FirstSpirit™
Unlock Your Content

Release Notes
FirstSpirit™ 2018-09

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e-Spirit

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1 FirstSpirit, Java 11 and the Launcher

By the end of September 2018 (presumably 2018-09-25) the first version of Java 11 will officially be released. With this release, the requirement for using Oracle Java is an "Oracle Premier Support" contract (see also http://www.oracle.com/technetwork/java/javase/eol-135779.html) for both servers and clients. Updates for Oracle Java 8 are also expected to require a fee from 2019 onwards for companies respectively commercial use. At present it is still uncertain whether and to what extent e-Spirit can continue to support Oracle Java under these conditions.

In order to generally become less dependent on Java development by Oracle and also to be able to plan long-term with the benefits of the customer in mind, e-Spirit is focusing increasingly on the usage of OpenJDK. We will therefore switch to the OpenJDK for quality assurance measures for Java versions greater than 8, and we would like to encourage our customers to also use OpenJDK in the upcoming versions.

At the time of the release of FirstSpirit 2018-09 only a Release Candidate (RC) of Java 11 is available. To allow our customers and partners to try out FirstSpirit with Java 11 at an early stage, extensive tests have been carried out with pre-release versions of Java 11 in the past weeks.
These tests have shown that, on the **server-side**, FirstSpirit can be run with Java 11. e-Spirit has therefore decided to release the usage of Java 11 RC build 28 for the FirstSpirit server with "EAP" status, as of version FirstSpirit 2018-09.

The challenge concerning the **client-side** release of Java 11 is the lack of Java Web Start functionality in both OpenJDK 11 and Oracle Java 11 for starting the SiteArchitect as well as the ServerManager from the browser. As an alternative to Java Web Start, e-Spirit has been offering the FirstSpirit Launcher for some time now, which is based on Oracle Java 8 until now. In order to remain fit for the future, the launcher will be made available in one of the upcoming FirstSpirit releases with an OpenJDK 11 and thus for the first time with a Java version > 8. Initial tests of the FirstSpirit clients with OpenJDK 11 RC have been conducted successfully. After the official release of Java 11, the client-side applications of FirstSpirit (SiteArchitect and ServerManager) will support Java 11 in conjunction with the release of a FirstSpirit launcher based on the OpenJDK.

2 Migrating from the InternalJetty to a web server for productive use

The open source product "Eclipse Jetty" integrated in FirstSpirit provides a web server and a JSP/servlet engine which run as part of the FirstSpirit server in the same VM. The use of this integrated web server is intended for testing purposes only, so that customers can use FirstSpirit directly with web server

functionality without first having to install and connect an external web server. For more complex configuration requirements (e.g. memory size adjustments, timeouts, number of threads per deployed application...) the use of an external web server, and especially **Apache Tomcat**, is recommended.

Since FirstSpirit 2018-08, the functionality of the integrated Jetty "InternalJetty" is no longer supported. With a subsequent FirstSpirit release it will no longer be possible to use the "InternalJetty." Features based on the "InternalJetty" (preview, etc.) will then no longer be executable. Therefore, for productive systems a prompt change to an external web server (Apache Tomcat) is required.

A web server of the type "Jetty Web Server" can be used as fallback and/or development environment. This web server is officially released with FirstSpirit 2018-09. As of the current release, new installations are using the "Jetty Web Server" by default (see also Chapter "Web server configuration: new FirstSpirit installations use the web server 'FirstSpirit Jetty Server'"). However, since the "Jetty Web Server" is also an integrated Web/Application server, its recommended use is for development purposes or as a fallback and only basic configuration options are available.

FirstSpirit 2018-08 offers new and productively usable web server configuration options to enable customers to easily switch to more sustainable solutions. With the current release an additional wizard was implemented with which web applications can be migrated easily and GUI-supported from one web server to another ("FirstSpirit ServerManager / Server properties / Web server", "Migrate" button, see also *FirstSpirit Manual for Administrators*).
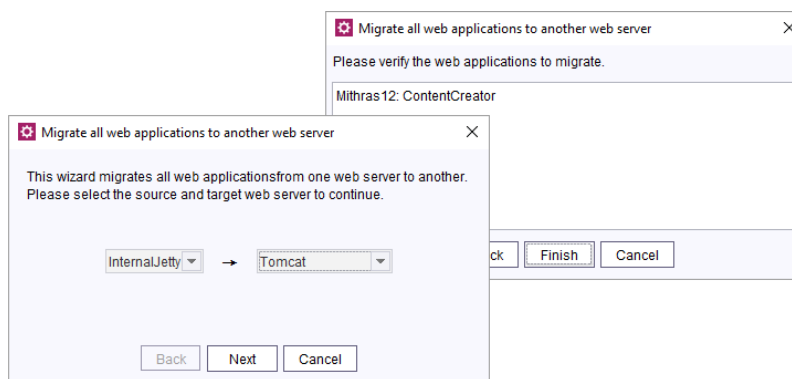
Migration wizard

Recommended default configuration for production servers

e-Spirit recommends using an Apache Tomcat as FirstSpirit's web server configuration, as described in "Tomcat servlet engine on a dedicated host" in the *FirstSpirit Manual for Administrators*.

The web applications "FirstSpirit start page" and "ServerMonitoring" should be installed on an "Aggregating Web Server", in which this Tomcat web server and a "Jetty Web Server" are combined. Here the Tomcat web server should be defined as the default web server:
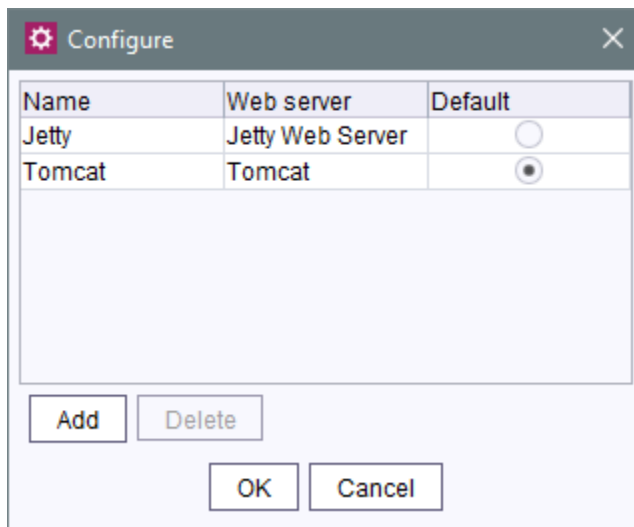
All other web applications should be installed on the Tomcat web server. The migration of the web application is done (if necessary) using the new migration wizard. The target web server is the Tomcat web server.

This configuration ensures that the web applications are delivered stable via Tomcat. Irrespective of the Tomcat web server, the start page and server monitoring can be accessed at any time via the "Jetty web server", so that the FirstSpirit server remains configurable even in the event of problems with the Tomcat web server (or if it is scheduled to shut down).

For further information on creating and configuring the individual web server types and migrating web applications, see *FirstSpirit Manual for Administrators*, "FirstSpirit ServerManager / Server properties / Web server".

3 FragmentCreator

New web.xml parameters

In preparation for an improved cloud capability, the communication of the internal REST services has been modified. Three new parameters were introduced into the `web.xml`:

- webServiceBaseUrl

- oAuthClientSecret

- jwtSigningKey

In case the `web.xml` was changed manually, these parameters have to be added again:

```
<context-param>
      <param-name>webServiceBaseUrl</param-name>
      <param-value>${WEB_SERVICE_BASE_URL}</param-value>
</context-param>
<context-param>
      <param-name>oAuthClientSecret</param-name>
      <param-value>${RANDOM_VALUE}</param-value>
</context-param>
<context-param>
      <param-name>jwtSigningKey</param-name>
      <param-value>${RANDOM_VALUE}</param-value>
</context-param>
```

webServiceBaseUrl

This is the internal base URL of the FragmentCreator. the default value `WEB_SERVICE_BASE_URL` is automatically determined from the FirstSpirit WebApp configuration and works in most cases. However, if preceding proxy web servers are active, it may be necessary to switch to an internal URL (e.g. "http://localhost:8080/fragmentcreator").

oAuthClientSecret and **jwtSigningKey**

These parameters contain keys for internal encryption and can only be configured for error tracking purposes. The default value `RANDOM_VALUE` provides a secure character sequence that changes with each start.

