



FirstSpirit™

Unlock Your Content

Release Notes

FirstSpirit™ 2020-04

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Table of contents

- 1 Administration..... 6**
 - 1.1 Generation directories of deleted orders are cleaned up.....6
 - 1.2 Automatically update Java version-specific wrapper files..... 6
- 2 General..... 10**
 - 2.1 FirstSpirit documentation: PDF format discontinued..... 10
 - 2.2 Java: Current status and outlook..... 11
 - 2.3 External database support via the DatasetDataAccessPlugin..... 13
- 3 ContentCreator..... 13**
 - 3.1 New navigation view in the ContentCreator combines hierarchical structure display, context information and editing options..... 13
 - 3.2 Use of the "old" ContentCreator..... 15
- 4 FirstSpirit Content Experience Tools (CXT)..... 16**
 - 4.1 Latest module versions..... 16
 - 4.2 Error analysis for MicroApp Framework..... 16
 - 4.3 FS_INDEX now also supports the creation of fragments of several different categories (tag CATEGORY)..... 18
 - 4.4 Configuration of the Content-Security-Policy header..... 19
 - 4.5 Media DAP: Type-dependent upload of files..... 19
- 5 Module Development, Scripts, API..... 20**
 - 5.1 API extension for generating references (ReferenceConstructionAgent and ValueReferencesJournal)..... 20



6 System.....21

6.1 Update of internally used software..... 21

7 Deprecations.....22

8 Overview..... 25



9	Categories.....	30
9.1	Workflow.....	30
9.2	Tasks.....	30
9.3	ContentCreator.....	30
9.4	Data Access Plug-In.....	31
9.5	Database.....	32
9.6	Content Store.....	32
9.7	Debugging.....	33
9.8	Documentation.....	33
9.9	Input Components.....	33
9.10	Developer.....	33
9.11	FirstSpirit Content as a Service (CaaS).....	35
9.12	FirstSpirit Content Experience Tools (CXT).....	36
9.13	FirstSpirit Jetty Web Server.....	37
9.14	FirstSpirit Administrator.....	37
9.15	FirstSpirit API.....	39
9.16	FragmentCreator.....	40
9.17	Integrated software.....	40
9.18	Isolated mode.....	41
9.19	Java.....	41
9.20	Support for JSON.....	42



9.21	Launcher.....	42
9.22	LiveEdit.....	42
9.23	Media.....	42
9.24	Migration.....	43
9.25	Module development.....	43
9.26	Modules.....	44
9.27	Omnichannel Manager / Third Party Preview.....	44
9.28	Editor.....	45
9.29	Server Administrator.....	46
9.30	ServerMonitoring.....	47
9.31	Languages.....	47
9.32	Table templates.....	47
9.33	Template Development.....	47
9.34	Web server.....	48



1 Administration

1.1 Generation directories of deleted orders are cleaned up.

If a schedule with a generation action is deleted and there is a corresponding directory for this schedule on the application server on which the Staging Web application is running, the corresponding directory on the application server is also deleted.

1.2 Automatically update Java version-specific wrapper files

The FirstSpirit Java VM is started and stopped via the Tanuki Java Service Wrapper.

Previous behavior:

The start parameters of the Java VM were defined with the help of a corresponding configuration file for the wrapper (`fs-wrapper[.isolated].conf`).

When changing the Java version, the start parameters were adjusted. The changed configuration was directly available for new FirstSpirit installations. For existing installations, the changed configuration of the start parameters had to be adapted manually.

New behavior:

This behavior is improved with the current FirstSpirit release. For this purpose, the startup options have been split into two separate configuration files:

- New: `fs-wrapper-vendor.conf` contains the recommended vendor startup options
- Changed: `fs-wrapper[.isolated].conf` now only contains the startup options that should be adjusted server specific

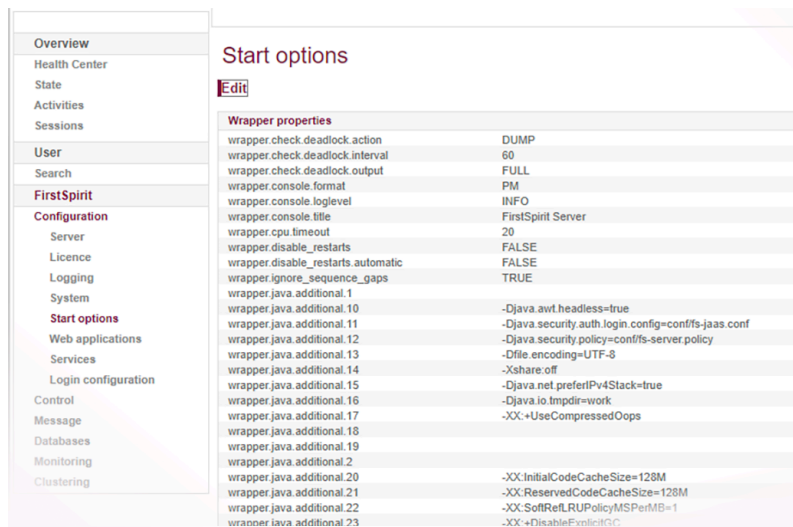
Objective: The new configuration file `fs-wrapper-vendor.conf` is part of the FirstSpirit update archive `fs-update-[version].tar.gz`. When updating the FirstSpirit server via the update archive `fs-update-[version].tar.gz` the startup options are automatically updated. Thus, the configuration adjustments are also available for existing FirstSpirit installations without any manual adjustments.



! The configuration file `fs-wrapper-vendor.conf` should not be changed. Should it be necessary in individual cases to adjust the recommended vendor startup options, the corresponding startup parameters should be redefined in the configuration file `fs-wrapper[.isolated].conf` (and not overwritten in `fs-wrapper-vendor.conf`).

Display via FirstSpirit ServerMonitoring

The start options from both configuration files are displayed via FirstSpirit ServerMonitoring (at “FirstSpirit” / “Configuration” / “Startup options”). Here the values from both files are combined in one view:



Display of the startup options (ServerMonitoring)

Editing via FirstSpirit ServerMonitoring

By clicking on “Edit”, the start options can be edited via the FirstSpirit ServerMonitoring (at “FirstSpirit” / “Configuration” / “Startup options”). Only the content of the configuration file `fs-wrapper[.isolated].conf` is offered for editing.

The start parameters of the configuration file `fs-wrapper-vendor.conf` are displayed read-only at the bottom, with the note that the values for overwriting should be redefined (“manufacturer properties: Redefine property to overwrite the recommended value”).



Clicking “Save” saves the changes to the configuration file. If invalid configuration settings are made, the error is indicated in the ServerMonitoring when saving the configuration and the save operation will not be completed.

By transferring and changing the values in the configuration file `fs-wrapper[.isolated].conf` all parameters of the configuration file `fs-wrapper-vendor.conf` can be overwritten (not only the general Java parameters `wrapper.java.additional.#`)

The screenshot shows the 'Start options' configuration window in the ServerMonitoring interface. The window contains a text editor with the following configuration content:

```
#encoding=UTF-8
#*****
# FirstSpirit Server Java Service Wrapper Properties
# documentation is available in the "FirstSpirit Documentation for
# Administrators" and on the manufacturer page of the Java Service Wrapper
# at https://wrapper.tanukisoftware.com/doc/english/properties.html
# Java Service Wrapper is licensed by e-Spirit AG
#*****

# Wrapper License Properties
##include.debug
# DO NOT REMOVE OR MODIFY THE FOLLOWING '#include' LINE!
#include.required ../conf/fs-wrapper-license.isolated.conf
#wrapper.license.debug=TRUE

# Java command (JDK needed, not JRE)
# absolute path or just "java" when environment variable PATH is set correctly
# by default the environment variable FS_JAVA_HOME is used to specify the path to
#wrapper.java.command=/usr/lib/jvm/adoptopenjdk-11-hotspot-amd64/bin/java

# Maximum Java Heap Size
# - megabytes value: wrapper.java.maxmemory (e.g. wrapper.java.maxmemory=4000)
# - percent value of total physical memory: wrapper.maxmemory.percent (e.g. wrapp
#wrapper.java.maxmemory=4000
#wrapper.java.maxmemory.percent=60

# Initial Java Heap Size
# - set to same value as wrapper.java.maxmemory to prevent unnecessary Full GCs
# - megabytes value: wrapper.java.initmemory (e.g. wrapper.java.initmemory=4000)
# - percent value of total physical memory: wrapper.initmemory.percent (e.g. wrapp
#wrapper.java.initmemory=4000
```

Below the text editor, there is a 'Restart server' button and 'Save' and 'Cancel' buttons. At the bottom of the window, a table lists 'Wrapper vendor properties' with their current values:

Wrapper vendor properties (Redefine property to overwrite the recommended value)	Value
wrapper.check.deadlock.action	DUMP
wrapper.check.deadlock.interval	60
wrapper.check.deadlock.output	FULL
wrapper.console.title	FirstSpirit Server
wrapper.cpu.timeout	20
wrapper.disable_restarts	FALSE
wrapper.disable_restarts.automatic	FALSE
wrapper.ignore_sequence_gaps	TRUE
wrapper.java.additional.10	-Djava.awt.headless=true
wrapper.java.additional.11	-Djava.security.auth.login.config=conf/login.conf
wrapper.java.additional.12	-Djava.security.auth.login.config=conf/login.conf

Editing of the startup options (ServerMonitoring)

Migration guide

To convert to the new behavior, the following steps should be carried out for all existing FirstSpirit installations:

1. Download the update archive `fs-update-[version].tar.gz`. The changes are available for update archives **from version 1.0.5** on. The update archive is available for download (if you need login data, please contact the [Technical Support](#)).



