FirstSpirit™

Unlock Your Content

FirstSpirit™ Release Notes
FirstSpirit™ Version 5.2 Releases 2-9

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e-Spirit

Table of contents

1 Welcome to the Release Notes for FirstSpirit Version 5.2 Release 2! 5.2R2

These release notes contain an overview of all new functionality, improvements, and bugfixes in FirstSpirit Version 5.2 Release 2.

Release notes for FirstSpirit release versions ("R") are generated using FirstSpirit. As of this new version, we are increasingly using datasets in order to profit from the more comfortable reuse and sortability of content. Furthermore, the use of datasets enables integration with the internal bug tracking database: this is another building block in the software-supported interlocking of work items and deliverables of the FirstSpirit Core Development, Quality Assurance, and Documentation groups.

The use of an additional FirstSpirit project in the development group that maintains and enhances FirstSpirit provides yet another valuable opportunity to test FirstSpirit in everyday use.

This document's header line indicates the FirstSpirit build to which these release notes apply: the bold number (in this edition of the document, "210") indicates the build version which has officially been released for the FirstSpirit release version ("5.2 Release 2"). For better traceability, the header also lists all previously released build versions of the corresponding minor version line (in this edition of the document, "102"). The first digit of a three-digit build version number generally indicates the release version: build version numbers of the format "1xx" indicate Release 1, while build version numbers of the format "2xx" indicate Release 2.

The first chapters of these release notes contain descriptions of new features which are roughly grouped by target audience and include references to FirstSpirit documentation.
The chapter "Overview" provides a list of the new functionality which has been implemented in the current version as well as a table of bugfixes relevant to this version, categorized and sorted by their ID in the internal bug tracking system. The bugfix categories contain links to the third section of this document ("Categories") which lists all bugfixes by category, again in tabular form. Here, you can quickly find changes made to the functionality groups that you find relevant. For easier navigation in the document, you can click on a bugfix ID in the "Categories" chapter to return to the overview.
Several IDs in the internal bug tracking system may be merged into one release notes comment (in this edition of the document, e.g. "175454" and "176337") if several changes to one aspect of the software cause similar effects, or if several bugfixes share a common cause but each bugfix affects the software's behavior in a different way. If several bug reports share a common cause, bugfix measures are often only applied using one ID in the internal bug tracking system but cover related bug report IDs as well. Related IDs are shown below the main ID.

2   Discontinuation of the proprietary installation packages for FirstSpirit version 5.2R5 `5.2R4`

Discontinuation of the proprietary installation packages for RPM Package Manager (.rpm) and Debian (.deb). The installation packages named above are no longer available from FirstSpirit version 5.2R5 onward.

Still supported are TGZ (for all Unix platforms) and EXE (for Windows).

In future, FirstSpirit will offer a standardized, platform-neutral update management system for all FirstSpirit servers. FirstSpirit ServerMonitoring already provided an update check for all FirstSpirit servers in the "Health Center" area of version 5.2R4. An additional update mechanism is planned from FirstSpirit 5.2R5 onward.

3   Notes concerning downgrades / upgrades `5.2R4`

Usually, FirstSpirit versions are forward and backward compatible if only the number of the minor or build version changes. When upgrading to FirstSpirit version 5.2R4 or downgrading please take into account the following notices:

Upgrade

It is recommended for all FirstSpirit server updates to newly create all self-produced modules vis-a-vis the new FirstSpirit version In addition to this, all the installed modules delivered by e-Spirit and all web applications should also always be updated. Especially, the protocol for FirstSpirit web applications has changed in FirstSpirit version 5.2R4 (see also chapter "Administration: Modified protocol for FirstSpirit web applications").

Downgrade

FirstSpirit Servers can not be downgraded to FirstSpirit version 5.2R3 or older by means of an inplace downgrade because of the update of the integrated Apache Derby database. Error report after downgrade:

```
ERROR XSLAN: Database at [path] has an incompatible format with the current version
 of the software. The database was created by or upgraded by version 10.12.
```

Workaround: Export with FirstSpirit version 5.2R4 and import with FirstSpirit version 5.2R3.

See also chapter "System: Integrated Software".

4   Documentation for FirstSpirit SiteArchitect: now available in HTML format, too   5.2R4

In addition to the Documentation for FirstSpirit ContentCreator, FirstSpirit Release-Notes and the FirstSpirit Online Documentation (ODFS), the Documentation for FirstSpirit SiteArchitect is now also created and managed by FirstSpirit. This means that FirstSpirit replaces Microsoft Word for the process of creating documentations. While the documentation has been available so far only in PDF format, it is now also available in HTML format (accessible from the ODFS). Up to now, approximately one half of the content of the documentation could be transferred to FirstSpirit. The result is published as beta version in FirstSpirit 5.2R4.
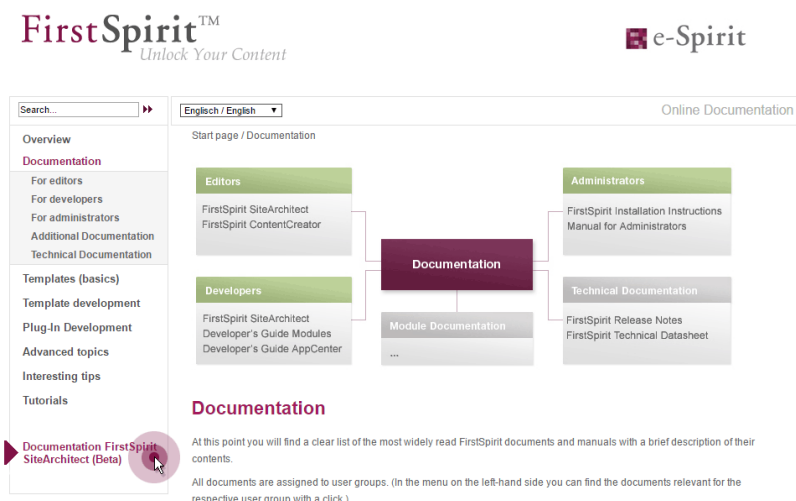
Advantages of FirstSpirit compared to conventional text processing programmes:

- simplified cooperation of editors

- all in one single place: structured, integrated storage of texts and pictures

- FirstSpirit standard functionality that facilitate editorial activities: for example integrated version history, integration of workflows, easy reuse of texts and media

- any additional functions required can be developed inhouse (for example Plug-in for project wide search and replace of text)

- PDF file at the push of a button

- system-supported translation process

Advantages for the customer:

- early internal testing of new FirstSpirit versions in productive use before official release

- links between the single documentations are possible (in the HTML edition, "FirstSpirit Corporate-Media" / Remote functionality)

- central search in all documentation is possible (in the HTML edition)

Review:

The **Documentation for developers** (the "ODFS") is generated using FirstSpirit from the start. Publication medium: HTML. It can be accessed among other things from FirstSpirit SiteArchitect and constitutes an important part of the FirstSpirit documentation.

Since FirstSpirit 5.0 (09/2012) the **Documentation for ContentCreator** is created using FirstSpirit, too. Since then, it has been not only published in HTML but also in PDF format. The HTML edition can be accessed contextually from ContentCreator. In addition to the content pages, tooltips for icons and buttons in ContentCreator et al. are managed using this documentation project. Thus, we build another bridge between the core product and documentation.

The **Release Notes** for the release versions have been created using FirstSpirit for some time now, too (since FirstSpirit 4.0.25, 09/2007). The concerning project is closely connected with the internal build and bug tracking systems. Since FirstSpirit 5.2R2 the project works primarily with database content, for example in order to profit from the more comfortable reuse and sortability of content. Publication medium: PDF.

Outlook:

Further FirstSpirit documentation should be transferred to FirstSpirit in the future. Then it will be possible to establish more cross references, for increasing comprehensibility, redundancies are to be removed

in return. Central management of the templates and distributing them into the single FirstSpirit projects by using external synchronization is envisaged.

5   New user interface for the trouble ticket system   5.2R5

The user interface of the trouble ticket system for the e-Spirit Technical Support has been greatly enhanced to provide better access to the most important information and functionality. Starting today you can, for example, find information about planned release dates of upcoming FirstSpirit versions and answers to frequently asked questions. Naturally, we will continuously update and extend the information available.

You can find the new Help Center at https://help.e-spirit.com. It replaces the previous address *helpdesk.e-spirit.com.*
In addition, please use help@e-spirit.com instead of the previous e-mail address *helpdesk@e-spirit.com.*

6   FirstSpirit HTML documentation   5.2R5

In addition to the Documentation for FirstSpirit ContentCreator, FirstSpirit Release Notes and the FirstSpirit Online Documentation (ODFS), the Documentation for FirstSpirit SiteArchitect and the "FirstSpirit Manual for Developers (Components)" are now also created and managed by FirstSpirit. This means that FirstSpirit replaces Microsoft Word for the process of creating documentations. While the documentation has been available so far only in PDF format, it is now also available as HTML edition.

▪ The complete HTML documentation for FirstSpirit SiteArchitect has left the beta stage and is now generally available. The migration process for this documentation is now complete, and it is now managed entirely within a FirstSpirit project.

▪ The HTML documentation "FirstSpirit Manual for Developers (Components)" is currently at beta stage: It is only available in German and is currently being revised.

The HTML documentation for FirstSpirit SiteArchitect and the "Manual for Developers (Components)" can be reached from the left navigation sidebar in *FirstSpirit Online Documentation* ("ODFS"):
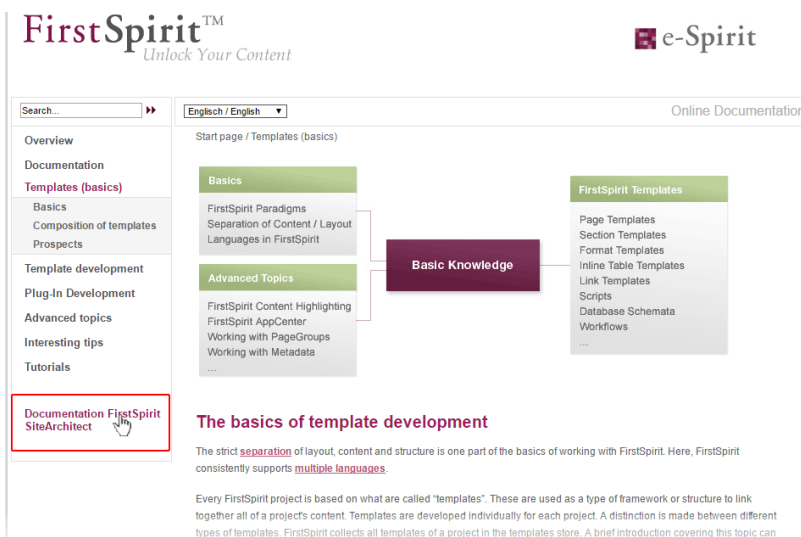
The HTML documentation for FirstSpirit SiteArchitect can also be reached via the menu "Help" (menu entry "User (SiteArchitect)"). Context-sensitive navigation from within SiteArchitect to the documentation can be achieved by pressing F1 or by using the help button in the horizontal toolbar.

The PDF version of these documentations continues to be available via ODFS in the chapter "Documentation". The PDF containing the documentation for FirstSpirit SiteArchitect as well as the HTML version are generated from the same FirstSpirit project.

The URLs of the HTML documentations have been modified in this context, too. Bookmarks to the FirstSpirit online documentation should, therefore, be adapted accordingly.

7   Code signing certificates 5.2R5

The content of FirstSpirit JAR files is signed with a certificate. This procedure is also called "code signing". At all times, e-Spirit aims to use up-to-date certificates for all FirstSpirit components. Release Management ensures that customers who update FirstSpirit at least once a year always use a valid certificate.

Using older FirstSpirit versions with invalid certificates primarily affects the use of SiteArchitect and ServerManager: Depending on the configuration of the individual Java security options, the system may, at the very least, show security warnings.

In the current FirstSpirit version, the content is signed with a new certificate that is valid until 2018-06-13 (13 June 2018).

Overview of certificates currently used by FirstSpirit:

FirstSpirit version (major line)	FirstSpirit version	valid until
4.2	up to 4.2.503	13.06.2016
	from 4.2.504	21.05.2017
	from 4.2.509	13.06.2018
5.0		13.06.2016
5.1	up to 5.1.502	13.06.2016
	from 5.1.503	21.05.2017
5.2	up to 5.2.501	21.05.2017
	from 5.2.502	13.06.2018

Information for customers with "Deployment Rule Set": If you are using a Deployment Rule Set, which allows you to centrally manage Java security settings and determine which applications are permitted to start in the browser, you should ensure that the rule set matches the certificate when a certificate is updated by e-Spirit.

8   System requirements   5.2R7

FirstSpirit aims to support the very latest browsers, databases, and operating systems. The following products and versions have been released for use with the current version of FirstSpirit.

Operating systems:

Reference operating system for the clients is now

▪   Microsoft Windows 10

Furthermore, in addition to Ubuntu 12.04 LTS, the latest FirstSpirit version also passively supports

▪   Ubuntu 16.04 LTS

as an operating system for both the FirstSpirit Server and the FirstSpirit Clients SiteArchitect and Server-Manager.

For more information, see the *FirstSpirit Technical Data Sheet*.

9 Incompatibilities with specific Java versions 5.2R7

FirstSpirit is always released for a main version of a JDK. For FirstSpirit version 5.2R7, for example, this is Oracle Java 7 and 8. JDK updates are regularly issued as part of JDK bug fixes. These updates are checked for compatibility with FirstSpirit as part of quality assurance. In very rare cases, bugs in the JDK that cannot be bypassed by programming may cause incompatibilities. These bugs are not related to FirstSpirit.

> **!** Due to a bug that occurs when checking the signature of Jar files in older Java versions, Java **7u76** or higher must be used for FirstSpirit version 5.2R7 and above.

FirstSpirit SiteArchitect and ServerManager, for example, will not start with defective Java versions.

For more information on which Java versions can be used, see the *FirstSpirit Technical Data Sheet*.

10 Administration / Modules

10.1 Log in via Kerberos ticket "KerberosLoginModule") 5.2R2

To log into FirstSpirit via the Kerberos login module (module name: `de.espirit.firstspirit.server.authentication.KerberosLoginModule`), a Kerberos ticket is accepted, which is passed from the web browser to the FirstSpirit Server.
The `sendAccepted` parameter can be used to influence the HTTP status code in the case of a handshake. If the handshake is successful, "OK" (200) is sent with FirstSpirit version 5.2R2. "ACCEPTED" (202) was sent prior to FirstSpirit version 5.2R2. Depending on the infrastructure in use, this status (202) may not be accepted as "valid", something which may cause indexing problems, for example. This default behavior has therefore been changed as of 5.2R2. It is possible to restore the old behavior by setting the parameter `sendAccepted` to the value `true` (file `fs-jaas.conf`, default value: `false`).

For more information, see

▪ *FirstSpirit Manual for Administrators*, chapter "Kerberos ticket (integrated Windows login)"

▪ Module documentation for *FirstSpirit Dynamic Personalization*, chapter "'Kerberos Login' login module"

11   Administration

11.1   Apache Tomcat / Java Servlet Specification 3.0: Disabling Pluggability features 5.2.611, 5.2R7

"Pluggability" features were introduced with version 3.0 of the Java Servlet Specification. These enable the `web.xml` modularization or the configuration of components via Java annotations. However, the latter function requires that all classes must be scanned for annotations when the web application is deployed (and implicitly each time the application server is started). As this process can take a long time, FirstSpirit can disable pluggability features globally or for individual web applications starting with the current FirstSpirit version.

Global   configuration   is   carried   out   in   the   server   configuration   via   the `WEBAPP_ENABLE_PLUGGABILITY_FEATURES_DEFAULT` parameter within the file `fs-server.conf`. Possible values are:

- ▪ `true`: Pluggability features are activated, Java classes are scanned for annotations during deployment. This is the default value.

- ▪ `false`: Pluggability features are deactivated, Java classes are not scanned.

Configuration for individual web applications is carried out via the "Pluggability"selection field, either for the global web applications (FirstSpirit ServerManager, "Server properties / Web applications")
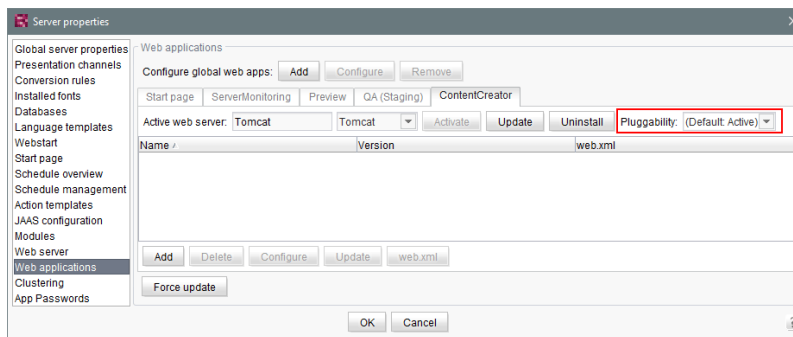
or for the web components of a project (FirstSpirit ServerManager, "Project properties / Web components")
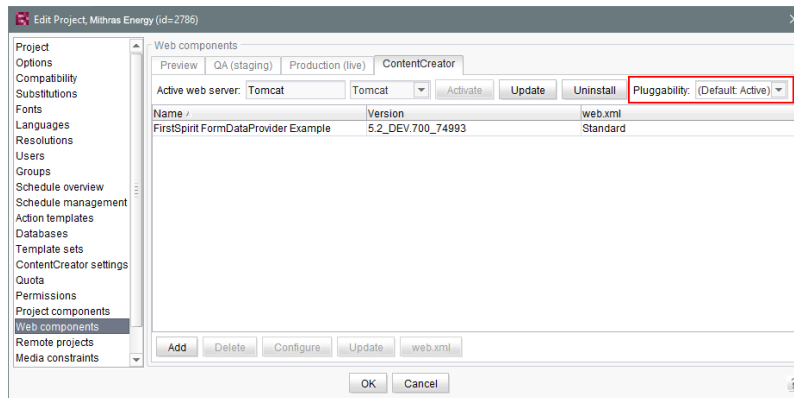
For more information please see *FirstSpirit Manual for Administrators*,

- Chapter "Area: Web Applications"

- Chapter "Configuring web applications"

- Chapter "Web components"

and the official page about the Java Servlet 3.0 Specification.

> **!** If the pluggability features are deactivated manually within the `web.xml`, for example by specifying an `<absolute-ordering>` element, and if the pluggability features have been **deactivated** by means of the new functionality which is described here, this can lead to conflicts. In this case, please remove the manual configuration (from the `web.xml`) or change the pluggability setting of the respective web application/s to "active" using the above described possibilities.

11.2 Caching of preview files 5.2.615, 5.2R7

When a preview is requested, the previewed page may be cached such that, at a later time, further preview requests for this page may be displayed more quickly.

Multi Perspective Preview (MPP) allows previews of pages as they would look at future dates. These previews were previously also cached by default. As of the current FirstSpirit version, caching of these future previews may now be deactivated globally as needed.

Configuration of this caching behavior is carried out in the configuration file **`fs-server.conf`** using the new parameter **`preview.enableTemporalPreviewCache`**:

- **`true`**: Preview pages will be cached. This potentially creates many files, enabling previews for previously viewed pages to load faster. (Default value)

- **`false`**: Preview pages will **not** be cached. This causes all relevant files to be created anew upon a preview request. This potentially causes more load but creates fewer files in the cache directory.

Use of **`true`** is recommended if editors are able to request previews for pages as they would look at future dates via the MPP timeline.

Until now, due to the previous caching implementation, it was possible that previews of pages representing future states were not always up-to-date or correct. This erroneous behavior was also corrected in this context.

For further information about MPP, see

- *FirstSpirit SiteArchitect / FirstSpirit AppCenter / Integrated preview / Multi Perspective Preview* (→*Documentation FirstSpirit SiteArchitect*)

- *Template development / JavaScript APIs / Multi Perspective Preview* (→*FirstSpirit Online Documentation*)

For further information about the new parameter **`preview.enableTemporalPreviewCache`**, see *FirstSpirit Manual for Administrators*, chapter "Area: Preview".

11.3 Changed standard configuration of session cookies for new installations 5.2R5

FirstSpirit uses several standard web applications (fs5root, fs5webedit, fs5webmon, fs5preview, fs5staging) as well as optional, project-local web applications (fs5webedit_PROJECTID and fs5preview_PROJECTID).

The optional parameter **`servletSessionCookieName`** in the file **`fs-server.conf`** may be used to define a FirstSpirit-specific session cookie name for all web applications (see *FirstSpirit Manual for Administrators*).

In the past, this parameter was not specified with a preset value. If no value is defined for `servletSes-sionCookieName`, the cookie name specified by the WebApp server will automatically be used, in most cases, JSESSIONID.

Previous standard configuration:

```
# Servlet engine session cookie name.
# If left empty the servlet engine default is used (JSESSIONID in most cases).
# servletSessionCookieName=FS${FS_MAJOR}${FS_MINOR}SESSIONID
servletSessionCookieName=
# Servlet engine session cookie name for a specific webapp context path.
# 'ROOT' is the reserved name for the root webapp context path.
# servletSessionCookieName.ROOT=FS${FS_MAJOR}${FS_MINOR}ROOTID
# servletSessionCookieName.fs5webmon=FS${FS_MAJOR}${FS_MINOR}WEBMONID
# servletSessionCookieName.webappContextPath=FS${FS_MAJOR}${FS_MINOR}WEBAPPXYID
```

As of FirstSpirit version 5.2R5, the standard configuration of the parameters `servletSessionCook-ieName` (cookie name for all web applications) and `servletSessionCookieName.ROOT` (cookie name for the root application) will be as follows:

```
# Servlet engine session cookie name.
servletSessionCookieName=FS${FS_MAJOR}${FS_MINOR}SESSIONID
# Servlet engine session cookie name for root webapp context path.
servletSessionCookieName.ROOT=FS${FS_MAJOR}${FS_MINOR}ROOTID
```

This changed behavior only affects new installations. For existing installations of FirstSpirit, the previous configuration will be preserved.

