



# FirstSpirit™

*Unlock Your Content*

## Release Notes

### FirstSpirit™ 2018-07

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#### e-Spirit AG

Stockholmer Allee 24  
44269 Dortmund | Germany

T +49 231 . 477 77-0  
F +49 231 . 477 77-499

[info@e-Spirit.com](mailto:info@e-Spirit.com)  
[www.e-Spirit.com](http://www.e-Spirit.com)

e-Spirit

## Table of contents

- 1 FirstSpirit product update 2018: Update July 2018..... 5**
- 2 Administration..... 10**
  - 2.1 "BerkeleyUtil" conversion tool: Function of the "--convert-server" option has been corrected..... 10
  - 2.2 Anonymization of personal data of deleted users..... 10
  - 2.3 Conversion tool "BerkeleyUtil": In the event of an error, the original data is saved in a backup folder..... 11
  - 2.4 Extending debugging in FirstSpirit ContentCreator..... 12
  - 2.5 Java-version-specific wrapper files can be edited via ServerMonitoring..... 12
  - 2.6 Resolutions: Maximum width and height have been increased (18,918 pixels)..... 13
- 3 ContentCreator..... 14**
  - 3.1 FS\_INDEX: Language can now be changed in the internal elements..... 14
- 4 General..... 16**
  - 4.1 Java Wrapper (fs-wrapper.\*.conf): Standard recognition of 32 and 64 bit systems has been deactivated..... 16
- 5 Module Development, Scripts, API..... 17**
  - 5.1 Function "previewId" was extended to support a parameter "entity"..... 17
  - 5.2 License: retrieve license expiration date and number of CaaS slots..... 17
  - 5.3 New agent "ServerConfigurationAgent" for configuring the server..... 18
  - 5.4 RenderingAgent: Take information from higher-level contexts into account..... 19



- 5.5 SnippetAgent: API access to snippet evaluation..... 20
- 5.6 Use of new Java API for date calculation.....20
- 5.7 Using an "indexField" to get search suggestions.....21
- 6 SiteArchitect..... 21**
  - 6.1 Display of titles in forms..... 21
  - 6.2 FS\_DATASET / FS\_INDEX: Working with newly created datasets has been optimized..... 22
- 7 System.....22**
  - 7.1 Integrated Software..... 22
- 8 Deprecations.....23**
- 9 Overview..... 24**
- 10 Categories.....30**
  - 10.1 Clustering.....30
  - 10.2 Content Store..... 30
  - 10.3 Content Transport..... 31
  - 10.4 ContentCreator..... 31
  - 10.5 Database..... 31
  - 10.6 Developer..... 32
  - 10.7 Editor..... 34
  - 10.8 FirstSpirit API..... 34
  - 10.9 FirstSpirit Administrator..... 35



10.10 FirstSpirit Third Party Preview..... 37

10.11 FirstSpirit home page..... 37

10.12 Indexing..... 37

10.13 Input Components..... 37

10.14 Integrated software..... 38

10.15 Languages..... 38

10.16 License..... 39

10.17 Media Store..... 39

10.18 Modules..... 39

10.19 Performance..... 40

10.20 Repository..... 40

10.21 Search..... 40

10.22 Security..... 41

10.23 Server Administrator..... 41

10.24 ServerManager..... 41

10.25 ServerMonitoring..... 42

10.26 SiteArchitect..... 42

10.27 Snippets..... 44

10.28 Template Development..... 44

10.29 Third Party Preview (TPP)..... 44



## 1 FirstSpirit product update 2018: Update July 2018

In keeping with its best-of-breed strategy, FirstSpirit uses a range of software components that are provided by third-party vendors. For security reasons, and to stay abreast of the latest developments in each type of technology, the ways in which these software components are used in FirstSpirit undergo regular updates.

In today's approach to product development, updates are being provided with increasing frequency and the length of time for which “older” versions can rely on support is becoming shorter and shorter.

As a result of this, it is becoming inevitable that customers will need to switch to a newer software version more frequently. It is also important to address the fact that individual third-party components are becoming dependent on one another in more and more ways. Oracle Java is a system that many components rely on, for example.

Here at e-Spirit, we are setting a challenge for ourselves. To ensure that using third-party components with FirstSpirit achieves the same levels of accuracy and quality that are achieved with the core product itself, we are investing a great deal of time and consideration in implementing and organizing processes, and performing quality control measures for them. e-Spirit is committed to making it as easy as possible for customers to update to new FirstSpirit releases at any time, and offers support during the process of rolling out new functions. However, it will not be possible to rule out the need for some outlay in this project altogether. 2018 is a year characterized by a handful of new features in the area of third-party components integrated into FirstSpirit. The current status is explained in the following sections.

### Java Support

FirstSpirit currently supports Oracle Java 8 and 10 as well as OpenJDK 10 for the FirstSpirit Servers. Oracle is planning to discontinue support for Java 8 at the start of 2019 and for Java 10 (18.3) in September 2018. Version 11 (18.9 LTS) is also to be released in September. According to Oracle's current roadmap, Oracle Premier Support seems to be the prerequisite for purchasing an Oracle Java version in the future (see also <http://www.oracle.com/technetwork/java/javase/eol-135779.html>). At present it is still uncertain whether and to what extent e-Spirit can continue to support Oracle Java under these conditions.

To reduce dependency on Oracle's Java development and also so that longer-term plans can be made for the benefit of our customers, e-Spirit has increased its focus on the use of OpenJDK for some time. OpenJDK is the officially free to download implementation of Java SE (“Java Platform, Standard Edition”). Currently it technically still differs marginally from Oracle Java, but these differences are to be gradually eliminated in the future.



For example: **Java Web Start** is missing in OpenJDK. This technology provides the user with a convenient way of starting FirstSpirit SiteArchitect from within a browser. It is still currently included in Oracle Java 8 and 10. However, this function will disappear with Oracle Java 11 (18.9).

As an alternative, e-Spirit is currently developing a new and optimized version of the **FirstSpirit Launcher**. The Launcher has for some time supported an option to start and run FirstSpirit SiteArchitect and ServerManager without Java being installed on FirstSpirit users' workstation PCs. The Java version used in the Launcher is being selected and extensively tested by e-Spirit. The use of Java versions that have previously been identified as problematic can thus be avoided. Another positive feature of the Launcher is that incompatibilities or version conflicts with other Java products installed on the system can no longer occur.

An initial version of the new Launcher that supports both Windows and Mac OS will be made available in a future FirstSpirit release. A silent installer will be used for group-based installations instead of an MSI installer. The FirstSpirit Launcher used up until now will be removed in Q4 2018.

### **New Berkeley DB version**

Oracle Berkeley DB is used in FirstSpirit as a repository for saving content data. Until now, versions 3 and 5 have been in use and running reliably and stably for many years. However, in order to benefit from performance advantages, to remain at the forefront of technical development, and last but not least, for security reasons, plans are in place to update the internal Berkeley DB to version 7 in the near future. New FirstSpirit Servers that are installed with FirstSpirit 2018-06 or higher use Berkeley version 7 as standard.

FirstSpirit support for Berkeley DB versions 3 and 5 is scheduled to be discontinued by November 2018 (FirstSpirit 2018-11). A server-wide switch to version 7 must be executed before the support for versions 3 and 5 is discontinued, as any FirstSpirit Servers that are still running version 3 and/or 5 will no longer start after this time. Therefore, we recommend switching from version 3 or 5 to 7 as soon as possible.

The "BerkeleyUtil" command line tool provides a convenient means of converting all data from project repositories and internal repositories of a FirstSpirit Server to Berkeley DB 7 format. Conversions are usually completed relatively quickly.

Improvements have been made to this conversion tool based on customer feedback for FirstSpirit 2018-07.

Notes on upgrade and downgrade compatibility: Following conversion to Berkeley version 7, FirstSpirit can no longer be downgraded to versions earlier than version 5.2R18 (published in February 2018). However, a downgrade to FirstSpirit versions later than 5.2.R18 will be possible. Switching from FirstSpirit version 5.2R17 (published in January 2018) or earlier to FirstSpirit version 2018-11 or higher requires a conversion to be carried out first with the conversion tool.



Should problems unexpectedly be encountered when using Berkeley 7 or during migration, these should be reported to e-Spirit immediately to enable them to be resolved before the official release of Berkeley 7.

### **Integrated web server “Eclipse Jetty”**

“Eclipse Jetty”, the open-source product integrated in FirstSpirit, is used to provide a web server and a servlet engine that run as part of the FirstSpirit Server in the same VM. This integrated web server is only intended to be used for test purposes, so that customers can use FirstSpirit directly with web server functions and do not need to install and connect an external web server beforehand. In productive operation, and especially in operational scenarios that require a more complex configuration, a web server of an Apache Tomcat type, for example, should be used and integrated into FirstSpirit.

