FirstSpirit™
Unlock Your Content

Release Notes
FirstSpirit™ 2018-10

Status	**RELEASED**
Department	FS-Core
Copyright	2018 e-Spirit AG
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e-Spirit

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1 Java Support

As expected, Oracle released Java 11 on 25 September 2018. Besides the exhaustive tests which were conducted with the various release candidates of Java 11, tests with the officially released version are also conducted since its publication. So far, the tests have shown that both FirstSpirit server as well as SiteArchitect and ServerManager are generally executable with OpenJDK 11. Some software components included in FirstSpirit are currently not yet officially compatible with Java 11, so the current status for Java 11 use remains "EAP".

The following limitations are currently known:

- When using the service "JettyService" (Jetty Web Server), it is possible that exceptions are thrown (`java.lang.ClassNotFoundException: sun.reflect.Reflection`). Effects on functionality were not observed thus far. e-Spirit has worked on a solution in collaboration with the Eclipse Jetty project. As soon as the Eclipse Jetty project publishes a new version, the Jetty version in FirstSpirit will be updated as well.

- The version of ASM included in FirstSpirit currently only features experimental Java 11 support. As of the upcoming version 7.0, ASM will also feature official Java 11 support. Upon publication of that version, the ASM version in FirstSpirit will be updated as well.

As of FirstSpirit 2018-10, client-side use of Java 11 now also receives the status "EAP". Use of Java 11 for FirstSpirit SiteArchitect and ServerManager requires use of FirstSpirit Launcher. In order to facilitate easier participation in the "EAP" for Java 11, e-Spirit has developed a specific Launcher module named "FirstSpirit Launcher JRE".

In light of the increasing publication frequency of Java versions, it is nearly impossible for e-Spirit to exhaustively test every Java version in every possible combination and configuration with potential operating systems and interfaces to third-party systems. With this new module, customers and partners can test new Java versions ("EAP") and determine by themselves if these versions are executable within their existing IT infrastructure. EAP versions should initially only be used on testing systems, and potential problems should be relayed to e-Spirit in a timely fashion. Using this module, switching to another version can be done easily with just a few clicks.
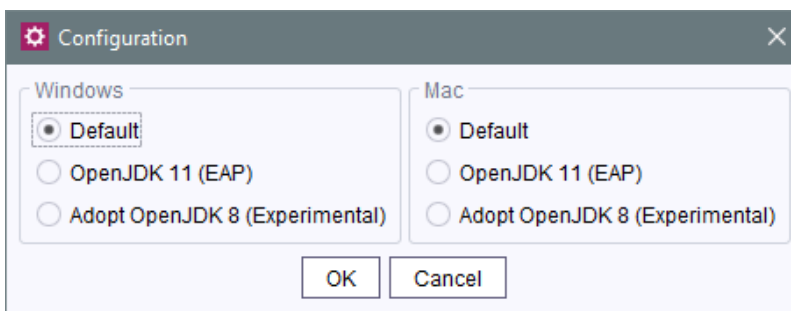
In the future, this module will allow e-Spirit to offer its customers/partners the opportunity to choose a Java version when the FirstSpirit Java version is updated. Customers/partners will then be able to choose from among the current released, the previous released, and the next planned Java version.

Currently, the module is shipped with Oracle Java 8 ("Default"), OpenJDK 11 ("EAP"), and AdoptOpenJDK 8 ("Experimental"). The current "Experimental" version serves testing purposes. With 2018-10, the FirstSpirit Java version was not updated. A version previously released for use with FirstSpirit (e.g. Oracle Java 8u171) was not added to the module.

e-Spirit is currently expending more effort on gaining independence from Oracle Java. For the Launcher, FirstSpirit still ships an Oracle Java 8 version. According to the above-mentioned "EAP" program, in a future version of FirstSpirit, OpenJDK 11 will become the preferred and shipped Java version. Because Oracle has also changed support for Java 8 for 2019 (see also https://www.oracle.com/technetwork/java/javase/eol-135779.html), e-Spirit is currently testing Java 8 versions of other vendors.