2. Stop the FirstSpirit server.
3. First, decompress the update archive `fs-update-[version].tar` (e.g., via g(un)zip) and then unpack it to the desired FirstSpirit installation directory. Example call under Linux:

```
~/firstspirit5$ tar xvfz fs-update-[version].tar.gz
```
4. Compare the configuration files
`<FirstSpiritROOT>/conf/fs-wrapper[.isolated].conf`
and
`<FirstSpiritROOT>/conf/conf-all/fs-wrapper[.isolated].conf.default.txt`
Then, adjust the parameters with different values in the following file:
`<FirstSpiritROOT>/conf/conf-all/fs-wrapper[.isolated].conf.default.txt`
Especially, the following parameters have to be taken care of:
`wrapper.java.command`
`wrapper.java.maxmemory`
`wrapper.java.initmemory` (set to the value of `wrapper.java.maxmemory`)
`wrapper.ntservice.name` (only at Windows))
`wrapper.umask`
If known, apply self-defined parameters to `<FirstSpiritROOT>/conf/conf-all/fs-wrapper[.isolated].conf.default.txt`
(ideally, no adjustments are required).
5. After the adjustment, rename the file
`<FirstSpiritROOT>/conf/fs-wrapper[.isolated].conf`
to
`<FirstSpiritROOT>/conf/fs-wrapper[.isolated].old.`
6. Then rename the file
`<FirstSpiritROOT>/conf/conf-all/fs-wrapper[.isolated].conf.default.txt`
to
`<FirstSpiritROOT>/conf/fs-wrapper[.isolated].conf`
7. Start the FirstSpirit server.



8. Optional: If no problems occurred after several days of operation, the file `<FirstSpiritROOT>/conf/fs-wrapper[.isolated].old` can be deleted.

Further documentation:

- [Java-VM and -Wrapper \(fs-wrapper*.conf\)](#)
- [Java Wrapper Parameters](#)
- [FirstSpirit ServerMonitoring / FirstSpirit / Configuration / Startup Options](#)
- [Updating FirstSpirit](#)

2 General

2.1 FirstSpirit documentation: PDF format discontinued

Documentation for all FirstSpirit products is now provided in the HTML format.

Until recently, we have provided documentation in the PDF format as well, but as of the current release, we will discontinue those efforts.

More specifically:

- The navigation entry “Documentation” has been removed from the FirstSpirit online documentation interface.
- The DVD index, that depends on the beforementioned navigation structure of the online documentation, has now been detached and will keep the state it had in FirstSpirit Release 2020-03.
- The conversion of the FirstSpirit release notes to the HTML format is currently ongoing (for the duration, release notes will be provided in the PDF format).
- Currently, the documentation for some of our FirstSpirit modules is only available in the PDF format, and may still be obtained from <https://docs.e-spirit.com/>.



2.2 Java: Current status and outlook

For operating FirstSpirit, e-Spirit AG supports:

- OpenJDK: the current Java version as well as the latest LTS (Long-Term-Support) variant.
- Oracle Java: only the latest LTS (Long-Term-Support) variant.

This applies to both the FirstSpirit Server and the FirstSpirit desktop applications.

Deviating from this rule, e-Spirit AG continues to support Oracle Java and OpenJDK Version 8 for the time being, and will discontinue support for Java 8 in the future (see below for Outlook Java 8 support).

As of FirstSpirit 2020-04, OpenJDK 14 (non-LTS; release date 2020/03) is officially approved for use with FirstSpirit (i.e. the FirstSpirit Server and the FirstSpirit desktop applications).

AdoptOpenJDK 14 is included in the “FirstSpirit Launcher JRE” module (see module “FirstSpirit Launcher JRE”: Updating Java versions). After appropriate configuration, FirstSpirit desktop applications can be started via the “FirstSpirit Launcher JRE” module using the FirstSpirit Launcher with AdoptOpenJDK 14. (For documentation on the “FirstSpirit Launcher JRE” module, see the [corresponding documentation](#)).

With support for OpenJDK 14, support for **OpenJDK 13** (non-LTS; release date was 2019/07) expires.

FirstSpirit is expected to remain functional with OpenJDK 13. However, e-Spirit AG will neither carry out tests with OpenJDK 13 nor implement any measures designed to eliminate errors or problems that are exclusively associated with the use of OpenJDK 13.

Current status: The following JDKs are therefore compatible for FirstSpirit 2020-04:

- Oracle Java 11 (in its current version) (LTS)
- Oracle Java 8 (in its current version) (LTS; outdated)
- OpenJDK 14 (in its current version) (non-LTS) (**)
- OpenJDK 11 (in its current version) (LTS) (**)
- OpenJDK 8 (in its current version) (LTS; outdated) (*) (**)



(*) Version 8u242 (Outdated) contained in the “FirstSpirit Launcher JRE” module will not be updated to version 8u252 (Outdated) in April 2020.

(**) Recommended: Use of the OpenJDK distribution AdoptOpenJDK (HotSpot JVM).

A complete list of the supported Java versions can be found in [Technical requirements and recommendations \(Documentation for administrators\)](#).

Outlook Java 8 support:

As part of product maintenance, discontinuation of support for Java 8 was first announced with FirstSpirit 2019-05 (**).

FirstSpirit is scheduled to no longer support Oracle Java 8 and OpenJDK 8 from June 2020.

(**) Oracle has not provided any public updates for Java 8 since February 2019 and recommends that developers and end users transition to a higher Java version in order to continue receiving public updates and security enhancements.

Background: FirstSpirit is operated successfully by customers and partners with a wide range of different third-party components (operating systems, JDKs, servlet engines, application servers, and databases) and external libraries. Some of these components / libraries are no longer compatible with Java 8 in its current version. This applies, for example, to the internal “Apache Derby” database supplied with FirstSpirit. As a consequence, updates can no longer be carried out for those third-party components / libraries, which is particularly critical for security-relevant updates.

Should security gaps or security-relevant problems occur under Java 8 in the future, e-Spirit AG reserves the right to terminate Java 8 support for FirstSpirit prematurely (before June 2020).

Also, with the end of Java 8 support, as announced before:

- The support for the Windows installer will be dropped. We advise our customers to use the new installation method via the install archive (see [Installing FirstSpirit](#)).
- The option of starting the FirstSpirit desktop applications via Java Web Start will no longer be available. (The Java Web Start functionality is included in Oracle Java 8, but is not supported from Oracle Java 11 on. OpenJDK does not offer a replacement.) Therefore, SiteArchitect and ServerManager may only be started via the FirstSpirit Launcher (see [FirstSpirit Launcher](#)



[documentation](#)). The FirstSpirit JNLP files, which were required for Java Web Start, will also be dropped.

The ramp-down phase for Java 8 started as planned in the second quarter of 2020 and will gradually reduce the Java 8 compatibility tests. In 2020Q4 the byte code level will be switched from Java 8 to Java 11. **From this point on, all Java versions prior to Java 11 (LTS) will be incompatible with FirstSpirit.**

This means that FirstSpirit will no longer be executable with Oracle Java 8 or OpenJDK 8 and that e-Spirit AG will no longer implement any measures to eliminate errors or problems associated with Java 8. **We recommend that you switch to a higher Java version soon.**



On the server side, a change from Java 8 to Java 11 (and higher) should be tested extensively on a test system, especially when using third-party components and individual customer extensions. Java 8 and Java 11 in parts differ considerably, which may result in that existing libraries and implementations are not compatible with Java 11 (and higher). In such cases, updating the respective libraries may help, if possible. When changing from Java 8 to Java 11 (and higher) we recommend changing the FirstSpirit server to Isolated Mode at same time, in order to avoid having to test modules and implementations twice. For this topic see [Switching to Isolated Mode](#).

2.3 External database support via the DatasetDataAccessPlugin

The DatasetDataAccessPlugin was extended in such a way that external data sources configured in FirstSpirit, on which FirstSpirit does not have write permissions (e.g. read-only referenced databases), can now also be referenced via the FS_INDEX input component.

In this case a coded variant of the primary key of the respective table is used as identifier.

3 ContentCreator

3.1 New navigation view in the ContentCreator combines hierarchical structure display, context information and editing options

In order to make work for editors particularly simple and intuitive, the **preview** is the focus of the FirstSpirit ContentCreator's operating concept: Content is edited directly on the website in the browser. This allows



the editor to see immediately how changes will later affect the website. Previously, only the preview itself and reports (e.g. search, Related elements) were used to navigate to the pages to be edited.