To become less reliant on implementation by the manufacturer here too, for security reasons and so that it is easier to provide support for the functions within FirstSpirit, the existing Jetty functionality (“Internal-Jetty”) has been transferred to a system module (`fs-jetty.fsm`).

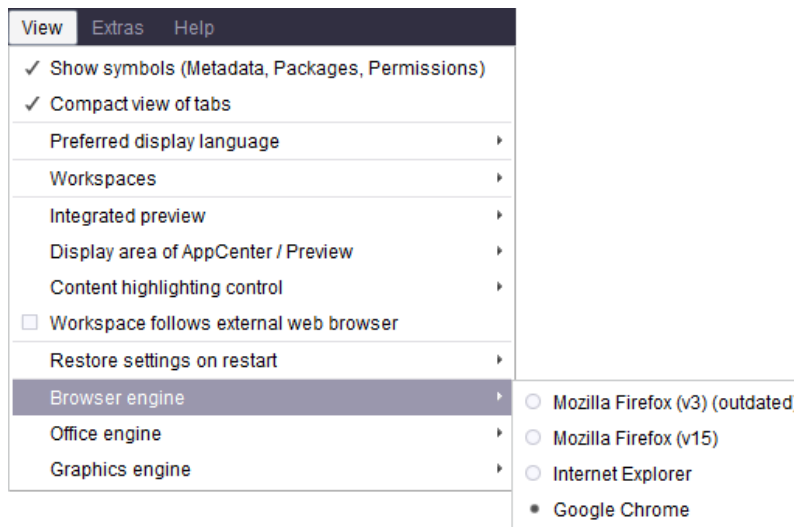
The functionality of the built-in Jetty “InternalJetty” has been discontinued with FirstSpirit version 5.2R18 and support is scheduled to cease in August 2018 (FirstSpirit 2018-08). The Jetty system module can be used as an alternative. This module is also not designed for productive operation and as such it only supports basic configuration options. For example, configuration is only possible via the graphical interface (and not via text files in the file system, `fs-webapp.xml`) and the module does not offer the configuration of the web server as a reverse proxy.

More alternative solutions for special operational scenarios will be available from FirstSpirit release 2018-08. These will be able to map most web server configurations. We intend to make the transition from the “InternalJetty” implementation to the new solutions as easy as possible for our customers and partners.

### **Browser integration**

Special software is used for the “integrated preview” function in FirstSpirit SiteArchitect; this is integrated in SiteArchitect and is based on the browser being used in each case (Mozilla Firefox, Microsoft Internet Explorer or Google Chrome).





The versions of Mozilla Firefox and Microsoft Internet Explorer that are currently being used in FirstSpirit do not provide any support for Java 9+.

**Mozilla Firefox** as browser engine for the integrated preview function has been therefore discontinued as of FirstSpirit version 5.2R18 (February 2018) and is scheduled to cease existing at all with the next release FirstSpirit 2018-08.

The externally developed library, which is the basis for the browser engine **Internet Explorer**, will no longer be developed / updated in the near future and has been officially discontinued by the manufacturer. For this reason, Internet Explorer as browser engine for the integrated preview in FirstSpirit SiteArchitect will be discontinued. The function will be omitted in release FirstSpirit 2018-11. As an alternative, Google Chrome can be used further on for internal previews or, of course, every other browser for “external” previews (for example by deactivating the option “View / Integrated preview/ use for content” or by right-clicking on the preview icon or click with pressed **Ctrl** key).

### Database support

Highly structured content can be managed in databases in FirstSpirit. FirstSpirit has powerful mechanisms for connecting databases. FirstSpirit comes complete with an integrated database (Apache Derby), and six database providers/database types are currently supported by FirstSpirit for external connection:

- IBM DB2
- MariaDB
- MySQL





- Microsoft SQL Server
- Oracle
- PostgreSQL

28 versions of databases from these suppliers are currently supported (maintained). Like e-Spirit, the suppliers are operating ever shorter release cycles (keyword: “agility”); in other words, new versions are appearing on the market more quickly than ever, and they have to be tested. If dependencies on specific operating systems, different configurations (e.g., permission definition, data types), and drivers also have to be taken into account, it gets more and more difficult to meet the resulting test requirements. To make precise statements at any given time about which database in which version will work together with FirstSpirit successfully/without errors, these tests would have to be carried out at regular intervals as well as in the context of the release of new versions. New products and technologies (e.g., Cloud services like Amazon Aurora, Microsoft Azure SQL database, etc.) are not yet being included in such tests.

e-Spirit is currently sounding out options to enable us to provide more precise and better information in the future about which types and versions of databases are supported by FirstSpirit. One possible solution might be a test infrastructure which would support automated testing and enable more detailed and faster analyses to be produced. An infrastructure like this could also be made available to customers so that the specific database actually installed by them could be checked for compatibility with FirstSpirit. To make it easier to provide support for the functions of the integrated “Apache Derby” database in the FirstSpirit environment, these functions could potentially be transferred to a FirstSpirit module. The integrated “Apache Derby” database is not suitable for productive operation and should only be used for test purposes.

### **New logging technology**

FirstSpirit uses “Apache Log4j” for its logging framework. The 1.x series is no longer supported and will not run as of Oracle Java 10. Therefore, we intend to switch FirstSpirit logging to the successor product “Log4j 2” in the near future. The use of asynchronous loggers makes logging much faster than with “Log4j 1” and the functional scope is much wider.

Configuration by the user is no longer carried out with “Properties” files but using structured configuration files with *XML*, *JSON*, or *YAML*. To make it easier for customers to switch to the new configuration file format, we plan to offer tool support. However, manual intervention might also be necessary for very complex logging configurations.

We are also planning to adapt and modernize the FirstSpirit API logging functions in line with the “Log4j 2” API in order to benefit from new functions supported by the new logging framework. The FirstSpirit API



will remain compatible, however; i.e., modifications to modules which use the existing API, for example, will not be necessary according to our current plans.

## 2 Administration

### 2.1 "BerkeleyUtil" conversion tool: Function of the "--convert-server" option has been corrected

Oracle Berkeley DB is used in FirstSpirit as a repository for saving content data. Until now, versions 3 and 5 have been in use and running reliably and stably for many years. However, in order to benefit from performance advantages, to remain at the forefront of technical development, and last but not least, for security reasons, plans are in place to update the internal Berkeley DB to version 7 in the near future. The "BerkeleyUtil" tool can be used for the simple conversion of all data stored in Berkeley DBs on existing FirstSpirit servers to Berkeley DB 7 format by entering just a few commands in the command line.

In the latest FirstSpirit release, an error affecting the conversion of Berkeley DBs with the "BerkeleyUtil" conversion tool when using the `--convert-server` option has been resolved. The error could result in incorrect project states being generated.

Incorrect project states can now be corrected by converting the server again (option `-c`).

For more information about the "BerkeleyUtil" conversion tool, see *FirstSpirit Manual for Administrators*, "FirstSpirit ServerManager / Project properties / Repository".

### 2.2 Anonymization of personal data of deleted users

The General Data Protection Regulation (GDPR) is an EU regulation that protects the fundamental right of European citizens to privacy and regulates the handling of personal data. Some functions in FirstSpirit that enable collaborative work, versioning, automatic notifications, etc. require personal system data. These are usually contact details of editors such as name, e-mail address, IP address, etc.

With the current release, personal data of deleted users (e.g. via FirstSpirit ServerManager / User / Delete) can be made anonymous in FirstSpirit.

This anonymization can be activated for the relevant FirstSpirit server in the configuration file `fs-server.conf` using the option

```
privacy.anonymizeDeletedUsersData=true
```



(default value is *false*).

If the parameter `privacy.anonymizeDeletedUsersData=true` is set in the file `fs-server.conf`, data from deleted users can no longer be obtained. In the revision history and in other locations where the user name would be displayed, the phrase `{DELETED_USER}` and, if applicable, the ID of the deleted user is displayed instead.

For example

Revision	Date	Change on	Editor	Comment	Attributes	Child list	Content	Metadata
20712	Jul 16, 2018 1:54:29 PM	Mithras Homepage	{DELETED_USER}	Store in cache memory	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
20710	Jul 16, 2018 12:25:46 PM	Mithras Homepage	{DELETED_USER}	Store in cache memory	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
20709	Jul 16, 2018 12:24:57 PM	Mithras Homepage	Admin	Store in cache memory	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
20708	Jul 16, 2018 12:02:19 PM	Mithras Homepage	{DELETED_USER}	Store in cache memory	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
20707	Jul 16, 2018 12:01:30 PM	Mithras Homepage	Admin	Store in cache memory	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

For further information see

- *FirstSpirit Manual for Administrators*, page “Notes about GDPR”
- *FirstSpirit Manual for Administrators*, page “FirstSpirit ServerManager / Menu bar items / User”
- Blogpost [The Ultimate Resource for GDPR Readiness](#)

## 2.3 Conversion tool "BerkeleyUtil": In the event of an error, the original data is saved in a backup folder.

The conversion tool “BerkeleyUtil” can be used to convert data from existing FirstSpirit servers saved in Berkeley databases into the Berkeley DB 7 format. This can be done conveniently with only a few commands within the command prompt.