Because the OpenJDK project neither builds nor publishes Java 8 JDKs, e-Spirit is currently testing if the OpenJDK variant of the AdoptOpenJDK project (https://adoptopenjdk.net/) can be used as a replacement for Oracle Java 8. Use of AdoptOpenJDK is to be regarded as "experimental", i.e. it is not foreseeable at this time if a FirstSpirit-specific release of AdoptOpenJDK 8 is possible. Support for AdoptOpenJDK versions greater than 8 is <u>not</u> planned because e-Spirit focuses on using the original versions of the OpenJDK project here.

The desired Java version can be selected server-wide, but separately for Microsoft Windows and Macintosh systems.

Category "Default" (FirstSpirit Java present)
The category "Default" represents the version that was shipped with FirstSpirit and is being used by the Launcher. It was tested successfully and released for use with FirstSpirit by e-Spirit.

Category "EAP" (FirstSpirit Java future)
The versions in the "EAP" category are those that are planned for use in a future FirstSpirit version. The specific versions that are included in the module depend on the third-party vendors' Java release planning and will thus be continually modified with subsequent FirstSpirit releases.

Category "Legacy" (FirstSpirit Java past)

The versions in the "Legacy" category are those Java versions that have previously been released for use with FirstSpirit. Currently, the module does not include a Java version in this category. As of the FirstSpirit-specific release of Java 11, the first legacy version to be included in the module will be a Java 8 version.

The module may be obtained from Technical Support (https://help.e-spirit.com).

2   Release of the new FirstSpirit Launcher

A new, optimized version of the FirstSpirit Launcher has been made available with FirstSpirit 2018-08. Unlike previous versions, this new version supports the use of macOS, and in principle can run on Linux tool. The new version also supports a fully automatic update (of both the Launcher itself and the JRE) under Microsoft Windows and macOS. What's more, the new Launcher offers a tray application that gives the user a convenient overview of the FirstSpirit Java applications that are currently active and that have been used recently.

This new launcher version is officially released with FirstSpirit 2018-10. It can be downloaded via the start page of a FirstSpirit server which is running with version 2018-08 or higher, and then distributed. If the FirstSpirit Launcher was installed in a version prior to FirstSpirit 2018-08, a manual update is required, since in this case an automatic update does not take place.

The previous version of the launcher is deprecated as of FirstSpirit 2018-11 and will be no longer supported then.

The Launcher allows starting FirstSpirit SiteArchitect or ServerManager independently of a local Java installation. It will replace the functionality "Java Web Start" which will be no longer offered by Oracle Java in the future.

For more information please see

- Chapter "Java Support"

- *FirstSpirit Installation Instructions*, Chapter "FirstSpirit Launcher"

- *FirstSpirit Manual for Administrators*, page "FirstSpirit start page / Areas of the start page / FirstSpirit Launcher"

3 Berkeley DB 3 and 5 will be removed with the next release (migration required)

FirstSpirit uses Oracle Berkeley DB as a repository for storing content data. Until now, versions 3 and 5 have been in use and running reliably and in a stable manner for many years. However, in order to benefit from performance advantages and to remain at the forefront of technical development as well as for security reasons, the internal Berkeley DB will be updated to version 7.

As announced with FirstSpirit 5.2R21 (May 2018), support for Berkeley DB 3 and 5 will be discontinued as of FirstSpirit 2018-11. A **Migration to Berkeley DB 7** is **mandatory** if the FirstSpirit server was initially installed using a version **lower than** FirstSpirit 2018-06. FirstSpirit Servers that are initially installed with FirstSpirit 2018-06 or higher use Berkeley version 7 by default.

If an outdated version of Berkeley DB is used on the FirstSpirit server, the server's start page will now display an according warning message to administrators. In this case, it is urgently recommended to perform a timely migration to Berkeley DB version 7.

```
Use of deprecated repository version detected - migration required.
```

> **!** As of FirstSpirit 2018-11, FirstSpirit servers will no longer start if Berkeley DB 3 or 5 are still in use.