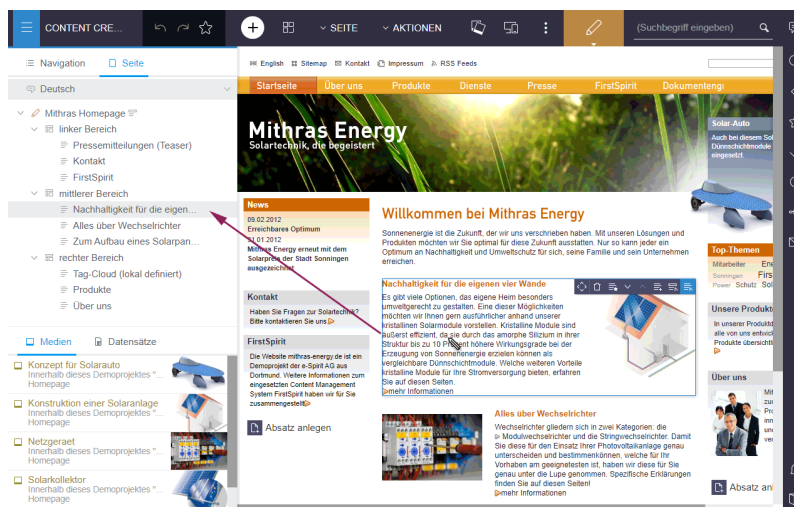
Due to increased requirements for editing projects using the ContentCreator, the current release now also displays the project or website structure in a **structure tree**.

Among other things, it permits the following:

- a quick overview of structural relationships within the website structure (**hierarchy**)
- an uncomplicated, direct **navigation** to pages, even if they are not accessible via the website navigation (typical for landing pages or technical project pages)
- a quick overview of **contextual information** on individual pages (e.g. release status, presence of metadata, etc.)
- **editing** of properties and contents of pages and sections
- simple and intuitive **moving** of menu items

Synchronization and highlighting bridge the gap between preview and structure information: a click on an element in the structure shows the corresponding page in the preview and highlights it in the preview. In turn, the new navigation view also follows the editor's mouse pointer in the preview.

Additionally, the new navigation view allows switching between different **languages** of the project.



The corresponding function is located behind the icon on the far left of the menu bar:





In this context, the dialog for editing the navigation, which was previously available under the menu entry “Edit navigation” in the “ACTIONS” menu, has been removed, since the same functions are now offered by the new navigation view. Instead of the dialog, the “Edit navigation” menu entry now opens the navigation view.

It is planned to include new functions in this new navigation view in future releases. The new navigation view is **not** available in the old ContentCreator.

Note for developers and administrators: The new navigation view displays the **entire** site store of a project by default. Unlike before, editors can now navigate to any page. And thus, probably also to more “technical” pages that may not have any output that is readable by the editor. This should be taken into account during project development and nodes in the site store that are not relevant for editors should be hidden by appropriate permission assignment.

3.2 Use of the "old" ContentCreator

The design and technical basis of FirstSpirit ContentCreator were revised.

By default, the “new” ContentCreator is automatically used for all projects that are started with the ContentCreator. However, you can switch back to the “classic” ContentCreator for individual projects if required.

With FirstSpirit 2020-07, the ContentCreator in the “old” design will be eliminated as planned. The recommendation is therefore to use the “new” ContentCreator for all projects as early as possible.

If one or more web applications are configured to run on the “old” of a FirstSpirit server, the start page of the FirstSpirit server will show a warning to users with the administrator role:

```
Legacy ContentCreator usage detected. Web application: ...
```

For further information please see <https://docs.e-spirit.com/odfs/edocs/admi/firstspirit-ser/server-properiti/web-application/index.html>.





Note on the **new** ContentCreator: It is recommended that you use Google Chrome or Microsoft Edge on chromium basis for the new ContentCreator. The new ContentCreator is not compatible with Microsoft Internet Explorer.

4 FirstSpirit Content Experience Tools (CXT)

4.1 Latest module versions

FirstSpirit 2020-04 supports the following module versions for “FirstSpirit Content Experience Tools”:

Module / file name	Version number
FirstSpirit CXT DAP Bridge dataservice-[version].fsm	1.27
FirstSpirit CXT FragmentCreator fragment-creator-[version].fsm	2.2
FirstSpirit Fragment DAP fragmentdap-[version].fsm	1.23
FirstSpirit Media DAP mediadap-[version].fsm	1.23*
FirstSpirit Markdown Editor markdown-editor-[version].fsm	1.20*
FirstSpirit Tagging Editor tagging-editor-[version].fsm	1.20
FirstSpirit CXT FragmentCreator - CaaS Integration caas-integration-[version].fsm	1.19

* These modules require FirstSpirit 2020-03 or higher from this version.

4.2 Error analysis for MicroApp Framework

An incorrect configuration is a common source of errors. It can result in the software not functioning as expected or not functioning at all.

The latest release makes it possible to set up an error page for the MicroApp Framework which presents the current configuration of the server clearly and lists error messages.



The error page is accessible via

```
/status
```

for administrators, appended to the URL of the FragmentCreator, e.g.

```
http://myServer:8080/fragments/status
```

Server Status

Generic Information

Server Name localhost
Server Version 5.2.290312.78911
Application Server Apache Tomcat/9.0.31
Java Version Ubuntu 11.0.6
Operating System Linux 4.15.0-91-generic
Client Version 2.1

Configuration check

	Option name	Value	Details
PASSED	<NONE>	</>	Application startup has finished successfully.
PASSED	webServiceBaseUrl	http://localhost:8080/FragmentCreator/	The webServiceBaseUrl points to a local address.
PASSED	webServiceBaseUrl	http://localhost:8080/FragmentCreator/	Local web services are accessible.
PASSED	webServiceBaseUrl	http://localhost:8080/FragmentCreator/	Local web services are accessible through Feign.
PASSED	webServiceBaseUrl	http://localhost:8080/FragmentCreator/	Service Discovery is available and lists services.
WARN	externalBaseUrl	http://localhost:8080/FragmentCreator/	externalBaseUrl does not use HTTPS.
PASSED	firstSpiritDataServiceBaseUrl	http://localhost:8080/cxt/	Connection to DAP Bridge successful.
WARN	corsAllowedOrigins	*	All hosts are allowed as CORS origins. Provide a specific list in order to increase security.

Recent HTTP traces

Timestamp	Request method	URI	Response code
2020-03-18T12:10:41.211362Z	POST	http://localhost:8080/FragmentCreator/eureka/peerreplication/batch/	200
2020-03-18T12:10:41.416320Z	GET	http://localhost:8080/FragmentCreator/firstspirit-connector/server/info	200
2020-03-18T12:10:40.582069Z	GET	http://localhost:8080/FragmentCreator/widgets/html/firstspirit-fragments-project-list	200
2020-03-18T12:10:41.431426Z	GET	http://localhost:8080/FragmentCreator/widgets/common/menu.js	200

Along with providing information about the server, it also runs a test on the configuration and lists the most recent HTTP requests and log messages.

In order to receive log messages, the logging.file.name parameter must be specified with the desired log file (e.g., /tmp/fc.log) in the web.xml file, e.g.

```
logging.file.name=/home/tomcat/logs/fragments.log
```

or alternatively in the properties file /config/cxt-fragment-creator.properties.

See also the manual for the MicroApp Framework, <https://docs.e-spirit.com/odfs/edocs/cxt/installation-mo/installing-modu/fragmentcreator/index.html>.



4.3 FS_INDEX now also supports the creation of fragments of several different categories (tag CATEGORY)

With the fragment DAP, fragments from one fragment project can be referenced in another fragment project, edited there and new ones can be created. The input component FS_INDEX with DataAccessPlugin component *FirstSpiritFragmentAccess/FSFAConnector* used for this.

The CATEGORY tag was previously used to restrict the selection to certain categories. If **only one** category was specified, a button was added to FS_INDEX, via which new fragments of the relevant category could be created.

As of the current release, the creation of fragments of different categories is now also supported if **several** categories are specified.

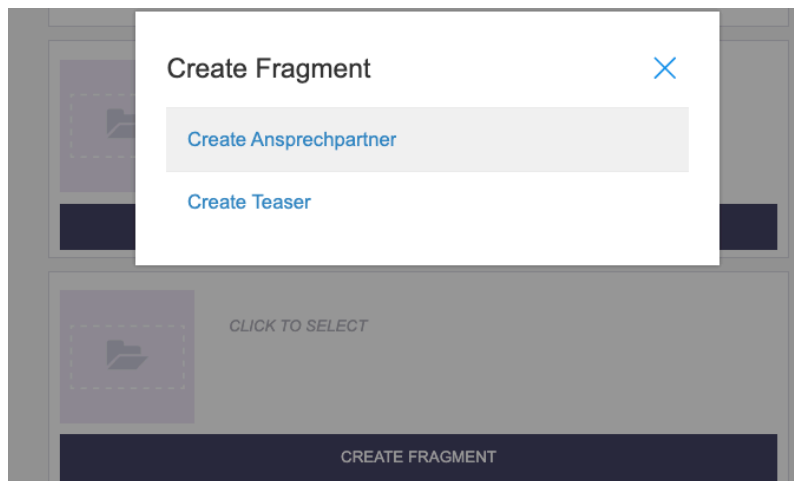
Example syntax:

```
<FS_INDEX name="fragments">
  <LANGINFOS>
    <LANGINFO lang="*" label="Fragments"/>
    <LANGINFO lang="DE" label="Fragmente"/>
  </LANGINFOS>
  <SOURCE name="FirstSpiritFragmentAccess/FSFAConnector">
    <PROJECT remote="fragmentproject"/>
    <CATEGORY uid="contact"/>
    <CATEGORY uid="teaser"/>
  </SOURCE>
</FS_INDEX>
```

The behavior regarding the CATEGORY tag is now as follows:

- **No** specification of CATEGORY: Only a selection of fragments from the project specified by the PROJECT tag is possible, no fragments can be created.
- Specification of **one** CATEGORY tag: Fragments of the specified category can be selected and created. Clicking on the button for creating new fragments opens the corresponding form.
- Specification of **more than one** CATEGORY tag: Fragments of the specified categories can be selected and created. Clicking on the button for creating new fragments opens a list of available categories:





The referenced fragments can be edited, too.