In case of problems occurring while converting, the original data from the database is saved inside a backup folder on the FirstSpirit server. This is done even if said problems are solved during the conversion. The data can be looked at and possibly analysed at a later time. The backup folder is created next to the original database folder. The name of the folder consists of the name of the original folder,



suffixed by *backup* and the time stamp of the conversion. The creation of the backup folder is persisted by a warning in the log file, e.g.

```
[WARN BdbRecover] Keeping backup directory due to errors or warnings during recovery:  
./data/schedule/624060/acl_backup_20180711_110345
```

In case of listing or checking databases (`-l / --list` or `-t / --verify`) all existing backup folder are logged as warnings.

```
[WARN BdbScanner] Incomplete conversion/restore detected:  
./data/schedule/624060/acl_backup_20180711_110345
```

## 2.4 Extending debugging in FirstSpirit ContentCreator

A new switch has been added to `fs-server.conf` to simplify debugging specifically on development servers in FirstSpirit ContentCreator:

```
webedit.sendScriptCauseToClient
```

If this switch is set to *true* (`webedit.sendScriptCauseToClient=true`), the exception trace for script errors is sent to the browser. The cause of the error is displayed in more detail in the error dialog and the complete trace is displayed in the browser console. The function is deactivated by default (*false*).

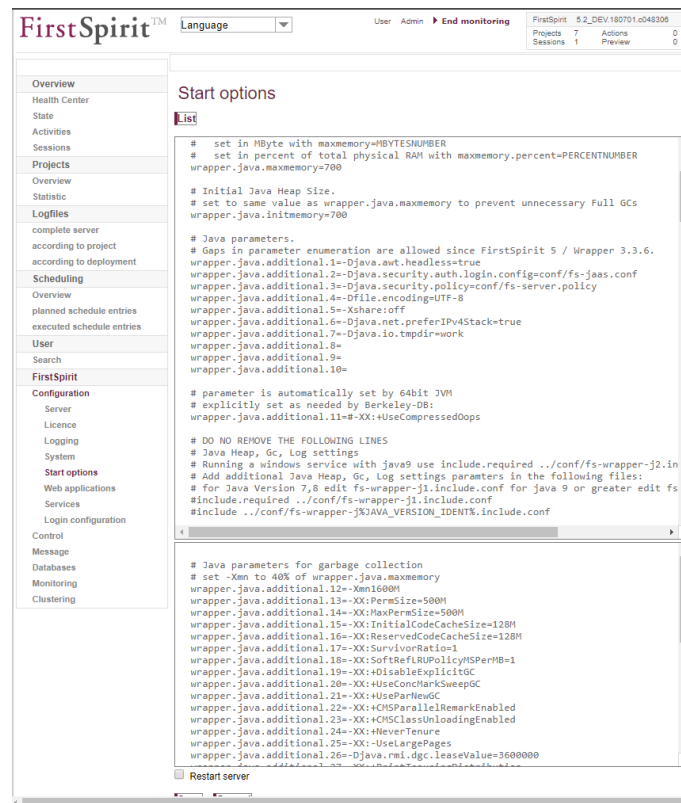
## 2.5 Java-version-specific wrapper files can be edited via ServerMonitoring

The server start and the FirstSpirit Server Java system can be configured using the “wrapper” files `fs-wrapper*.conf`.

Previously, `fs-wrapper-j*.include.conf` files containing Java-version-specific parameters could only be edited in the file system.

With the latest FirstSpirit release, the parameters of the wrapper files `fs-wrapper-j#.include.conf` can – like the default wrapper file `fs-wrapper.conf` – also be edited via FirstSpirit ServerMonitoring, and specifically under “FirstSpirit / Configuration / Start options”:





The text window at the top contains the configuration of the `fs-wrapper.conf` or `fs-wrapper-isolated.conf` file, if the FirstSpirit Server is operating in “Isolated mode”.

The text window at the bottom contains the configuration of the `fs-wrapper-j1.include.conf` or `fs-wrapper-j2.include.conf` file, depending on which Java version the FirstSpirit Server is using (`fs-wrapper-j1.include.conf` if the server is using Java 8, `fs-wrapper-j2.include.conf` if the server is using Java 10).

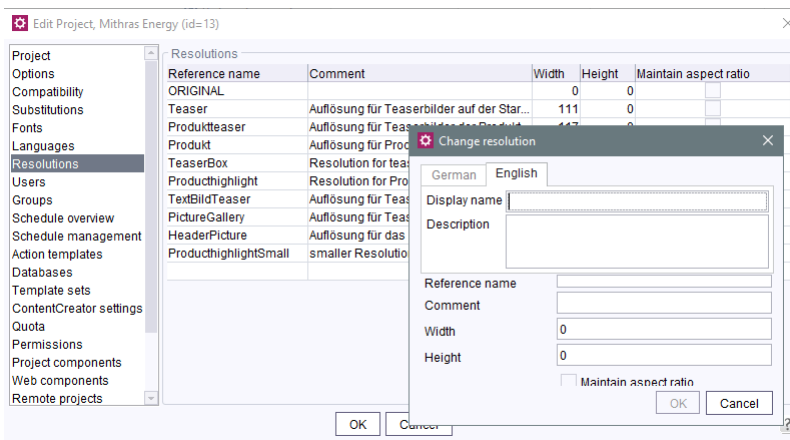
Click on **Edit** to edit the existing configuration.

Click on **Save** to save the changes in the corresponding configuration file(s). If invalid configuration settings are made, the error will be flagged up in ServerMonitoring when the configuration is saved and the save operation will not be completed.

## 2.6 Resolutions: Maximum width and height have been increased (18,918 pixels)

Images can be stored in FirstSpirit in various “resolutions”. These resolutions can be defined under “Resolutions” in the FirstSpirit ServerManager:





The intended width and height of the image in pixels in the corresponding resolution can be specified for each resolution. FirstSpirit can scale the original image (“original resolution”) automatically to these resolutions. This provides an easy way of standardizing the sizes of images that are available in a variety of original sizes.

Previously, the maximum width and height that could be defined for resolutions was 5,000 pixels for each. The latest FirstSpirit release has increased this value to 18,918 pixels.

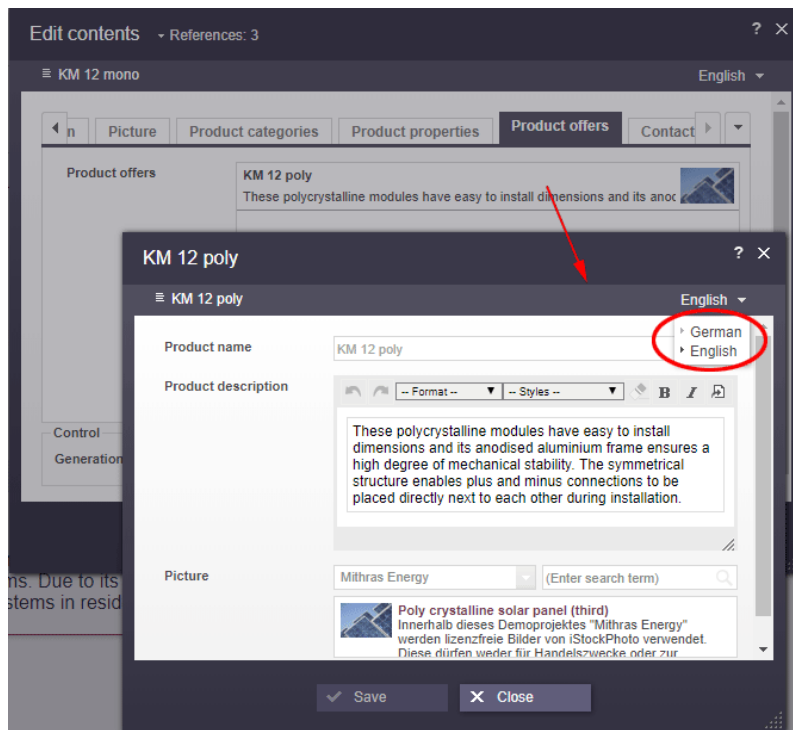
**!** The higher the specified values for the width and/or height of a resolution, the more processing time will be required for the calculation/scaling of the images.