Licensing

As of release FirstSpirit 2018-09, the FragmentCreator requires a license. If no valid license exists, the FragmentCreator can no longer be started and the client button on the FirstSpirit start page is grayed out. The license can be obtained as usual.
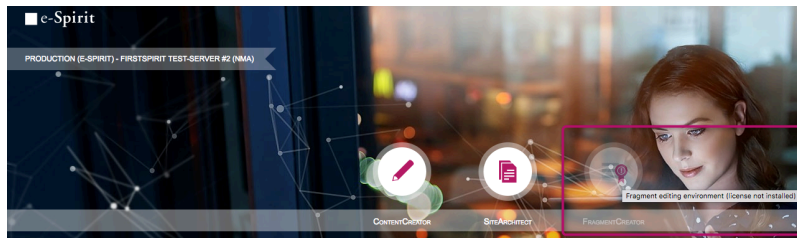
Missing license

> ! The CXT documentation will be adjusted accordingly.

4 Administration
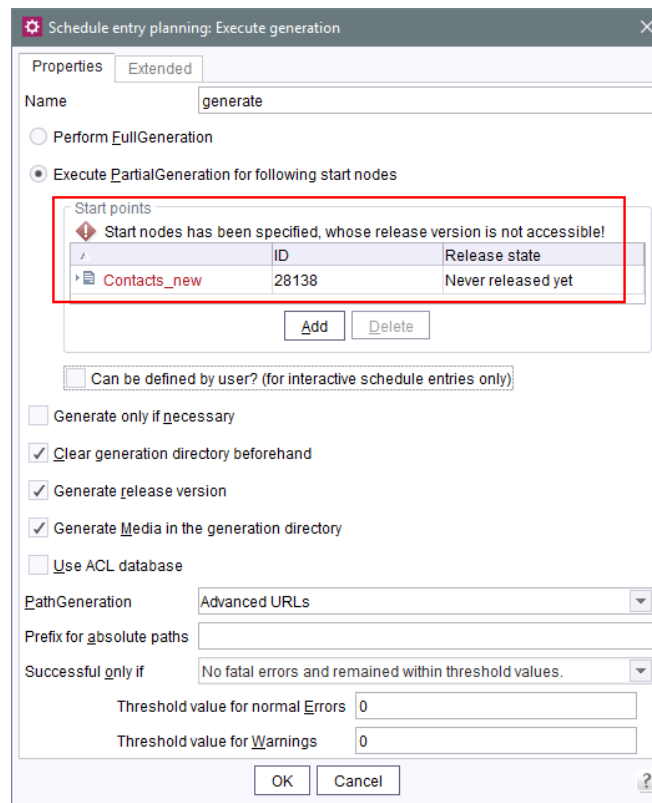
4.1 Action "Execute generation": Selection of start nodes for partial generation

The action "Execute generation" ("FirstSpirit ServerManager / Project properties / Schedule management / Add/edit schedule entry / Actions / Execute generation") can be used to perform a full or partial generation of a project. The panel "Start points" is used to select start nodes which should be included in partial generation.

Until now, selection of start nodes only supported released nodes. Nodes which have never been released were not available for selection. As of the current version of FirstSpirit, selection considers the current state of the project, i.e. all nodes currently present in the project are available for selection, including nodes which have never been released.

Nodes that have never been released and can thus lead to problems in generation will now be specially visualized in the dialog ("Start nodes have been specified whose release versions are not accessible!"):

For further information, see *FirstSpirit Manual for Administrators*, chapter "FirstSpirit ServerManager / Schedule entry planning / Project-based actions / Execute generation".

4.2 Improvements of the FirstSpirit Launcher

Several Aspects of the FirstSpirit Launcher have been improved:

- The current version of the launcher is displayed within the loading splash screen and can additionally be viewed via the option "About FirstSpirit Launcher" in the tray application.

- The auto update is now aborted if the user has insufficient permissions in the installation folder. The event is logged, and the administrator has to perform the update if desired.

- Several small bugs have been fixed.

4.3 Modifications in the Java environment (wrapper configuration)

FirstSpirit is now released for use with Oracle Java 10. However, according to the latest product release information from Oracle, manufacturer support for Oracle Java 10 will be discontinued in September 2018. Oracle Java 11 (18.9 LTS) will then be officially released by Oracle.

A number of functions will no longer be supported in Java 11 (e.g., the "java.activation" module); their discontinuation ("deprecation") has already been announced. To prepare for these changes, the

```
--add-modules=java.activation
```

option has been removed from the `fs-wrapper-j2.include.conf` file.

Furthermore, erroneous behavior could arise while sending e-mails with attachments when using this option.

For new installations using FirstSpirit 2018-09 and later, no modifications are required, for existing FirstSpirit installations, the entry `--add-modules=java.activation` must be removed manually from the `fs-wrapper-j2.include.conf` file in the `<FirstSpiritROOT>/conf` subdirectory.

4.4 Renaming Projects With Remote Connection

When a so-called "remote project" is renamed ("FirstSpirit ServerManager / Projekteigenschaften / Projekt", Feld "Name"), a dialog will be displayed when confirming with "OK". This dialog includes a list of target projects which use the project name in their respective remote configurations:
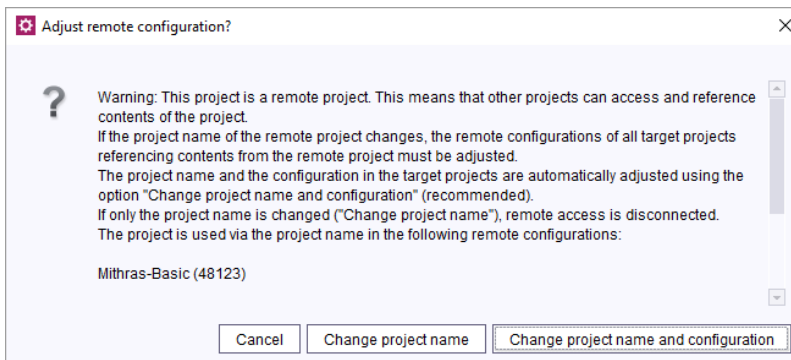
Cancel: The project name of the remote project will not be changed.

Change project name: The project name of the remote project will be changed. No changes will be made to the remote configurations of the affected target projects; remote access will be disabled.

A manual change in the remote configuration of the affected target projects can restore this connection.

Change project name and configuration: The project name of the remote project will be changed. In the remote configurations of the affected target projects, the project name will be changed as well, ensuring that remote access remains active.

> **!** If the remote connection of a target project cannot be changed, e.g. because the target project is being edited by another user at the time or the user attempting to carry out this change doesn't have the necessary permissions in the target project, an error message indicating this will be displayed.

For further information on remote projects please refer to *FirstSpirit Manual for Administrators*, Chapter "FirstSpirit ServerManager / Project properties / Remote projects".

