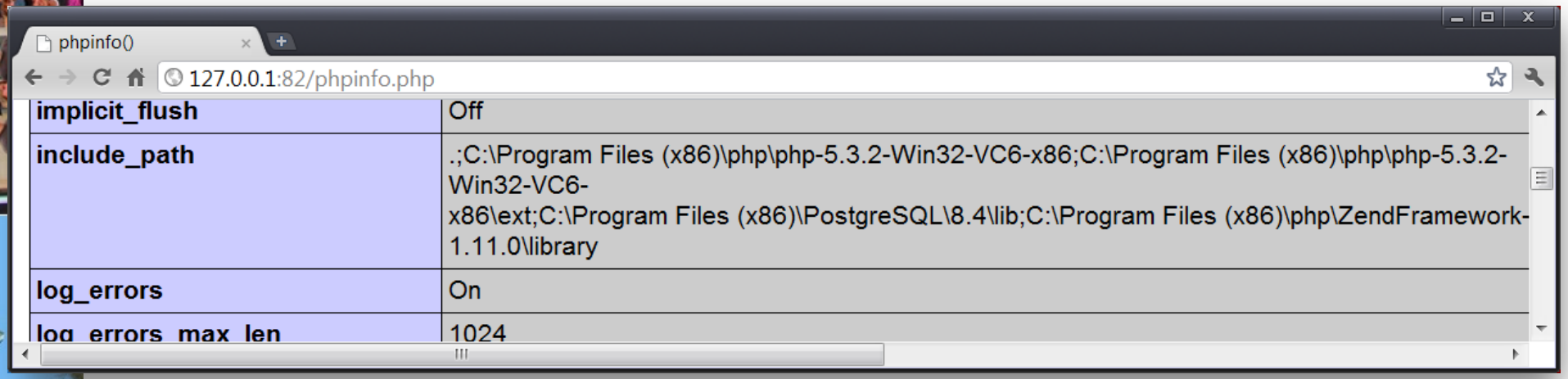
Installation

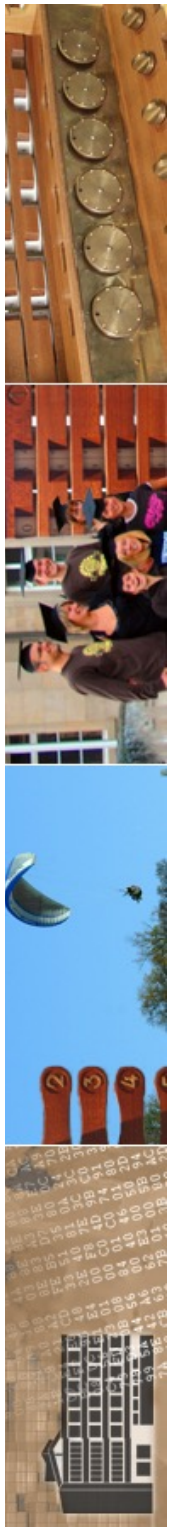
```
$ composer require --dev laminas/laminas-component-installer
```

Global Installation

You can also install the plugin globally, in which case it will be active for every project you manage on your machine.

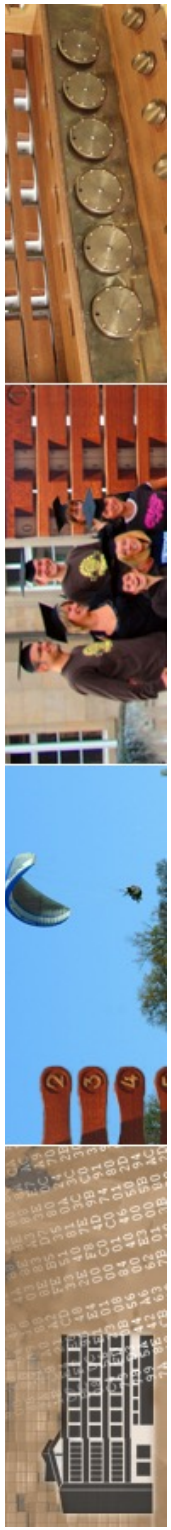
```
$ composer global require laminas/laminas-component-installer
```


phpinfo()
127.0.0.1:82/phpinfo.php
implicit_flush
Off
include_path
.;C:\Program Files (x86)\php\php-5.3.2-Win32-VC6-x86;C:\Program Files (x86)\php\php-5.3.2-Win32-VC6-x86\ext;C:\Program Files (x86)\PostgreSQL\8.4\lib;C:\Program Files (x86)\php\ZendFramework-1.11.0\library
log_errors
On
log_errors_max_len
1024



Namenskonvention und Struktur

- viele moderne Frameworks verwenden eine **Namenskonvention**
  - angelehnt an Java-Packages
  - Beispiel: PHP-Datei (Klasse) **`Zend_Currency_Validate`** ist Datei **`Validate.php`** und liegt im Ordner **`Zend/Currency`**



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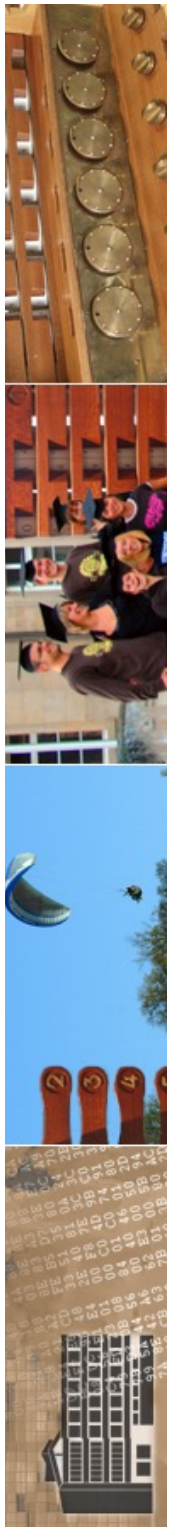
Laden von Klassen-Dateien

- klassisch-PHP: **`require_once`**
- Alternative: Klasse **`Zend_Loader`** mit statischer Methode **`loadClass()`**
  - lädt Datei/Klasse und prüft, ob in Datei korrekte Klasse vorhanden ist
  - kein doppeltes Einbinden, wenn Klasse schon vorhanden
  - ```
    require_once('Zend/Loader.php');
    Zend_Loader::loadClass('Zend_Beispielklasse');
    ```
    ```



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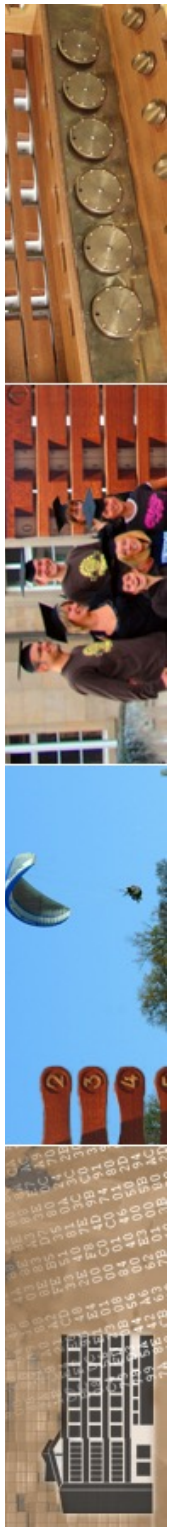
Performance

- allgemein:
  Frameworks mindern die Performance, da deutlicher Overhead

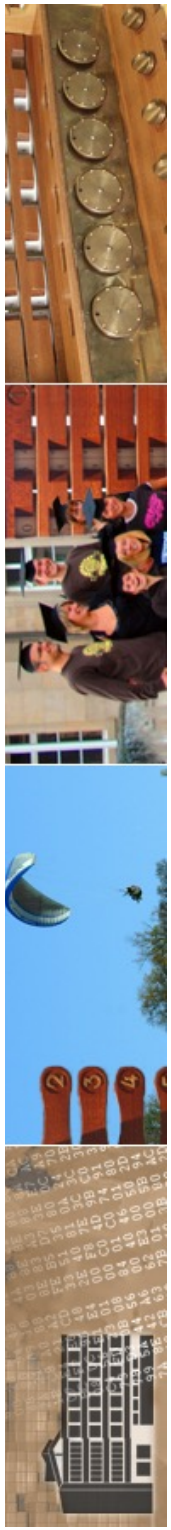
- Optimierung sinnvoll, etwa durch Caching des PHP-Codes
  - Zwischenzeitliches Speichern des compilierten PHP-Codes
    - eAccellerator
    - APC
    - Zend Platform



MVC

- Laminas-Framework setzt konsequent auf MVC:
  Model-View-Controller (➔ Design Patterns)
  - empfohlene Verzeichnisstruktur

```
application
        /controllers
        /models
        /views
              /scripts
              /helpers
              /filters
html     (➔ htdocs)
```



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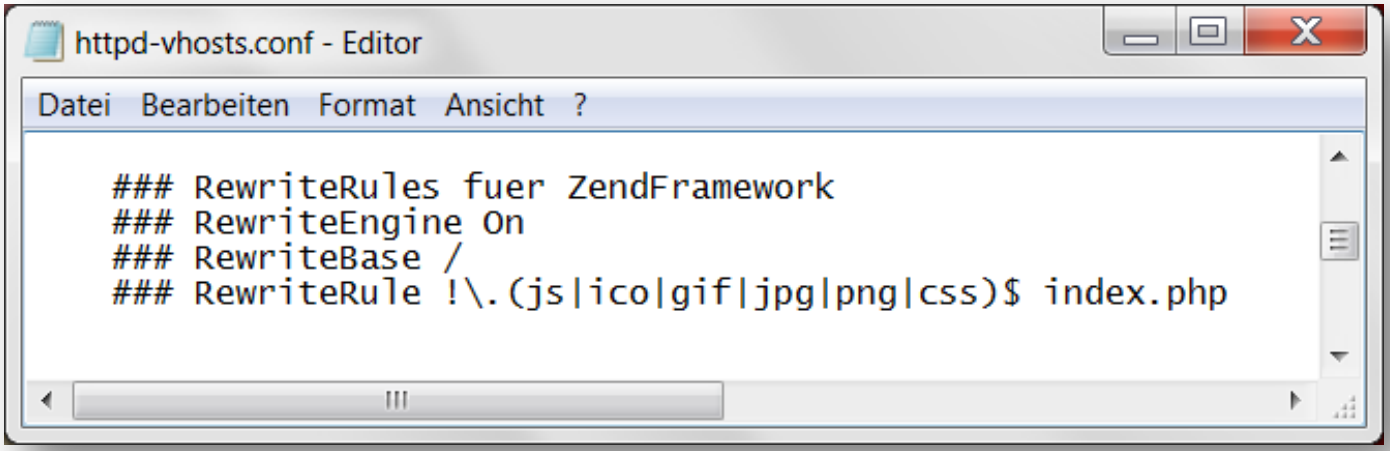
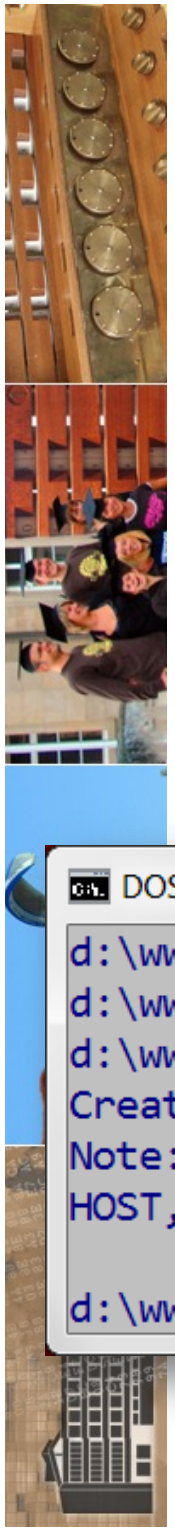
Rewrite Rule

- mittels einer Rewrite-Rule auf dem Apache werden alle Requests außer Endungen js/ico/gif/jpg/png/css an die Datei index.php weitergeleitet:

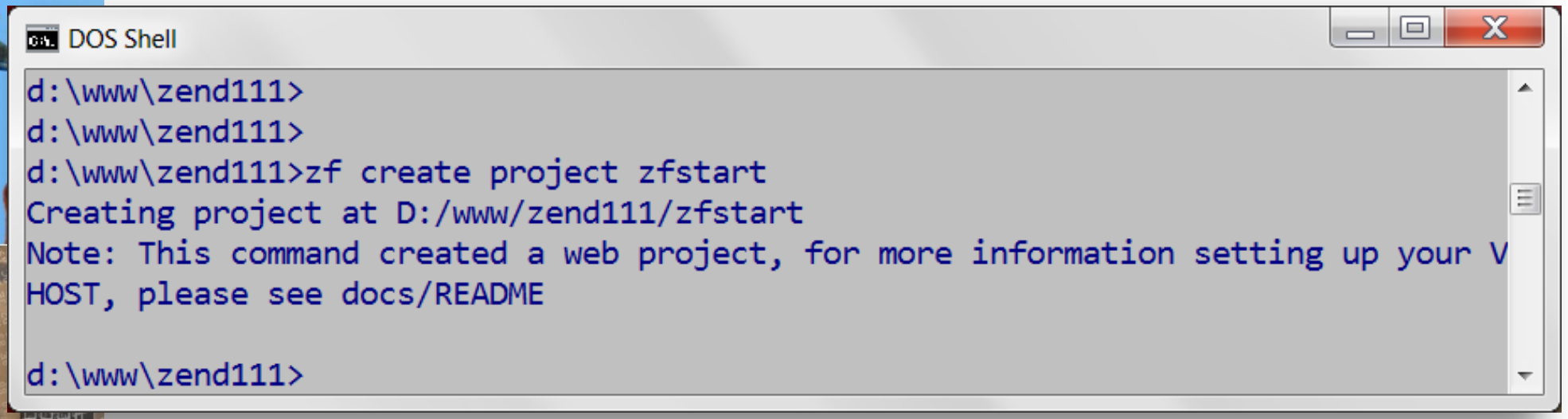
```
RewriteRule !\.(js|ico|gif|jpg|png|css)$
index.php
```

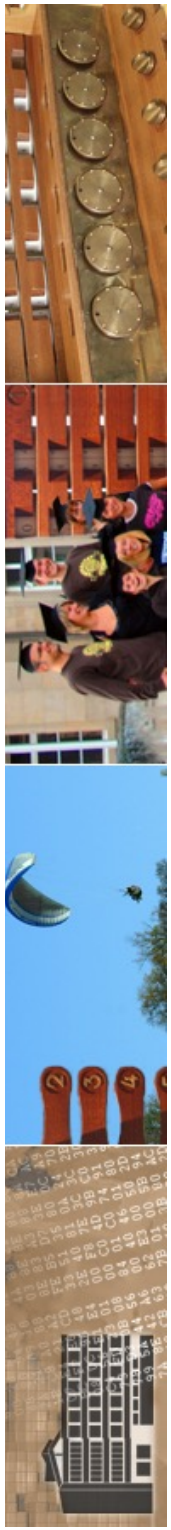




Anlegen eines Projektes

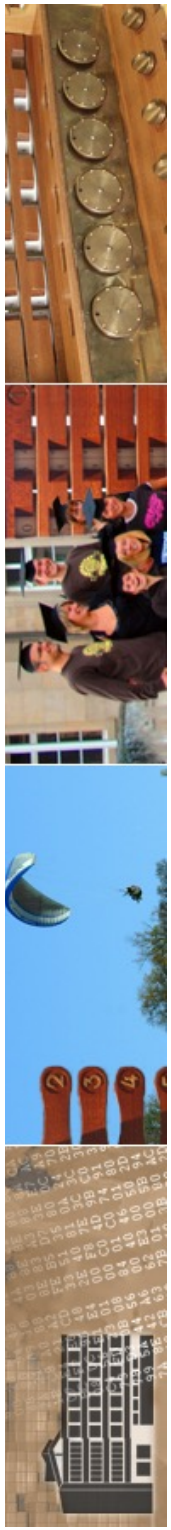
- das Dienstprogramm zf erzeugt ein neues "leeres" Projekt





Verzeichnisbaum eines Projektes

