# First Spirit™

*Unlock Your Content*

# FirstSpirit™ Release Notes
## FirstSpirit™ Version 5.2 Release 6

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e-Spirit

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# 1    Administration

## 1.1    Server Update: File name change for backup copies of files

An update of a FirstSpirit server to a newer software version can be started via FirstSpirit ServerMonitoring (e.g. "FirstSpirit / Control / Update"). During the update process, the file **fs-server.jar** which contains the new FirstSpirit version will be copied to **~\server\lib\**. The old **fs-server.jar** file will be kept as a backup copy in the same directory. The file name of this backup copy will be formed by appending the current date and the suffix **.old**. Additionally, from the current FirstSpirit version onwards, the original file name **fs-server.jar** will be changed to **fs-server_jar**. Example for the file name of an **fs-server.jar** backup copy:

```
fs-server_jar_20160921_155039.old
```

In previous FirstSpirit versions, the file name would have been formed as follows:

```
fs-server.jar_20160921_155039.old
```

For further information about server updates via FirstSpirit ServerMonitoring, see *FirstSpirit Manual for Administrators*, chapter "Updating the FirstSpirit Server".

## 1.2    Server update: Improved schedule logging

It is also possible to update the FirstSpirit Server using a schedule designed for this purpose (FirstSpirit ServerManager, menu "Server / Properties / Schedule management", action "Server update").

To improve traceability, logging is now carried out with the current FirstSpirit version if a more recent version of FirstSpirit is not available for update purposes (this takes place in the applicable *fs-schedule.*.log* schedule log file and in the *fs-server.log* file). For example:

```
INFO 20.10.2016 09:30:00.113 (de.espirit.firstspirit.server.scheduler.update.Server
UpdateTaskExecutor): FirstSpirit server is up-to-date, no newer version available
```

If there is a new FirstSpirit version available for update purposes, logging is carried out with the current server version and the version to which the FirstSpirit Server is updated.

For more information, see *FirstSpirit Manual for Administrators*, Chapter "Updating the FirstSpirit Server", specifically the "Automatic update via the update service" section.

## 1.3 Start-up process: FirstSpirit server starts up independently of web application updates

Previously, problems could arise during start-up of a FirstSpirit server if the update of a web application took an inordinately long time. Furthermore, the start-up process of a FirstSpirit server was considered to be finished only once the web applications were updated.

As of the current FirstSpirit version, the start-up process is considered to be finished **before** web application updates are performed. This implies that communication with the FirstSpirit server via API is already possible before web applications are up-to-date.

For further information about FirstSpirit web applications, see *FirstSpirit Manual for Administrators*, chapter "FirstSpirit web application configuration".

## 1.4 Starting process: Improved stability when accessing FirstSpirit web applications on external web servers

Using an external web server (for example Apache Tomcat) could led to problems concerning starting the FirstSpirit web applications on the external web server (for example FirstSpirit start page, ContentCreator etc.) because of varying start speed and / or start order of these servers.

Starting with the current FirstSpirit version, the external web server (for example Apache Tomcat) waits up to 5 minutes for a connection to the FirstSpirit server now. The FirstSpirit server can be started within this time interval. The external web server checks every 10 seconds if a connection can be established to the FirstSpirit server. When a connection can be established the FirstSpirit web applications connect automatically to the server.

Thus, for ensuring a frictionless start of external web server, FirstSpirit server and FirstSpirit web applications you should start the external web server always first and the FirstSpirit server afterwards.

Moreover, this allows that the FirstSpirit server will be able to install updates of web applications, if necessary, in any case because the external web server has already been started at this time.

For more information about using external web servers with FirstSpirit please see *FirstSpirit Manual for Administrators*, chapter "Integration into an external web server".

## 1.5    Web server Apache Tomcat: Automatic update of web applications

Apache Tomcat may be used as an external web server with FirstSpirit, operating either on the same host that runs FirstSpirit or on a dedicated host ("stand-alone" / "remote").

Until now, if a stand-alone Tomcat was used, web applications installed on that Tomcat had to be updated manually upon each FirstSpirit update, e.g. via the buttons "Force update", "Install" / "Activate" or "Update", respectively, in FirstSpirit ServerManager, "Server properties / Web applications"
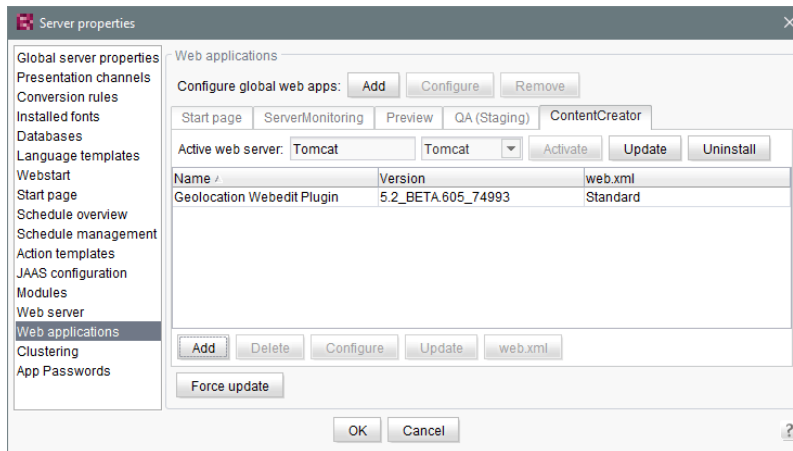


or in "Project properties / Web components"
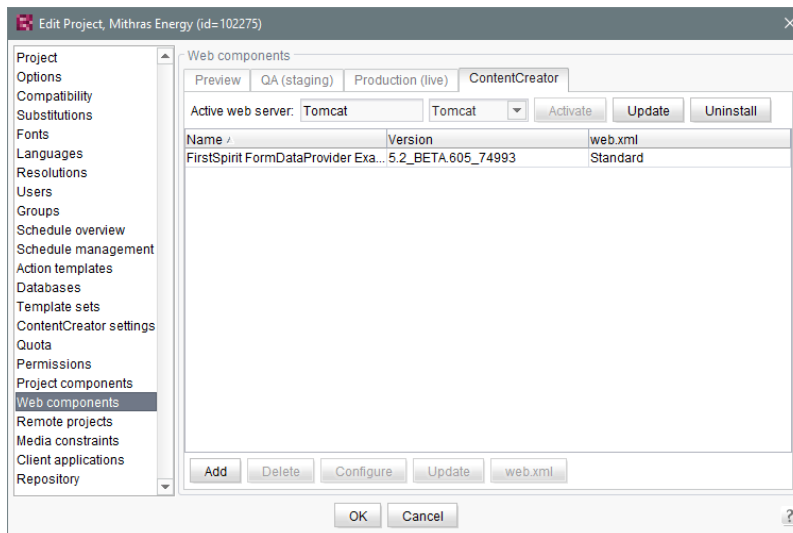
As of the current version of FirstSpirit, the FirstSpirit server will recognize if web applications on a Tomcat are not up-to-date and will trigger an update.

For further information, see *FirstSpirit Manual for Administrators*, chapters

- "Tomcat servlet engine on a dedicated host"

- "Web server"

- "Web applications"

- "Web components"

# 2 ContentCreator

## 2.1 Project-specific action menu

As of the current FirstSpirit version, a project-specific actions menu can be offered to editors who use ContentCreator.
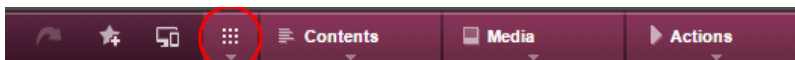


Configuration is carried out directly within ContentCreator, via the entry "Configure actions" in the menu. This requires project administrator privileges.
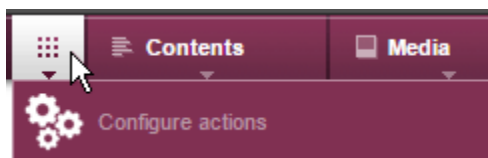


In the dialog which opens, the administrator may select the actions which should be available to all editors in this menu in this project (see also *FirstSpirit Manual for Editors (ContentCreator)*, page "Content-Creator menu functions"):

The set of selectable actions includes those that are offered by plug-in components implementing the interface `de.espirit.firstspirit.webedit.plugin.WebeditToolbarActionsItemsPlugin` for the current project. The individual action items themselves are implementations of the interfaces `ExecutableToolbarActionsItem` or `ClientScriptProvidingToolbarActionsItem` (both in the package `de.espirit.firstspirit.webedit.plugin.toolbar`). The icons shown in the actions menu are specified by the implementations of the two toolbar actions item interfaces and should be sized 40x40 pixels for optimal display. If no icon is defined for an action, the first letter of the item will be used. See also *Plug-In Development / ContentCreator Extensions / Interactive Features / Toolbar Menu Items / Functional Overview* (→*FirstSpirit Online Documentation*).

These buttons may be used to reorder actions. In the menu, the actions will be shown to editors in an order analogous to that in the dialog "Configure actions for all users".

Pressing this button removes the associated action from the project-specific menu. Optionally, actions can be deactivated via the list that is shown when clicking "Add action".

# 3 Media

## 3.1 Recoginition of file types when uploading media using drag-and-drop improved

Media from the workstation's local file system can be dragged directly into the Media Store of the FirstSpirit project by means of drag-and-drop. The file type is recognized automatically by FirstSpirit. Starting with the current FirstSpirit version this applies also for the following Mime types now:

- `.ascx` (file type in FirstSpirit: "text/plain")

- `.jar` (file type in FirstSpirit: "application/zip")

- `.xsd` (file type in FirstSpirit: "text/xml")

# 4    Module Development, Scripts, API

## 4.1    ContentCreator: Displaying page-related status information promi-nently

At the left end of the ContentCreator toolbar, the page status display provides information about the status of the page currently shown in the preview and allows users to perform actions based on that status. For better organization, these actions are only made available in a flyout that is shown once the user hovers the mouse pointer over the page status display.