In projects in which FS_INDEX with DataAccessPlugin component *FirstSpiritFragmentAccess/FSFACConnector* and tag CATEGORY is already used, the configuration should be checked due to the new behavior: If more than one CATEGORY tag was specified, only a **selection** of fragments by editors was previously possible. Now editors can also **create** new fragments of the types specified by the CATEGORY tags.

4.4 Configuration of the Content-Security-Policy header

Using the configuration property `cxt.platform.microapps.csp-origins` allows for modifying the Content-Security-Policy header. This might be necessary when access to MicroApps should be allowed from different domains.

The default value is 'self'.

4.5 Media DAP: Type-dependent upload of files

Up to now only images could be uploaded in the FirstSpirit FragmentCreator via the FS_INDEX input component with Media DAP (`<SOURCE name="FirstSpiritMediaAccess/Connector">`). The current release now also supports the upload of files of other formats. In addition, the `mode` attribute in the SOURCE tag can be used to control which media type may be uploaded. As before, the filter also refers to the selection of media types:



- **PICTURE:** Only images can be uploaded and selected.
- **FILE:** Only non-image files can be uploaded and selected.
- **ANY (default)** All media (both images and files) can be uploaded and selected.

Example syntax:

```
<FS_INDEX name="files">
  <LANGINFOS>
    <LANGINFO lang="" label="Files"/>
    <LANGINFO lang="DE" label="Dateien"/>
  </LANGINFOS>
  <SOURCE name="FirstSpiritMediaAccess/Connector" mode="file">
    <PROJECT remote="media"/>
  </SOURCE>
</FS_INDEX>
```

If media are dropped into the upload dialog that do not match the type specified by `mode`, a corresponding warning is displayed and these files are not uploaded to the project.

For further information see <https://docs.e-spirit.com/odfs/edocs/cxt/templates/access-media/index.html>.

5 Module Development, Scripts, API

5.1 API extension for generating references (ReferenceConstructionAgent and ValueReferencesJournal)

Essential FirstSpirit functions are based on a project's reference graph which is used to identify dependencies of objects within complex projects.

To generate references via the FirstSpirit Developer API, an agent of the type `ReferenceConstructionAgent` is required. A `ReferenceConstructionAgent` can then be used to generate instances of the type `ReferenceHolder`.

The `ReferenceConstructionAgent` (FirstSpirit Developer API, package `de.espirit.firstspirit.client.access.editor`) was expanded with the latest FirstSpirit release to include methods which enable references to be generated on the basis of meta information (via



the unique identifier (UID) and `IDProvider.UidType` of a FirstSpirit object or via the global identifier (GID) for references to datasets). Previously, an instance of the type `IDProvider` was required in order to generate references.

New methods in the `ReferenceConstructionAgent`:

```
IDProviderReferenceHolder create(String uid, IDProvider.UidType uidType,...);
```

```
IDProviderReferenceHolder create(String schemaUid, String entityType, ...);
```

The `ValueReferencesJournal` interface (FirstSpirit Access API, package `de.espirit.firstspirit.client.plugin.dataaccess.aspects`) was also optimized at the same time. In the latest FirstSpirit release, methods that were specifically provided for adding defective references (broken references) are marked as “deprecated”. Instead, the interface has been expanded with new methods which can be used to add defective as well as regular references (e.g., in a `DataAccessProvider`). The desired object is simply transferred when adding the reference – the system will check by itself whether the target object is accessible or not and evaluate the reference accordingly.

The new method in the `ValueReferencesJournal` interface

```
addReferenceToElement(final String uid, final IDProvider.UidType uidType,...);
```

replaces the previous method, for example:

```
addBrokenReferenceToElement(String uid, IDProvider.UidType uidType,...);
```

6 System

6.1 Update of internally used software

As of the current release, the following internally used software has been updated:

Java (JRE which is used to operate the FirstSpirit Launcher)



The Java versions included in the “FirstSpirit Launcher JRE” module (see “FirstSpirit Launcher JRE” [documentation](#)) were updated in the latest FirstSpirit release. In addition to the version supplied with the FirstSpirit Launcher, AdoptOpenJDK 11.0.6 (default), the following Java variants are currently available:

- AdoptOpenJDK 14 (new)
- AdoptOpenJDK 8u242 (outdated)

AdoptOpenJDK 13.0.2 was removed from the FirstSpirit Launcher JRE module.

! After updating the module, it may be necessary to restart the ServerManager to perform the appropriate configuration.

Spring Boot (used for MicroApp Framework)

Update from version 2.2.2 to version 2.2.5

Spring Cloud Hoxton (used for MicroApp Framework)

Update from version Hoxton.SR1 to version Hoxton.SR3

Eclipse Jetty (contained in the module `fs-jetty.fsm` / “FirstSpirit Jetty Service”)

Update from version 9.4.23 to version 9.4.27

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

7 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
Input component FS_LIST	5.2R3	January 2020
Input component CMS_INPUT_CONTENTAREALIST	5.2R3	
Input component CMS_INPUT_CONTENTLIST	5.2R3	
Input component CMS_INPUT_FILE	5.2R3	
Input component CMS_INPUT_LINKLIST	5.2R3	
Input component CMS_INPUT_OBJECTCHOOSE	5.2R3	
Input component CMS_INPUT_PAGEREF	5.2R3	
Input component CMS_INPUT_PICTURE	5.2R3	
Input component CMS_INPUT_TABLIST	5.2R3	
FirstSpirit Developer API: de.espirit.firstspirit.agency.GroupsAgent	5.2R15	
FirstSpirit Access API: delete (de.espirit.firstspirit.access.AccessUtil)	5.2R18	
Windows installation program	2018-06	June 2020
FirstSpirit Access API: release (de.espirit.firstspirit.access.AccessUtil)	2018-06	
FirstSpirit Developer API: getLastLoginAsDate (de.espirit.firstspirit.agency.UserStatisticsAgent)	2018-07	
FirstSpirit Developer API: remainingDurationOfCurrentStageInMillis (de.espirit.firstspirit.server.MaintenanceModelInfo)	2018-07	
FirstSpirit Developer API: getStartingTimeOfStageAsDate (de.espirit.firstspirit.server.MaintenanceModelInfo)	2018-07	



Functionality	Deprecated as of	Will be removed/ Was removed as of
FirstSpirit Access API: getSelectedWebserverConfiguration (de.espirit.firstspirit.access.serverConfiguration)	2018-10	
FirstSpirit Access API: setSelectedWebserverConfiguration (de.espirit.firstspirit.access.serverConfiguration)	2018-10	
FirstSpirit Access API: getSelectedWebServer (de.espirit.firstspirit.access.project.Project)	2018-10	
FirstSpirit Access API: setSelectedWebServer (de.espirit.firstspirit.access.project.Project)	2018-10	
FirstSpirit Developer API: getLostAndFoundStoreNodes(); (de.espirit.firstspirit.feature.FeatureInstallResult)	2018-10	
FirstSpirit Developer API: getDeletedStoreNodes(); (de.espirit.firstspirit.feature.FeatureInstallResult)	2018-10	
FirstSpirit Access API: de.espirit.firstspirit.access.store.Previewable	2019-01	
Java 8 support for FirstSpirit	2019-05	June 2020
WebSphere Application Server support for FirstSpirit	2019-05	
Legacy mode for the FirstSpirit server and module development	2019-06	
Java Web Start support for FirstSpirit	2019-10	June 2020
FirstSpirit ContentCreator (old design / old technology)	2019-11	July 2020
Mithras Energy demo project	2020-02	June 2020



8 Overview

ID	Description	Categories
CORE-5816	Corrected a bug that could cause a <code>java.lang.StackOverflowError</code> in rare cases when using the <code>toJSON()</code> function in the output channel.	Developer, Support for JSON, Template Development
CORE-10776	<p>With the current FirstSpirit release the Java VM's startup parameters can be automatically updated. For this purpose, the startup options have been split into two separate configuration files. The new file <code>fs-wrapper-vendor.conf</code> contains the recommended vendor startup options. These are automatically updated when the FirstSpirit server is updated via the update archive <code>fs-update-[version].tar.gz</code>. The existing file <code>fs-wrapper[.isolated].conf</code> only contains those startup options which have been modified server-specifically. The changes are available for update archives from version 1.0.5 on. The update archive is available for download (if you need login data, please contact the FirstSpirit Technical Support).</p> <p>Further information can be found in chapter "Administration: Automatically update Java version-specific wrapper files".</p>	FirstSpirit Administrator, Java, Migration, Server Administrator, ServerMonitoring
CORE-10836	<p>When deleting a schedule with a generation action, the corresponding directory on the application server on which the Staging Web application is running is now also deleted.</p> <p>Further information can be found in chapter "Administration: Generation directories of deleted orders are cleaned up".</p>	FirstSpirit Administrator
CORE-11471	<p>A bug was fixed that could cause that after updating a module used in schedules, the corresponding action could not be used until the server was restarted.</p> <p>Note: The problem may still occur once within the current execution for schedules that were running at the time of the update.</p>	FirstSpirit Administrator, Isolated mode, Modules, Server Administrator, Tasks