11.4 Configuration of session cookies (fs-server.conf) 5.2.426, 5.2R5

Within the FirstSpirit web applications (fs5root, fs5webedit, fs5webmon, fs5preview, fs5staging), unified session cookies can be used. In conjunction with an application server or a firewall (operated on the application server), additional session cookies can be set, e.g. for authentication purposes. The names of these additional session cookies must be made known to FirstSpirit via the parameter `clientCookieNames`. During start of SiteArchitect or ServerManager, FirstSpirit passes the cookies defined in this parameter via the Java Web Start file (`FirstSpirit.jnlp`) or the FirstSpirit Launcher (`FirstSpirit.fslnch`) downloaded on the client side. The cookies will also be passed to the browser engine used in the project and thus will be available for use in the integrated preview in SiteArchitect.

The same cookie will be used in three distinct session contexts (web browser: HTTP client, SiteArchitect: client/server communications, SiteArchitect: integrated browser engine).

As of the current FirstSpirit version, the configuration file "fs-server.conf" now allows optional configuration of specific values for these non-FirstSpirit session cookies. The new attributes can define values for domain, path, and the secure flag of the session cookie. This is necessary when the corresponding values cannot be read directly from these non-FirstSpirit session cookies.

`clientCookie.{cookieName}.domain:` Specifies the domain used for the session cookie. If no value is given, the cookie will carry the URL from which the client was started (including the host name).

`clientCookie.{cookieName}.path:` Specifies the path of the session cookie. Default value: **`/`**

`clientCookie.{cookieName}.secure`: The secure flag limits the transmission of the session cookie. If the value is **`true`**, the cookie will only be sent to the server if communication takes place via HTTPS (if the URL meets the domain and path requirements). If the value is **`false`**, the cookie will be sent in both HTTP and HTTPS communications.

Example (**`fs-server.conf`**):

```
clientCookieNames=cookieName1
clientCookie.cookieName1.domain=*.domain.com
clientCookie.cookieName1.path=/
clientCookie.cookieName1.secure=true
```

11.5   Expired license warning 5.2R2

A license is required to operate a FirstSpirit Server. This can be found in the form of a file with the name **`fs-license.conf`** and it contains information including the temporal validity of the license (**`license.EXPDATE`** parameter). A warning e-mail may be sent before or after the expiration date.

Previously, an e-mail was always sent to a configured e-mail address as well as to e-Spirit. With FirstSpirit version 5.2R2, only one e-mail is now sent if an e-mail address is configured via the **`LICENSE_EXPIRATION_MAIL_ADDRESS`** parameter in the **`fs-server.conf`** file. E-mails are no longer sent to e-Spirit automatically.

For more information, see *FirstSpirit Manual for Administrators*, chapter "Area: Misc".

11.6 Forwarding of HTTP Header Information to an External Preview URL

5.2R3

FirstSpirit version 5.2R3 introduces the parameter `preview.externalDeliveryForwardHttpHeaders` which may be specified in the file `fs-server.conf`. This parameter accepts a comma-separated list which contains the names of HTTP header fields which should be forwarded to the external web server specified by the parameter `preview.externalDeliveryURL`. Evaluation of this parameter is case-insensitive.

Possible values:

▪ Parameter is specified with an empty value
  No header fields and cookies are forwarded to the external web server.

▪ `preview.externalDeliveryForwardHttpHeaders=Cookie` (Default)
  Cookies set in header fields will be forwarded to the external web server, other header fields will not be forwarded. This setting is also used if the parameter is not specified in `fs-server.conf`.

▪ `preview.externalDeliveryForwardHttpHeaders=*`
  All header fields will be forwarded to the external web server. (Note: If the wildcard `*` is contained in a comma-separated list that contains explicit mentions of HTTP header fields, the wildcard will be ignored.)

▪ `preview.externalDeliveryForwardHttpHeaders=f1,f2`
  The HTTP header fields named "f1" and "f2" will be forwarded to the external web server.

For further information, see *FirstSpirit Manual for Administrators*, chapters
▪ "Area: Preview"

▪ "Passing authentication cookies"

11.7 Log in via the HTTP request header ("RequestHeaderLoginModule")

5.2R2

FirstSpirit uses the Java standard JAAS ("Java Authentication and Authorization Service") to authenticate its users. Various JAAS modules are already integrated in FirstSpirit and provide various methods of user authentication. In FirstSpirit version 5.2R2,

the "RequestHeaderLoginModule" has been added to the FirstSpirit standard (module name: `de.espirit.firstspirit.server.authentication.RequestHeaderLoginModule`). This module is used in conjunction with a web access management system, i.e., a reverse proxy with a simultaneous authentication function. The reverse proxy automatically authenticates the user who calls up the FirstSpirit start page using a web browser. In each HTTP request following successful authentication, the reverse proxy transfers the user name of the authenticated user between the reverse proxy and the FirstSpirit WebApp server. It does so by means of an entry in the HTTP request header. To ensure the authenticity of the transferred user name in the HTTP request header, the "RequestHeaderLoginModule" checks either the sending proxy's IP address or its HTTP client certificate. FirstSpirit then accepts the transferred user name as a FirstSpirit user name. This means there is no need for the user to perform additional authentication on FirstSpirit.

For more information, see *FirstSpirit Manual for Administrators*, chapter "Logging in via the HTTP request header".

11.8   Logging in "fs-server.log" (NoRouteToHostException) 5.2R7

Due to a change regarding the communication between multiple FirstSpirit servers in a network, an increased logging in the log file `fs-server.log` like

```
INFO  15.03.2016 10:46:23.550 (org.apache.http.impl.execchain.RetryExec): I/O
exception (java.net.NoRouteToHostException) caught when processing request to
{}->http://testserver:8000: No route to host
```

may happen, e.g. when a FirstSpirit server is not reachable ("http://testserver:8000" in the example above).

These entries can be suppressed with the newly implemented parameter `log4j.logger.org.apache.http.impl.execchain.RetryExec` in the file `fs-logging.conf`. The parameter has to be set to `WARN` in order to increase the log level:

```
log4j.logger.org.apache.http.impl.execchain.RetryExec=WARN
```

With FirstSpirit servers running the current FirstSpirit version the parameter will be set by default. For existing FirstSpirit servers upgraded to the current FirstSpirit version, the parameter has to added manually to the file `fs-logging.conf` (in the subdirectory `conf` of the FirstSpirit server).

For more information regarding the file `fs-logging.conf` please see *FirstSpirit Manual for Administrators*, Chapter "Logging configuration (fs-logging.conf)".

11.9 MBeans for visualization and control of database connections ("ConnectionPool") 5.2.426, 5.2R5

Java Management Extensions (JMX) provide a standardized interface for the management of Java applications. Using the JMX console, it is possible to monitor and manage a FirstSpirit server. While FirstSpirit ServerMonitoring is primarily used for manual monitoring of a FirstSpirit server, the JMX interface is used for automatic monitoring and can integrate into existing, enterprise-wide monitoring infrastructures. All values and operations are provided by Managed Beans ("MBeans").

The current FirstSpirit version provides MBeans in the JMX console entry "ConnectionPool" which allow visualization and control of database connections.

For further information , see *FirstSpirit Manual for Administrators*, chapter "ConnectionPool".

11.10 Modified protocol for FirstSpirit web applications 5.2R4

Usually, FirstSpirit versions are forward and backward compatible if only the number of the minor or build version changes. In order to support the new FirstSpirit Health Center functionality, the protocol for FirstSpirit web applications was modified and is now incompatible to that of previous versions. As in any upgrade and downgrade procedure, it is necessary to ensure that the FirstSpirit web applications are compatible with the FirstSpirit server software's version.

If JAR files were manually deployed into web applications or onto web servers, the following message may be written to the log:

```
java.lang.IllegalArgumentException: Wrong protocol version (4653080000)
```

In this case, the JAR files must be updated manually.

11.11 Optimizations related to use of the FirstSpirit Launcher 5.2R3

FirstSpirit version 5.2R3 features several optimizations related to use of the FirstSpirit Launcher:

Use of the FirstSpirit Launcher is now possible via HTTPS. The entire client-server communication, including download of JAR and JRE files, can be encrypted.

Restriction of using the FirstSpirit Launcher via SSL: SSL certificates can currently (as of January 2016) not be validated while downloading the JRE and JAR files from a FirstSpirit server. However, validation of SSL certificates is planned for a future release.

Furthermore, security related to the use of authentication cookies has been improved. In order to successfully use the Launcher, the required cookies (see parameter `clientCookieNames` in the configuration file `fs-server.conf`) must be configured with an adequate lifespan. See also *FirstSpirit Manual for Administrators*, chapter "Area: Communication".

Roll-out via MSI: Installation of the Launcher on a single workstation (until FirstSpirit version 5.2R2, inclusively: "Install Launcher as user") may still be performed via the FirstSpirit start page (from FirstSpirit version 5.2R3 onwards: "Install Launcher").
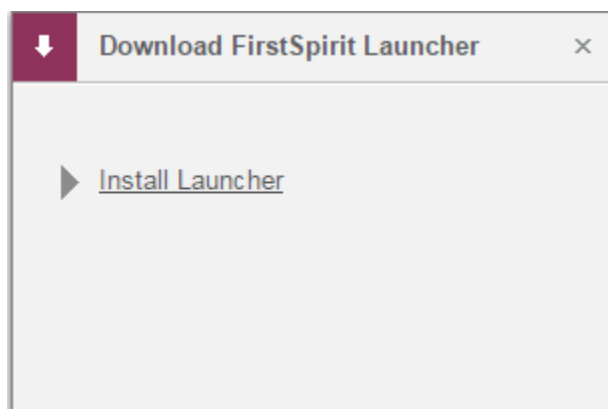
Installation for multiple workstations (until FirstSpirit version 5.2R2, inclusively: Install Launcher as administrator) requires execution of the file `FSLauncherSetup.msi`, available in `~FirstSpirit5\web\fs5root\clientjar`. See also *FirstSpirit Installation Instructions*, chapter "Distribution of MSI packages with a GPO".

For improved clarity and due to permissions, the Launcher now consistently uses one directory to store files.

For further information, see

▪ *FirstSpirit Installation Instructions*, chapter "FirstSpirit Launcher (new in V5.2)"

- *FirstSpirit Manual for Administrators*, chapter "FirstSpirit Launcher"

- *FirstSpirit Manual for Administrators*, chapter "Area: Communication"

11.12 Permissions for FirstSpirit modules (Template Wizard, Template Debugger, Template Inspection) 5.2R2

The "FirstSpirit Template Wizard", "FirstSpirit Template Debugger", and "FirstSpirit Template Inspection" functions are designed to make life easier for template developers and can be implemented via FirstSpirit modules. FirstSpirit version 5.2R2 can be configured so that only certain user groups are able to access and execute this function in SiteArchitect.

The corresponding configuration settings are made with the project components included in the scope of delivery. These must be added to the required project in the FirstSpirit Server Manager (under "Project components", "FS-AgencySupport-ProjectPermissions" for the Template Wizard, "FS-TemplateDebugger-ProjectPermissions" for the Template Debugger and Template Inspection). For the Template Debugger and Template Inspection, it is only possible to specify the same permissions; the functions are interdependent. Clicking on Configure or double-clicking on the relevant project component opens a dialog in which the required group(s) can be selected:
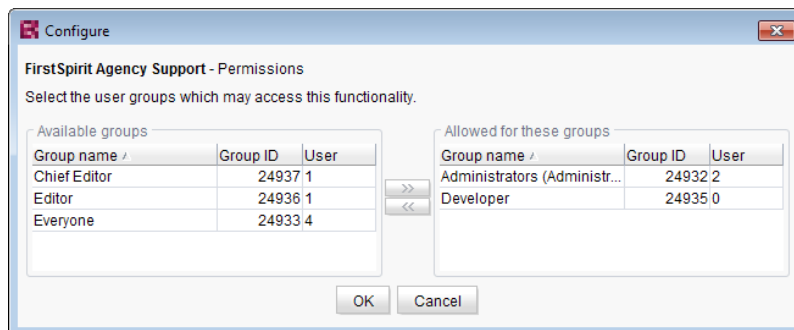
The groups that have access to the project are displayed on the left-hand side ("Available groups"). The groups that are permitted to use the corresponding function are displayed on the right-hand side ("Allowed for these groups") along with their ID and the number of users they contain. To check which users belong to a group, select "Show users" from the context menu.

The corresponding icons are displayed on the horizontal tool bar in SiteArchitect or on the "Template Inspection" context menu entry in the integrated preview for members of the "allowed group(s)". The

corresponding icon is hidden for users who are not in one of the selected group. To move a group to the right-hand side or left-hand side, select it and

- click the icons

  »
  «

- double-click or

- select the corresponding command from the context menu ("Allow group(s)" or "Remove group(s) from allowed").

The project components are **not** assigned by default, which means even the corresponding icons and context menu entry are not displayed in SiteArchitect. To enable the functions for a particular project, the corresponding project components must be added to the project by the ServerManager and the required group(s) must be selected using "Allowed for these groups".

For more information, see

- *FirstSpirit Manual for Administrators*, chapter "Groups",

- *FirstSpirit Manual for Administrators*, chapter "Project components",

- *FirstSpirit Online Documentation*, chapter "Template development / Debugging / Where is the error? / FirstSpirit Debugger",

- *FirstSpirit Online Documentation*, chapter "Template development / Debugging / Where is the error? / Template Inspector",

- *FirstSpirit Online Documentation*, chapter "Template development / Template Wizard"

11.13 Proxy authentication via Kerberos/SPNEGO or NTLM 5.2R2

In FirstSpirit version 5.2R2 and higher, authentication based on Kerberos/SPNEGO or NTLM is supported through HTTP. This means that whenever SiteArchitect or ServerManager is connected to the FirstSpirit Server, transparent authentication based on Kerberos/SPNEGO or NTLM is attempted automatically (proxy or host). This method of authentication is only supported on Windows operating systems and on operating systems which support the Java GSS API.

To perform automatic authentication on Windows when using a proxy, the desired Kerberos SPN ("Service Principal Name") must be provided as follows:

```
-Dfs.http.kerberos.spn=HTTP/proxy.example.com
```

However, automatic Kerberos authentication against both proxy and host at the same time is not possible on Windows.

For more information, see *FirstSpirit Manual for Administrators*, chapter "Configuring connection settings".

11.14 Reduce project exports by excluding pre-calculated image resolutions 5.2R2

The export function ("FirstSpirit ServerManager / Project / Export") or the "Execute project backup" schedule entry ("FirstSpirit ServerManager / Project / Schedule management") can be used to create a compressed file of FirstSpirit projects so that these can then be transferred to another FirstSpirit Server, for example.

Resolutions that have been defined for a project can be automatically calculated by the system and saved on the server side. This method speeds up generation times. (Generating large numbers of media in many different resolutions is very time-intensive. With FirstSpirit version 5.2R2, these automatically calculated image resolutions can now be excluded from the export. To enable this, the "Export automatically calculated image resolutions" checkbox must be unchecked.
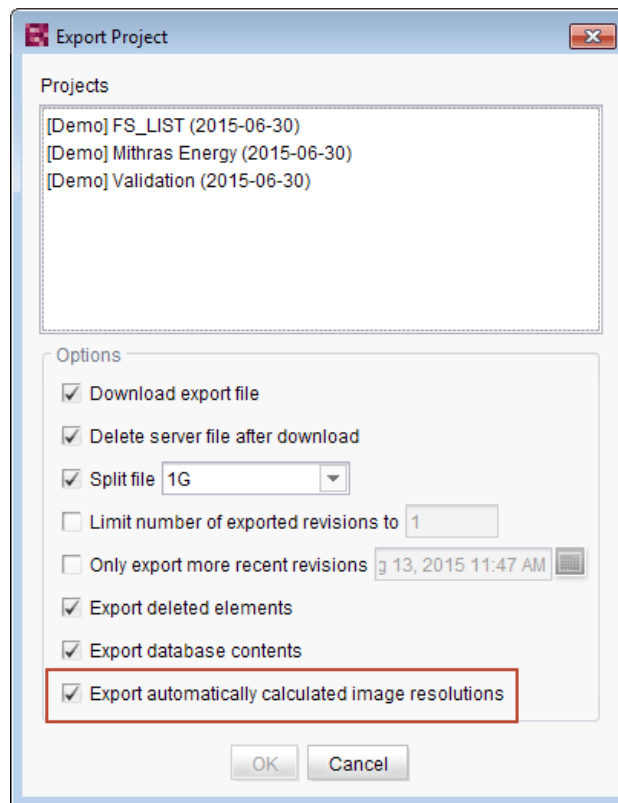
In this case, the content of the server-side image cache (**MEDIA_STORE_CACHED_PICTURES**) is not exported.

This checkbox is not selected by default.

For more information, see *FirstSpirit Manual for Administrators*, chapter

▪ "Export"

▪ "Resolutions"

▪ "Execute project backup"

The process of exporting automatically calculated image resolutions can also be controlled via the FirstSpirit Access API using the **setExportCachedPictures(final boolean exportCached-Pictures)** method in the **ExportParameters** interface.

11.15 SMTP Authentication 5.2R3

FirstSpirit version 5.2R3 enables sending e-mails via SMTP using authenticated connections. Authentication is configured in the configuration file `fs-server.conf`:

`mail.smtp.login`: This parameter specifies the user name used to authenticate against the SMTP server. The user configured here must be known by the specified SMTP server. Additionally, this user's valid password must be configured using the parameter `mail.smtp.password` (see below).

`mail.smtp.password`: This parameter specifies the password of the user (`mail.smtp.login`) used to authenticate against the SMTP server.

If both parameters (`mail.smtp.login` and `mail.smtp.password`) are configured, mail submission by FirstSpirit will use authenticated connections. If these parameters are not specified, authenticated connections will not be used.

The Java interface "Javamail" provides further parameters and configuration opportunities for mail submission (e.g. configuration of encryption). These parameters may be configured in the file `fs-server.conf`, prefixed with `javamail`, e.g.:

```
javamail.mail.smtp.starttls.enable=true
javamail.mail.smtp.starttls.required=true
# enable SASL to support CRAM-MD5 authentication
javamail.mail.smtp.sasl.enable=true
```

For further information, see

- *FirstSpirit Manual for Administrators*, chapter "Area: Mail"

- Javamail API

11.16 Security improvements in FirstSpirit ServerMonitoring and web applications 5.2R2

Implemented measures to improve security in FirstSpirit ServerMonitoring as well as in FirstSpirit web applications.

11.17 Server Update: File name change for backup copies of files   5.2R6

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".

11.18 Server update: Improved schedule logging   5.2.515, 5.2R6

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.

11.19 Server updates using "pull" method 5.2R5

Only a current FirstSpirit version can ensure that all FirstSpirit functionality will be available and that the software will run as well and as reliably as possible. We therefore recommend updating existing FirstSpirit servers regularly and timely. FirstSpirit offers several update methods.

From FirstSpirit version 5.2R5 onward, it is no longer possible to perform updates via Linux package systems. Instead, FirstSpirit now offers uniform, platform-neutral update management for all FirstSpirit servers.

Updating to a newer software version **via locally available files** may be performed using FirstSpirit ServerMonitoring, via "FirstSpirit – Control – Update" or "FirstSpirit – Control – Network" ("Push").

There, you can now also perform an update **via the update service** (web interface to e-Spirit, "Pull"). The file(s) required for the update is/are downloaded via web interface and then installed. When updating via this update service, various FirstSpirit software versions are available, indicating version line as well as release status:
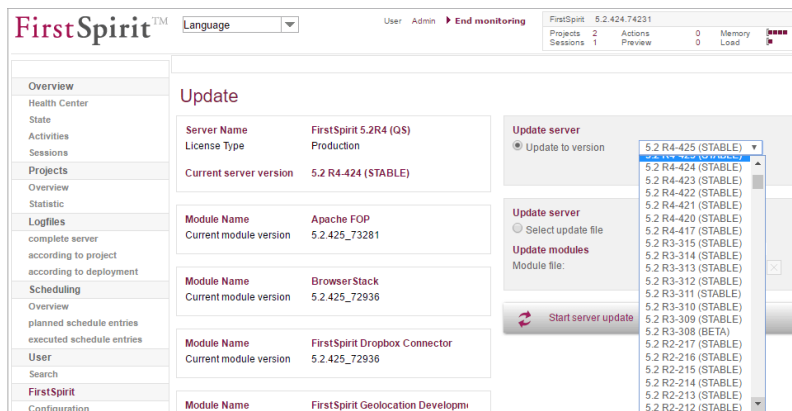
This functionality is only available if the FirstSpirit server was started using the Java wrapper.

For further information, see

- *FirstSpirit Manual for Administrators*,
  - Chapter "Updating the FirstSpirit Server"

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

11.20 Start-up process: FirstSpirit server starts up independently of web application updates   5.2R6

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".

11.21 Starting process: Improved stability when accessing FirstSpirit web applications on external web servers   5.2.515, 5.2R6

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".

11.22 The new FirstSpirit Health Center 5.2R4

The browser-based FirstSpirit ServerMonitoring is used to monitor the FirstSpirit Server. In addition to current operational parameters such as memory utilization, number of users, projects and sessions, it shows configuration parameters and error reports of the server. Beyond that, the server can be configured by means of the ServerMonitoring, too.