Page-related status information that is especially important for the editorial process may now be added via a new plugin type using the FirstSpirit API. This information will be displayed prominently in the ContentCreator user interface:
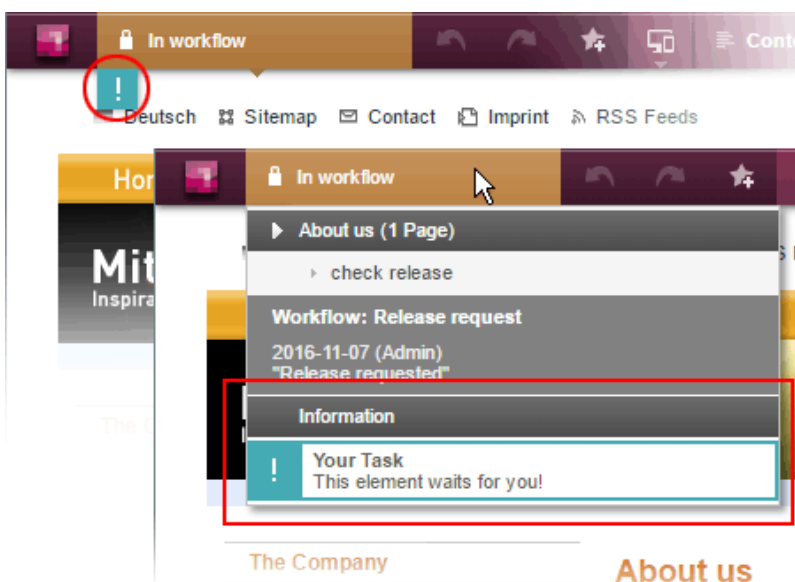


In this example, an entry is added to the status menu if the current page is in a workflow. Additionally, a prominent "!" icon will be displayed underneath the page status display if the user has been explicitly set as an editor in the workflow. This example is implemented in the "ContentCreator Examples", available as a source code package in *FirstSpirit Online Documentation*, chapter "Plug-In Development / Examples".

The basis for this plugin is the interface `WebeditStatusNotePlugin` (FirstSpirit Developer API, package `de.espirit.firstspirit.webedit.plugin.status`). Based on information about the

currently shown page, given by a `WebeditStatusNoteContext` object, the status note plugin delivers a list of `WebeditStatusNote` objects.

`WebeditStatusNote` objects can be created via a `WebeditStatusNoteBuilder` object that may be obtained by calling `WebeditStatusNoteContext#createNote`.

Using such a `WebeditStatusNoteBuilder` object, the following attributes of a `WebeditStatusNote` may be configured before creating the note object (example data is based on the above illustration):

- title (e.g. "Your Task")

- text (e.g. "This element waits for you!")

- icon (e.g. an exclamation mark)

- color (e.g. teal)

- related actions

In order to ensure a consistent design, the color must be chosen from a color palette given in the `Enum WebeditColor` (package `de.espirit.firstspirit.webedit`).

For further information, see *FirstSpirit Manual for Editors (ContentCreator)*, chapter "Menu functions / Page status", and *Plug-In Development / ContentCreator Extensions / Interactive Features / Page-Based Notifications* (→*FirstSpirit Online Documentation*).

## 4.2    Creating maintenance mode schedule tasks via API

FirstSpirit offers maintenance mode functionality which allows shutting down the server in an orderly fashion at a predetermined time in order to perform upgrades, repairs, or other maintenance tasks. Depending on the configuration, before and/or during the maintenance period, users will not be allowed to log on to the server or to selected projects, users currently logged in will be notified that the server will be shut down, etc. Until now, this functionality could only be set using the GUI (ServerManager / Server / Properties / Schedule management / Action "Maintenance mode"):
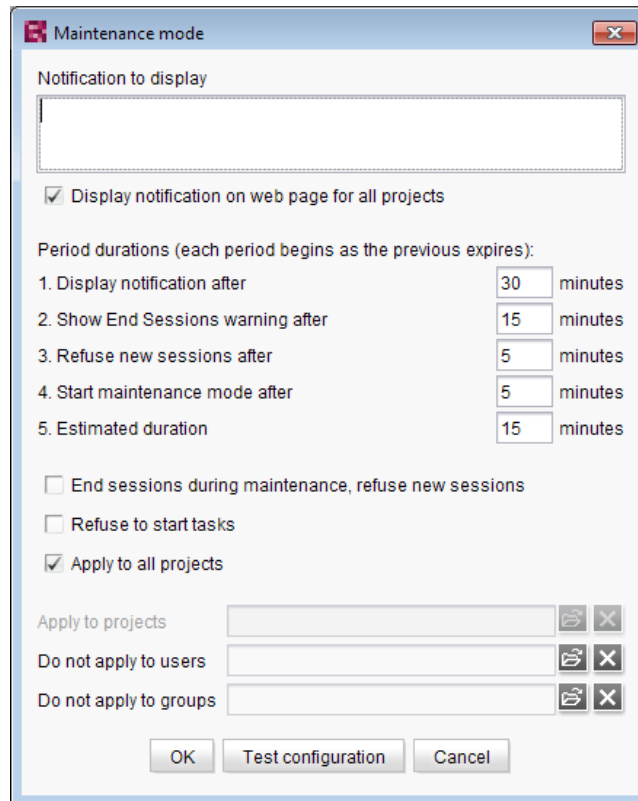
**Configuration of a maintenance mode action**

As of the current FirstSpirit version, maintenance mode schedule entry actions can now be created via API. The new interface **MaintenanceModeTask** (FirstSpirit Developer API, package **de.espirit.firstspirit.access.schedule**) allows creation and configuration of such a schedule entry action analogous to configuration via the GUI.

Moreover, you can use the new interface **MaintenanceModeInfo** to query via API if a maintenance mode schedule is already running on the server. The new interface **MaintenceModeAgent** has been created for terminating running maintenance mode schedules. Server administrator permission is required for this. In return, the method **stopMaintenance(long)** (FirstSpirit Access API, package **de.espirit.firstspirit.access**, interface **AdminService**) has been discontinued ("Deprecation") and can be omitted in a following FirstSpirit major version.

For further information about the maintenance mode schedule entry action, see *FirstSpirit Manual for Administrators*, chapter "FirstSpirit ServerManager / Schedule entry planning / Server-based actions / Maintenance mode".

## 4.3 E-mail addresses with special characters in the domain part

During work with FirstSpirit, e-mail addresses may be entered in several contexts, e.g. in order to send FirstSpirit users notifications related to tasks, workflows, etc. As of the current FirstSpirit version, e-mail addresses with special characters in the domain part ("IDN domains", RFC 3490) may be used, e.g. "info@müller.de".

Related to this change, several modifications were made to the FirstSpirit Access API: The *public* fields as well as the constructor of the class `de.espirit.firstspirit.access.MailHeader` have been marked deprecated. As a replacement, `MailHeader#getBuilder()` provides a builder object that carries out the necessary conversions automatically.

Methods set to the "deprecated" state can still be used, but as they will be omitted in subsequent versions, this is not advisable. If methods, classes, and interfaces that are no longer supported or are set to deprecated are used in scripts and/or modules, entries are written to log files accordingly (e.g., server log, generation log, etc.). The corresponding log entries should be checked and the cause(s) remedied.

## 4.4 Establishing connections via API in schedule task scripts

Scripts are an important means to easily and quickly implement custom functionality that is not included in FirstSpirit's standard functionality set. Scripts may be used in various contexts in FirstSpirit, e.g. in schedule tasks ("FirstSpirit ServerManager / Server or Project properties / Schedule management", action "Execute script"). If a script should perform modifying operations on a project, a separate connection to the server must be used instead of the current session. For this, login information (user name, password) of the user that should be used for authentication against the server must be entered.

Until now, this configuration could only be done via GUI:
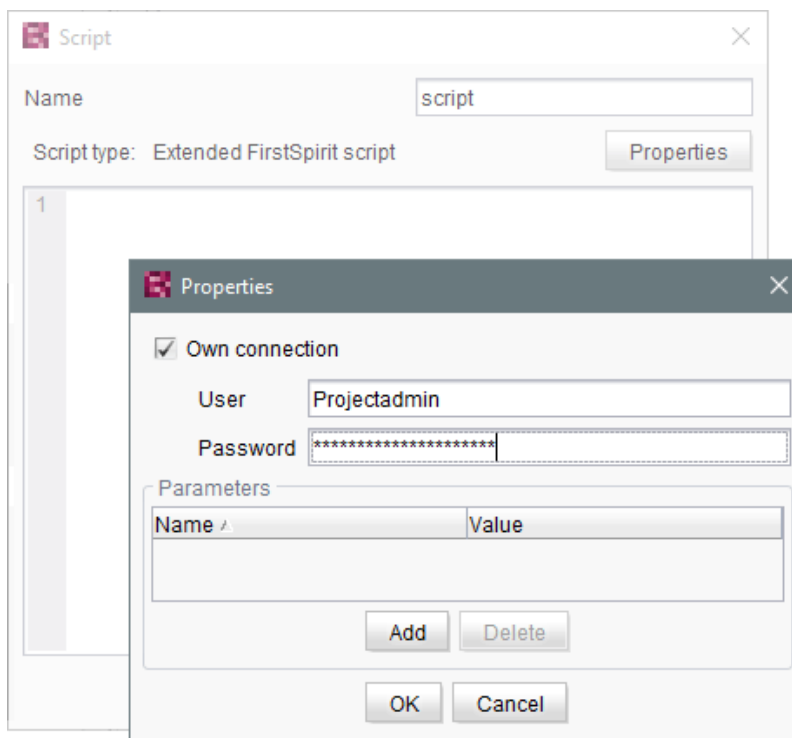
As of the current FirstSpirit version, such a separate connection can also be established via API (interface **ScriptTask**, package **de.espirit.firstspirit.access.schedule**, FirstSpirit Access API). For this, the interface was extended with the following methods:

- **getUseCustomConnection()**

- **setUseCustomConnection(String login, String password)**

- **getCustomConnectionLogin()**

- **setUseSystemConnection()**

For further information about schedule tasks, see *FirstSpirit Manual for Administrators*, chapter "Execute script".

## 4.5    Improved detection of identical or compatible module resources

The use of identical resources (e.g. a library) in various product components (e.g. FirstSpirit server, additional modules) frequently causes conflicts in practical application. Example: If, for example,

FirstSpirit internally uses "SLF4J", version 1.6.1 for logging within a web application, a conflict arises if a module developer attempts to use another version of "SLF4J" for a customer-specific module implementation. Likewise, such a conflict may arise in global module resources: these are accessible with a server-wide scope and may thus also cause conflicts with other modules. The current FirstSpirit version enables detection of identical or compatible resources used in various product components. This requires several data:

**Assignment of unique identifiers for resources:** If a library is added to a module as a resource, the component descriptor must contain a unique name for the resource. It is recommended that names are not just unique but follow a set syntax (following the Maven schema) in order to enable identification of identical or compatible resources, e.g.:

```
<web-resources>
    <resource name="org.slf4j:slf4j-api" version="1.6.4">lib/slf4j-api-1.6.4.jar
    </resource>
</web-resources>
```

The name (following the Maven schema) begins with a "groupID" (here: `org.slf4j`), followed by an "artifactID" (here: `slf4j-api`), separated by a colon. The "groupID" is a grouping identifier (similar to a Java package name) and serves as a unique identifier of the producer. It usually is the reversed domain name used by the producer. The "artifactID" is the resource's name (see Maven conventions).