ID	Description	Categories
CORE-11816	<p>The <code>RenderingAgent</code> interface (package: <code>de.espirit.firstspirit.agency</code>, FirstSpirit Developer API) can be used to control generation for specific dynamic FirstSpirit content directly via the API. In conjunction with the <code>json()</code> function, the output was incomplete here in rare cases. This error has been resolved.</p>	Developer, FirstSpirit API, Support for JSON
CORE-11827 CORE-12141 CXT-1393	<p>Update of internally used software</p> <p>Further information can be found in chapter “System: Update of internally used software”.</p>	FirstSpirit Administrator, FirstSpirit Content Experience Tools (CXT), FirstSpirit Jetty Web Server, Integrated software, Java, Launcher
CORE-11858	<p>The <code>ReferenceConstructionAgent</code> (FirstSpirit Developer API, package <code>de.espirit.firstspirit.client.access.editor</code>) was expanded with the latest FirstSpirit release to include methods which enable references to be generated on the basis of meta information (via the unique identifier (UID) and <code>IDProvider.UidType</code> of a FirstSpirit object or via the global identifier (GID) for references to datasets). At the same time, the <code>ValueReferencesJournal</code> interface (FirstSpirit Access API, package <code>de.espirit.firstspirit.client.plugin.dataaccess.as</code>) was expanded with new methods which can be used to add defective references as well as regular references (e.g., in a <code>DataAccessProvider</code>).</p> <p>Further information can be found in chapter “Module Development, Scripts, API: API extension for generating references (ReferenceConstructionAgent and ValueReferencesJournal)”.</p>	Data Access Plug-In, Developer, FirstSpirit API, Module development
CORE-11911	<p>The <code>DatasetDataAccessPlugin</code> now also supports the referencing of records from external databases.</p> <p>Further information can be found in chapter “General: External database support via the <code>DatasetDataAccessPlugin</code>”.</p>	Data Access Plug-In, Database



ID	Description	Categories
CORE-12018	<p>Support Open JDK 14: As of FirstSpirit 2020-04, OpenJDK 14 (non-LTS; release date 2020/03) is officially approved for use with FirstSpirit (i.e, the FirstSpirit Server and the FirstSpirit desktop applications). With support for OpenJDK 14, support for OpenJDK 13 (non-LTS; release date was 2019/07) expires.</p> <p>Discontinuation of Java 8: As part of product maintenance, the discontinuation of support for Java 8 was announced with FirstSpirit 2019-05: FirstSpirit is scheduled to no longer support Oracle Java 8 and OpenJDK 8 from June 2020.</p> <p>Further information can be found in chapter “General: Java: Current status and outlook”.</p>	Developer, FirstSpirit Administrator, Java, Server Administrator
CORE-12031	An error could occur when using services from your own services if the components involved were not yet fully started. This dependency scenario has been corrected.	FirstSpirit Administrator, Server Administrator
CORE-12043	An error has been resolved which, in rare cases, could previously lead to problems when using X.509 certificates in conjunction with the <code>fs-jetty.fsm</code> module (“FirstSpirit Jetty Service”). (Note: Using Eclipse Jetty for production purposes is still not recommended!)	FirstSpirit Jetty Web Server, Server Administrator, Web server
CORE-12060	FirstSpirit documentation which we provide in the HTML format will no longer be provided as PDF.	Documentation
CORE-12079	In rare cases, datasets could not be edited via EasyEdit due to incorrect evaluation of the relevant <code>editorId</code> .	Content Store, ContentCreator, Developer, Editor, Table templates
CORE-12091	<p>If one or more web applications are configured to run on the “old” ContentCreator of a FirstSpirit server, the start page of the FirstSpirit server will show a warning to users with the administrator role.</p> <p>Further information can be found in chapter “ContentCreator: Use of the "old" ContentCreator”.</p>	ContentCreator, Developer, FirstSpirit Administrator



ID	Description	Categories
CXT-846	<p>FS_INDEX with DataAccessPlugin component <i>FirstSpiritFragmentAccess/FSFAConnector</i> now also supports the creation of fragments of several different categories (tag CATEGORY).</p> <p>Further information can be found in chapter “FirstSpirit Content Experience Tools (CXT): FS_INDEX now also supports the creation of fragments of several different categories (tag CATEGORY)”.</p>	Developer, FirstSpirit Content Experience Tools (CXT), FragmentCreator, Input Components
CXT-1205	<p>The Media DAP now allows the type-dependent upload of files.</p> <p>Further information can be found in chapter “FirstSpirit Content Experience Tools (CXT): Media DAP: Type-dependent upload of files”.</p>	Developer, Editor, FirstSpirit Content Experience Tools (CXT), FragmentCreator, Media, Modules
CXT-1206	<p>Information for analysis and debugging</p> <p>Further information can be found in chapter “FirstSpirit Content Experience Tools (CXT): Error analysis for MicroApp Framework”.</p>	Debugging, Developer, FirstSpirit Administrator, FirstSpirit Content Experience Tools (CXT)
CXT-1221	<p>Language selection lists now have a scroll bar if there are large numbers of entries.</p>	ContentCreator, Editor, Languages
CXT-1319	<p>The standard workflow for deleting fragments and variants – “Request deletion” – now once again removes entire fragments from live CaaS instances rather than just individual variants.</p> <p>In existing projects which use this workflow, the relevant script must be updated accordingly. You will find this in the latest version of the blueprint project.</p>	FirstSpirit Content Experience Tools (CXT), FirstSpirit Content as a Service (CaaS)
CXT-1330	<p>In rare cases no preview image was displayed after dragging and dropping images into the corresponding dialog of FS_INDEX (error message: Refused to load the image 'blob:http://host.meinserver.de:8050/2796eb8b-643e-4791-bc37-42140696915b' because it violates the following Content Security Policy directive: "img-src 'self' data:").</p>	Editor, FirstSpirit Content Experience Tools (CXT), FragmentCreator, Media
CXT-1338	<p>The display of buttons in dialogs in the “new” FirstSpirit ContentCreator has been optimized so that labels in dialogs for switching on workflows are now easier to read.</p>	ContentCreator, Developer, Editor



ID	Description	Categories
CXT-1343	A bug has been fixed that could cause unwanted flickering of icons in the new ContentCreator in rare cases (e.g. bookmark icon in the menu bar, icons in the image cropping dialog).	ContentCreator, Developer, Editor
CXT-1354	LiveEdit now works again with the “new” ContentCreator.	ContentCreator, Developer, LiveEdit
CXT-1376	When uploading files by drag-and-drop in the new ContentCreator (via FS_REFERENCE), the MIME type is now correctly recognized by the file extension	ContentCreator, Editor, Media
CXT-1378	The MicroApp Framework now works even more stably with native DataAccess plug-ins which are included in the standard scope of delivery of FirstSpirit, such as the <i>DatasetDataAccessPlugin</i> .	Data Access Plug-In, Developer, FirstSpirit Content Experience Tools (CXT), FragmentCreator
CXT-1405	<p>In addition to the preview, the FirstSpirit ContentCreator now offers navigation and editing options via a structure tree.</p> <p>Further information can be found in chapter “ContentCreator: New navigation view in the ContentCreator combines hierarchical structure display, context information and editing options”.</p>	ContentCreator, Editor
CXT-1419	<p>It is now possible to configure the <code>Content-Security-Policy</code> header.</p> <p>Further information can be found in chapter “FirstSpirit Content Experience Tools (CXT): Configuration of the Content-Security-Policy header”.</p>	FirstSpirit Administrator, FirstSpirit Content Experience Tools (CXT)
CXT-1421 CXT-1446	After having made modifications to pages, the view is now directly updated again, so that, among other things, the correct status (editing status/work flow) in combination with FirstSpirit Omnichannel Manager is displayed again.	ContentCreator, Developer, Editor, FirstSpirit Administrator, Omnichannel Manager / Third Party Preview, Workflow



ID	Description	Categories
CXT-1436	<p>FirstSpirit Content Experience Tools: Latest module versions</p> <p>Further information can be found in chapter “FirstSpirit Content Experience Tools (CXT): Latest module versions”.</p>	Developer, FirstSpirit Administrator, FirstSpirit Content Experience Tools (CXT), FragmentCreator, Modules

9 Categories

9.1 Workflow

ID	Description
CXT-1421	After having made modifications to pages, the view is now directly updated again, so that, among other things, the correct status (editing status/work flow) in combination with FirstSpirit Omnichannel Manager is displayed again.
CXT-1446	

9.2 Tasks

ID	Description
CORE-11471	<p>A bug was fixed that could cause that after updating a module used in schedules, the corresponding action could not be used until the server was restarted.</p> <p>Note: The problem may still occur once within the current execution for schedules that were running at the time of the update.</p>

9.3 ContentCreator

ID	Description
CORE-12079	In rare cases, datasets could not be edited via EasyEdit due to incorrect evaluation of the relevant <code>editorId</code> .