Whereas until now you could retrieve system information for the local FirstSpirit Server using the page "State" (below the menu entry "Overview"), the new FirstSpirit Health Center provides from FirstSpirit version 5.2R4 onward data relating to hardware utilization, as well as clearly displaying information on which FirstSpirit versions and licenses are being used by all FirstSpirit servers on a network. You can therefore see at a glance where optimizations can be made in terms of the hardware and software used for FirstSpirit. This Health Center is the entry point for the FirstSpirit ServerMonitoring.
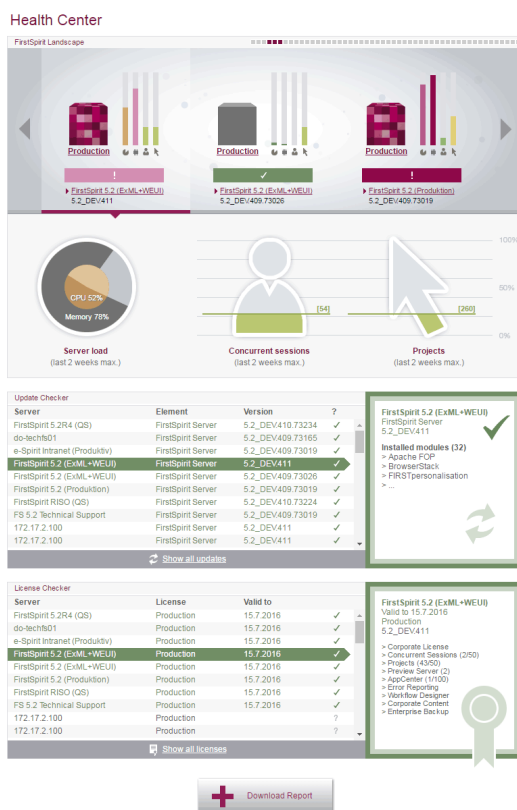
FirstSpirit Health Center

Thanks to the color coding used in the top area of the page ("FirstSpirit Landscape"), any looming **hardware** bottlenecks can be identified at a glance, so targeted measures can be taken at an early stage before there are any application delays or even system failures.

You can also use the Health Center to make sure, with the help of the system, that the local FirstSpirit server and/or all FirstSpirit servers on your network always have the most up-to-date software. Only a current **FirstSpirit version** can ensure that all FirstSpirit functions will be available and that the software will run as well and reliably as possible. You can use the Health Center to update your local server as well as other FirstSpirit Servers which can be reached on the network.

Note: To check if a FirstSpirit server uses the latest software version, a license ID is sent to e-Spirit, since this is all the information that is needed to carry out a detailed and accurate check. The license ID can also be used to check whether the maintenance contract for this license is still valid and whether the customer is therefore entitled to have errors fixed, for example.

If FirstSpirit is to run smoothly, it is also very important to use a valid **license** license that is appropriate for the type of use in question. Linked to the license are, among other things, the license holder's mainte-nance permissions; this means that only if the customer has a valid license in conjunction with a valid maintenance contract will he be entitled to have reported errors fixed, for example. You can use the Health Center to update the license of your local server as well as those of other FirstSpirit Servers which can be reached on the network.

All the utilization/version and license data from this overview page can be summarized and downloaded in a file (*.json* format).

For more information see *FirstSpirit Manual for Administrators*,

▪ Chapter "FirstSpirit ServerMonitoring"

▪ Chapter "Licence configuration (fs-license.conf)"

and *FirstSpirit Installation Instructions*.

Modifications concerning the visualization of the used license were made within the scope of this Health Center implementation, too. The license with license type and licensee will now be displayed at the following points:

▪ FirstSpirit start page:

- FirstSpirit SiteArchitect:
  - start dialog ("Splash screen")

  - horizontal tool bar

- FirstSpirit ContentCreator:
  - start dialog ("Splash screen")

  - Page status area

Furthermore, FirstSpirit servers, on which the user was recently logged in, can be selected via the FirstSpirit start page. The start page of the selected server will open in a new browser window:
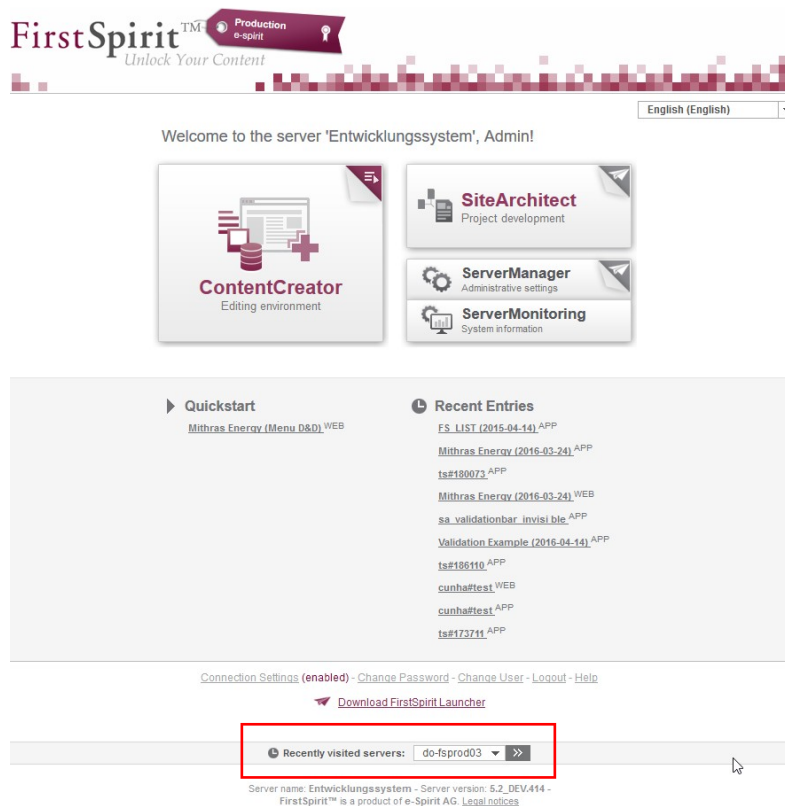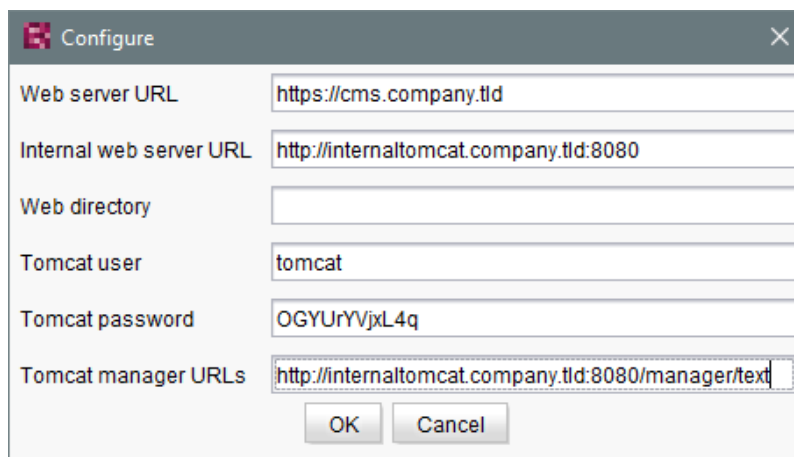
11.23 Updating web applications on external web servers 5.2.615, 5.2R7

FirstSpirit may be operated with external web servers (e.g. Apache Tomcat), for example in order to use special server-side implementations such as PHP or ASP.

During each start-up phase, the FirstSpirit server checks if the version of each web application rolled out to an external web server is up-to-date. If this is not the case, the FirstSpirit server updates the web application. Generally, the check if a web application is up-to-date is possible with the previous web server configuration (via the "Web server URL", see illustration below). In some cases, however, this check is not possible via this URL, such that the web applications would be updated during each start-up phase of the FirstSpirit server. In these cases, from the current FirstSpirit version onwards, the internal web server URL of the web server may be configured for each web server (ServerManager / Server properties / area "Web server", field "Internal web server URL").
E.g. for the type "Tomcat":

Notes: The URL will only be used if the web directory is not set (field "Web directory"). The field "Internal web server URL" is not evaluated for web servers of the type "External" at the moment.

In this context, a method `getInternalURL` has been added to the interface `WebServer` (FirstSpirit Developer API, package `de.espirit.firstspirit.module`). This method provides the URL that is set for a web server in the field "Internal web server URL".

For further information about use and configuration of web servers, see *FirstSpirit Manual for Administrators*:

- ▪ "Web server configuration (fs-webapp.xml)"

- ▪ "Integration into an external web server"

- ▪ "Web server"

11.24 Web server Apache Tomcat: Automatic update of web applications

5.2R6

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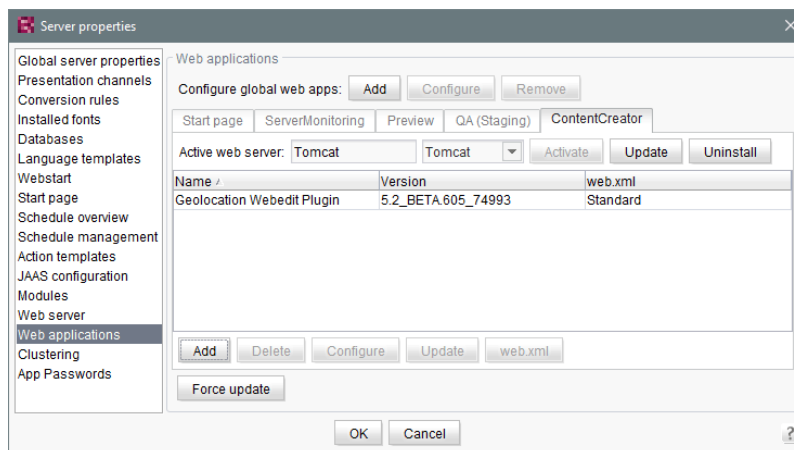
or in "Project properties / Web components"
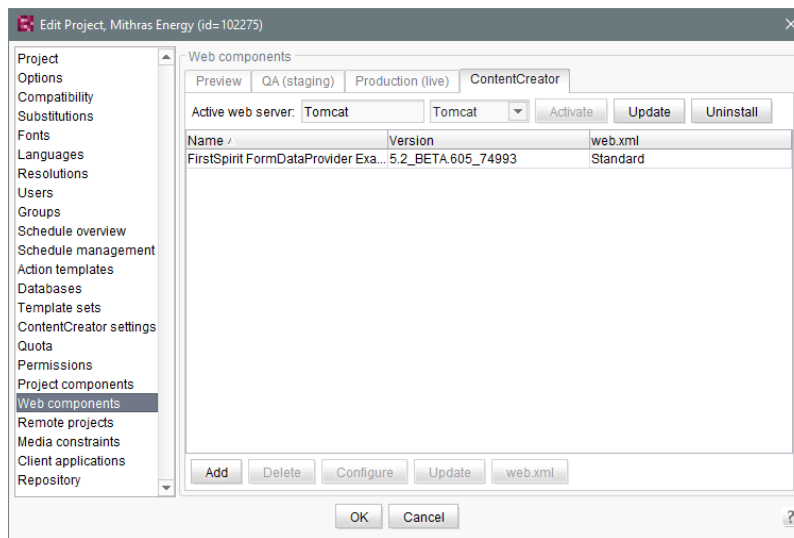
As of the current version of FirstSpirit, the FirstSpirit server will recognize if web applications on a Tomcat are not up-to-date and will trigger an update.

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

- "Tomcat servlet engine on a dedicated host"

- "Web server"

- "Web applications"

- "Web components"

12   Compatibility

12.1   Downgrade to FirstSpirit 5.1 when using Berkeley DB V5   5.2R3

It is possible – in principle – to downgrade from one FirstSpirit minor version to another (for example from FirstSpirit version 5.2 to FirstSpirit version 5.1), but this is **not an assured product property**. Use of Oracle Berkeley DB version 5 as a repository for content storage ("FirstSpirit ServerManager / Project Properties / Repository / Backend") can lead to problems when downgrading from FirstSpirit version 5.2 to FirstSpirit 5.1.

In order to downgrade a FirstSpirit server--which has initially been installed with a FirstSpirit version lower than 5.2 and now uses FirstSpirit version 5.2 as well as Berkeley DB version 5--to FirstSpirit version 5.1, the repository of each project must be configured to use Berkeley DB version 3 before conducting the downgrade.
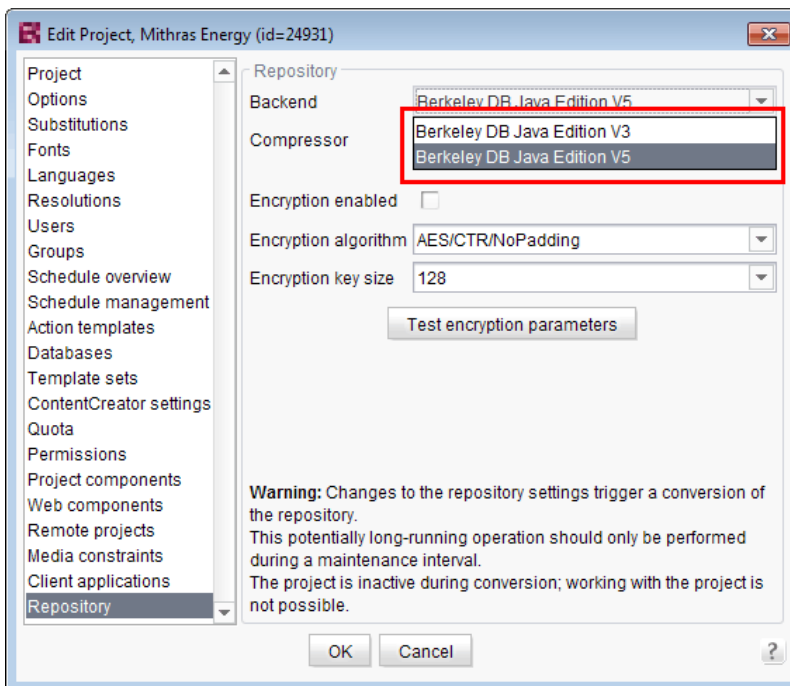
This only applies to servers which have initially been installed with a FirstSpirit version lower than 5.2. A downgrade of servers initially installed with FirstSpirit version 5.2 to a lower version is not possible.

For further information about selecting the desired Berkeley DB version, see *FirstSpirit Manual for Administrators*, chapter "Repository".

13 ContentCreator

13.1 Create new list items using the FS_BUTTON 5.2R2

In the input components for creating lists:

▪ FS_CATALOG

▪ FS_INDEX

▪ FS_LIST (DATABASE and INLINE types)

the ContentCreator in FirstSpirit version 5.2R2 can now be used to create entries in the preview at the same time as creating new sections using a direct button, icon or link, without first having to open the form, for example:

The use of this functionality requires the use of the newly implemented FS_BUTTON handler class `de.espirit.firstspirit.webedit.server.executables.NewListEntryExecutable` (abbreviation: `NewListEntry`).

Example:

```
<FS_BUTTON
    name="button"
    hidden="yes"
    icon="fs:new"
    onClick="class:NewListEntry"
    onDrop="class:NewListEntry"
    style="firstspirit"
    useLanguages="no">
    <LANGINFOS>
      <LANGINFO lang="*" label="New entry"/>
      <LANGINFO lang="DE" label="Neuer Eintrag"/>
    </LANGINFOS>
</FS_BUTTON>
```

The relevant HTML code is rendered in the HTML presentation channel inside a "$CMS_VALUE(...)$" instruction via the **fsbutton(...)** function. To do this, the input component (in this case: "st_createListEntry") must be specified via the mandatory parameter **editorName**. The input component (in this case: "st_linklist") in which the new entry is to be created must be specified via the mandatory parameter **editorId**. A further mandatory detail includes "json: true", e.g.,

```
<div$CMS_VALUE(fsbutton(
            editorName: "st_createListEntry",
            parameter: {
                "editorId": editorId(editorName:"st_linklist", json: true)
                        }
        ))$></div>
```

For more information, see *FirstSpirit Online Documentation*, chapter "Template development / Content-Creator / Functional scope", section "FS_BUTTON handler classes".

13.2 Deletion of bookmarks and master copies 5.2.611, 5.2R7

Frequently used elements may be bookmarked in FirstSpirit to enable easy access. In ContentCreator, an element is bookmarked by using the following button in the toolbar:

Bookmarked elements are then shown in the report area.

Here, bookmarked elements may also be set as master copies so that new elements may quickly be created based on the data of such frequently used elements. A bookmark may be set as a master copy by using the following button:

For sections, this button is also available within the section's toolbar in the preview.

If an element (e.g. a section) that is bookmarked as a master copy is deleted, the current FirstSpirit version will now show a confirmation dialog with the following note:

"The element 'xyz' is a master copy, would you like to delete it anyway?"

If the user clicks OK, the section and its associated master copy bookmark in the report area will be deleted.

Furthermore, elements which are bookmarked can now be deleted without errors in all cases.

For further information, see *FirstSpirit Manual for Editors (ContentCreator)*, "Report area / Bookmarks".

13.3 Dynamically resizable report sidebar 5.2R8

The width of the report sidebar may be adjusted by dragging the vertical divider bar using the mouse (left-click and hold). The selected width will be preserved if the report sidebar is closed and then reopened.

13.4 Filter in FS_REFERENCE via <SOURCES> 5.2R3

The input component FS_REFERENCE enables referencing of one element selected by a user. Selection of an element for referencing may be limited to specific stores and/or folders by using the tag `<SOURCES>`.

In rare cases, special configurations could lead to erroneous behavior in ContentCreator: in such cases, not all elements eligible for selection were displayed. This behavior was corrected in FirstSpirit version 5.2R3.

Due to this fix, it is recommended that existing uses of FS_REFERENCE configurations with a `<SOURCES>` tag be checked to ensure that element selection controls associated with FS_REFERENCE components display the desired set of elements in allowed sources and omit elements that are not in allowed sources.

For further information, see

- *FirstSpirit Online Documentation*, "Template development / Forms / Input components / REFERENCE"

- *FirstSpirit Manual for Editors (ContentCreator)*, "Editing the preview page / Standard input elements / Reference selection"

13.5   Identification of user interface elements   5.2R7

As of the current FirstSpirit version, user interface (UI) elements in ContentCreator (e.g. menus "Contents", "Media", and "Actions"; menu entries; input components; and report parameters) are identified in HTML. This supports better identification of these elements, e.g. for UI tests.

13.6   Improved performance when displaying datasets in input components   5.2R4

The input component CMS_INPUT_LIST allows selection of values which have been defined by project developers. When used in conjunction with CMS_INCLUDE_OPTIONS, database content can be displayed within the input component, e.g.

```
<CMS_INPUT_LIST name="IDENTIFIER">
  <CMS_INCLUDE_OPTIONS type="database">
    <LABELS>
      <LABEL lang="*">#item.COLUMN</LABEL>
    </LABELS>
    <TABLE>NAME_OF_TABLE_TEMPLATE</TABLE>
  </CMS_INCLUDE_OPTIONS>
  <LANGINFOS>
    <LANGINFO lang="*" label="Dataset selection"/>
  </LANGINFOS>
</CMS_INPUT_LIST>
```

In ContentCreator forms, depending on the browser, display of such an input component which references a data source that contains many datasets may be slow. As of FirstSpirit 5.2R4, the display is thus limited to 100 entries. If more than 100 datasets are available, the following message will be shown in the form: "The list of available entries has been truncated due to browser limitiations. This input component

is not suitable for lists of this size." Please note that rules will only be applied to the entries displayed in the form.

It is recommended to use FS_INDEX (with an implementation of DataAccessPlugin) instead of CMS_INPUT_LIST.

For further information about CMS_INPUT_LIST, CMS_INCLUDE_OPTIONS, and FS_INDEX, see *FirstSpirit Online Documentation*,

- ▪ "Template development / Forms / Input components / INDEX"

- ▪ "Template development / Forms / Input components / LIST"

- ▪ "Template development / Forms / Data elements / OPTIONS / DATABASE"

13.7 Move sections into other content areas 5.2R2

If sections in ContentCreator could previously only be moved within the same content area, then it is now possible to also move them beyond content area boundaries.

Prerequisite: The section template for the section being moved must be approved for the content area it is being moved to.

For more information

- ▪ on working with sections in ContentCreator, see the *FirstSpirit Manual for Editors (ContentCreator)*, "Editing a preview page / Sections"

- ▪ on defining allowed section templates for a content area, see the *FirstSpirit Online Documentation*, "Templates (Basics) / Composition of templates / Page templates / Properties tab"

13.8 Project-specific action menu 5.2R6

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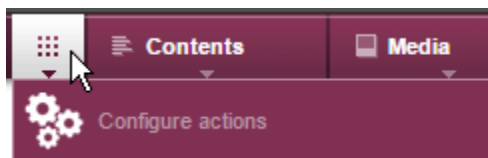
In the dialog which opens, the administrator may select the actions which should be available to all editors in this menu in this project (see also *FirstSpirit Manual for Editors (ContentCreator)*, page "Content-Creator menu functions"):

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".

13.9 Selection dialog for next editor(s) of a workflow 5.2R4

In FirstSpirit, a workflow is always a sequence of tasks or work steps which are carried out in a given order. Each task can be assigned to a user or a group of users. The workflow controls the logical sequence of individual tasks so that only the currently appropriate task can be carried out. If a user completes one task, another user responsible for carrying out the next task is automatically notified.

In ContentCreator, workflows can be started and transitions within an active workflow can be triggered using the page status display (e.g. "Modified page", "In workflow") in the ContentCreator toolbar. In the activity dialog for this workflow, the option "Next editor" may be used to define which user or user group should be notified that the workflow has been transitioned to the next task.

To this end, the user's name may be entered directly into the "Next editor" text box, or a drop-down list showing a number of available users can be opened by simply clicking on this text box. As of FirstSpirit version 5.2R4, users may also open a larger selection dialog by either clicking on the magnifying glass icon in the text box or by clicking on the entry "Show more entries..." at the bottom of the drop-down list:
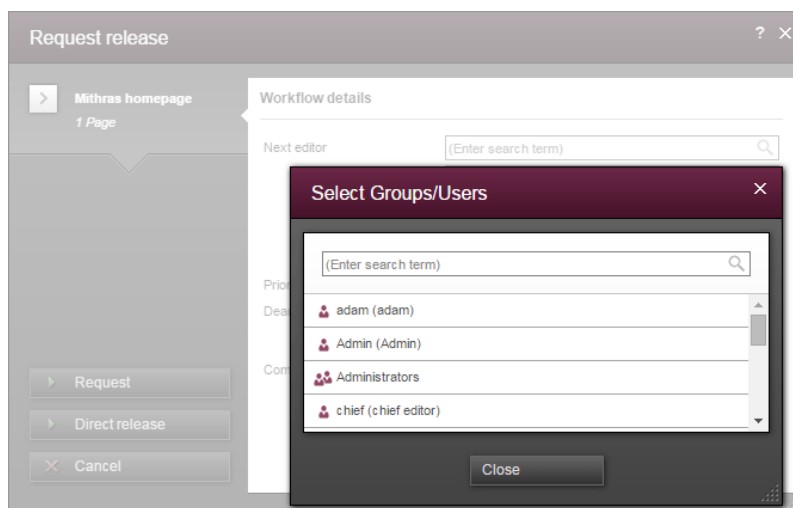
Dialog "Select Groups/Users"

This dialog lists all available users and user groups and supports search functionality. By clicking on the user or group's entry in the list, this user or group is selected, and the dialog closes automatically, adding that user or group to the "Next editor" field in the activity dialog.

