FirstSpirit™
Unlock Your Content

Release Notes
FirstSpirit™ 2021-04

Status	**RELEASED**
Department	FS-Core
Copyright	2021 e-Spirit AG
File name	Releasenotes_2021_04_EN

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
www.e-Spirit.com

e-Spirit

Table of contents

1 General

1.1 FirstSpirit Launcher: New parameters for configuration via FSLauncher.vmoptions file

Three new parameters have been introduced to configure the launcher. These three parameters can be defined in the launcher installation directory via `{FS-Launcher installation path}/FSLauncher.vmoptions` file.

-DlauncherDir: Can be used to define the directory where the launcher should place the downloaded and temporary files.
Example: `-DlauncherDir=c:/temp/FSLauncher/`
Default value: `~Userhome/.firstspirit/FSLauncher`
Note: This parameter replaces the parameter `-Duser.home`

-DuseLocalJre: Can be used to define that the JRE used to start the FirstSpirit desktop apps should not be downloaded from the FirstSpirit server, but that a local JRE should be used instead.
Example: `-DuseLocalJre=true`
Default value: `false`
Note: The JRE to be used is determined automatically. In most cases this will be the JRE used by the launcher itself.

-DlocalJre: Can be used in conjunction with **-DuseLocalJre** to define which local JRE is to be used. The path to the installation directory of the corresponding Java version must be specified as the value.
Example: `-DlocalJre=c:/Program Files/Java/jdk-11/`
IMPORTANT: This parameter is only taken into account if `-DuseLocalJre=true` has also been defined.

1.2 Java: Support for OpenJDK 16

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.

As of FirstSpirit 2021-04, **OpenJDK 16** (non-LTS; release date 2021/03) is officially approved for use with FirstSpirit (i.e., the FirstSpirit Server and the FirstSpirit desktop applications).

AdoptOpenJDK 16 is included in the “FirstSpirit Launcher JRE” module. After appropriate configuration, FirstSpirit desktop applications can be started via the “FirstSpirit Launcher JRE” module using the FirstSpirit Launcher with AdoptOpenJDK 16.
(For documentation on the “FirstSpirit Launcher JRE” module, see the corresponding documentation).

> ! For operating FirstSpirit with OpenJDK 16, a FirstSpirit Launcher version 1.0.38 or higher is required.

With support for OpenJDK 16, support for **OpenJDK 15** (non-LTS; release date was 2020/09) expires.

FirstSpirit is expected to remain functional with OpenJDK 15. However, e-Spirit AG will neither carry out tests with OpenJDK 15 nor implement any measures designed to eliminate errors or problems that are exclusively associated with the use of OpenJDK 15.

Current status: The following JDKs are therefore compatible for FirstSpirit 2021-04:

- OpenJDK 16 (in its current version) (non-LTS) (*)
- OpenJDK 11 (in its current version) (LTS) (*)
- Oracle Java 11 (in its current version) (LTS)

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

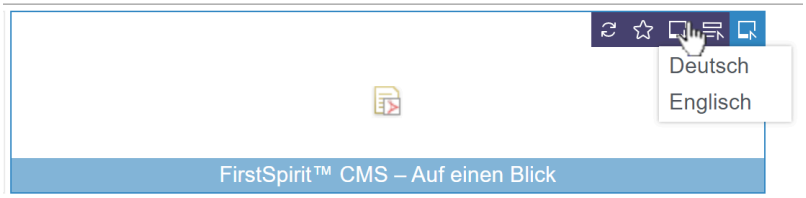
Further documentation see FirstSpirit: Technical requirements and recommendations.

2 ContentCreator

2.1 Media management: Download media

As of the current release, media can now also be downloaded from the Media management. For this purpose, the following icon is available when you mouse-over media in the Media management:

If it is a medium for which files for different languages are available, a context menu is displayed:



The desired language can be selected from this menu.

Where the medium will be saved on your workstation depends on the respective browser and the user-specific download settings.

Images are always downloaded in their original resolution.

3 Input components

3.1 JSON function: Configure JSON rendering of inherited metadata

With the current FirstSpirit release, the JSON function supports the rendering of inherited metadata.

No new version of the JSON output format will be published for this change; the changes will be made in the current **format version 1.1.**

Overview of changes in format version 1.1

Support for the rendering of inherited metadata

Metadata is additional information available for an object in FirstSpirit. Apart from metadata assigned by the system (such as “last modification date”) it is also possible to define project-specific metadata, which is managed by the user. If you would like to use metadata in your project, a metadata template must be defined for the project. You can then maintain this project-specific metadata on the corresponding FirstSpirit objects (e.g., on a page or page reference) in the “Metadata” tab using a form. In some cases, this project-specific metadata is maintained hierarchically. This means that the metadata is maintained once on a store's root node or a folder and then automatically inherited

by all hierarchically subordinate FirstSpirit objects (e.g., when defining user permissions via the input component CMS_INPUT_PERMISSION).

The JSON function can be used to transfer metadata into a JSON object structure. In doing so, the JSON output format takes into account the metadata of the relevant FirstSpirit object (pages, page references, media) at the time of generation. When a page or a page reference is rendered in the JSON output format, the metadata of the corresponding object is rendered as well. The output in format 1.1 will then contain the `metaFormData` attribute (see example).

You can configure the JSON rendering of metadata by using the JSON function. **New: As of the current FirstSpirit release it is possible to also render metadata that was not defined on the object itself but inherited from a hierarchically superordinate object.** Inherited metadata was previously not taken into account.

Configuration options for the rendering of metadata:

- option `$CMS_SET(#global.json.metaDataRendering, <BOOLEAN>)$` (default `true`): Any object's meta data will be rendered, unless rendering is explicitly disabled via `$CMS_SET(#global.json.metaDataRendering, false)$`.

- **New:** option `$CMS_SET(#global.json.metaInheritanceRendering, <BOOLEAN>)$` (default `false`):
  - The configuration `$CMS_SET(#global.json.metaInheritanceRendering, true)$`, will render metadata which was not defined on the FirstSpirit object itself but on a hierarchically superordinate object. The inherited metadata is transferred into a JSON object structure. The metadata used, is always the metadata of the next-higher object for which metadata has been defined (up to the store's root node).

  - The default configuration `$CMS_SET(#global.json.metaInheritanceRendering, false)$` will only render metadata defined on the object itself. If no metadata is defined on the object itself, an empty value is rendered using the `metaFormData` attribute, even if the object has inherited metadata.

Special Notes

`$CMS_SET(#global.json.metaInheritanceRendering, true)$`: For the rendering of inherited metadata the metadata of the hierarchically superordinate FirstSpirit objects are evaluated. Starting from

the origin object, the entire parent chain is evaluated until an object is found for which metadata has been defined. The evaluation ends at the store's root node (inclusively).

The following applies: If the input component containing the metadata is not set on a FirstSpirit object in the metadata form, the value of the next highest FirstSpirit object is evaluated. An input component is considered “not set” if the isSet() function returns `false`, i.e., an object is not available in the current context. This state is reached if an input component has never been set or an input component once set is overwritten with `NULL`, e.g., via a script (see “example: Switch input component to “not set””).