**Version information for resources:** When resources with identical names are used, FirstSpirit attempts to detect if these resources are compatible with each other. Alongside the unique identifier ("name"), this also requires information about the version of the delivered resource ("version") and can optionally include information about the minimum compatible version ("minVersion") and the maximum compatible version ("maxVersion"):

```
<web-resources>
    <resource name="org.slf4j:slf4j-api" version="1.6.4"
     minVersion="1.6.1" maxVersion="1.7.2">
      lib/slf4j-api-1.6.4.jar
    </resource>
</web-resources>
```

For "maxVersion", the definition `minVersion="1.6.1" maxVersion="1.9.9"` is allowable as long as the library remains stable within a minor version line (even though this version of the library does not yet exist at the time the module is generated).

If several different versions of a library are added to FirstSpirit, this information can be used to identify the best applicable version of the resource.

Rules:

- If several mentions of a resource with the same unique identifier omit version information ("version"), the resources are deemed incompatible with each other.

- If several mentions of a resource with the same unique identifier but different versions ("version") omit "minVersion" and "maxVersion", the resources are deemed compatible. The latest version of the resource will be used.

- If several mentions of a resource with the same unique identifier but different versions ("version") do carry compatibility information ("minVersion" and "maxVersion"), the latest version of the resource which is compatible with all modules will be used.

- - If "minVersion" is omitted, the compatibility range does not have a lower boundary ("0" to "maxVersion").

  - If "maxVersion" is omitted, the compatibility range does not have an upper boundary ("minVersion" to infinity).

## 4.6 Isolated mode (BETA) - Realignment of module development

FirstSpirit extensions are implemented using Java. The integration of an external implementation into the FirstSpirit server and FirstSpirit client applications (FirstSpirit SiteArchitect, FirstSpirit Server-Manager, ...) is done via the FirstSpirit APIs (Access API and Developer API). These provide access to FirstSpirit-internal information, services, and functionality.

During run-time, the file `fs-server.jar` (or `fs-client.jar`) is in the class path. Besides the FirstSpirit APIs, the file `fs-server.jar` also contains internal FirstSpirit classes and various libraries (see diagram below).

**Module development (previous behavior):** Until now, all contents of the file `fs-server.jar` are started in the Java VM. This means that the VM class loader has access to not only the official FirstSpirit interfaces but also the internal classes and libraries contained in the JAR file (see diagram):
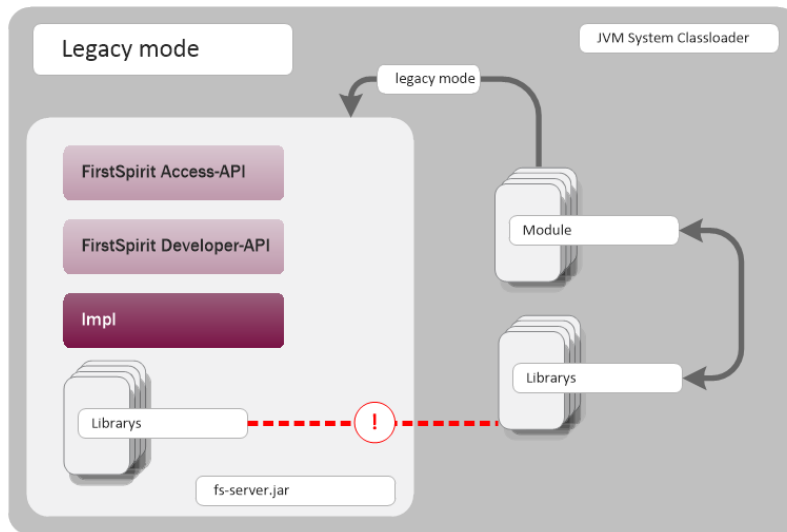


**Module development (previous behavior)**

Known disadvantages are:

▪ The libraries contained in the file `fs-server.jar` (e.g. Log4J; Apache Commons) lead to global dependencies. Conflicts may arise e.g. when the FirstSpirit server uses a library and a module developer attempts to use the same library in a different (newer) version. A module-local replacement of specific libraries is currently not possible.

▪ The libraries contained in the file `fs-server.jar` are not guaranteed product components and thus do not adhere to an orderly change management (as opposed to the FirstSpirit APIs). The version of a library that is included in `fs-server.jar` depends upon the FirstSpirit version in use. This implies that conflicts may also arise during upgrade and downgrade of a FirstSpirit server. If the version of a library is changed on the server, incompatibilities with already installed modules that use the same library may arise.

▪ Further potential for conflict arises from uncontrolled use of internal implementation classes that are also contained within `fs-server.jar`. Because these are accessible in the JVM class loader hierarchy, they can inofficially be used by module implementations. At face value, this is a convenient

workaround if a method is not available in the official APIs, but these internal classes are of course not covered by stability guarantees and may be changed at any time.

**Module development in "isolated mode" (future behavior):** In "isolated mode", the FirstSpirit APIs continue to be included in `fs-server.jar` (`fs-isolated-server.jar`). Thus, all methods and interfaces of the API are visible to the class loader and may be used for module development (see diagram below). In order to establish connections and carry out further essential functionality, a minimal infrastructure in the form of internal classes is required ("basic infrastructure", see diagram). These internal infrastructure classes, too, are visible to the class loader. In isolated mode, all further internal classes ("Impl") and the libraries previously included in `fs-server.jar` are no longer contained in the class loader hierarchy. These contents will be relocated to a hidden area (in a directory within the JAR file) and can no longer be located by the class loader ("hidden" area, see diagram). Thus, conflicts can no longer arise if a module uses a library that is already contained in `fs-server.jar` in a different version. However, conflicts with other modules that attempt to use different versions of the same library may still arise if these libraries are included with a global scope.
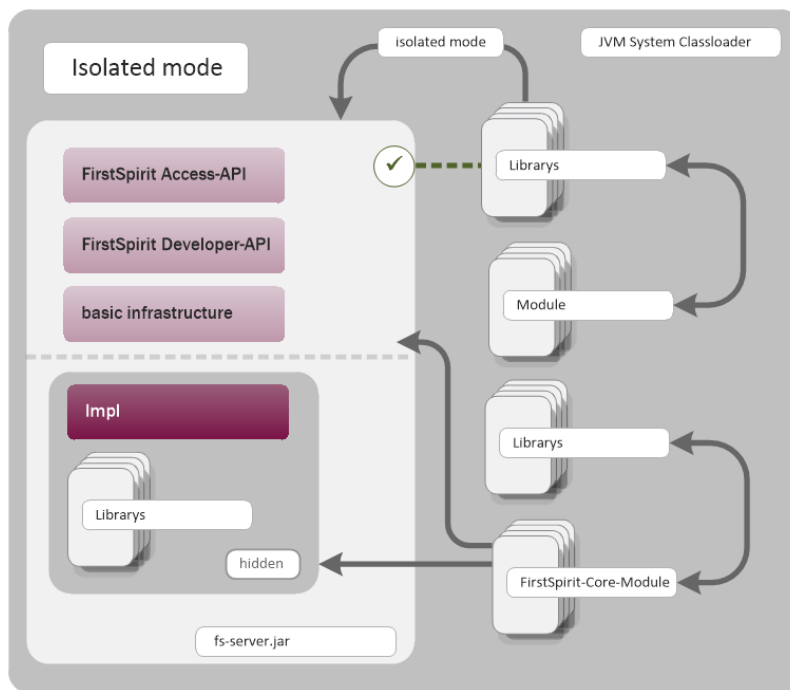


**Module development (future behavior)**

Goals and advantages of isolated mode:

▪ greater freedom in the selection of libraries to be used

■ extensive avoidance of global dependencies to other product components

■ overall, module development becomes more secure and more stable

■ improved module maintenance

■ reduced migration efforts when upgrading or downgrading a FirstSpirit server

**Timeline: Introduction of isolated mode (subject to change):** As of the current FirstSpirit version, operation of the server in isolated mode is optional. Configuring the server to operate in isolated mode is easy but requires deliberate action. In order to ensure compatibility with existing modules, the previous behavior ("legacy mode") continues to be supported and is the standard behavior throughout the entire 5.2 version line. This means that modules that were designed to rely upon internal libraries can continue to be used. This does not require adjustments.

With FirstSpirit 6.0, "isolated mode" will be used as the new standard behavior. The previous behavior will be deprecated as of FirstSpirit 6.0.

**Complete documentation about the realignment of module development:** *Isolated mode [Beta]* (→*Manual for Module Developers*) (*FirstSpirit Developer Manual for components (German only)*, accessible from "FirstSpirit Online Documentation" (ODFS) via the navigation menu in the left sidebar.)

## 4.7 Multi Perspective Preview: Creating and configuring viewports via API

With the functionality "Multi Perspective Preview" (MPP), FirstSpirit supports editors in controlling how web page content is displayed and navigated in display sizes of various output devices and in optimizing layouts and images for specific output devices. Each output device may be represented by a so-called viewport. Thus far, viewports of a project were defined and configured via project settings in FirstSpirit ServerManager ("Options / Configure preview viewports"):
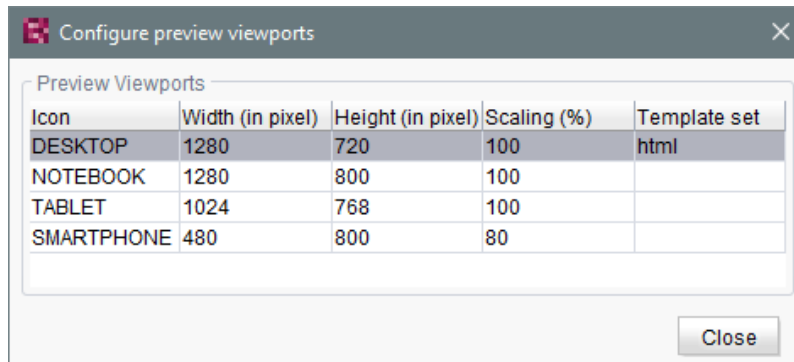
As of the current FirstSpirit version, such viewports can now be created, modified, and deleted via API. The package **de.espirit.firstspirit.access.project.mpp** (FirstSpirit Developer API) contains the following interfaces:

- Interface **MPPViewport** (represents a viewport)

- Interface **MPPViewport.Builder** (creates a viewport)

- Enum **MPPViewport.IconType** (icon type for a viewport)

- Interface **MPPViewportAgent**

- Interface **MPPViewports** (query viewports defined for a project and create/delete a viewport)

**Note:** When configuring multiple viewports, care should be taken that no two identical viewports (with identical values) are defined, and negative values should not be used.

For further information, see *Template development / JavaScript APIs / Multi Perspective Preview* (→*FirstSpirit Online Documentation*) and *FirstSpirit SiteArchitect / FirstSpirit AppCenter / Integrated preview / Multi Perspective Preview* (→*Documentation FirstSpirit SiteArchitect*).

