

TYP03 CMS 8.1 – What's New

Summary of the new features, changes and improvements

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TYPO3 CMS 8.1 - What's New

Chapter Overview

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Introduction

The Facts

Introduction

TYPO3 CMS 8.1 - The Facts

- Release date: 3 May 2016
- Release type: Sprint Release
- Slogan: Tightening the screws



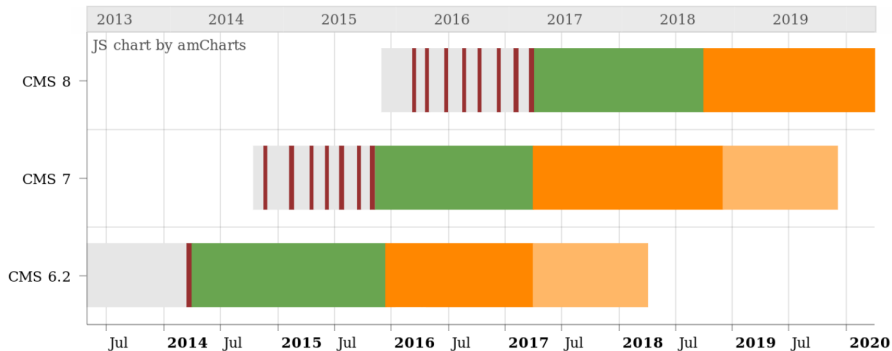
Introduction

System Requirements

- PHP: version 7
- MySQL: version 5.5 to 5.7
- Disk space: min 200 MB
- PHP settings:
 - `memory_limit` \geq 128M
 - `max_execution_time` \geq 240s
 - `max_input_vars` \geq 1500
 - compilation option `--disable-ipv6` must not be used
- The backend requires Microsoft Internet Explorer 11 or later, Microsoft Edge, Google Chrome, Firefox, Safari or any other modern, compatible browser

Introduction

Development and Release Timeline



Introduction

TYPO3 CMS Roadmap

Release dates and their primary focus:

- v8.0 22/Mar/2016 Adding last minute things
- v8.1 03/May/2016 Cloud Integration
- v8.2 05/Jul/2016 Rich Text Editor
- v8.3 30/Aug/2016 Frontend Editing on Steroids
- v8.4 18/Oct/2016 *to be determined*
- v8.5 20/Dec/2016 Integrator Support
- v8.6 14/Feb/2017 *to be determined*
- v8.7 04/Apr/2017 LTS Preparation

<https://typo3.org/typo3-cms/roadmap/>

<https://typo3.org/news/article/kicking-off-typo3-v8-development/>

Introduction

Installation

- Official installation procedure under Linux/Mac OS X
(DocumentRoot for example `/var/www/site/htdocs`):

```
$ cd /var/www/site
$ wget --content-disposition get.typo3.org/8.1
$ tar xzf typo3_src-8.1.0.tar.gz
$ cd htdocs
$ ln -s ../typo3_src-8.1.0 typo3_src
$ ln -s typo3_src/index.php
$ ln -s typo3_src/typo3
$ touch FIRST_INSTALL
```

- Symbolic links under Microsoft Windows:
 - Use `junction` under Windows XP/2000
 - Use `mklink` under Windows Vista and Windows 7

Introduction

Upgrade to TYPO3 CMS 8.x

- Upgrades only possible from TYPO3 CMS 7.6 LTS
- TYPO3 CMS < 7.6 LTS should be updated to TYPO3 CMS 7.6 LTS first
- Upgrade instructions:
http://wiki.typo3.org/Upgrade#Upgrading_to_8.1
- Official TYPO3 guide "TYPO3 Installation and Upgrading":
<http://docs.typo3.org/typo3cms/InstallationGuide>
- General approach:
 - Check minimum system requirements (PHP, MySQL, etc.)
 - Review **deprecation_*.log** in old TYPO3 instance
 - Update all extensions to the latest version
 - Deploy new sources and run Install Tool -> Upgrade Wizard
 - Review startup module for backend users (optionally)