```
zfstart
|-- application
|   |-- Bootstrap.php
|   |-- configs
|   |   `-- application.ini
|   |-- controllers
|   |   |-- ErrorController.php
|   |   `-- IndexController.php
|   |-- models
|   `-- views
|       |-- helpers
|       `-- scripts
|           |-- error
|           |   `-- error.phtml
|           `-- index
|               `-- index.phtml
|-- library
|-- public
|   |-- .htaccess
|   `-- index.php
`-- tests
    |-- application
    |   `-- bootstrap.php
    |-- library
    |   `-- bootstrap.php
    `-- phpunit.xml
```



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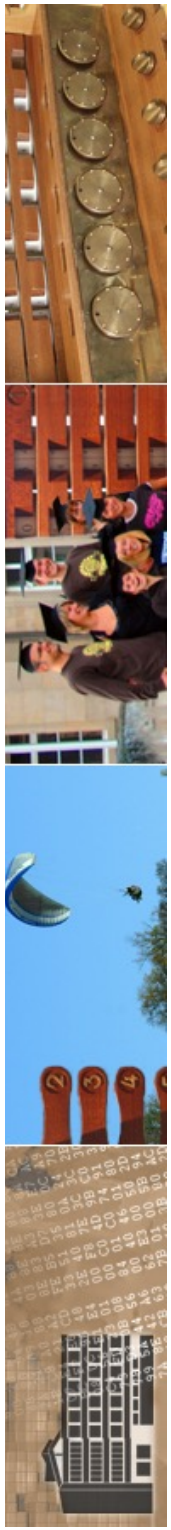
Konfiguration eines Projektes

- im Unterordner **`application/configs`**
  die Datei **`application.ini`**



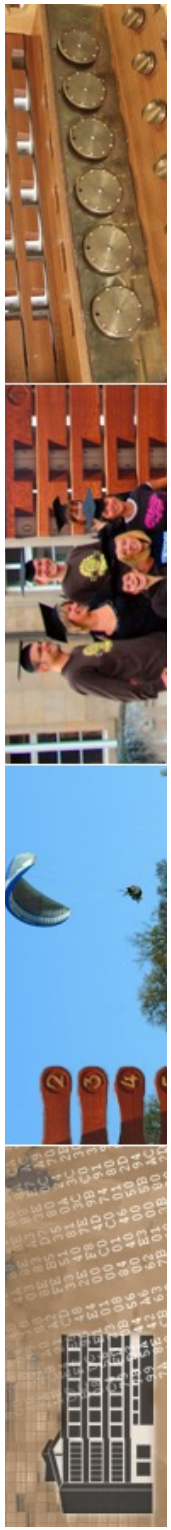
D:\www\zend111\zfstart\application\configs\application.ini - Notepad++

Datei Bearbeiten Suchen Ansicht Kodierung Sprachen Einstellungen Makro Ausführen TextFX Erweiterungen Fenster ? X

ToDos_DFG.txt | Programm_Tuebingen.txt | zki_tagung_infos.txt | index.php | BeispielController.php | index.phtml | DbBeispielController.p

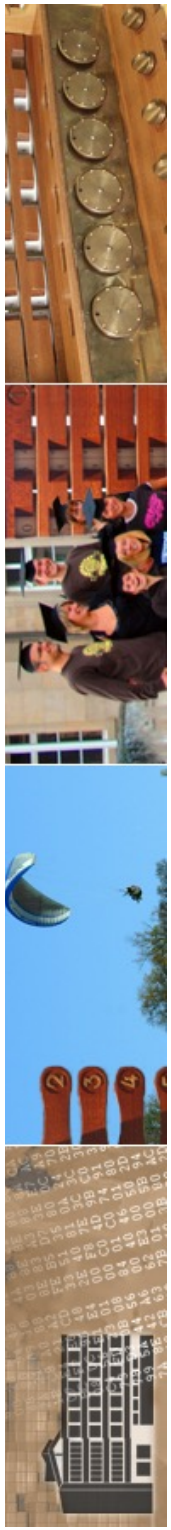
```
1  [production]
2  phpSettings.display_startup_errors = 0
3  phpSettings.display_errors = 0
4  includePaths.library = APPLICATION_PATH "/../library"
5  bootstrap.path = APPLICATION_PATH "/Bootstrap.php"
6  bootstrap.class = "Bootstrap"
7  appnamespace = "Application"
8  resources.frontController.controllerDirectory = APPLICATION
9  resources.frontController.params.displayExceptions = 0
10
11 [staging : production]
12
13 [testing : production]
14 phpSettings.display_startup_errors = 1
15 phpSettings.display_errors = 1
16
17 [development : production]
18 phpSettings.display_startup_errors = 1
19 phpSettings.display_errors = 1
20 resources.frontController.params.displayExceptions = 1
21
```

MS ini file | 633 chars 653 bytes 21 lines | Ln : 1 Col : 1 Sel : 0 (0 bytes) in 0 ranges | UNIX | ANSI | INS



der FrontController

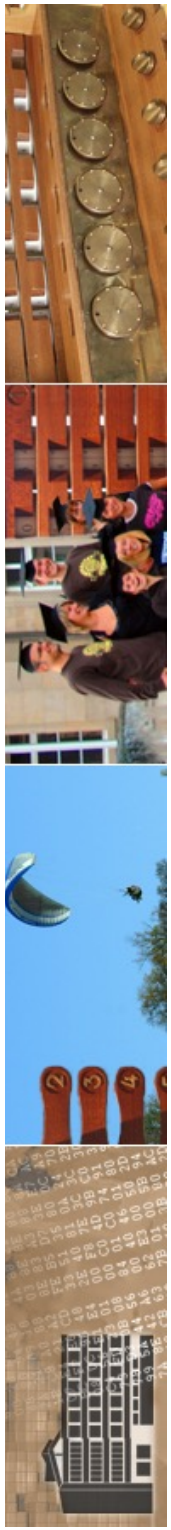
- Aufgabe des FrontControllers
  - steuert letztlich das Erscheinungsbild der Anwendung
  - setzt wichtige Konfigurationen
  - nimmt alle Anfragen entgegen



der FrontController

- ein einfacher FrontController (index.php):

```
require_once 'Zend/Controller/Front.php';
// Instanz auslesen
$fc = Zend_Controller_Front::getInstance();
// Verzeichznis setzen fuer ActionController
$fc->setControllerDirectory('…wo auch immer…');
// Views unterdruecken
$fc->setParam('noViewRenderer', true);
//Ausnahmenbehandlung
$fc->throwExceptions(true);
// Error Handler ausschalten
$fc->setParam('noErrorHandler', true);
$fc-> dispatch();
```



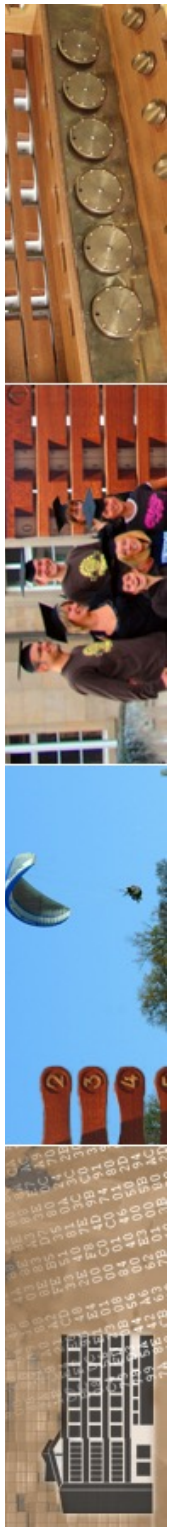
D:\www\ZendFramework\index.php - Notepad++

Datei Bearbeiten Suchen Ansicht Format Sprachen Einstellungen Makro Ausführen TextFX Erweiterungen Fenster ? X

unibrief_cls | unibrief.cls | id_kopf.tex | Tagebuch.txt | medizin-profs.txt | ksk.txt | httpd.conf | localconf.php | webst4_20092_05.tex

```php
<?php
/*
 * Grundlagen der Web-Entwicklung
 * das ZEND-Framework
 * einfacher FrontController
 */

require_once 'Zend/Controller/Front.php';
// Instanz auslesen
$fc = Zend_Controller_Front::getInstance();
// Verzeichznis setzen fuer ActionController
$fc->setControllerDirectory('D:\www\ZendFramework\Controllers');
// Views unterdruecken
$fc->setParam('noViewRenderer', true);
//Ausnahmenbehandlung
$fc->throwExceptions(true);
// Error Handler ausschalten
$fc->setParam('noErrorHandler', true);
$fc-> dispatch();

?>
```

PHP Hypertext Preproce | nb char : 547 | nb line : 21 | Ln : 1 | Col : 1 | Sel : 0 | Dos\Windows | ANSI | INS



der ActionController

- Aufgabe des ActionControllers: Übernimmt requests vom FrontController und erzeugt Antwort
- Minimalvariante:

```
require_once('Zend/Controller/Action.php');

class IndexController extends Zend_Controller_Action
{
    public function indexAction()  {
            echo('Grundlagen der Web-Entwicklung:<BR>
                  ActionController');
    }  // indexAction
}  //  class IndexController
```

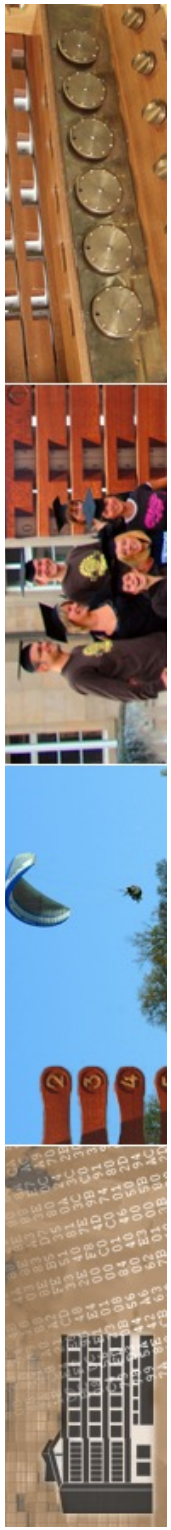
D:\www\ZendFramework\Controllers\IndexController.php - Notepad++

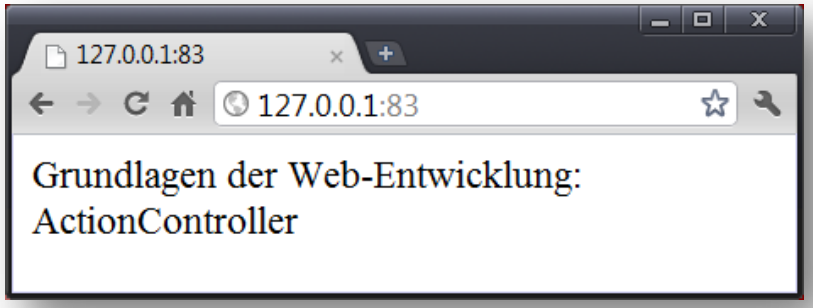
Datei Bearbeiten Suchen Ansicht Format Sprachen Einstellungen Makro Ausführen TextFX Erweiterungen Fenster ? X

unibrief.cls | id_kopf.tex | Tagebuch.txt | medizin-profs.txt | ksk.txt | httpd.conf | localconf.php | webst4_20092_05.tex | INSTALL.txt | index