### 3 ContentCreator

#### 3.1 FS\_INDEX: Language can now be changed in the internal elements

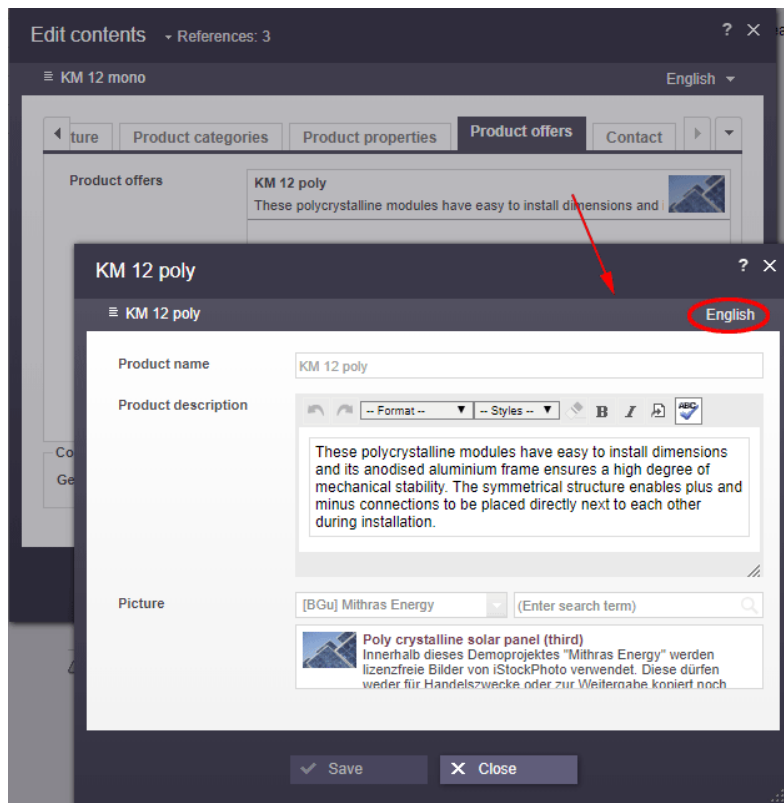
Elements in the FS\_INDEX input element (e.g., datasets) can now be edited language-dependently in edit mode in FirstSpirit ContentCreator: There is now a corresponding drop-down box in the internal form from which the required project language can be selected:





Previously, the edit window of the internal element had to be closed before you could select a different language and edit the associated content:





For more information about FS\_INDEX, see

- *FirstSpirit Online Documentation*, “Template development / Forms / Input components / INDEX”
- *FirstSpirit Manual for Editors (ContentCreator)*, “Editing a preview page / Input elements / Index”

## 4 General

### 4.1 Java Wrapper (fs-wrapper.\*.conf): Standard recognition of 32 and 64 bit systems has been deactivated

JavaVMs are started in 32-bit mode by default on certain platforms. The 64-Bit-Java-VM can be activated on 64-bit systems with `-d64` parameter on the Java command line. This switchover can be made automatically with the Java Wrapper (file `fs-wrapper.conf` in the sub-directory `conf` of the FirstSpirit server) by means of the `wrapper.java.additional.auto_bits` parameter. Due to a bug in the Java Wrapper, the default value for this parameter has been changed from `true` to `false`.





**For new installations** with FirstSpirit 2018-07 and later that use Oracle Java 10 or higher, no modifications are necessary.

**For existing FirstSpirit installations** that use Oracle Java 10 or higher, the line

```
wrapper.java.additional.auto_bits=true
```

in the file `fs-wrapper.conf` and possibly as well in the files `fs-wrapper.*.conf` in the sub-directory `<FirstSpiritROOT>/conf` must be replaced by

```
wrapper.java.additional.auto_bits=false
```

Installations that use Oracle Java 8 are not affected by this error.

For more informations please see *FirstSpirit Manual for Administrators*, “FirstSpirit Server configuration / Configuration files (FirstSpirit Server) / Java VM and Wrapper (`fs-wrapper.conf`) / Java Wrapper Parameters”.

## 5 Module Development, Scripts, API

### 5.1 Function "previewId" was extended to support a parameter "entity"

The template function `previewId` now accepts the parameter `entity`, like the function `editorId`:

```
"_previewId" : $CMS_VALUE(previewId(element: #global.node, entity:
#global.pageParams[0]).toJSON)$
```

This combination should be used in order to obtain distinct `previewId` values for the sub-pages for individual datasets. Without the parameter the `"_previewId"`s of all sub-pages would be equal.

### 5.2 License: retrieve license expiration date and number of CaaS slots

The operation of the FirstSpirit-module “Content as a Service” (CaaS) requires a specific license. The license attribute `license.CAAS_SLOTS` specifies the maximum number of CaaS slots that may be defined. In case `license.CAAS_SLOTS` is 0, the maximum number of CaaS slots is unlimited.



With the latest FirstSpirit release, the `LicenseService`, package `de.espirit.firstspirit.license` (FirstSpirit developer API), was extended by the methods

- `getCaasSlots()`; and
- `getLicenseExpirationDate()`;

The new API methods allow access to the maximum number of CaaS slots and the license expiration date (attribute `license.EXPDATE`).

Code example:

```
import de.espirit.firstspirit.access.ServicesBroker;
import de.espirit.firstspirit.license.LicenseService;
ls = context.requireSpecialist(ServicesBroker.TYPE).getService(LicenseService.class);
ls.getCaasSlots();
ls.getLicenseExpirationDate();
```

Further information can be found in the documentation of the CaaS module “FirstSpirit Content as a Service”.

### 5.3 New agent "ServerConfigurationAgent" for configuring the server

The configuration of a FirstSpirit server could have been accessed using the interface `ServerConfiguration` in the package `de.espirit.firstspirit.access` (FirstSpirit Access API) so far. This interface could be used for reading out values like the socket port, and partially to set values as well.

As of FirstSpirit 2018-07 a dedicated agent has been introduced, which will assume this task largely: `ServerConfigurationAgent` in the package `de.espirit.firstspirit.agency` (FirstSpirit Access API). The new interface provides access to values of the server configuration in a type safe manner, using the methods `getServerProperty` and `setServerProperty`. For example, durations are handled as instances of `java.time.Duration`.

A list of all accessible server properties can be found in the class `ServerProperties` in the package `de.espirit.firstspirit.server.configuration`.

In addition, the `ServerConfigurationAgent` provides access to the previous `ServerConfiguration` further on.



## 5.4 RenderingAgent: Take information from higher-level contexts into account

FirstSpirit content can be generated via the `RenderingAgent` interface (package: `de.espirit.firstspirit.agency`, FirstSpirit Developer API). The interface enables a special generation for specific dynamic content to be controlled directly via the API.

The *STRICT* render mode, which is called up via `.strict()`, has been added to the latest FirstSpirit release. In this mode, information from higher-level contexts is also taken into account. For example, a variable that has been defined in a page template and modified in preceding sections can now be output in a section with the correct content.

Similarly, the `pageRef` context has been added in the `RenderingAgent.Renderer` interface. This context enables a page reference to be transferred as a context so that, for example, metadata defined in it can also be read out and used.

Example:

```
import de.espirit.firstspirit.agency.RenderingAgent;
import de.espirit.firstspirit.access.store.*;
import de.espirit.firstspirit.agency.StoreElementAgent;
storeElementAgent = context.requestSpecialist(StoreElementAgent.TYPE);
pageref = ...; // z. B. storeElementAgent.loadStoreElement("...",IDProvider.UidType.
    SITESTORE_LEAF,false);
section = ...; // z. B. context.getElement(); beim Aufruf als Kontextmenü-Skript
renderingAgent = context.requestSpecialist(RenderingAgent.TYPE);
renderer = renderingAgent.createRenderer(section).context(pageref);
renderedSectionContent = renderer.strict().getResult().getContent();
```

**Note:** If variables are modified in a different context (e.g., in a section with `$CMS_SET(#global.context("PAGE")["counter"], counter+1)$`, the *counter* variable in the context of the page), the following *WARN* message is output when the content is rendered via the `RenderingAgent`:

```
WARN <timestamp> (de.espirit.firstspirit.agency.RenderingAgent): context mutation
    detected in STRICT mode, setting of variable 'counter' in context PAGE
```

For more information on contexts in FirstSpirit, see also *FirstSpirit Online Documentation*, “Template development / Variables / Contexts”.



## 5.5 SnippetAgent: API access to snippet evaluation

The newly created API functionality `SnippetAgent` (package `de.espirit.firstspirit.access.store.templatestore`, FirstSpirit Access API) allows now getting a context-related access to the snippet evaluation of a FirstSpirit element.

In addition, an appropriate icon for a FirstSpirit element can be determined.