For further information, see *FirstSpirit Manual for Editors (ContentCreator)*, "Report area / Tasks / Workflows".

13.10 Stepless Resizing of the Input Component "Link-Sensitive Graphic" (CMS_INPUT_IMAGEMAP) 5.2R3

Using the input component "Link-Sensitive Graphic" (CMS_INPUT_IMAGEMAP), link areas may be placed over a background image.

Starting with FirstSpirit version 5.2R3, the height of this input component may be adjusted by dragging the resize handle in the lower right corner of the input component.
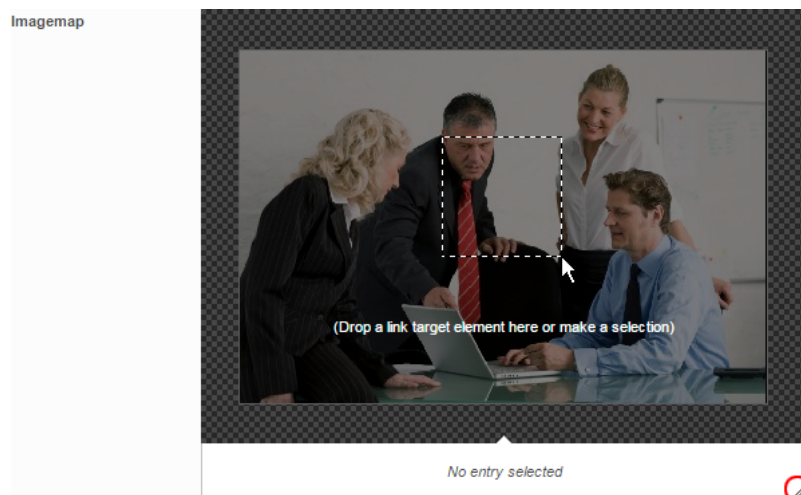
The minimum height of this input component is 340 pixels.

For further information, see

▪ *FirstSpirit Manual for Editors (ContentCreator)*, "Editing a preview page / Input elements / Imagemap",

▪ *FirstSpirit Online Documentation*, "Template development / Forms / Input components / IMAGEMAP"

13.11 Visualization of frequently used objects 5.2R2

The ability to reuse content in content management systems ensures significant time and cost savings, reduces errors, and thereby increases the overall quality of the website. With this in mind, it is also

possible to use a variety of objects such as images, sections, pages, and datasets several times in FirstSpirit; in other words, this content may appear in several places on the site. This means that changes to an object that are made on a preview page may affect other pages too.

With FirstSpirit version 5.2R2, the editor can now see – at various points of the editing process – that the object currently being edited is used on other pages (the same as the "Show usages" context menu function in SiteArchitect) so that changes may also be made there. An example of this can be found when editing media in a reference selection input element ("FS_REFERENCE"):
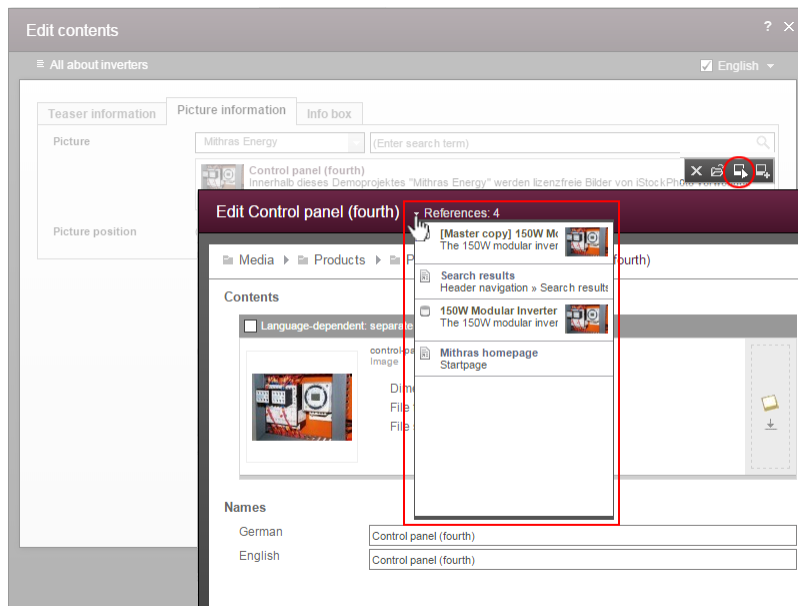
It can also be seen in a dialog for editing a dataset:
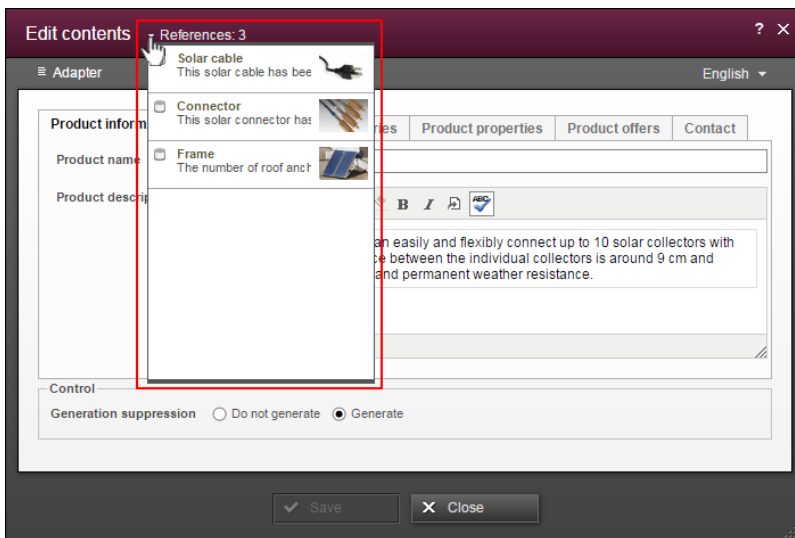
The number next to "References:" indicates the number of places (e.g., pages and/or datasets) where the object appears. In the case of referenced pages, it also includes the page which the editor is currently viewing.

Clicking on "References:" opens a window listing the pages by name together with an object type icon.

For more information, see *FirstSpirit Manual for Editors (ContentCreator)*.

13.12 Workflows on media and media folder elements 5.2.611, 5.2R7

In the report area, the report "Tasks" shows the tasks that are available to the current user. In addition to media elements, as of the current FirstSpirit version, this report also displays media folder elements that are in a workflow:
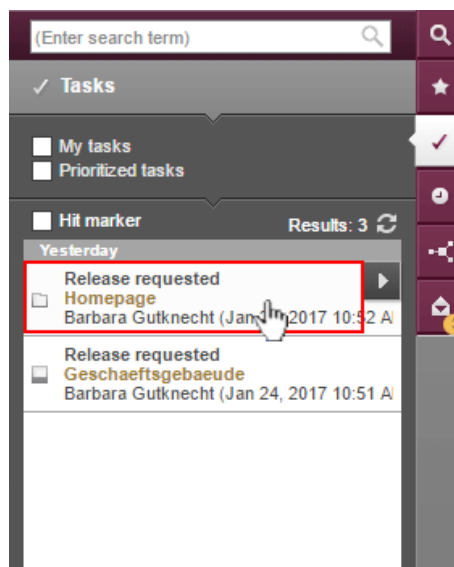
Clicking on a media folder entry will open the dialog "Manage media".

In order to advance media and media folder elements in a workflow, use the following button:

Clicking the button will open a drop-down menu that shows the available next steps in the workflow. Clicking on an entry in that menu (e.g. "check release") will open the dialog to set information for the next workflow step.

For further information, see *FirstSpirit Manual for Editors (ContentCreator)*, chapter "Report area / Tasks".

14 External Synchronization

14.1 Deletion of obsolete files and additional logging 5.2R7

In the course of expanding and optimizing the feature set of the FirstSpirit functionality "External Synchronization", as of the current FirstSpirit version, the default value of the method `setDeleteObsoleteFiles(boolean enable)` of the interface `ExportOperation` (FirstSpirit Developer API, package `de.espirit.firstspirit.store.access.nexport.operations`) has been changed from `false` to `true`.

Example

Initial situation in the project:

```
PageStore
 |-- PageFolder 'A'
 `-- PageFolder 'B'
```

1. Export: Export of 'A'

In the synchronization directory, the following structure will be created:

```
Synchronization Directory
  |-- .FirstSpirit
  |       `-- ...
  `-- PageStore
        `-- 'A'
              |-- StoreElement.xml
              `-- ...
```

2. Export: Export of 'B' ('A' is not included in the export set)

In the synchronization directory, the files previously created for 'A' will be deleted. The file structure will subsequently look as follows:

```
Synchronization Directory
  |-- .FirstSpirit
  |       `-- ...
  `-- PageStore
        `-- 'B'
              |-- StoreElement.xml
              `-- ...
```

If the files for 'A' should be retained, both elements ('A' and 'B') must be added to the **ExportOperation** and exported via this operation:

2a) Export of 'A' and 'B'

The file structure will subsequently look as follows:

```
Synchronization Directory
  |-- .FirstSpirit
  |       `-- ...
  `-- PageStore
        |-- 'A'
        |    |-- StoreElement.xml
        |    `-- ...
        `-- 'B'
             |-- StoreElement.xml
             `-- ...
```

(Generally, during use of the functionality "External Synchronization", only files will be removed that have been created by this functionality.)

Previously, such files were retained by default. This potentially led to the retention in the file system of files associated with elements that have been deleted in FirstSpirit. Existing scripts may require modification.

In this context, **export logging** has been expanded to help better identify which parameters were set for an export. Now, the following parameters and their set values will be output via INFO logging:

- **deleteObsoleteFiles** (method **setDeleteObsoleteFiles(true|false)**)

- **exportRelease** (method **setExportRelease(true|false)**)

- **exportParents** (method **setExportParentElements(true|false)**)

- **exportChildren** (method **setExportChildElements(true|false)**)

Example (all in one line):

```
ExportParameters = { deleteObsoleteFiles=false, exportRelease=true,
exportParents=true, exportChildren=true, [...] }
```

14.2   GUI will be omitted   5.2R4

Previous feedback and experience show that the external synchronization, which has been provided since FirstSpirit 5.1, is mainly used programmatically in the context of a distributed development process - instead via the GUI within the SiteArchitect. For this reason we decided to omit the GUI with FirstSpirit 5.2R4.

We ask all customers and partners to switch their development process to our API or to the command line tool "FSDevTools". It encapsulates the existing API and can be used via the command line or an IDE.

Please contact our Technical Support if any problem occurs while changing your development process.

Further information can be found in the Community.

14.3 New method "getModifiedProjectProperties" returns imported project properties 5.2R4

Using the functionality "External Synchronization", structures of a FirstSpirit project (e.g. templates, partial store trees, project properties) can be exported into a file system, creating a folder hierarchy which reflects the project's structures. Export and import is carried out using interfaces and methods of the FirstSpirit Developer API.

In addition to the project content that is entered in SiteArchitect and/or ContentCreator, project properties can also be exported/imported with the "External synchronization" function, including across servers. This method can be used, for example, to transfer the properties of a project to an empty project as well as to synchronize the project configuration of multiple projects.

You can use the method `getModifiedProjectProperties()` of the interface `ImportOperation.Result` (FirstSpirit Developer API, package `de.espirit.firstspirit.store.access.nexport.operations`), which has been introduced with FirstSpirit version 5.2R4, to identify if and which type of project settings were imported (for example template sets).

14.4 New method "setExportRelease" to specify whether the release or the current state of elements should be exported 5.2R4

FirstSpirit version 5.2.313 introduces a new method, `setExportRelease(boolean)`, in the interface `ExportOperation` (package `de.espirit.firstspirit.store.access.nexport.operations`), which can be used to specify whether the "release" or the "current" state of selected elements should be exported.

In the same FirstSpirit version, the method `setExportReleaseEntities(boolean)` in the interface `ExportOperation` has been marked "deprecated" and may be removed in future versions. Uses of this method should be replaced with `setExportRelease(boolean)`. 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.

14.5   New method "setIgnoreEntities" replaces "setCreateEntities" 5.2R4

The interface **ImportOperation** (FirstSpirit Develover API, package **de.espirit.firstspirit.store.access.nexport.operations**) provides methods with which files may be imported from an external file system into a FirstSpirit project based on customer-specific rules using the functionality "External Synchronization".

The method **setIgnoreEntities(boolean ignore)** replaces the method **setCreateEntities**, which has been deprecated as of FirstSpirit version 5.2R4. The new method controls whether existing entities should be imported into the FirstSpirit project.

The default setting is **false**, which causes External Synchronization to import all entities that are currently stored in the file system into the FirstSpirit project, updating existing entities in the project to reflect the data imported from the file system or, if necessary, creating new entities with that data. In order to suppress import of entities from the file system into the project and preserve the entities that exist in the project, call **setIgnoreEntities(boolean ignore)**, providing the **ignore** value **true**.

For further information, see

- *FirstSpirit Online Documentation* "Advanced topics / External synchronization"

- FirstSpirit Developer API, package
  de.espirit.firstspirit.store.access.nexport.operations

14.6   Optimized performance 5.2R2

"External synchronization" is used to export substructures from FirstSpirit (e.g., templates, store subtrees, project properties) in a file system structure with a folder hierarchy. FirstSpirit version 5.2R2 optimized performance when adding elements via the user interface.

For more information on the "external synchronization" function, see *FirstSpirit Online Documentation*, "Advanced topics / External synchronization".

15   General

15.1   Code signing certificate updated   5.2R5

The content of FirstSpirit JAR files is signed with a certificate. This procedure is also called "code signing". In the current FirstSpirit version, the content is signed with a new certificate that is valid until 2018-06-13 (13 June 2018).

Please refer also to Chapter 1 "Code signing certificates".

15.2   Code signing certificate updated   5.2R9

The content of FirstSpirit JAR files is signed with a certificate. This procedure is also called "code signing". In the current FirstSpirit version, the content is signed with a new certificate that is valid until 2019-07-24 (24 July 2019).
Some certificates used by existing FirstSpirit servers expired on 2017-05-21 (21 May 2017), affected FirstSpirit servers must be updated.

15.3   Publication of FirstSpirit Javadoc via separate Jar files   5.2R9

Javadoc is used for documenting the FirstSpirit API. Starting with the current FirstSpirit version, this documentation is published additionally in separate Jar files (**fs-api-javadoc.jar** and **fs-isolated-runtime-javadoc.jar**), for example in order to make it easier to access it from IDEs.

16   Input components

16.1   Extended snippet access for FS_INDEX and FS_CATALOG   5.2R4

The "Snippets" can be used in many places in FirstSpirit: e.g., when displaying FirstSpirit objects in search results, in reports, and also to display entries in FS_CATALOG and FS_INDEX. In the definition of snippets (in templates) the template developer can specify what information about the FirstSpirit object is to be used in search results, reports, etc. and thus customize the content to meet the specific needs of editors and the conditions of the project concerned.

The following additions have been made to this area with FirstSpirit version 5.2R4:

FS_CATALOG: Simplified access to values using dot notation (`getItems` method)

The FS_CATALOG input component can be used to create and manage lists of sections or links.

It returns a **Catalog** object which contains **Card** objects. A **Card** object represents an entry in FS_CATALOG and contains information about

- the section or link template selected by the editor for this entry,

- the form fields defined in the selected template,

- the values saved by the editor in the form fields.

The new **getItems** method (in Bean syntax: *.items*) can be used to access **Card** data more directly and work with this data. It returns a list (**List** data type) of **FormData** objects:

```
FS_CATALOG_VAR.items
```

In order to be able to identify and output the value of a certain input component (**FormField**) in this list for a snippet definition, for example, both the identifier of the required input component and its position in the list must be specified:

```
FS_CATALOG_VAR.items[0].st_text
```

In this example, the value of "st_text" of the 1st entry in the FS_CATALOG component is identified with the "FS_CATALOG_VAR" identifier.
(This method is not only available in snippet definitions.)

FS_CATALOG: Access to snippets of entries (`getSnippets` method)

The new **getSnippets** method (in Bean syntax: *.snippets*) can now be used to access snippet values of the entries of an FS_CATALOG component. Instead of the identifier of the required input component (e.g., "st_text" for a CMS_INPUT_TEXT component), only the field of the snippet definition has to be specified when using **getSnippets**:

- *thumbnail* outputs the value of the "Thumbnail" field

- *header* outputs the value of the "Header" field

■ *extract* outputs the value of the "Extract" field

of the snippet definition of the corresponding entry of the FS_CATALOG component.

The method returns a list ("List" data type). The required element of the list can be returned by specifying the position number (in square brackets, counting starts at *0*).

Example:

```
FS_CATALOG_VAR.snippets[0].thumbnail
FS_CATALOG_VAR.snippets[0].header
FS_CATALOG_VAR.snippets[0].extract
```

The **FS_CATALOG_VAR.snippets[0].header** call returns the value from the field of the first entry of the FS_CATALOG component that is defined in the corresponding section or link template.

(This method is not only available in snippet definitions.)

The new **CatalogAccessor** data type has also been implemented in this context.

FS_INDEX: Access to snippets of a DataAccessPlugin (DAP, `getSnippets` method)

When an FS_INDEX input component is accessed via a **FormData** object, an **Index** type object containing a **Record** object for each entry in the index is returned. The **Index** object can be used both to manage the index entries and to create new entries.

In template set and snippet definitions of templates, by contrast, when an FS_INDEX input component is accessed, an **IndexAccessor** type object is returned, which facilitates read access to the **String** identifiers of the entries saved in the component and to the data objects, which correspond to the entries and have been resolved via the DataAccess plug-in associated with the index component.

From FirstSpirit version 5.2R4, additional interfaces which are able to display these external data objects in the form of a snippet are available in this area (same as FS_CATALOG, see above). The following calls can be used within the snippet definition (notation):

```
FS_INDEX_VAR.snippets[0].thumbnail
FS_INDEX_VAR.snippets[0].header
FS_INDEX_VAR.snippets[0].extract
```

The **FS_INDEX_VAR.snippets[0]** call returns a snippet interface for the first DAP entry of the FS_INDEX component.
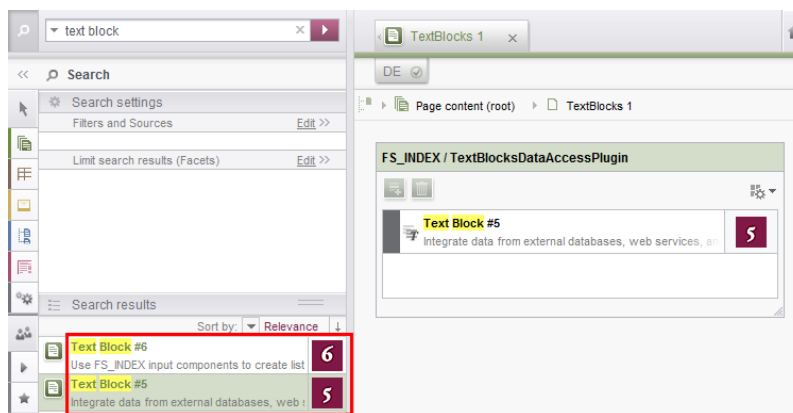
For more information, see *FirstSpirit Online Documentation*,

▪ "Template development / Template syntax / Data types / CatalogAccessor"

▪ "Template development / Forms / Input components / INDEX / Access to FS_INDEX"

▪ "Template development / Template syntax / Data types / IndexAccessor"

16.2 FS_CATALOG: Nesting of language-dependent input components

5.2R5

From the current version of FirstSpirit onwards, the use of language-dependent input components within a language-dependent FS_CATALOG input component will be disallowed by default.

Old behavior

In previous FirstSpirit versions, it was technically possible to configure both FS_CATALOG and inner forms to be language-dependent. This frequently led to problems related to translation processes, general usability of input components for editors, and maintainability of project development as well as to impaired performance. Content entered by the editor into nested, language-dependent FS_CATALOG constructs could (especially so when using translation help) potentially not be output (e.g. during generation) or edited afterwards.

Thus, it was recommended to use language-independent input components within language-dependent FS_CATALOG input components. As a consequence, section templates that were meant to be used within both pages and FS_CATALOG input components had to be duplicated to produce a language-

independent version (for use within language-dependent FS_CATALOG components) and a language-dependent version (for use in all other cases).

New behavior

Starting with the current version of FirstSpirit, all projects created with FirstSpirit version 5.2R5 or newer will by default be configured to disallow the use of language-dependent input components within a language-dependent FS_CATALOG input component. Language-dependent input components in templates that are used within a language-dependent FS_CATALOG component will automatically be treated as language-independent by FirstSpirit. This alleviates the disadvantages imposed by the old behavior.

> **!** The old behavior is not recommended, and future versions of FirstSpirit may cease to support it. Migration is recommended.

Compatibility with projects from older FirstSpirit versions

For projects that

- exist on a FirstSpirit server running a previous version that is upgraded to FirstSpirit version 5.2R5 or newer

- are imported from a FirstSpirit server running a previous version to a server running FirstSpirit version 5.2R5 or newer via project import functionality

the old behavior will be supported until further notice. In order to prepare projects that were created in previous versions of FirstSpirit for use with the new behavior, FirstSpirit offers two compatibility settings that allow a stepwise migration.

> **!** The data handling used differs between the old and new behavior. If language-dependent input components are used within a language-dependent FS_CATALOG input component in a project, the data of this FS_CATALOG component must be checked and - if necessary - backed up before the new behavior can be used project-wide. Without checks and backups, switching to the new behavior can cause data loss in the project: If the FS_CATALOG component or inner forms of this component already contain content, saving this FS_CATALOG component will cause content to be stored in the language the editor is currently editing (fallback: master language); if content exists in other languages, these language versions will be discarded.