# 5 Modules (general)

## 5.1 Distribution of the FirstSpirit web applications as modules (.fsm)

FirstSpirit version 5.2R3 implemented a new roll-out behavior for the FirstSpirit web applications: while the global web applications (fs5root, fs5preview, fs5webedit,…) have previously been distributed in the form of ZIP files, they are since distributed in the form of FirstSpirit modules (FSM files).

After a transition period, the previously used ZIP files have been permanently removed from the file `fs-server.jar` as of the current FirstSpirit version. This leads to a significant decrease in the file size of `fs-server.jar`.

## 5.2 Library dependencies added in FirstSpirit web applications

Missing library dependencies have been added for all internal FirstSpirit web applications. The relevant .jar files have been added to the individual modules.

When updating the FirstSpirit Server, updating the following modules is recommended (assuming they are already installed):

▪ FirstSpirit Basic Search ("fs-search.fsm")

▪ FirstSpirit Dynamic Database Access ("fs-integration.fsm")

▪ FirstSpirit Security ("fs-security.fsm")

# 6 SiteArchitect / ContentCreator

## 6.1 Dynamic forms: New property "CONTAINERTYPE"

Input components may be used in multiple contexts: in sections, list components such as FS_CATALOG, datasets, and pages. As of the current FirstSpirit version, the property `CONTAINERTYPE` allows identification of the object type. Depending on the surrounding object type, the input component may, for example, be shown or hidden (or set to be read-only).

Towards this end, the expression `<PROPERTY source='#global' name='CONTAINERTYPE'/>` may be used in the value determination block of a rule's definition (or for the definition of a precondition). It

returns the identifier of the container type, where the return value matches the type's name (in uppercase letters). The following types are currently supported:

- FS_CATALOG

- FS_LIST

- CMS_INPUT_DOM

- CMS_INPUT_DOMTABLE

- CMS_INPUT_LINK

- CMS_INPUT_IMAGEMAP

- BODY

- NONE

For further information, see *Template development / Rules / Form properties <PROPERTY/> / Property CONTAINERTYPE* (→*FirstSpirit Online Documentation*).

## 6.2 Reports: Handling has been improved

In FirstSpirit, reports are an important and project-specifically customizable means of making content from any source available to editors in a project. Reports allow a structured display of data that can - depending upon a report's implementation - be searched, filtered, and used for editorial work (by way of drag-and-drop and buttons).

Actions that can be started using a button on reports in FirstSpirit SiteArchitect (e.g. starting a search) can now be easily triggered by pressing Enter (1):
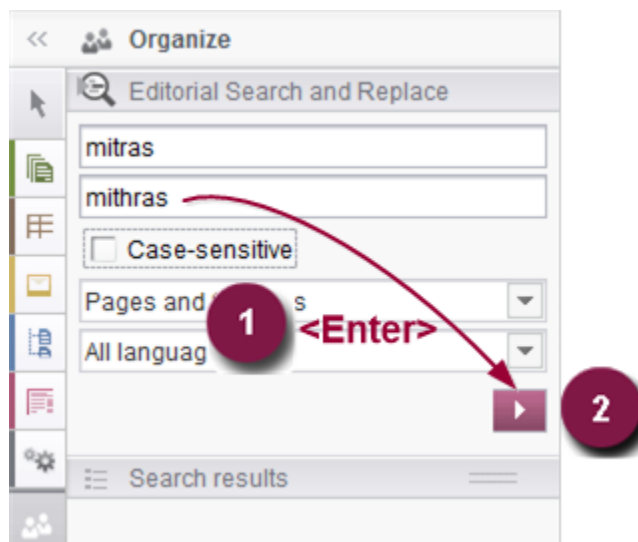
Furthermore, an arrow is used now for the button instead of the display name of the respective report (2).

For further information, see e.g. *Plug-In Development / Universal Extensions / Data Access / Use for Reporting* (→*FirstSpirit Online Documentation*).

Furthermore, user guidance has been improved when using customer specific reports in ContentCreator (interface **StaticItemsProviding**, package **de.espirit.firstspirit.client.plugin.dataaccess.aspects**, FirstSpirit Developer API).

# 7 SiteArchitect / ServerManager

## 7.1 Speeding up file selection from directory structure of the client workstation

The file selection dialog allows selection of a desired file from the directory structure of the client workstation for upload to FirstSpirit SiteArchitect (e.g. Media store) or ServerManager (e.g. project import).
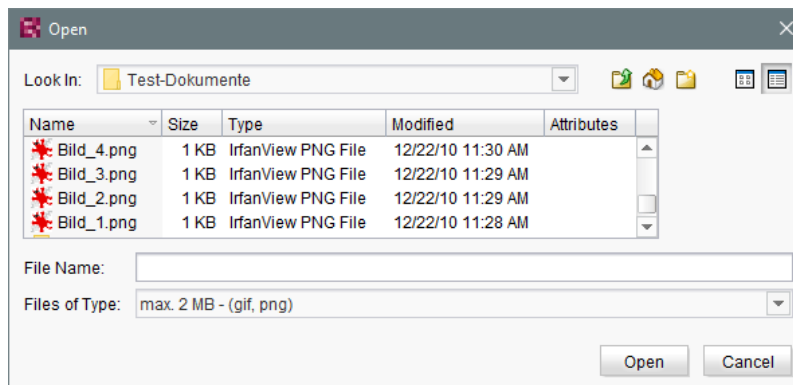
From the current FirstSpirit version onwards, the parameter

```
-DSynthetica.extendedFileChooser.sortEnabled=false
```

can be set in the connection or web start settings in order to deactivate the file selection dialog's sort functionality (column headers in the view mode "Details"). This can speed up work with the file selection dialog when the user needs to navigate among different directories of the client workstation's file system. If this parameter is set, an according entry will be logged to the log file **fs-server.log**:

```
INFO 26.09.2016 16:13:08.923 (de.espirit.common.gui.LookAndFeelUtil): disabled
sorting in file chooser'
```

Alternatively, files can also be uploaded into the Media store of FirstSpirit SiteArchitect using

▪ drag-and-drop and

▪ the "Media Import Wizard" ("Extras" menu).

For further information, see

▪ *FirstSpirit Manual for Administrators*,
  ▪ chapter "Configuring connection settings" (section "Optional parameters")

  ▪ chapter "Server properties / Start page"

▪ *Media Store / Creating media* (→*Documentation FirstSpirit SiteArchitect*)

▪ *Media Store / Media Import Wizard (→Documentation FirstSpirit SiteArchitect)*

▪ *General operation / Drag-and-drop functions (→Documentation FirstSpirit SiteArchitect)*

# 8 Overview

| ID | Description | Categories |
|---|---|---|
| 160553 | Optimized stop/restart process of web applications when using Apache Tomcat 8 as web server. | FirstSpirit Administrator |
| 165246 | In the input component FS_LIST (type INLINE), optimized editing an entry in a separate window. | Input Components, SiteArchitect |
| 166031 | The validation behavior for the input component FS_LIST (type DATABASE) operating in "Mediamode" has been optimized. | ContentCreator, Dynamic Forms |
| 169756 | Optimized copying of content into the FirstSpirit clipboard via the keyboard shortcut Ctrl + C. | Clipboard, SiteArchitect |
| 175832 | As of the current FirstSpirit version, connections for schedule task scripts can also be established via API (interface **ScriptTask**, package **de.espirit.firstspirit.access.schedule**, FirstSpirit Access API).<br><br>Further information can be found in chapter "Module Development, Scripts, API: Establishing connections via API in schedule task scripts". | Developer, FirstSpirit API, Tasks |
| 175868 | Optimized interaction pattern when cancelling a workflow. | ContentCreator |
| 178744<br>150701<br>192871 | Handling of reports has been improved.<br><br>Further information can be found in chapter "SiteArchitect / Content-Creator: Reports: Handling has been improved". | ContentCreator, Editor, Reports, SiteArchitect |
| 181337 | During creation of a new package version, erroneous behavior could occur. | Corporate Content |
| 181826 | Optimized evaluation of a parameter from a page reference that is passed to a database query. | Database |

| ID | Description | Categories |
|---|---|---|
| 181874 | As of the current FirstSpirit version, e-mail addresses with special characters in the domain part ("IDN domains", RFC 3490) may be used, e.g. "info@müller.de".<br><br>Related to this change, several modifications were made to the FirstSpirit Access API.<br><br>Further information can be found in chapter "Module Development, Scripts, API: E-mail addresses with special characters in the domain part". | FirstSpirit API, Server Administrator |
| 182234<br>193136 | Improved refreshing the preview after making changes in subforms. | ContentCreator |
| 182613 | Erroneous behavior could occur during start-up of web applications if Websphere was used as an application server. | FirstSpirit Administrator |
| 182862 | Input components may be used in multiple contexts: in sections, list components such as FS_CATALOG, datasets, and pages. As of the current FirstSpirit version, the property `CONTAINERTYPE` allows identification of the object type. Depending on the surrounding object type, the input component may, for example, be shown or hidden (or set to be read-only).<br><br>Further information can be found in chapter "SiteArchitect / Content-Creator: Dynamic forms: New property "CONTAINERTYPE"". | Developer, Dynamic Forms |
| 182865 | Evaluating the release state of a dataset has been optimized for the detailed view display. | Content Store, SiteArchitect |
| 183699 | Optimized interaction pattern when installing or creating a feature. | Content Transport |
| 184390 | The "Open in separate window" action of the input component FS_LIST has been optimized. | Input Components, SiteArchitect |
| 184398 | Erroneous behavior could occur in data source overviews when displaying media for which the user did not possess read permissions. | Content Store, SiteArchitect |
| 184871 | Improved performance when selecting a next editor in a workflow dialog. | ContentCreator |

| ID | Description | Categories |
|---|---|---|
| 185592 | When using the operating system Mac OS, external images which were copied via `cmd` + `C` were erroneously not displayed in the FirstSpirit clipboard. | Clipboard, SiteArchitect |
| 185873 | Improved evaluation of permissions when editing inherited metadata. | Permissions, SiteArchitect |
| 186100 | In the FirstSpirit schema editor, creating a 1:N relationship to the same table has been optimized. | Database, Developer |
| 187437 | Optimized caching for remote projects in the action context. | Developer, FirstSpirit Administrator |
| 187707 | During generation, erroneous behavior could occur when outputting remote media with identical display names. | Generation |
| 187740 | As of the current FirstSpirit version, viewports of the functionality "Multi Perspective Preview" (MPP) can now be created, modified, and deleted via API.

Further information can be found in chapter "Module Development, Scripts, API: Multi Perspective Preview: Creating and configuring viewports via API". | Developer, FirstSpirit API, Multi Perspective Preview |
| 187874 | In the task list, tasks were erroneously visible to a user who did not have rights to process these tasks. | Permissions, SiteArchitect |
| 188464 189112 | As of the current FirstSpirit version, maintenance mode schedule entry actions can now be created via API and running maintenance modes schedules can be terminated via API.