The command line interface (CLI) program "BerkeleyUtil" may be used to comfortably perform a conversion of all data in project repositories and internal repositories of a FirstSpirit server to the Berkeley DB 7 format. The conversion process' duration will typically not be long. See also *FirstSpirit Manual for Administrators*, page "FirstSpirit ServerManager / Project properties / Repository", section "Converting a complete FirstSpirit server".

Notes about downgrade capability:

- After a conversion to Berkeley DB version 7, a downgrade of FirstSpirit to versions lower than version 5.2R18 (released February 2018) will no longer be possible. A downgrade to FirstSpirit versions greater than or equal to 5.2R18, however, will be possible.

4 API deprecations

As of FirstSpirit 2018-09, the functionality "Activate" in the scope of the configuration of web servers has been removed (FirstSpirit ServerManager, "Server properties / Web applications" and "Project properties / Web components"). In the course of this change, API methods associated with this functionality have been marked deprecated and may be removed in subsequent FirstSpirit releases:

- Interface `ServerConfiguration`, package `de.espirit.firstspirit.access` (FirstSpirit Access API):
  - `getSelectedWebserverConfiguration`

  - `setSelectedWebserverConfiguration`

- Interface `Project`, package `de.espirit.firstspirit.access.project` (FirstSpirit Access API):
  - `getSelectedWebServer`

  - `setSelectedWebServer`

5 Administration

5.1 Usage of the "InternalJetty" web server

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

```
Internal Jetty usage detected:...
```

5.2 Workflows: Variables for language-dependent URLs in e-mails

In e-mails that are sent by workflows, special variables may be included that will be replaced by the system automatically and in a context-sensitive fashion. This allows, for example, inclusion of links in the e-mail that point at the preview of the page on which the workflow is active.

In multi-language projects, links that are inserted in the e-mail in lieu of the following variables will point at the preview in the master language:

```
%FIRSTspiritURL%
%FIRSTspiritSOCKETURL%
%WEBeditURL%
%PAGESTORE_PREVIEW_URL%
%SITESTORE_PREVIEW_URL%
```

As of the current release, adding an underscore (_) and the abbreviation of the desired language will cause creation of language-dependent links. E.g. for the language "DE":

```
%FIRSTspiritURL_DE%
%FIRSTspiritSOCKETURL_DE%
%WEBeditURL_DE%
%PAGESTORE_PREVIEW_URL_DE%
%SITESTORE_PREVIEW_URL_DE%
```

For further information, see *FirstSpirit Online Documentation*, page "Templates (basics) / Composition of templates / Workflows / State diagram tab / Properties of an activity".

6   General

6.1   IDs in FirstSpirit release notes

FirstSpirit release notes are created with FirstSpirit. Some time ago, in order to advance and optimize the agility of its software development process, e-Spirit has introduced a new tool for internal project management and tracing. This tool now also serves bug tracking purposes.

As of the current FirstSpirit release, the IDs given in the first column of the release notes' issue tables reference this new tool.

While the IDs previously were six-digit numbers, they are now four-digit numbers.

7 Module Development, Scripts, API

7.1 FirstSpirit ContentTransport: Obtaining information about imported content

The functionality "FirstSpirit ContentTransport" enables transport of project contents from a source project into a target project. For this, the desired contents will be collected or gathered into so-called "features".

The interface `FeatureInstallResult` (Package `de.espirit.firstspirit.feature`, FirstSpirit Developer API) may be used to obtain information specific to a completed feature installation. For the current release, this interface has been revised and now offers the following methods:

- `getCreatedElements()`: returns all elements which were newly created in the target project due to installation

- `getDeletedElements()`: returns all elements which were deleted in the target project due to installation

- `getLostAndFoundElements()`: returns all elements which were moved into the system folder "Lost & Found" in the target project due to installation

- `getMovedElements()`: returns all elements which were moved in the target project due to installation

- `getUpdatedElements()`: returns all elements which were modified in the target project due to installation

For each method call, the return value is a set of `BasicElementInfo` objects (`de.espirit.first-spirit.access.store.BasicElementInfo`, FirstSpirit Access API). Each of these contains ID, UID, store, and the revision. This information may be used e.g. to more easily conduct a release of contents which were changed during an import.