Both compatibility settings have the following effects:

- Compatibility setting "disabled": Within a *language-dependent* FS_CATALOG input component, inner input components which are configured to be language-dependent in their template will be handled as *language-independent* (new behavior).

- Compatibility setting "enabled": Within a *language-dependent* FS_CATALOG input component, inner input components which are configured to be language-dependent in their template will be handled as *language-dependent* (old behavior).

Compatibility for **individual FS_CATALOG input components** can be turned off in templates using a parameter, `forbidPolyglotDataHierarchy`. This allows application of the new behavior for single FS_CATALOG input components, while other FS_CATALOG input components for which this parameter is not set will continue to use compatibility with previous FirstSpirit versions.

Once all FS_CATALOG components are prepared for the new behavior, the compatibility setting can be deactivated **project-wide** ("FirstSpirit ServerManager / Project / Properties / Compatibility / FS_CATALOG: Nesting of language-dependent input components"):
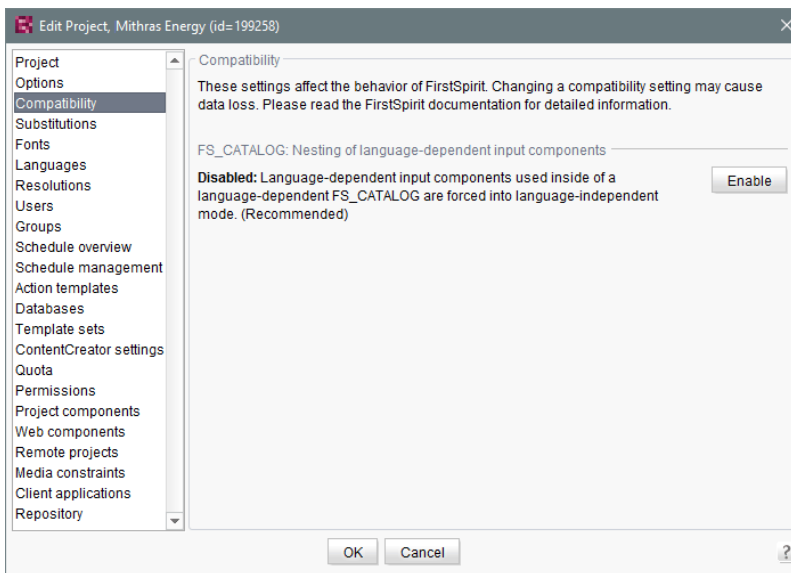
The project-wide compatibility setting affects all language-dependent FS_CATALOG input components in a project.

From FirstSpirit version 5.2R5 onwards, when transporting project properties using "Content Transport" functionality or via a project export, this property will be included in the transport/export.

FirstSpirit API

Additionally, the methods **getForbidPolyglotDataHierarchy** and **setForbid-PolyglotDataHierarchy** (FirstSpirit Access API, interface **Project**, package **de.espirit.firstspirit.access.project**) allow access via API to the value set in project properties. **getForbidPolyglotDataHierarchy** returns the currently set value of the compatibility setting "FS_CATALOG: Nesting of language-dependent input components", while **setForbidPolyglotDataHierarchy** may be used to set this setting's value.

The **ProjectAgent**, obtainable via the **SpecialistsBroker** (both FirstSpirit Developer API, package **de.espirit.firstspirit.agency**), also provides a means to read the current value of the compatibility setting: **getForbidPolyglotDataHierarchy**.

For further information, see

▪ *Template development / Forms / Input components / CATALOG* (→*FirstSpirit Online Documentation*), parameter **forbidPolyglotDataHierarchy**

- *FirstSpirit Manual for Administrators*, chapter "Compatibility"

- Module documentation for "FirstSpirit CorporateContent", chapter "Transporting project properties"

16.3   FS_INDEX: Editorial functionality using drag-and-drop   5.2.424, 5.2R5

In ContentCreator, users may create sections, datasets, and links (in a rich-text editor or a table / CMS_INPUT_DOM or CMS_INPUT_DOMTABLE) by dragging and dropping content onto a specifically configured FS_BUTTON input component. To achieve this, a

- section template,

- link template, or

- table template

which should be used to create new content via drag-and-drop must be configured to use the desired target input component (tab "Form") for such drag-and-drop content as its **Drop Editor** (tab "Properties").
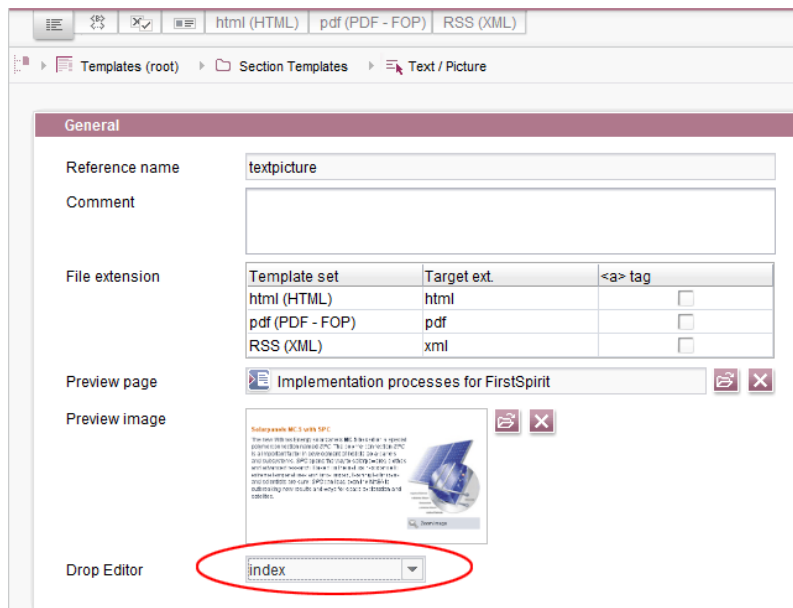
This way, elements provided by a DataAccessPlugin may be used via drag-and-drop in order to create a new section, dataset, or link (in CMS_INPUT_DOM/DOMTABLE). The element dragged and dropped onto the button will then be referenced by a target index component.

If a dataset provided by the DatasetDataAccessPlugin is dropped onto an FS_BUTTON with class `NewSection` (`onDrop="class:NewSection"`) but is incompatible with any FS_INDEX components listed as drop editors (i.e. it does not match any table template configured for FS_INDEX components, tag `SOURCE` / `TEMPLATE`), the operation will be aborted with the error message "The transferred data has not been accepted", and no section will be created. Due to technical reasons, a section will in fact be created and deleted again in the background, such that the page will afterwards be shown as changed.

In addition to the "Add" button and drag-and-drop onto an index component in an "Edit" dialog, it is now also possible to **add new entries to index components** by dragging a compatible dataset from a report (e.g. "Search", "Bookmarks", etc.) or data from a custom report implementation into the preview area.

The prerequisite is compatible mark-up added via `editorId`.
(Note: An appropriate preview page ("Properties" tab) must be selected so that datasets will appear in search, bookmarks etc.)

Entries within a form may now also be **replaced** with other compatible data from reports. A colored marker

Replace

or

Move/Insert above

or

◄

Move/Insert left

indicates whether the data would replace an existing entry if dropped:
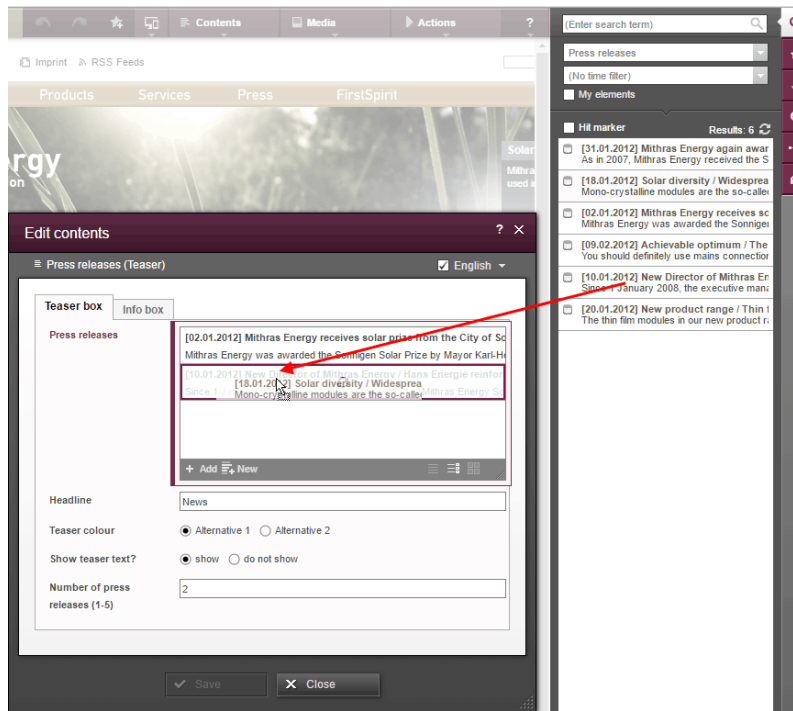
or be added as a new entry:
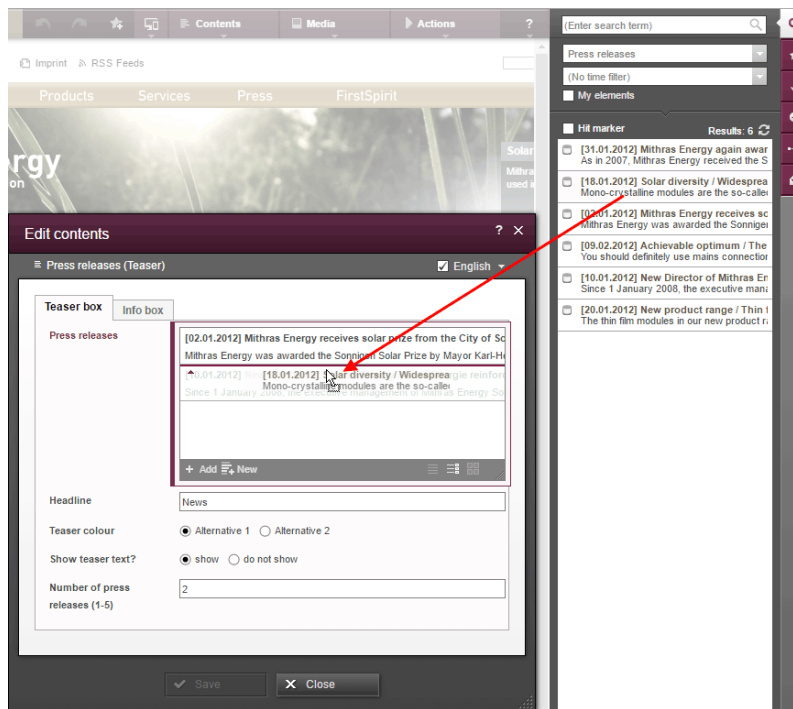
The order of entries may be modified by dropping an element that is already referenced in the component onto the form, but the dropped element will not be referenced twice.

In SiteArchitect, as of the current FirstSpirit version, data may also replace existing entries via drag-and-drop:
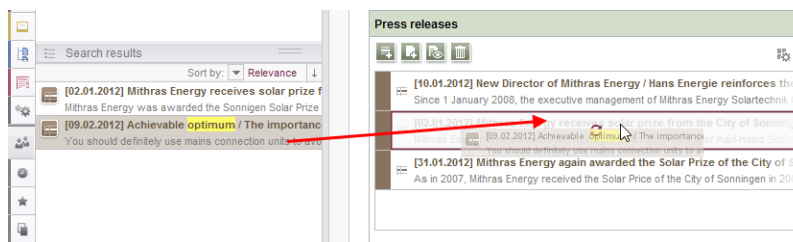
or be added as a new entry:
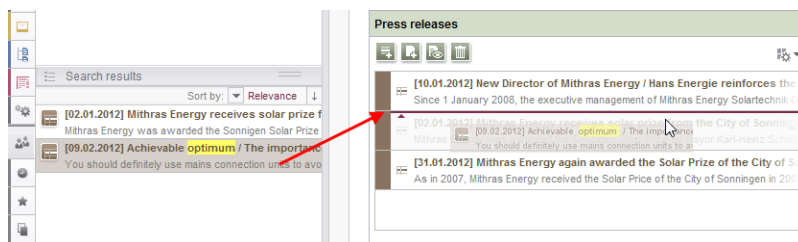
Note for use cases in which only one entry is to be selectable in FS_INDEX: If you would like that the editor can select only one entry within your FS_INDEX component, you can manage this using a rule with the **ADD** property and a "less than" check (using **<LESS_THAN/>**), for example

```
<RULE>
    <WITH>
        <LESS_THAN>
            <PROPERTY name="SIZE" source="fs_index"/>
            <NUMBER>1</NUMBER>
        </LESS_THAN>
    </WITH>
    <DO>
        <PROPERTY name="ADD" source="fs_index"/>
    </DO>
</RULE>
```

For technical reasons, starting with FirstSpirit version 5.2R5, the *ADD* rule is disregarded when replacing entries in ContentCreator **in the preview**. For ensuring that only the desired number of entries will not be exceeded, please use a rule with the restriction level **SAVE**, which will be applied when saving the form, for example

```
<RULE>
    <WITH>
        <LESS_THAN>
            <PROPERTY name="SIZE" source="fs_index"/>
            <NUMBER>2</NUMBER>
        </LESS_THAN>
    </WITH>
    <DO>
        <VALIDATION scope="SAVE">
            <PROPERTY name="VALID" source="fs_index"/>
          <MESSAGE lang="*" text="The maximum number of entries is exceeded! Max. 1"/>
            <MESSAGE lang="DE" text="Anzahl der Einträge überschritten! Max. 1"/>
        </VALIDATION>
    </DO>
</RULE>
```

If an entry is added to FS_INDEX via the preview in ContentCreator even though there is already an entry, the form will open showing the rule violation ("The maximum number of entries is exceeded! Max. 1") and it can only saved if surplus entries have been removed.

For further information, see

- *FirstSpirit Online Documentation*,
  - "Template development / ContentCreator / Functional scope", section "FS_BUTTON handler classes"

  - "Template development / Rules"

- *FirstSpirit Manual for Editors (ContentCreator)*,
  - "Editing the preview page / Standard input elements / Lists (new, datasets)"

  - "Editing the preview page / The FirstSpirit operating concept", section "Using drag-and-drop"

- *Documentation for FirstSpirit SiteArchitect*, "Default input forms / Index (FS_INDEX)"

16.4   FS_INDEX: Emptiness check with ".isEmpty"   5.2.611, 5.2R7

The input component FS_INDEX *Template development / Template syntax / Data types / IndexAccessor* (→*FirstSpirit Online Documentation*).

Within output channel definitions, accessing the value set of an FS_INDEX input component returns an object of type **IndexAccessor**.

As of the current FirstSpirit version, the data type **IndexAccessor** includes a new implementation of the method **.isEmpty()** (in Bean syntax: **.isEmpty**). This method may be used to check whether or not the FS_INDEX input component contains entries.
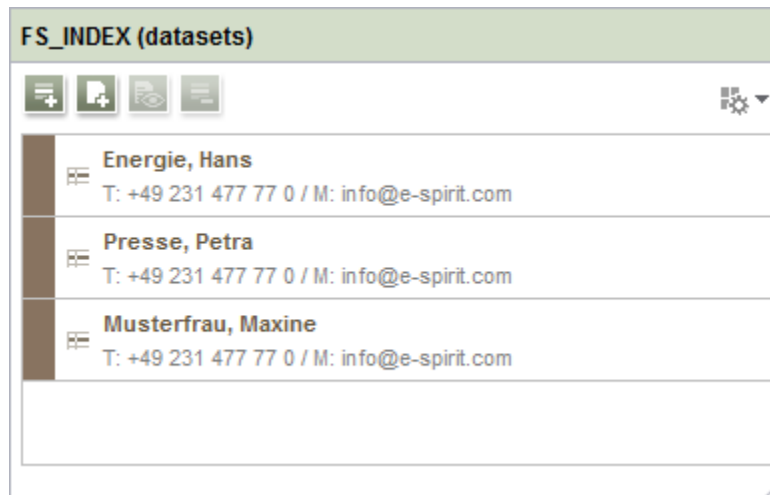
- ▪ If the input component contains at least one entry, the method returns **false**.

- ▪ If the input component does not contain any entries, the method returns **true**.

Example:

```
$CMS_VALUE(fs_index.isEmpty)$
```

Previously, this method always returned **false**.

For further information, see *Template development / Template syntax / Data types / IndexAccessor* (→*FirstSpirit Online Documentation*).

16.5   Methods ".convert" and ".convert2" in FS_LIST   `5.2R4`

With FirstSpirit version 5.1 the attribute **convertEntities** of a form field may not have been respected inside a FS_LIST component. This could have been corrected using the functions **.convert** or **.convert2** in the corresponding template.
With FirstSpirit version 5.2 the behaviour in FS_LIST has been corrected, so that the usage of **.convert** and **.convert2** than led to a duplicate conversion in these cases.

With FirstSpirit v5.2R4 this duplicate conversion will now be suppressed. These cases are logged in the generation log:

```
supressing duplicate conversion of field 'st_test'
```

17   Media

17.1   Optimized identification of file format of media uploaded via drag-and-drop   `5.2R4`

Upload of media into the Media store can be limited to certain file formats via the option "Restrict allowed media types" in project settings ("FirstSpirit ServerManager / Project settings / Media constraints").
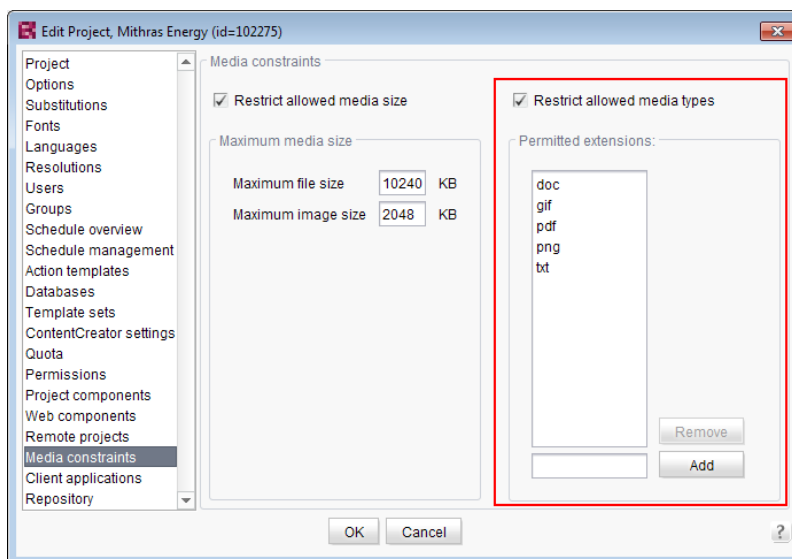
File format identification is done by both inspecting the file name extension and analyzing the file contents. This identification check has been optimized in FirstSpirit version 5.2R4.

Furthermore, when uploading media files into a project via drag-and-drop, a more differentiated error message will be shown if a file cannot be uploaded due to its file type, indicating whether the file type is not supported or not allowed.

For further information about this option, see

- *FirstSpirit Manual for Administrators*, chapter "Restrict allowed media types"

17.2 Recoginition of file types when uploading media using drag-and-drop improved 5.2.515, 5.2R6

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")

17.3 Support for files with more than one dot character in their names 5.2R5

FirstSpirit now supports upload, saving and deployment of media which contain more than one dot in their file names.

This enables upload of files of type ".tar.gz", for example. In the example "filename.tar.gz", the part "gz" will be considered the file name extension, while "filename.tar" will be considered the file name of the medium. This also affects the search settings in SiteArchitect (limiting search results via facets): in search results filtered for file name extension, a file of type ".tar.gz" will be displayed associated with the file name extension "gz" (not "tar.gz"). This must also be considered when defining "Permitted extensions" on the "Media constraints" page of project settings in FirstSpirit ServerManager.

This new functionality is supported in ContentCreator and in SiteArchitect when uploading or creating files via media management functionality as well as via the input component FS_REFERENCE. Besides files of type ".tar.gz", use cases include files which carry version information in their names such as "Linux_4.6.4-1.debian.tar.xz".

18 Module Development, Scripts, API

18.1 Changed Behavior for Data Stream Builder Implementations With Aspect "Filterable" 5.2R2

The interface `DataStreamBuilder` in the package `de.espirit.firstspirit.client.plugin.dataaccess` (FirstSpirit Developer API) allows configuration of a set of data which may be used in FS_INDEX or made available via reports. Using the aspect `Filterable`, developers may define a list of parameters which will be shown in the user interfaces of FS_INDEX element selection dialogs and reports so that users may specify filters in order to limit the data returned by the data stream. If the "Filterable" aspect of a Data Access Plug-In defines more than one parameter with the same name, only the first provided parameter with that name will be used.

For more information about the DataStreamBuilder interface, see *FirstSpirit Online Documentation*, Chapter "Plug-In Development / Universal Extensions / Data Access / Data Stream / Builder".

18.2 ContentCreator: Detection of the user interface language ("Locale") selected by the current user 5.2.611, 5.2R7

FirstSpirit supports a multi-language concept that pervades all aspects of FirstSpirit. This concept differentiates between:

▪ **User interface language (also called "Locale"):** This language is selected via the combobox on the FirstSpirit Start Page. It specifies the language commonly used in the user interface, such as that of menu labels, dialog texts and content that is not maintained in a language-dependent fashion by editors and template developers in a project. Currently, FirstSpirit supports the user interface languages German, English, French, Spanish, Russian, Italian, and Dutch.

▪ **Project language:** Project developers specify in which languages editorial content may be entered (via "input components"). As a rule, this content will then be output on a web page in the various language variants of a page. A language selection control may be used to switch to another language

of the web page. The project language may differ from the selected user interface language: FirstSpirit does not provide Portuguese as a user interface language, but Portuguese-language content can of course be maintained within FirstSpirit.

■ **Editorial language:** An editorial language (also called "display language") may be used by project developers to influence the display of input elements and other objects in ContentCreator. Such editorial languages are used for labels of input components, tool tips, and elements of a selection list ("combobox"), among others.

