TYP03 Version 9.3 – What’s New

Summary of the new features, changes and improvements

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TYPO3 Version 9.3 – What’s New

Chapter Overview

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The Facts
Introduction

TYPO3 Version 9.3 – The Facts

- Release date: 12 June 2018
- Release type: Sprint Release

Now I can SEO you
System Requirements

- **PHP version 7.2**
  (will possibly be lowered to PHP 7.1 or 7.0 for future releases, decision pending)
- **PHP settings:**
  - memory_limit >= 128M
  - max_execution_time >= 240s
  - max_input_vars >= 1500
  - compilation option --disable-ipv6 must not be used
- Most database servers supported by Doctrine DBAL also work with TYPO3. Tested DB engines are for example:
  - MySQL
  - MariaDB
  - PostgreSQL
  - SQL Server
Introduction

Development, Release and Maintenance Timeline

**TYPO3 v9**

Extended Support
The **TYPO3 GmbH** offers further support options for TYPO3 v9 LTS even after 31 October 2021 for up to two additional years.
Introduction

TYPO3 v9 Roadmap

Estimated release dates and their primary focus:

- v9.0  12/Dec/2017  Install Tool and Page Tree Refactoring, Unified Page Translations
- v9.1  30/Jan/2018  Redirect Handling
- v9.2  10/Apr/2018  Site Handling
- v9.3  12/Jun/2018  SEO and URL Routing Preparations
- v9.4  04/Sep/2018  Frontend Editing (Feature Freeze)
- v9.5  02/Oct/2018  LTS Release

https://typo3.org/article/typo3-v9-roadmap/
https://typo3.org/cms/roadmap/
Introduction

Installation

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

  ```
  $ cd /var/www/site
  $ wget --content-disposition get.typo3.org/9.3
  $ tar xzf typo3_src-9.3.0.tar.gz
  $ cd htdocs
  $ ln -s ../typo3_src-9.3.0 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 and higher
Introduction

Installation Using composer

- Installation using composer under Linux, Mac OS X and Windows 10:

  $ cd /var/www/site/
  $ composer create-project typo3/cms-base-distribution CmsBaseDistribution ^9

- Alternatively, create your custom composer.json file and run:

  $ composer install

Further details and examples for composer.json files are available at:
https://composer.typo3.org
Chapter 1: Backend User Interface
Backend User Interface

Search Engine Optimization

Page properties feature a new tab "SEO", which allows BE users to configure SEO-related information, Open Graph data and much more.
When using the search functionality in **FILE → Filelist**, the meta data of files (e.g. fields "Title", "Description" and "Alternative Text") are also searched.

Search: "cute cat"

<table>
<thead>
<tr>
<th>File Path</th>
<th>File Name</th>
<th>Type</th>
<th>Last Modified</th>
<th>Size</th>
<th>RW</th>
<th>Ref</th>
</tr>
</thead>
<tbody>
<tr>
<td>/user_upload/images/</td>
<td>cat.jpg</td>
<td>JPG</td>
<td>11-06-18</td>
<td>14.97 Ki</td>
<td>RW</td>
<td>-</td>
</tr>
</tbody>
</table>
Chapter 2: Changes for Integrators
Changes for Integrators

No-cookie Domain for YouTube Videos

- YouTube videos are rendered by accessing the no-cookie domain
  https://www.youtube-nocookie.com by default
- The regular domain www.youtube.com can be forced by the following TypoScript configuration, if required:

```
lib.contentElement {
  settings {
    media {
      additionalConfig {
        no-cookie = 0
      }
    }
  }
}
```
Changes for Integrators

General Data Protection Regulation

- Scheduler task can be activated to anonymize IP addresses in several database tables after a certain period of time.

For example table `sys_log`, after 30 days:

Scheduled tasks

<table>
<thead>
<tr>
<th>ID</th>
<th>Task</th>
<th>Type</th>
<th>Frequency</th>
<th>Parallel Execution</th>
<th>Last Execution</th>
<th>Next Execution</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Anonymize IP addresses in database tables (scheduler)</td>
<td>Recurring</td>
<td>0 1 ** *</td>
<td>No</td>
<td>-</td>
<td>11-06-18 01:00</td>
</tr>
</tbody>
</table>

The TYPO3 GmbH Blog contains further information about GDPR.
Changes for Integrators

FE/BE User Accounts and Passwords

- Plain text passwords are not longer possible for BE/FE users at all
- Inactive FE/BE user records can now be removed from the database by adding scheduler task "Table garbage collection task" and enabling "Clean all available tables"
  (data that does not exist, cannot be compromised in case of a security breach)