4.5 Web server configuration: new FirstSpirit installations use the web server "FirstSpirit Jetty Server"

Since FirstSpirit 2018-08, the functionality of the integrated Jetty "InternalJetty" is no longer supported. The web server "FirstSpirit Jetty Server" can be used instead (see also Chapter "Migrating from the InternalJetty to a web server for productive use").
New installations (FirstSpirit servers that are installed with FirstSpirit 2018-09 or higher) use the web server "FirstSpirit Jetty Server" as standard starting with the current FirstSpirit Release. The dependent service "JettyService" is started automatically with the start of the FirstSpirit server:
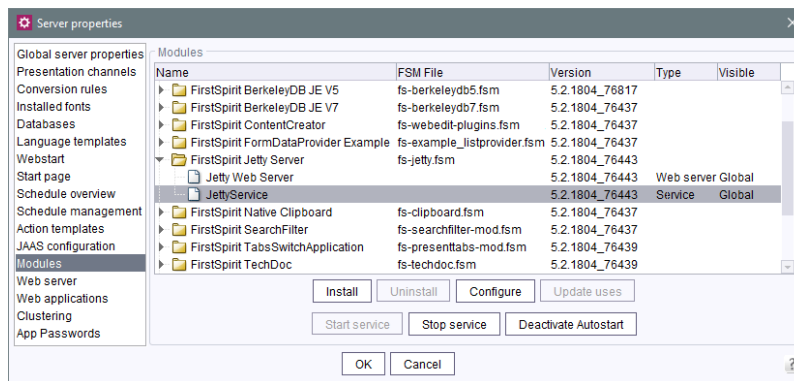
This web server is used automatically for the FirstSpirit web applications.

Unlike in previous FirstSpirit versions, the default value of the `INTERNAL_SERVLET_ENGINE` parameter in the configuration file `fs-server.conf` is for new installations now *0*. This value should not be modified, it can be omitted in subsequent versions of FirstSpirit.

For further information please refer to *FirstSpirit Manual for Administrators*, Chapter "FirstSpirit Server-Manager / Server properties / Web server", "Jetty Web Server" paragraph.

4.6 Web server configuration: web servers will now be activated automatically

In previous versions of FirstSpirit, after installing web applications or web components, web servers had to be activated explicitly in order for them to be used. As of the current FirstSpirit release, web servers will now be activated automatically.

The associated button "Activate" in FirstSpirit ServerManager ("Server properties / Web applications" and "Project properties / Web components") has been removed.

5 ContentCreator

5.1 Deactivating rule evaluation during generation of the Content-Creator preview

As of the current FirstSpirit release, rule evaluation can be deactivated during generation of the FirstSpirit ContentCreator preview. This can be useful if rule evaluation causes long computation times during preview generation and thus may impact ContentCreator's performance.

> **!** This functionality only affects the preview in ContentCreator; in forms in ContentCreator and in SiteArchitect, rule evaluation will continue to be carried out, and rule infractions will continue to be visualized if they are detected.

> **!** Deactivation of rule evaluation during preview generation affects the display of validation issues in ContentCreator. For further information, see the segment "Effects on the visualization of validation issues in ContentCreator".

Deactivating rule evaluation for single elements in the output channel

Deactivation of rule evaluation can be configured via the function **`editorId()`** in the desired output channel tab of a template using the new parameter

```
previewRulesEvaluation
```

Possible values of this parameter are:

- `true`: default value if the parameter `previewRulesEvaluation` is not set; the rules defined for this template (tab "Rules") will be evaluated and visualized without limitation.

- `false`: rule evaluation during preview generation in ContentCreator will be deactivated for the element associated with this use of `editorId`. In forms in ContentCreator and in SiteArchitect, rule evaluation and visualization of validation issues will be carried out as usual.

The value of this parameter is added to the parameter using a colon, e.g.:

```
previewRulesEvaluation:false
```

Example:

```
<div$CMS_VALUE(editorId(...))$>
    ...
    WITH VALIDATION
</div>
<div$CMS_VALUE(editorId(previewRulesEvaluation:false))$>
    ...
    NO VALIDATION
</div>
```

Explanation: For the element `<div$CMS_VALUE(editorId(previewRulesEvalua-tion:false))$>...</div>`, rule evaluation will be deactivated while it is generated for the Content-Creator preview.

For further information about the function `editorId()`, see *FirstSpirit Online Documentation*, pages

- "Template development / Content Highlighting and EasyEdit / Use in projects"

- "Template development / Template syntax / Functions / in instructions / editorId"

Deactivating rule evaluation for larger areas in output channel generation

Using the system object `#global`, rule evaluation during preview generation in ContentCreator can be deactivated for a larger area (e.g. a template). To this end, `#global` now includes the new property `previewRulesEvaluation`. Analogous to the parameter of the same name in the function `editorId()`, this property also supports the possible values `true` (default value) and `false`, e.g.:

```
$CMS_SET(#global.previewRulesEvaluation, false)$
```

Example:

```
$CMS_SET(#global.previewRulesEvaluation, false)$
<div$CMS_VALUE(editorId())$>
    NO VALIDATION
</div>
```

Explanation: Following the call `$CMS_SET(#global.previewRulesEvaluation, false)$`, rule evaluation during preview generation in ContentCreator will be disabled for all subsequent calls to `editorId()`.

For further information about the system object `#global`, see *FirstSpirit Online Documentation*, page "Template development / Template syntax / System objects / #global / Preview-specific".

Use of both options in combination

For a differentiating configuration within a template, both new options may be combined, e.g.:

```
$CMS_SET(#global.previewRulesEvaluation, true)$
<div$CMS_VALUE(editorId())$>
    WITH VALIDATION
</div>
<div$CMS_VALUE(editorId(previewRulesEvaluation:false))$>
    NO VALIDATION
</div>
```

oder

```
$CMS_SET(#global.previewRulesEvaluation, false)$
<div$CMS_VALUE(editorId())$>
     NO VALIDATION
</div>
<div$CMS_VALUE(editorId(previewRulesEvaluation:true))$>
     WITH VALIDATION
</div>
```

Effects on the visualization of validation issues in ContentCreator

The evaluation of rules in FirstSpirit SiteArchitect and ContentCreator is tied to a visualization: specifically in ContentCreator, rule infractions that were detected during preview generation will be shown in the page status and marked with a specific icon and highlighting in the preview (see also *FirstSpirit Online Documentation*, page "Template development / Rules / Display of a rule violation / in ContentCreator"). If rule evaluation during preview generation is deactivated by either of the means described above, any present but undetected validation issues will not be visualized in the ContentCreator page status and preview; in forms, however, rules will be evaluated regardless of output channel definition, and all present validation issues will be visualized there.

Affected visualizations:
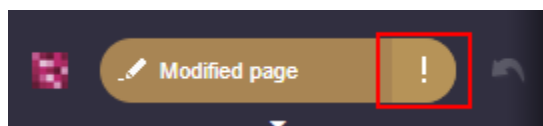
Page status

(Below the menu entry "Validation issues", only sections or the page itself are listed if validation issues for these elements are visualized in the preview.)
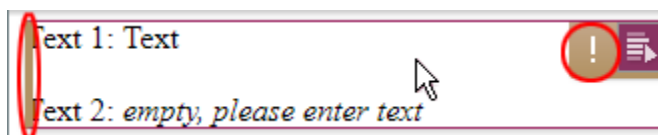
Highlighting and icon

Note: For content based on table templates (datasets), rule infractions are **never** visualized in the preview.

6 General

6.1 Query: Erroneous query results related to self-referencing M:N relations

Queries are used to limit the number of datasets of a data source or to sort them for output. In (database) tables that had a self-referencing M:N relation (upon itself), the attributes were switched. In this case, queries returned erroneous results.
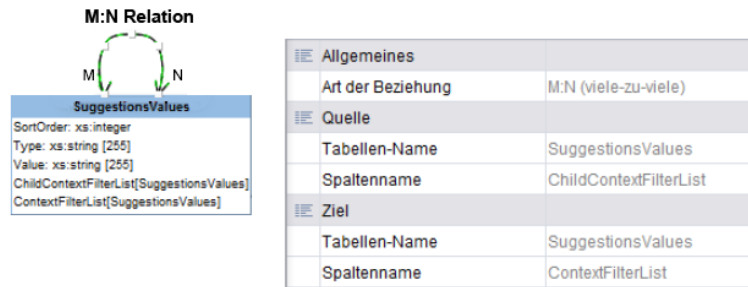
Current behavior for new database schemata: For newly-created database schemata, this error was fixed.