As of the current FirstSpirit version, it is possible to detect the user interface language of ContentCreator, selected by the current user, via the method `getLocale()` of the FirstSpirit Developer API interfaces

■ `WebeditUiAgent` (package `de.espirit.firstspirit.webedit`):
`de.espirit.firstspirit.webedit.WebeditUiAgent.getLocale()`

■ `Common` (package `de.espirit.firstspirit.webedit.client.api`):
`WE_API.Common.getLocale()`

For further information, see *Template development / JavaScript APIs / ContentCreator / Common Functionality* (→*FirstSpirit Online Documentation*).

18.3 ContentCreator: Displaying page-related status information prominently 5.2.518, 5.2R6

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:
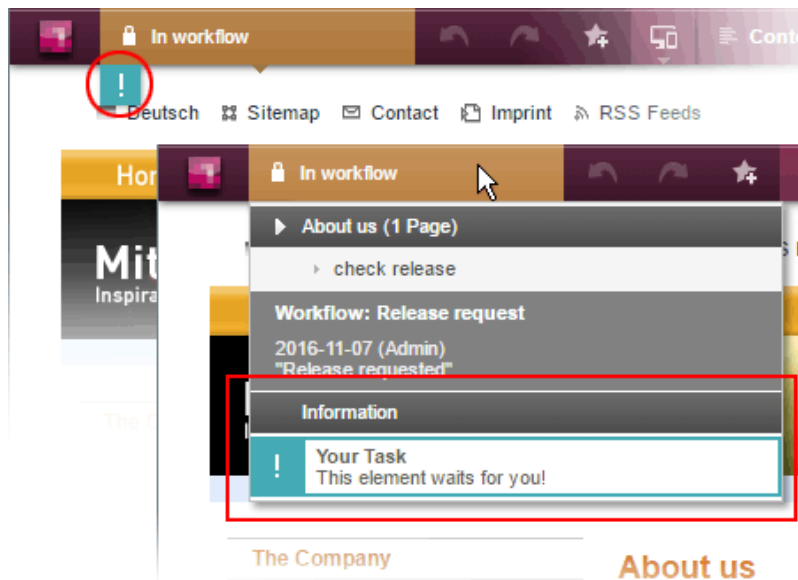
In this example, an entry is added to the status menu if the current page is in a workflow. Additionally, a prominent "!" icon will be displayed underneath the page status display if the user has been explicitly set as an editor in the workflow. This example is implemented in the "ContentCreator Examples", 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*).

18.4 ContentCreator: Modify view of the dialog "Manage media" (de.espirit.firstspirit.webedit.plugin.media) `5.2R7`

By using the package **de.espirit.firstspirit.webedit.plugin.media** (FirstSpirit Developer API) it is possible to implement project-specific extensions for the dialog "Manage media" in the Content-Creator.
The new methods in the interface **MediaManagementContext**

- **refresh()** it is possible to refresh the view of the dialog (e.g. when a new medium has been added)

- **show(MediaFolder folder)** it is possible to display a specific folder.

18.5 ContentCreator: Opening the "Edit image section" dialog via API `5.2R5`

Image sections (crops) of media elements of type "Picture" may be edited in ContentCreator using a specialized dialog:
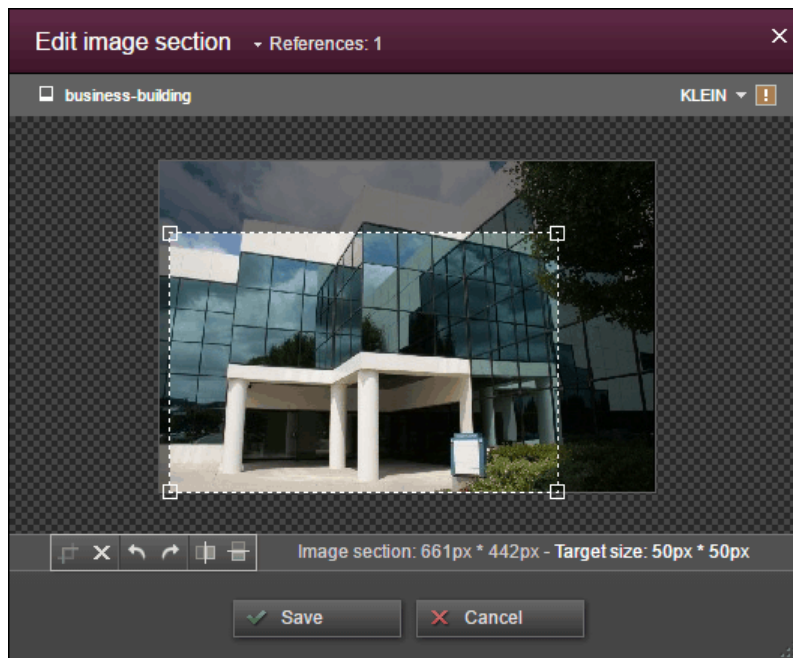
As of the current FirstSpirit version, this dialog may now be opened via the FirstSpirit Developer API:

```
de.espirit.firstspirit.webedit.server.CropDialogOperation
```

The parameter **media** passed to the method **setMedia(Media media)** specifies the media element which should be edited.

The parameter **resolutions** passed to the method **setResolutions(List<Resolution> resolutions)** contains resolutions of the image which should be available for editing in the dialog. If this list contains no resolutions or only resolutions which are unknown within the current project, all resolutions specified in the project, with the exception of the resolution "ORIGINAL", will be made editable. If the list contains several other resolutions along with "ORIGINAL", the resolution "ORIGINAL" will be ignored and not made available for editing.

The following example script ("cc_crop") opens the image section dialog if an image is dropped onto an accordingly configured FS_BUTTON input component in the preview.

```
import de.espirit.firstspirit.agency.LanguageAgent;

import de.espirit.firstspirit.agency.OperationAgent;

import de.espirit.firstspirit.agency.ResolutionAgent;

import de.espirit.firstspirit.agency.TransferAgent;

import de.espirit.firstspirit.access.store.IDProvider;

import de.espirit.firstspirit.access.store.mediastore.Media;

import de.espirit.firstspirit.webedit.server.CropDialogOperation;

if (dropdata == null) {

    return false;

}

transferAgent = context.requireSpecialist(TransferAgent.TYPE);

elements = dropdata.get(transferAgent.getType(IDProvider.class));

if (elements == null || elements.isEmpty()) {

    return false;

}

media = elements.get(0);

if (media == null || !(media instanceof Media) ) {

    return false;

}

languageAgent = context.requireSpecialist(LanguageAgent.TYPE);

lang = null;

for (language : languageAgent.getLanguages().iterator()) {

    if ("EN".equals(language.getAbbreviation())) {

        lang = language;

    }

}

resolutionAgent = context.requireSpecialist(ResolutionAgent.TYPE);

resolutions = new ArrayList();

resolutions.add(resolutionAgent.getResolutionByName("Teaser"));

resolutions.add(resolutionAgent.getResolutionByName("HeaderPicture"));

operations = context.requireSpecialist(OperationAgent.TYPE);

operation = operations.getOperation(CropDialogOperation.TYPE);

operation.setMedia(media);

if (lang != null && media.isLanguageDependent()) {

    operation.setLanguage(lang);

}

operation.setResolutions(resolutions);

operation.perform();
```

Example configuration of the FS_BUTTON input component:

```
<FS_BUTTON
        name="pt_cropButton"
        hidden="yes"
        onDrop="script:cc_crop"
        style="firstspirit"
        useLanguages="no">
    <DROPTYPES>
        <TYPE value="picture"/>
    </DROPTYPES>
    <LANGINFOS>
        <LANGINFO lang="*" label="Crop a Picture"/>
    </LANGINFOS>
</FS_BUTTON>
```

Example for HTML output:

```
<span$CMS_VALUE(fsbutton(editorName:"pt_cropButton"))$></span>
```

If a media element that is of type **File** or is an object of type **Picture** which does not contain image data is passed to the method **setMedia(Media media)**, according exceptions will be logged to the file **fs-server.log**, and the image section dialog will not be opened.

For further information about image section editing in ContentCreator, see *FirstSpirit Manual for Editors (ContentCreator),* chapter "Editing a preview page / Media", section "Edit image sections".

18.6   ContentCreator: Use of "setTitle" for a dialog's main title   5.2.611, 5.2R7

The interface **ShowFormDialogOperation** (package **de.espirit.firstspirit.ui.operations**, FirstSpirit Developer API) allows creation and configuration of project-specific dialogs for both SiteArchitect and ContentCreator.

In ContentCreator, the title text that may be set for such a dialog via the method **setTitle(String title)** is now also used for the dialog's main title (berry-colored background), e.g.
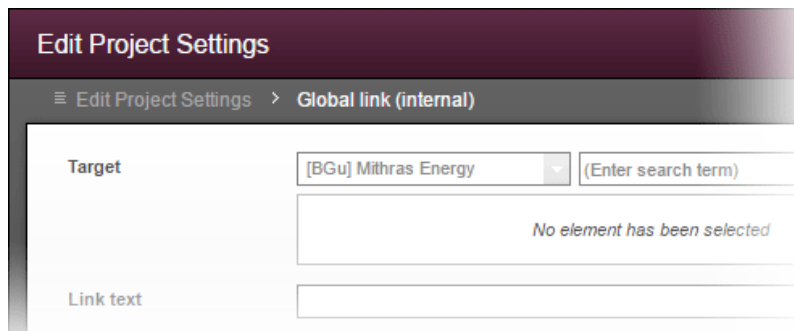
Previously, the title text was only used in the dialog's secondary labeling (grey background), and the main title text could not be influenced:
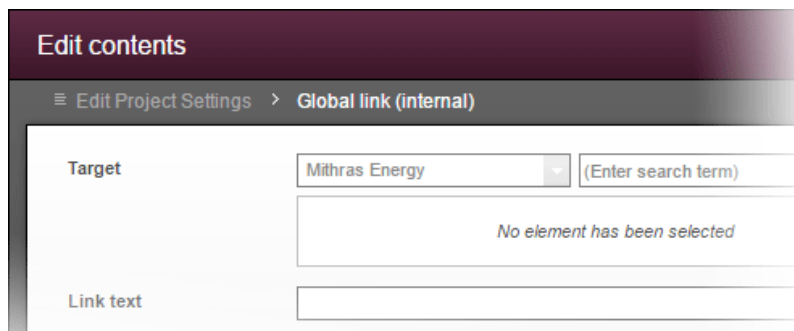
18.7   ContentCreator: Using dropdown menus via API   5.2R5

The newly-added interface **SelectOptionOperation** (FirstSpirit Developer API, package **de.espirit.firstspirit.webedit.server**) allows developers to use a lightweight dropdown menu for selection of a value within the ContentCreator preview, e.g.

In this example, the dropdown menu appears upon clicking an FS_BUTTON input component rendered in the preview ("Select an option") and configured as follows:

```
<FS_BUTTON
        name="pt_selectOption"
        hidden="yes"
        onClick="script:cc_select_operation"
        style="firstspirit"
        useLanguages="no">
    <LANGINFOS>
        <LANGINFO lang="*" label="Select an option"/>
        <LANGINFO lang="DE" label="Wählen Sie eine Option"/>
    </LANGINFOS>
</FS_BUTTON>
```

The dropdown menu allows selection among options 1 through 5. These options can be added to the dropdown using the method **SelectOptionOperation#addOption(String label, String value)**. Every single call to this method can add one item to the dropdown menu, where **String label** is the human-readable label shown in the menu and **String value** represents the internal value.

Example script ("cc_select_operation"):

```
import de.espirit.firstspirit.webedit.server.SelectOptionOperation;
import de.espirit.firstspirit.agency.OperationAgent;
import de.espirit.firstspirit.ui.operations.RequestOperation;
operations = context.requireSpecialist(OperationAgent.TYPE);
operation = operations.getOperation(SelectOptionOperation.TYPE);
operation.addOption("Option 1", "1");
operation.addOption("Option 2", "2");
operation.addOption("Option 3", "3");
operation.addOption("Option 4", "4");
operation.addOption("Option 5", "5");
selection = operation.perform();
if (selection != null) {
    request = operations.getOperation(RequestOperation.TYPE);
    request.perform("Your selection: " + selection);
}
```

Once the user selects an item in the dropdown list, this selection is then output in a dialog.

The FS_BUTTON can be rendered in the preview using the function **fsbutton(...)**:

```
<span$CMS_VALUE(fsbutton(editorName:"pt_selectOption"))$></span>
```

See also *Plug-In Development / ContentCreator Extensions / Interactive Features / Selection Lists* (→*FirstSpirit Online Documentation*).

18.8 Creating maintenance mode schedule tasks via API 5.2.518, 5.2R6

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".

18.9 Discontinuation ("Deprecation") of methods for the "Content2" interface `5.2R2`

The following methods in the `Content2` (FirstSpirit Access API, `de.espirit.firstspirit.access.store.contentstore` package) have been discontinued in FirstSpirit version 5.2R2 ("Deprecation") and can be omitted in the next FirstSpirit major version (6.0).

- `delete(Entity entity)`
  [Replacement: `StoreElement.delete()`
  Package `de.espirit.firstspirit.access.store`, Interface `StoreElement`]

- `isLocked(Entity entity)`
  [Replacement: `StoreElement.isLocked()`
  Package `de.espirit.firstspirit.access.store`, Interface `StoreElement`]

- `isLockedOnServer(Entity entity, boolean allSessions)`
  [Replacement: `StoreElement.isLockedOnServer(boolean)`
  Package `de.espirit.firstspirit.access.store`, Interface `StoreElement`]

- `lock(Entity entity)`
  [Replacement: `Dataset#setLock(true)`
  Package `de.espirit.firstspirit.access.store`, Interface `StoreElement`]

- `release(Entity entity)`
  [Replacement: `IDProvider.release()`
  Package `de.espirit.firstspirit.access.store`, Interface `IDProvider`]

- `release(Entity entity, String comment)`
  [Replacement: `IDProvider.release()`
  Package `de.espirit.firstspirit.access.store`, Interface `IDProvider`]

- `unlock(Entity entity)`
  [Replacement: `Dataset#setLock(false)`
  Package `de.espirit.firstspirit.access.store`, Interface `StoreElement`]

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.

For more information and replacement options, see *FirstSpirit Access API.*

18.10 E-mail addresses with special characters in the domain part 5.2R6

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.

18.11 Establishing connections via API in schedule task scripts 5.2.515, 5.2R6

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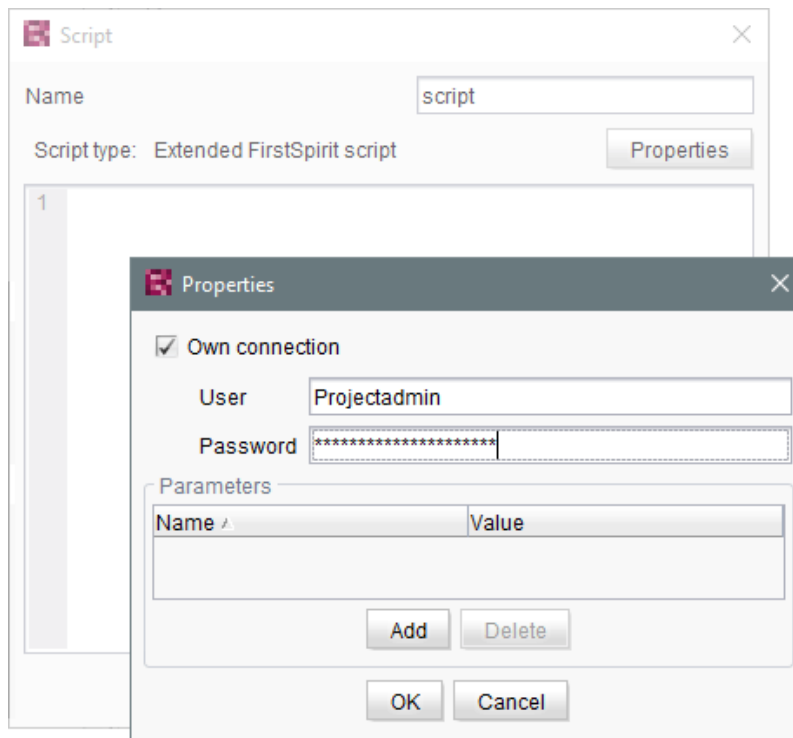
As of the current FirstSpirit version, such a separate connection can also be established via API (interface **ScriptTask**, package **de.espirit.firstspirit.access.schedule**, FirstSpirit Access API). For this, the interface was extended with the following methods:

▪ **getUseCustomConnection()**

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

▪ **getCustomConnectionLogin()**

▪ **setUseSystemConnection()**

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

18.12 Examples for integration of external data sources using generic DataAccessPlugins 5.2R5

As of FirstSpirit version 5.2R5, source code packages are available that contain example modules for integration of external data sources in FirstSpirit using generic DataAccessPlugins. These modules allow integration of web services that use Open Data Protocol (OData) and Simple Object Access Protocol (SOAP), respectively, as data sources for FS_INDEX input components, i.e. such data sources become usable without creating own Java implementations.

Manuals for compilation, installation, configuration, and use of the modules are available in *FirstSpirit Online Documentation*, chapter "Plug-In Development / Examples / Modules: Accessing Web Services via OData/SOAP".

18.13 External Synchronization / Content Transport: Selecting a database layer for import 5.2R5

The functionalities "FirstSpirit Content Transport" and "External Synchronization" allow export of FirstSpirit content from a source project and import of this content into a target project - if desired, on a regular schedule and automated. Among others, a goal of these functionalities is to enable reuse of content independent of projects and servers and to synchronize the content state between different projects. This synchronization can of course include database content as well. During import of a database schema using either of these functionalities, the new interface **LayerMapper** (FirstSpirit Developer API, package **de.espirit.firstspirit.transport**) allows selection of a database layer onto which the schema should be mapped. This enables mapping several schemata onto different layers.

FirstSpirit provides two example implementations:

▪ **LayerMapper.SchemaUidBasedLayerMapper**
  maps schema UID to target layer name.

▪ **LayerMapper.LayerNameBasedLayerMapper**
  maps source layer name to target layer name. This allows mapping of several schemata onto different layers.
  (Not suitable for use with "External Synchronization".)

Custom mappers can be implemented using the API.

The following classes and methods have been marked deprecated in the course of this new implementation:

- "External Synchronization"
  - **`ImportOperation.DatabaseLayerMapper`**

  - **`ImportOperation.MapDatabaseLayerMapper`**

  - **`IDENTITY_LAYER_MAPPING`**

- "Content Transport":
  - **`installFeature(FeatureFile      featureFile,      Map<String,String> layerMapping)`**
    (interface **`FeatureInstallAgent`**, Package **`de.espirit.firstspirit.feature`**)
    has been replaced by: **`installFeature(@NotNull  FeatureFile  featureFile, @Nullable LayerMapper layerMapper)`**

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.

18.14 General information `5.2R2`

It is recommended for all FirstSpirit server updates to newly create all self-produced modules vis-a-vis the new FirstSpirit version, when upgrading to FirstSpirit version 5.2R2, particularly when using the *PreviewParameter* interface (*de.espirit.firstspirit.client.mpp* package). In addition to this, all the installed modules delivered by e-Spirit and all web applications should also always be updated.

18.15 Handling dependent modules `5.2R2`

It is possible to define dependencies between FirstSpirit modules. This takes place using the entry

```
<dependencies>
    <depends>modulname</depends>
</dependencies>
```

in the `module.xml` file for the dependent module ("child").

With FirstSpirit version 5.2R2, both those modules which contain a `<dependencies><depends>` specification ("child"), and those referenced by this specification ("parent") are uninstalled from the FirstSpirit Server ("Uninstall" button) – even if the dependent module is no longer available on the server. "child" modules whose "Parent" module is no longer on the server are visualized in the FirstSpirit Server-Manager ("Server properties / Modules") with an appropriate icon:
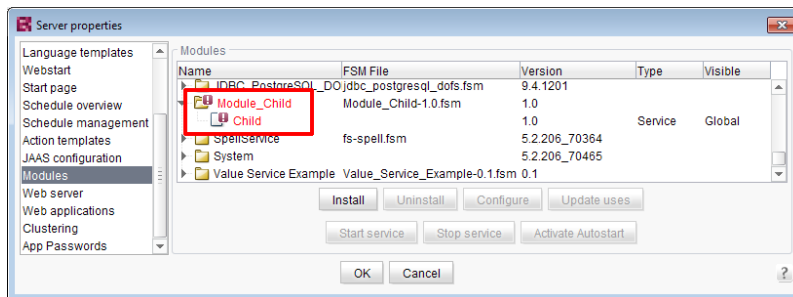
A tool tip lists the names of the missing dependent modules.

It is possible to use the newly implemented `isActive` method (FirstSpirit Developer API, `ModuleAdminAgent` interface) in this context to check whether a module has missing references to other modules.

For more information, see

▪ *FirstSpirit Developer Manual for components (German only)*, chapters "Modul-Ereignisbehandlung" and "Der Modul-Deskriptor"

▪ *FirstSpirit Manual for Administrators*, chapter "Module"

▪ *FirstSpirit Developer API*, `ModuleAdminAgent` interface (`de.espirit.firstspirit.agency` package)

18.16 Identification of server mode (isolated vs. legacy) 5.2.611, 5.2R7

The interface **ServerInformationAgent** (FirstSpirit Access API, package **de.espirit.firstspirit.agency**) provides version information about the FirstSpirit server. The **VersionInfo** object returned by the agent now provides information about the currently active server mode ("Legacy" or "Isolated"). This information may be obtained via the new method **getMode()**:

- **LEGACY**: The FirstSpirit server is running in legacy mode.

- **ISOLATED**: The FirstSpirit server is running in isolated mode.

For further information, see *Isolated mode [Beta]* (→*Manual for Module Developers*).

18.17 Improved detection of identical or compatible module resources 5.2R6

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).

18.18 Individualizing the global FirstSpirit web applications 5.2R4

FirstSpirit builds on the concept of modular extensibility by customers and partners. This means that the FirstSpirit standard functions can be adjusted relatively easily to the specific requirements of the projects in question by means of individual, project-specific enhancements (such as input components, services, applications).