Simply deleting a value in the input component is not sufficient (in this case the input component is empty (*isEmpty() == true*) but still set (*isSet() == true*) (cf. API documentation Interface: FormField - method: isEmpty()).

Example - $CMS_SET(#global.json.metaInheritanceRendering, true)$

```
{
    "fsType": "PageRef",
    "name": "pt_metadata_selective_1",
    "displayName": "pt_metadata_selective",
    "identifier": "15ff7b8d-9059-4721-b92b-e697e153fc85",
    "uid": "pt_metadata_selective_1",
    "uidType": "SITESTORE_LEAF",
     "metaDataIsInherited": true,
    "metaFormData": {
       "meta_field1": {
          "fsType": "CMS_INPUT_TEXT",
          "name": "meta_field1",
          "identifier": "meta_field1",
          "value": null,
          "valueSchema": {
             "type": "null"
          }
       },
       "meta_field2": {
          "fsType": "CMS_INPUT_TEXT",
          "name": "meta_field2",
          "identifier": "meta_field2",
          "value": "value_field2_set",
          "valueSchema": {
             "type": "string"
        }
       },
       "meta_field3": {
          "fsType": "CMS_INPUT_DATE",
          "name": "meta_field3",
          "identifier": "meta_field3",
          "value": null,
          "valueSchema": {
             "type": "null"
          }
       }
    },
(...)
```

Example: Switch input component to “not set”:

Input component FS_BUTTON:

```
<FS_BUTTON name="meta_field1" noBreak="yes" onClick="script:delete_meta_data">
      <LANGINFOS>
        <LANGINFO lang="*" label="Delete meta data"/>
      </LANGINFOS>
      <PARAMS>
        <PARAM name="meta_data">#field.meta_field1</PARAM>
      </PARAMS>
    </FS_BUTTON>
```

Script (delete_meta_data):

```
import de.espirit.firstspirit.forms.FormField;
 if (meta_data instanceof FormField) {
 meta_data.set(null);
 }
```

Further documentation:

- Documentation: Using metadata in FirstSpirit
- Documentation: FirstSpirit JSON Support

3.2 JSON function: Support for CMS_INPUT_PERMISSION

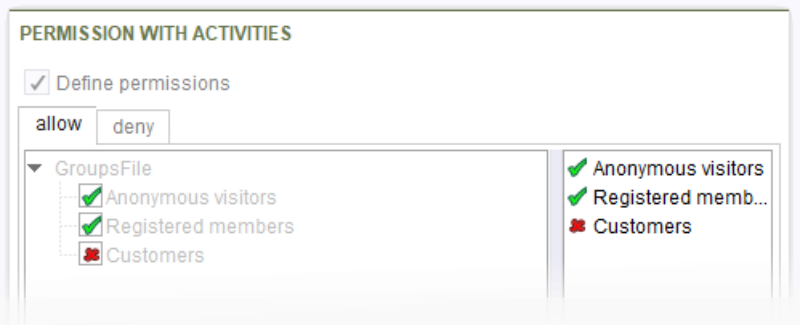
In the latest FirstSpirit release, the JSON function supports the CMS_INPUT_PERMISSION input component.

No new version of the JSON output format will be published for this change; the changes will be made in the **current format version 1.1**.

Overview of changes in format version 1.1

Support for CMS_INPUT_PERMISSION (metadata/user permissions)

Specific access and execution permissions (“user permissions”) for *generated and published* FirstSpirit objects (pages, page references, and media) are defined using the CMS_INPUT_PERMISSION input component. The CMS_INPUT_PERMISSION input component is specified by the template developer using a project-specific metadata template. The user permissions for individual users and groups can then be defined on the “Metadata” tab of the FirstSpirit objects. The CMS_INPUT_PERMISSION input component also takes into account how these permissions are inherited, i.e., permissions inherited from a higher-level node are also read out by the input component.



CMS_INPUT_PERMISSION input component (with activities)

> ! This does not apply to the assignment of project or editorial permissions, which are firmly defined in FirstSpirit.

In the current FirstSpirit version and higher, the JSON function can be used to transfer the user permissions, which were defined on a FirstSpirit object with the help of the CMS_INPUT_PERMISSION input component, into a JSON object structure. In doing this, the JSON output format takes into account the metadata made persistent on the relevant FirstSpirit object (pages, page references, media) at the time of generation (activity, groups, permissions).

When a page or a page reference is rendered in the JSON output format, the metadata of the corresponding object is rendered as well. The output in format 1.1 will then contain:

- the activities of the CMS_INPUT_PERMISSION input component
  - If activities have been defined, the metadata is rendered separately for each individual activity (see example 1 for `"activity":"allow"` and `"activity":"deny"`)
  - If no activities have been defined, the metadata is rendered just once for `"activity":null` (see example 2, "activity":null)

- the groups of the CMS_INPUT_PERMISSION input component
- the “allowed” and “forbidden” permission, which have been defined for the relevant groups on the object
- but (in the default setting) no inherited permissions (see restriction)

Restriction: If no permissions have been defined within the input component (“Define permissions” option is deactivated for the input component), the visible, inherited permissions are only rendered if metadata inheritance has been activated (by using the option `$CMS_SET(#global.json.metaInheritanceRendering, true)$` - see “Configure metadata inheritance (JSON output)” below).

Example (JSON format for CMS_INPUT_PERMISSION):

Example 1) Rendering of user permissions if activities have been defined for the CMS_INPUT_PERMISSION input component (in this case: "allow" and "deny"):

```
{
   "formData":{
      "permission_with_act":{
         "fsType":"CMS_INPUT_PERMISSION",
         "name":"permission_with_act",
         "metadataIsInherited": false,
         "value":[
            {
               "activity":"allow",
               "forbidden":[
                  {
                     "groupId":"4",
                     "groupName":"Customers"
                  }
               ],
               "allowed":[
                  {
                     "groupId":"2",
                     "groupName":"Anonymous visitors"
                  },
                  {
                     "groupId":"3",
                     "groupName":"Registered members"
```

```
            }
         ]
      },
      {
         "activity":"deny",
         "forbidden":[
            {
               "groupId":"2",
               "groupName":"Anonymous visitors"
            },
            {
               "groupId":"3",
               "groupName":"Registered members"
            }
         ],
         "allowed":[
            {
               "groupId":"4",
               "groupName":"Customers"
            }
         ]
      }
   ]
}
```

Example 2) Rendering of user permissions if no activities have been defined for the CMS_INPUT_PERMISSION input component:

```
"permission_without_act":{
   "fsType":"CMS_INPUT_PERMISSION",
   "name":"permission_without_act",
   "metadataIsInherited": false,
   "value":[
      {
         "activity":null,
         "forbidden":[
            {
               "groupId":"3",
               "groupName":"Registered members"
            },
            {
               "groupId":"4",
               "groupName":"Customers"
```

```
            }
         ],
         "allowed":[
            {
               "groupId":"2",
               "groupName":"Anonymous visitors"
            }
         ]
      }
   ]
}
}
```

Configure metadata inheritance (JSON output)

The configuration `$CMS_SET(#global.json.metaInheritanceRendering, <BOOLEAN>)$` can be used to activate or deactivate the rendering of inherited metadata in JSON.