```php
<?php
/*
 * Grundlagen der Web-Entwicklung
 * das ZEND-Framework
 * einfacher FrontController
 */

require_once('Zend/Controller/Action.php');

class IndexController extends Zend_Controller_Action  {

    public function indexAction()  {
        echo('Grundlagen der Web-Entwicklung:<BR>ActionController');
    }  // indexAction
}  //  class IndexController

?>
```

PHP Hypertext Preprocessor file | nb char : 365 | nb line : 17 | Ln : 1 | Col : 1 | Sel : 0 | Dos\Windows | ANSI | INS

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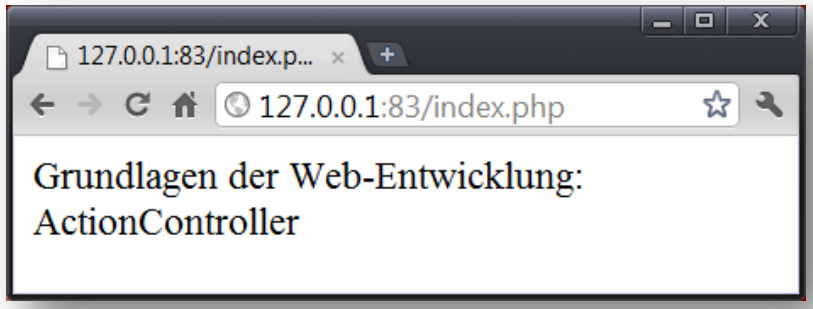
Grundlagen der Web-Entwicklung:
ActionController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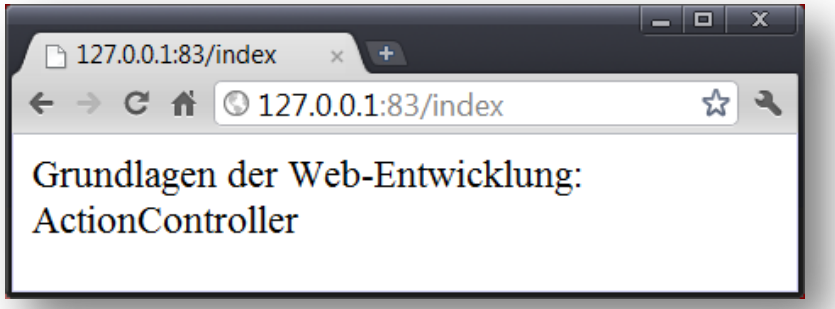
127.0.0.1:83/index.php
Grundlagen der Web-Entwicklung:
ActionController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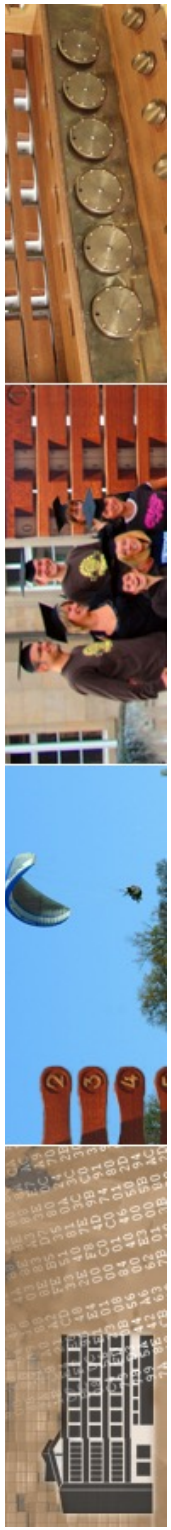
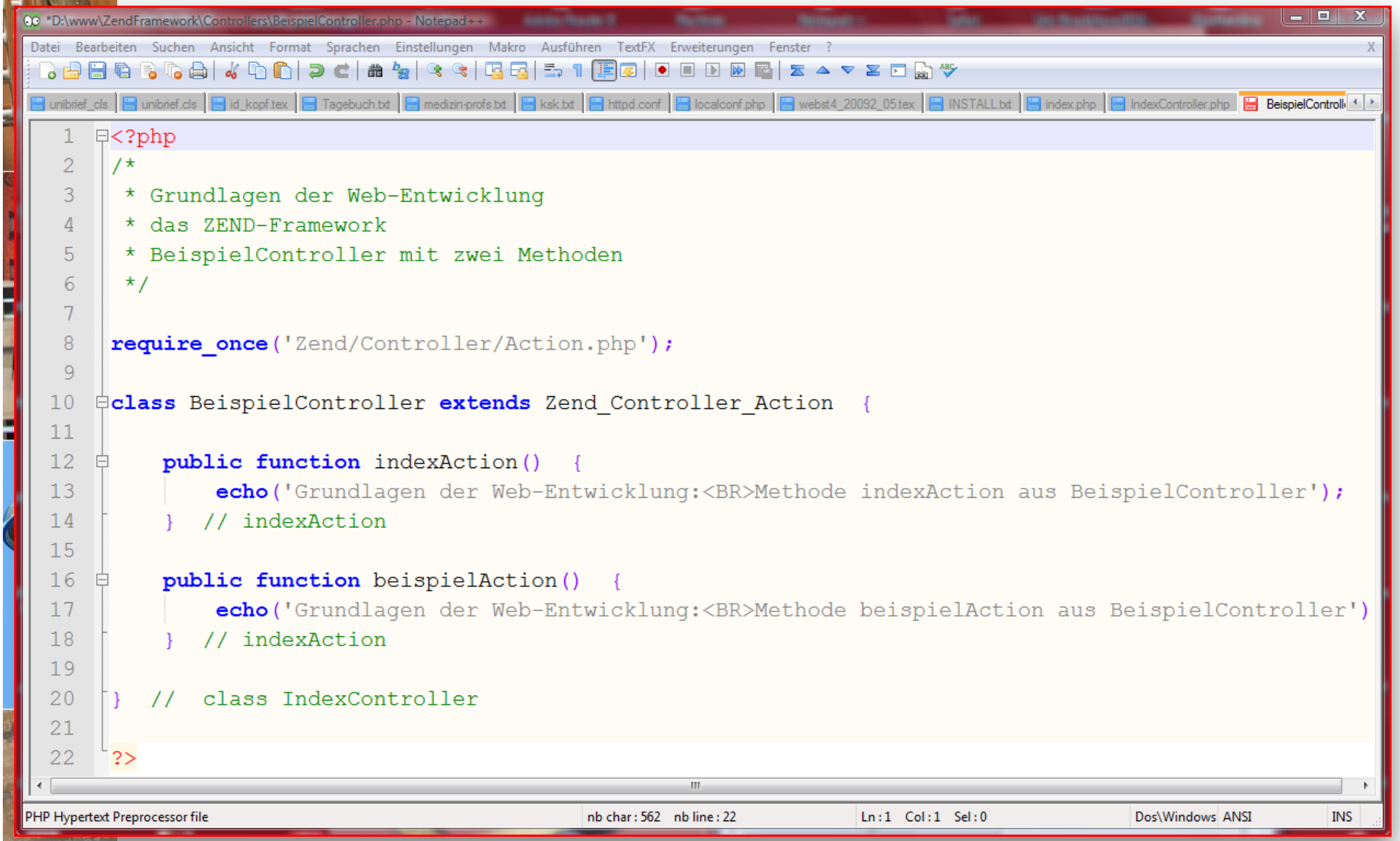
Grundlagen der Web-Entwicklung:
ActionController



ein zweiter ActionController

- nun ergänzen wir im gleichen Verzeichnis einen zweiten ActionController mit dem Namen BeispielController

- dieser soll zwei Methoden implementieren:
  - **`indexAction`**
  - **`beispielAction`**


*D:\www\ZendFramework\Controllers\BeispielController.php - Notepad++
Datei Bearbeiten Suchen Ansicht Format Sprachen Einstellungen Makro Ausführen TextFX Erweiterungen Fenster ?
unibrief_cls unibrief.cls id_kopf.tex Tagebuch.txt medizin-profs.txt ksk.txt httpd.conf localconf.php webst4_20092_05.tex INSTALL.txt index.php IndexController.php BeispielControll
1 <?php
2 /*
3 * Grundlagen der Web-Entwicklung
4 * das ZEND-Framework
5 * BeispielController mit zwei Methoden
6 */
7
8 require_once('Zend/Controller/Action.php');
9
10 class BeispielController extends Zend_Controller_Action {
11
12 public function indexAction() {
13 echo('Grundlagen der Web-Entwicklung:
Methode indexAction aus BeispielController');
14 } // indexAction
15
16 public function beispielAction() {
17 echo('Grundlagen der Web-Entwicklung:
Methode beispielAction aus BeispielController')
18 } // indexAction
19
20 } // class IndexController
21
22 ?>
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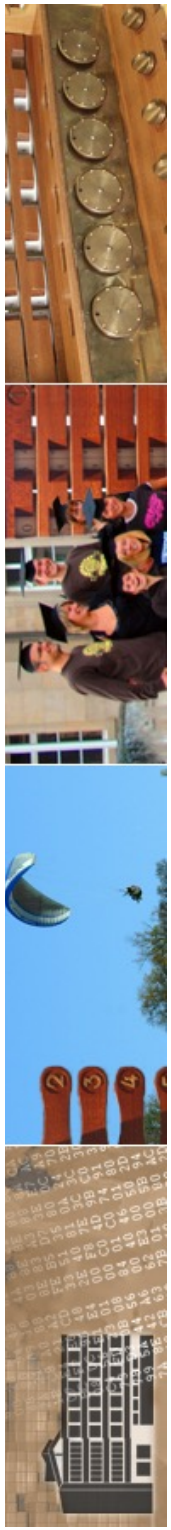
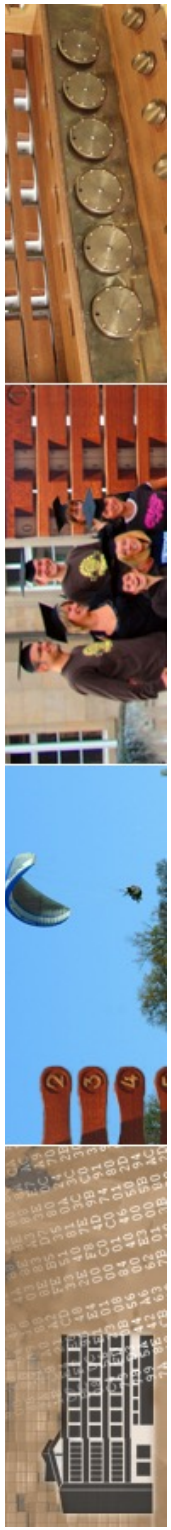
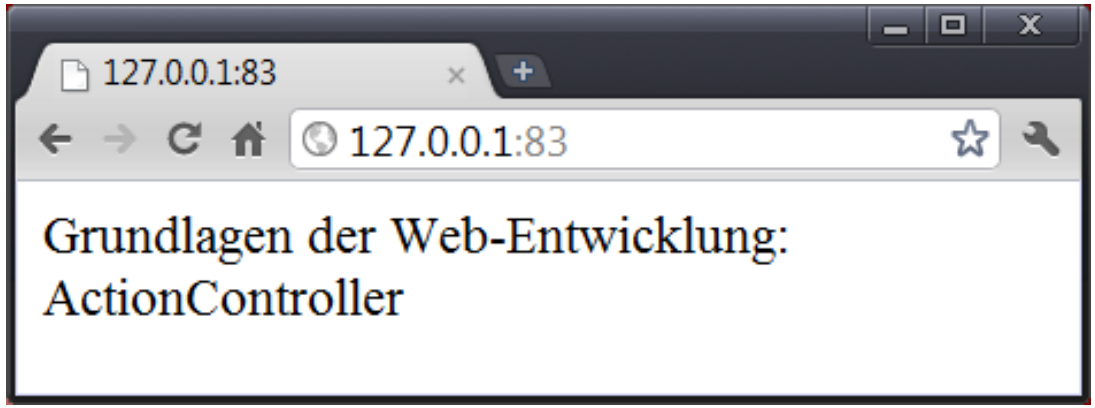


was passiert?

- nun sind schon viele Varianten möglich:
  - `/` ➔ IndexController/indexAction
  - **`/Beispiel`** ➔ BeispielController/indexAction
  - **`/Beispiel/beispiel`** ➔ BeispielController/beispielAction

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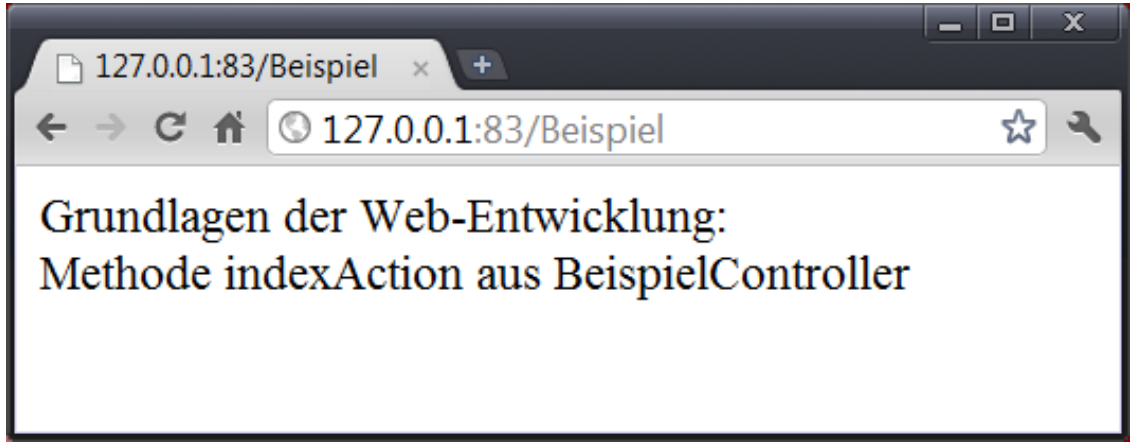
Grundlagen der Web-Entwicklung:
ActionController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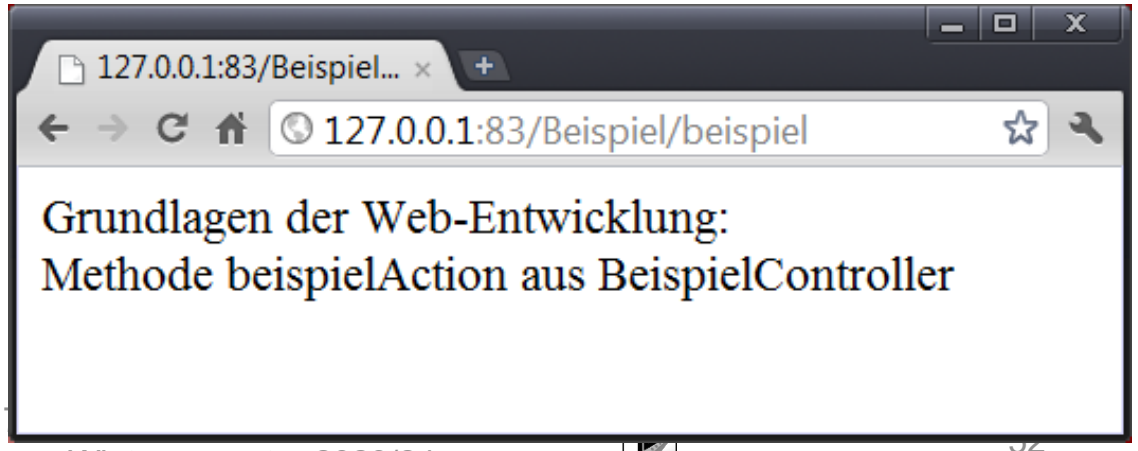
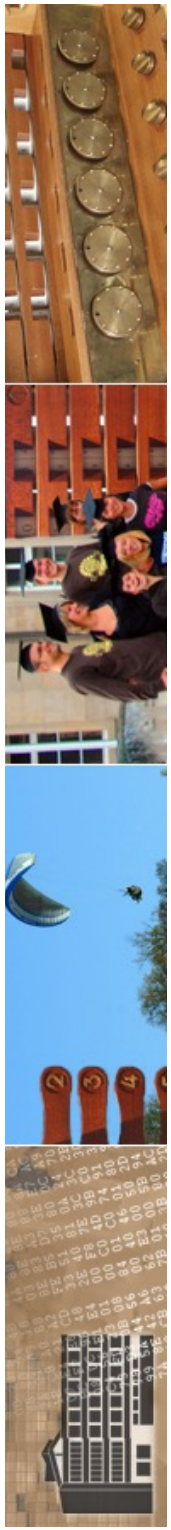
127.0.0.1:83/Beispiel
Grundlagen der Web-Entwicklung:
Methode indexAction aus BeispielController


127.0.0.1:83/Beispiel...
127.0.0.1:83/Beispiel/beispiel
Grundlagen der Web-Entwicklung:
Methode beispielAction aus BeispielController