In this context, the previously available methods `getLostAndFoundStoreNodes()` and `getDeletedStoreNodes()` have been marked deprecated and may be removed in a future FirstSpirit release. The interface's new methods `getLostAndFoundElements()` and `getDeletedElements()`, respectively, should be used in their stead.

For further information, see Module documentation for "FirstSpirit CorporateContent", chapter "Content-Transport".

8   SiteArchitect

8.1   New functionality for FS_CATALOG and FS_INDEX

As of the current FirstSpirit release, the input components FS_CATALOG and FS_INDEX have been extended with new functionality in FirstSpirit SiteArchitect which enables more comfortable work with these components:

FS_INDEX
The order of entries in an FS_INDEX component could previously only be modified via drag-and-drop. Now, the order can also be changed via newly-implemented buttons:

FS_CATALOG
The order of entries in an FS_CATALOG component could previously only be modified via drag-and-drop. Now, the order can also be changed via newly-implemented buttons:

Furthermore, existing entries can also be copied or duplicated via their respective context menu entries or keyboard shortcuts.
This function can be deactivated via an according rule (analogous to the creation of new entries), e.g.

```
<RULES>
  <RULE when="ONLOCK">
    <WITH>
      <FALSE/>
    </WITH>
    <DO>
      <PROPERTY name="NEW" source="fs_catalog"/>
    </DO>
  </RULE>
</RULES>
```

The function "Cut" can now also be executed via the new context menu or keyboard shortcut.

For further information, see

- *FirstSpirit Online Documentation*, "Template development / Forms / Input components / CATALOG" and "Template development / Forms / Input components / INDEX"

- *Documentation for FirstSpirit SiteArchitect*, "Input forms / Catalog" and "Input forms / Index"

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
FirstSpirit Developer API: de.espirit.firstspirit.agency.GroupsAgent	5.2R15	
FirstSpirit Access API: delete (de.espirit.firstspirit.access.AccessUtil)	5.2R18	
Oracle Berkeley DB 5 Support	5.2R21	November 2018
Oracle Berkeley DB 3 Support	5.2R21	November 2018
Windows installation program	2018-06	
FirstSpirit Access API: release (de.espirit.firstspirit.access.AccessUtil)	2018-06	
FirstSpirit Developer API: getLastLoginAsDate (de.espirit.firstspirit.agency.UserStatisticsAgent)	2018-07	

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

10 Overview

ID	Description	Categories
CORE-636	Erroneous behavior could arise when using language-dependent images in the input component CMS_INPUT_IMAGEMAP within metadata.	Input Components

ID	Description	Categories
CORE-2372	Erroneous behavior could arise when using the sorted feature list when creating a feature collection via the schedule task action "Content Transport".	Content Transport
CORE-5734	Improved behavior related to duplicate elements in a target project.	Corporate Content
CORE-5785	As of the current FirstSpirit release, the IDs given in the release notes' issue tables reference a new, internally used tool. Further information can be found in chapter "General: IDs in FirstSpirit release notes".	Developer, Editor, FirstSpirit Administrator
CORE-7023	Erroneous behavior could arise when releasing a page reference via a workflow while edit mode was active on the associated page.	SiteArchitect
CORE-7366	When using the ACL database, erroneous behavior could arise in rare cases during a generation when the according generation task was aborted via FirstSpirit ServerMonitoring.	FirstSpirit Administrator, Generation
CORE-7721	The input components FS_CATALOG and FS_INDEX have been extended with new functionality. Further information can be found in chapter "SiteArchitect: New functionality for FS_CATALOG and FS_INDEX".	Editor, Input Components, SiteArchitect
CORE-8235	Erroneous behavior could arise when setting metadata while using the browser Mozilla Firefox.	ContentCreator
CORE-8663	Improved performance during feature creation.	Content Transport
CORE-8911	As of the current release, it is now possible to include language-dependent links in e-mails that are sent by workflows. Further information can be found in chapter "Administration: Workflows: Variables for language-dependent URLs in e-mails".	Developer, FirstSpirit Administrator, Release, Workflow

