TYP03 Version 10.3 - What's New

Summary of the new features, changes and improvements

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TYP03 Version 10.3 - What's New

Chapter Overview

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Introduction The Facts



TYP03 Version 10.3 - The Facts

Release date: 25 February 2020Release type: Sprint Release





Executive Summary

As the last sprint release of the v10 cycle, TYPO3 version 10.3 is the so-called "feature freeze" version. This means, no new features from now on, until the LTS release in April, and the core team and all contributors are focused on testing, polishing, and refining the release.

However, there are some exceptions for minor improvements to complete features that have been already added in previous v10 sprint releases.

If you are an extension developer, please publish v10 compatible versions of your extensions. This will make it easier for the TYPO3 community to adopt TYPO3 v10 as soon as the LTS release launches.

One last important thing: Don't forget to join a release party or organize one yourself!



System Requirements

- PHP version 7.2, 7.3 or 7.4
- PHP settings:
 - memory_limit >= 256M
 - 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:







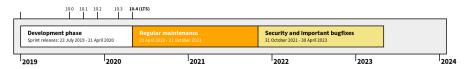






Development, Release, and Maintenance Timeline

TYP03 v10



Extended Support

The TYPO3 GmbH offers further support options for TYPO3 v10 LTS even after 30 April 2023 for up to two additional years.



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-safe-and-sound/
```



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/10.3
$ tar xzf typo3_src-10.3.0.tar.gz
$ cd htdocs
$ ln -s ../typo3_src-10.3.0 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



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 ^10.3
- 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



Backend User Interface

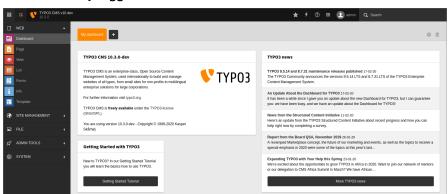
Chapter 1: Backend User Interface



Backend User Interface

Dashboard (1)

A dashboard has been introduced that shows important system information to the currently logged-in backend user.

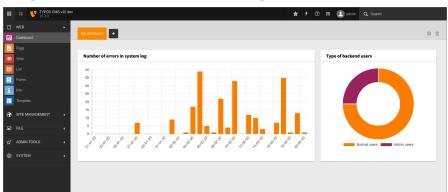




Backend User Interface

Dashboard (2)

Users can create their own dashboards and add, remove, and re-arrange "widgets". Developers can build custom widgets as extensions.





Chapter 2: Changes for Integrators



Dashboard

- Dashboard presets can be configured for new users or for users who deleted all their dashboards.
- This can be used to show a "Getting Started" dashboard by default.
- Example TSconfig:

```
options.dashboard.dashboardPresetsForNewUsers = default, dashboardPreset-myPreset
```

Multiple dashboard presets can be defined in a comma separated list.



Localization Management Platform

- The SaaS solution "Crowdin" is now used as the localization/translation management platform for TYPO3.
- We encourage everyone to participate and improve the localization.
- Crowdin can be used to translate language labels of the TYPO3 core as well as of TYPO3 extensions.
- Read more about this in the TYPO3 documentation.





Fluid-based HTML Emails (1)

- TYPO3 now supports sending template-based HTML and plain-text emails.
- Emails are built by using the Fluid templating engine.
- Email templates can be customized by overwriting the paths to the template files:

```
$GLOBALS['TYPO3_CONF_VARS']['MAIL']['templateRootPaths'][700] =
   'EXT:my_site_extension/Resources/Private/Templates/Email';
```