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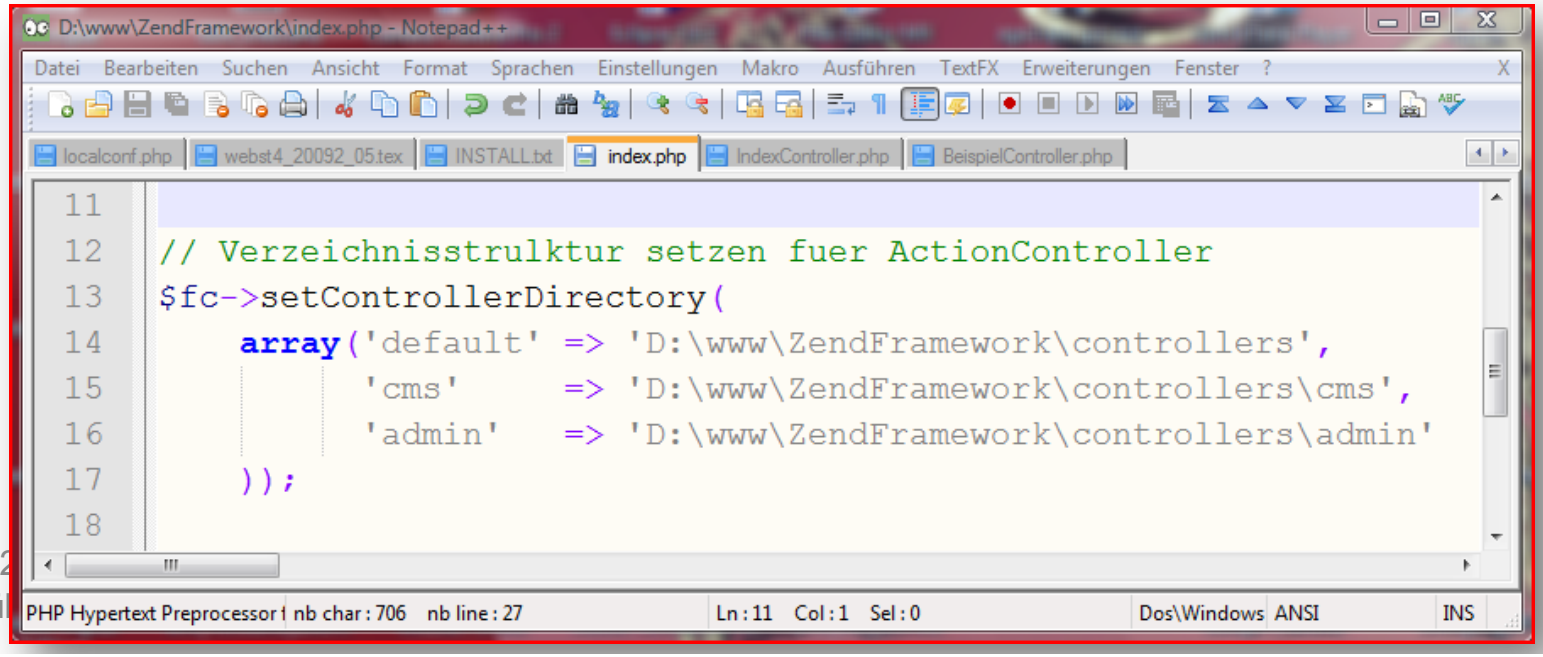
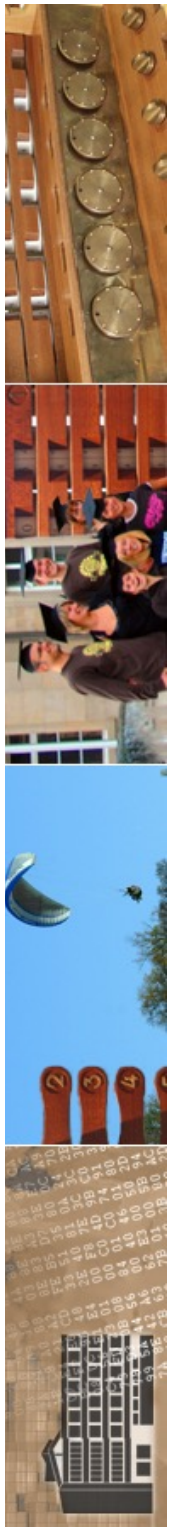
Struktur der ActionController

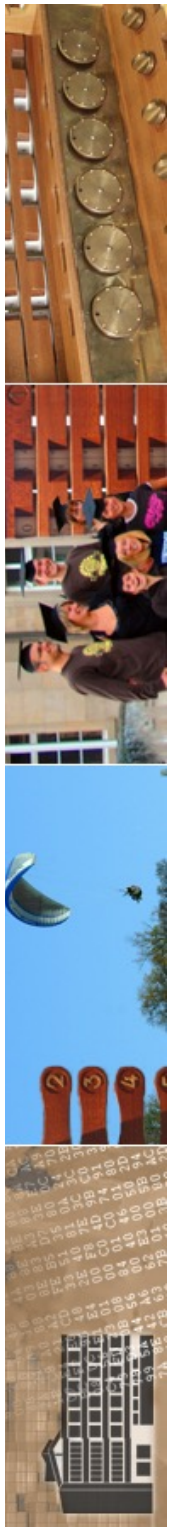
- die Controller können zur Übersichtlichkeit in verschiedene Verzeichnisse (samt Unterstruktur) abgelegt werden
  (Unterordner controllers)
  - Realisierung über assoziatives PHP-Array
  - zentrales Key-Value-Paar default





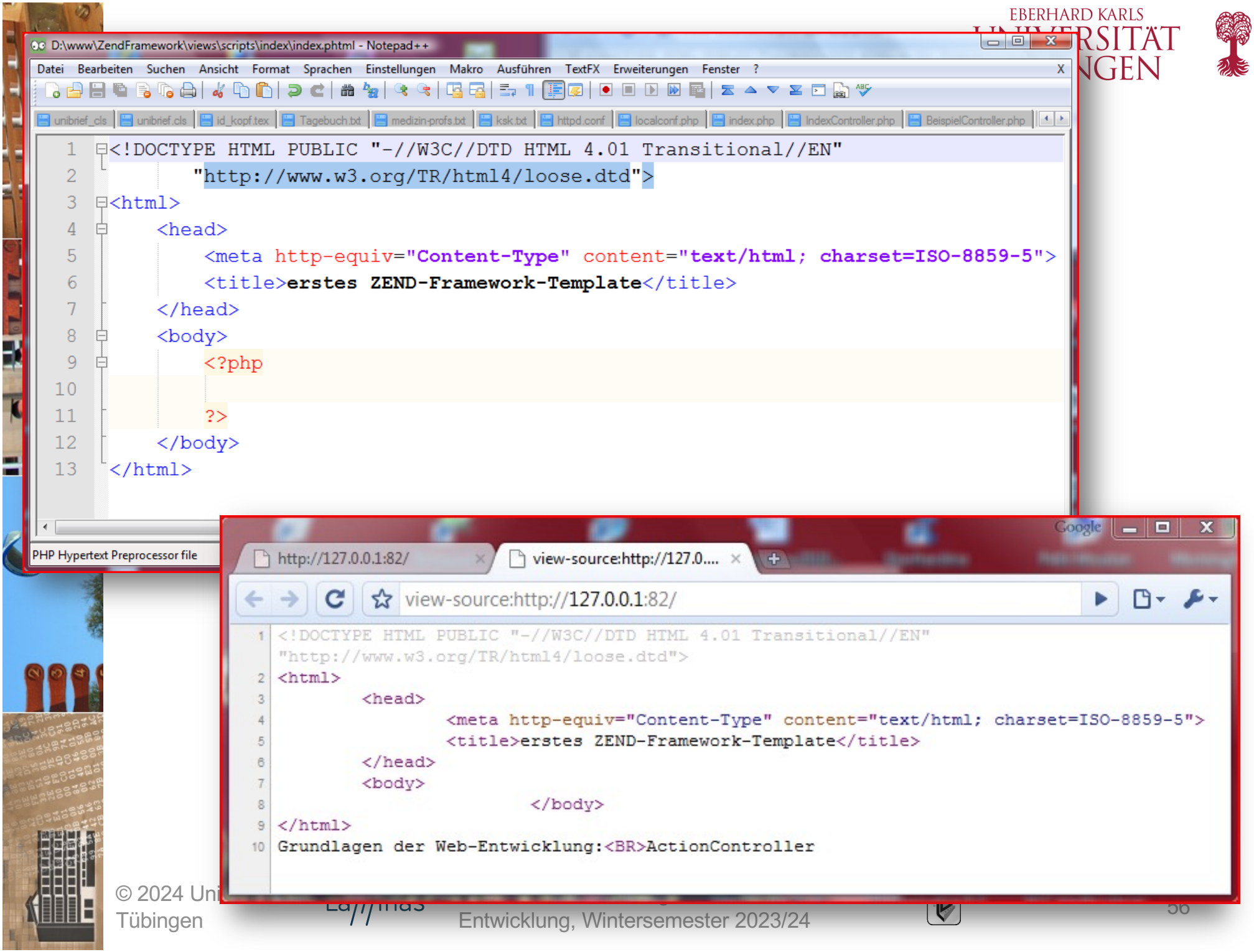
die View-Componente

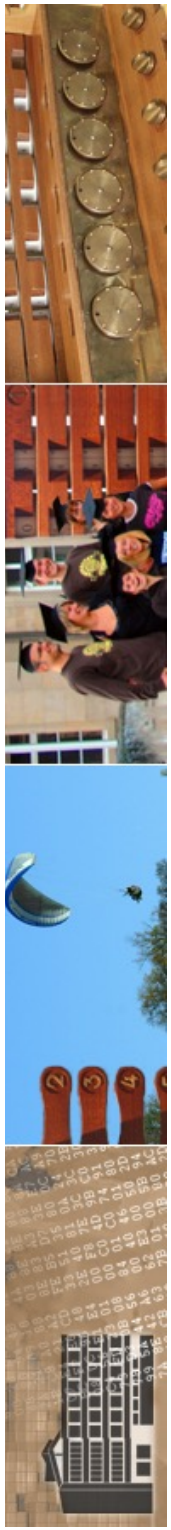
- Nutzung der View steuert FrontController:
  - `$fc->setParam('noViewRenderer', true);`
    - (Ersetzung true ➔ false)
- erzeugt zunächst nur Fehlermeldung, da kein View-Template vorhanden ist

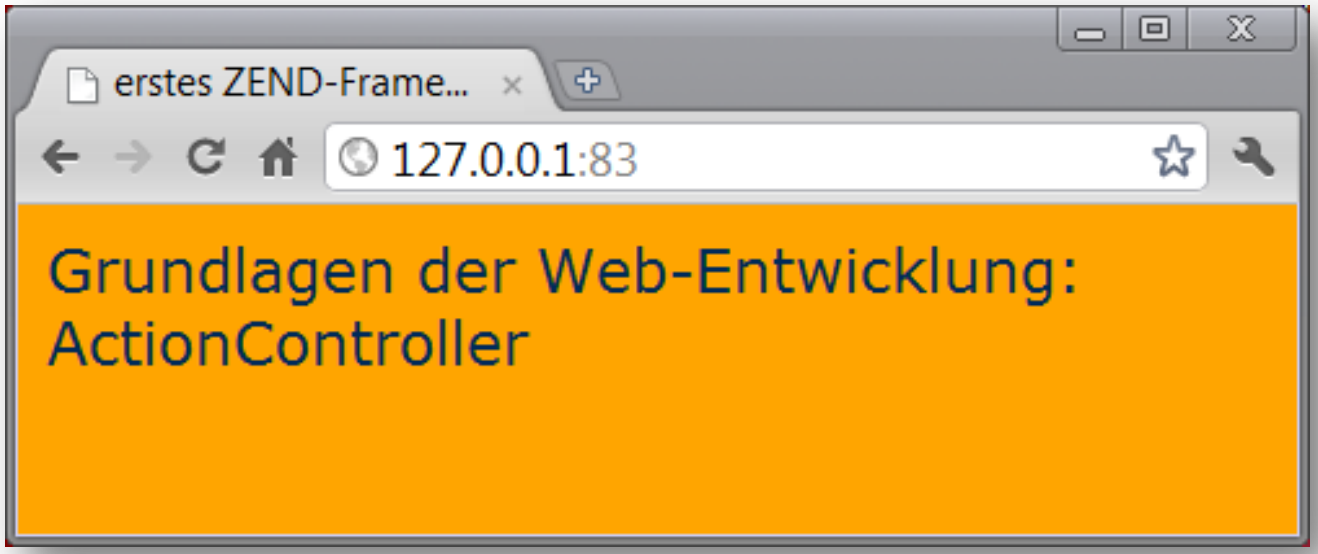


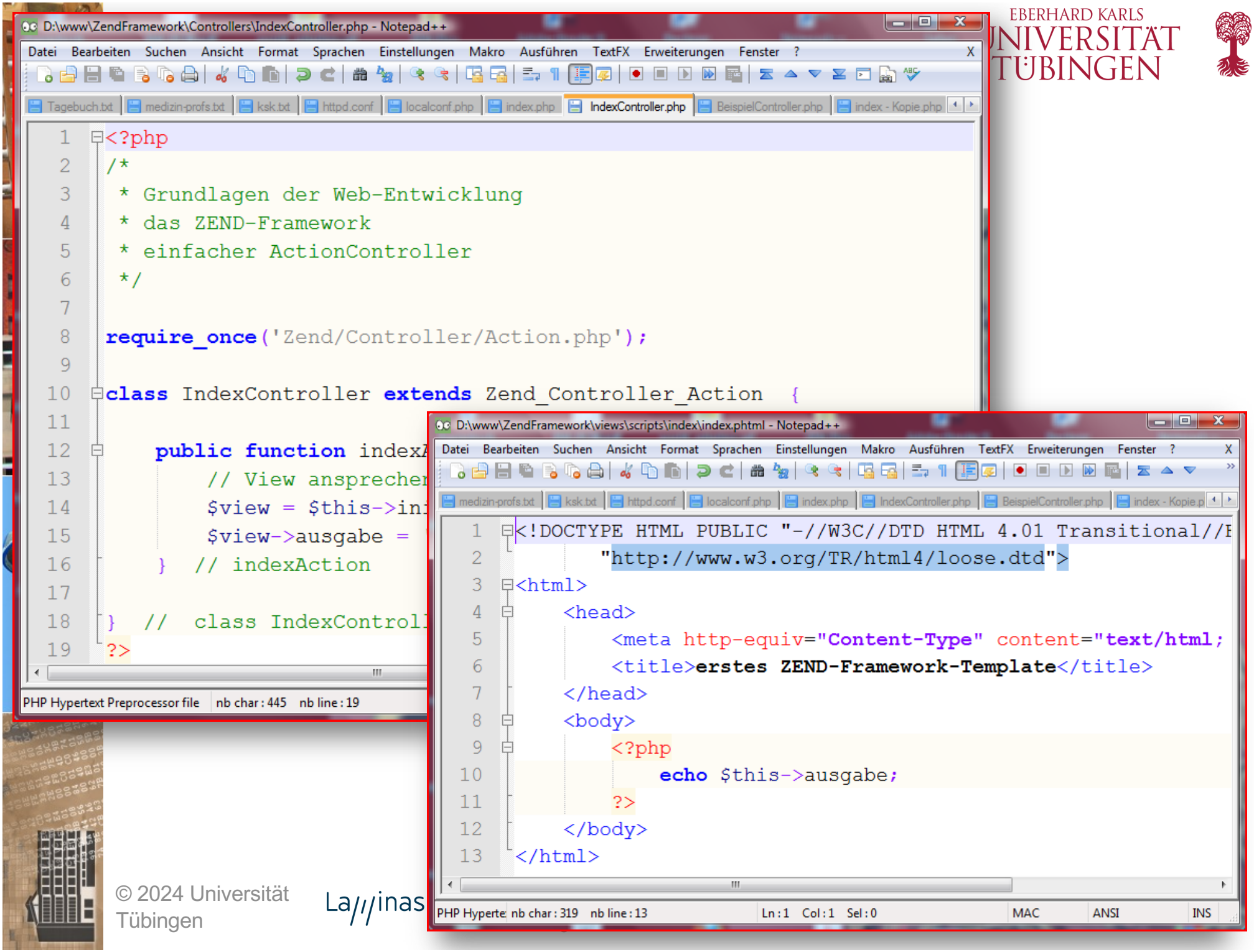
View-Template

- View-Template: HTML-Code mit PHP (Endung .phtml)
  - denke an Smarty...
- Namenskonvention: Im Unterordner views/scripts Unterordner mit Namen des Controllers, dort Datei mit Namen der Methode des Controlles
- Beispiel:
  - …**`/views/scripts/index/index.phtml`** ist Template für den Controller indexController


D:\www\ZendFramework\views\scripts\index\index.phtml - Notepad++
Datei Bearbeiten Suchen Ansicht Format Sprachen Einstellungen Makro Ausführen TextFX Erweiterungen Fenster ?
unibrief_cls unibrief.cls id_kopf.tex Tagebuch.txt medizin-profs.txt ksk.txt httpd.conf localconf.php index.php IndexController.php BeispielController.php
1 <!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
2 "http://www.w3.org/TR/html4/loose.dtd">
3 <html>
4 <head>
5 <meta http-equiv="Content-Type" content="text/html; charset=ISO-8859-5">
6 <title>erstes ZEND-Framework-Template</title>
7 </head>
8 <body>
9 <?php
10
11 ?>
12 </body>
13 </html>
PHP Hypertext Preprocessor file
http://127.0.0.1:82/
view-source:http://127.0....
view-source:http://127.0.0.1:82/
1 <!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
2 <html>
3 <head>
4 <meta http-equiv="Content-Type" content="text/html; charset=ISO-8859-5">
5 <title>erstes ZEND-Framework-Template</title>
6 </head>
7 <body>
8 </body>
9 </html>
10 Grundlagen der Web-Entwicklung:
ActionController




erstes ZEND-Frame...
127.0.0.1:83
Grundlagen der Web-Entwicklung:
ActionController



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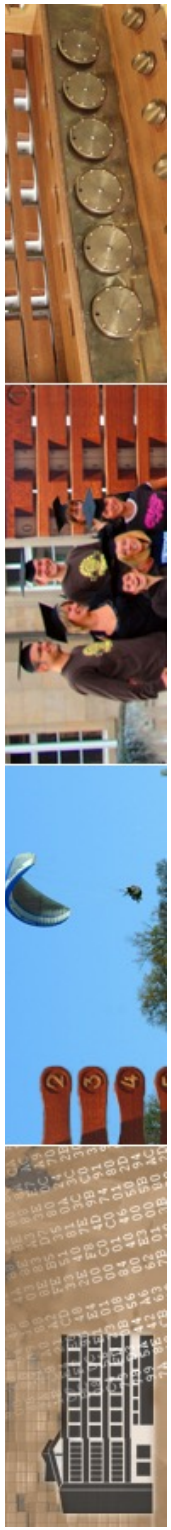
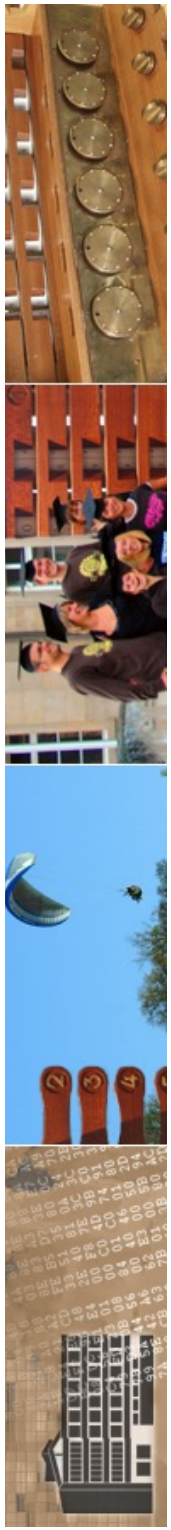


die Verarbeitungsschritte

- FrontController
  - nimmt alle Anfragen entgegen
  - zentraler Dispatcher zu den Action-Controllern
  - Steuerung
- Anfragen und Antworten sind Requests- und Response-Objekte
- Templates steuern View, view-Objekt verwaltet anzuzeigende Inhalte



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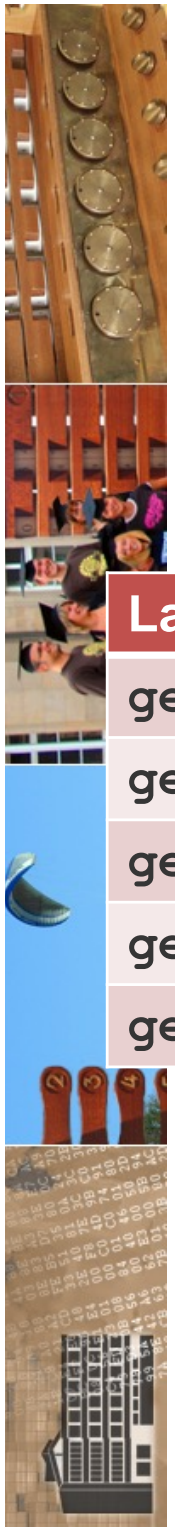
Werteübergabe

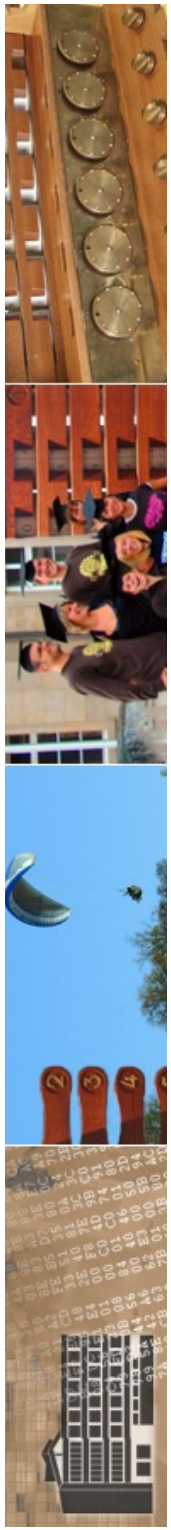
- Übernahme von Werten aus dem HTTP-Request
  - PHP alleine: Superglobals
    - `$_POST`
    - `$_GET`
    - `$_REQUEST`
  - Laminas Framework: Request-Objekt im ActionController
    - Objekt `Zend_Controller_Request_Http`
    - Methode `getRequest()`