Current behavior for existing database schemata: For all existing database schemata, the erroneous behavior will be retained so that existing projects are not affected by any behavior change. Existing schemata can be adjusted manually to support the new behavior. For this, the version attribute in the schema's persistence ("schema.xml") must be edited. Please contact Technical Support for help in this matter. After this change, the affected queries in projects must be adjusted manually.

Workaround for existing database schemata: For existing database schemata, the erroneous behavior can be worked around by "switching" the appropriate attribute names in queries:

Switching the attribute names (workaround)

7 Input components

7.1 Duplicating entries in the input component FS_CATALOG

In ContentCreator, it is now possible to duplicate an entry of the input component FS_CATALOG. The new button is available both in the form dialog as well as in the preview.

Button "Duplicate entry"

Clicking this button will duplicate the selected catalog entry.

8 Module Development, Scripts, API

8.1 ContentCreator JavaScript API "WE_API": FSID can now work with language dependency

In the ContentCreator JavaScript API "WE_API", the FSID object was extended to include a project language (parameter `language`).

This FSID object is used by the WE_API to represent a FirstSpirit store element. For example, the JavaScript call

```
WE_API.Common.setPreviewElement({id: 74656, store: "sitestore", language: "DE"})
```

loads the structure element with ID 74656 and with the project language German in the preview. For this, the function `setPreviewElement` accepts an FSID parameter which is formatted as a JSON string.

The parameters supported by the FSID object are listed in the FirstSpirit API documentation: interface `FSID` in package `de.espirit.firstspirit.webedit.client.api` (FirstSpirit Developer API).

The new API can be used in *FirstSpirit Omnichannel Manager* (TPP), for example, to work with language-dependent objects.

8.2   Interface "ModuleAdminAgent": New methods for registration and configuration of web servers

Extended the interface `ModuleAdminAgent` (package `de.espirit.firstspirit.agency`, FirstSpirit Developer API), which is used for programmatic administration of modules, by adding methods for registration and configuration of web servers.

- `registerWebServer`: creates a web server

- `unregisterWebServer`: deletes the specified web server including the directories generated for it under `<FirstSpiritROOT>/conf/webserver/`

- `getWebServerConfiguration`: returns the configuration directory `<FirstSpir-itROOT>/conf/webserver/` into which the specified web server was rolled out

Execution of these methods requires server administrator privileges.

9   SiteArchitect / ServerManager

9.1   Cessation of availability of operating system-specific third-party applications in AppCenter

Some of FirstSpirit's functionality is based upon third-party software. Not all vendors of such third-party software have ensured that their software is compatible with Java 9 and above. Thus, functionality based upon such third-party software will no longer be available if FirstSpirit is run under Java 9+.

As of the current FirstSpirit release, the operating system-specific third-party applications in FirstSpirit SiteArchitect's AppCenter that were announced in FirstSpirit version 5.2R19 (March 2018) to be discontinued are, as planned, no longer available: office integration and image editing functionality via the integrated applications "PicMonkey" and "Pixlr". The associated menu entries and configuration options were removed:

- FirstSpirit SiteArchitect, menus
  - "View / Office engine"

  - "View / Graphic engine / Simple image editing (PicMonkey)"

- "View / Graphic engine / Enhanced image editing (Pixlr)"

- FirstSpirit ServerManager
    - "Project properties / Client applications", tab "Office engine"

    - "Project properties / Client applications", tab "Graphic engine", options "Simple image editing (PicMonkey)" and "Enhanced image editing (Pixlr)"

10 SiteArchitect

10.1 "de.espirit.firstspirit.agency.SnippetAgent#getTypeIcon" Uses Restyled icons

In the course of FirstSpirit's design rebrush, the method `getTypeIcon` of the interface `SnippetAgent` (package `de.espirit.firstspirit.agency`, FirstSpirit Access API) now uses restyled, more modern type icons in FirstSpirit SiteArchitect. These icons are also used e.g. for the breadcrumb display of the input component FS_INDEX with "DatasetDataAccessPlugin":
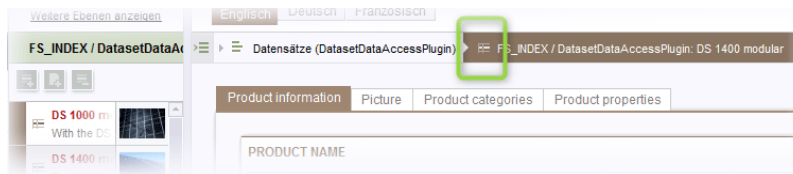
10.2 Changed label for the function "Preview"

In all languages, the labels for the context menu and toolbar functions "Preview" and "Preview errors" have been changed to "Display preview" and "Display preview errors", respectively.

10.3 Translation help: improved interaction when adopting contents

The translation help dialog (menu "Extras / Translation help") can be used to copy existing contents of one page to another language and to use that as a basis for translation. The button "Adopt contents" can be used to copy contents from an input component in the source language to the same input component in the target language.

⊵

Button: "Adopt contents" (translation help)

Previous behavior

The button "Adopt contents" was shown for both language-dependent and language-neutral (language-*in*dependent) input components while edit mode was active. However, adoption of contents from a source language to a target language was only possible for language-dependent input components. (Language-neutral components only have one content value each which is the same for every language.)

New behavior

The button "Adopt contents" will only be shown for language-dependent input components while edit mode is active.

For input components with nested content (e.g. FS_LIST or FS_CATALOG), behavior will differ depending on the language-dependency constellation:

- **Case 1:** The outer input component is language-independent (button "Adopt contents" will not be shown), while the inner input components are language-dependent (button "Adopt contents" will be shown). The contents of the inner input components can be adopted to the target language.

- **Case 2:** The outer input component is language-dependent (button "Adopt contents" will be shown). The contents of the outer input component can be adopted to the target language. As part of this process, language-neutral contents of inner input components will be adopted as well. (Adoption of language-dependent contents of inner input components is not supported.)

11   System

11.1   Integrated Software

With the current FirstSpirit version, the following, internally used software has been updated:

- **Oracle Java** (included in FirstSpirit Launcher)
  Update from version 8u171 to 8u181

12 Deprecations

For e-Spirit, an important goal in software development is to avoid introducing incompatibilities and migration expenditures related to updating from one FirstSpirit release to the next as much as possible or to compensate for these within the software. FirstSpirit updates should generally be deployable with little effort or able to be carried out in a fully automated fashion.

However - not least in order to ensure maintainability and to future-proof the software - e-Spirit cannot fully avoid replacing existing functionality with new mechanisms. In the future, functionality that will be removed from the software will be listed in this section, including the date at which time the functionality will be removed.