```
$GLOBALS['TYPO3_CONF_VARS']['MAIL']['layoutRootPaths'][700] =
    'EXT:my_site_extension/Resources/Private/Layouts';
```



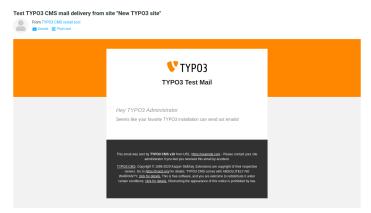
Fluid-based HTML Emails (2)

- Fluid-based templated emails are used for the following components for example:
 - Install Tool test email (see example on the next slide).
 - Workspace notification email on stage change.
 - Notification email on backend user login.



Fluid-based HTML Emails (3)

Test email sent from the Install Tool:





Workspaces and TypoScript

- A new expression language variable has been added: workspace.
- This variable can be used to match a given expression against common workspace parameters.
- Currently, the following parameters are supported: workspaceId, isLive, and isOffline.
- For example:

```
[workspace.workspaceId === 3]
  # Current workspace ID is 3
[end]
```



TypoScript

- The old PIDupinRootline condition has been re-implemented in TypoScript using the Symfony expression language.
- Old TypoScript condition syntax:

```
[PIDupinRootline = 30]
  page.10.value = I'm on any subpage of page with UID 30.
[END]
```

New TypoScript condition syntax:

```
[30 in tree.rootLineParentIds]
  page.10.value = I'm on any subpage of page with UID 30.
[END]
```



Lazy Loading for Images

- The HTML attribute loading can now be set for -tags.
- Browsers which support this feature won't load these images until they are in the viewport.
- The behavior can be modified by the following TypoScript constant:

```
styles.content.image.lazyLoading = lazy
```

- Valid values are: lazy (default), eager, and auto.
- The Fluid Image-ViewHelper also supports lazy loading now:

```
<f:image src="{fileObject}" treatIdAsReference="true"
loading="lazy" />
```



Default values for lockIP/lockIPv6

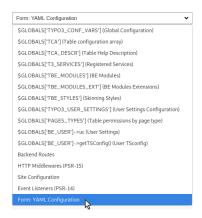
- The default values for lockIP settings have been changed.
- The following four system variables are now **disabled** by default:
 - [FE]['lockIP']
 - [FE]['lockIPv6']
 - [BE]['lockIP']
 - [BE]['lockIPv6']
- The old default values ("4" for the backend and "2" for the frontend) caused problems for example for clients with IPv4 and IPv6 address support.



Form: YAML Configuration

If the system extension EXT: form is installed, the parsed YAML configuration can be displayed under SYSTEM \rightarrow Configuration.

This also requires administrators to activate EXT:lowlevel of course.





SEO: Sitemap.xsl

■ The default path to the file Sitemap.xsl of the system extension EXT:seo can be customized now:

```
# Globally for all sitemaps:
plugin.tx_seo.config.xslFile = EXT:myext/Resources/Public/CSS/mySite.xsl
# For all sitemaps of a specific type:
plugin.tx_seo.config.<sitemapType>.sitemaps.xslFile = EXT:myext/Resources/Public/CSS/mySite.xsl
# For a specific sitemap:
plugin.tx_seo.config.<sitemapType>.sitemaps.<sitemap>.config.xslFile =
EXT:myext/Resources/Public/CSS/mySite.xsl
```

■ The default path reads:

EXT:seo/Resources/Public/CSS/Sitemap.xsl



Reference Index

Progress bars are shown for each database table during Reference Index update.



Info Module

 \blacksquare SEO and Social Media details have been added to the Info module: WEB \to Info \to Pagetree Overview.





Scheduler

■ Multiple tasks can be executed when using the option --task

```
typo3v10:~/www$ ./bin/typo3 scheduler:run --task 1 --task 2
```

 \blacksquare Verbose output can be enabled by -v and -vv