Introduction

PHP Version 7

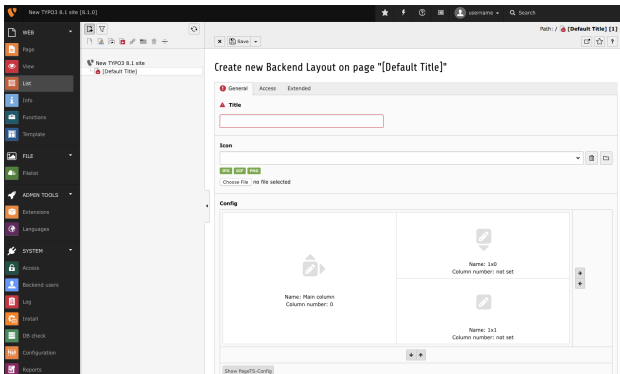
- PHP 7.0 is the minimum requirement for TYPO3 CMS 8.x
- TYPO3 will support subsequent PHP 7 releases as they come out
- This version raise gives a significant performance boost to the overall system
- Not only backend editors will notice a more fluent interface, but the new all-time record for a full cached page call in the frontend is below 7 milliseconds now, which is approximately 40% faster compared to running the very same website with PHP version 5.5
- We also started using new features from this PHP version, for instance the cryptographically secure pseudo-random generators are in active use already

Chapter 1: Backend User Interface

Backend User Interface

Inline Backend Layout Wizard

A new render type has been added to render the backend layout wizard inline in FormEngine (in TCA: 'renderType' => 'belayoutwizard').



Backend User Interface

Simplify Cache Clearing

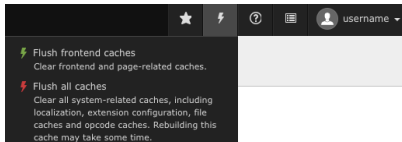
The cache clearing system has been simplified by removing options in cache clear menu and Install Tool.

- **Flush frontend caches:**

Clears frontend and page-related caches, like before.

- **Flush all caches:**

Clears all system-related caches, including the class loader, localization, extension configuration file caches and opcode caches. Rebuilding this cache may take some time.



Backend User Interface

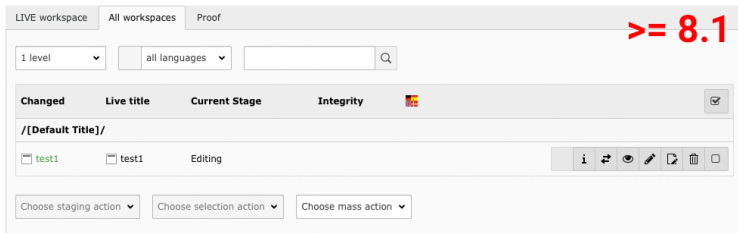
Reworked Workspaces (1)

- The workspace module to manage staged content has been rewritten and integrates much better into the visual appearance of the backend now
- Editors will realize straight away, it fits the overall look and feel due to its technical base with Twitter Bootstrap and jQuery
- This change also brings a performance boost and is a huge leap forward to a cleaner and faster TYPO3 backend with less JavaScript

Backend User Interface

Reworked Workspaces (2)

Screenshots of the workspace module:



This screenshot shows the workspace module interface for version 8.1 and above. It features a top navigation bar with tabs for "LIVE workspace", "All workspaces", and "Proof". A red label ">= 8.1" is positioned in the top right corner. Below the navigation bar, there are filters for "1 level" and "all languages", along with a search input field. The main content area displays a table with columns for "Changed", "Live title", "Current Stage", and "Integrity". A table row is visible with the title "/[(Default Title)]/" and a single item "test1" in the "Live title" column, with "Editing" in the "Current Stage" column. To the right of the table is a toolbar with icons for information, undo, redo, eye, pencil, eraser, trash, and a square. Below the table are three dropdown menus for "Choose staging action", "Choose selection action", and "Choose mass action".

Legend: • edited • • moved • • created • • hidden • • deleted



This screenshot shows the workspace module interface for version 8.0 and below. It features a top navigation bar with tabs for "All workspaces", "LIVE workspace", and "Proof". A red label "<= 8.0" is positioned in the top right corner. Below the navigation bar, there are filters for "Infinite" and "all languages", along with a search input field. The main content area displays a table with columns for "Changed", "Live-Title", "Current Stage", and "Actions". A table row is visible with the title "Path: /Page 02/ (1 item)" and a single item "test13" in the "Live-Title" column, with "Editing" in the "Current Stage" column. To the right of the table is a toolbar with icons for information, undo, redo, eye, pencil, eraser, trash, and a square.