Further information can be found in chapter "Module Development, Scripts, API: Creating maintenance mode schedule tasks via API". | FirstSpirit API, Module development, Tasks |
| 188709 | Optimized FirstSpirit access control database. | Database |
| 189681 | As of the current FirstSpirit version, a project-specific actions menu can be offered to editors who use ContentCreator.

Further information can be found in chapter "ContentCreator: Project-specific action menu". | ContentCreator, Developer, Editor |

| ID | Description | Categories |
|---|---|---|
| 190396 | In the input component FS_LIST (type PAGE), optimized rules evaluation relating to deleted sections. | Dynamic Forms, Input Components, SiteArchitect |
| 190461 | After deleting user groups in the project properties ("FirstSpirit Server-Manager / Project / Properties / Groups / Remove group") related information on nodes with defined permissions in SiteArchitect were erroneously not updated. | FirstSpirit Administrator, Permissions |
| 191247 | Optimized determination of the target element of dataset selection in a data source for the following actions:<br><br>▪ "Version history" ( Ctrl + H )<br><br>▪ "Extras / Show usages" ( Ctrl + U )<br><br>▪ "Extras / Display dependencies" ( Ctrl + R ) | Content Store, SiteArchitect |
| 191303 | Optimized setting values via rules in ContentCreator. | ContentCreator, Dynamic Forms |
| 191357 | Realignment of module development: As of the current FirstSpirit version, modules can for the first time be developed with isolated resources. This new functionality allows module developers greater freedom in the selection of libraries to be used. Global dependencies to other product components are mostly avoided.<br><br>Further information can be found in chapter "Module Development, Scripts, API: Isolated mode (BETA) - Realignment of module development". | Developer, Module development, Modules |
| 191472<br>167578<br>174226 | FirstSpirit version 5.2R3 implemented a new roll-out behavior for the FirstSpirit web applications. The previously used ZIP files have now been removed from the file `fs-server.jar`. This leads to a significant decrease in the file size of `fs-server.jar`.<br><br>Further information can be found in chapter "Modules (general): Distribution of the FirstSpirit web applications as modules (.fsm)". | FirstSpirit Administrator, Modules, ServerManager |

| ID | Description | Categories |
|---|---|---|
| 191719 | The file names of backup copies of `fs-server.jar` files, created during server updates via FirstSpirit ServerMonitoring, will now be formed using `_jar` instead of `.jar`.<br><br>Further information can be found in chapter "Administration: Server Update: File name change for backup copies of files". | Server Administrator |
| 191967 | The new plugin type `WebeditStatusNotePlugin` may be used to prominently display page-related status information in Content-Creator.<br><br>Further information can be found in chapter "Module Development, Scripts, API: ContentCreator: Displaying page-related status information prominently". | ContentCreator, Developer, Editor, FirstSpirit API |
| 191968 | In the input component FS_INDEX, erroneous behavior could occur when cancelling edit mode on a newly created entry. | Input Components, SiteArchitect |
| 192058 | In rare cases, erroneous behavior could occur during media import. | Media Store, SiteArchitect |
| 192075 | Using several web components can potentially cause conflicts between identical resources. Optimized conflict identification and conflict resolution. | FirstSpirit Administrator, Modules |
| 192153 | When creating a format template, after inputting a reference name, the label of the field "Reference name" was erroneously still shown in red type. | SiteArchitect, Template Store |
| 192222 | Stability when accessing FirstSpirit web applications on external web servers has been improved.<br><br>Further information can be found in chapter "Administration: Starting process: Improved stability when accessing FirstSpirit web applications on external web servers". | FirstSpirit Administrator, ServerManager |
| 192328 | In rare cases, releasing a page reference could lead to erroneous behavior. | Release, SiteArchitect |

| ID | Description | Categories |
|---|---|---|
| 192424 | A new **-D** parameter can speed up work with the file selection dialog (FirstSpirit SiteArchitect and FirstSpirit ServerManager).<br><br>Further information can be found in chapter "SiteArchitect / Server-Manager: Speeding up file selection from directory structure of the client workstation". | Editor, FirstSpirit Administrator, FirstSpirit home page, Media Store, Performance, Server-Manager, SiteArchitect |
| 192539 | Using WebSphere as an application server may have resulted in malfunctions when logging in on the FirstSpirit start page. | FirstSpirit home page |
| 192549<br>192547<br>192637 | Missing library dependencies have been added for the FirstSpirit web application from the "fs-integration.fsm", "fs-search.fsm" and "fs-security.fsm" modules. Updating these modules is recommended.<br><br>Further information can be found in chapter "Modules (general): Library dependencies added in FirstSpirit web applications". | Module development, Modules |
| 192582 | Improved loading performance of SiteArchitect after project selection. | SiteArchitect |
| 192718 | In SiteArchitect, improved consideration of the template set that is configured for a preview viewport (functionality "Multi Perspective Preview"). | Multi Perspective Preview, SiteArchitect |
| 192728 | Erroneous behavior could occur when creating images using the method **getImageFromIcon(Icon)** (interface **ImageAgent**, package **de.espirit.firstspirit.agency**). | FirstSpirit API |
| 192742 | The method **checkAndThrow()**, part of the interface **ServerActionHandle** (FirstSpirit Access-API, Package **de.espirit.firstspirit.access**), has been optimized. | Developer, FirstSpirit API |
| 192766 | As of the current FirstSpirit version, the start-up process is considered to be finished before web application updates are performed.<br><br>Further information can be found in chapter "Administration: Start-up process: FirstSpirit server starts up independently of web application updates". | FirstSpirit Administrator |
| 192787 | In form, rule, and output channel editors of templates, using the action "Undo" ( Ctrl + Z ) could lead to erroneous behavior. | Developer, SiteArchitect, Template Store |

| ID | Description | Categories |
|---|---|---|
| 192826 | The performance has been optimized for the Mac OS X operating system when adding elements to the tree with drag-and-drop. | SiteArchitect |
| 192866 | The recognition of file types when uploading media using drag-and-drop has been improved.<br><br>Further information can be found in chapter "Media: Recoginition of file types when uploading media using drag-and-drop improved". | Editor, Media Store |
| 192868 | For a user with server administrator privileges, "Administrator mode" was erroneously initially active in SiteArchitect (menu: "Project / Administrator mode"). | Server Administrator, SiteArchitect |
| 192903 | Generating output of data sets from a content source using the function `contentSelect` did not work correctly in some cases. | Generation |
| 192915 | FirstSpirit Server performance improvements in the "Send message" area (ServerManager: menu "Extras / Send message"). | Performance, Server Administrator |
| 192956 | To improve traceability, improvements have been made to logging the server update schedule in the current FirstSpirit version.<br><br>Further information can be found in chapter "Administration: Server update: Improved schedule logging". | FirstSpirit Administrator, Tasks |
| 192965 | Optimized modification detection of a page when adding a section via copy-and-paste. | SiteArchitect |
| 193023 | Improvements in the area "Content Transport". | Content Transport |
| 193027 | Optimized the action "Undo" ( Ctrl + Z ) in form, rule, and output channel editors. | Developer, SiteArchitect, Template Store |
| 193089 | Improved detection of identical or compatible module resources using unique identifiers (following the Maven schema) and the properties "version", "minVersion", and "maxVersion".<br><br>Further information can be found in chapter "Module Development, Scripts, API: Improved detection of identical or compatible module resources". | Developer, Module development, Modules |

| ID | Description | Categories |
|---|---|---|
| 193166 | As of the current version of FirstSpirit, the FirstSpirit server will recognize if web applications on a Tomcat running on a dedicated host are not up-to-date and will trigger an update.<br><br>Further information can be found in chapter "Administration: Web server Apache Tomcat: Automatic update of web applications". | Developer, FirstSpirit Administrator |
| 193181 | The behavior when changing the language or focus in the FS_CATALOG input component has been optimized. | Input Components |
| 193249 | Cleanup of the repository files during archiving has been improved. | Archiving, FirstSpirit Administrator |
| 193254 | File pointer management for socket connections has been improved. | Server Administrator |
| 193260 | Generation may have resulted in a malfunction. | Generation |
| 193338 | Evaluation of the project property "Languages can be hidden" ("FirstSpirit ServerManager / Project / Properties / Options") in SiteArchitect has been improved. | ServerManager, SiteArchitect |
| 193389 | In rare cases, accessing the repository may have resulted in malfunctions. | FirstSpirit Administrator, ServerManager |
| 193395 | Updating icons and label of MenuItemsPlugin (Interface `JavaClientEditorialToolbarItemsPlugin`, Package `de.espirit.firstspirit.client.plugin`) has been improved. | SiteArchitect |
| 193418 | Erroneous behavior could occur during start-up of FirstSpirit SiteArchitect if Websphere was used as an application server. | FirstSpirit Administrator |
| 193440 | Recognition of file patterns in the context of archiving has been improved. | Archiving |
| 193471 | The `getService(Class<T>)` method of the `ServicesBroker` interface (FirstSPirit Access API, Package `de.espirit.firstspirit.access`) has been optimized. | FirstSpirit API, Performance |
| 193493 | Rolling out a package in the target project may have resulted in a malfunction. | Corporate Content |

| ID | Description | Categories |
|---|---|---|
| 193553 | Improved safeguard from erroneous path configurations for global web applications in the file **fs-server.conf** (parameters **WEB_DIR**, **WEBAPP_ROOT_PATH**, **WEBAPP_WEBEDIT5_PATH**, **WEBAPP_WEBMON_PATH**, **WEBAPP_STAGING_PATH**, and **WEBAPP_PREVIEW_PATH**). | FirstSpirit Administrator |
| 193563 | While using or updating the FOP module, erroneous behavior could occur. | FirstSpirit Administrator, Modules, ServerManager |
| 193645 | Optimized memory usage in ContentCreator. | ContentCreator |
| 193724 | Optimized observation of activated editorial languages in forms. | ContentCreator |
| 193872 | Erroneous behavior could occur when populating input components located in sub-forms via drag-and-drop. | Input Components, SiteArchitect |
| 193889 | Erroneous behavior could occur when restarting the server via Server-Monitoring. | FirstSpirit Administrator |
| 193916 | Improved preview of the selected datasets when using "Multi Perspective Preview" (MPP). | Multi Perspective Preview, SiteArchitect |
| 193936 | Undesired notifications may have been shown to a user on pages for which he/she only had the permission "Visible". | Permissions, SiteArchitect |
| 193989 | Optimized layout of tree node labels in the input component CMS_INPUT_PERMISSION. | ContentCreator |
| 194012 | Improved rule-based control for editing entries of the input components FS_CATALOG and FS_INDEX. | Input Components, SiteArchitect |
| 194035 | Improved focus behavior when scrolling or making selections in the input component CMS_INPUT_DOM. | Input Components, SiteArchitect |
| 194162 | Erroneous behavior could occur when displaying the input component FS_LIST (type DATABASE) in a dataset form. | Input Components, SiteArchitect |
| 194243 | Synchronization issues could arise in language-independent input components while editing the form in multiple languages. | Input Components, SiteArchitect |
| 194262 | Improved performance when editing data sources. | Content Store, Performance, SiteArchitect |
| 194325 | Synchronizing between workspace and the preview area after saving changes in forms has bee optimized. | Preview, SiteArchitect, Template Store |