ID	Description
CORE-12091	<p>If one or more web applications are configured to run on the “old” ContentCreator of a FirstSpirit server, the start page of the FirstSpirit server will show a warning to users with the administrator role.</p> <p>Further information can be found in chapter “ContentCreator: Use of the “old” ContentCreator”.</p>
CXT-1221	Language selection lists now have a scroll bar if there are large numbers of entries.
CXT-1338	The display of buttons in dialogs in the “new” FirstSpirit ContentCreator has been optimized so that labels in dialogs for switching on workflows are now easier to read.
CXT-1343	A bug has been fixed that could cause unwanted flickering of icons in the new ContentCreator in rare cases (e.g. bookmark icon in the menu bar, icons in the image cropping dialog).
CXT-1354	LiveEdit now works again with the “new” ContentCreator.
CXT-1376	When uploading files by drag-and-drop in the new ContentCreator (via FS_REFERENCE), the MIME type is now correctly recognized by the file extension
CXT-1405	<p>In addition to the preview, the FirstSpirit ContentCreator now offers navigation and editing options via a structure tree.</p> <p>Further information can be found in chapter “ContentCreator: New navigation view in the ContentCreator combines hierarchical structure display, context information and editing options”.</p>
CXT-1421 CXT-1446	After having made modifications to pages, the view is now directly updated again, so that, among other things, the correct status (editing status/work flow) in combination with FirstSpirit Omnichannel Manager is displayed again.

9.4 Data Access Plug-In

ID	Description
CORE-11858	<p>The <code>ReferenceConstructionAgent</code> (FirstSpirit Developer API, package <code>de.espirit.firstspirit.client.access.editor</code>) was expanded with the latest FirstSpirit release to include methods which enable references to be generated on the basis of meta information (via the unique identifier (UID) and <code>IDProvider.UidType</code> of a FirstSpirit object or via the global identifier (GID) for references to datasets). At the same time, the <code>ValueReferencesJournal</code> interface (FirstSpirit Access API, package <code>de.espirit.firstspirit.client.plugin.dataaccess.aspects</code>) was expanded</p>



ID	Description
	<p>with new methods which can be used to add defective references as well as regular references (e.g., in a <code>DataAccessProvider</code>).</p> <p>Further information can be found in chapter “Module Development, Scripts, API: API extension for generating references (<code>ReferenceConstructionAgent</code> and <code>ValueReferencesJournal</code>)”.</p>
CORE-11911	<p>The <code>DatasetDataAccessPlugin</code> now also supports the referencing of records from external databases.</p> <p>Further information can be found in chapter “General: External database support via the <code>DatasetDataAccessPlugin</code>”.</p>
CXT-1378	<p>The MicroApp Framework now works even more stably with native <code>DataAccess</code> plugins which are included in the standard scope of delivery of FirstSpirit, such as the <code>DatasetDataAccessPlugin</code>.</p>

9.5 Database

ID	Description
CORE-11911	<p>The <code>DatasetDataAccessPlugin</code> now also supports the referencing of records from external databases.</p> <p>Further information can be found in chapter “General: External database support via the <code>DatasetDataAccessPlugin</code>”.</p>

9.6 Content Store

ID	Description
CORE-12079	<p>In rare cases, datasets could not be edited via EasyEdit due to incorrect evaluation of the relevant <code>editorId</code>.</p>



9.7 Debugging

ID	Description
CXT-1206	Information for analysis and debugging Further information can be found in chapter “FirstSpirit Content Experience Tools (CXT): Error analysis for MicroApp Framework”.

9.8 Documentation

ID	Description
CORE-12060	FirstSpirit documentation which we provide in the HTML format will no longer be provided as PDF. Further information can be found in chapter “General: FirstSpirit documentation: PDF format discontinued”.

9.9 Input Components

ID	Description
CXT-846	FS_INDEX with DataAccessPlugin component <i>FirstSpiritFragmentAccess/FSFAConnector</i> now also supports the creation of fragments of several different categories (tag CATEGORY). Further information can be found in chapter “FirstSpirit Content Experience Tools (CXT): FS_INDEX now also supports the creation of fragments of several different categories (tag CATEGORY)”.

9.10 Developer

ID	Description
CORE-5816	Corrected a bug that could cause a <code>java.lang.StackOverflowError</code> in rare cases when using the <code>toJson()</code> function in the output channel.



ID	Description
CORE-11816	<p>The <code>RenderingAgent</code> interface (package: <code>de.espirit.firstspirit.agency</code>, FirstSpirit Developer API) can be used to control generation for specific dynamic FirstSpirit content directly via the API. In conjunction with the <code>json()</code> function, the output was incomplete here in rare cases. This error has been resolved.</p>
CORE-11858	<p>The <code>ReferenceConstructionAgent</code> (FirstSpirit Developer API, package <code>de.espirit.firstspirit.client.access.editor</code>) was expanded with the latest FirstSpirit release to include methods which enable references to be generated on the basis of meta information (via the unique identifier (UID) and <code>IDProvider.UidType</code> of a FirstSpirit object or via the global identifier (GID) for references to datasets). At the same time, the <code>ValueReferencesJournal</code> interface (FirstSpirit Access API, package <code>de.espirit.firstspirit.client.plugin.dataaccess.aspects</code>) was expanded with new methods which can be used to add defective references as well as regular references (e.g., in a <code>DataAccessProvider</code>).</p> <p>Further information can be found in chapter “Module Development, Scripts, API: API extension for generating references (<code>ReferenceConstructionAgent</code> and <code>ValueReferencesJournal</code>)”.</p>
CORE-12018	<p>Support Open JDK 14: As of FirstSpirit 2020-04, OpenJDK 14 (non-LTS; release date 2020/03) is officially approved for use with FirstSpirit (i.e, the FirstSpirit Server and the FirstSpirit desktop applications). With support for OpenJDK 14, support for OpenJDK 13 (non-LTS; release date was 2019/07) expires.</p> <p>Discontinuation of Java 8: As part of product maintenance, the discontinuation of support for Java 8 was announced with FirstSpirit 2019-05: FirstSpirit is scheduled to no longer support Oracle Java 8 and OpenJDK 8 from June 2020.</p> <p>Further information can be found in chapter “General: Java: Current status and outlook”.</p>
CORE-12079	<p>In rare cases, datasets could not be edited via <code>EasyEdit</code> due to incorrect evaluation of the relevant <code>editorId</code>.</p>
CORE-12091	<p>If one or more web applications are configured to run on the “old” <code>ContentCreator</code> of a FirstSpirit server, the start page of the FirstSpirit server will show a warning to users with the administrator role.</p> <p>Further information can be found in chapter “ContentCreator: Use of the “old” <code>ContentCreator</code>”.</p>
CXT-846	<p><code>FS_INDEX</code> with <code>DataAccessPlugin</code> component <code>FirstSpiritFragmentAccess/FSFAConnector</code> now also supports the creation of fragments of several different categories (tag <code>CATEGORY</code>).</p>



ID	Description
	Further information can be found in chapter “FirstSpirit Content Experience Tools (CXT): FS_INDEX now also supports the creation of fragments of several different categories (tag CATEGORY)”.
CXT-1205	The Media DAP now allows the type-dependent upload of files. Further information can be found in chapter “FirstSpirit Content Experience Tools (CXT): Media DAP: Type-dependent upload of files”.
CXT-1206	Information for analysis and debugging Further information can be found in chapter “FirstSpirit Content Experience Tools (CXT): Error analysis for MicroApp Framework”.
CXT-1338	The display of buttons in dialogs in the “new” FirstSpirit ContentCreator has been optimized so that labels in dialogs for switching on workflows are now easier to read.
CXT-1343	A bug has been fixed that could cause unwanted flickering of icons in the new ContentCreator in rare cases (e.g. bookmark icon in the menu bar, icons in the image cropping dialog).
CXT-1354	LiveEdit now works again with the “new” ContentCreator.
CXT-1378	The MicroApp Framework now works even more stably with native DataAccess plugins which are included in the standard scope of delivery of FirstSpirit, such as the <i>DatasetDataAccessPlugin</i> .
CXT-1421 CXT-1446	After having made modifications to pages, the view is now directly updated again, so that, among other things, the correct status (editing status/work flow) in combination with FirstSpirit Omnichannel Manager is displayed again.
CXT-1436	FirstSpirit Content Experience Tools: Latest module versions Further information can be found in chapter “FirstSpirit Content Experience Tools (CXT): Latest module versions”.

9.11 FirstSpirit Content as a Service (CaaS)

ID	Description
CXT-1319	The standard workflow for deleting fragments and variants – “Request deletion” – now once again removes entire fragments from live CaaS instances rather than just individual variants.



ID	Description
	In existing projects which use this workflow, the relevant script must be updated accordingly. You will find this in the latest version of the blueprint project.

9.12 FirstSpirit Content Experience Tools (CXT)

ID	Description
CORE-11827 CORE-12141 CXT-1393	Update of internally used software Further information can be found in chapter “System: Update of internally used software”.
CXT-846	FS_INDEX with DataAccessPlugin component <i>FirstSpiritFragmentAccess/FSFAConnector</i> now also supports the creation of fragments of several different categories (tag CATEGORY). Further information can be found in chapter “FirstSpirit Content Experience Tools (CXT): FS_INDEX now also supports the creation of fragments of several different categories (tag CATEGORY)”.
CXT-1205	The Media DAP now allows the type-dependent upload of files. Further information can be found in chapter “FirstSpirit Content Experience Tools (CXT): Media DAP: Type-dependent upload of files”.
CXT-1206	Information for analysis and debugging Further information can be found in chapter “FirstSpirit Content Experience Tools (CXT): Error analysis for MicroApp Framework”.
CXT-1319	The standard workflow for deleting fragments and variants – “Request deletion” – now once again removes entire fragments from live CaaS instances rather than just individual variants. In existing projects which use this workflow, the relevant script must be updated accordingly. You will find this in the latest version of the blueprint project.
CXT-1330	In rare cases no preview image was displayed after dragging and dropping images into the corresponding dialog of FS_INDEX (error message: Refused to load the image 'blob:http://host.meinserver.de:8050/2796eb8b-643e-4791-bc37-42140696915b' because it violates the following Content Security Policy directive: "img-src 'self' data:").