Chapter 2: TScnfig & TypoScript

TSconfig & TypoScript

Allow Asterisk for hideTables

- It is now possible to hide all tables in the list view via PageTS-Config
- In case integrators want to show a specific table only, they can hide all tables and unhide only the specific one:

```
mod.web_list {
    hideTables = *
    table.tx_cal_event.hideTable = 0
}
```

Tsconfig & TypoScript

Multiple Locale Names for TypoScript `config.locale_all`

- TypoScript option `config.locale_all` now allows to set locale fallbacks as a comma-separated list, as the underlying PHP function `setlocale()` does as well:

```
config.locale_all = de_AT@euro, de_AT, de_DE, deu_deu
```

See <http://php.net/setlocale>

Chapter 3: In-Depth Changes

In-Depth Changes

PHP Library "Doctrine DBAL" (1)

- The PHP library "[Doctrine DBAL](#)" has been added via composer dependency to work as a powerful database abstraction layer with many features for database abstraction, schema introspection and schema management within TYPO3 CMS
- A TYPO3-specific PHP class called `TYPO3\CMS\Core\Database\ConnectionPool` has been added as a manager for database connections
- All connections configured under `$GLOBALS['TYPO3_CONF_VARS']['DB']['Connections']` are accessible using this manager, enabling the parallel usage of multiple database systems

In-Depth Changes

PHP Library "Doctrine DBAL" (2)

- By using the database abstraction options and the QueryBuilder provided SQL statements being built will be properly quoted and compatible with different DBMS out of the box as far as possible
- Existing `$GLOBALS['TYPO3_CONF_VARS']['DB']` options have been removed and/or migrated to the new Doctrine-compliant options
- The `Connection` class provides convenience methods for insert, select, update, delete and truncate statements
- For select, update and delete only simple equality comparisons (like `WHERE "aField" = 'aValue'`) are supported. For complex statements it is required to use the QueryBuilder.

In-Depth Changes

PHP Library "Doctrine DBAL" (3)

- The `ConnectionPool` class can be used like this:

```
// Get a connection which can be used for multiple operations
/** @var \TYPO3\CMS\Core\Database\Connection $conn */
$conn = GeneralUtility::makeInstance(ConnectionPool::class)->getConnectionForTable('aTable');
$affectedRows = $conn->insert(
    'aTable',
    $fields, // Associative array of column/value pairs, automatically quoted & escaped
);

// Get a QueryBuilder, which should only be used a single time
$query = GeneralUtility::makeInstance(ConnectionPool::class)->getQueryBuilderForTable('aTable');
$query->select('*')
    ->from('aTable')
    ->where($query->expr()->eq('aField', $query->createNamedParameter($aValue)))
    ->andWhere(
        $query->expr()->lte(
            'anotherField',
            $query->createNamedParameter($anotherValue)
        )
    )
$rows = $query->execute()->fetchAll();
```

In-Depth Changes

Enhance SQL query reduction in page tree in workspaces

- The process of determining whether a page has workspace versions can be extended by custom application code utilizing hooks
- This way, the meaning of having versions can be further modified by hooks
- For instance the default behavior of the TYPO3 core is to create a workspace version record on persisting the same record in the backend - without any actual changes to the data model

```
$GLOBALS['TYPO3_CONF_VARS']['SC_OPTIONS']...  
...['TYPO3\CMS\Workspaces\Service\WorkspaceService']['hasPageRecordVersions'];
```

```
$GLOBALS['TYPO3_CONF_VARS']['SC_OPTIONS']...  
...['TYPO3\CMS\Workspaces\Service\WorkspaceService']['fetchPagesWithVersionsInTable']
```

In-Depth Changes

PHP Library "Guzzle" (1)

- The PHP library "[Guzzle](#)" has been added via composer dependency to work as a feature rich solution for creating HTTP requests based on the PSR-7 interfaces already used within TYPO3
- Guzzle auto-detects available underlying adapters available on the system, like cURL or stream wrappers and chooses the best solution for the system
- A TYPO3-specific PHP class called `TYPO3\CMS\Core\Http\RequestFactory` has been added as a simplified wrapper to access Guzzle clients

In-Depth Changes

PHP Library "Guzzle" (2)

- The RequestFactory class can be used like this:

```
// Initiate RequestFactory

/** @var \TYPO3\CMS\Core\Http\RequestFactory $requestFactory */
$requestFactory = GeneralUtility::makeInstance(
    \TYPO3\CMS\Core\Http\RequestFactory\RequestFactory::class);

$suri = $additionalOptions = [
    // additional headers for this specific request
    'headers' => ['Cache-Control' => 'no-cache'],
    'allow_redirects' => false,
    'cookies' => true
];

// return a PSR-7 compliant response object
$response = $requestFactory->request($url, 'GET', $additionalOptions);

// get the content as a string on a successful request
if ($response->getStatusCode() === 200) {
    if ($response->getHeader('Content-Type') === 'text/html') {
        $content = $response->getBody()->getContents();
    }
}
```