```
$request = $this->getRequest();
$wert = $request->getPost('name');
```



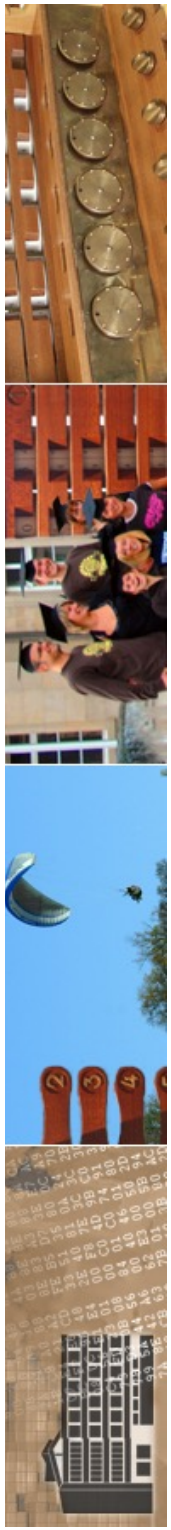
die Framework-Methoden

Laminas Framework-Methode	PHP Superglobal
`getPost()`	`$_POST`
`getQuery()`	`$_GET`
`getServer()`	`$_SERVER`
`getCookie()`	`$_COOKIE`
`getEnv()`	`$_ENV()`



das Model

- Model: frei definierbar
  (etwa in eigenen PHP-Klassen)
- im Laminas-Framework: Verzeichnis models
  - Übersichtlichkeit des Codes



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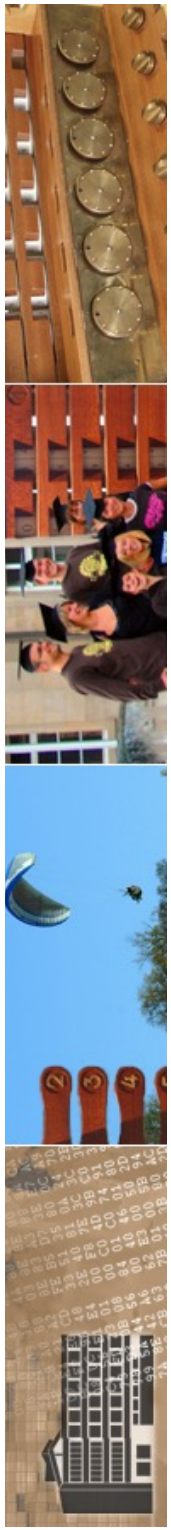
Error-Handling

- Fehler-Behandlung im Framework
  - im FrontController kann auch der Umgang mit Fehlern grundlegend gesteuert werden
  - Beispiel: HTTP-Fehler 404
    - Zugriff auf nicht existierende Controller-Methode **`Zend_Controller_Action_Exception`**
    - Zugriff auf nicht existierenden Controller **`Zend_Controller_Dispatcher_Exception`**



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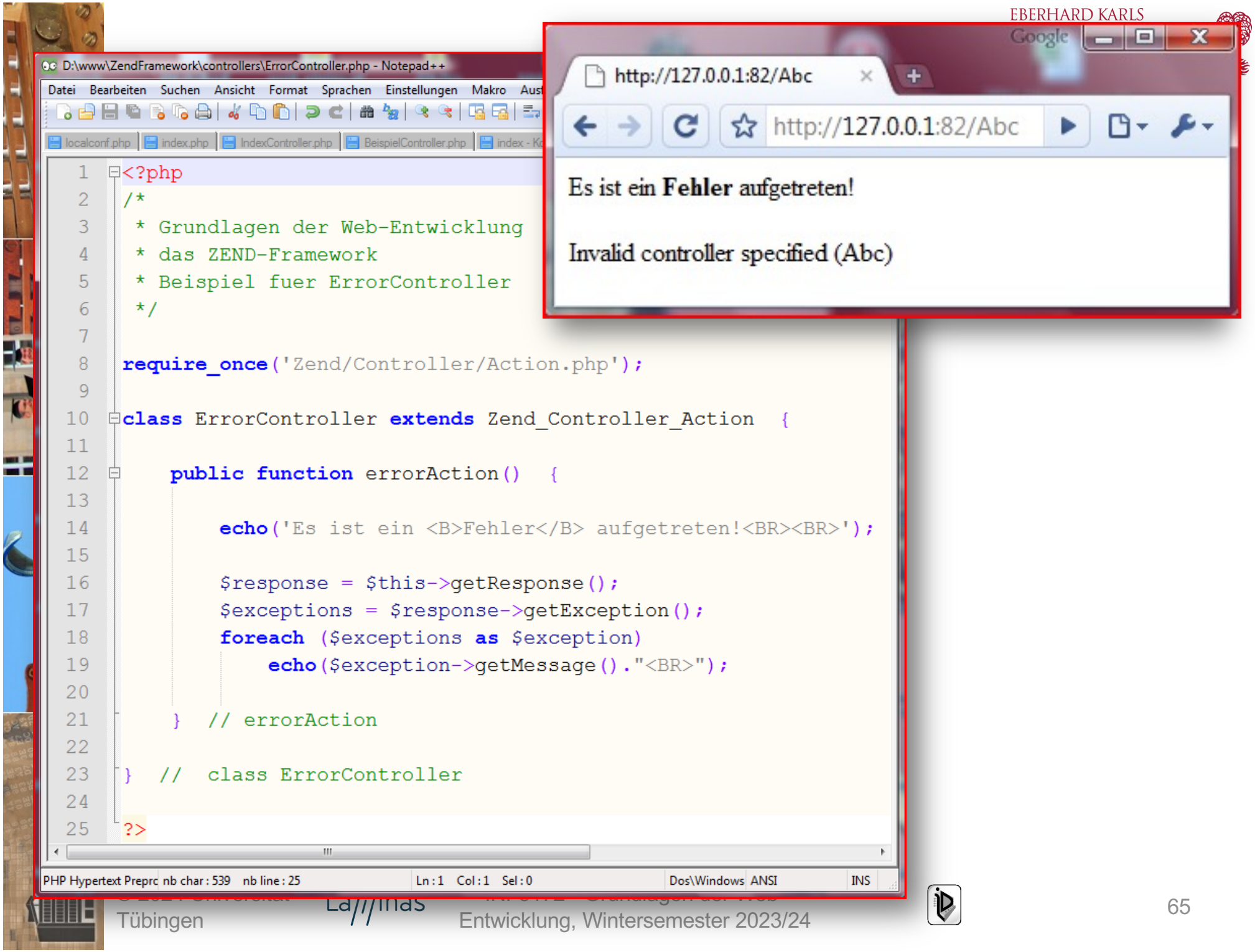
Konfiguration im FrontController

- wichtiger Parameter im Front-Controller;
  `$fc->throwExceptions(true);`
  - typisch: true für Testsystem, false für Produktivsystem
- aktivieren des Error-Handlings-PlugIns:
  `$fc->setParam('noErrorHandler', true);`
  - false aktiviert PlugIn
  - bei Fehler: Methode errorAction aus Controller-Klasse ErrorController


D:\www\ZendFramework\controllers\ErrorController.php - Notepad++
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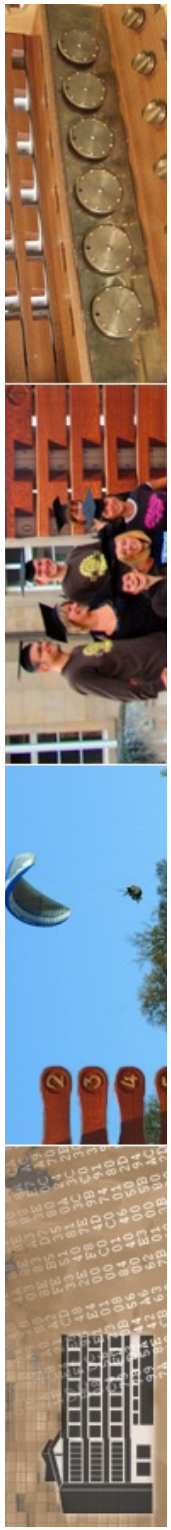
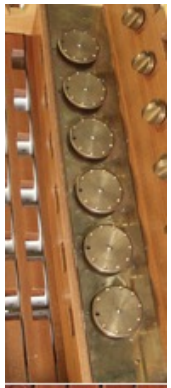
localconf.php index.php IndexController.php BeispielController.php
1 <?php
2 /*
3 * Grundlagen der Web-Entwicklung
4 * das ZEND-Framework
5 * Beispiel fuer ErrorController
6 */
7
8 require_once('Zend/Controller/Action.php');
9
10 class ErrorController extends Zend_Controller_Action {
11
12 public function errorAction() {
13
14 echo('Es ist ein <B>Fehler</B> aufgetreten!

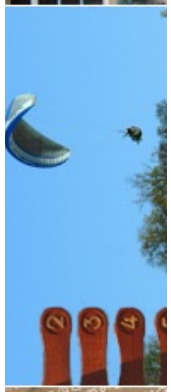
');
15
16 $response = $this->getResponse();
17 $exceptions = $response->getException();
18 foreach ($exceptions as $exception)
19 echo($exception->getMessage()."
");
20
21 } // errorAction
22
23 } // class ErrorController
24
25 ?>
PHP Hypertext Preprc nb char : 539 nb line : 25 Ln : 1 Col : 1 Sel : 0 Dos\Windows ANSI INS
Google
http://127.0.0.1:82/Abc
http://127.0.0.1:82/Abc
Es ist ein Fehler aufgetreten!
Invalid controller specified (Abc)



Datenbankzugriff

- Laminas erlaubt ebenfalls einfachen Datenbankzugriff
- Klasse
  Zend_Db
  - Datenbanklayer unabhängig vom jeweiligen DBMS
  - mögliche Treiber:
    - MySQLi (auch MariaDB), db2, Oracle, MS SQL Server, Postgres, SQLite






ZEND FRAMEWORK

About Install Documentation

Documentation zend-db

Home » Documentation » zend-db » zend-db

zend-db

zend-db

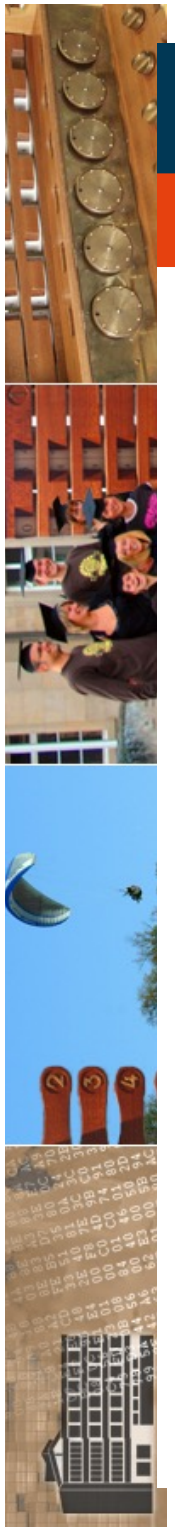
Installation

Using Composer

