

TYP03 Version 10.4 – What's New

Summary of the new features, changes and improvements

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TYPO3 Version 10.4 - What's New

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Introduction

The Facts

Introduction

TYPO3 Version 10.4 - The Facts

- Release date: 21 April 2020
- Release type: LTS (Long-term Support)



Introduction

Executive Summary

TYPO3 v10.4 (also called TYPO3 v10 LTS indicating this is a long-term support version) is our new flagship and, without doubt, one of the most advanced PHP-based open-source content management systems on the market to date.

After publishing five sprint releases since July 2019, we can proudly claim that we have equipped TYPO3 with the top modern PHP libraries and that we have introduced some fantastic new enterprise features.

Please note that this document summarizes the changes between TYPO3 v10.3 and v10.4 only.

"What's New Slides" of all TYPO3 v10.x releases are available at typo3.org.

Introduction

System Requirements

- PHP version 7.2, 7.3 or 7.4
- PHP settings:
 - `memory_limit` \geq 256M
 - `max_execution_time` \geq 240s
 - `max_input_vars` \geq 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:



Introduction

Development, Release, and Maintenance Timeline

TYPO3 v10



Extended Support

The [TYPO3 GmbH](#) offers further support options for TYPO3 v10 LTS even after 30 April 2023 for up to three additional years.

Introduction

TYP03 v10 Roadmap

Release dates and their primary focus:

- v10.0 23/July/2019 Pave the way for exciting new concepts and APIs
- v10.1 01/Oct/2019 Routing Improvements and Site Handling v2
- v10.2 03/Dec/2019 Fluid/Rendering Engine Improvements
- v10.3 25/Feb/2020 Feature Freeze
- v10.4 21/Apr/2020 LTS Release (long-term support)

<https://typo3.org/article/typo3-v10-roadmap>

<https://typo3.org/article/typo3-v10-lts-safe-and-sound>

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/10.4
$ tar xzf typo3_src-10.4.0.tar.gz
$ cd htdocs
$ ln -s ../typo3_src-10.4.0 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 typo3v10 ^10.4
```

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

```
$ composer install
```

Further details about Composer for the TYPO3 core and for TYPO3 extensions are available at:

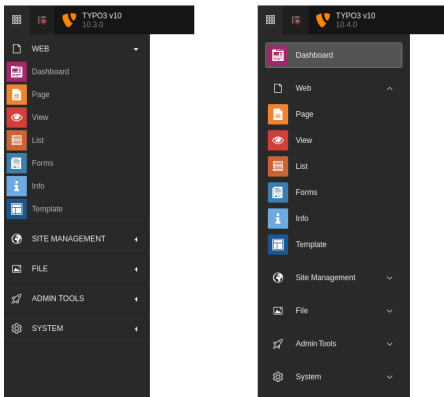
<https://get.typo3.org/misc/composer/repository>

Chapter 1: Backend User Interface

Backend User Interface

Backend UI Adjustments

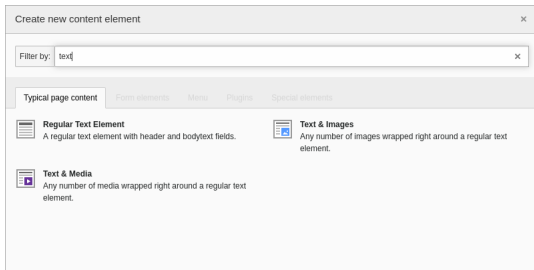
Slightly altered UI of the backend modules column.



Backend User Interface

New Content Element Search

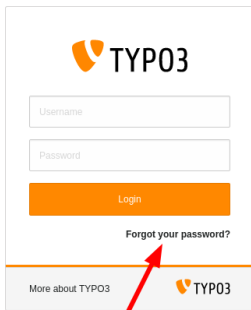
Backend users can now search for content element types in the "New Content Element" wizard:



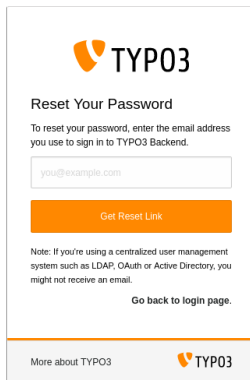
Backend User Interface

Password Recovery

Backend users can now request a password recovery email to reset their access details.



The screenshot shows the TYPO3 login interface. At the top is the TYPO3 logo. Below it are two input fields: 'Username' and 'Password'. A large orange 'Login' button is positioned below the fields. Underneath the button is the text 'Forgot your password?'. At the bottom of the page, there is a footer with 'More about TYPO3' on the left and the TYPO3 logo on the right. A red arrow points from the bottom of the page up to the 'Forgot your password?' link.



The screenshot shows the TYPO3 password reset interface. At the top is the TYPO3 logo. Below it is the heading 'Reset Your Password'. The text below the heading reads: 'To reset your password, enter the email address you use to sign in to TYPO3 Backend.' Below this is an input field containing the email address 'you@example.com'. A large orange 'Get Reset Link' button is positioned below the input field. Below the button is a note: 'Note: If you're using a centralized user management system such as LDAP, OAuth or Active Directory, you might not receive an email.' At the bottom of the main content area is the text 'Go back to login page.'. The footer at the bottom of the page contains 'More about TYPO3' on the left and the TYPO3 logo on the right.

Chapter 2: Changes for Integrators

Changes for Integrators

Password Recovery Email (1)

- Password resets for backend users are only valid for 4 hours. This time limit is not configurable.
- To strengthen security, the function can be disabled for admin users or for all users.
- If users share one email address, an alternative email text is used.
- TCA field `be_users.email` must not be set to `eval=email`.
- The function only works for users, who:
 - have an email address set,
 - have a password set, and
 - are not disabled/deleted.

Changes for Integrators

Password Recovery Email (2)

- Password recovery emails can also be triggered on the command line.