Chapter 4: Deprecated/Removed Functions

Deprecated/Removed Functions

Http-related options and HttpRequest class removed (1)

- The following PHP classes have been **removed**:
 - TYPO3\CMS\Core\Http\HttpRequest
 - TYPO3\CMS\Core\Http\Observer\Download
- The following options have been **renamed**:
 - old: \$TYPO3_CONF_VARS[HTTP][userAgent]
new: \$TYPO3_CONF_VARS[HTTP][headers][User-Agent]
 - old: \$TYPO3_CONF_VARS[HTTP][protocol_version]
new: \$TYPO3_CONF_VARS[HTTP][version]

Deprecated/Removed Functions

Http-related options and HttpRequest class removed (2)

- All proxy-related options are unified within `$TYPO3_CONF_VARS[HTTP][proxy]`
- All redirect-related options (`HTTP/follow_redirects`, `HTTP/max_redirects`, `HTTP/strict_redirects`) are unified within `$TYPO3_CONF_VARS[HTTP][allow_redirects]`
- All options related to SSL private keys (`HTTP/ssl_local_cert`, `HTTP/ssl_passphrase`) are merged into `$TYPO3_CONF_VARS[HTTP][ssl_key]`
- All options related to verify SSL peers are merged into `$TYPO3_CONF_VARS[HTTP][verify]`

Deprecated/Removed Functions

Http-related options and HttpRequest class removed (3)

- The following configuration options have been **removed**:

```
$TYPO3_CONF_VARS[SYS][curlProxyNTLM]
$TYPO3_CONF_VARS[SYS][curlProxyServer]
$TYPO3_CONF_VARS[SYS][curlProxyTunnel]
$TYPO3_CONF_VARS[SYS][curlProxyUserPass]
$TYPO3_CONF_VARS[SYS][curlTimeout]
$TYPO3_CONF_VARS[HTTP][adapter]
$TYPO3_CONF_VARS[HTTP][protocol_version]
$TYPO3_CONF_VARS[HTTP][follow_redirects]
$TYPO3_CONF_VARS[HTTP][max_redirects]
$TYPO3_CONF_VARS[HTTP][strict_redirects]
$TYPO3_CONF_VARS[HTTP][proxy_host]
$TYPO3_CONF_VARS[HTTP][proxy_port]
$TYPO3_CONF_VARS[HTTP][proxy_user]
$TYPO3_CONF_VARS[HTTP][proxy_password]
$TYPO3_CONF_VARS[HTTP][proxy_auth_scheme]
```

Deprecated/Removed Functions

Http-related options and HttpRequest class removed (4)

- The following configuration options have been **removed**:

`$TYPO3_CONF_VARS[HTTP][ssl_verify_peer]`

`$TYPO3_CONF_VARS[HTTP][ssl_verify_host]`

`$TYPO3_CONF_VARS[HTTP][ssl_cafile]`

`$TYPO3_CONF_VARS[HTTP][ssl_capath]`

`$TYPO3_CONF_VARS[HTTP][ssl_local_cert]`

`$TYPO3_CONF_VARS[HTTP][ssl_passphrase]`

`$TYPO3_CONF_VARS[HTTP][userAgent]`

Chapter 5: Sources and Authors

Sources and Authors

Sources

TYPO3 News:

- <http://typo3.org/news>

Release Infos:

- http://wiki.typo3.org/TYPO3\CMS_8.1.0
- [INSTALL.md](#) and [Changelog](#)
- `typo3/sysexst/core/Documentation/Changelog/8.1/*`

TYPO3 Bug-/Issuetracker:

- <https://forge.typo3.org/projects/typo3cms-core>

TYPO3 and Fluid Git Repositories:

- <https://git.typo3.org/Packages/TYPO3.CMS.git>
- <https://github.com/TYPO3Fluid/Fluid>

Sources and Authors

TYPO3 CMS What's New Team:

Andrey Aksenov, Pierrick Caillon, Sergio Catala, Jigal van Hemert,
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<http://typo3.org/download/release-notes/whats-new>

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