(Default) configuration: `$CMS_SET(#global.json.metaInheritanceRendering, false)$`
The default configuration will only render user permissions defined on the object itself.

- Initial situation - permissions defined: Permissions are defined in the CMS_INPUT_PERMISSION input component (input component's “Define permissions” option is enabled):
  - JSON output: This configuration will only render user permissions defined on the FirstSpirit object itself using the CMS_INPUT_PERMISSION input component.

- Initial situation - Inherited permissions: No user permissions are defined on the FirstSpirit object itself (input component's “Define permissions” option is disabled), but user permissions that are defined on a hierarchically superordinate object have been inherited:
  - JSON output: an empty value is rendered, even if the object has inherited permissions.

- Initial situation - No permissions available: No user permissions are defined on the FirstSpirit object itself (input component's “Define permissions” option is disabled), and no user permissions have been defined on a hierarchically superordinate object (up to the store's root node).
  - JSON output: an empty value is rendered.

Configuration: `$CMS_SET(#global.json.metaInheritanceRendering, true)$`

Considers user permissions defined on the FirstSpirit object itself and inherited user permissions of a hierarchically superordinate object.

- Initial situation - permissions defined: Permissions are defined in the CMS_INPUT_PERMISSION input component (input component's “Define permissions” option is enabled):
  - JSON output: This configuration will render user permissions defined on the FirstSpirit object itself using the CMS_INPUT_PERMISSION input component. The JSON output also contains the attribute's `metadataIsInherited` value `false` to indicate that the rendered user permissions for this object have not been inherited.

- Initial situation - Inherited rights: No user permissions are defined on the FirstSpirit object itself (input component's “Define permissions” option is disabled), but user permissions that are defined on a hierarchically superordinate object have been inherited:
  - JSON output: The inherited user permissions are transferred into a JSON object structure. The values used, are always the user permissions of the next-higher object for which user permissions have been defined (up to the store's root node). The JSON output also contains the attribute's `metadataIsInherited` value `true` to indicate that the rendered user permissions for this object have been inherited.

- Initial situation - No permissions available: No user permissions are defined on the FirstSpirit object itself (input component's “Define permissions” option is disabled), and no user permissions have been defined on a hierarchically superordinate object (up to the store's root node).
  - JSON output: an empty value is output.

Previous behavior:

The CMS_INPUT_PERMISSION input component was not supported previously. When user permissions were rendered via the JSON channel, this lack of support was indicated:

```
"permission_not_supported": {
        "fsType": "CMS_INPUT_PERMISSION",
        "name": "permission_not_supported",
        "value": {
           "error":
            "Type 'de.espirit.firstspirit.access.editor.value.PermissionsImpl'
             is not supported by the FirstSpirit json engine"
        }
     }
```

Additional documentation:

- Documentation on configuring user permissions in FirstSpirit
- Documentation on template development: CMS_INPUT_PERMISSION
- Documentation on JSON support in FirstSpirit
- Documentation on assigning and evaluating user permissions

4 FirstSpirit Content Experience Tools (CXT)

4.1 Latest module versions

FirstSpirit 2021-04 supports the following module versions for “FirstSpirit Content Experience Tools”:

Module / file name	Version number
FirstSpirit CXT DAP Bridge `dataservice-[version].fsm`	1.40
FirstSpirit CXT FragmentCreator `fragment-creator-[version].fsm`	2.21
FirstSpirit Fragment DAP `fragmentdap-[version].fsm`	1.36
FirstSpirit Media DAP `mediadap-[version].fsm`	1.28*
FirstSpirit PageRef DAP `pagerefdap-[version].fsm`	1.6
FirstSpirit Markdown Editor	1.26*

`markdown-editor-[version].fsm`	
FirstSpirit Tagging Editor	1.26
`tagging-editor-[version].fsm`	
FirstSpirit CXT FragmentCreator - CaaS Integration	1.27
`caas-integration-[version].fsm`	

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

4.2 Announcement: Separation of CXT Platform and FragmentCreator

FirstSpirit Content Experience Tools has been designed as a microservice architecture from the very beginning. The goal of the modular structure and independent processes are, among other things, improved availability, scalability and maintainability.

Up to now, the CXT platform is integrated into the FragmentCreator and is delivered with it. Services required for the platform are booted and managed every time a FragmentCreator instance is started, even if they are not needed (e.g. OAuth, MicroService controller, Eureka, etc.).
To improve performance and controllability, e-Spirit is currently working on separating the CXT platform and FragmentCreator. The aim is to operate the CXT platform and FragmentCreator as independent web applications. This will also allow the microservice concept to continue to be pursued..
After the technical changeover, the platform will be installed as an independent module and rolled out in a separate global WebApp. The configuration is done in the file system via a separate properties file.
With the release of the separation, the following versions of the affected modules will be supported:

- “Platform” module: version 2.x
- “FragmentCreator” module: version 3.x

Prerequisites for using the new technology:

- FragmentCreator and Platform each require a SOCKET connection to the FirstSpirit server.
- Both web applications must be accessible via the same external host (“same-origin”).

For existing installations, few adjustments have to be made to use the new technology, e.g.:

- installation of the new “Platform” module

- installation and adjustment of the “FragmentCreator” module (via `web.xml` or properties file)
- modification of API URLs (eg. in the “Fragment DAP” module)

Detailed instructions about the steps to be taken will be provided with the release of this technological changeover.

> ! The release of the separation and the new modules is planned for the 2021-05 release.

Alternatively, for a transition period, the “FragmentCreator” module in a version < 3.0 can continue to be used.

Cloud customers do not need to take any action in this context: e-Spirit will take care of all necessary configuration changes.

4.3 FragmentDAP: Limiting the selection of variants

The “Variant” principle of FirstSpirit Content Experience Tools allows different versions of a fragment and thus an economical reuse of content. A typical variant dimension of a fragment can be the language, for example. Other conceivable dimensions distinguish fragments, for example, in terms of the level of detail, language form (simple vs. complex), target group, etc.
Technically, variant dimensions are realized by using the *editions* identifier for a `<CMS_GROUP>` form in the metadata template.

In FragmentCreator, a variant of a fragment can be selected using the variant manager, in FirstSpirit ContentCreator and SiteArchitect a selection is possible via the FragmentDAP or in the “Fragments” report.

By default, all available variants are displayed to the editor for selection.
As of the current release, it is possible to configure which variant dimension(s) should be able to be selected via FragmentDAP.
In a first step, this functionality is now supported in the FirstSpirit ContentCreator and in the FirstSpirit SiteArchitect. A corresponding implementation for the FragmentCreator will follow with a later release.