ID	Description	Categories
CORE-8925	Extended the interface `FeatureInstallResult` (Package `de.espirit.firstspirit.feature`, FirstSpirit Developer API). Further information can be found in chapter "Module Development, Scripts, API: FirstSpirit ContentTransport: Obtaining information about imported content".	Content Transport, Developer, FirstSpirit API
CORE-8934	If one or more web applications are configured to run on the "InternalJetty" of a FirstSpirit server, the start page of the FirstSpirit server will show a warning to users with the administrator role. Further information can be found in chapter "Administration: Usage of the "InternalJetty" web server".	FirstSpirit Administrator, Web server
CORE-9040	Erroneous behavior could arise in the display of usages of a section template in a form that was called via a script.	ContentCreator
CORE-9072	Increased error tolerance related to configuration of the parameter `listConfig` for the input components CMS_INPUT_DOM and CMS_INPUT_DOMTABLE.	Developer, Input Components
CORE-9074	In rare cases, erroneous behavior could arise during assembly of web resources.	FirstSpirit Administrator
CORE-9100	Optimized roll-out of web applications when moving the start page to another web server.	FirstSpirit Administrator, ServerManager
CORE-9194	Optimized display of thumbnails during image selection.	ContentCreator
CORE-9220	Fixed a display error when updating modules in global web applications.	ServerManager
CORE-9238	Optimized shutdown behavior of FirstSpirit server when Jetty Web Server is used.	Server Administrator
CORE-9271	Pressing the key `F5` now again refreshes the display.	ContentCreator
CORE-9337	In very rare cases, it was possible that the FirstSpirit start page was no longer accessible after a server restart if web applications were used.	FirstSpirit Administrator

ID	Description	Categories
CORE-9357	The functionality "Reintegrate object" can be used in the target project to remove an object node from the package link and to integrate a new object node into the package in its place. Here, element selection was optimized.	Corporate Content

11   Categories

11.1   Content Transport

ID	Description
CORE-2372	Erroneous behavior could arise when using the sorted feature list when creating a feature collection via the schedule task action "Content Transport".
CORE-8663	Improved performance during feature creation.
CORE-8925	Extended the interface `FeatureInstallResult` (Package `de.espirit.firstspir-it.feature`, FirstSpirit Developer API). Further information can be found in chapter "Module Development, Scripts, API: FirstSpirit ContentTransport: Obtaining information about imported content".

11.2   ContentCreator

ID	Description
CORE-8235	Erroneous behavior could arise when setting metadata while using the browser Mozilla Firefox.
CORE-9040	Erroneous behavior could arise in the display of usages of a section template in a form that was called via a script.
CORE-9194	Optimized display of thumbnails during image selection.
CORE-9271	Pressing the key F5 now again refreshes the display.

11.3 Corporate Content

ID	Description
CORE-5734	Improved behavior related to duplicate elements in a target project.
CORE-9357	The functionality "Reintegrate object" can be used in the target project to remove an object node from the package link and to integrate a new object node into the package in its place. Here, element selection was optimized.

11.4 Developer

ID	Description
CORE-5785	As of the current FirstSpirit release, the IDs given in the release notes' issue tables reference a new, internally used tool. Further information can be found in chapter "General: IDs in FirstSpirit release notes".
CORE-8911	As of the current release, it is now possible to include language-dependent links in e-mails that are sent by workflows. Further information can be found in chapter "Administration: Workflows: Variables for language-dependent URLs in e-mails".
CORE-8925	Extended the interface `FeatureInstallResult` (Package `de.espirit.firstspir-it.feature`, FirstSpirit Developer API). Further information can be found in chapter "Module Development, Scripts, API: FirstSpirit ContentTransport: Obtaining information about imported content".
CORE-9072	Increased error tolerance related to configuration of the parameter `listConfig` for the input components CMS_INPUT_DOM and CMS_INPUT_DOMTABLE.