```
1 | $ composer require zendframework/zend-db
```

Support

- Issues: github.com/zendframework/zend-db/issues
- Source: github.com/zendframework/zend-db
- Chat: zendframework-slack.herokuapp.com
- Forum: discourse.zendframework.com



laminas-db

Database abstraction layer, SQL abstraction, result set abstraction, and RowDataGateway and TableDataGateway implementations

Installation

Using Composer

```
$ composer require laminas/laminas-db
```

Support

- Issues: github.com/laminas/laminas-db/issues
- Source: github.com/laminas/laminas-db/
- Chat: laminas.dev/chat
- Forum: discourse.laminas.dev

Next >

Find documentation...

DB
laminas-db

laminas-db

Adapters

Introduction

AdapterAwareTrait

Result Sets

SQL Abstraction

DDL Abstraction

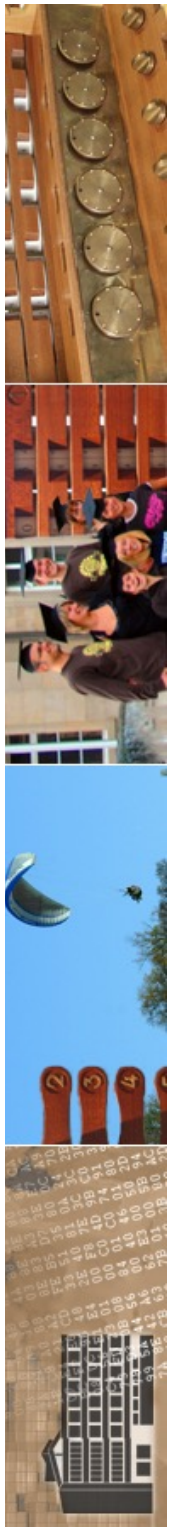
Table Gateways

Row Gateways

RDBMS Metadata

Application Integration

Integrating in a Laminas MVC application



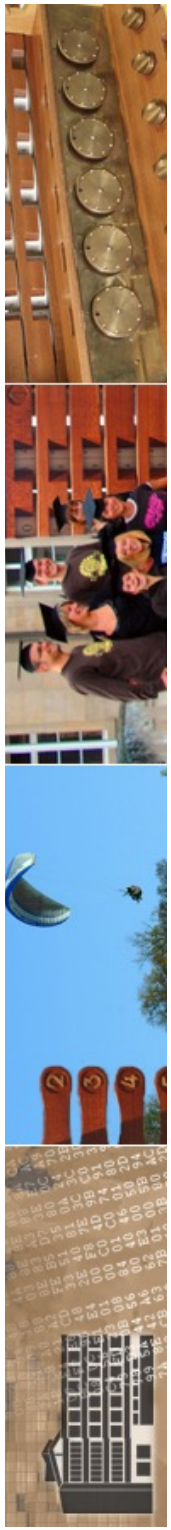
Creating an adapter using configuration

Create an adapter by instantiating the `Laminas\Db\Adapter\Adapter` class. The most common use case, while not the most explicit, is to pass an array of configuration to the `Adapter`:

```
1  use Laminas\Db\Adapter\Adapter;
2
3  $adapter = new Adapter($configArray);
```

This driver array is an abstraction for the extension level required parameters. Here is a table for the key-value pairs that should be in configuration array.

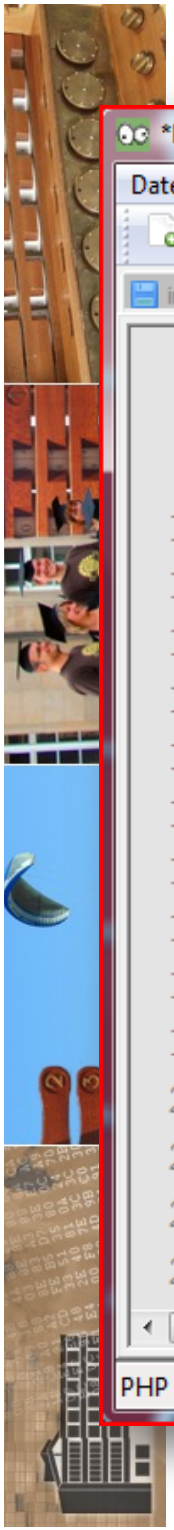
Key	Is Required?	Value
`driver`	required	`Mysqli`, `Sqlsrv`, `Pdo_Sqlite`, `Pdo_Mysql`, `Pdo`(= Other PDO Driver)
`database`	generally required	the name of the database (schema)
`username`	generally required	the connection username
`password`	generally required	the connection password
`hostname`	not generally required	the IP address or hostname to connect to
`port`	not generally required	the port to connect to (if applicable)
`charset`	not generally required	the character set to use



Connect zum DBMS

- statische Methode **`factory()`** in Klasse **`Zend_Db`**

- Parameter: Treiber und PHP-Array mit Optionen:
  - host, user, password, dbname, port und weitere Optionen



*D:\www\ZendFramework\controllers\DbBeispielController.php - Notepad++

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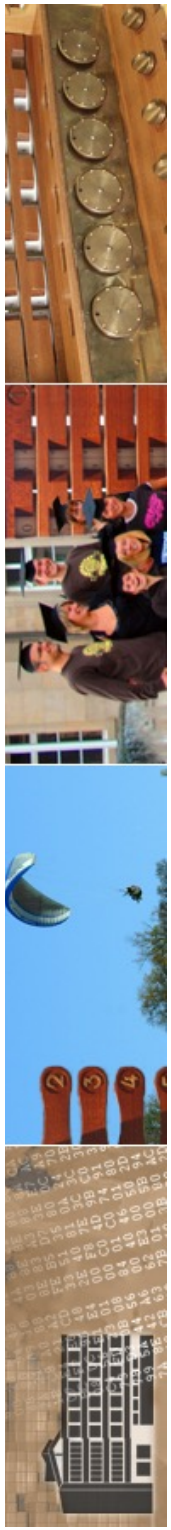
index.php | IndexController.php | BeispielController.php | index - Kopie.php | index.phtml | ErrorController.php | DbBeispielController.php

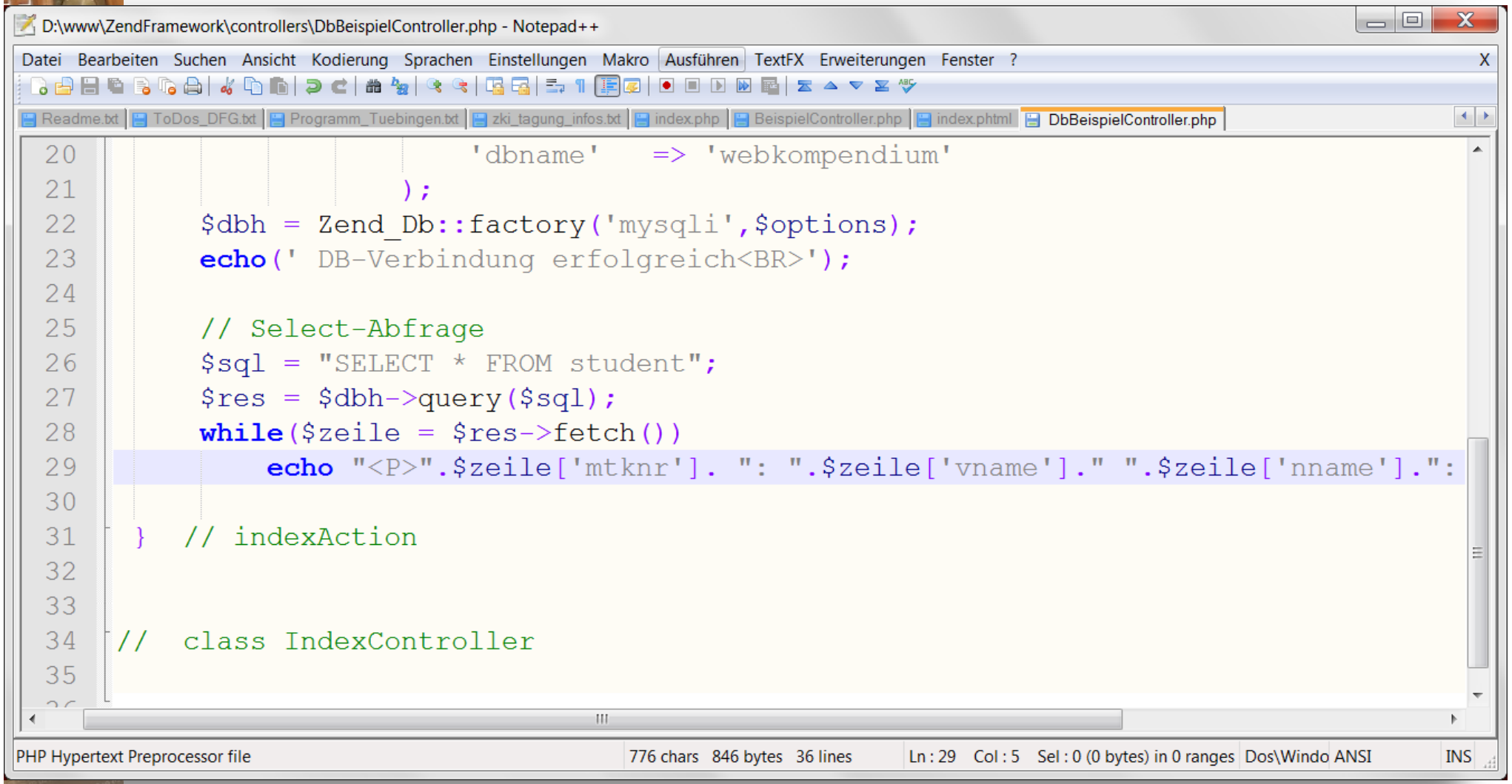
```
 7
 8  require_once('Zend/Controller/Action.php');
 9  require_once('Zend/Db.php');
10
11  class DbBeispielController extends Zend_Controller_Action  {
12
13      public function indexAction()  {
14
15          // Verbindungfsaufbau
16          $options = array(
17                          'host'  => '127.0.0.1',
18                          'username' => 'thomas',
19                          'password' => '',
20                          'dbname'   => 'webkompendium'
21                      );
22          $dbh = Zend_Db::factory('mysqli',$options);
23          echo(' DB-Verbindung erfolgreich<BR>');
```

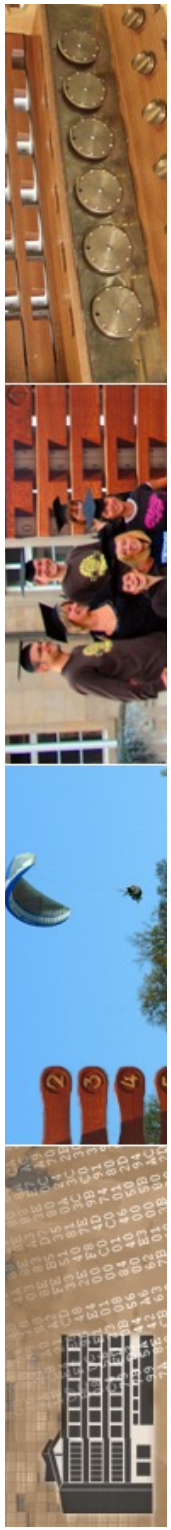
PHP Hypertext Preproc | nb char : 838 | nb line : 36 | Ln : 30 | Col : 13 | Sel : 0 | Dos\Windows | ANSI | INS

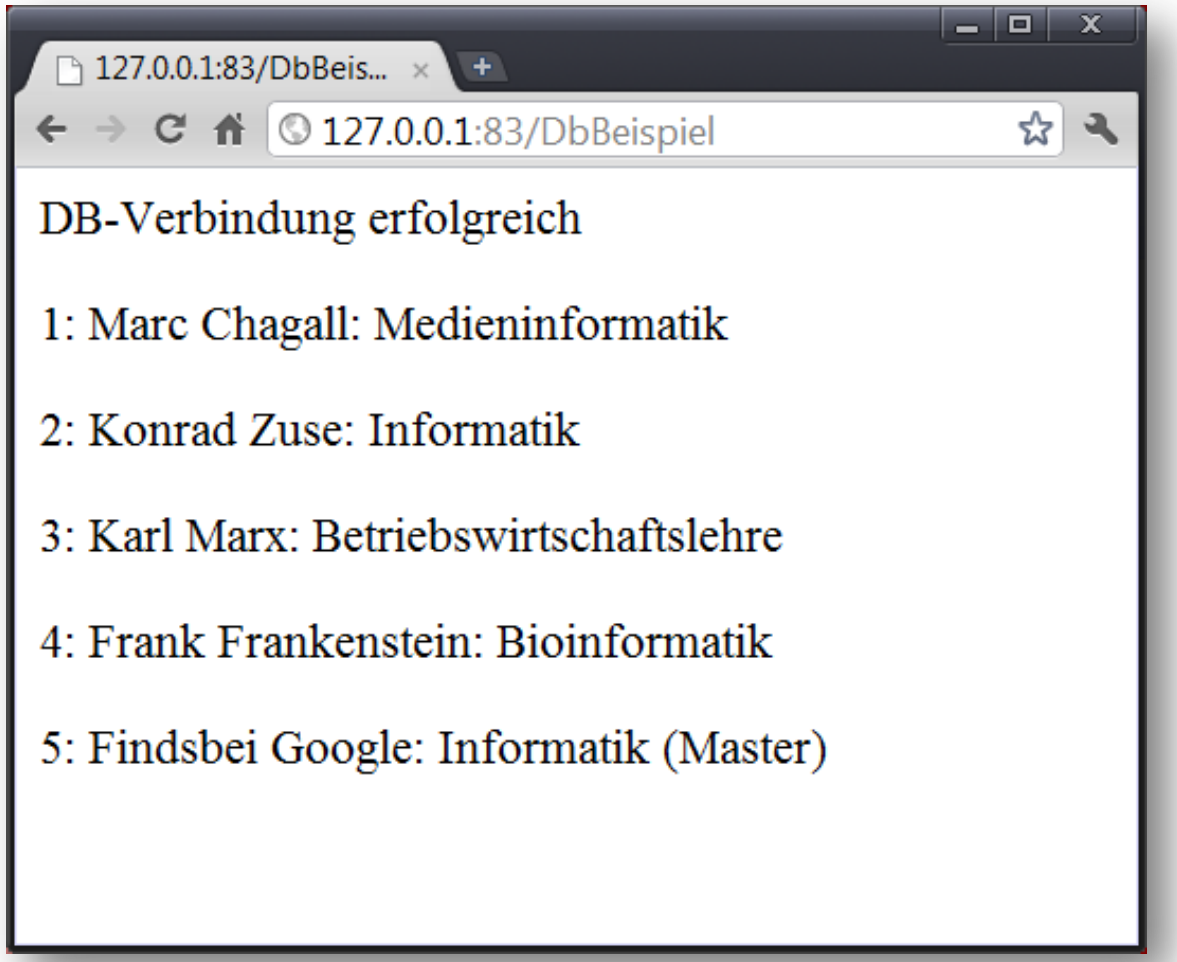


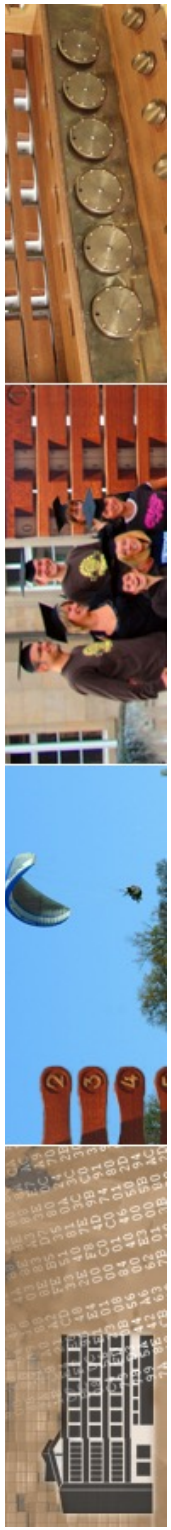
select-Abfrage

- nach DB-Verbindung übliche Select-Abfrage:
  - SQL-Statement definieren
  - Durchführung (query)
  - ResultSet zeilenweise verarbeiten (fetch)


D:\www\ZendFramework\controllers\DbBeispielController.php - Notepad++
Datei Bearbeiten Suchen Ansicht Kodierung Sprachen Einstellungen Makro Ausführen TextFX Erweiterungen Fenster ?
Readme.txt ToDos_DFG.txt Programm_Tuebingen.txt zki_tagung_infos.txt index.php BeispielController.php index.phtml DbBeispielController.php
20 'dbname' => 'webkompendium'
21);
22 $dbh = Zend_Db::factory('mysqli',$options);
23 echo(' DB-Verbindung erfolgreich
');
24
25 // Select-Abfrage
26 $sql = "SELECT * FROM student";
27 $res = $dbh->query($sql);
28 while($zeile = $res->fetch())
29 echo "<P>".$zeile['mtknr']. ": ".$zeile['vname']." ".$zeile['nname'].":
30
31 } // indexAction
32
33
34 // class IndexController
35
PHP Hypertext Preprocessor file
776 chars 846 bytes 36 lines
Ln : 29 Col : 5 Sel : 0 (0 bytes) in 0 ranges
Dos\Windo ANSI
INS



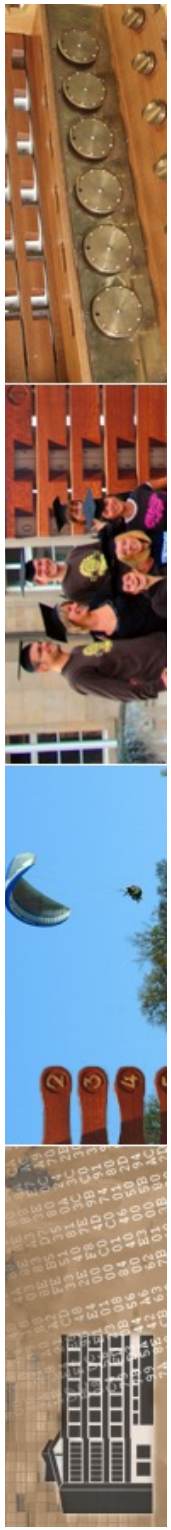

127.0.0.1:83/DbBeis...
127.0.0.1:83/DbBeispiel
DB-Verbindung erfolgreich
1: Marc Chagall: Medieninformatik
2: Konrad Zuse: Informatik
3: Karl Marx: Betriebswirtschaftslehre
4: Frank Frankenstein: Bioinformatik
5: Findsbei Google: Informatik (Master)



SQL Abstraction

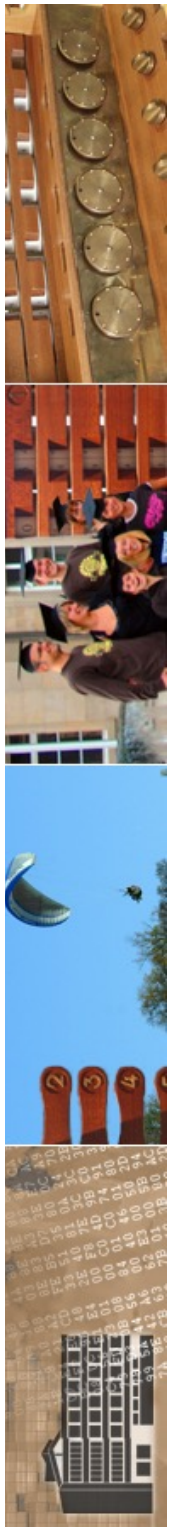
On this page

`Laminas\Db\Sql` is a SQL abstraction layer for building platform-specific SQL queries via an object-oriented API. The end result of a `Laminas\Db\Sql` object will be to either produce a `Statement` and `ParameterContainer` that represents the target query, or a full string that can be directly executed against the database platform. To achieve this, `Laminas\Db\Sql` objects require a `Laminas\Db\Adapter\Adapter` object in order to produce the desired results.



Benutzer- und Rechtemanagent

- Das Laminas-Framework bietet Klasse Laminas_Acl
(Access Control Lists)
  - Aufbau eines (hierarchischen) Rechtesystems
  - Methoden wie **`addRole`** und **`allow`** und **`isAllowed`**
- Rechte können **vererbt** werden



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Laminas | Documentation

All Docs Community

Components laminas-permissions-acl

Search GitHub

Overview » Components » laminas-permissions-acl

laminas-permissions-acl

Create, manage, and query access control lists.

Installation

Using Composer