```
typo3v10:~/www$ ./bin/typo3 scheduler:run -vv
```



Backend User Module

- A new detail view of backend user records shows all relevant data.
- Additional fields have been added to the function to compare users.
- This function also takes subgroups into account now.
- The user interface of the module will be adjusted and optimized further.
- These changes make it easier for integrators/administrators to check and compare user permissions without switching to the user.



Extension Manager

System and 3rd-party extensions can now be listed separately in the Extension Manager.

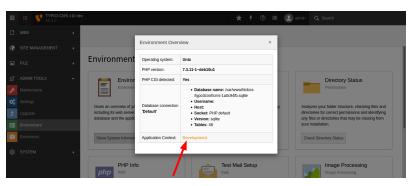
Installed Extensions





Environment Overview

The current application context is now shown in the Environment module: ADMIN TOOLS \rightarrow Environment \rightarrow Environment Overview.





Feature Toggles

The visual appearance of feature toggles has been improved:

TYP03 < 10.3



TYP03 >= 10.3





Chapter 3: Changes for Developers



Dashboard (1)

- Developers can create custom widgets for the Dashboard by extending one of the following widget abstracts:
 - AbstractWidgetA basic abstract that can be used as the start of simple widgets.
 - AbstractRssWidget
 An abstract to create a widget that shows a RSS feed.
 - AbstractListWidgetAn abstract to create a widget that shows a list of items.
 - AbstractCtaButtonWidget
 An abstract to create a widget that shows a "call-to-action" button.



Dashboard (2)

- Register your widgets in the following file of your extension: EXT:my extension/Configuration/Services.yaml
- Option 1: widget identifier as attribute

```
Vendor\MyExtension\Widgets\MyFirstWidget:
    tags:
        - name: dashboard.widget
        identifier: widget-identifier-1
        widgetGroups: 'general'
```

Option 2: custom service name allows multiple widget identifier to share one class



Dashboard (3)

- Every widget is attached to one or more widget groups.
- Those groups are shown in the modal when adding a new widget to your dashboard.
- Developers can configure custom widget groups by creating a file
 EXT:my_extension/Configuration/Backend/DashboardWidgetGroups.php

```
return [
  'widgetGroup-exampleGroup' => [
    'title' => 'LLL:EXT:my_extension/Resources/Private/Language/locallang.xlf:widget_group_name',
],
];
```



Extbase and Fluid

The following PSR-14-based events have been introduced for Extbase-related signals:

```
TYPO3\CMS\Extbase\Event\Mvc\AfterRequestDispatchedEvent
TYPO3\CMS\Extbase\Event\Mvc\AfterRequestDispatchedEvent
TYPO3\CMS\Extbase\Event\Mvc\AfterRequestDispatchedEvent
TYPO3\CMS\Extbase\Event\Persistence\ModifyQueryBeforeFetchingObjectDataEvent
TYPO3\CMS\Extbase\Event\Persistence\ModifyQueryBeforeFetchingObjectDataEvent
TYPO3\CMS\Extbase\Event\Persistence\EntityAddedToPersistenceEvent
TYPO3\CMS\Extbase\Event\Persistence\EntityFinalizedAfterPersistenceEvent
TYPO3\CMS\Extbase\Event\Persistence\EntityUpdatedInPersistenceEvent
TYPO3\CMS\Extbase\Event\Persistence\EntityRemovedFromPersistenceEvent
TYPO3\CMS\Extbase\Event\Persistence\EntityRemovedFromPersistenceEvent
TYPO3\CMS\Extbase\Event\Persistence\EntityPsistence\EntityPsistenceEvent
```

Existing signals have been replaced and should not be used anymore.



ViewHelper editRecord

- An optional argument fields has been added to the uri.editRecord and link.editRecord ViewHelpers.
- If set, the FormEngine creates a form to only edit the given database field(s).
- The following example creates a link to edit the tt_content.bodytext field of record with the UID 42.