```
typo3v10:/var/www/typo3v10$ ./bin/typo3 backend:resetpassword --help
Description:
  Trigger a password reset for a backend user.

Usage:
  backend:resetpassword <backendurl> <email>

Arguments:
  backendurl  The URL of the TYPO3 Backend, e.g. https://www.example.com/typo3/
  email       The email address of a valid backend user

Options:
  -h, --help          Display this help message
  -q, --quiet         Do not output any message
  -V, --version       Display this application version
                   --ansi          Force ANSI output
                   --no-ansi       Disable ANSI output
  -n, --no-interaction Do not ask any interactive question
  -v|vv|vvv, --verbose Increase the verbosity of messages: 1 for normal output, 2 for more verbose output and 3 for debug
```

Changes for Integrators

Fluid Templating Engine

- The TYPO3 core is fully compatible with Fluid version 2.6+ and 3.0+
- New installations without a dependency set will download and install Fluid version 3.x (`typo3fluid/fluid:^3`).
- If your project contains Fluid templates which are incompatible with version 3.0+, take one of the following actions:
 - Limit the max version: `typo3fluid/fluid:^2`
 - Update your Fluid templates.

Changes for Integrators

Page Type Handling

- TYPO3's internal handling of page types has changed.
- The option `pages.doktype` defines a numeric value that represents the type, e.g. standard page, folder, shortcut, link to external URL, etc.
- Pages of certain types (e.g. folder and recycler) were excluded when content was read from a specific page or records retrieved.
- This limitation has now been removed and custom page doktypes with a number >200 are now possible.
- Integrators and developers who have used page doktypes, e.g. in TypoScript, are advised to check if the previous behavior was misused and requires an update now.

Changes for Integrators

Backend User Module

- Integrators are now able to compare individual backend usergroups.

The screenshot displays the Backend User Module interface for comparing two departments: Department A [1] and Department B [2].

Record information

Inherit settings from groups

	Direct	Inherit
Department A	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Department B	<input checked="" type="checkbox"/>	<input type="checkbox"/>

...

DB mountpoints

Branch A [1]	Branch A [1]
	Branch B [2]

File Mounts

Fileoperation permissions

Department A [1]	Department B [2]
<input type="checkbox"/> Directory: Read	<input type="checkbox"/> Directory: Read
<input type="checkbox"/> Directory: Write	<input type="checkbox"/> Directory: Write
<input type="checkbox"/> Directory: Add	<input type="checkbox"/> Files: Read
<input type="checkbox"/> Directory: Rename	<input type="checkbox"/> Files: Write
<input type="checkbox"/> Directory: Move	<input type="checkbox"/> Files: Add
<input type="checkbox"/> Directory: Delete	<input type="checkbox"/> Files: Move
<input type="checkbox"/> Files: Read	<input type="checkbox"/> Files: Copy
<input type="checkbox"/> Files: Write	<input type="checkbox"/> Files: Delete
<input type="checkbox"/> Files: Add	
<input type="checkbox"/> Files: Rename	
<input type="checkbox"/> Files: Replace	
<input type="checkbox"/> Files: Move	
<input type="checkbox"/> Files: Copy	
<input type="checkbox"/> Files: Delete	