Sample syntax:

```
<FS_INDEX name="fragments" useLanguages="no" viewMode="details">
   <LANGINFOS>
       <LANGINFO lang="*" label="Select text fragments"/>
       <LANGINFO lang="DE" label="Text-Fragmente auswählen"/>
   </LANGINFOS>
   <SOURCE name="FirstSpiritFragmentAccess/FSFAConnector">
       <PROJECT remote="fragments">
          <VARIANT name="language" value="EN"/>
          <VARIANT name="language" value="DE"/>
          <VARIANT name="device" value="Mobile"/>
       </PROJECT>
   </SOURCE>
</FS_INDEX>
```

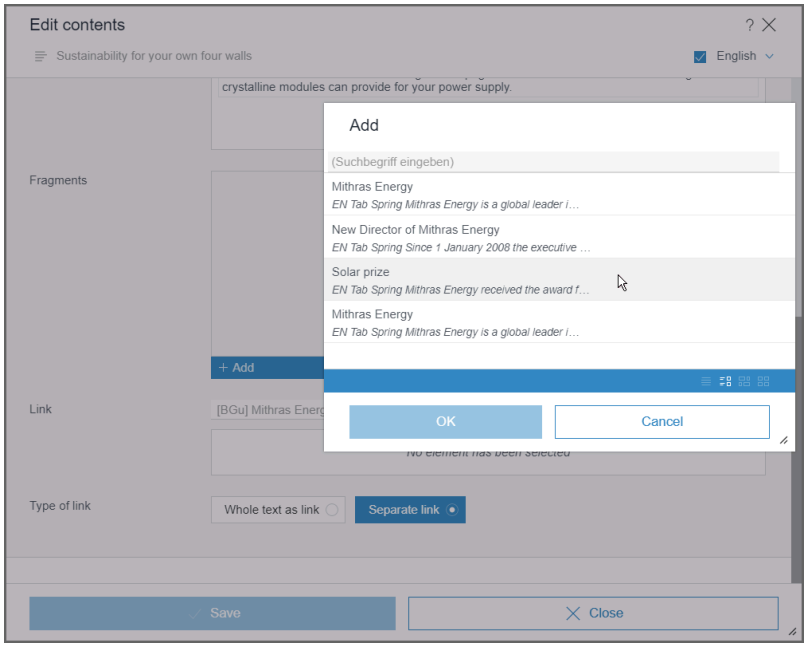
Tags / attributes:

- `VARIANT`: Use this tag to configure the selection of variant dimensions via FS_INDEX with FragmentDAP.
  One `VARIANT` definition must exist for each variant dimension that the editor is to be able to select.
  If this tag is **not** specified, all variant dimensions will be available for selection.
  Each `VARIANT` definition requires a `name` and `value` attribute to be specified:

- `name`: Use this attribute to specify the identifier of the variant dimension that is to be available for selection.
  This is the value of the `name` attribute of the desired component in the metadata template of the fragment project from which the selection is made via FragmentDAP.
  For each variant dimension that the editor should be able to select, one `VARIANT` definition with a matching `name` attribute must exist.
  If more than one variant dimensions are defined, only those variants will be displayed that fulfill all conditions (*AND* conjunction).

- `value`: Use this attribute to restrict the selection to certain types of a variant dimension.
  This is the value of the `value` attribute within `ENTRIES` / `ENTRY` of the desired component in the metadata template of the fragment project from which the selection is made via FragmentDAP.
  For each type of variant dimension that the editor should be able to select, a `VARIANT` definition with fitting `name` and `value` attribute must exist.
  If more than one type of a variant dimension is defined, all variants matching these types will be displayed (*OR* conjunction).

The order of the `VARIANT` definitions affects the order in which the variants are displayed in the selection dialog. In the example above, variants of the dimension *language* of type *EN* are always displayed (i.e. English-language variants).
Variants (and thus the associated fragment) to which the variant restrictions do not apply are not displayed.



An additional restriction of selectable fragments / variants is still available via the `CATEGORY` tag.

This new filtering option via `VARIANT` tag is only effective in a correspondingly configured FS_INDEX component, but **not** in the **“Fragment” report**. However, the display in the report now reflects the order of the `VARIANT` definitions.

Note: This functionality has not yet been released for the FragmentCreatorand should **not** be used there in combination with the creation of fragments.

For more information on configuration and use of the FragmentDAP see https://docs.e-spirit.com/odfs/edocs/cxt/templates/using-fragments/index.html.

5 Compatibility

5.1 Modules and extensions for FirstSpirit 2021-04

The following modules and extensions are compatible with FirstSpirit 2021-04:

Module name/File name	Version number	Compatibility
FirstSpirit Update Archive `fs-update-[version].tar.gz`	1.0.12	-
FirstSpirit Install Archiv `fs-install-[version].tar.gz`	1.0.12	-
FirstSpirit Launcher `FSLauncher.exe`	1.0.39	as of FirstSpirit 2018-08
FirstSpirit Launcher JRE module `fs-launcher-jre-[version].fsm`	1.17	as of FirstSpirit 2020-11
FirstSpirit SAML Login module `fs-saml-login-[version].fsm`	1.1	as of FirstSpirit 2019-02

FSDevTools
`fs-cli-[version].tar.gz`
`fs-cli-[version].zip`
	2.6.9	as of FirstSpirit 2020-08

FirstSpirit Module Gradle Plugin `firstspirit-module-gradle-plugin-[version].jar`	1.0.2	as of FirstSpirit 2019-06

6 SiteArchitect / ServerManager

6.1 Schedules are only run after complete server boot up

With FirstSpirit in its current version it is ensured that schedules are only started after the server is completely booted.
This resolves issues related to dependencies between schedules and required resources (e.g., services).

7 System

7.1 Updates to integrated third-party software

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

- **Java** (JRE with which the FirstSpirit Launcher is operated)
  The following Java versions are currently available:
  - Integrated in FirstSpirit (default): 11.0.10+9 64bit AdoptOpenJDK
  - New: In the FirstSpirit Launcher JRE module: 16+36 64bit AdoptOpenJDK
  - Removed: From the FirstSpirit Launcher JRE module: 15.02+7 64bit AdoptOpenJDK
- **Spring Boot** (used for MicroApp Framework)
  Update from version 2.3.5 to version 2.4

8 Template development

8.1 Workflows: Further configuration option for context-based information in e-mails

In e-mails sent by workflows, special placeholders may be used that are automatically replaced by the system based on the context. For example, this can be used to include a link to preview the page on which the workflow is active or to provide a wide range of other information in the e-mail.

The placeholders can be configured based on the properties of an activity or a transition in the “E-mail” tab “(Template store”/“Workflows”/“State diagram”). When a transition or an activity is switched, e-mails containing the relevant information are then sent automatically.

In the current FirstSpirit release, the following option have been added to the placeholders:

- `%CREATOR_FULLNAME%` = The name of the person who created the workflow. The full name is displayed (if this is not known, the login name is shown).