ID	Description
CXT-1378	The MicroApp Framework now works even more stably with native DataAccess plugins which are included in the standard scope of delivery of FirstSpirit, such as the <i>DatasetDataAccessPlugin</i> .
CXT-1419	It is now possible to configure the Content-Security-Policy header. Further information can be found in chapter “FirstSpirit Content Experience Tools (CXT): Configuration of the Content-Security-Policy header”.
CXT-1436	FirstSpirit Content Experience Tools: Latest module versions Further information can be found in chapter “FirstSpirit Content Experience Tools (CXT): Latest module versions”.

9.13 FirstSpirit Jetty Web Server

ID	Description
CORE-11827	Update of internally used software
CORE-12141 CXT-1393	Further information can be found in chapter “System: Update of internally used software”.
CORE-12043	An error has been resolved which, in rare cases, could previously lead to problems when using X.509 certificates in conjunction with the <code>fs-jetty.fsm</code> module (“FirstSpirit Jetty Service”). (Note: Using Eclipse Jetty for production purposes is still not recommended!)

9.14 FirstSpirit Administrator

ID	Description
CORE-10776	With the current FirstSpirit release the Java VM's startup parameters can be automatically updated. For this purpose, the startup options have been split into two separate configuration files. The new file <code>fs-wrapper-vendor.conf</code> contains the recommended vendor startup options. These are automatically updated when the FirstSpirit server is updated via the update archive <code>fs-update-[version].tar.gz</code> . The existing file <code>fs-wrapper[.isolated].conf</code> only contains those startup options which have been modified server-specifically. The changes are available for update archives from version 1.0.5 on. The



ID	Description
	<p>update archive is available for download (if you need login data, please contact the FirstSpirit Technical Support).</p> <p>Further information can be found in chapter “Administration: Automatically update Java version-specific wrapper files”.</p>
CORE-10836	<p>When deleting a schedule with a generation action, the corresponding directory on the application server on which the Staging Web application is running is now also deleted.</p> <p>Further information can be found in chapter “Administration: Generation directories of deleted orders are cleaned up.”.</p>
CORE-11471	<p>A bug was fixed that could cause that after updating a module used in schedules, the corresponding action could not be used until the server was restarted.</p> <p>Note: The problem may still occur once within the current execution for schedules that were running at the time of the update.</p>
CORE-11827 CORE-12141 CXT-1393	<p>Update of internally used software</p> <p>Further information can be found in chapter “System: Update of internally used software”.</p>
CORE-12018	<p>Support Open JDK 14: As of FirstSpirit 2020-04, OpenJDK 14 (non-LTS; release date 2020/03) is officially approved for use with FirstSpirit (i.e, the FirstSpirit Server and the FirstSpirit desktop applications). With support for OpenJDK 14, support for OpenJDK 13 (non-LTS; release date was 2019/07) expires.</p> <p>Discontinuation of Java 8: As part of product maintenance, the discontinuation of support for Java 8 was announced with FirstSpirit 2019-05: FirstSpirit is scheduled to no longer support Oracle Java 8 and OpenJDK 8 from June 2020.</p> <p>Further information can be found in chapter “General: Java: Current status and outlook”.</p>
CORE-12031	<p>An error could occur when using services from your own services if the components involved were not yet fully started. This dependency scenario has been corrected.</p>
CORE-12091	<p>If one or more web applications are configured to run on the “old” ContentCreator of a FirstSpirit server, the start page of the FirstSpirit server will show a warning to users with the administrator role.</p> <p>Further information can be found in chapter “ContentCreator: Use of the “old” ContentCreator”.</p>
CXT-1206	<p>Information for analysis and debugging</p>



ID	Description
	Further information can be found in chapter “FirstSpirit Content Experience Tools (CXT): Error analysis for MicroApp Framework”.
CXT-1419	It is now possible to configure the <code>Content-Security-Policy</code> header. Further information can be found in chapter “FirstSpirit Content Experience Tools (CXT): Configuration of the Content-Security-Policy header”.
CXT-1421 CXT-1446	After having made modifications to pages, the view is now directly updated again, so that, among other things, the correct status (editing status/work flow) in combination with FirstSpirit Omnichannel Manager is displayed again.
CXT-1436	FirstSpirit Content Experience Tools: Latest module versions Further information can be found in chapter “FirstSpirit Content Experience Tools (CXT): Latest module versions”.

9.15 FirstSpirit API

ID	Description
CORE-11816	The <code>RenderingAgent</code> interface (package: <code>de.espirit.firstspirit.agency</code> , FirstSpirit Developer API) can be used to control generation for specific dynamic FirstSpirit content directly via the API. In conjunction with the <code>json()</code> function, the output was incomplete here in rare cases. This error has been resolved.
CORE-11858	The <code>ReferenceConstructionAgent</code> (FirstSpirit Developer API, package <code>de.espirit.firstspirit.client.access.editor</code>) was expanded with the latest FirstSpirit release to include methods which enable references to be generated on the basis of meta information (via the unique identifier (UID) and <code>IDProvider.UidType</code> of a FirstSpirit object or via the global identifier (GID) for references to datasets). At the same time, the <code>ValueReferencesJournal</code> interface (FirstSpirit Access API, package <code>de.espirit.firstspirit.client.plugin.dataaccess.aspects</code>) was expanded with new methods which can be used to add defective references as well as regular references (e.g., in a <code>DataAccessProvider</code>). Further information can be found in chapter “Module Development, Scripts, API: API extension for generating references (<code>ReferenceConstructionAgent</code> and <code>ValueReferencesJournal</code>)”.



9.16 FragmentCreator

ID	Description
CXT-846	<p>FS_INDEX with DataAccessPlugin component <i>FirstSpiritFragmentAccess/FSFAConnector</i> now also supports the creation of fragments of several different categories (tag CATEGORY).</p> <p>Further information can be found in chapter “FirstSpirit Content Experience Tools (CXT): FS_INDEX now also supports the creation of fragments of several different categories (tag CATEGORY)”.</p>
CXT-1205	<p>The Media DAP now allows the type-dependent upload of files.</p> <p>Further information can be found in chapter “FirstSpirit Content Experience Tools (CXT): Media DAP: Type-dependent upload of files”.</p>
CXT-1330	<p>In rare cases no preview image was displayed after dragging and dropping images into the corresponding dialog of FS_INDEX (error message: Refused to load the image 'blob:http://host.meinserver.de:8050/2796eb8b-643e-4791-bc37-42140696915b' because it violates the following Content Security Policy directive: "img-src 'self' data:").</p>
CXT-1378	<p>The MicroApp Framework now works even more stably with native DataAccess plugins which are included in the standard scope of delivery of FirstSpirit, such as the <i>DatasetDataAccessPlugin</i>.</p>
CXT-1436	<p>FirstSpirit Content Experience Tools: Latest module versions</p> <p>Further information can be found in chapter “FirstSpirit Content Experience Tools (CXT): Latest module versions”.</p>

9.17 Integrated software

ID	Description
CORE-11827	Update of internally used software
CORE-12141	Further information can be found in chapter “System: Update of internally used software”.
CXT-1393	



9.18 Isolated mode

ID	Description
CORE-11471	<p>A bug was fixed that could cause that after updating a module used in schedules, the corresponding action could not be used until the server was restarted.</p> <p>Note: The problem may still occur once within the current execution for schedules that were running at the time of the update.</p>

9.19 Java

ID	Description
CORE-10776	<p>With the current FirstSpirit release the Java VM's startup parameters can be automatically updated. For this purpose, the startup options have been split into two separate configuration files. The new file <code>fs-wrapper-vendor.conf</code> contains the recommended vendor startup options. These are automatically updated when the FirstSpirit server is updated via the update archive <code>fs-update-[version].tar.gz</code>. The existing file <code>fs-wrapper[.isolated].conf</code> only contains those startup options which have been modified server-specifically. The changes are available for update archives from version 1.0.5 on. The update archive is available for download (if you need login data, please contact the FirstSpirit Technical Support).</p> <p>Further information can be found in chapter "Administration: Automatically update Java version-specific wrapper files".</p>
CORE-11827	Update of internally used software
CORE-12141 CXT-1393	Further information can be found in chapter "System: Update of internally used software".
CORE-12018	<p>Support Open JDK 14: As of FirstSpirit 2020-04, OpenJDK 14 (non-LTS; release date 2020/03) is officially approved for use with FirstSpirit (i.e, the FirstSpirit Server and the FirstSpirit desktop applications). With support for OpenJDK 14, support for OpenJDK 13 (non-LTS; release date was 2019/07) expires.</p> <p>Discontinuation of Java 8: As part of product maintenance, the discontinuation of support for Java 8 was announced with FirstSpirit 2019-05: FirstSpirit is scheduled to no longer support Oracle Java 8 and OpenJDK 8 from June 2020.</p>



ID	Description
	Further information can be found in chapter “General: Java: Current status and outlook”.