11.5 Editor

ID	Description
CORE-5785	As of the current FirstSpirit release, the IDs given in the release notes' issue tables reference a new, internally used tool.

ID	Description
	Further information can be found in chapter "General: IDs in FirstSpirit release notes".
CORE-7721	The input components FS_CATALOG and FS_INDEX have been extended with new functionality. Further information can be found in chapter "SiteArchitect: New functionality for FS_CATALOG and FS_INDEX".

11.6 FirstSpirit API

ID	Description
CORE-8925	Extended the interface `FeatureInstallResult` (Package `de.espirit.firstspirit.feature`, FirstSpirit Developer API). Further information can be found in chapter "Module Development, Scripts, API: FirstSpirit ContentTransport: Obtaining information about imported content".

11.7 FirstSpirit Administrator

ID	Description
CORE-5785	As of the current FirstSpirit release, the IDs given in the release notes' issue tables reference a new, internally used tool. Further information can be found in chapter "General: IDs in FirstSpirit release notes".
CORE-7366	When using the ACL database, erroneous behavior could arise in rare cases during a generation when the according generation task was aborted via FirstSpirit ServerMonitoring.
CORE-8911	As of the current release, it is now possible to include language-dependent links in e-mails that are sent by workflows. Further information can be found in chapter "Administration: Workflows: Variables for language-dependent URLs in e-mails".
CORE-8934	If one or more web applications are configured to run on the "InternalJetty" of a FirstSpirit server, the start page of the FirstSpirit server will show a warning to users with the administrator role.

ID	Description
	Further information can be found in chapter "Administration: Usage of the "InternalJetty" web server".
CORE-9074	In rare cases, erroneous behavior could arise during assembly of web resources.
CORE-9100	Optimized roll-out of web applications when moving the start page to another web server.
CORE-9337	In very rare cases, it was possible that the FirstSpirit start page was no longer accessible after a server restart if web applications were used.

11.8 Generation

ID	Description
CORE-7366	When using the ACL database, erroneous behavior could arise in rare cases during a generation when the according generation task was aborted via FirstSpirit ServerMonitoring.

11.9 Input Components

ID	Description
CORE-636	Erroneous behavior could arise when using language-dependent images in the input component CMS_INPUT_IMAGEMAP within metadata.
CORE-7721	The input components FS_CATALOG and FS_INDEX have been extended with new functionality. Further information can be found in chapter "SiteArchitect: New functionality for FS_CATALOG and FS_INDEX".
CORE-9072	Increased error tolerance related to configuration of the parameter `listConfig` for the input components CMS_INPUT_DOM and CMS_INPUT_DOMTABLE.

11.10 Release

ID	Description
CORE-8911	As of the current release, it is now possible to include language-dependent links in e-mails that are sent by workflows. Further information can be found in chapter "Administration: Workflows: Variables for language-dependent URLs in e-mails".

11.11 Server Administrator

ID	Description
CORE-9238	Optimized shutdown behavior of FirstSpirit server when Jetty Web Server is used.

11.12 ServerManager

ID	Description
CORE-9100	Optimized roll-out of web applications when moving the start page to another web server.
CORE-9220	Fixed a display error when updating modules in global web applications.

11.13 SiteArchitect

ID	Description
CORE-7023	Erroneous behavior could arise when releasing a page reference via a workflow while edit mode was active on the associated page.
CORE-7721	The input components FS_CATALOG and FS_INDEX have been extended with new functionality. Further information can be found in chapter "SiteArchitect: New functionality for FS_CATALOG and FS_INDEX".

11.14 Web server

ID	Description
CORE-8934	If one or more web applications are configured to run on the "InternalJetty" of a FirstSpirit server, the start page of the FirstSpirit server will show a warning to users with the administrator role. Further information can be found in chapter "Administration: Usage of the "InternalJetty" web server".

11.15 Workflow

ID	Description
CORE-8911	As of the current release, it is now possible to include language-dependent links in e-mails that are sent by workflows. Further information can be found in chapter "Administration: Workflows: Variables for language-dependent URLs in e-mails".