### Methods:

- `getTypeIcon` returns an appropriate icon for the given element depending on the execution context of the agent.
- `getSnippetProvider()` returns an appropriate `SnippetProvider` for the given element.
  - `getSnippetProvider(IDProvider)` - with default fallback
  - `getSnippetProvider(IDProvider, FallbackSettings)` - the parameter `FallbackSettings` defines the fallback behavior
- `fallback()` returns a new fallback object with default behavior.

The fallback object determines if and how the individual parts of the snippets (*Header*/ "Label", *Extract*) are to be resolved if the result of the snippet evaluation is empty. The default behavior is:

- *Header*: Returns the display name of the element.
- *Extract*: Returns the path to the element.

Using the methods `headerNone` and `extractNone` you can turn off the fallback behavior for the respective properties.

For more information on snippets see also *FirstSpirit Online Documentation* "Template development / Snippets".

## 5.6 Use of new Java API for date calculation

Cessation of support for Java 7 has enabled some applications of the outdated Java class `java.util.Date` to be adapted to a more modern Java API (`java.time`) in the FirstSpirit Developer API.

The changes affect the following interfaces:



- `UserStatisticsAgent` (de.espirit.firstspirit.agency package)  
The previous method `getLastLoginAsDate(long userId);` (return value: `Date`) has been replaced by the new method `getLastLogin(long userId);` (return value: `Optional<LocalDate>`).
- `MaintenanceModeInfo` (de.espirit.firstspirit.server package)  
The previous methods `remainingDurationOfCurrentStageInMillis();` and `getStartingTimeOfStageAsDate(@NotNull MaintenanceStage stage);` have been replaced by the new methods `remainingDurationOfCurrentStage();` and `getStartingTimeOfStage(@NotNull MaintenanceStage stage);`.

In this context, the `getLastLoginAsDate(long userId);`, `remainingDurationOfCurrentStageInMillis();`, and `getStartingTimeOfStageAsDate(@NotNull MaintenanceStage stage);` methods have been discontinued (“deprecation”) and can be omitted from subsequent versions of FirstSpirit.

## 5.7 Using an "indexField" to get search suggestions

Previously, the `getSuggestions` method in the `SearchService` interface (FirstSpirit Access API, de.espirit.firstspirit.access.search package) supported an option to request search suggestions for language-dependent content. Search suggestions for language-independent content is now supported, too, if you do not specify a specific language object (`null`).

With the latest FirstSpirit release, an additional `getSuggestions` method has been introduced which permits the name of an `indexField` (used by the “Apache Lucene” search engine) to be specified in addition:

```
getSuggestions(long projectId, String indexField, String word, Language language);
```

`indexField` expects the name of the field in the Lucene index as a value.

## 6 SiteArchitect

### 6.1 Display of titles in forms

The new FirstSpirit graphical user interface design has been used capital letters for titles in forms in SiteArchitect since FirstSpirit version 5.2R19 (March 2018, parameter `label`).



As of the current release, this display was improved.

## 6.2 FS\_DATASET / FS\_INDEX: Working with newly created datasets has been optimized

Input components FS\_DATASET and FS\_INDEX (with `DatasetDataAccessPlugin`) can be used, for example, to create new datasets in a data source.

Even if editing datasets is completely deactivated for the corresponding input component (for FS\_DATASET: `allowEdit="no"`, for FS\_INDEX via the definition of a suitable rule), with the latest FirstSpirit release, new datasets created in this way can now be initially filled with content in FirstSpirit SiteArchitect.

Further editing of the dataset is possible in the Data Store.

Previously it was not possible to maintain newly created datasets if the editing of datasets had been deactivated for the input component.

For more information, see *FirstSpirit Online Documentation*,


- “Template development / Forms / Input components / DATASET”
- “Template development / Forms / Input components / INDEX”

## 7 System

### 7.1 Integrated Software

With FirstSpirit release 2018-07, the following, internally used software has been updated:

- **Eclipse Jetty** (contained in the module `fs-jetty.fsm`)  
update from version Version 9.4.9 to 9.4.11

 As before, use of Eclipse Jetty for production purposes is not recommended!



## 8 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	
Integrated preview for content (Mozilla Firefox, v3 and v15)	5.2R18	August 2018
Integrated Jetty	5.2R18	August 2018
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	September 2018
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	



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

## 9 Overview

ID	Description	Categories
157625	The newly created API functionality <code>SnippetAgent</code> (package <code>de.espirit.firstspirit.access.store.templatestore</code> , FirstSpirit Access API) allows now getting a context-related access to the snippet evaluation of a FirstSpirit element.  Further information can be found in chapter "Module Development, Scripts, API: <code>SnippetAgent</code> : API access to snippet evaluation".	Developer, FirstSpirit API, Snippets, Template Development
161860	Under certain conditions, errors could occur when using the search for ID in the status row of the data source overview.	Content Store, Search, SiteArchitect
162761	Support for section templates with long names has been improved.	ContentCreator
176639	Optimized indexing of datasets when using external data sources.	Indexing
177114	Improvements have been made to date selection in the <code>CMS_IN-PUT_DATE</code> input component.	ContentCreator
179602	Using a schema generated from an Oracle database could result in incorrect queries.	Database
180147	When clicking on an unfiltered data source the internal preview erroneously was not updated.	SiteArchitect





ID	Description	Categories
192886	Improvements have been made to the display in the dialog for renaming objects in projects with many different languages.	SiteArchitect
193335	When the available software versions cannot be loaded, due to the update service not being available, the user is now shown a suitable error message.	ServerMonitoring
194983	Improved user experience when searching in a data source.	Content Store, SiteArchitect
195693	<p>Elements in the FS_INDEX input element (e.g., datasets) can now be edited language-dependently in edit mode in FirstSpirit Content-Creator.</p> <p>Further information can be found in chapter “ContentCreator: FS_INDEX: Language can now be changed in the internal elements”.</p>	ContentCreator, Database, Editor, Input Components, Languages
197457	When a feature with a data source is imported into a project, in which an invalid layer was defined, a corresponding error message is now shown.	Content Transport
200730	Optimized display of inherited metadata.	ContentCreator
202093	Optimized loading of customer specific functions, which can be integrated via the FirstSpirit API (interface <code>JavaClientContextPluginsMenuItemsPlugin</code> , package <code>de.espirit.firstspirit.client.plugin</code> ), using the context menu entry “Plug-ins”.	SiteArchitect
202232	<p>The behavior when creating new datasets in FS_DATASET and FS_INDEX with <code>DatasetDataAccessPlugin</code> has been improved.</p> <p>Further information can be found in chapter “SiteArchitect: FS_DATASET / FS_INDEX: Working with newly created datasets has been optimized”.</p>	Database, Developer, Input Components, SiteArchitect
202934	Optimized consideration of filters when using the global search.	Search, SiteArchitect



ID	Description	Categories
203612	<p>FirstSpirit content can be generated via the <code>RenderingAgent</code> interface (package: <code>de.espirit.firstspirit.agency</code>, FirstSpirit Developer API). The interface enables a special generation for specific dynamic content to be controlled directly via the API. The <code>STRICT</code> render mode has been added to the latest FirstSpirit release.</p> <p>Further information can be found in chapter “Module Development, Scripts, API: <code>RenderingAgent</code>: Take information from higher-level contexts into account”.</p>	Developer, FirstSpirit API
204458	Improved error message when trying to install a module without name.	FirstSpirit Administrator, ServerManager
205261	Improved updating of web applications.	FirstSpirit Administrator
205831	The updating of web applications was improved.	FirstSpirit Administrator
207346	<p>With the latest FirstSpirit release, the parameters of the wrapper files <code>fs-wrapper-j#.include.conf</code> can – like the default wrapper file <code>fs-wrapper.conf</code> – also be edited via FirstSpirit ServerMonitoring.</p> <p>Further information can be found in chapter “Administration: Java-version-specific wrapper files can be edited via ServerMonitoring”.</p>	FirstSpirit Administrator, Server Administrator, ServerMonitoring
207394	Performance improvement when loading pages with a high number of nested input components in projects with multiple languages.	SiteArchitect
207970	<p>With the new <code>webedit.sendScriptCauseToClient</code> switch in <code>fs-server.conf</code>, debugging can be extended specifically on development servers in FirstSpirit ContentCreator.</p> <p>Further information can be found in chapter “Administration: Extending debugging in FirstSpirit ContentCreator”.</p>	ContentCreator, Server Administrator, Third Party Preview (TPP)
208201	<p>Improved display of titles in forms in FirstSpirit SiteArchitect.</p> <p>Further information can be found in chapter “SiteArchitect: Display of titles in forms”.</p>	Developer, Editor, Input Components, SiteArchitect, Template Development
208304	Under Microsoft Windows the rendering of the Khmer language (Cambodian) in input components was improved.	SiteArchitect