| ID | Description | Categories |
|---|---|---|
| 194335 | Highlighting of entries of a report when moving the mouse pointer over an element has been improved. | Reports, SiteArchitect |
| 194353 | Inserting and filling new lines in CMS_INPUT_DOMTABLE input component has been improved. | ContentCreator, Input Components |
| 194354 | Erroneous behavior could occur when creating a database schema from an external database. | Database, SiteArchitect |
| 194436 195017 | Optimized performance when editing datasets that are displayed within the form of an input component FS_LIST (type DATABASE). | Content Store, Performance, SiteArchitect |
| 194618 | Improved focus behavior when scrolling or making selections in the input component CMS_INPUT_DOMTABLE. | Input Components, SiteArchitect |
| 194723 | In order to rename objects in the tree, the function key F2 may be used as an alternative to the function key F9. | SiteArchitect |
| 194744 | Improved stability of connections between SiteArchitect and server. | SiteArchitect |
| 194847 194849 | Optimized performance when selecting objects in the tree. | Performance, SiteArchitect |
| 194860 | Improved evaluation of settings for browser, office, and graphics engine. | SiteArchitect |
| 195203 | In the overview of the input component FS_LIST (type DATABASE), erroneous behavior could occur in the display of columns mapped to N:M foreign key relationships. | Input Components, SiteArchitect |

# 9   Categories

## 9.1   Archiving

| ID | Description |
|---|---|
| 193249 | Cleanup of the repository files during archiving has been improved. |
| 193440 | Recognition of file patterns in the context of archiving has been improved. |

## 9.2 Clipboard

| ID | Description |
|---|---|
| 169756 | Optimized copying of content into the FirstSpirit clipboard via the keyboard shortcut `Ctrl`+`C`. |
| 185592 | When using the operating system Mac OS, external images which were copied via `cmd`+`C` were erroneously not displayed in the FirstSpirit clipboard. |

## 9.3 Content Store

| ID | Description |
|---|---|
| 182865 | Evaluating the release state of a dataset has been optimized for the detailed view display. |
| 184398 | Erroneous behavior could occur in data source overviews when displaying media for which the user did not possess read permissions. |
| 191247 | Optimized determination of the target element of dataset selection in a data source for the following actions: <br><br> ▪ "Version history" ( `Ctrl`+`H` ) <br><br> ▪ "Extras / Show usages" ( `Ctrl`+`U` ) <br><br> ▪ "Extras / Display dependencies" ( `Ctrl`+`R` ) |
| 194262 | Improved performance when editing data sources. |
| 194436 <br> 195017 | Optimized performance when editing datasets that are displayed within the form of an input component FS_LIST (type DATABASE). |

## 9.4 Content Transport

| ID | Description |
|---|---|
| 183699 | Optimized interaction pattern when installing or creating a feature. |
| 193023 | Improvements in the area "Content Transport". |

## 9.5    ContentCreator

| ID | Description |
|---|---|
| 166031 | The validation behavior for the input component FS_LIST (type DATABASE) operating in "Mediamode" has been optimized. |
| 175868 | Optimized interaction pattern when cancelling a workflow. |
| 178744<br>150701<br>192871 | Handling of reports has been improved.<br><br>Further information can be found in chapter "SiteArchitect / ContentCreator: Reports: Handling has been improved". |
| 182234<br>193136 | Improved refreshing the preview after making changes in subforms. |
| 184871 | Improved performance when selecting a next editor in a workflow dialog. |
| 189681 | As of the current FirstSpirit version, a project-specific actions menu can be offered to editors who use ContentCreator.<br><br>Further information can be found in chapter "ContentCreator: Project-specific action menu". |
| 191303 | Optimized setting values via rules in ContentCreator. |
| 191967 | The new plugin type **WebeditStatusNotePlugin** may be used to prominently display page-related status information in ContentCreator.<br><br>Further information can be found in chapter "Module Development, Scripts, API: ContentCreator: Displaying page-related status information prominently". |
| 193645 | Optimized memory usage in ContentCreator. |
| 193724 | Optimized observation of activated editorial languages in forms. |
| 193989 | Optimized layout of tree node labels in the input component CMS_INPUT_PERMISSION. |
| 194353 | Inserting and filling new lines in CMS_INPUT_DOMTABLE input component has been improved. |

## 9.6 Corporate Content

| ID | Description |
|---|---|
| 181337 | During creation of a new package version, erroneous behavior could occur. |
| 193493 | Rolling out a package in the target project may have resulted in a malfunction. |

## 9.7 Database

| ID | Description |
|---|---|
| 181826 | Optimized evaluation of a parameter from a page reference that is passed to a database query. |
| 186100 | In the FirstSpirit schema editor, creating a 1:N relationship to the same table has been optimized. |
| 188709 | Optimized FirstSpirit access control database. |
| 194354 | Erroneous behavior could occur when creating a database schema from an external database. |

## 9.8 Developer

| ID | Description |
|---|---|
| 175832 | As of the current FirstSpirit version, connections for schedule task scripts can also be established via API (interface `ScriptTask`, package `de.espirit.firstspirit.access.schedule`, FirstSpirit Access API).<br><br>Further information can be found in chapter "Module Development, Scripts, API: Establishing connections via API in schedule task scripts". |
| 182862 | Input components may be used in multiple contexts: in sections, list components such as FS_CATALOG, datasets, and pages. As of the current FirstSpirit version, the property `CONTAIN-ERTYPE` allows identification of the object type. Depending on the surrounding object type, the input component may, for example, be shown or hidden (or set to be read-only).<br><br>Further information can be found in chapter "SiteArchitect / ContentCreator: Dynamic forms: New property "CONTAINERTYPE"". |
| 186100 | In the FirstSpirit schema editor, creating a 1:N relationship to the same table has been optimized. |

| ID | Description |
|---|---|
| 187437 | Optimized caching for remote projects in the action context. |
| 187740 | As of the current FirstSpirit version, viewports of the functionality "Multi Perspective Preview" (MPP) can now be created, modified, and deleted via API.<br><br>Further information can be found in chapter "Module Development, Scripts, API: Multi Perspective Preview: Creating and configuring viewports via API". |
| 189681 | As of the current FirstSpirit version, a project-specific actions menu can be offered to editors who use ContentCreator.<br><br>Further information can be found in chapter "ContentCreator: Project-specific action menu". |
| 191357 | Realignment of module development: As of the current FirstSpirit version, modules can for the first time be developed with isolated resources. This new functionality allows module developers greater freedom in the selection of libraries to be used. Global dependencies to other product components are mostly avoided.<br><br>Further information can be found in chapter "Module Development, Scripts, API: Isolated mode (BETA) - Realignment of module development". |
| 191967 | The new plugin type `WebeditStatusNotePlugin` may be used to prominently display page-related status information in ContentCreator.<br><br>Further information can be found in chapter "Module Development, Scripts, API: ContentCreator: Displaying page-related status information prominently". |
| 192742 | The method `checkAndThrow()`, part of the interface `ServerActionHandle` (FirstSpirit Access-API, Package `de.espirit.firstspirit.access`), has been optimized. |
| 192787 | In form, rule, and output channel editors of templates, using the action "Undo" ( Ctrl + Z ) could lead to erroneous behavior. |
| 193027 | Optimized the action "Undo" ( Ctrl + Z ) in form, rule, and output channel editors. |
| 193089 | Improved detection of identical or compatible module resources using unique identifiers (following the Maven schema) and the properties "version", "minVersion", and "maxVersion".<br><br>Further information can be found in chapter "Module Development, Scripts, API: Improved detection of identical or compatible module resources". |
| 193166 | As of the current version of FirstSpirit, the FirstSpirit server will recognize if web applications on a Tomcat running on a dedicated host are not up-to-date and will trigger an update. |

| ID | Description |
|---|---|
| | Further information can be found in chapter "Administration: Web server Apache Tomcat: Automatic update of web applications". |

## 9.9    Dynamic Forms

| ID | Description |
|---|---|
| 166031 | The validation behavior for the input component FS_LIST (type DATABASE) operating in "Mediamode" has been optimized. |
| 182862 | Input components may be used in multiple contexts: in sections, list components such as FS_CATALOG, datasets, and pages. As of the current FirstSpirit version, the property `CONTAINERTYPE` allows identification of the object type. Depending on the surrounding object type, the input component may, for example, be shown or hidden (or set to be read-only). <br><br> Further information can be found in chapter "SiteArchitect / ContentCreator: Dynamic forms: New property "CONTAINERTYPE"". |
| 190396 | In the input component FS_LIST (type PAGE), optimized rules evaluation relating to deleted sections. |
| 191303 | Optimized setting values via rules in ContentCreator. |

## 9.10   Editor

| ID | Description |
|---|---|
| 178744 <br> 150701 <br> 192871 | Handling of reports has been improved. <br><br> Further information can be found in chapter "SiteArchitect / ContentCreator: Reports: Handling has been improved". |
| 189681 | As of the current FirstSpirit version, a project-specific actions menu can be offered to editors who use ContentCreator. <br><br> Further information can be found in chapter "ContentCreator: Project-specific action menu". |
| 191967 | The new plugin type `WebeditStatusNotePlugin` may be used to prominently display page-related status information in ContentCreator. |

| ID | Description |
|---|---|
| | Further information can be found in chapter "Module Development, Scripts, API: ContentCreator: Displaying page-related status information prominently". |
| 192424 | A new **-D** parameter can speed up work with the file selection dialog (FirstSpirit SiteArchitect and FirstSpirit ServerManager).<br><br>Further information can be found in chapter "SiteArchitect / ServerManager: Speeding up file selection from directory structure of the client workstation". |
| 192866 | The recognition of file types when uploading media using drag-and-drop has been improved.<br><br>Further information can be found in chapter "Media: Recoginition of file types when uploading media using drag-and-drop improved". |