Additional documentation:

- Workflows/Properties of an activity/E-mail tab
- Workflows/Properties of a transition/E-mail tab

9 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 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_OBJECTCHOOSER	5.2R3	

Functionality	Deprecated as of	Will be removed/ Was removed as of
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	
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.MaintenanceModeInfo)	2018-07	
FirstSpirit Developer API: getStartingTimeOfStageAsDate (de.espirit.firstspirit.server.MaintenanceModeInfo)	2018-07	
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	

Functionality	Deprecated as of	Will be removed/ Was removed as of
FirstSpirit Developer API: getDeletedStoreNodes(); (de.espirit.firstspirit.feature.FeatureInstallResult)	2018-10	
FirstSpirit Access API: de.espirit.firstspirit.access.store.Previewable	2019-01	
WebSphere Application Server support for FirstSpirit	2019-05	
Legacy mode for the FirstSpirit server and module development	2019-06	
Control files for Windows and Linux operating systems (old)	2020-08	February 2021
database layer for Oracle Database 11g/12c	2020-12	June 2021

10 Overview

ID	Description	Categories
CORE-11681	In the current FirstSpirit version and higher, the JSON function can be used to transfer the user permissions, which were defined on a FirstSpirit object with the help of the CMS_INPUT_PERMISSION input component, into a JSON object structure. In doing this, the JSON output format takes into account the metadata made persistent on the relevant FirstSpirit object (pages, page references, media) at the time of generation (activity, groups, permissions). Further information can be found in chapter “Input components: JSON function: Support for CMS_INPUT_PERMISSION”.	Developer, Input Components, Metadata, Permissions, Support for JSON
CORE-12631	An error has been corrected which, in rare cases, may have caused display errors when editing a form in SiteArchitect.	Editor, SiteArchitect

ID	Description	Categories
CORE-13260	Metadata can be transferred into a JSON object structure. A new feature in the current FirstSpirit release is the option to render metadata that has not been defined on the object itself but has been inherited from a hierarchically superordinate object. Inherited metadata was previously not taken into account. Further information can be found in chapter “Input components: JSON function: Configure JSON rendering of inherited metadata”.	Developer, Input Components, Metadata, Support for JSON
CORE-13278	New parameters are available for configuration of the FirstSpirit Launcher via `FSLauncher.vmoptions` file. Further information can be found in chapter “General: FirstSpirit Launcher: New parameters for configuration via FSLauncher.vmoptions file”.	Launcher
CORE-13375	Preview URLs for media from remote projects can be generated via the `PreviewUrlAgent` interface (FirstSpirit Developer API, Package `de.espirit.firstspirit.agency`). In ContentCreator and Omnichannel Manager applications, the associated redirects could not be resolved correctly in some cases. With the current FirstSpirit version, the `PreviewUrlAgent.MediaPreviewUrlBuilder` interface has been adapted for generating URLs for FirstSpirit media of type `File` or `Picture`. This means that the display of remote media is now also possible in ContentCreator and Omnichannel Manager applications.	ContentCreator, Developer, FirstSpirit API, FirstSpirit Omnichannel Manager, Remote access
CORE-13382	Schedules are only started after the server has completely booted. Further information can be found in chapter “SiteArchitect / ServerManager: Schedules are only run after complete server boot up”.	ServerManager

ID	Description	Categories
CORE-13388	In e-mails sent by workflows, special placeholders may be used that are automatically replaced by the system based on the context. In the current FirstSpirit release, these placeholders have been expanded to include a further configuration option. Further information can be found in chapter “Template development: Workflows: Further configuration option for context-based information in e-mails”.	Developer, Template Development, Workflow
CORE-13485	**Support OpenJDK 16:** As of FirstSpirit 2021-04, OpenJDK 16 (non-LTS; release date 2021/03) is officially approved for use with FirstSpirit (i.e., the FirstSpirit Server and the FirstSpirit desktop applications). With support for OpenJDK 16, support for OpenJDK 15 (non-LTS; release date was 2020/09) expires. Further information can be found in chapter “General: Java: Support for OpenJDK 16”.	Developer, FirstSpirit Administrator, Java, Server Administrator
CORE-13489 CXT-2100	Update of internally used software. Further information can be found in chapter “System: Updates to integrated third-party software”.	Developer, FirstSpirit Content Experience Tools (CXT), Integrated software, Java, Launcher
CORE-13511	The following modules and extensions are compatible with FirstSpirit 2021-04. Further information can be found in chapter “Compatibility: Modules and extensions for FirstSpirit 2021-04”.	Developer, FirstSpirit Administrator, Modules, Server Administrator
CORE-13514	In the current FirstSpirit version, a resource issue due to unfinished threads in FirstSpirit web applications has been fixed.	FirstSpirit Administrator, Performance, Web server
CORE-13524	Fixed a bug that could lead to URLs not being generated correctly in FirstSpirit 2021-03 and to a `java.lang.NullPointerException` occurring during generation.	Developer, Generation

ID	Description	Categories
CXT-1779	Media can now also be downloaded in the Media management. Further information can be found in chapter “ContentCreator: Media management: Download media”.	ContentCreator, Editor, Media, Media Store
CXT-2069	The contents of FS_CATALOG components are now recursively transferred to the target language in the translation help (functions “Copy all content from source language” and “Copy entry content from source language”), and thus extended to support polymorphic structures (e.g., language-dependent in language-independent in language-dependent component).	ContentCreator, Editor, Input Components, Languages
CXT-2094	As of the current release, the selection of variant dimensions via FragmentDAP can now be influenced in FirstSpirit ContentCreator and SiteArchitect Further information can be found in chapter “FirstSpirit Content Experience Tools (CXT): FragmentDAP: Limiting the selection of variants”.	ContentCreator, Developer, Editor, Input Components, SiteArchitect, Template Development
CXT-2100	Optimizations for WebSocket event-based refreshes.	ContentCreator, Performance, Sessions
CXT-2139	Long menu names are now suitably shortened if necessary, making them easier to read.	ContentCreator, Editor
CXT-2240	Announcement: CXT Platform and FragmentCreator will be separated. Minimal adjustments are required for existing installations for non-cloud customers. Further information can be found in chapter “FirstSpirit Content Experience Tools (CXT): Announcement: Separation of CXT Platform and FragmentCreator”.	Developer, FirstSpirit API, FirstSpirit Administrator, FirstSpirit Content Experience Tools (CXT), FragmentCreator, Migration, Module development, Modules
CXT-2257	FirstSpirit Content Experience Tools: Latest module versions Further information can be found in chapter “FirstSpirit Content Experience Tools (CXT): Latest module versions”.	Developer, FirstSpirit Administrator, FirstSpirit Content Experience Tools (CXT), FragmentCreator, Modules

ID	Description	Categories
CXT-2258	Display of language-dependent media in the selection dialog of FS_INDEX with Media DAP in FragmentCreator has been optimized.	Editor, FirstSpirit Content Experience Tools (CXT), FragmentCreator, Media, Media Store, Remote access
CXT-2263	Temporarily the input component CMS_INPUT_SECTIONLIST was not available in the FirstSpirit ContentCreator (error message: “The editor 'xyz' of type 'CMS_INPUT_SECTIONLIST' is not supported.”)	ContentCreator, Developer, Editor, Input Components, Template Development

11 Categories

11.1 Workflow

ID	Description
CORE-13388	In e-mails sent by workflows, special placeholders may be used that are automatically replaced by the system based on the context. In the current FirstSpirit release, these placeholders have been expanded to include a further configuration option. Further information can be found in chapter “Template development: Workflows: Further configuration option for context-based information in e-mails”.