Changes for Integrators

Workspaces

- For many years, the TYPO3 core set `pid` to `-1` of unpublished records.
- TYPO3 now handles versioned records by validating the following three fields:
 - `t3ver_wsuid` (the workspace ID the record is versioned in)
 - `t3ver_state` (the type of the versioned record)
 - `t3ver_oid` (the live version of a record)
- Therefore, `pid=-1` is not required anymore.
- The Upgrade Wizard converts all `pid` fields of versioned records into the real `pid` values.
- New installations are not affected by this change.

Changes for Integrators

Runtime-Activated Packages

- The following global configuration option has been marked **deprecated**:
`$GLOBALS['TYPO3_CONF_VARS']['EXT']['runtimeActivatedPackages']`
- The use of runtime-activated extensions slows down a TYPO3 instance significantly.
- Integrators are advised to take necessary steps, if such warnings appear in the deprecation log:

Support for runtime activated packages will be removed in TYPO3 v11.0.

Chapter 3: Changes for Developers

Changes for Developers

Dashboard Widgets (1)

Changes between TYPO3 v10.3 and v10.4:

- The way how Dashboard widgets are registered has changed.
- Abstract classes are not used anymore as widgets are registered (and configured) in the file `Services.yaml`.
- Some widget types can now be created by configuration only.
- In addition, valid keywords for height and width are now "small", "medium", or "large" (instead of numeric values).

Changes for Developers

Dashboard Widgets (2)

Changes between TYPO3 v10.3 and v10.4:

- The `ButtonUtility` class has been removed.
- Interfaces have been moved and their namespaces probably need to be updated in your custom code.
 - **OLD:** `TYPO3\CMS\Dashboard\Widgets\Interfaces`
 - **NEW:** `TYPO3\CMS\Dashboard\Widgets`

Changes for Developers

Third-party Authentication Services

- Extensions can use TYPO3's Authentication Service API to authenticate users against identity brokers via "OAuth", "LDAP", "SAML2", etc.
- TYPO3's `AbstractUserAuthentication` object does not trim passwords from these third-party services anymore.
- However, this is unrelated to TYPO3's native authentication service that still requires a password without leading/trailing spaces.

Changes for Developers

TCA: Base URL Prefix

- It is now possible to add a custom base URL for TCA columns of type slug.
- The base URL is displayed in front of the input field (prefix).
- Example (TCA):

```
...
'config' => [
  'type' => 'slug',
  'appearance' => [
    'prefix' => \Vendor\MyExtension\UserFunctions\FormEngine\SlugPrefix::class . '->getPrefix'
  ]
]
...
```

Changes for Developers

QueryBuilder

- It is now possible to apply query restrictions for a specific set of tables (to be precise: table aliases).
- The following restriction container can be used:

```
TYPO3\CMS\Core\Database\Query\Restriction\LimitToTablesRestrictionContainer
```

- Example:

```
$queryBuilder = GeneralUtility::makeInstance(ConnectionPool::class)
->getQueryBuilderForTable('tt_content');
$queryBuilder->getRestrictions()
->removeByType(HiddenRestriction::class)
->add(
    GeneralUtility::makeInstance(LimitToTablesRestrictionContainer::class)
    ->addForTables(GeneralUtility::makeInstance(HiddenRestriction::class), ['tt'])
);