9.20 Support for JSON

ID	Description
CORE-5816	Corrected a bug that could cause a <code>java.lang.StackOverflowError</code> in rare cases when using the <code>toJSON()</code> function in the output channel.
CORE-11816	The <code>RenderingAgent</code> interface (package: <code>de.espirit.firstspirit.agency</code> , FirstSpirit Developer API) can be used to control generation for specific dynamic FirstSpirit content directly via the API. In conjunction with the <code>json()</code> function, the output was incomplete here in rare cases. This error has been resolved.

9.21 Launcher

ID	Description
CORE-11827	Update of internally used software
CORE-12141 CXT-1393	Further information can be found in chapter “System: Update of internally used software”.

9.22 LiveEdit

ID	Description
CXT-1354	LiveEdit now works again with the “new” ContentCreator.

9.23 Media

ID	Description
CXT-1205	The Media DAP now allows the type-dependent upload of files.



ID	Description
	Further information can be found in chapter “FirstSpirit Content Experience Tools (CXT): Media DAP: Type-dependent upload of files”.
CXT-1330	In rare cases no preview image was displayed after dragging and dropping images into the corresponding dialog of FS_INDEX (error message: Refused to load the image 'blob:http://host.meinserver.de:8050/2796eb8b-643e-4791-bc37-42140696915b' because it violates the following Content Security Policy directive: "img-src 'self' data:").
CXT-1376	When uploading files by drag-and-drop in the new ContentCreator (via FS_REFERENCE), the MIME type is now correctly recognized by the file extension

9.24 Migration

ID	Description
CORE-10776	<p>With the current FirstSpirit release the Java VM's startup parameters can be automatically updated. For this purpose, the startup options have been split into two separate configuration files. The new file <code>fs-wrapper-vendor.conf</code> contains the recommended vendor startup options. These are automatically updated when the FirstSpirit server is updated via the update archive <code>fs-update-[version].tar.gz</code>. The existing file <code>fs-wrapper[.isolated].conf</code> only contains those startup options which have been modified server-specifically. The changes are available for update archives from version 1.0.5 on. The update archive is available for download (if you need login data, please contact the FirstSpirit Technical Support).</p> <p>Further information can be found in chapter “Administration: Automatically update Java version-specific wrapper files”.</p>

9.25 Module development

ID	Description
CORE-11858	The <code>ReferenceConstructionAgent</code> (FirstSpirit Developer API, package <code>de.espirit.firstspirit.client.access.editor</code>) was expanded with the latest FirstSpirit release to include methods which enable references to be generated on the basis of meta information (via the unique identifier (UID) and <code>IDProvider.UidType</code> of a



ID	Description
	<p>FirstSpirit object or via the global identifier (GID) for references to datasets). At the same time, the ValueReferencesJournal interface (FirstSpirit Access API, package <code>de.espirit.firstspirit.client.plugin.dataaccess.aspects</code>) was expanded with new methods which can be used to add defective references as well as regular references (e.g., in a <code>DataAccessProvider</code>).</p> <p>Further information can be found in chapter “Module Development, Scripts, API: API extension for generating references (<code>ReferenceConstructionAgent</code> and <code>ValueReferencesJournal</code>)”.</p>

9.26 Modules

ID	Description
CORE-11471	<p>A bug was fixed that could cause that after updating a module used in schedules, the corresponding action could not be used until the server was restarted.</p> <p>Note: The problem may still occur once within the current execution for schedules that were running at the time of the update.</p>
CXT-1205	<p>The Media DAP now allows the type-dependent upload of files.</p> <p>Further information can be found in chapter “FirstSpirit Content Experience Tools (CXT): Media DAP: Type-dependent upload of files”.</p>
CXT-1436	<p>FirstSpirit Content Experience Tools: Latest module versions</p> <p>Further information can be found in chapter “FirstSpirit Content Experience Tools (CXT): Latest module versions”.</p>

9.27 Omnichannel Manager / Third Party Preview

ID	Description
CXT-1421 CXT-1446	<p>After having made modifications to pages, the view is now directly updated again, so that, among other things, the correct status (editing status/work flow) in combination with FirstSpirit Omnichannel Manager is displayed again.</p>



9.28 Editor

ID	Description
CORE-12079	In rare cases, datasets could not be edited via EasyEdit due to incorrect evaluation of the relevant <code>editorId</code> .
CXT-1205	<p>The Media DAP now allows the type-dependent upload of files.</p> <p>Further information can be found in chapter “FirstSpirit Content Experience Tools (CXT): Media DAP: Type-dependent upload of files”.</p>
CXT-1221	Language selection lists now have a scroll bar if there are large numbers of entries.
CXT-1330	In rare cases no preview image was displayed after dragging and dropping images into the corresponding dialog of FS_INDEX (error message: <code>Refused to load the image 'blob:http://host.meinserver.de:8050/2796eb8b-643e-4791-bc37-42140696915b' because it violates the following Content Security Policy directive: "img-src 'self' data:"</code>).
CXT-1338	The display of buttons in dialogs in the “new” FirstSpirit ContentCreator has been optimized so that labels in dialogs for switching on workflows are now easier to read.
CXT-1343	A bug has been fixed that could cause unwanted flickering of icons in the new ContentCreator in rare cases (e.g. bookmark icon in the menu bar, icons in the image cropping dialog).
CXT-1376	When uploading files by drag-and-drop in the new ContentCreator (via FS_REFERENCE), the MIME type is now correctly recognized by the file extension
CXT-1405	<p>In addition to the preview, the FirstSpirit ContentCreator now offers navigation and editing options via a structure tree.</p> <p>Further information can be found in chapter “ContentCreator: New navigation view in the ContentCreator combines hierarchical structure display, context information and editing options”.</p>
CXT-1421 CXT-1446	After having made modifications to pages, the view is now directly updated again, so that, among other things, the correct status (editing status/work flow) in combination with FirstSpirit Omnichannel Manager is displayed again.



9.29 Server Administrator

ID	Description
CORE-10776	<p>With the current FirstSpirit release the Java VM's startup parameters can be automatically updated. For this purpose, the startup options have been split into two separate configuration files. The new file <code>fs-wrapper-vendor.conf</code> contains the recommended vendor startup options. These are automatically updated when the FirstSpirit server is updated via the update archive <code>fs-update-[version].tar.gz</code>. The existing file <code>fs-wrapper[.isolated].conf</code> only contains those startup options which have been modified server-specifically. The changes are available for update archives from version 1.0.5 on. The update archive is available for download (if you need login data, please contact the FirstSpirit Technical Support).</p> <p>Further information can be found in chapter “Administration: Automatically update Java version-specific wrapper files”.</p>
CORE-11471	<p>A bug was fixed that could cause that after updating a module used in schedules, the corresponding action could not be used until the server was restarted.</p> <p>Note: The problem may still occur once within the current execution for schedules that were running at the time of the update.</p>
CORE-12018	<p>Support Open JDK 14: As of FirstSpirit 2020-04, OpenJDK 14 (non-LTS; release date 2020/03) is officially approved for use with FirstSpirit (i.e, the FirstSpirit Server and the FirstSpirit desktop applications). With support for OpenJDK 14, support for OpenJDK 13 (non-LTS; release date was 2019/07) expires.</p> <p>Discontinuation of Java 8: As part of product maintenance, the discontinuation of support for Java 8 was announced with FirstSpirit 2019-05: FirstSpirit is scheduled to no longer support Oracle Java 8 and OpenJDK 8 from June 2020.</p> <p>Further information can be found in chapter “General: Java: Current status and outlook”.</p>
CORE-12031	<p>An error could occur when using services from your own services if the components involved were not yet fully started. This dependency scenario has been corrected.</p>
CORE-12043	<p>An error has been resolved which, in rare cases, could previously lead to problems when using X.509 certificates in conjunction with the <code>fs-jetty.fsm</code> module (“FirstSpirit Jetty Service”). (Note: Using Eclipse Jetty for production purposes is still not recommended!)</p>



9.30 ServerMonitoring

ID	Description
CORE-10776	<p>With the current FirstSpirit release the Java VM's startup parameters can be automatically updated. For this purpose, the startup options have been split into two separate configuration files. The new file <code>fs-wrapper-vendor.conf</code> contains the recommended vendor startup options. These are automatically updated when the FirstSpirit server is updated via the update archive <code>fs-update-[version].tar.gz</code>. The existing file <code>fs-wrapper[.isolated].conf</code> only contains those startup options which have been modified server-specifically. The changes are available for update archives from version 1.0.5 on. The update archive is available for download (if you need login data, please contact the FirstSpirit Technical Support).</p> <p>Further information can be found in chapter "Administration: Automatically update Java version-specific wrapper files".</p>

9.31 Languages

ID	Description
CXT-1221	Language selection lists now have a scroll bar if there are large numbers of entries.

9.32 Table templates

ID	Description
CORE-12079	In rare cases, datasets could not be edited via EasyEdit due to incorrect evaluation of the relevant <code>editorId</code> .

9.33 Template Development

ID	Description
CORE-5816	Corrected a bug that could cause a <code>java.lang.StackOverflowError</code> in rare cases when using the <code>toJSON()</code> function in the output channel.



9.34 Web server

ID	Description
CORE-12043	An error has been resolved which, in rare cases, could previously lead to problems when using X.509 certificates in conjunction with the <code>fs-jetty.fsm</code> module ("FirstSpirit Jetty Service"). (Note: Using Eclipse Jetty for production purposes is still not recommended!)