11.2 ContentCreator

ID	Description
CORE-13375	Preview URLs for media from remote projects can be generated via the `PreviewUrlAgent` interface (FirstSpirit Developer API, Package `de.espirit.firstspirit.agency`). In ContentCreator and Omnichannel Manager applications, the associated redirects could not be resolved correctly in some cases. With the current FirstSpirit version, the `PreviewUrlAgent.MediaPreviewUrlBuilder` interface has been adapted for generating URLs for FirstSpirit media of type `File` or `Picture`. This means that the display of remote media is now also possible in ContentCreator and Omnichannel Manager applications.
CXT-1779	Media can now also be downloaded in the Media management.

ID	Description
	Further information can be found in chapter “ContentCreator: Media management: Download media”.
CXT-2069	The contents of FS_CATALOG components are now recursively transferred to the target language in the translation help (functions “Copy all content from source language” and “Copy entry content from source language”), and thus extended to support polymorphic structures (e.g., language-dependent in language-independent in language-dependent component).
CXT-2094	As of the current release, the selection of variant dimensions via FragmentDAP can now be influenced in FirstSpirit ContentCreator and SiteArchitect Further information can be found in chapter “FirstSpirit Content Experience Tools (CXT): FragmentDAP: Limiting the selection of variants”.
CXT-2100	Optimizations for WebSocket event-based refreshes.
CXT-2139	Long menu names are now suitably shortened if necessary, making them easier to read.
CXT-2263	Temporarily the input component CMS_INPUT_SECTIONLIST was not available in the FirstSpirit ContentCreator (error message: “The editor 'xyz' of type 'CMS_INPUT_SECTIONLIST' is not supported.”)

11.3 Input Components

ID	Description
CORE-11681	In the current FirstSpirit version and higher, the JSON function can be used to transfer the user permissions, which were defined on a FirstSpirit object with the help of the CMS_INPUT_PERMISSION input component, into a JSON object structure. In doing this, the JSON output format takes into account the metadata made persistent on the relevant FirstSpirit object (pages, page references, media) at the time of generation (activity, groups, permissions). Further information can be found in chapter “Input components: JSON function: Support for CMS_INPUT_PERMISSION”.
CORE-13260	Metadata can be transferred into a JSON object structure. A new feature in the current FirstSpirit release is the option to render metadata that has not been defined on the object itself but has been inherited from a hierarchically superordinate object. Inherited metadata was previously not taken into account.

ID	Description
	Further information can be found in chapter “Input components: JSON function: Configure JSON rendering of inherited metadata”.
CXT-2069	The contents of FS_CATALOG components are now recursively transferred to the target language in the translation help (functions “Copy all content from source language” and “Copy entry content from source language”), and thus extended to support polymorphic structures (e.g., language-dependent in language-independent in language-dependent component).
CXT-2094	As of the current release, the selection of variant dimensions via FragmentDAP can now be influenced in FirstSpirit ContentCreator and SiteArchitect Further information can be found in chapter “FirstSpirit Content Experience Tools (CXT): FragmentDAP: Limiting the selection of variants”.
CXT-2263	Temporarily the input component CMS_INPUT_SECTIONLIST was not available in the FirstSpirit ContentCreator (error message: “The editor 'xyz' of type 'CMS_INPUT_SECTIONLIST' is not supported.”)

11.4 Developer

ID	Description
CORE-11681	In the current FirstSpirit version and higher, the JSON function can be used to transfer the user permissions, which were defined on a FirstSpirit object with the help of the CMS_INPUT_PERMISSION input component, into a JSON object structure. In doing this, the JSON output format takes into account the metadata made persistent on the relevant FirstSpirit object (pages, page references, media) at the time of generation (activity, groups, permissions). Further information can be found in chapter “Input components: JSON function: Support for CMS_INPUT_PERMISSION”.
CORE-13260	Metadata can be transferred into a JSON object structure. A new feature in the current FirstSpirit release is the option to render metadata that has not been defined on the object itself but has been inherited from a hierarchically superordinate object. Inherited metadata was previously not taken into account. Further information can be found in chapter “Input components: JSON function: Configure JSON rendering of inherited metadata”.

ID	Description
CORE-13375	Preview URLs for media from remote projects can be generated via the `PreviewUrlAgent` interface (FirstSpirit Developer API, Package `de.espirit.firstspirit.agency`). In ContentCreator and Omnichannel Manager applications, the associated redirects could not be resolved correctly in some cases. With the current FirstSpirit version, the `PreviewUrlAgent.MediaPreviewUrlBuilder` interface has been adapted for generating URLs for FirstSpirit media of type `File` or `Picture`. This means that the display of remote media is now also possible in ContentCreator and Omnichannel Manager applications.
CORE-13388	In e-mails sent by workflows, special placeholders may be used that are automatically replaced by the system based on the context. In the current FirstSpirit release, these placeholders have been expanded to include a further configuration option. Further information can be found in chapter “Template development: Workflows: Further configuration option for context-based information in e-mails”.
CORE-13485	**Support OpenJDK 16:** As of FirstSpirit 2021-04, OpenJDK 16 (non-LTS; release date 2021/03) is officially approved for use with FirstSpirit (i.e., the FirstSpirit Server and the FirstSpirit desktop applications). With support for OpenJDK 16, support for OpenJDK 15 (non-LTS; release date was 2020/09) expires. Further information can be found in chapter “General: Java: Support for OpenJDK 16”.
CORE-13489 CXT-2100	Update of internally used software. Further information can be found in chapter “System: Updates to integrated third-party software”.
CORE-13511	The following modules and extensions are compatible with FirstSpirit 2021-04. Further information can be found in chapter “Compatibility: Modules and extensions for FirstSpirit 2021-04”.
CORE-13524	Fixed a bug that could lead to URLs not being generated correctly in FirstSpirit 2021-03 and to a `java.lang.NullPointerException` occurring during generation.
CXT-2094	As of the current release, the selection of variant dimensions via FragmentDAP can now be influenced in FirstSpirit ContentCreator and SiteArchitect Further information can be found in chapter “FirstSpirit Content Experience Tools (CXT): FragmentDAP: Limiting the selection of variants”.
CXT-2240	Announcement: CXT Platform and FragmentCreator will be separated. Minimal adjustments are required for existing installations for non-cloud customers.

ID	Description
	Further information can be found in chapter “FirstSpirit Content Experience Tools (CXT): Announcement: Separation of CXT Platform and FragmentCreator”.
CXT-2257	FirstSpirit Content Experience Tools: Latest module versions Further information can be found in chapter “FirstSpirit Content Experience Tools (CXT): Latest module versions”.
CXT-2263	Temporarily the input component CMS_INPUT_SECTIONLIST was not available in the FirstSpirit ContentCreator (error message: “The editor 'xyz' of type 'CMS_INPUT_SECTIONLIST' is not supported.”)