Functionality	Deprecated as of	Will be removed/ Was removed as of
FirstSpirit Developer API: de.espirit.firstspirit.agency.GroupsAgent	5.2R15	
FirstSpirit Access API: de.espirit.firstspirit.access.AccessUtil#delete	5.2R18	
Operating system-specific third-party applications in the AppCenter of the FirstSpirit SiteArchitect (exception: browser Integration)	5.2R19	2018-09
Oracle Berkeley DB 5 Support	5.2R21	November 2018
Oracle Berkeley DB 3 Support	5.2R21	November 2018
Windows installation program	2018-06	
FirstSpirit Access API: de.espirit.firstspirit.access.AccessUtil#release	2018-06	
FirstSpirit Developer API: getLastLoginAsDate (de.espirit.firstspirit.agency.UserStatisticsAgent)	2018-07	
FirstSpirit Developer API: remainingDurationOfCurrentStageInMillis (de.espirit.firstspirit.server.MaintenanceModeInfo)	2018-07	

Functionality	Deprecated as of	Will be removed/ Was removed as of
FirstSpirit Developer API: getStartingTimeOfStageAsDate (de.espirit.firstspirit.server.MaintenanceModeInfo)	2018-07	
FirstSpirit Launcher (old)	2018-07	November 2018
Browser Engine "Internet Explorer"	2018-07	November 2018

13 Overview

ID	Description	Categories
166333	When renaming a project with an existing remote connection, the remote configuration can now be adjusted automatically. Further information can be found in chapter "Administration: Renaming Projects With Remote Connection".	FirstSpirit Administrator, Modules, Remote access, ServerManager
180049	Improved interaction pattern related to translation help functionality. The button "Adopt contents" will now only be shown for language-dependent input components. (Language-neutral components only have one content value each which is the same for every language.) Further information can be found in chapter "SiteArchitect: Translation help: improved interaction when adopting contents".	Input Components, SiteArchitect
182442	Security improvements related to server-side script execution.	Security, Server Administrator
185532	As of the current FirstSpirit release, rule evaluation can be deactivated during generation of the FirstSpirit ContentCreator preview. Further information can be found in chapter "ContentCreator: Deactivating rule evaluation during generation of the ContentCreator preview".	ContentCreator, Developer, Dynamic Forms, FirstSpirit API, Template Development
202129	In rare cases, erroneous behavior could arise in global search.	SiteArchitect

ID	Description	Categories
202632	When using Microsoft Internet Explorer, using special characters in the input component CMS_INPUT_DOM could cause erroneous behavior.	ContentCreator
202887	Optimized the method `getFile(Language)` of the interface `Media` (package `de.espirit.firstspirit.access.store.media-store`, FirstSpirit Access API).	FirstSpirit API
202967	In rare cases, erroneous behavior could arise during calculation of the page status.	ContentCreator
203840	In (database) tables that had a self-referencing M:N relation (upon itself), the attributes were switched. In this case, queries returned erroneous results. For newly-created database schemata, this error was fixed. Further information can be found in chapter "General: Query: Erroneous query results related to self-referencing M:N relations".	Database, Input Components, Table templates, Template Store
204257	Optimized consideration of start node information when updating a package that is changeable in the target project.	Corporate Content
204271	Improved reconnection with the cluster slave server after restart of the cluster master server.	Clustering, Isolated mode (BETA)
204825	Optimized rule evaluation when using CMS_GROUP in subforms.	Dynamic Forms, SiteArchitect
205398	Improved error detection.	Isolated mode (BETA)
206395	After installing web applications or web components, web servers will now be activated automatically. Further information can be found in chapter "Administration: Web server configuration: web servers will now be activated automatically".	FirstSpirit Administrator, ServerManager, Web server
207940	In partial generation, selection of start nodes now uses the current state of the project. Further information can be found in chapter "Administration: Action "Execute generation": Selection of start nodes for partial generation".	FirstSpirit Administrator, Generation, Server-Manager

ID	Description	Categories
207976	Optimized behavior of the input component CMS_INPUT_DOM when working with links.	ContentCreator
207992	Erroneous behavior could arise when uploading images with Exif data that contained special characters.	Media Store, SiteArchitect
209084	Optimized handling of module resources.	Isolated mode (BETA)
209558	In global search, improved searching for date information in metadata.	SiteArchitect
209677	Improved consideration of tabs (CMS_GROUP) which are hidden due to a rule.	ContentCreator
210800 212491	Improved behavior related to concurrent updates of subscriptions.	Corporate Content
210952 202232	Improved behavior when creating new datasets in the input component FS_DATASET.	ContentCreator
210984	During generation of a page from the Page Content store via the `RenderingAgent` (package `de.espirit.firstspirit.agency`, FirstSpirit Developer API), erroneous behavior could arise if the page contained a data source-based section.	Developer, FirstSpirit API
211075	Erroneous behavior could arise when uploading media via drag and drop.	SiteArchitect
211189	On changed pages, the menu entry "Display all changes" was not always displayed correctly.	ContentCreator
211190	A new, valid license is required to use the FragmentCreator.	FragmentCreator, License
211259 208906 210660	In existing installations, the entry `--add-modules=java.activation` must be removed manually from the `fs-wrapper-j2.include.conf` wrapper file in the `<FirstSpiritROOT>/conf` subdirectory. Further information can be found in chapter "Administration: Modifications in the Java environment (wrapper configuration)".	Isolated mode (BETA)
211327	Optimized the error message that indicates validation problems while importing a feature.	Content Transport

ID	Description	Categories
211336	Corrected the behavior of renaming navigation entries such that, when the Store Mapping type "Synchronous site- and page-store" is used, only entries can be renamed for which the user has the necessary "Change" permission in both stores.	ContentCreator
211404	Changed label for the context menu and toolbar function "Preview" to "Display preview". Further information can be found in chapter "SiteArchitect: Changed label for the function "Preview"".	SiteArchitect
211425	In the ContentCreator JavaScript API "WE_API", the FSID object was extended to include a project language (parameter `language`). Further information can be found in chapter "Module Development, Scripts, API: ContentCreator JavaScript API "WE_API": FSID can now work with language dependency".	FirstSpirit API, Languages, Third Party Preview (TPP)
211443	In the current FirstSpirit version, updated internally used software. Further information can be found in chapter "System: Integrated Software".	Integrated software, Launcher, SiteArchitect
211490	Improved clean-up of user sessions when closing the browser tab.	ContentCreator
211519	Extended the input component FS_CATALOG by "Duplicate" functionality. Further information can be found in chapter "Input components: Duplicating entries in the input component FS_CATALOG".	ContentCreator, Input Components
211544	In the course of FirstSpirit's design rebrush, the method `getTypeIcon` of the interface `SnippetAgent` (package `de.espirit.firstspirit.agency`, FirstSpirit Access API) now uses restyled, more modern type icons in FirstSpirit SiteArchitect. Further information can be found in chapter "SiteArchitect: "de.espirit.firstspirit.agency.SnippetAgent#getTypeIcon" Uses Restyled icons".	Data Access Plug-In, Module development, SiteArchitect

ID	Description	Categories
211614	Optimized use of the interface `ScheduleTask` (package `de.es-pirit.firstspirit.access.schedule`, FirstSpirit Access API) in FirstSpirit server in isolated mode.	Developer, Isolated mode (BETA)
211628	Requesting a preview in an external web browser when integrated preview is enabled could lead to erroneous behavior.	Editor, Preview, SiteArchitect
211652	Improved behavior of move operations involving sections.	SiteArchitect
211671	Extended the interface `ModuleAdminAgent` (package `de.espir-it.firstspirit.agency`, FirstSpirit Developer API) by adding methods for registration and configuration of web servers. Further information can be found in chapter "Module Development, Scripts, API: Interface "ModuleAdminAgent": New methods for registration and configuration of web servers".	Developer, FirstSpirit API, FirstSpirit Administrator, Module development, Web server
211788	Improved behavior of language-dependent media when some project languages are set to be invisible.	SiteArchitect
211848	In rare cases, erroneous behavior could arise if an input component CMS_INPUT_DOM used a format template for paragraph formatting that set a `<div>` or a `<span>`.	ContentCreator
211942	Security improvements related to redirects by FirstSpirit.	Security, Server Administrator
211949	Erroneously, the preview was always updated when using the operation `CropDialogOperation` (package `de.espirit.first-spirit.webedit.server`, FirstSpirit Developer API).	ContentCreator, Developer, FirstSpirit API
211953	Optimized rule evaluation in translation help.	Dynamic Forms, SiteArchitect
211955	When using Microsoft Internet Explorer 11, erroneous behavior could arise when resizing the window.	ContentCreator
211960	In FirstSpirit ContentCreator, when displaying a button to edit metadata of a page reference (via `...editorId(..., meta:true)...)`), the icon that allows moving the menu entry was erroneously displayed as well. This behavior has been corrected.	ContentCreator, Developer, Metadata, Template Development