## 9.11   FirstSpirit API

| ID | Description |
|---|---|
| 175832 | As of the current FirstSpirit version, connections for schedule task scripts can also be established via API (interface **ScriptTask**, package **de.espirit.firstspirit.access.schedule**, FirstSpirit Access API).<br><br>Further information can be found in chapter "Module Development, Scripts, API: Establishing connections via API in schedule task scripts". |
| 181874 | As of the current FirstSpirit version, e-mail addresses with special characters in the domain part ("IDN domains", RFC 3490) may be used, e.g. "info@müller.de".<br><br>Related to this change, several modifications were made to the FirstSpirit Access API.<br><br>Further information can be found in chapter "Module Development, Scripts, API: E-mail addresses with special characters in the domain part". |
| 187740 | As of the current FirstSpirit version, viewports of the functionality "Multi Perspective Preview" (MPP) can now be created, modified, and deleted via API.<br><br>Further information can be found in chapter "Module Development, Scripts, API: Multi Perspective Preview: Creating and configuring viewports via API". |

| ID | Description |
|---|---|
| 188464<br>189112 | As of the current FirstSpirit version, maintenance mode schedule entry actions can now be created via API and running maintenance modes schedules can be terminated via API.<br><br>Further information can be found in chapter "Module Development, Scripts, API: Creating maintenance mode schedule tasks via API". |
| 191967 | The new plugin type **WebeditStatusNotePlugin** may be used to prominently display page-related status information in ContentCreator.<br><br>Further information can be found in chapter "Module Development, Scripts, API: ContentCreator: Displaying page-related status information prominently". |
| 192728 | Erroneous behavior could occur when creating images using the method **getImageFromIcon(Icon)** (interface **ImageAgent**, package **de.espirit.firstspirit.agency**). |
| 192742 | The method **checkAndThrow()**, part of the interface **ServerActionHandle** (FirstSpirit Access-API, Package **de.espirit.firstspirit.access**), has been optimized. |
| 193471 | The **getService(Class<T>)** method of the **ServicesBroker** interface (FirstSPirit Access API, Package **de.espirit.firstspirit.access**) has been optimized. |

## 9.12   FirstSpirit Administrator

| ID | Description |
|---|---|
| 160553 | Optimized stop/restart process of web applications when using Apache Tomcat 8 as web server. |
| 182613 | Erroneous behavior could occur during start-up of web applications if Websphere was used as an application server. |
| 187437 | Optimized caching for remote projects in the action context. |
| 190461 | After deleting user groups in the project properties ("FirstSpirit ServerManager / Project / Properties / Groups / Remove group") related information on nodes with defined permissions in SiteArchitect were erroneously not updated. |
| 191472<br>167578<br>174226 | FirstSpirit version 5.2R3 implemented a new roll-out behavior for the FirstSpirit web applications. The previously used ZIP files have now been removed from the file **fs-server.jar**. This leads to a significant decrease in the file size of **fs-server.jar**. |

| ID | Description |
|---|---|
|  | Further information can be found in chapter "Modules (general): Distribution of the FirstSpirit web applications as modules (.fsm)". |
| 192075 | Using several web components can potentially cause conflicts between identical resources. Optimized conflict identification and conflict resolution. |
| 192222 | Stability when accessing FirstSpirit web applications on external web servers has been improved.<br><br>Further information can be found in chapter "Administration: Starting process: Improved stability when accessing FirstSpirit web applications on external web servers". |
| 192424 | A new `-D` parameter can speed up work with the file selection dialog (FirstSpirit SiteArchitect and FirstSpirit ServerManager).<br><br>Further information can be found in chapter "SiteArchitect / ServerManager: Speeding up file selection from directory structure of the client workstation". |
| 192766 | As of the current FirstSpirit version, the start-up process is considered to be finished before web application updates are performed.<br><br>Further information can be found in chapter "Administration: Start-up process: FirstSpirit server starts up independently of web application updates". |
| 192956 | To improve traceability, improvements have been made to logging the server update schedule in the current FirstSpirit version.<br><br>Further information can be found in chapter "Administration: Server update: Improved schedule logging". |
| 193166 | As of the current version of FirstSpirit, the FirstSpirit server will recognize if web applications on a Tomcat running on a dedicated host are not up-to-date and will trigger an update.<br><br>Further information can be found in chapter "Administration: Web server Apache Tomcat: Automatic update of web applications". |
| 193249 | Cleanup of the repository files during archiving has been improved. |
| 193389 | In rare cases, accessing the repository may have resulted in malfunctions. |
| 193418 | Erroneous behavior could occur during start-up of FirstSpirit SiteArchitect if Websphere was used as an application server. |

| ID | Description |
|---|---|
| 193553 | Improved safeguard from erroneous path configurations for global web applications in the file `fs-server.conf` (parameters `WEB_DIR`, `WEBAPP_ROOT_PATH`, `WEBAPP_WEBEDIT5_PATH`, `WEBAPP_WEBMON_PATH`, `WEBAPP_STAGING_PATH`, and `WEBAPP_PREVIEW_PATH`). |
| 193563 | While using or updating the FOP module, erroneous behavior could occur. |
| 193889 | Erroneous behavior could occur when restarting the server via ServerMonitoring. |

## 9.13 FirstSpirit home page

| ID | Description |
|---|---|
| 192424 | A new `-D` parameter can speed up work with the file selection dialog (FirstSpirit SiteArchitect and FirstSpirit ServerManager). <br><br> Further information can be found in chapter "SiteArchitect / ServerManager: Speeding up file selection from directory structure of the client workstation". |
| 192539 | Using WebSphere as an application server may have resulted in malfunctions when logging in on the FirstSpirit start page. |

## 9.14 Generation

| ID | Description |
|---|---|
| 187707 | During generation, erroneous behavior could occur when outputting remote media with identical display names. |
| 192903 | Generating output of data sets from a content source using the function `contentSelect` did not work correctly in some cases. |
| 193260 | Generation may have resulted in a malfunction. |

## 9.15 Input Components

| ID | Description |
|---|---|
| 165246 | In the input component FS_LIST (type INLINE), optimized editing an entry in a separate window. |
| 184390 | The "Open in separate window" action of the input component FS_LIST has been optimized. |
| 190396 | In the input component FS_LIST (type PAGE), optimized rules evaluation relating to deleted sections. |
| 191968 | In the input component FS_INDEX, erroneous behavior could occur when cancelling edit mode on a newly created entry. |
| 193181 | The behavior when changing the language or focus in the FS_CATALOG input component has been optimized. |
| 193872 | Erroneous behavior could occur when populating input components located in sub-forms via drag-and-drop. |
| 194012 | Improved rule-based control for editing entries of the input components FS_CATALOG and FS_INDEX. |
| 194035 | Improved focus behavior when scrolling or making selections in the input component CMS_INPUT_DOM. |
| 194162 | Erroneous behavior could occur when displaying the input component FS_LIST (type DATABASE) in a dataset form. |
| 194243 | Synchronization issues could arise in language-independent input components while editing the form in multiple languages. |
| 194353 | Inserting and filling new lines in CMS_INPUT_DOMTABLE input component has been improved. |
| 194618 | Improved focus behavior when scrolling or making selections in the input component CMS_INPUT_DOMTABLE. |
| 195203 | In the overview of the input component FS_LIST (type DATABASE), erroneous behavior could occur in the display of columns mapped to N:M foreign key relationships. |

## 9.16 Media Store

| ID | Description |
|---|---|
| 192058 | In rare cases, erroneous behavior could occur during media import. |

| ID | Description |
|---|---|
| 192424 | A new `-D` parameter can speed up work with the file selection dialog (FirstSpirit SiteArchitect and FirstSpirit ServerManager). Further information can be found in chapter "SiteArchitect / ServerManager: Speeding up file selection from directory structure of the client workstation". |
| 192866 | The recognition of file types when uploading media using drag-and-drop has been improved. Further information can be found in chapter "Media: Recoginition of file types when uploading media using drag-and-drop improved". |

## 9.17   Module development

| ID | Description |
|---|---|
| 188464 189112 | As of the current FirstSpirit version, maintenance mode schedule entry actions can now be created via API and running maintenance modes schedules can be terminated via API. Further information can be found in chapter "Module Development, Scripts, API: Creating maintenance mode schedule tasks via API". |
| 191357 | Realignment of module development: As of the current FirstSpirit version, modules can for the first time be developed with isolated resources. This new functionality allows module developers greater freedom in the selection of libraries to be used. Global dependencies to other product components are mostly avoided. Further information can be found in chapter "Module Development, Scripts, API: Isolated mode (BETA) - Realignment of module development". |
| 192549 192547 192637 | Missing library dependencies have been added for the FirstSpirit web application from the "fs-integration.fsm", "fs-search.fsm" and "fs-security.fsm" modules. Updating these modules is recommended. Further information can be found in chapter "Modules (general): Library dependencies added in FirstSpirit web applications". |
| 193089 | Improved detection of identical or compatible module resources using unique identifiers (following the Maven schema) and the properties "version", "minVersion", and "maxVersion". |

| ID | Description |
|----|-------------|
|  | Further information can be found in chapter "Module Development, Scripts, API: Improved detection of identical or compatible module resources". |

## 9.18 Modules

| ID | Description |
|----|-------------|
| 191357 | Realignment of module development: As of the current FirstSpirit version, modules can for the first time be developed with isolated resources. This new functionality allows module developers greater freedom in the selection of libraries to be used. Global dependencies to other product components are mostly avoided.<br><br>Further information can be found in chapter "Module Development, Scripts, API: Isolated mode (BETA) - Realignment of module development". |
| 191472<br>167578<br>174226 | FirstSpirit version 5.2R3 implemented a new roll-out behavior for the FirstSpirit web applications. The previously used ZIP files have now been removed from the file `fs-server.jar`. This leads to a significant decrease in the file size of `fs-server.jar`.<br><br>Further information can be found in chapter "Modules (general): Distribution of the FirstSpirit web applications as modules (.fsm)". |
| 192075 | Using several web components can potentially cause conflicts between identical resources. Optimized conflict identification and conflict resolution. |
| 192549<br>192547<br>192637 | Missing library dependencies have been added for the FirstSpirit web application from the "fs-integration.fsm", "fs-search.fsm" and "fs-security.fsm" modules. Updating these modules is recommended.<br><br>Further information can be found in chapter "Modules (general): Library dependencies added in FirstSpirit web applications". |
| 193089 | Improved detection of identical or compatible module resources using unique identifiers (following the Maven schema) and the properties "version", "minVersion", and "maxVersion".<br><br>Further information can be found in chapter "Module Development, Scripts, API: Improved detection of identical or compatible module resources". |
| 193563 | While using or updating the FOP module, erroneous behavior could occur. |

## 9.19    Multi Perspective Preview

| ID | Description |
|---|---|
| 187740 | As of the current FirstSpirit version, viewports of the functionality "Multi Perspective Preview" (MPP) can now be created, modified, and deleted via API.<br><br>Further information can be found in chapter "Module Development, Scripts, API: Multi Perspective Preview: Creating and configuring viewports via API". |
| 192718 | In SiteArchitect, improved consideration of the template set that is configured for a preview viewport (functionality "Multi Perspective Preview"). |
| 193916 | Improved preview of the selected datasets when using "Multi Perspective Preview" (MPP). |