```
$ composer require laminas/laminas-permissions-acl
```

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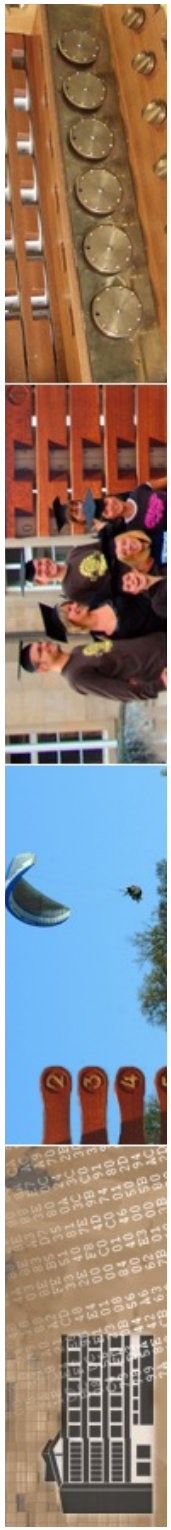
Find documentation...

ACL
laminas-permissions-acl

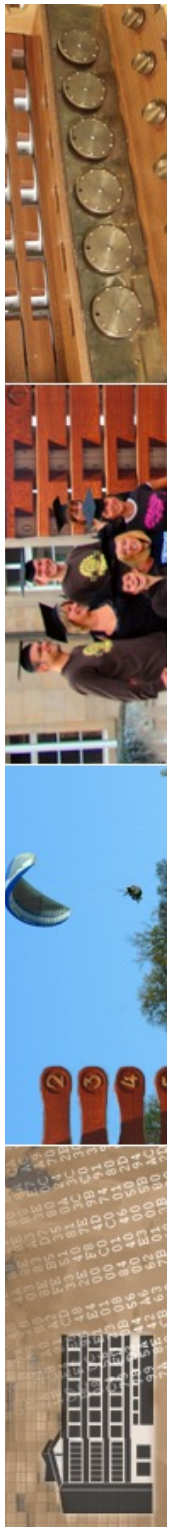
laminas-permissions-acl

- Theory and Usage
- Refining Access Controls
- Reference



eigenes Session-Management

- das Laminas-Framework enthält ein eigenes Session-Management
  - Klasse **`Laminas_Session`**
- stark ähnlich Session-Management von PHP



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Laminas | Documentation

All Docs Community

Components laminas-session

Search GitHub

Overview » Components » laminas-session

laminas-session

Object-oriented interface to PHP sessions and storage.

Installation

Using Composer

```
1 | $ composer require laminas/laminas-session
```

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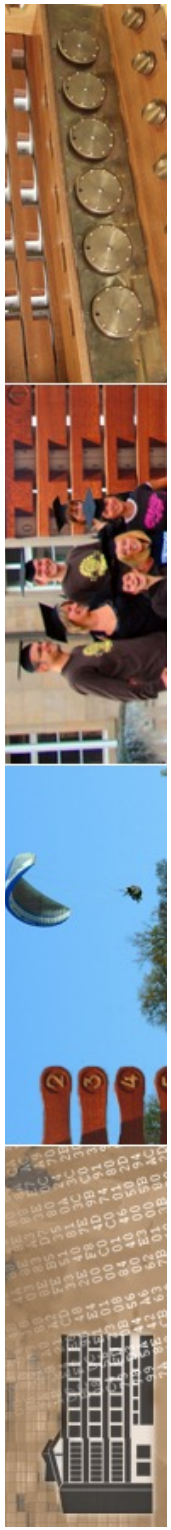
Find documentation...

Session
laminas-session

laminas-session

Reference

- Session Config
- Session Container
- Session Manager



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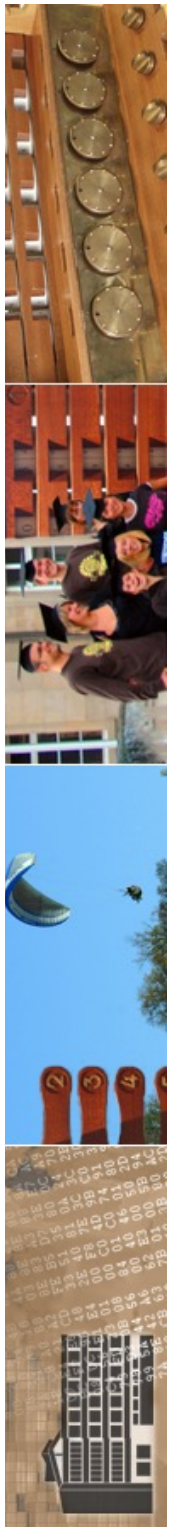
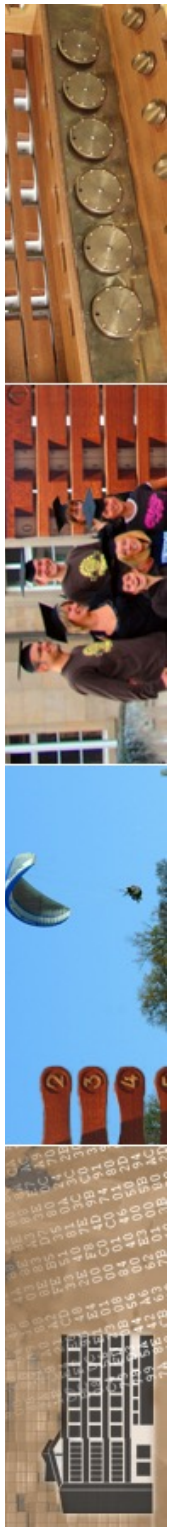
Infrastruktur-Klassen

- zum Laminas-Framework gehören wichtige Infrastruktur-Klassen
  - Performance-Optimierung: **`Laminas_Cache`**
  - Plausibilitäts-Test: **`Laminas_Validate`**
  - Filtern von Daten: **`Laminas_Filter`**
  - Formular-Verarbeitung: **`Laminas_Filter_Input`**
  - Logilfes: **`Laminas_Log`**
  - Konfigurationsverwaltung: **`Lamninas_Config`**



Ausblick

- weitere Möglichkeiten des Laminas-Frameworks:
  - Web-Services
  - RSS-/Atom-Feeds
  - pdf-Generierung
  - Captcha
  - direkte Schnittstelle zu Google-Diensten
  - Mail
  - und sehr viel mehr...



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Open Source und kommerziell

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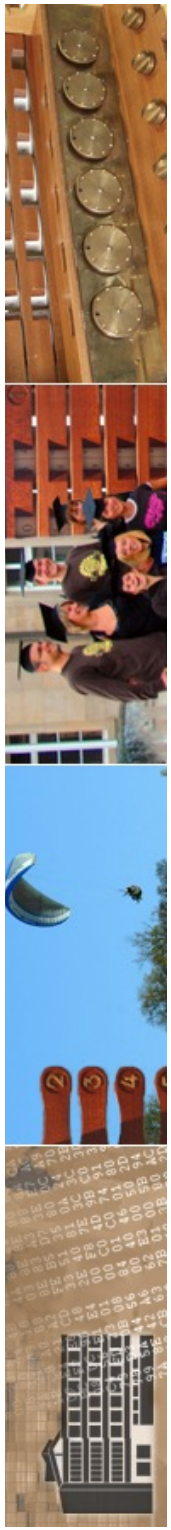
Support Laminas

Commercial Vendors

Laminas Projects are supported by these commercial vendors.

Roave zend apidemia

Find out more!



Commercial Vendor Program

Existing Members

Roave

Roave is a full-service web development firm, offering consulting, training, software development, and more.

Visit Roave

Zend by Perforce

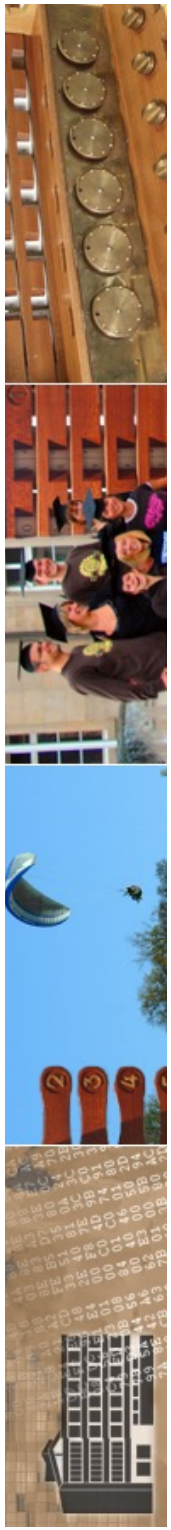
Zend is "The PHP Company", and offers training, services, and production support for Laminas and other PHP applications.

Visit Zend by Perforce

Apidemia

Apidemia is a web development company, offering software development and consulting. Since 2005, we have focused on the PHP ecosystem, and our tools of trade have been Zend Framework 1, 2, and 3, and then Laminas and Mezzio. We created DotKernel, a collection of PSR-7 Middleware applications built on top of the Mezzio microframework and Laminas components.

Visit Apidemia



…und nun…

- kennen wir ein modernes, typisches Framework mit seiner Arbeitsweise als konkretes Architekturbeispiel kennen gelernt
- weitere, noch komplexere Beispiele zu Frameworks
- Python-Frameworks