ID	Description	Categories
211989	In very rare cases, after project archival, intermittent erroneous behavior could arise in data sources due to an outdated cache.	Archiving, FirstSpirit Administrator
212052	Optimized saving changes made to project components.	FirstSpirit Administrator
212117	Improved use of the Aggregating Web Server under Java 11.	Java, Web server
212153	Optimized editing of texts with links in the input component CMS_IN-PUT_DOM when Microsoft Internet Explorer 11 or Microsoft Edge are used.	ContentCreator
212160	Security improvements related to template code execution.	Security, Template Development
212284	Erroneous behavior could arise when illegal characters were used in the host name in the configuration file `fs-server.conf`.	FirstSpirit Administrator
212299 212309	The FirstSpirit Launcher has been improved. Further information can be found in chapter "Administration: Improvements of the FirstSpirit Launcher".	Launcher
212434	Stability improvements related to FirstSpirit Launcher	Launcher
212471	Improved setting and editing of SEO URLs on menu levels.	SiteArchitect
212591	As of the current FirstSpirit release, the operating system-specific third-party applications in FirstSpirit SiteArchitect's AppCenter that were announced in FirstSpirit version 5.2R19 (March 2018) to be discontinued are, as planned, no longer available. Further information can be found in chapter "SiteArchitect / Server-Manager: Cessation of availability of operating system-specific third-party applications in AppCenter".	Editor, FirstSpirit Administrator, Integrated software, Java, Media Store, ServerManager, SiteArchitect
212647	When using the access control to data of "DataAccess-Plug-ins", erroneous behavior could occur during the search.	ContentCreator, Data Access Plug-In, SiteArchitect
212658	In very rare cases, erroneous behavior could arise during use of `#global.stopGenerate`.	Developer, Generation
212691	Improvements related to display of the navigation menu when creating a new page.	ContentCreator

ID	Description	Categories
212709	Improved consideration of directories referenced via symlink when using BerkeleyUtil.	FirstSpirit Administrator
212720	In conjunction with the parameter `editorId`, erroneous behavior could arise during output of dataset contents using `$CMS_VAL-UE(dataset.getFormData())$`.	Preview
212814	When using multiple monitors, it was possible that dialogs were opened at unexpected positions.	SiteArchitect
212825	As of the current release, new FirstSpirit installations use the web server "FirstSpirit Jetty Server" as standard. Further information can be found in chapter "Administration: Web server configuration: new FirstSpirit installations use the web server "FirstSpirit Jetty Server"".	FirstSpirit Administrator, Web server
213116	Improved operating behavior of FirstSpirit Jetty Web Server on Microsoft Windows.	FirstSpirit Administrator, Web server
213181 213156	The use of the FirstSpirit Jetty Web Server has been improved.	FirstSpirit Administrator, Web server

14   Categories

14.1   Archiving

ID	Description
211989	In very rare cases, after project archival, intermittent erroneous behavior could arise in data sources due to an outdated cache.

14.2   Clustering

ID	Description
204271	Improved reconnection with the cluster slave server after restart of the cluster master server.

14.3   Content Transport

ID	Description
211327	Optimized the error message that indicates validation problems while importing a feature.

14.4   ContentCreator

ID	Description
185532	As of the current FirstSpirit release, rule evaluation can be deactivated during generation of the FirstSpirit ContentCreator preview. Further information can be found in chapter "ContentCreator: Deactivating rule evaluation during generation of the ContentCreator preview".
202632	When using Microsoft Internet Explorer, using special characters in the input component CMS_IN-PUT_DOM could cause erroneous behavior.
202967	In rare cases, erroneous behavior could arise during calculation of the page status.
207976	Optimized behavior of the input component CMS_INPUT_DOM when working with links.
209677	Improved consideration of tabs (CMS_GROUP) which are hidden due to a rule.
210952 202232	Improved behavior when creating new datasets in the input component FS_DATASET.
211189	On changed pages, the menu entry "Display all changes" was not always displayed correctly.
211336	Corrected the behavior of renaming navigation entries such that, when the Store Mapping type "Synchronous site- and page-store" is used, only entries can be renamed for which the user has the necessary "Change" permission in both stores.
211490	Improved clean-up of user sessions when closing the browser tab.
211519	Extended the input component FS_CATALOG by "Duplicate" functionality. Further information can be found in chapter "Input components: Duplicating entries in the input component FS_CATALOG".
211848	In rare cases, erroneous behavior could arise if an input component CMS_INPUT_DOM used a format template for paragraph formatting that set a `<div>` or a `<span>`.

ID	Description
211949	Erroneously, the preview was always updated when using the operation `CropDialogOperation` (package `de.espirit.firstspirit.webedit.server`, FirstSpirit Developer API).
211955	When using Microsoft Internet Explorer 11, erroneous behavior could arise when resizing the window.
211960	In FirstSpirit ContentCreator, when displaying a button to edit metadata of a page reference (via `...editorId(..., meta:true)...)`), the icon that allows moving the menu entry was erroneously displayed as well. This behavior has been corrected.
212153	Optimized editing of texts with links in the input component CMS_INPUT_DOM when Microsoft Internet Explorer 11 or Microsoft Edge are used.
212647	When using the access control to data of "DataAccess-Plug-ins", erroneous behavior could occur during the search.
212691	Improvements related to display of the navigation menu when creating a new page.

14.5   Corporate Content

ID	Description
204257	Optimized consideration of start node information when updating a package that is changeable in the target project.
210800 212491	Improved behavior related to concurrent updates of subscriptions.

14.6   Data Access Plug-In

ID	Description
211544	In the course of FirstSpirit's design rebrush, the method `getTypeIcon` of the interface `SnippetAgent` (package `de.espirit.firstspirit.agency`, FirstSpirit Access API) now uses restyled, more modern type icons in FirstSpirit SiteArchitect. Further information can be found in chapter "SiteArchitect: "de.espirit.firstspirit.agency.SnippetAgent#getTypeIcon" Uses Restyled icons".

ID	Description
212647	When using the access control to data of "DataAccess-Plug-ins", erroneous behavior could occur during the search.

14.7 Database

ID	Description
203840	In (database) tables that had a self-referencing M:N relation (upon itself), the attributes were switched. In this case, queries returned erroneous results. For newly-created database schemata, this error was fixed. Further information can be found in chapter "General: Query: Erroneous query results related to self-referencing M:N relations".

14.8 Developer

ID	Description
185532	As of the current FirstSpirit release, rule evaluation can be deactivated during generation of the FirstSpirit ContentCreator preview. Further information can be found in chapter "ContentCreator: Deactivating rule evaluation during generation of the ContentCreator preview".
210984	During generation of a page from the Page Content store via the `RenderingAgent` (package `de.espirit.firstspirit.agency`, FirstSpirit Developer API), erroneous behavior could arise if the page contained a data source-based section.
211614	Optimized use of the interface `ScheduleTask` (package `de.espirit.firstspirit.access.schedule`, FirstSpirit Access API) in FirstSpirit server in isolated mode.
211671	Extended the interface `ModuleAdminAgent` (package `de.espirit.firstspirit.agency`, FirstSpirit Developer API) by adding methods for registration and configuration of web servers. Further information can be found in chapter "Module Development, Scripts, API: Interface "ModuleAdminAgent": New methods for registration and configuration of web servers".

ID	Description
211949	Erroneously, the preview was always updated when using the operation `CropDialogOperation` (package `de.espirit.firstspirit.webedit.server`, FirstSpirit Developer API).
211960	In FirstSpirit ContentCreator, when displaying a button to edit metadata of a page reference (via `...editorId(..., meta:true)...)`), the icon that allows moving the menu entry was erroneously displayed as well. This behavior has been corrected.
212658	In very rare cases, erroneous behavior could arise during use of `#global.stopGenerate`.