Previously, configurable instances of the FirstSpirit web applications that were local to the project had to be created for these individual enhancements. This is still possible.

With FirstSpirit version 5.2R4, however, it is also possible to adapt the global FirstSpirit web applications (fs5root, fs5preview, fs5webedit, etc.) individually, significantly reducing the amount of memory needed, particularly in a corporate environment with many projects. This feature could be released on request in FirstSpirit version 5.2R3 via the e-Spirit Technical Support, with FirstSpirit version 5.2R4 this functionality can be used by default without any need for activation by the e-Spirit Technical Support.

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

▪ Chapter "Individualizing the FirstSpirit web applications"

▪ Chapter "Web applications"

18.19 Individualizing the global FirstSpirit web applications (BETA!) 5.2R3

FirstSpirit builds on the concept of modular extensibility by customers and partners. This means that the FirstSpirit standard functions can be adjusted relatively easily to the specific requirements of the projects in question by means of individual, project-specific enhancements (such as input components, services, applications).

Previously (prior to FirstSpirit version 5.2R3), configurable instances of the FirstSpirit web applications that were local to the project had to be created for these individual enhancements. This is still possible in 5.2R3.

With FirstSpirit version 5.2R3, however, it is also possible to adapt the global FirstSpirit web applications (fs5root, fs5preview, fs5webedit, etc.) individually for the first time, significantly reducing the amount of memory needed, particularly in a corporate environment with many projects.

The following use case should illustrate the advantages of the new strategy:

An individual report (and/or an EasyEdit action, JSP tag lib, executable, etc.) is to be added to the ContentCreator. The necessary classes are defined in a module in a web app component and the module is installed on the FirstSpirit Server.

ContentCreator as local project instance: A ContentCreator instance that is local to the project is then created for each project that is to use the new functionality (report, JSP tags, etc.) and the application is configured with the web app component (from the module) (add, configure, deploy).

Aside from the amount of work involved, one ContentCreator instance for n projects also means that n instances of the application are stored on the front-end side, which can potentially take up a lot of memory on the front-end server.

New functionality – ContentCreator as global, individualized web application: By contrast, the new functionality can be used to add individual web app components directly to the global web application. To do this, the desired web app component is simply added and deployed via the FirstSpirit ServerManager in the "Server Properties / Web applications" area. The added enhancements are now available to all projects on the server (for which no local project ContentCreator instance has been configured). If, for example, a JSP tag lib has been provided via the web app component, the corresponding tags can then be used in all projects. It is no longer necessary to create instances that are local to the project. Instead of n instances, only one instance now needs to be stored on the front-end side.

> **!** This functionality is currently still in the beta stage and should not be used in live environments. It can be released on request in FirstSpirit version 5.2R3 via the e-Spirit Technical Support.

Further prerequisites:

Scope: The introduction of the new functionality has also changed the scope of the components. Previously, web applications only had "local web" visibility, i.e., after installing the module, they had to be added to the desired web areas in the projects and were then available in the relevant project.

A second, server-wide scope has now been added to this existing scope. The `scopes` attribute, which can be used within the module declaration, has been added for this purpose. Possible values:

```
<web-app scopes="global">
```

```
<web-app scopes="project">
```

```
<web-app scopes="global, project">
```

If a new web application is added via the ServerManager in the "Server Properties / Web applications" area, only components with the `global` scope can be assigned to this application. Conversely, only web components with the `project` scope can be assigned to a project (in the "Project Properties / Web components" area).

For developers, web app components differ according to their scope with regard to the information available via the "SpecialistsBroker". Web applications that are local to a project have a "WebEnvironment" which inherits from the "ProjectEnvironment" and they receive (via the `#getBroker` method) a (project-specific) instance of the type `SpecialistsBroker`.

For global web applications, the "WebEnvironment" returns a project-independent instance of the type `SpecialistsBroker` when `#getBroker` is called, and therefore returns "null" when `#getProject` is called.

```
<module>
    ...
    <components>
     ...
       <web-app scopes="global">
          ...
       </web-app>
    </components>
</module>
```

Configuration: The configuration options of the web components also need to be looked at in more detail according to the scope. Previously, a configuration for a web application was always local to a project, i.e., special values could be entered in the relevant configuration GUI for each individual project. For a global web application, the initial configuration can only take place at a global level. However, it is also possible to carry out an additional configuration that is local to a project for global web app components, e.g., via an additional project application which is also part of the module.

```
<module>
    ...
    <components>
     ...
       <web-app scopes="global">
          ...
          <configurable> MyGlobalAppConfigPanel </configurable>
       </web-app>

       <project-app>
          ...
          <configurable> MyProjectAppConfigPanel </configurable>
       </project-app>
          ...
    </components>
</module>
```

For more information on developing and configuring web applications, see also

- *FirstSpirit Manual for Administrators*, chapter "Web applications"

- *FirstSpirit Developer Manual for components (German only)*

18.20 Isolated mode (BETA) - Realignment of module development 5.2R6

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):
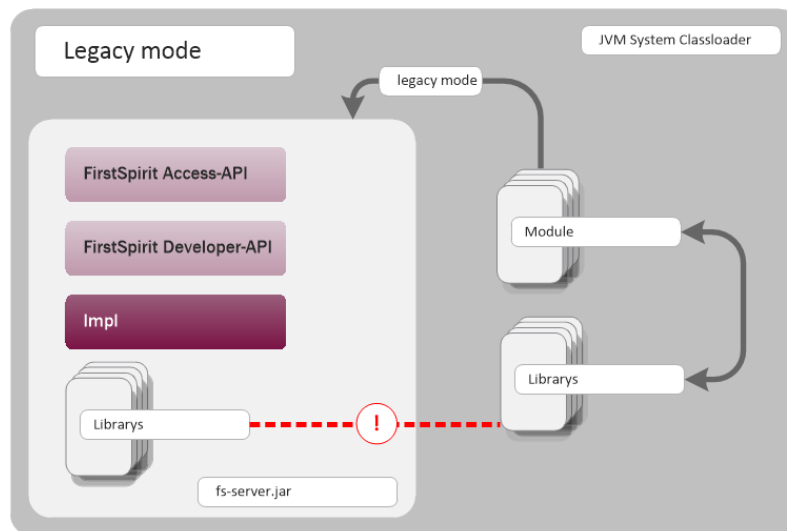
Module development (previous behavior)

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.
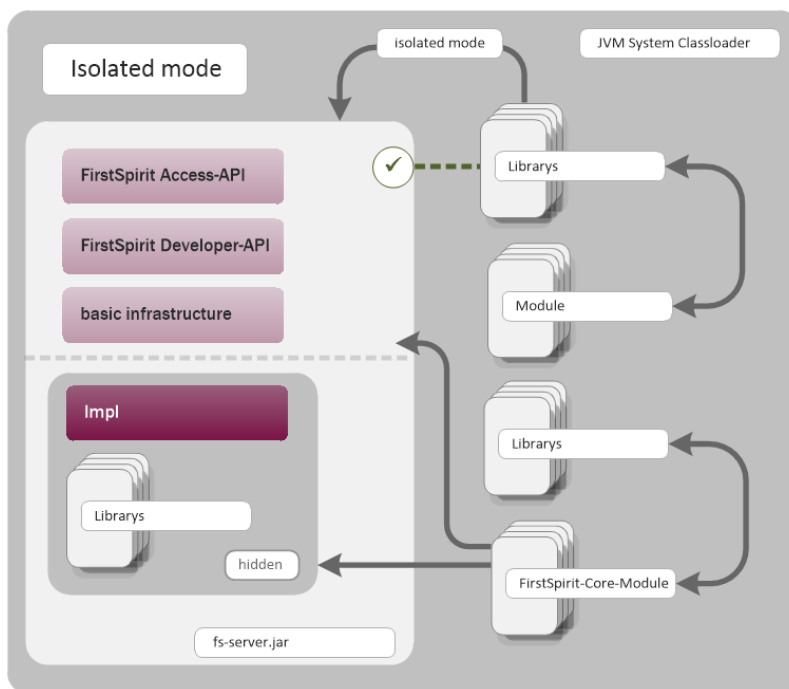
Module development (future behavior)

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.)

18.21 Method save() observes the option "Server locks in content store"

5.2R2

The project properties in ServerManager offer the option "Server locks in content store" (ServerManager / Project / Properties / Options). If this option is activated, data sources can only be edited by one user exclusively; other users cannot modify datasets in that data source concurrently.
Attempts to save a Dataset object via the API method `save()` without a preceding lock operation via the method `lock(true)` will cause

- saving to fail with an error message (in the form of "java.lang.IllegalStateException: dataset 321 not locked") if this option is **active**,

- a warning (in the form of "WARN 05.10.2015 15:14:59.001 (de.espirit.firstspirit.store.access.contentstore.DatasetImpl): dataset 321 not locked. please make sure the dataset is locked prior to saving.") to be logged to the file `fs-server.log` if the option is **not active**. In this case, saving is possible.

For further information about the option "Server locks in content store", see

- *FirstSpirit Manual for Administrators*, Chapter "Options"

- *Documentation for FirstSpirit SiteArchitect*, Chapter "Procedure in multi-user operation"

18.22 Methods for determining the absolute path to the schedule entry directory 5.2R2

Using the new `getFolderPath` method in the `JobAgent` interface (FirstSpirit Developer API, Package `de.espirit.firstspirit.scheduling.agency`), it is now possible to access the absolute path to the entry directory.

18.23 Multi Perspective Preview: Creating and configuring viewports via API 5.2R6

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"):
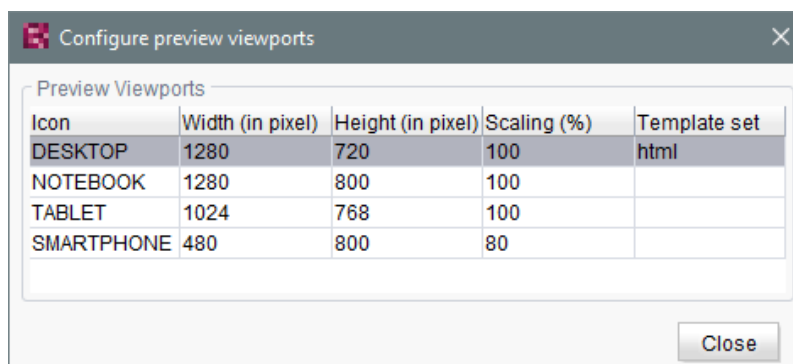
As of the current FirstSpirit version, such viewports can now be created, modified, and deleted via API. The package `de.espirit.firstspirit.access.project.mpp` (FirstSpirit Developer API) contains the following interfaces:

- 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*).

18.24 New Interfaces to Open Version Comparison and Merge Dialogs 5.2R3

FirstSpirit version 5.2R3 introduces new interfaces (both in the package **de.espirit.firstspirit.ui.operations**, FirstSpirit Developer-API) to support comparison and merge functionality, respectively, for revisions:

- **OpenComparisonDialogOperation**

- **OpenMergeDialogOperation**

Example for OpenComparisonDialogOperation:

```
import de.espirit.firstspirit.agency.OperationAgent;
import de.espirit.firstspirit.ui.operations.OpenComparisonDialogOperation;
import java.io.StringReader;
operationAgent = context.requireSpecialist(OperationAgent.TYPE);
operation = operationAgent.getOperation(OpenComparisonDialogOperation.TYPE);
operation.setDialogTitle("Title");
operation.setOriginalHeader("Original");
operation.setModifiedHeader("Modified");
originalText = "Deleted My Original Text";
modifiedText = "My Modified Text Inserted";
operation.perform(originalText, modifiedText);
return 0;
```
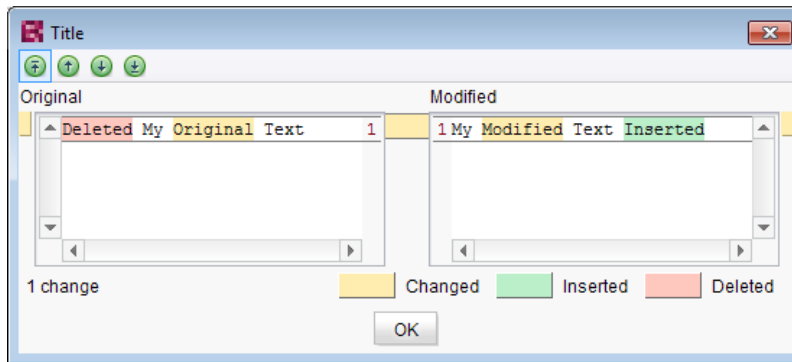
Comparison (OpenComparisonDialogOperation)

Example for `OpenMergeDialogOperation`:

```
import de.espirit.firstspirit.agency.OperationAgent;
import de.espirit.firstspirit.ui.operations.OpenMergeDialogOperation;
import java.io.StringReader;
operationAgent = context.requireSpecialist(OperationAgent.TYPE);
operation = operationAgent.getOperation(OpenMergeDialogOperation.TYPE);
operation.setDialogTitle("Title");
operation.setOriginalHeader("Original");
operation.setModifiedHeader("Modified");
originalText = "Deleted\nSome\nOriginal\nText";
modifiedText = "Some\nModified\nText\nInserted";
resultingText = operation.perform(originalText, modifiedText);
print("Merge result = '" + resultingText + "'");
return 0;
```
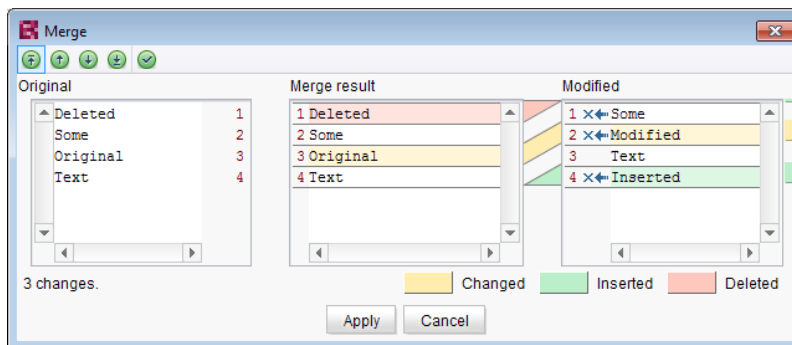

Merge (OpenMergeDialogOperation)

18.25 New Method for Cancelling Maintenance Mode 5.2R3

FirstSpirit supports a maintenance mode which may be used to shut down the server at a pre-planned time in order to perform updates or other system maintenance. Depending on configuration, users may be prohibited from logging onto the FirstSpirit server or opening specific projects, while currently logged on users will receive a notification that the FirstSpirit server is about to be shut down. Maintenance mode is controlled by a schedule task (ServerManager / Server / Properties / Schedule Management / Action "Maintenance mode"). In this task, the duration of maintenance mode may also be specified (option "Estimated duration").

Configuration of a maintenance mode task

The new method **boolean stopMaintenance(long scheduleEntryId)** (FirstSpirit Access API, Package **de.espirit.firstspirit.access**, Interface **AdminService**) may be used to cancel maintenance mode via the API, e.g. if the maintenance tasks have been completed sooner than planned (and specified in the schedule task's "Maintenance mode" action).

The ID of the schedule task that was used to start maintenance mode must be provided using the parameter `scheduleEntryId`. The method returns `true` if maintenance mode was cancelled successfully.

For further information about configuring maintenance mode, see *FirstSpirit Manual for Administrators*, chapter "Maintenance mode".

18.26 New interfaces and methods for implementing personal schedule actions 5.2R3

FirstSpirit schedule entry planning enables time-controlled execution of actions ("tasks") at server/project level. Associated actions can be combined in one schedule. From FirstSpirit version 5.2R3 onward, the following FirstSpirit Developer API interfaces and methods enable the implementation of further functions for self-implemented actions, which can be used to access and further process information from other actions, for example:

- `Generating` interface (`de.espirit.firstspirit.scheduling.aspects` package):
  This interface is used to identify a generation schedule and, for example, to query the status of the schedule and the number of generated pages.

- `GenerationAgent` interface
  (`de.espirit.firstspirit.scheduling.agency` package):
  This interface is used specifically to respond to generation schedules.

- `getAspect` method
  (`ScheduleTaskControl` interface, `de.espirit.firstspirit.scheduling` package):
  Provides aspects of the current schedule.

- `configureGenerateTask(@NotNull ScheduleTaskControl control)` method
  (`DeltaGeneration.ChangeSet` interface,
  `de.espirit.firstspirit.access.schedule` package):
  Configures a control object.

For more information, see also *FirstSpirit Online Documentation*, "Plug-In Development / Server Plug-Ins / Schedule Tasks".

18.27 Recalculation of references for individual elements via ProjectReferencesAgent 5.2R3

If a project contains broken references, the project-level schedule activity "Repair references" may be used to recalculate references within the project. This task operates on the entire project and may take a long time to complete, depending on the project's size.

FirstSpirit version 5.2R3 introduces a new agent, `ProjectReferencesAgent` (FirstSpirit Developer API, package `de.espirit.firstspirit.agency`), which enables recalculation of references for individual elements using the method `rebuildReferences(IDProvider)`. The agent also provides a means to trigger recalculation of all references in the project via API (method `rebuildReferences()`).

18.28 Repairing broken references (rebuildReferences) 5.2R7

Dependencies, also called "references", exist between many FirstSpirit elements. These can be displayed via what is known as a "relation graph" ("Extras / Display dependencies" in the context menu or keyboard shortcut Ctrl + R on the required node in SiteArchitect). A distinction is made between "incoming" and "outgoing" references.
The `rebuildReferences(IDProvider)` method (FirstSpirit Developer API, interface `ProjectReferencesAgent`, `de.espirit.firstspirit.agency` package) can be used to repair "broken" references (which are restored or removed).

More inconsistencies (broken references) can now be repaired with the current FirstSpirit version than was possible in earlier FirstSpirit versions. If the references in question are "broken incoming" references, `rebuildReferences` may have to be called up for both the affected elements.

18.29 Schedules: Creating and configuring an archival schedule action via API (de.espirit.firstspirit.access.schedule.ProjectCleanupTask) 5.2R9

By using the schedule action "Archive old project states" (FirstSpirit ServerManager / Project properties / Schedule management / Add / Actions) it is possible to swap out files which are not longer required (automatically and regularly at a defined point in time), therefore increasing the performance of the FirstSpirit server.
Until now it was only possible to create and configure such a schedule using the graphical interface. With the current version of FirstSpirit, this can also be achieved by using the API. For this purpose the

interface **ProjectCleanupTask** in the package **de.espirit.firstspirit.access.schedule** has been added (FirstSpirit Developer API).

18.30 SwingGadget Development: New Class "SwingFormViewMode" 5.2R9

A SwingGadget is the graphical representation of an input component in the FirstSpirit SiteArchitect. SwingGadgets are implemented in Java and contain graphical interface elements ("Swing") like buttons and input components as well as functional aspects like saving values. Furthermore user interactions and changes are evaluated by SwingGadgets and transferred to the visual representation of the component. Classes and methods required for implementing SwingGadgets can be found in the package **de.espirit.firstspirit.ui.gadgets.swing** (FirstSpirit Developer-API).

With the current version of FirstSpirit this package has been extended by the class **SwingFormViewMode**. Previously this class was available in the non-public API. Making it accessible was necessary because the class **AbstractValueHoldingSwingGadget** existing in the same package **de.espirit.firstspirit.ui.gadgets.swing** contains a method using **SwingFormViewMode** as a return type.

Compiling against the **fs-api.jar** resulted in the error

```
The type de.espirit.firstspirit.ui.gadgets.swing.SwingFormViewMode cannot be resolved.
It is indirectly referenced from required .class files
```

This error message no longer happens with the current version of FirstSpirit, the affected class is now part of the JAR file.

For more information regarding the implementation of SwingGadgets please see also *Plug-In Development / Universal Extensions / Input Components / SiteArchitect* (→*FirstSpirit Online Documentation*).

18.31 Triggering a preview update via API (SiteArchitect and Content-Creator) 5.2.615, 5.2R7

In order to make changes to data visible in the preview (SiteArchitect and ContentCreator), an update of the preview must be triggered. Generally, this happens automatically upon saving forms, sections, pages, datasets, etc.

As of the current FirstSpirit version, it is also possible to trigger a preview update via API for actions and changes that do not affect content-relevant data (e.g. changes made from within a workflow). In the past, preview updates could already be triggered in ContentCreator via `WE_API.Preview.reload()`.

In both SiteArchitect and ContentCreator, an update of the preview may now be triggered via the newly-implemented interface `PreviewOperation` (package `de.espirit.firstspirit.ui.operations`, FirstSpirit Developer API).

- The method `perform()` triggers a reload of the currently displayed preview.

- Using the method `setElement(IDProvider element)`, an ID of an element may be supplied for which the preview should be updated (page reference, page, section, dataset, medium, etc.). If the supplied element cannot be displayed in the preview, an error message indicating this will be output ("The element 'xyz' cannot be displayed in the preview.").

Sample script to trigger a preview update for a page reference (ID 866948):

```
import de.espirit.firstspirit.agency.OperationAgent;
import de.espirit.firstspirit.ui.operations.PreviewOperation;
import de.espirit.firstspirit.agency.StoreAgent;
import de.espirit.firstspirit.access.store.Store;
// -- fetch element from site store
storeAgt = context.requireSpecialist(StoreAgent.TYPE);
sitestore = storeAgt.getStore(Store.Type.SITESTORE);
element = sitestore.getStoreElement(866948);
print(element);
// -- load and perform preview operation with element
operationAgt = context.requireSpecialist(OperationAgent.TYPE);
operation = operationAgt.getOperation(PreviewOperation.TYPE);
operation.setElement(element);
operation.perform();
```

18.32 Update of Web Applications 5.2R4

In its default configuration, a FirstSpirit server uses the integrated Jetty software as HTTP server and servlet engine. If Jetty is deactivated (`INTERNAL_SERVLET_ENGINE=0` in the file `fs-server.conf`), the local FirstSpirit web directory was not updated during an in-place update of the FirstSpirit server software. If this web directory was also used by another web server, this caused the software versions used by this web server to become outdated. As of FirstSpirit version 5.2R4, during every update of

the FirstSpirit server software, the necessary roll-out of the web applications it contains will take place even if Jetty is deactivated.