ID	Description	Categories
208505	The processing of access rights when displaying an FS_LIST input component (type PAGE) was improved.	SiteArchitect
208544	Erroneous behavior could occur when creating of deactivating template sets.	ServerManager
208719	Improved updating of web applications on the server “Jetty Web Server” (system module).	FirstSpirit Administrator
208969	Performance improvements related to the loading of datasets.	Performance, SiteArchitect
209032	New users were being incorrectly prevented from using a project in ContentCreator despite having been assigned sufficient permissions.	ContentCreator
209216	When calling PermissionService from a schedule entry (e.g. <code>permServ=context.getConnection().getService("PermissionService");</code> ) erroneous behavior could occur.	FirstSpirit Administrator
209479	When the slave server is using a Berkeley DB version different from its master server, for its backend, the slave server now quits.	Clustering
209639	<p>The latest FirstSpirit release, allows further attributes of the FirstSpirit license to be accessed via the developer API.</p> <p>Further information can be found in chapter “Module Development, Scripts, API: License: retrieve license expiration date and number of CaaS slots”.</p>	FirstSpirit API, FirstSpirit Administrator, License
209709	<p>Cessation of support for Java 7 has enabled applications of the outdated Java class <code>java.util.Date</code> to be replaced by a more modern Java API in the FirstSpirit Developer API.</p> <p>Further information can be found in chapter “Module Development, Scripts, API: Use of new Java API for date calculation”.</p>	Developer, FirstSpirit API
209718	When dragging a picture from the Clipboard, which was opened in a separate windows, onto an FS_REFERENCE input component, the following dialogue could appear in the background.	SiteArchitect
209851	In very rare cases a root node folder ( <code>Root</code> ; e.g. in the Media store or Site structure) erroneously was displayed in the list of invalid references.	SiteArchitect



ID	Description	Categories
209892	With special configurations, the FirstSpirit start page was incorrectly not being called up after exiting ContentCreator.	ContentCreator
210109	When navigating between datasets, which could be displayed in different data sources, erroneous tab switching behavior could occur.	SiteArchitect
210257	<p>With the latest FirstSpirit release, a maximum width and height of 18,918 pixels can be defined for resolutions.</p> <p>Further information can be found in chapter “Administration: Resolutions: Maximum width and height have been increased (18,918 pixels)”.</p>	Developer, FirstSpirit Administrator, Media Store, ServerManager
210262	<p>With the current release of FirstSpirit, personal data of deleted users can be made anonymous.</p> <p>Further information can be found in chapter “Administration: Anonymization of personal data of deleted users”.</p>	FirstSpirit Administrator, Security
210272	<p>With the latest FirstSpirit release an additional <code>getSuggestions</code> method has been introduced which permits the name of an <code>indexField</code> (used by the “Apache Lucene” search engine) to be specified in addition.</p> <p>Further information can be found in chapter “Module Development, Scripts, API: Using an "indexField" to get search suggestions”.</p>	Developer, FirstSpirit API, Search
210277	<p>New agent <code>ServerConfigurationAgent</code> for configuring the server via API.</p> <p>Further information can be found in chapter “Module Development, Scripts, API: New agent "ServerConfigurationAgent" for configuring the server”.</p>	Developer, FirstSpirit API
210290	For the conversion of language-independent media into language-dependent media, the display of the languages that are available for selection has been optimized.	Media Store, SiteArchitect
210380	Upon installing a FirstSpirit server on Linux operating systems, an error could occur during the initial start of the server.	FirstSpirit Administrator
210397	The title of the login page has been corrected on the browser tab.	FirstSpirit home page



ID	Description	Categories
210410	<p>In the latest FirstSpirit release, an error affecting the conversion of Berkeley DBs with the “BerkeleyUtil” conversion tool when using the <code>--convert-server</code> option has been resolved.</p> <p>Further information can be found in chapter “Administration: “BerkeleyUtil” conversion tool: Function of the “--convert-server” option has been corrected”.</p>	FirstSpirit Administrator, Repository
210601	When creating sections, the suggested reference name has incorrectly not been included.	SiteArchitect
210612	Maintaining the input component CMS_INPUT_PERMISSION within a subform could lead to erroneous behavior.	Input Components, SiteArchitect
210630	<p>The standard recognition of 32 and 64 bit systems has been deactivated (Java Wrapper, <code>fs-wrapper.*.conf</code>).</p> <p>Further information can be found in chapter “General: Java Wrapper (<code>fs-wrapper.*.conf</code>): Standard recognition of 32 and 64 bit systems has been deactivated”.</p>	FirstSpirit Administrator
210738	Using the interface <code>RenderingAgent</code> (package <code>de.espirit.it.firstspirit.agency</code> , FirstSpirit Developer API) could lead to erroneous behavior when outputting structure variables.	Developer, FirstSpirit API
210749	Testing the connection configuration after having configured a database could lead to erroneous behavior.	Database, ServerManager
210783	Optimizations related to FirstSpirit Oracle Berkeley DB.	FirstSpirit Administrator, Repository
210808	<p>In FirstSpirit release 2018-07, updated internally used software.</p> <p>Further information can be found in chapter “System: Integrated Software”.</p>	Integrated software, Modules



ID	Description	Categories
210968	<p>If problems arise while converting the database, the original data will not be deleted from the FirstSpirit server anymore.</p> <p>Further information can be found in chapter "Administration: Conversion tool "BerkeleyUtil": In the event of an error, the original data is saved in a backup folder."</p>	FirstSpirit Administrator, Integrated software, Repository
211038	<p>The template function <code>previewId</code> now accepts the parameter <code>entity</code>, like the function <code>editorId</code>.</p> <p>Further information can be found in chapter "Module Development, Scripts, API: Function "previewId" was extended to support a parameter "entity"."</p>	Developer, FirstSpirit API, FirstSpirit Third Party Preview

## 10 Categories

### 10.1 Clustering

ID	Description
209479	When the slave server is using a Berkeley DB version different from its master server, for its backend, the slave server now quits.

### 10.2 Content Store

ID	Description
161860	Under certain conditions, errors could occur when using the search for ID in the status row of the data source overview.
194983	Improved user experience when searching in a data source.



## 10.3 Content Transport

ID	Description
197457	When a feature with a data source is imported into a project, in which an invalid layer was defined, a corresponding error message is now shown.

## 10.4 ContentCreator

ID	Description
162761	Support for section templates with long names has been improved.
177114	Improvements have been made to date selection in the CMS_INPUT_DATE input component.
195693	<p>Elements in the FS_INDEX input element (e.g., datasets) can now be edited language-dependently in edit mode in FirstSpirit ContentCreator.</p> <p>Further information can be found in chapter “ContentCreator: FS_INDEX: Language can now be changed in the internal elements”.</p>
200730	Optimized display of inherited metadata.
207970	<p>With the new <code>webedit.sendScriptCauseToClient</code> switch in <code>fs-server.conf</code>, debugging can be extended specifically on development servers in FirstSpirit ContentCreator.</p> <p>Further information can be found in chapter “Administration: Extending debugging in FirstSpirit ContentCreator”.</p>
209032	New users were being incorrectly prevented from using a project in ContentCreator despite having been assigned sufficient permissions.
209892	With special configurations, the FirstSpirit start page was incorrectly not being called up after exiting ContentCreator.

## 10.5 Database

ID	Description
179602	Using a schema generated from an Oracle database could result in incorrect queries.



ID	Description
195693	<p>Elements in the FS_INDEX input element (e.g., datasets) can now be edited language-dependently in edit mode in FirstSpirit ContentCreator.</p> <p>Further information can be found in chapter “ContentCreator: FS_INDEX: Language can now be changed in the internal elements”.</p>
202232	<p>The behavior when creating new datasets in FS_DATASET and FS_INDEX with <code>Dataset-DataAccessPlugin</code> has been improved.</p> <p>Further information can be found in chapter “SiteArchitect: FS_DATASET / FS_INDEX: Working with newly created datasets has been optimized”.</p>
210749	<p>Testing the connection configuration after having configured a database could lead to erroneous behavior.</p>

## 10.6 Developer

ID	Description
157625	<p>The newly created API functionality <code>SnippetAgent</code> (package <code>de.espirit.firstspirit.access.store.templateStore</code>, FirstSpirit Access API) allows now getting a context-related access to the snippet evaluation of a FirstSpirit element.</p> <p>Further information can be found in chapter “Module Development, Scripts, API: SnippetAgent: API access to snippet evaluation”.</p>
202232	<p>The behavior when creating new datasets in FS_DATASET and FS_INDEX with <code>Dataset-DataAccessPlugin</code> has been improved.</p> <p>Further information can be found in chapter “SiteArchitect: FS_DATASET / FS_INDEX: Working with newly created datasets has been optimized”.</p>
203612	<p>FirstSpirit content can be generated via the <code>RenderingAgent</code> interface (package: <code>de.espirit.firstspirit.agency</code>, FirstSpirit Developer API). The interface enables a special generation for specific dynamic content to be controlled directly via the API. The <code>STRICT</code> render mode has been added to the latest FirstSpirit release.</p> <p>Further information can be found in chapter “Module Development, Scripts, API: RenderingAgent: Take information from higher-level contexts into account”.</p>