```php
<?php
$tableGarbageCollectionTask = \TYPO3\CMS\Scheduler\Task\TableGarbageCollectionTask::class;
$GLOBALS[‘TYPO3_CONF_VARS’][‘SC_OPTIONS’][‘scheduler’][‘tasks’][$tableGarbageCollectionTask][‘options’][‘tables’] = [
    ‘be_users’ => [
        ‘dateField’ => ‘lastlogin’,
        ‘expirePeriod’ => 30
    ]
];
```

- See documentation for further details
Changes for Integrators

"Duplicate" Button

- Button to duplicate a content element is now hidden by default
- Visibility can be configured by user TSconfig ("1" = enabled):

  options.showDuplicate = 1
  options.showDuplicate.[table] = 1

Edit Page Content "Headline" on page "Page 1"
The form framework contains a new form element "Date", including appropriate validator

This is technically an HTML5 'type=date' attribute (see w3c.org)

Example (including the "DateRange" validator):

type: Date
identifier: date-1
label: Date
defaultValue: '2018-03-02'
properties:
  displayFormat: 'd.m.Y'
  fluidAdditionalAttributes:
    min: '2018-03-01'
    max: '2018-03-30'
    step: '1'
validators:

  identifier: DateRange
  options:
    minimum: '2018-03-01'
    maximum: '2018-03-30'
Changes for Integrators

**Destructive Database Schema Changes**

- If an extension is installed or updated via the Extension Manager, and *destructive* database changes are required, these changes are not applied automatically anymore.
- "Destructive" changes are for example changes of existing columns, removal of a column, index or table definition, etc.
- To review and possibly execute these outstanding database updates, go to: ADMIN TOOLS → Maintenance → Analyze Database Structure
Changes for Integrators

TypoScript Conditions

New TypoScript conditions:

- **Condition for the properties of a site object**

  ```
  [site = identifier = someIdentifier, base = https://example.com/]
  page.30.value = foo
  [global]
  ```

- **Condition for the site language**

  ```
  [siteLanguage = locale = de_CH.UTF-8, title = Switzerland]
  page.40.value = bar
  [global]
  ```
Changes for Integrators

HMENU cObj and language IDs

- **HMENU content object now supports the auto filling of language IDs for language menus**

  10 = HMENU
  10 {
    special = language
    special.value = auto
  }

- **special.value** list of comma separated language IDs (e.g. 0,1,2) or auto to load the list from site languages
Changes for Integrators

View User TSconfig Data

User TSConfig data of the currently logged-in user can be accessed at System -> Configuration
Changes for Integrators

Miscellaneous

- TYPO3 takes the image orientation stored as EXIF data into account, when reading dimensions and processing the image (e.g. scaling/cropping)
- SEO-related meta tags set in the page properties are now rendered in frontend by default
- The exclude property is set for the following fields:
  - tt_content.file_collections
  - tt_content.filelink_size
  - tt_content.filelink_sorting
  - tt_content.filelink_sorting_direction

Access permissions must be adjusted, if editors should be able to edit these fields!
Chapter 3:
Changes for Developers
"Management" Database Columns

- Database schema analyzer automatically creates TYPO3 "management" columns by reading the TCA
- Developers do not need to state these fields in file `ext_tables.sql`
- Management fields are for example: `uid`, `pid`, `crdate`, `cruser`, `hidden`, `deleted`, `sortby`, etc.
- Field definitions in `ext_tables.sql` take precedence over automatically generated fields, which means they can be customized if required
Changes for Developers

Meta Tag Manager (1)

- New MetaTagManager API has been introduced to manage and render meta tags in a flexible, but regulated way
- TYPO3 core ships an Open Graph MetaTagManager for example

```php
use TYPO3\CMS\Core\MetaTag\MetaTagManagerRegistry;
$metaTagManager = MetaTagManagerRegistry::getInstance()->getManagerForProperty('og:title');
$metaTagManager->addProperty('og:title', 'This is the OG title from a controller');
```

- Example functions available:
  - `$metaTagManager->addProperty()`  
  - `$metaTagManager->removeProperty()`  
  - `$metaTagManager->removeAllProperties()`
Changes for Developers

Meta Tag Manager (2)

- Developers can register custom MetaTagManager in the MetaTagManagerRegistry

```
use \TYPO3\CMS\Core\MetaTag\MetaTagManagerRegistry;
$metaTagManagerRegistry = MetaTagManagerRegistry::getInstance();
$metaTagManagerRegistry->registerManager(
    'custom',
    \Some\CustomExtension\MetaTag\CustomMetaTagManager::class
);
```

- Meta tags can be set by TypoScript and PHP