```
<be:link.editRecord uid="42" table="tt_content" fields="bodytext" returnUrl="foo/bar">
    Edit record
</be:link.editRecord>
```



AssetCollector

- The initial steps of integrating an AssetCollector have been implemented.
- The concept allows developers to add custom CSS/JS code (inline or external) multiple times, but TYPO3 outputs it only once.
- In this regards, two new Fluid ViewHelpers have been added:
 - <f:asset.css>
 - <f:asset.script>
- In the long run, the AssetCollector aims to replace the various existing TypoScript options that are rather confusing.



Modify hreflang-tag

- It is now possible to modify hreflang tags before they get rendered.
- Developers can achieve this by registering an event listener for the following event:

 ${\tt TYPO3\CMS\backslash Frontend\backslash Event\backslash Modify HrefLangTags Event}$



Modify the CKEditor Configuration

■ The following PSR-14-based events have been introduced which allow to modify the CKEditor configuration:

TYPO3\CMS\RteCKEditor\Form\Element\Event\AfterGetExternalPluginsEvent
TYPO3\CMS\RteCKEditor\Form\Element\Event\BeforeGetExternalPluginsEvent
TYPO3\CMS\RteCKEditor\Form\Element\Event\AfterPrepareConfigurationForEditorEvent
TYPO3\CMS\RteCKEditor\Form\Element\Event\BeforePrepareConfigurationForEditorEvent

■ The change log for an example.



PSR-14 Events in Admin Panel

■ The Admin Panel shows all PSR-14 events that have been dispatched in the current request.





API for AJAX Requests

- The **Fetch API** has been introduced to perform AJAX requests and to make TYP03 less dependent on jQuery.
- The API provides a generic definition of Request and Response objects (and other things involved with network requests).
- Supported by all modern browsers, see compatibility chart.
- The TYPO3 core uses the new API in the Install Tool, FormEngine, and context menus already.
- See the change log for some examples on how to use the Fetch API.



TCA Description Fields

■ The description field in the TCA can now contain line breaks to make long texts more readable.



Classes BasicFileUtility and ExtendedFileUtility

- The following two legacy classes have been marked as internal and should not be used anymore:
 - TYPO3\CMS\Core\Utility\File\BasicFileUtility
 - TYPO3\CMS\Core\Utility\File\ExtendedFileUtility
- Extension developers should use the classes ResourceStorage and ResourceFactory for managing assets instead.



Console Commands: Symfony DI Support

- Command dependencies can now be injected via constructor or other injection techniques.
- Add the console.command tag to command classes.
- Use the tag attribute command to specify the command name.
- The optional tag attribute schedulable can be set to false to exclude the command from the TYPO3 scheduler.
- See change log for an example.



Action Buttons in Modals

- Modal popups now support action buttons.
- As an alternative to the existing trigger option, the new option action can be used.
- For example:

```
Modal.confirm('Header', 'Some content', Severity.error, [
    text: 'Based on trigger()',
    trigger: function () {
      console.log('Vintage!');
    }
},
{
    text: 'Based on action()',
    action: new DeferredAction(() => {
      return new AjaxRequest('/any/endpoint').post({});
    })
};
```



JavaScript Event API

- A new Event API enables JavaScript developers to have a stable event listening interface.
- The API takes care of common pitfalls like event delegation and clean event unbinding.
- Each event strategy offers two ways to bind a listener to an event.
- The Event API offers several strategies to handle event listeners.
- See change log for examples and further details.



Chapter 4: Deprecated/Removed Functions



Switchable Controller Actions

- "Switchable Controller Actions" (SCA) have been marked as deprecated.
- SCA are used to override the allowed set of controllers and actions using TypoScript or Flexforms.
- Using the same plugin as an entry point for many different functionalities contradicts the idea of a plugin serving one specific purpose.
- Plugins that use SCA should be split into multiple different plugins.



Global Constants

- The following two global constants have been marked as deprecated:
 - TYPO3_version
 - TYP03_branch
- The following new PHP class should be used instead:

TYPO3\CMS\Core\Information\Typo3Version



Extbase: WebRequest/WebResponse

- The following two Extbase classes have been marked as **deprecated**:
 - TYPO3\CMS\Extbase\Mvc\Web\Request
 - TYPO3\CMS\Extbase\Mvc\Web\Response



Simplified RTE Parser API

- The PHP class RteHtmlParser features a simplified API now.
- As a consequence, the following two methods have been marked as deprecated:
 - TYPO3\CMS\Core\Html\RteHtmlParser->init()
 - TYP03\CMS\Core\Html\RteHtmlParser->RTE_transform()



Console Commands Configuration

- As the console commands configuration has been migrated to Symfony service tags, the console command configuration file
 Configuration/Commands.php has been marked as deprecated.
- Use the dependency injection service tag console.command instead.



TCA: transOrigPointerField

- Excluding the field pointed by the following TCA option led to inconsistent data stored in the database under certain circumstances: \$GLOBALS['TCA'][\$table]['ctrl']['transOrigPointerField']
- Therefore, the targeted field can not be excluded anymore.
- A migration wizard removes the option from the TCA and adds a deprecation message to the deprecation log in case code needs to be updated.



DocumentTemplate

- The following class has been marked as **deprecated**:
 - TYPO3\CMS\Backend\Template\DocumentTemplate
- It was used as a basis to render backend modules or HTML-based output in TYPO3 backend.
- Since TYP03 v7, the new API via ModuleTemplate should be used instead.