14.9 Dynamic Forms

ID	Description
185532	As of the current FirstSpirit release, rule evaluation can be deactivated during generation of the FirstSpirit ContentCreator preview. Further information can be found in chapter "ContentCreator: Deactivating rule evaluation during generation of the ContentCreator preview".
204825	Optimized rule evaluation when using CMS_GROUP in subforms.
211953	Optimized rule evaluation in translation help.

14.10 Editor

ID	Description
211628	Requesting a preview in an external web browser when integrated preview is enabled could lead to erroneous behavior.
212591	As of the current FirstSpirit release, the operating system-specific third-party applications in FirstSpirit SiteArchitect's AppCenter that were announced in FirstSpirit version 5.2R19 (March 2018) to be discontinued are, as planned, no longer available. Further information can be found in chapter "SiteArchitect / ServerManager: Cessation of availability of operating system-specific third-party applications in AppCenter".

14.11 FirstSpirit API

ID	Description
185532	As of the current FirstSpirit release, rule evaluation can be deactivated during generation of the FirstSpirit ContentCreator preview. Further information can be found in chapter "ContentCreator: Deactivating rule evaluation during generation of the ContentCreator preview".
202887	Optimized the method `getFile(Language)` of the interface `Media` (package `de.espirit.firstspirit.access.store.mediastore`, FirstSpirit Access API).
210984	During generation of a page from the Page Content store via the `RenderingAgent` (package `de.espirit.firstspirit.agency`, FirstSpirit Developer API), erroneous behavior could arise if the page contained a data source-based section.
211425	In the ContentCreator JavaScript API "WE_API", the FSID object was extended to include a project language (parameter `language`). Further information can be found in chapter "Module Development, Scripts, API: ContentCreator JavaScript API "WE_API": FSID can now work with language dependency".
211671	Extended the interface `ModuleAdminAgent` (package `de.espirit.firstspirit.agency`, FirstSpirit Developer API) by adding methods for registration and configuration of web servers. Further information can be found in chapter "Module Development, Scripts, API: Interface "ModuleAdminAgent": New methods for registration and configuration of web servers".
211949	Erroneously, the preview was always updated when using the operation `CropDialogOperation` (package `de.espirit.firstspirit.webedit.server`, FirstSpirit Developer API).

14.12 FirstSpirit Administrator

ID	Description
166333	When renaming a project with an existing remote connection, the remote configuration can now be adjusted automatically. Further information can be found in chapter "Administration: Renaming Projects With Remote Connection".

ID	Description
206395	After installing web applications or web components, web servers will now be activated automatically. Further information can be found in chapter "Administration: Web server configuration: web servers will now be activated automatically".
207940	In partial generation, selection of start nodes now uses the current state of the project. Further information can be found in chapter "Administration: Action "Execute generation": Selection of start nodes for partial generation".
211671	Extended the interface `ModuleAdminAgent` (package `de.espirit.firstspirit.agency`, FirstSpirit Developer API) by adding methods for registration and configuration of web servers. Further information can be found in chapter "Module Development, Scripts, API: Interface "ModuleAdminAgent": New methods for registration and configuration of web servers".
211989	In very rare cases, after project archival, intermittent erroneous behavior could arise in data sources due to an outdated cache.
212052	Optimized saving changes made to project components.
212284	Erroneous behavior could arise when illegal characters were used in the host name in the configuration file `fs-server.conf`.
212591	As of the current FirstSpirit release, the operating system-specific third-party applications in FirstSpirit SiteArchitect's AppCenter that were announced in FirstSpirit version 5.2R19 (March 2018) to be discontinued are, as planned, no longer available. Further information can be found in chapter "SiteArchitect / ServerManager: Cessation of availability of operating system-specific third-party applications in AppCenter".
212709	Improved consideration of directories referenced via symlink when using BerkeleyUtil.
212825	As of the current release, new FirstSpirit installations use the web server "FirstSpirit Jetty Server" as standard. Further information can be found in chapter "Administration: Web server configuration: new FirstSpirit installations use the web server "FirstSpirit Jetty Server"".
213116	Improved operating behavior of FirstSpirit Jetty Web Server on Microsoft Windows.
213181	The use of the FirstSpirit Jetty Web Server has been improved.

ID	Description
213156	

14.13 FragmentCreator

ID	Description
211190	A new, valid license is required to use the FragmentCreator.

14.14 Generation

ID	Description
207940	In partial generation, selection of start nodes now uses the current state of the project. Further information can be found in chapter "Administration: Action "Execute generation": Selection of start nodes for partial generation".
212658	In very rare cases, erroneous behavior could arise during use of `#global.stopGenerate`.

14.15 Input Components

ID	Description
180049	Improved interaction pattern related to translation help functionality. The button "Adopt contents" will now only be shown for language-dependent input components. (Language-neutral components only have one content value each which is the same for every language.) Further information can be found in chapter "SiteArchitect: Translation help: improved interaction when adopting contents".
203840	In (database) tables that had a self-referencing M:N relation (upon itself), the attributes were switched. In this case, queries returned erroneous results. For newly-created database schemata, this error was fixed. Further information can be found in chapter "General: Query: Erroneous query results related to self-referencing M:N relations".

ID	Description
211519	Extended the input component FS_CATALOG by "Duplicate" functionality. Further information can be found in chapter "Input components: Duplicating entries in the input component FS_CATALOG".

14.16 Integrated software

ID	Description
211443	In the current FirstSpirit version, updated internally used software. Further information can be found in chapter "System: Integrated Software".
212591	As of the current FirstSpirit release, the operating system-specific third-party applications in FirstSpirit SiteArchitect's AppCenter that were announced in FirstSpirit version 5.2R19 (March 2018) to be discontinued are, as planned, no longer available. Further information can be found in chapter "SiteArchitect / ServerManager: Cessation of availability of operating system-specific third-party applications in AppCenter".

14.17 Isolated mode (BETA)

ID	Description
204271	Improved reconnection with the cluster slave server after restart of the cluster master server.
205398	Improved error detection.
209084	Optimized handling of module resources.
211259 208906 210660	In existing installations, the entry `--add-modules=java.activation` must be removed manually from the `fs-wrapper-j2.include.conf` wrapper file in the `<FirstSpiritROOT>/conf` subdirectory. Further information can be found in chapter "Administration: Modifications in the Java environment (wrapper configuration)".

ID	Description
211614	Optimized use of the interface `ScheduleTask` (package `de.espirit.firstspirit.access.schedule`, FirstSpirit Access API) in FirstSpirit server in isolated mode.

14.18 Java

ID	Description
212117	Improved use of the Aggregating Web Server under Java 11.
212591	As of the current FirstSpirit release, the operating system-specific third-party applications in FirstSpirit SiteArchitect's AppCenter that were announced in FirstSpirit version 5.2R19 (March 2018) to be discontinued are, as planned, no longer available. Further information can be found in chapter "SiteArchitect / ServerManager: Cessation of availability of operating system-specific third-party applications in AppCenter".

14.19 Languages

ID	Description
211425	In the ContentCreator JavaScript API "WE_API", the FSID object was extended to include a project language (parameter `language`). Further information can be found in chapter "Module Development, Scripts, API: ContentCreator JavaScript API "WE_API": FSID can now work with language dependency".

14.20 Launcher

ID	Description
211443	In the current FirstSpirit version, updated internally used software. Further information can be found in chapter "System: Integrated Software".
212299 212309	The FirstSpirit Launcher has been improved.

ID	Description
	Further information can be found in chapter "Administration: Improvements of the FirstSpirit Launcher".
212434	Stability improvements related to FirstSpirit Launcher

14.21 License

ID	Description
211190	A new, valid license is required to use the FragmentCreator.

