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` >= 128M
  - `max_execution_time` >= 240s
  - `max_input_vars` >= 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
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:
- Official TYPO3 guide "TYPO3 Installation and Upgrading":
- 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
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:

#### >= 8.1

<table>
<thead>
<tr>
<th>LIVE workspace</th>
<th>All workspaces</th>
<th>Proof</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 level</td>
<td>all languages</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Changed</th>
<th>Live title</th>
<th>Current Stage</th>
<th>Integrity</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>/Default Title/</td>
<td>test1</td>
<td>Editing</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Choose staging action ▼ Choose selection action ▼ Choose mass action ▼

#### <= 8.0

<table>
<thead>
<tr>
<th>All workspaces</th>
<th>LIVE workspace</th>
<th>Proof</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infinite</td>
<td>all languages</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Changed</th>
<th>Live-Title</th>
<th>Current Stage</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>test13</td>
<td>test13</td>
<td>Editing</td>
<td></td>
</tr>
</tbody>
</table>
Chapter 2: TSconfig & 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:

```typo3
mod.web_list {
  hideTables = *
  table.tx_cal_event.hideTable = 0
}
```
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](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.
The `ConnectionPool` class can be used like this:

```php
// 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.

```php
$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
The RequestFactory class can be used like this:

```php
// Initiate RequestFactory

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

$uri = $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[SYS][adapter]
- \$TYPO3_CONF_VARS[HTTP][protocol_version]
- \$TYPO3_CONF_VARS[HTTP][follow_redirs]
- \$TYPO3_CONF_VARS[HTTP][max_redirs]
- \$TYPO3_CONF_VARS[HTTP][strict_redirs]
- \$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]
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](http://typo3.org/news)

**Release Infos:**
- [http://wiki.typo3.org/TYPO3_CMS_8.1.0](http://wiki.typo3.org/TYPO3_CMS_8.1.0)
- INSTALL.md and ChangeLog
- typo3/sysext/core/Documentation/Changelog/8.1/*

**TYPO3 Bug-/Issuetracker:**

**TYPO3 and Fluid Git Repositories:**
- [https://git.typo3.org/Packages/TYPO3.CMS.git](https://git.typo3.org/Packages/TYPO3.CMS.git)
- [https://github.com/TYPO3Fluid/Fluid](https://github.com/TYPO3Fluid/Fluid)
Sources and Authors

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Andrey Aksenov, Pierrick Caillon, Sergio Catala, Jigal van Hemert, Patrick Lobacher, Michel Mix, Sinisa Mitrovic, Angeliki Plati, Nena Jelena Radovic, Michael Schams and Roberto Torresani

http://typo3.org/download/release-notes/whats-new

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