11.5 FirstSpirit Content Experience Tools (CXT)

ID	Description
CORE-13489 CXT-2100	Update of internally used software. Further information can be found in chapter “System: Updates to integrated third-party software”.
CXT-2240	Announcement: CXT Platform and FragmentCreator will be separated. Minimal adjustments are required for existing installations for non-cloud customers. Further information can be found in chapter “FirstSpirit Content Experience Tools (CXT): Announcement: Separation of CXT Platform and FragmentCreator”.
CXT-2257	FirstSpirit Content Experience Tools: Latest module versions Further information can be found in chapter “FirstSpirit Content Experience Tools (CXT): Latest module versions”.
CXT-2258	Display of language-dependent media in the selection dialog of FS_INDEX with Media DAP in FragmentCreator has been optimized.

11.6 FirstSpirit Omnichannel Manager

ID	Description
CORE-13375	Preview URLs for media from remote projects can be generated via the `PreviewUrlAgent` interface (FirstSpirit Developer API, Package `de.espirit.firstspirit.agency`). In ContentCreator and Omnichannel Manager applications, the associated redirects could not be resolved correctly in some cases. With the current FirstSpirit version, the `PreviewUrlAgent.MediaPreviewUrlBuilder` interface has been adapted for generating URLs for FirstSpirit media of type `File` or `Picture`. This means that the display of remote media is now also possible in ContentCreator and Omnichannel Manager applications.

11.7 FirstSpirit Administrator

ID	Description
CORE-13485	**Support OpenJDK 16:** As of FirstSpirit 2021-04, OpenJDK 16 (non-LTS; release date 2021/03) is officially approved for use with FirstSpirit (i.e., the FirstSpirit Server and the FirstSpirit desktop applications). With support for OpenJDK 16, support for OpenJDK 15 (non-LTS; release date was 2020/09) expires. Further information can be found in chapter “General: Java: Support for OpenJDK 16”.
CORE-13511	The following modules and extensions are compatible with FirstSpirit 2021-04. Further information can be found in chapter “Compatibility: Modules and extensions for FirstSpirit 2021-04”.
CORE-13514	In the current FirstSpirit version, a resource issue due to unfinished threads in FirstSpirit web applications has been fixed.
CXT-2240	Announcement: CXT Platform and FragmentCreator will be separated. Minimal adjustments are required for existing installations for non-cloud customers. Further information can be found in chapter “FirstSpirit Content Experience Tools (CXT): Announcement: Separation of CXT Platform and FragmentCreator”.
CXT-2257	FirstSpirit Content Experience Tools: Latest module versions Further information can be found in chapter “FirstSpirit Content Experience Tools (CXT): Latest module versions”.

11.8 FirstSpirit API

ID	Description
CORE-13375	Preview URLs for media from remote projects can be generated via the `PreviewUrlAgent` interface (FirstSpirit Developer API, Package `de.espirit.firstspirit.agency`). In ContentCreator and Omnichannel Manager applications, the associated redirects could not be resolved correctly in some cases. With the current FirstSpirit version, the `PreviewUrlAgent.MediaPreviewUrlBuilder` interface has been adapted for generating URLs for FirstSpirit media of type `File` or `Picture`. This means that the display of remote media is now also possible in ContentCreator and Omnichannel Manager applications.
CXT-2240	Announcement: CXT Platform and FragmentCreator will be separated. Minimal adjustments are required for existing installations for non-cloud customers. Further information can be found in chapter “FirstSpirit Content Experience Tools (CXT): Announcement: Separation of CXT Platform and FragmentCreator”.

11.9 FragmentCreator

ID	Description
CXT-2240	Announcement: CXT Platform and FragmentCreator will be separated. Minimal adjustments are required for existing installations for non-cloud customers. Further information can be found in chapter “FirstSpirit Content Experience Tools (CXT): Announcement: Separation of CXT Platform and FragmentCreator”.
CXT-2257	FirstSpirit Content Experience Tools: Latest module versions Further information can be found in chapter “FirstSpirit Content Experience Tools (CXT): Latest module versions”.
CXT-2258	Display of language-dependent media in the selection dialog of FS_INDEX with Media DAP in FragmentCreator has been optimized.

11.10 Generation

ID	Description
CORE-13524	Fixed a bug that could lead to URLs not being generated correctly in FirstSpirit 2021-03 and to a `java.lang.NullPointerException` occurring during generation.

11.11 Integrated software

ID	Description
CORE-13489 CXT-2100	Update of internally used software. Further information can be found in chapter “System: Updates to integrated third-party software”.

11.12 Java

ID	Description
CORE-13485	**Support OpenJDK 16:** As of FirstSpirit 2021-04, OpenJDK 16 (non-LTS; release date 2021/03) is officially approved for use with FirstSpirit (i.e., the FirstSpirit Server and the FirstSpirit desktop applications). With support for OpenJDK 16, support for OpenJDK 15 (non-LTS; release date was 2020/09) expires. Further information can be found in chapter “General: Java: Support for OpenJDK 16”.
CORE-13489 CXT-2100	Update of internally used software. Further information can be found in chapter “System: Updates to integrated third-party software”.

11.13 Support for JSON

ID	Description
CORE-11681	In the current FirstSpirit version and higher, the JSON function can be used to transfer the user permissions, which were defined on a FirstSpirit object with the help of the CMS_INPUT_PERMISSION input component, into a JSON object structure. In doing this, the

ID	Description
	JSON output format takes into account the metadata made persistent on the relevant FirstSpirit object (pages, page references, media) at the time of generation (activity, groups, permissions). Further information can be found in chapter “Input components: JSON function: Support for CMS_INPUT_PERMISSION”.
CORE-13260	Metadata can be transferred into a JSON object structure. A new feature in the current FirstSpirit release is the option to render metadata that has not been defined on the object itself but has been inherited from a hierarchically superordinate object. Inherited metadata was previously not taken into account. Further information can be found in chapter “Input components: JSON function: Configure JSON rendering of inherited metadata”.

11.14 Launcher

ID	Description
CORE-13278	New parameters are available for configuration of the FirstSpirit Launcher via `FSLauncher.vmoptions` file. Further information can be found in chapter “General: FirstSpirit Launcher: New parameters for configuration via FSLauncher.vmoptions file”.
CORE-13489 CXT-2100	Update of internally used software. Further information can be found in chapter “System: Updates to integrated third-party software”.

11.15 Media

ID	Description
CXT-1779	Media can now also be downloaded in the Media management. Further information can be found in chapter “ContentCreator: Media management: Download media”.

ID	Description
CXT-2258	Display of language-dependent media in the selection dialog of FS_INDEX with Media DAP in FragmentCreator has been optimized.

11.16 Media Store

ID	Description
CXT-1779	Media can now also be downloaded in the Media management. Further information can be found in chapter “ContentCreator: Media management: Download media”.
CXT-2258	Display of language-dependent media in the selection dialog of FS_INDEX with Media DAP in FragmentCreator has been optimized.

11.17 Metadata

ID	Description
CORE-11681	In the current FirstSpirit version and higher, the JSON function can be used to transfer the user permissions, which were defined on a FirstSpirit object with the help of the CMS_INPUT_PERMISSION input component, into a JSON object structure. In doing this, the JSON output format takes into account the metadata made persistent on the relevant FirstSpirit object (pages, page references, media) at the time of generation (activity, groups, permissions). Further information can be found in chapter “Input components: JSON function: Support for CMS_INPUT_PERMISSION”.
CORE-13260	Metadata can be transferred into a JSON object structure. A new feature in the current FirstSpirit release is the option to render metadata that has not been defined on the object itself but has been inherited from a hierarchically superordinate object. Inherited metadata was previously not taken into account. Further information can be found in chapter “Input components: JSON function: Configure JSON rendering of inherited metadata”.