```
page.meta {
    og:site_name = TYPO3
    og:site_name.attribute = property
    og:site_name.replace = 1
}

("replace = 1" replaces earlier set meta tags)
```
Changes for Developers

Doctrine: Negative DateInterval Fields

- Database abstraction layer "Doctrine" has been updated to version 2.7.1
- Format of DateInterval fields can now be negative, which means, they must begin with either "+" or "−"
- Migration: Assuming, negative DateIntervals have not been used yet, simply prefix the data with "+

BREAKING CHANGE!
Validate Annotation as Class Name

- Doctrine annotation TYPO3\CMS\Extbase\Annotation\Validate has been introduced
- This is the successor to the validate annotation

Example:

```php
/**
 * @TYPO3\CMS\Extbase\Annotation\Validate
 * @var Foo
 */
public $property;
```

- The use-statement can also be used:

```php
use TYPO3\CMS\Extbase\Annotation\Validate;

/**
 * @Validate
 * @var Foo
 */
public $property;
```
Changes for Developers

Backend ViewHelpers

- Module Link ViewHelper supports two new arguments
  TYPO3\CMS\Backend\ViewHelpers\ModuleLinkViewHelper
  - query: allow defining query parameters also as string
  - currentUrlParameterName: argument uses current URL

This change encourages developers to migrate existing custom backend route ViewHelpers to this ViewHelper.

- New ViewHelpers for the backend to simplify create/edit records:
  <be:uri.newRecord pid="..." table="..." />
  <be:link.newRecord pid="..." table="..." />
  <be:uri.editRecord uid="..." table="..." />
  <be:link.editRecord uid="..." table="..." />
Changes for Developers

LanguageMenu Processor (1)

- New `LanguageMenuProcessor` for Fluid has been introduced

````
10 = TYPO3\CMS\Frontend\DataProcessing\LanguageMenuProcessor
10 {
    languages = auto
    as = languageNavigation
}
```

- Options:
  - `if`: TypoScript if condition
  - `languages`: list of comma separated language IDs (e.g. 0,1,2) "auto"
    - to load from site languages
  - `as`: Variable to be used within the result
Changes for Developers

LanguageMenu Processor (2)

Example Fluid-Template:

```html
<f:if condition="{languageNavigation}">
  <ul id="language" class="language-menu">
    <f:for each="{languageNavigation}" as="item">
      <li class="{f:if(condition: item.active, then: 'active')}{f:if(condition: item.available, else: 'text-muted')}">
        <f:if condition="{item.available}">
          <f:then>
            <a href="{item.link}" hreflang="{item.hreflang}" title="{item.navigationTitle}">
              <span>{item.navigationTitle}</span>
            </a>
          </f:then>
          <f:else>
            <span>{item.navigationTitle}</span>
          </f:else>
        </f:if>
      </li>
    </f:for>
  </ul>
</f:if>
```
Changes for Developers

Miscellaneous

- All enumeration classes in TYPO3 have been marked as "final" and 3rd party classes extending enumerations triggers a fatal PHP error
- Additional query restrictions can be added to:
  
  $GLOBALS[‘TYPO3_CONF_VARS’][‘DB’][‘additionalQueryRestrictions’]

  These restriction objects will be added to any select query executed using the QueryBuilder (use with caution!)
Chapter 4: Deprecated/Removed Functions
Deprecated/Removed Functions

User Passwords

- Scheduler task "Convert user passwords to salted hashes" has been removed
  (search for values starting with "$" in database tables be_users and fe_users to find user records, which are still in plain text or MD5 hash)

- The following function has been marked deprecated:
  TYPO3\CMS\saltedpasswords\Utility\SaltedPasswordsUtility::isUsageEnabled()
Deprecated/Removed Functions

**Extension EXT:lang Removed**

- Unused files are removed from extension EXT:lang
- References to translation in EXT:lang will return empty values
- Language files are moved to their respective extension:

  locallang_alt_intro.xlf => about/Resources/Private/Language/Modules/locallang_alt_intro.xlf  
  locallang_alt_doc.xlf => backend/Resources/Private/Language/locallang_alt_doc.xlf  
  locallang_login.xlf => backend/Resources/Private/Language/locallang_login.xlf  
  locallang_common.xlf => core/Resources/Private/Language/locallang_common.xlf  
  locallang_core.xlf => core/Resources/Private/Language/locallang_core.xlf  
  locallang_general.xlf => core/Resources/Private/Language/locallang_general.xlf  
  locallang_misc.xlf => core/Resources/Private/Language/locallang_misc.xlf  
  locallang_mod_web_list.xlf => core/Resources/Private/Language/locallang_mod_web_list.xlf  
  locallang_tca.xlf => core/Resources/Private/Language/locallang_tca.xlf  
  locallang_tsfe.xlf => core/Resources/Private/Language/locallang_tsfe.xlf  
  locallang_wizards.xlf => core/Resources/Private/Language/locallang_wizards.xlf  
  locallang_browse_links.xlf => recordlist/Resources/Private/Language/locallang_browse_links.xlf  
  locallang_tcemain.xlf => workspaces/Resources/Private/Language/locallang_tcemain.xlf
Deprecated/Removed Functions

TSConfig Related Methods

- **User TSConfig related methods have been marked deprecated:**
  
  TYPO3\CMS\core\Authentication\BackendUserAuthentication->getTSConfigVal()
  TYPO3\CMS\core\Authentication\BackendUserAuthentication->getTSConfigProp()

- **Changed method signatures (no argument allowed anymore):**
  
  TYPO3\CMS\core\Authentication\BackendUserAuthentication->getTSConfig()

- **Page TSConfig related methods have been marked deprecated:**
  
  TYPO3\CMS\backend\Utility\BackendUtility::getModTSconfig()
  TYPO3\CMS\backend\Utility\BackendUtility::unsetMenuItems()
  TYPO3\CMS\backend\Tree\View\PagePositionMap->getModConfig()
  TYPO3\CMS\core\DataHandling\DataHandler->getTCEMAIN_TSconfig()

- **Properties set to protected and trigger a deprecation error on access:**
  
  TYPO3\CMS\backend\Tree\View\PagePositionMap->getModConfigCache
  TYPO3\CMS\backend\Tree\View\PagePositionMap->modConfigStr
Overriding Page TSConfig

- User TSConfig paths that start with "mod." trigger a PHP E_USER_DEPRECATED error and will stop working in TYPO3 v10.
- Make sure to prefix the user TSConfig path with "page." in case a page TSConfig path should be overwritten on user TSConfig level:

  // before
  mod.web_list.disableSingleTableView = 1

  // after
  page.mod.web_list.disableSingleTableView = 1
The URL handler concept introduced in TYPO3 v7 to allow pages to do redirects has been **deprecated** in favor of using PSR-7/PSR-15 middlewares.

Calling the following functions triggers a PHP `E_USER_DEPRECATED` error:

- `$TSFE->initializeRedirectUrlHandlers()`
- `$TSFE->redirectToExternalUrl()`
Deprecated/Removed Functions

Miscellaneous

- TypoScript files with ".txt" file extension have been renamed to ".typoscript" and "tsconfig"
- Installations including core TS files using the old file extension will trigger a PHP E_USER_DEPRECATED error
- Non-namespaced classes such as "Tx_Extension_Controller_FooController" are no longer supported and will not work anymore
- The following two methods are deprecated:
  - BackendUtility::getModuleUrl()
  - UriBuilder->buildUriFromModule()
Deprecated/Removed Functions

More functions have been marked deprecated or removed in TYPO3 version 9.3.

Please see the TYPO3 documentation for further details.
Chapter 5:

Miscellaneous
Miscellaneous

Argon2 Password Hashing Algorithm

- System extension EXT:saltedpasswords now supports the PHP Password Hashing API, which introduces the Argon2 hashing algorithm
- Integrators can choose between several password hashing methods for FE and BE user passwords
Install Tool Password Fields

- Install Tool now supports password fields to prevent sensitive information to be shown.

For example field `Mail/transport_smtp_password`:

```
[MAIL][transport_smtp_username]

only with transport=smtp: If your SMTP server requires authentication, enter your username here.
username

[MAIL][transport_smtp_password]

only with transport=smtp: If your SMTP server requires authentication, enter your password here.

***************
```
Chapter 6:

Sources and Authors
Sources and Authors

Sources

TYPO3 News:
- https://typo3.org/project/news/

Release Infos:
- https://get.typo3.org/release-notes/9.x/TYPO3_CMS_9.3.0
- INSTALL.md and ChangeLog
- typo3/sysext/core/Documentation/Changelog/9.3/*

TYPO3 Bug-/Issuetracker:

TYPO3 and Fluid Git Repositories:
- https://git.typo3.org/Packages/TYPO3.CMS.git
- https://github.com/TYPO3/Fluid
Sources and Authors

TYPO3 CMS What’s New Team:

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https://typo3.org/help/documentation/whats-new/

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