ID	Description
208201	<p>Improved display of titles in forms in FirstSpirit SiteArchitect.</p> <p>Further information can be found in chapter "SiteArchitect: Display of titles in forms".</p>
209709	<p>Cessation of support for Java 7 has enabled applications of the outdated Java class <code>java.util.Date</code> to be replaced by a more modern Java API in the FirstSpirit Developer API.</p> <p>Further information can be found in chapter "Module Development, Scripts, API: Use of new Java API for date calculation".</p>
210257	<p>With the latest FirstSpirit release, a maximum width and height of 18,918 pixels can be defined for resolutions.</p> <p>Further information can be found in chapter "Administration: Resolutions: Maximum width and height have been increased (18,918 pixels)".</p>
210272	<p>With the latest FirstSpirit release an additional <code>getSuggestions</code> method has been introduced which permits the name of an <code>indexField</code> (used by the "Apache Lucene" search engine) to be specified in addition.</p> <p>Further information can be found in chapter "Module Development, Scripts, API: Using an "indexField" to get search suggestions".</p>
210277	<p>New agent <code>ServerConfigurationAgent</code> for configuring the server via API.</p> <p>Further information can be found in chapter "Module Development, Scripts, API: New agent "ServerConfigurationAgent" for configuring the server".</p>
210738	<p>Using the interface <code>RenderingAgent</code> (package <code>de.espirit.firstspirit.agency</code>, FirstSpirit Developer API) could lead to erroneous behavior when outputting structure variables.</p>
211038	<p>The template function <code>previewId</code> now accepts the parameter <code>entity</code>, like the function <code>editorId</code>.</p> <p>Further information can be found in chapter "Module Development, Scripts, API: Function "previewId" was extended to support a parameter "entity"".</p>



## 10.7 Editor

ID	Description
195693	<p>Elements in the FS_INDEX input element (e.g., datasets) can now be edited language-dependently in edit mode in FirstSpirit ContentCreator.</p> <p>Further information can be found in chapter “ContentCreator: FS_INDEX: Language can now be changed in the internal elements”.</p>
208201	<p>Improved display of titles in forms in FirstSpirit SiteArchitect.</p> <p>Further information can be found in chapter “SiteArchitect: Display of titles in forms”.</p>

## 10.8 FirstSpirit API

ID	Description
157625	<p>The newly created API functionality <code>SnippetAgent</code> (package <code>de.espirit.firstspirit.access.store.templateStore</code>, FirstSpirit Access API) allows now getting a context-related access to the snippet evaluation of a FirstSpirit element.</p> <p>Further information can be found in chapter “Module Development, Scripts, API: SnippetAgent: API access to snippet evaluation”.</p>
203612	<p>FirstSpirit content can be generated via the <code>RenderingAgent</code> interface (package: <code>de.espirit.firstspirit.agency</code>, FirstSpirit Developer API). The interface enables a special generation for specific dynamic content to be controlled directly via the API. The <code>STRICT</code> render mode has been added to the latest FirstSpirit release.</p> <p>Further information can be found in chapter “Module Development, Scripts, API: RenderingAgent: Take information from higher-level contexts into account”.</p>
209639	<p>The latest FirstSpirit release, allows further attributes of the FirstSpirit license to be accessed via the developer API.</p> <p>Further information can be found in chapter “Module Development, Scripts, API: License: retrieve license expiration date and number of CaaS slots”.</p>
209709	<p>Cessation of support for Java 7 has enabled applications of the outdated Java class <code>java.util.Date</code> to be replaced by a more modern Java API in the FirstSpirit Developer API.</p>



ID	Description
	Further information can be found in chapter “Module Development, Scripts, API: Use of new Java API for date calculation”.
210272	<p>With the latest FirstSpirit release an additional <code>getSuggestions</code> method has been introduced which permits the name of an <code>indexField</code> (used by the “Apache Lucene” search engine) to be specified in addition.</p> <p>Further information can be found in chapter “Module Development, Scripts, API: Using an "index-Field" to get search suggestions”.</p>
210277	<p>New agent <code>ServerConfigurationAgent</code> for configuring the server via API.</p> <p>Further information can be found in chapter “Module Development, Scripts, API: New agent "ServerConfigurationAgent" for configuring the server”.</p>
210738	Using the interface <code>RenderingAgent</code> (package <code>de.espirit.firstspirit.agency</code> , FirstSpirit Developer API) could lead to erroneous behavior when outputting structure variables.
211038	<p>The template function <code>previewId</code> now accepts the parameter <code>entity</code>, like the function <code>editorId</code>.</p> <p>Further information can be found in chapter “Module Development, Scripts, API: Function "previewId" was extended to support a parameter "entity"”.</p>

## 10.9 FirstSpirit Administrator

ID	Description
204458	Improved error message when trying to install a module without name.
205261	Improved updating of web applications.
205831	The updating of web applications was improved.
207346	<p>With the latest FirstSpirit release, the parameters of the wrapper files <code>fs-wrapper-j#.include.conf</code> can – like the default wrapper file <code>fs-wrapper.conf</code> – also be edited via FirstSpirit <code>ServerMonitoring</code>.</p> <p>Further information can be found in chapter “Administration: Java-version-specific wrapper files can be edited via <code>ServerMonitoring</code>”.</p>



ID	Description
208719	Improved updating of web applications on the server “Jetty Web Server” (system module).
209216	When calling PermissionService from a schedule entry (e.g. <code>permServ=context.getConnection().getService("PermissionService");</code> ) erroneous behavior could occur.
209639	<p>The latest FirstSpirit release, allows further attributes of the FirstSpirit license to be accessed via the developer API.</p> <p>Further information can be found in chapter “Module Development, Scripts, API: License: retrieve license expiration date and number of CaaS slots”.</p>
210257	<p>With the latest FirstSpirit release, a maximum width and height of 18,918 pixels can be defined for resolutions.</p> <p>Further information can be found in chapter “Administration: Resolutions: Maximum width and height have been increased (18,918 pixels)”.</p>
210262	<p>With the current release of FirstSpirit, personal data of deleted users can be made anonymous.</p> <p>Further information can be found in chapter “Administration: Anonymization of personal data of deleted users”.</p>
210380	Upon installing a FirstSpirit server on Linux operating systems, an error could occur during the initial start of the server.
210410	<p>In the latest FirstSpirit release, an error affecting the conversion of Berkeley DBs with the “BerkeleyUtil” conversion tool when using the <code>--convert-server</code> option has been resolved.</p> <p>Further information can be found in chapter “Administration: “BerkeleyUtil” conversion tool: Function of the “--convert-server” option has been corrected”.</p>
210630	<p>The standard recognition of 32 and 64 bit systems has been deactivated (Java Wrapper, <code>fs-wrapper.*.conf</code>).</p> <p>Further information can be found in chapter “General: Java Wrapper (fs-wrapper.*.conf): Standard recognition of 32 and 64 bit systems has been deactivated”.</p>
210783	Optimizations related to FirstSpirit Oracle Berkeley DB.
210410	
210841	
210928	



ID	Description
210968	<p>If problems arise while converting the database, the original data will not be deleted from the FirstSpirit server anymore.</p> <p>Further information can be found in chapter “Administration: Conversion tool "BerkeleyUtil": In the event of an error, the original data is saved in a backup folder.”.</p>

## 10.10 FirstSpirit Third Party Preview

ID	Description
211038	<p>The template function <code>previewId</code> now accepts the parameter <code>entity</code>, like the function <code>editorId</code>.</p> <p>Further information can be found in chapter “Module Development, Scripts, API: Function "previewId" was extended to support a parameter "entity"”.</p>

## 10.11 FirstSpirit home page

ID	Description
210397	The title of the login page has been corrected on the browser tab.

## 10.12 Indexing

ID	Description
176639	Optimized indexing of datasets when using external data sources.

## 10.13 Input Components

ID	Description
195693	Elements in the FS_INDEX input element (e.g., datasets) can now be edited language-dependently in edit mode in FirstSpirit ContentCreator.