11.18 Migration

ID	Description
CXT-2240	Announcement: CXT Platform and FragmentCreator will be separated. Minimal adjustments are required for existing installations for non-cloud customers. Further information can be found in chapter “FirstSpirit Content Experience Tools (CXT): Announcement: Separation of CXT Platform and FragmentCreator”.

11.19 Module development

ID	Description
CXT-2240	Announcement: CXT Platform and FragmentCreator will be separated. Minimal adjustments are required for existing installations for non-cloud customers. Further information can be found in chapter “FirstSpirit Content Experience Tools (CXT): Announcement: Separation of CXT Platform and FragmentCreator”.

11.20 Modules

ID	Description
CORE-13511	The following modules and extensions are compatible with FirstSpirit 2021-04. Further information can be found in chapter “Compatibility: Modules and extensions for FirstSpirit 2021-04”.
CXT-2240	Announcement: CXT Platform and FragmentCreator will be separated. Minimal adjustments are required for existing installations for non-cloud customers. Further information can be found in chapter “FirstSpirit Content Experience Tools (CXT): Announcement: Separation of CXT Platform and FragmentCreator”.
CXT-2257	FirstSpirit Content Experience Tools: Latest module versions Further information can be found in chapter “FirstSpirit Content Experience Tools (CXT): Latest module versions”.

11.21 Performance

ID	Description
CORE-13514	In the current FirstSpirit version, a resource issue due to unfinished threads in FirstSpirit web applications has been fixed.
CXT-2100	Optimizations for WebSocket event-based refreshes.

11.22 Permissions

ID	Description
CORE-11681	In the current FirstSpirit version and higher, the JSON function can be used to transfer the user permissions, which were defined on a FirstSpirit object with the help of the CMS_INPUT_PERMISSION input component, into a JSON object structure. In doing this, the JSON output format takes into account the metadata made persistent on the relevant FirstSpirit object (pages, page references, media) at the time of generation (activity, groups, permissions). Further information can be found in chapter “Input components: JSON function: Support for CMS_INPUT_PERMISSION”.

11.23 Editor

ID	Description
CORE-12631	An error has been corrected which, in rare cases, may have caused display errors when editing a form in SiteArchitect.
CXT-1779	Media can now also be downloaded in the Media management. Further information can be found in chapter “ContentCreator: Media management: Download media”.
CXT-2069	The contents of FS_CATALOG components are now recursively transferred to the target language in the translation help (functions “Copy all content from source language” and “Copy entry content from source language”), and thus extended to support polymorphic structures (e.g., language-dependent in language-independent in language-dependent component).

ID	Description
CXT-2094	As of the current release, the selection of variant dimensions via FragmentDAP can now be influenced in FirstSpirit ContentCreator and SiteArchitect Further information can be found in chapter “FirstSpirit Content Experience Tools (CXT): FragmentDAP: Limiting the selection of variants”.
CXT-2139	Long menu names are now suitably shortened if necessary, making them easier to read.
CXT-2258	Display of language-dependent media in the selection dialog of FS_INDEX with Media DAP in FragmentCreator has been optimized.
CXT-2263	Temporarily the input component CMS_INPUT_SECTIONLIST was not available in the FirstSpirit ContentCreator (error message: “The editor 'xyz' of type 'CMS_INPUT_SECTIONLIST' is not supported.”)

11.24 Remote access

ID	Description
CORE-13375	Preview URLs for media from remote projects can be generated via the `PreviewUrlAgent` interface (FirstSpirit Developer API, Package `de.espirit.firstspirit.agency`). In ContentCreator and Omnichannel Manager applications, the associated redirects could not be resolved correctly in some cases. With the current FirstSpirit version, the `PreviewUrlAgent.MediaPreviewUrlBuilder` interface has been adapted for generating URLs for FirstSpirit media of type `File` or `Picture`. This means that the display of remote media is now also possible in ContentCreator and Omnichannel Manager applications.
CXT-2258	Display of language-dependent media in the selection dialog of FS_INDEX with Media DAP in FragmentCreator has been optimized.

11.25 Server Administrator

ID	Description
CORE-13485	**Support OpenJDK 16:** As of FirstSpirit 2021-04, OpenJDK 16 (non-LTS; release date 2021/03) is officially approved for use with FirstSpirit (i.e., the FirstSpirit Server and the FirstSpirit desktop applications). With support for OpenJDK 16, support for OpenJDK 15 (non-LTS; release date was 2020/09) expires.

ID	Description
	Further information can be found in chapter “General: Java: Support for OpenJDK 16”.
CORE-13511	The following modules and extensions are compatible with FirstSpirit 2021-04. Further information can be found in chapter “Compatibility: Modules and extensions for FirstSpirit 2021-04”.

11.26 ServerManager

ID	Description
CORE-13382	Schedules are only started after the server has completely booted. Further information can be found in chapter “SiteArchitect / ServerManager: Schedules are only run after complete server boot up”.

11.27 SiteArchitect

ID	Description
CORE-12631	An error has been corrected which, in rare cases, may have caused display errors when editing a form in SiteArchitect.
CXT-2094	As of the current release, the selection of variant dimensions via FragmentDAP can now be influenced in FirstSpirit ContentCreator and SiteArchitect Further information can be found in chapter “FirstSpirit Content Experience Tools (CXT): FragmentDAP: Limiting the selection of variants”.

11.28 Sessions

ID	Description
CXT-2100	Optimizations for WebSocket event-based refreshes.

11.29 Languages

ID	Description
CXT-2069	The contents of FS_CATALOG components are now recursively transferred to the target language in the translation help (functions “Copy all content from source language” and “Copy entry content from source language”), and thus extended to support polymorphic structures (e.g., language-dependent in language-independent in language-dependent component).

11.30 Template Development

ID	Description
CORE-13388	In e-mails sent by workflows, special placeholders may be used that are automatically replaced by the system based on the context. In the current FirstSpirit release, these placeholders have been expanded to include a further configuration option. Further information can be found in chapter “Template development: Workflows: Further configuration option for context-based information in e-mails”.
CXT-2094	As of the current release, the selection of variant dimensions via FragmentDAP can now be influenced in FirstSpirit ContentCreator and SiteArchitect Further information can be found in chapter “FirstSpirit Content Experience Tools (CXT): FragmentDAP: Limiting the selection of variants”.
CXT-2263	Temporarily the input component CMS_INPUT_SECTIONLIST was not available in the FirstSpirit ContentCreator (error message: “The editor 'xyz' of type 'CMS_INPUT_SECTIONLIST' is not supported.”)

11.31 Web server

ID	Description
CORE-13514	In the current FirstSpirit version, a resource issue due to unfinished threads in FirstSpirit web applications has been fixed.