```
use TYPO3\CMS\Backend\Template\ModuleTemplate;
...
$moduleTemplate = GeneralUtility::makeInstance(ModuleTemplate::class);
$content = $this->getHtmlContentFromMyModule();
$moduleTemplate->setTitle('My module');
$moduleTemplate->setContent($content);
return new HtmlResponse($moduleTemplate->renderContent());
```



LinkValidator

■ The following method has been marked as **deprecated**:

```
TYPO3\CMS\Linkvalidator\Repository\BrokenLinkRepository
->getNumberOfBrokenLinks()
```

Use the following method in the same class instead: BrokenLinkRepository::isLinkTargetBrokenLink()



Chapter 5: Security and Privacy



Dashboard

- Widgets of Dashboards possibly contain sensitive information.
- Therefore, we recommend to define access permissions for widgets on a group basis.
- Backend users only have access to widgets that are available for them.
- Users with administrator permissions always have access to all widgets.



Status Reports

- The DebugExceptionHandler possibly outputs sensitive data that could result in an information disclosure vulnerability.
- A new status report has been introduced to warn administrators.

WARNING, if context is set to **development** and the error output is enabled:

	OK
Exception Handler / Error Reporting	Display Errors is set to 1 - errors will be displayed with the DebugExceptionHandler
	including stack traces.

ERROR, if context is set to **production** and the error output is enabled:

	Insecure
Exception Handler / Error Reporting	Debug Exception Handler enabled in Production Context - will show full error messages
	including stack traces.



SameSite Cookies (1)

- To strengthen security and privacy, TYPO3 now supports the "SameSite"-option for cookies set by the TYPO3 core.
- The attribute is supported by most modern browsers and allows websites to declare if cookies should be restricted.
- According to OWASP, SameSite cookies
 "mitigate the risk of cross-origin information leakage", with
 "some protection against cross-site request forgery attacks".
- Valid settings are "strict", "lax", or not set.



SameSite Cookies (2)

- TYP03 sets the following options:
 - FE user sessions: "lax" by default
 - BE user sessions: "strict" by default
 - Install Tool sessions: "strict" (not configurable)
 - Last login provider (BE): "strict" (not configurable)
- The Install Tool offers a system configuration to adjust the SameSite cookies policies, if the default settings are too strict (e.g. with authentication providers such as OpenID/OAuth).
- Read more about SameSite cookies in RFC6265 (draft).



Password Hash Algorithms

- The hashing algorithm Argon2i ("i") was introduced with TYPO3 v9 LTS.
- Argon2id ("id") is now also available in TYPO3 if the PHP version supports it.
- Argon2id is a hybrid of Argon2i and Argon2d and is more resistant against side-channel attacks.
- Argon2id is typically available on systems with PHP version 7.3 or higher.



Sources and Authors

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_10.3.0
- TYP03 v10 ChangeLog
- typo3/sysext/core/Documentation/Changelog/10.3/*

TYP03 Bug-/Issuetracker:

■ https://forge.typo3.org/projects/typo3cms-core

TYP03 and Fluid Git Repositories:

- https://git.typo3.org/Packages/TYPO3.CMS.git
- https://github.com/TYP03/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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