$queryBuilder->select('tt.uid')->from('tt_content', 'tt');
```

Changes for Developers

TCA Select Items (Grouping)

- Page types (`pages.doktype`), content types (`tt_content.CType`), and plugins (`tt_content.list_type`) now have native grouping enabled.
- This was previously handled by applying "--div--" items.
- Developers are advised to remove "--div--" items from custom selects and use `itemGroups` instead.
- See [feature 91008 \(grouping\)](#) for further details.

Changes for Developers

TCA Select Items (Sorting)

- New option `sortOrders` for TCA-based select fields has been added.
- This allows the sorting of static TCA select items by their values or labels.
- See [feature 91008 \(sorting\)](#) for further details.

Changes for Developers

GeneralUtility

- The third argument of method `callUserFunction()` should be an object or `null`.
- Any other data passed as argument `$ref` now generates a `E_USER_DEPRECATED` warning.

Changes for Developers

TypoScriptFrontendController

- The following properties are marked as **internal** now:
 - `TypoScriptFrontendController->sPre`
 - `TypoScriptFrontendController->pSetup`
 - `TypoScriptFrontendController->all`
 - `TypoScriptFrontendController->additionalJavaScript`
 - `TypoScriptFrontendController->additionalCSS`
 - `TypoScriptFrontendController->JSCode`
 - `TypoScriptFrontendController->inlineJS`
 - `TypoScriptFrontendController->indexedDocTitle`
- The following method is marked **internal** now:
 - `TypoScriptFrontendController->setJS()`

Changes for Developers

LinkViewHelpers and UriViewHelpers

- New argument language has been added to the following ViewHelpers:
 - `<f:link.typolink>`
 - `<f:link.page>`
 - `<f:uri.typolink>`
 - `<f:uri.page>`
- This arguments links to a specific language of a page.
- Example (language ID 3):

Go to the

```
<f:link.page pageUid="42" language="3">french version</f:link.page>  
of the "Contact Us" page.
```

Changes for Developers

LinkViewHelpers and UriViewHelpers

- When the AssetCollector API is used, CSS and JavaScript assets can be post-processed if required.
- The following two Events are fired for this purpose:
 - TYPO3\CMS\Core\Page\Event\BeforeStylesheetsRenderingEvent
 - TYPO3\CMS\Core\Page\Event\BeforeJavaScriptsRenderingEvent
- See [change log](#) for more details, examples, and additional notes.

Chapter 4: Deprecated/Removed Functions

Deprecated/Removed Functions

GeneralUtility (1)

- The following GeneralUtility methods have been marked **deprecated**:
 - GeneralUtility::IPv6Hex2Bin()
 - GeneralUtility::IPv6Bin2Hex()
 - GeneralUtility::compressIPv6()
 - GeneralUtility::milliseconds()
 - GeneralUtility::linkThisUrl()
 - GeneralUtility::flushDirectory()

- Setting additional arguments besides the URL in GeneralUtility::getUrl() has been marked **deprecated**.
(this includes: \$includeHeader, \$requestHeaders, and \$report)

Deprecated/Removed Functions

GeneralUtility (2)

- The following method has been removed from the GeneralUtility class: `GeneralUtility::isRunningOnCgiServerApi()`.
- This function is now available as `Environment::isRunningOnCgiServer()`.

Deprecated/Removed Functions

LanguageService Functionality

Changes of the LanguageService (also known as `$GLOBALS[LANG]`).

- The visibility of the following functions has changed:
 - `LanguageService->LL_files_cache` (now protected)
 - `LanguageService->LL_labels_cache` (now protected)
 - `LanguageService->getLLL()` (now protected)
 - `LanguageService->debugLL()` (now protected)
- The following function has been marked **deprecated**:
 - `LanguageService->getLabelsWithPrefix()`
- The following function has been marked **internal** now:
 - `LanguageService->loadSingleTableDescription()`

Deprecated/Removed Functions

Internal Libraries and Classes

- The following internal libraries have been removed:
 - "bootstrap-slider"
 - "jQuery.datatables"
- The internal class `TYPO3\CMS\Extbase\Domain\Model\FileMount` has been marked **deprecated**.
- *Reminder: Extension authors should never use libraries that are not marked as public API.*

Deprecated/Removed Functions

ContentObjectRenderer

- The following hooks within have been marked **deprecated**:

```
$GLOBALS['TYPO3_CONF_VARS']['SC_OPTIONS']['tslib/class.tslib_content.php']...
```

- ['cObjTypeAndClass']
 - ['cObjTypeAndClassDefault']
 - ['extLinkATagParamsHandler']
 - ['typolinkLinkHandler']
- The following methods have been marked **deprecated**:
 - cImage()
 - getBorderAttr()
 - getImageTagTemplate()
 - getImageSourceCollection()
 - linkWrap()
 - getAltParam()

(all methods have been moved to the ImageContentObject class)

Deprecated/Removed Functions

Fluid AutoComplete ViewHelper

- The Fluid ViewHelper `<f:widget.autocomplete>` and the related controller have been marked **deprecated**.
- If you use or extend the following, you should take action:
 - `TYPO3\CMS\Fluid\ViewHelpers\Widget\AutocompleteViewHelper`
 - `TYPO3\CMS\Fluid\ViewHelpers\Widget\Controller\AutocompleteController`

Deprecated/Removed Functions

Fluid AutoComplete ViewHelper

- The following FileCollection models have been marked **deprecated**:

- TYPO3\CMS\Extbase\Domain\Model\StaticFileCollection
- TYPO3\CMS\Extbase\Domain\Model\FolderBasedFileCollection
- TYPO3\CMS\Extbase\Domain\Model\AbstractFileCollection
- TYPO3\CMS\Extbase\Property\TypeConverter\StaticFileCollectionConverter
- TYPO3\CMS\Extbase\Property\TypeConverter\FolderBasedFileCollectionConverter
- TYPO3\CMS\Extbase\Property\TypeConverter\AbstractFileCollectionConverter

Deprecated/Removed Functions

Extbase SignalSlot Dispatcher

- During the TYPO3 v10 development over the last months, all Extbase signals provided by TYPO3 core have been migrated to PSR-14 Events.
- The Extbase "SignalSlot Dispatcher" has now been marked **deprecated**.
- Extension developers are advised to migrate to PSR-14 Events and Event Listeners.

Deprecated/Removed Functions

FileNameValidator API

- The logic for validating if the file name of a new (uploaded) or renamed is valid, is now available as a new FileNameValidator API:
TYPO3\CMS\Core\Resource\Security\FileNameValidator
- Migration options:

```
// OLD:  
GeneralUtility::verifyFilenameAgainstDenyPattern($filename)  
// NEW:  
GeneralUtility::makeInstance(FileNameValidator::class)->isValid($filename)  
  
// OLD:  
FILE_DENY_PATTERN_DEFAULT  
// NEW:  
FileNameValidator::DEFAULT_FILE_DENY_PATTERN
```

Deprecated/Removed Functions

FileNameValidator API

- All legacy hooks of `EXT:felogin` have been disabled and will be removed in TYPO3 v11:

- `$GLOBALS['TYPO3_CONF_VARS']['EXTCONF']['felogin']['beforeRedirect']`
- `$GLOBALS['TYPO3_CONF_VARS']['EXTCONF']['felogin']['postProcContent']`
- `$GLOBALS['TYPO3_CONF_VARS']['EXTCONF']['felogin']['password_changed']`
- `$GLOBALS['TYPO3_CONF_VARS']['EXTCONF']['felogin']['forgotPasswordMail']`
- `$GLOBALS['TYPO3_CONF_VARS']['EXTCONF']['felogin']['login_confirmed']`
- `$GLOBALS['TYPO3_CONF_VARS']['EXTCONF']['felogin']['login_error']`
- `$GLOBALS['TYPO3_CONF_VARS']['EXTCONF']['felogin']['loginFormOnSubmitFuncs']`
- `$GLOBALS['TYPO3_CONF_VARS']['EXTCONF']['felogin']['logout_confirmed']`

- See [change log](#) for migration options.

Chapter 6: Sources and Authors

Sources and Authors

Sources

TYPO3 News:

- <https://typo3.org/project/news/>

Release Infos:

- https://get.typo3.org/release-notes/10.x/TYPO3\CMS_10.4.0
- [TYPO3 v10 Changelog](#)
- `typo3/sysexst/core/Documentation/Changelog/10.4/*`

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/TYPO3/Fluid>

Sources and Authors

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

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