## 9.20    Performance

| ID | Description |
|---|---|
| 192424 | A new `-D` parameter can speed up work with the file selection dialog (FirstSpirit SiteArchitect and FirstSpirit ServerManager).<br><br>Further information can be found in chapter "SiteArchitect / ServerManager: Speeding up file selection from directory structure of the client workstation". |
| 192915 | FirstSpirit Server performance improvements in the "Send message" area (ServerManager: menu "Extras / Send message"). |
| 193471 | The `getService(Class<T>)` method of the `ServicesBroker` interface (FirstSPirit Access API, Package `de.espirit.firstspirit.access`) has been optimized. |
| 194262 | Improved performance when editing data sources. |
| 194436<br>195017 | Optimized performance when editing datasets that are displayed within the form of an input component FS_LIST (type DATABASE). |
| 194847<br>194849 | Optimized performance when selecting objects in the tree. |

## 9.21 Permissions

| ID | Description |
|---|---|
| 185873 | Improved evaluation of permissions when editing inherited metadata. |
| 187874 | In the task list, tasks were erroneously visible to a user who did not have rights to process these tasks. |
| 190461 | After deleting user groups in the project properties ("FirstSpirit ServerManager / Project / Properties / Groups / Remove group") related information on nodes with defined permissions in SiteArchitect were erroneously not updated. |
| 193936 | Undesired notifications may have been shown to a user on pages for which he/she only had the permission "Visible". |

## 9.22 Preview

| ID | Description |
|---|---|
| 194325 | Synchronizing between workspace and the preview area after saving changes in forms has bee optimized. |

## 9.23 Release

| ID | Description |
|---|---|
| 192328 | In rare cases, releasing a page reference could lead to erroneous behavior. |

## 9.24 Reports

| ID | Description |
|---|---|
| 178744 150701 192871 | Handling of reports has been improved. Further information can be found in chapter "SiteArchitect / ContentCreator: Reports: Handling has been improved". |

| ID | Description |
|---|---|
| 194335 | Highlighting of entries of a report when moving the mouse pointer over an element has been improved. |

## 9.25   Server Administrator

| ID | Description |
|---|---|
| 181874 | As of the current FirstSpirit version, e-mail addresses with special characters in the domain part ("IDN domains", RFC 3490) may be used, e.g. "info@müller.de". <br><br> Related to this change, several modifications were made to the FirstSpirit Access API. <br><br> Further information can be found in chapter "Module Development, Scripts, API: E-mail addresses with special characters in the domain part". |
| 191719 | The file names of backup copies of `fs-server.jar` files, created during server updates via FirstSpirit ServerMonitoring, will now be formed using `_jar` instead of `.jar`. <br><br> Further information can be found in chapter "Administration: Server Update: File name change for backup copies of files". |
| 192868 | For a user with server administrator privileges, "Administrator mode" was erroneously initially active in SiteArchitect (menu: "Project / Administrator mode"). |
| 192915 | FirstSpirit Server performance improvements in the "Send message" area (ServerManager: menu "Extras / Send message"). |
| 193254 | File pointer management for socket connections has been improved. |

## 9.26   ServerManager

| ID | Description |
|---|---|
| 191472<br>167578<br>174226 | FirstSpirit version 5.2R3 implemented a new roll-out behavior for the FirstSpirit web applications. The previously used ZIP files have now been removed from the file `fs-server.jar`. This leads to a significant decrease in the file size of `fs-server.jar`. |

| ID | Description |
|---|---|
|  | Further information can be found in chapter "Modules (general): Distribution of the FirstSpirit web applications as modules (.fsm)". |
| 192222 | Stability when accessing FirstSpirit web applications on external web servers has been improved.<br><br>Further information can be found in chapter "Administration: Starting process: Improved stability when accessing FirstSpirit web applications on external web servers". |
| 192424 | A new **-D** parameter can speed up work with the file selection dialog (FirstSpirit SiteArchitect and FirstSpirit ServerManager).<br><br>Further information can be found in chapter "SiteArchitect / ServerManager: Speeding up file selection from directory structure of the client workstation". |
| 193338 | Evaluation of the project property "Languages can be hidden" ("FirstSpirit ServerManager / Project / Properties / Options") in SiteArchitect has been improved. |
| 193389 | In rare cases, accessing the repository may have resulted in malfunctions. |
| 193563 | While using or updating the FOP module, erroneous behavior could occur. |
|  |  |

## 9.27   SiteArchitect

| ID | Description |
|---|---|
| 165246 | In the input component FS_LIST (type INLINE), optimized editing an entry in a separate window. |
| 169756 | Optimized copying of content into the FirstSpirit clipboard via the keyboard shortcut `Ctrl` + `C` . |
| 178744<br>150701<br>192871 | Handling of reports has been improved.<br><br>Further information can be found in chapter "SiteArchitect / ContentCreator: Reports: Handling has been improved". |
| 182865 | Evaluating the release state of a dataset has been optimized for the detailed view display. |
| 184390 | The "Open in separate window" action of the input component FS_LIST has been optimized. |
| 184398 | Erroneous behavior could occur in data source overviews when displaying media for which the user did not possess read permissions. |
| 185592 | When using the operating system Mac OS, external images which were copied via `cmd` + `C` were erroneously not displayed in the FirstSpirit clipboard. |
|  |  |

| ID | Description |
|---|---|
| 185873 | Improved evaluation of permissions when editing inherited metadata. |
| 187874 | In the task list, tasks were erroneously visible to a user who did not have rights to process these tasks. |
| 190396 | In the input component FS_LIST (type PAGE), optimized rules evaluation relating to deleted sections. |
| 191247 | Optimized determination of the target element of dataset selection in a data source for the following actions: <br><br> ▪ "Version history" ( Ctrl + H ) <br><br> ▪ "Extras / Show usages" ( Ctrl + U ) <br><br> ▪ "Extras / Display dependencies" ( Ctrl + R ) |
| 191968 | In the input component FS_INDEX, erroneous behavior could occur when cancelling edit mode on a newly created entry. |
| 192058 | In rare cases, erroneous behavior could occur during media import. |
| 192153 | When creating a format template, after inputting a reference name, the label of the field "Reference name" was erroneously still shown in red type. |
| 192328 | In rare cases, releasing a page reference could lead to erroneous behavior. |
| 192424 | A new **-D** parameter can speed up work with the file selection dialog (FirstSpirit SiteArchitect and FirstSpirit ServerManager). <br><br> Further information can be found in chapter "SiteArchitect / ServerManager: Speeding up file selection from directory structure of the client workstation". |
| 192582 | Improved loading performance of SiteArchitect after project selection. |
| 192718 | In SiteArchitect, improved consideration of the template set that is configured for a preview viewport (functionality "Multi Perspective Preview"). |
| 192787 | In form, rule, and output channel editors of templates, using the action "Undo" ( Ctrl + Z ) could lead to erroneous behavior. |
| 192826 | The performance has been optimized for the Mac OS X operating system when adding elements to the tree with drag-and-drop. |

| ID | Description |
|---|---|
| 192868 | For a user with server administrator privileges, "Administrator mode" was erroneously initially active in SiteArchitect (menu: "Project / Administrator mode"). |
| 192965 | Optimized modification detection of a page when adding a section via copy-and-paste. |
| 193027 | Optimized the action "Undo" ( Ctrl + Z ) in form, rule, and output channel editors. |
| 193338 | Evaluation of the project property "Languages can be hidden" ("FirstSpirit ServerManager / Project / Properties / Options") in SiteArchitect has been improved. |
| 193395 | Updating icons and label of MenuItemsPlugin (Interface `JavaClientEditorialToolbarItemsPlugin`, Package `de.espirit.firstspirit.client.plugin`) has been improved. |
| 193872 | Erroneous behavior could occur when populating input components located in sub-forms via drag-and-drop. |
| 193916 | Improved preview of the selected datasets when using "Multi Perspective Preview" (MPP). |
| 193936 | Undesired notifications may have been shown to a user on pages for which he/she only had the permission "Visible". |
| 194012 | Improved rule-based control for editing entries of the input components FS_CATALOG and FS_INDEX. |
| 194035 | Improved focus behavior when scrolling or making selections in the input component CMS_INPUT_DOM. |
| 194162 | Erroneous behavior could occur when displaying the input component FS_LIST (type DATABASE) in a dataset form. |
| 194243 | Synchronization issues could arise in language-independent input components while editing the form in multiple languages. |
| 194262 | Improved performance when editing data sources. |
| 194325 | Synchronizing between workspace and the preview area after saving changes in forms has bee optimized. |
| 194335 | Highlighting of entries of a report when moving the mouse pointer over an element has been improved. |
| 194354 | Erroneous behavior could occur when creating a database schema from an external database. |
| 194436 195017 | Optimized performance when editing datasets that are displayed within the form of an input component FS_LIST (type DATABASE). |

| ID | Description |
|---|---|
| 194618 | Improved focus behavior when scrolling or making selections in the input component CMS_INPUT_DOMTABLE. |
| 194723 | In order to rename objects in the tree, the function key F2 may be used as an alternative to the function key F9. |
| 194744 | Improved stability of connections between SiteArchitect and server. |
| 194847 194849 | Optimized performance when selecting objects in the tree. |
| 194860 | Improved evaluation of settings for browser, office, and graphics engine. |
| 195203 | In the overview of the input component FS_LIST (type DATABASE), erroneous behavior could occur in the display of columns mapped to N:M foreign key relationships. |

## 9.28   Tasks

| ID | Description |
|---|---|
| 175832 | As of the current FirstSpirit version, connections for schedule task scripts can also be established via API (interface **ScriptTask**, package **de.espirit.firstspirit.access.schedule**, FirstSpirit Access API).<br><br>Further information can be found in chapter "Module Development, Scripts, API: Establishing connections via API in schedule task scripts". |
| 188464 189112 | As of the current FirstSpirit version, maintenance mode schedule entry actions can now be created via API and running maintenance modes schedules can be terminated via API.<br><br>Further information can be found in chapter "Module Development, Scripts, API: Creating maintenance mode schedule tasks via API". |
| 192956 | To improve traceability, improvements have been made to logging the server update schedule in the current FirstSpirit version.<br><br>Further information can be found in chapter "Administration: Server update: Improved schedule logging". |

## 9.29 Template Store

| ID | Description |
|---|---|
| 192153 | When creating a format template, after inputting a reference name, the label of the field "Reference name" was erroneously still shown in red type. |
| 192787 | In form, rule, and output channel editors of templates, using the action "Undo" ( Ctrl + Z ) could lead to erroneous behavior. |
| 193027 | Optimized the action "Undo" ( Ctrl + Z ) in form, rule, and output channel editors. |
| 194325 | Synchronizing between workspace and the preview area after saving changes in forms has bee optimized. |
| | |