ID	Description
	Further information can be found in chapter “ContentCreator: FS_INDEX: Language can now be changed in the internal elements”.
202232	The behavior when creating new datasets in FS_DATASET and FS_INDEX with <code>Dataset-DataAccessPlugin</code> has been improved.  Further information can be found in chapter “SiteArchitect: FS_DATASET / FS_INDEX: Working with newly created datasets has been optimized”.
208201	Improved display of titles in forms in FirstSpirit SiteArchitect.  Further information can be found in chapter “SiteArchitect: Display of titles in forms”.
210612	Maintaining the input component <code>CMS_INPUT_PERMISSION</code> within a subform could lead to erroneous behavior.

## 10.14 Integrated software

ID	Description
210808	In FirstSpirit release 2018-07, updated internally used software.  Further information can be found in chapter “System: Integrated Software”.
210968	If problems arise while converting the database, the original data will not be deleted from the FirstSpirit server anymore.  Further information can be found in chapter “Administration: Conversion tool “BerkeleyUtil”: In the event of an error, the original data is saved in a backup folder.”.

## 10.15 Languages

ID	Description
195693	Elements in the FS_INDEX input element (e.g., datasets) can now be edited language-dependently in edit mode in FirstSpirit ContentCreator.



ID	Description
	Further information can be found in chapter “ContentCreator: FS_INDEX: Language can now be changed in the internal elements”.

## 10.16 License

ID	Description
209639	<p>The latest FirstSpirit release, allows further attributes of the FirstSpirit license to be accessed via the developer API.</p> <p>Further information can be found in chapter “Module Development, Scripts, API: License: retrieve license expiration date and number of CaaS slots”.</p>

## 10.17 Media Store

ID	Description
210257	<p>With the latest FirstSpirit release, a maximum width and height of 18,918 pixels can be defined for resolutions.</p> <p>Further information can be found in chapter “Administration: Resolutions: Maximum width and height have been increased (18,918 pixels)”.</p>
210290	For the conversion of language-independent media into language-dependent media, the display of the languages that are available for selection has been optimized.

## 10.18 Modules

ID	Description
210808	<p>In FirstSpirit release 2018-07, updated internally used software.</p> <p>Further information can be found in chapter “System: Integrated Software”.</p>



## 10.19 Performance

ID	Description
208969	Performance improvements related to the loading of datasets.

## 10.20 Repository

ID	Description
210410	In the latest FirstSpirit release, an error affecting the conversion of Berkeley DBs with the “BerkeleyUtil” conversion tool when using the <code>--convert-server</code> option has been resolved.  Further information can be found in chapter “Administration: “BerkeleyUtil” conversion tool: Function of the “--convert-server” option has been corrected”.
210783	Optimizations related to FirstSpirit Oracle Berkeley DB.
210410 210841 210928	
210968	If problems arise while converting the database, the original data will not be deleted from the FirstSpirit server anymore.  Further information can be found in chapter “Administration: Conversion tool “BerkeleyUtil”: In the event of an error, the original data is saved in a backup folder.”.

## 10.21 Search

ID	Description
161860	Under certain conditions, errors could occur when using the search for ID in the status row of the data source overview.
202934	Optimized consideration of filters when using the global search.
210272	With the latest FirstSpirit release an additional <code>getSuggestions</code> method has been introduced which permits the name of an <code>indexField</code> (used by the “Apache Lucene” search engine) to be specified in addition.





ID	Description
	Further information can be found in chapter “Module Development, Scripts, API: Using an "index-Field" to get search suggestions”.

## 10.22 Security

ID	Description
210262	<p>With the current release of FirstSpirit, personal data of deleted users can be made anonymous.</p> <p>Further information can be found in chapter “Administration: Anonymization of personal data of deleted users”.</p>

## 10.23 Server Administrator

ID	Description
207346	<p>With the latest FirstSpirit release, the parameters of the wrapper files <code>fs-wrapper-j#.include.conf</code> can – like the default wrapper file <code>fs-wrapper.conf</code> – also be edited via FirstSpirit ServerMonitoring.</p> <p>Further information can be found in chapter “Administration: Java-version-specific wrapper files can be edited via ServerMonitoring”.</p>
207970	<p>With the new <code>webedit.sendScriptCauseToClient</code> switch in <code>fs-server.conf</code>, debugging can be extended specifically on development servers in FirstSpirit ContentCreator.</p> <p>Further information can be found in chapter “Administration: Extending debugging in FirstSpirit ContentCreator”.</p>

## 10.24 ServerManager

ID	Description
204458	Improved error message when trying to install a module without name.
208544	Erroneous behavior could occur when creating of deactivating template sets.



ID	Description
210257	<p>With the latest FirstSpirit release, a maximum width and height of 18,918 pixels can be defined for resolutions.</p> <p>Further information can be found in chapter “Administration: Resolutions: Maximum width and height have been increased (18,918 pixels)”.</p>
210749	Testing the connection configuration after having configured a database could lead to erroneous behavior.

## 10.25 ServerMonitoring

ID	Description
193335	When the available software versions cannot be loaded, due to the update service not being available, the user is now shown a suitable error message.
207346	<p>With the latest FirstSpirit release, the parameters of the wrapper files <code>fs-wrapper-j#.include.conf</code> can – like the default wrapper file <code>fs-wrapper.conf</code> – also be edited via FirstSpirit ServerMonitoring.</p> <p>Further information can be found in chapter “Administration: Java-version-specific wrapper files can be edited via ServerMonitoring”.</p>

## 10.26 SiteArchitect

ID	Description
161860	Under certain conditions, errors could occur when using the search for ID in the status row of the data source overview.
180147	When clicking on an unfiltered data source the internal preview erroneously was not updated.
192886	Improvements have been made to the display in the dialog for renaming objects in projects with many different languages.
194983	Improved user experience when searching in a data source.



ID	Description
202093	Optimized loading of customer specific functions, which can be integrated via the FirstSpirit API (interface <code>JavaClientContextPluginsMenuItemsPlugin</code> , package <code>de.espirit.firstspirit.client.plugin</code> ), using the context menu entry “Plug-ins”.
202232	<p>The behavior when creating new datasets in FS_DATASET and FS_INDEX with <code>Dataset-DataAccessPlugin</code> has been improved.</p> <p>Further information can be found in chapter “SiteArchitect: FS_DATASET / FS_INDEX: Working with newly created datasets has been optimized”.</p>
202934	Optimized consideration of filters when using the global search.
207394	Performance improvement when loading pages with a high number of nested input components in projects with multiple languages.
208201	<p>Improved display of titles in forms in FirstSpirit SiteArchitect.</p> <p>Further information can be found in chapter “SiteArchitect: Display of titles in forms”.</p>
208304	Under Microsoft Windows the rendering of the Khmer language (Cambodian) in input components was improved.
208505	The processing of access rights when displaying an FS_LIST input component (type PAGE) was improved.
208969	Performance improvements related to the loading of datasets.
209718	When dragging a picture from the Clipboard, which was opened in a separate windows, onto an FS_REFERENCE input component, the following dialogue could appear in the background.
209851	In very rare cases a root node folder ( <code>ROOT</code> ; e.g. in the Media store or Site structure) erroneously was displayed in the list of invalid references.
210109	When navigating between datasets, which could be displayed in different data sources, erroneous tab switching behavior could occur.
210290	For the conversion of language-independent media into language-dependent media, the display of the languages that are available for selection has been optimized.
210601	When creating sections, the suggested reference name has incorrectly not been included.
210612	Maintaining the input component <code>CMS_INPUT_PERMISSION</code> within a subform could lead to erroneous behavior.



## 10.27 Snippets

ID	Description
157625	<p>The newly created API functionality <code>SnippetAgent</code> (package <code>de.espirit.firstspirit.access.store.templateStore</code>, FirstSpirit Access API) allows now getting a context-related access to the snippet evaluation of a FirstSpirit element.</p> <p>Further information can be found in chapter “Module Development, Scripts, API: <code>SnippetAgent</code>: API access to snippet evaluation”.</p>

## 10.28 Template Development

ID	Description
157625	<p>The newly created API functionality <code>SnippetAgent</code> (package <code>de.espirit.firstspirit.access.store.templateStore</code>, FirstSpirit Access API) allows now getting a context-related access to the snippet evaluation of a FirstSpirit element.</p> <p>Further information can be found in chapter “Module Development, Scripts, API: <code>SnippetAgent</code>: API access to snippet evaluation”.</p>
208201	<p>Improved display of titles in forms in FirstSpirit <code>SiteArchitect</code>.</p> <p>Further information can be found in chapter “<code>SiteArchitect</code>: Display of titles in forms”.</p>

## 10.29 Third Party Preview (TPP)

ID	Description
207970	<p>With the new <code>webedit.sendScriptCauseToClient</code> switch in <code>fs-server.conf</code>, debugging can be extended specifically on development servers in FirstSpirit <code>ContentCreator</code>.</p> <p>Further information can be found in chapter “Administration: Extending debugging in FirstSpirit <code>ContentCreator</code>”.</p>