14.22 Media Store

ID	Description
207992	Erroneous behavior could arise when uploading images with Exif data that contained special characters.
212591	As of the current FirstSpirit release, the operating system-specific third-party applications in FirstSpirit SiteArchitect's AppCenter that were announced in FirstSpirit version 5.2R19 (March 2018) to be discontinued are, as planned, no longer available. Further information can be found in chapter "SiteArchitect / ServerManager: Cessation of availability of operating system-specific third-party applications in AppCenter".

14.23 Metadata

ID	Description
211960	In FirstSpirit ContentCreator, when displaying a button to edit metadata of a page reference (via `...editorId(..., meta:true)...)`), the icon that allows moving the menu entry was erroneously displayed as well. This behavior has been corrected.

14.24 Module development

ID	Description
211544	In the course of FirstSpirit's design rebrush, the method `getTypeIcon` of the interface `SnippetAgent` (package `de.espirit.firstspirit.agency`, FirstSpirit Access API) now uses restyled, more modern type icons in FirstSpirit SiteArchitect. Further information can be found in chapter "SiteArchitect: "de.espirit.firstspirit.agency.SnippetAgent#getTypeIcon" Uses Restyled icons".
211671	Extended the interface `ModuleAdminAgent` (package `de.espirit.firstspirit.agency`, FirstSpirit Developer API) by adding methods for registration and configuration of web servers. Further information can be found in chapter "Module Development, Scripts, API: Interface "ModuleAdminAgent": New methods for registration and configuration of web servers".

14.25 Modules

ID	Description
166333	When renaming a project with an existing remote connection, the remote configuration can now be adjusted automatically. Further information can be found in chapter "Administration: Renaming Projects With Remote Connection".

14.26 Preview

ID	Description
211628	Requesting a preview in an external web browser when integrated preview is enabled could lead to erroneous behavior.
212720	In conjunction with the parameter `editorId`, erroneous behavior could arise during output of dataset contents using `$CMS_VALUE(dataset.getFormData())$`.

14.27 Remote access

ID	Description
166333	When renaming a project with an existing remote connection, the remote configuration can now be adjusted automatically. Further information can be found in chapter "Administration: Renaming Projects With Remote Connection".

14.28 Security

ID	Description
182442	Security improvements related to server-side script execution.
211942	Security improvements related to redirects by FirstSpirit.
212160	Security improvements related to template code execution.

14.29 Server Administrator

ID	Description
182442	Security improvements related to server-side script execution.
211942	Security improvements related to redirects by FirstSpirit.

14.30 ServerManager

ID	Description
166333	When renaming a project with an existing remote connection, the remote configuration can now be adjusted automatically. Further information can be found in chapter "Administration: Renaming Projects With Remote Connection".

ID	Description
206395	After installing web applications or web components, web servers will now be activated automatically. Further information can be found in chapter "Administration: Web server configuration: web servers will now be activated automatically".
207940	In partial generation, selection of start nodes now uses the current state of the project. Further information can be found in chapter "Administration: Action "Execute generation": Selection of start nodes for partial generation".
212591	As of the current FirstSpirit release, the operating system-specific third-party applications in FirstSpirit SiteArchitect's AppCenter that were announced in FirstSpirit version 5.2R19 (March 2018) to be discontinued are, as planned, no longer available. Further information can be found in chapter "SiteArchitect / ServerManager: Cessation of availability of operating system-specific third-party applications in AppCenter".

14.31 SiteArchitect

ID	Description
180049	Improved interaction pattern related to translation help functionality. The button "Adopt contents" will now only be shown for language-dependent input components. (Language-neutral components only have one content value each which is the same for every language.) Further information can be found in chapter "SiteArchitect: Translation help: improved interaction when adopting contents".
202129	In rare cases, erroneous behavior could arise in global search.
204825	Optimized rule evaluation when using CMS_GROUP in subforms.
207992	Erroneous behavior could arise when uploading images with Exif data that contained special characters.
209558	In global search, improved searching for date information in metadata.
211075	Erroneous behavior could arise when uploading media via drag and drop.
211404	Changed label for the context menu and toolbar function "Preview" to "Display preview".

ID	Description
	Further information can be found in chapter "SiteArchitect: Changed label for the function "Preview"".
211443	In the current FirstSpirit version, updated internally used software. Further information can be found in chapter "System: Integrated Software".
211544	In the course of FirstSpirit's design rebrush, the method `getTypeIcon` of the interface `SnippetAgent` (package `de.espirit.firstspirit.agency`, FirstSpirit Access API) now uses restyled, more modern type icons in FirstSpirit SiteArchitect. Further information can be found in chapter "SiteArchitect: "de.espirit.firstspirit.agency.SnippetAgent#getTypeIcon" Uses Restyled icons".
211628	Requesting a preview in an external web browser when integrated preview is enabled could lead to erroneous behavior.
211652	Improved behavior of move operations involving sections.
211788	Improved behavior of language-dependent media when some project languages are set to be invisible.
211953	Optimized rule evaluation in translation help.
212471	Improved setting and editing of SEO URLs on menu levels.
212591	As of the current FirstSpirit release, the operating system-specific third-party applications in FirstSpirit SiteArchitect's AppCenter that were announced in FirstSpirit version 5.2R19 (March 2018) to be discontinued are, as planned, no longer available. Further information can be found in chapter "SiteArchitect / ServerManager: Cessation of availability of operating system-specific third-party applications in AppCenter".
212647	When using the access control to data of "DataAccess-Plug-ins", erroneous behavior could occur during the search.
212814	When using multiple monitors, it was possible that dialogs were opened at unexpected positions.

14.32 Table templates

ID	Description
203840	In (database) tables that had a self-referencing M:N relation (upon itself), the attributes were switched. In this case, queries returned erroneous results. For newly-created database schemata, this error was fixed. Further information can be found in chapter "General: Query: Erroneous query results related to self-referencing M:N relations".

14.33 Template Development

ID	Description
185532	As of the current FirstSpirit release, rule evaluation can be deactivated during generation of the FirstSpirit ContentCreator preview. Further information can be found in chapter "ContentCreator: Deactivating rule evaluation during generation of the ContentCreator preview".
211960	In FirstSpirit ContentCreator, when displaying a button to edit metadata of a page reference (via `...editorId(..., meta:true)...)`), the icon that allows moving the menu entry was erroneously displayed as well. This behavior has been corrected.
212160	Security improvements related to template code execution.

14.34 Template Store

ID	Description
203840	In (database) tables that had a self-referencing M:N relation (upon itself), the attributes were switched. In this case, queries returned erroneous results. For newly-created database schemata, this error was fixed. Further information can be found in chapter "General: Query: Erroneous query results related to self-referencing M:N relations".

14.35 Third Party Preview (TPP)

ID	Description
211425	In the ContentCreator JavaScript API "WE_API", the FSID object was extended to include a project language (parameter `language`). Further information can be found in chapter "Module Development, Scripts, API: ContentCreator JavaScript API "WE_API": FSID can now work with language dependency".

14.36 Web server

ID	Description
206395	After installing web applications or web components, web servers will now be activated automatically. Further information can be found in chapter "Administration: Web server configuration: web servers will now be activated automatically".
211671	Extended the interface `ModuleAdminAgent` (package `de.espirit.firstspirit.agency`, FirstSpirit Developer API) by adding methods for registration and configuration of web servers. Further information can be found in chapter "Module Development, Scripts, API: Interface "ModuleAdminAgent": New methods for registration and configuration of web servers".
212117	Improved use of the Aggregating Web Server under Java 11.
212825	As of the current release, new FirstSpirit installations use the web server "FirstSpirit Jetty Server" as standard. Further information can be found in chapter "Administration: Web server configuration: new FirstSpirit installations use the web server "FirstSpirit Jetty Server"".
213116	Improved operating behavior of FirstSpirit Jetty Web Server on Microsoft Windows.
213181 213156	The use of the FirstSpirit Jetty Web Server has been improved.