Moreover, entries of web applications in the file `fs-webapp.xml` whose directories do not exist will be ignored during server start-up. This does not affect FirstSpirit's own web applications.

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

- "Web server configuration (fs-webapp.xml)"

- "Web server"

19 Modules (general)

19.1 Distribution of FirstSpirit web applications as modules (.fsm) `5.2R4`

The global web applications included in FirstSpirit (fs5root, fs5preview, fs5webedit, …) are now provided as FirstSpirit modules (FSM files) - previously, these were provided as Zip files. This change supports a unified distribution mechanism and requires no manual configuration of a FirstSpirit server and/or FirstSpirit projects.

19.2 Distribution of the FirstSpirit web applications as modules (.fsm) `5.2R6`

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`.

19.3 Library dependencies added in FirstSpirit web applications `5.2.515, 5.2R6`

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")

20 Modules: Corporate Content

20.1 ContentTransport: Archival of deleted feature collections 5.2R7

The functionality "FirstSpirit ContentTransport" enables transport of project contents from a source project into a target project. The desired contents are bundled or collected into so-called "features".

Features in the dialog "Create or load a feature" / "Load feature from server" / "Choose"
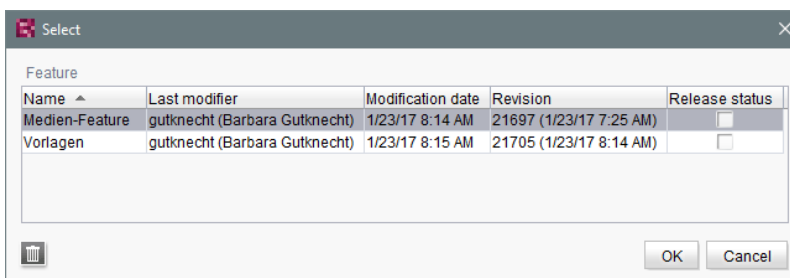
may be deleted from the server using the "Delete" icon:

As of the current FirstSpirit version, these deleted features may be archived and thus removed from the FirstSpirit repository via the schedule action "Archive old project states". To do so, activate the option "System data" in the schedule action:
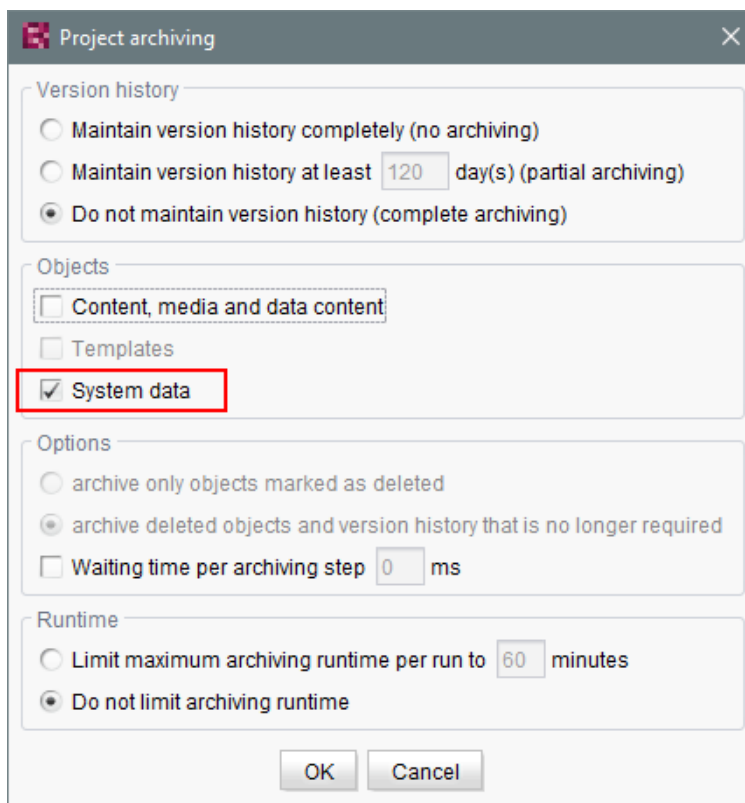
The most recent revision will not be deleted.

For further information, see

▪ Module documentation for "FirstSpirit CorporateContent", chapter "Creating or loading a feature"

▪ *FirstSpirit Manual for Administrators*, chapter "Archive old project states"

20.2 ContentTransport: Deleting feature collections 5.2.611, 5.2R7

The functionality "FirstSpirit ContentTransport" enables transport of project contents from a source project into a target project. The desired content is collected into so-called "Features". Via the button "Save feature"

such a feature may be stored on the server.

In order to simplify the selection of a feature, the "Select" dialog (reached via "Create or load a feature / Load feature from server") has been improved:
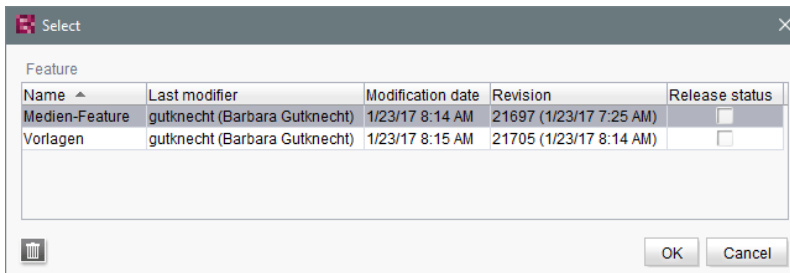
The dialog now allows sorting by column and provides detailed information about a feature in a tool-tip.

Furthermore, in order to improve readability of the feature list, features that were once stored on the server but are no longer needed may now be deleted from the server. Via the button "Delete"

the selected feature or features may be deleted following a confirmation request. Selection of multiple features is possible.

Deletion of feature collections is final and cannot be undone.

For further information, see Module documentation for "FirstSpirit CorporateContent", chapter "Content Transport / Creating or loading a feature".

20.3   Editing multiple packages 5.2R4

The functionality "FirstSpirit Corporate Content" allows automatic distribution of content between different projects on a server.

Creation and maintenance of packages can be carried out via the link "Create or edit a package" or the icon

in the area "Corporate Content" in FirstSpirit SiteArchitect.

Previously, if a package was already opened for editing, the message "You are already editing package '[package name]'. Please close this package first." When creating a new package, this message was displayed only after configuration of the package via the dialog "Create package" took place, and the new package was created regardless of this notification.

As of FirstSpirit version 5.2R4, this message will no longer be displayed. Instead, the newly created or loaded project will be displayed. If another package was loaded already, any modifications to that package will be saved automatically before the newly created or loaded package is displayed.

For further information, see *Documentation for FirstSpirit Corporate Content*, chapter "Creating or loading a package".

20.4   Multisite Management: Export of image resolutions 5.2.611, 5.2R7

The multisite management functionalities "FirstSpirit ContentTransport" and "External Synchronization" enable transport of project contents as well as of project properties, e.g. languages, resolutions, etc.

If resolutions are transported from a source project into a target project using ContentTransport or External Synchronization, e.g.
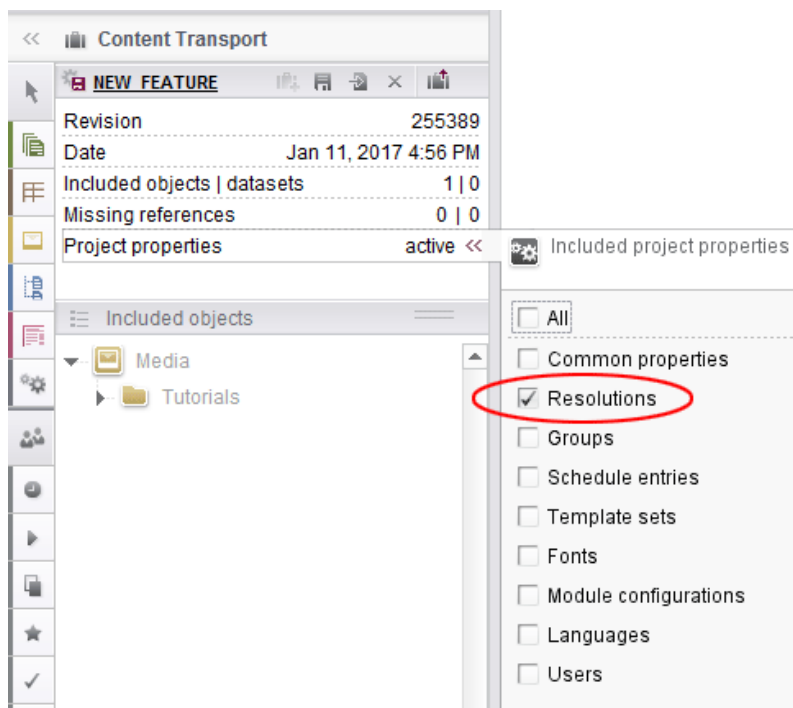
the order of resolutions in the target project now matches their order in the source project.

Display in ServerManager, area "Resolutions":
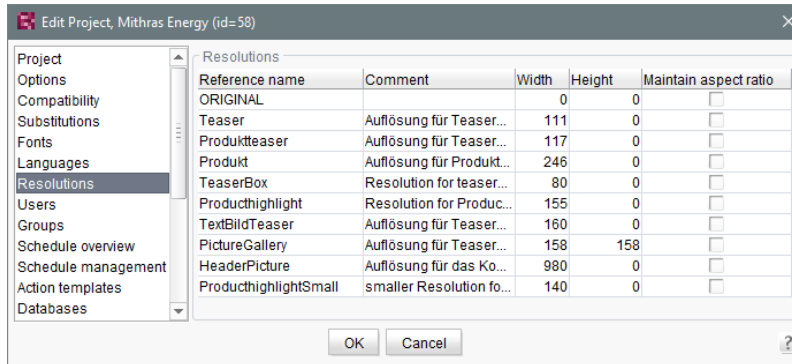
Display in the Media store of SiteArchitect:
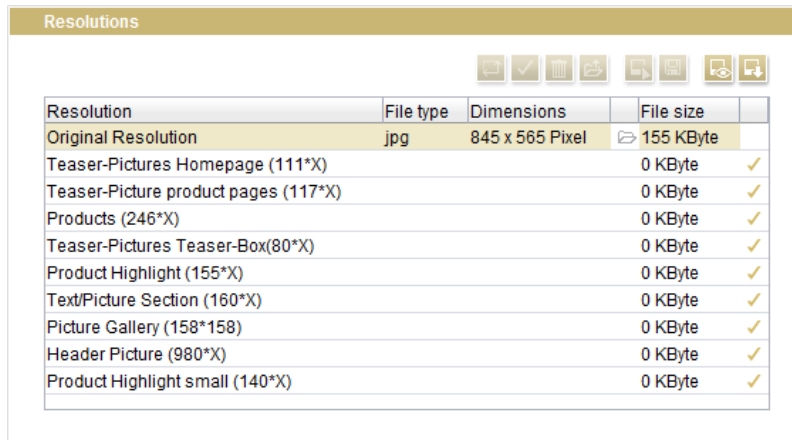
Previously, resolutions were ordered by reference name after export/import.

In order to apply the new behavior, a new export must be made.

For further information, see

▪ Module documentation for "FirstSpirit CorporateContent"

▪ *FirstSpirit Manual for Administrators*, chapter "Resolutions"

20.5   Multisite Management: Transport of table templates into projects with different language counts   5.2.615, 5.2R7

The multisite management functionalities "FirstSpirit ContentTransport" and "External Synchronization" enable transport of project contents and project properties from a source project into a target project.

If a table template is transported from a source project into a target project which is configured with a different set of languages, the columns of languages that are not present in the source will be removed in the target project. Until now, this also caused removal of the mapping for these additional, non-present languages in the target project, e.g.
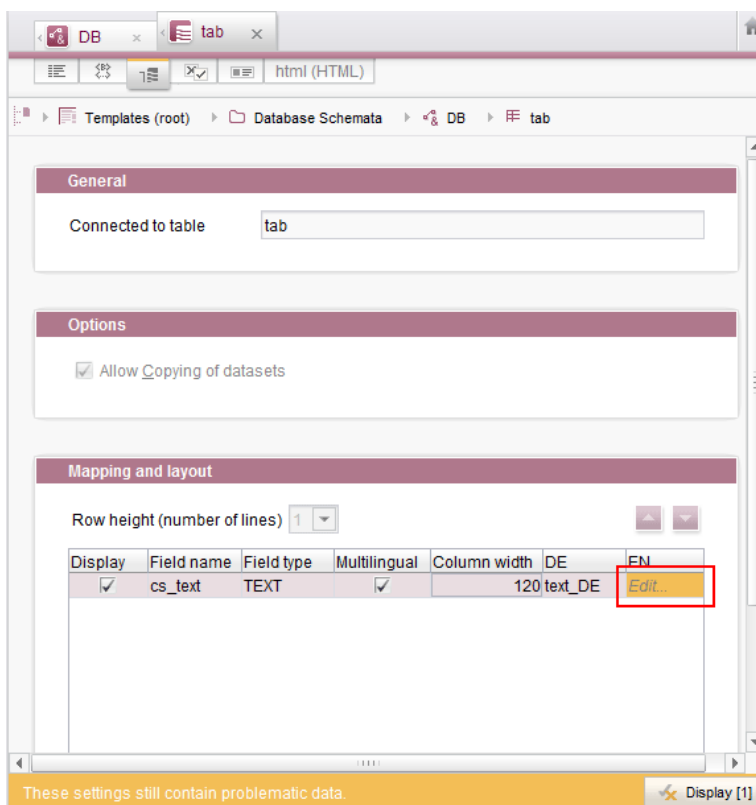
In this case, the mapping had to be adjusted manually if the missing language column was added to the database schema in the target project.

As of the current FirstSpirit version, the mapping will be preserved. In the "Mapping" tab, the missing language column will be visualized with a red highlight after import into the target project:
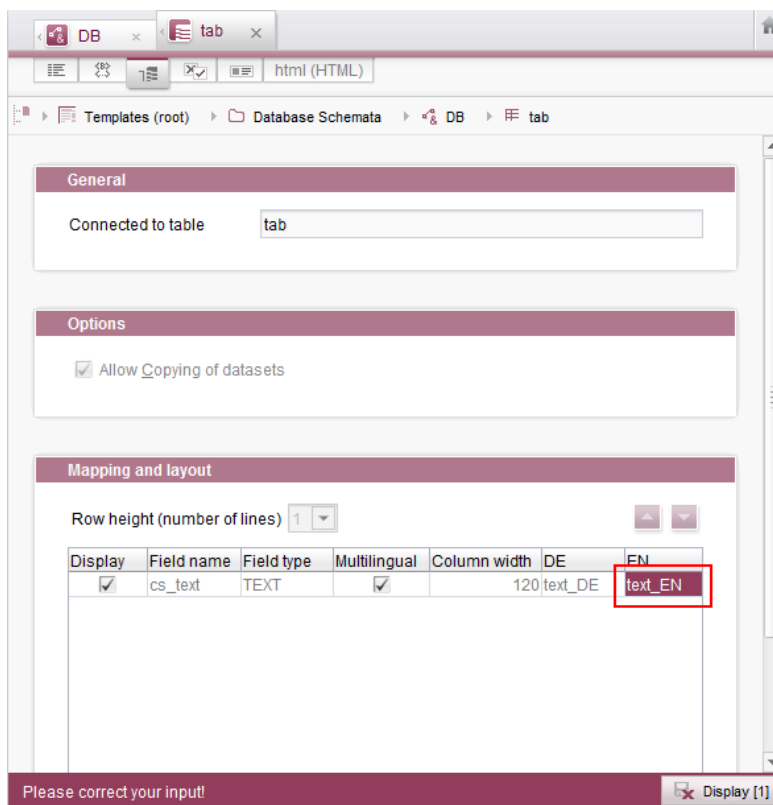
In order to restore the mapping, it is now sufficient to create the missing language column anew in the database schema, e.g.:
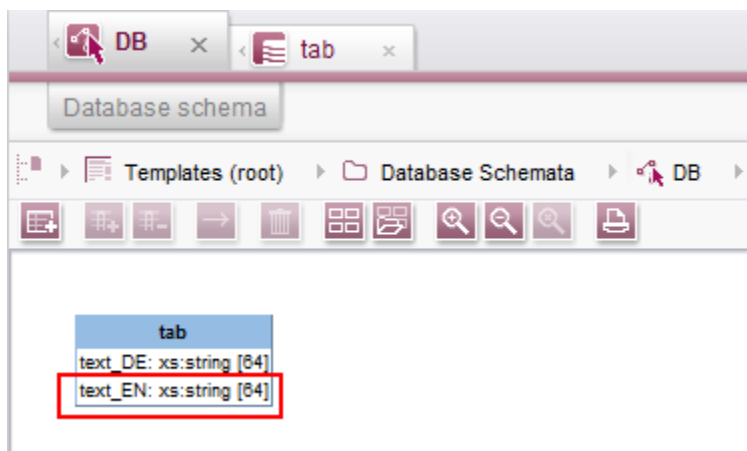
The mapping will then be adjusted automatically.

20.6 Refresh package display 5.2R4

The functionality "FirstSpirit Corporate Content" allows the automated distribution of templates and content among various projects on a server, such that content can be reused comfortably across FirstSpirit projects.

A package with its contents and properties can be shown in the area "Corporate Content" in "Multisite Management".

Using the new icon (from FirstSpirit version 5.2.312) in the icon bar, the display of the current package can be refreshed:
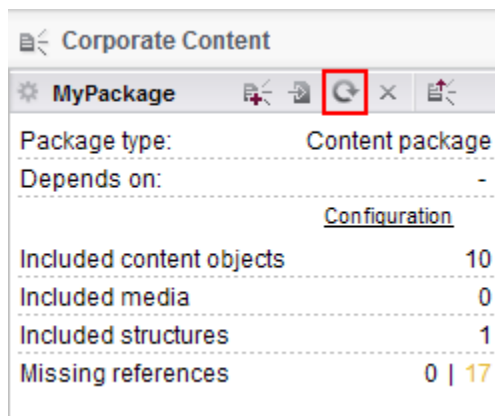
FirstSpirit Corporate Content: Refresh package display

This may be necessary e.g. if an element contained within the package was afterwards modified to include a reference.

For further information, see Module documentation for "FirstSpirit CorporateContent", chapter "Corporate Content (package store)".

21 Modules: Corporate Media

21.1 Limiting selections from remote projects to objects with a release state 5.2R4
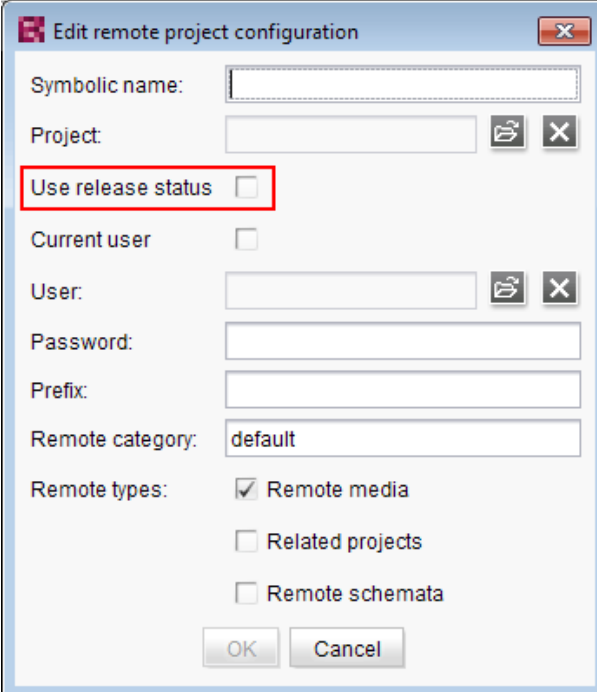
The functionality "FirstSpirit Corporate Media" enables access of elements between different projects on the same FirstSpirit server. In particular, a project (a "target project") may reference elements stored

in another project (a "remote project"), such that objects (e.g. media) that are stored in a central project may be used in many different projects. In this case, the target projects only reference the objects, which remain stored in the remote project.

Referencing objects in remote projects is primarily carried out using the input component FS_REFERENCE. Here, the type of the referenced object is irrelevant: references can be made to media (images and files), page references (Site Structure store), as well as to elements of any other store, including folders. In general, the selection dialog always shows selectable objects in their current state. When a project is generated, only the release states of objects will be included in generation.

From FirstSpirit version 5.2R4, the remote project configuration can be set to only allow selection of objects that have been released at some time. This setting can be configured in FirstSpirit Server-Manager, "Project properties / Remote projects".

If the option "Use release state" is **activated**, the selection dialog will only show objects which have been released at least once. If such an object has been modified after the most recent release, the selection dialog and the preview will show the object in its current state, generation will, however, use the data of the object's most recent release state.

If the option is **deactivated**, the selection dialog will also show objects which have never been released. During generation, this may lead to invalid references and error messages in the generation log that will indicate such invalid references. Using the parameter `autoReleaseAfterUpload` in association with `upload`, media, which are uploaded via the input component FS_REFERENCE, can automatically be released, e.g.

```
<FS_REFERENCE name="st_reference" upload="yes">
    <LANGINFOS>
      <LANGINFO lang="*" label="Remote project"/>
    </LANGINFOS>
    <PROJECTS>
      <REMOTE name="remote" autoReleaseAfterUpload="yes"/>
    </PROJECTS>
</FS_REFERENCE>
```

For further information, see

- *FirstSpirit Manual for Administrators*, chapter "Remote projects"

- *FirstSpirit Online Documentation*, "Template development / Forms / Input components / REFERENCE"

- *Documentation for FirstSpirit Corporate Media*

- *Documentation for FirstSpirit SiteArchitect*, chapter "Reference selection (FS_REFERENCE)"

- *FirstSpirit Manual for Editors (ContentCreator)*, "Editing the preview page / Standard input elements / Reference selection (FS_REFERENCE)"

22   Modules: FOP

22.1   Specify Standard Image Resolution   5.2R4

Apache FOP ("Formatting Objects Processor") allows output of FirstSpirit content in PDF format. The support for Apache FOP in FirstSpirit is realized via a module: *fs-fop.fsm*.

Some image manipulation programs (e.g. Adobe Photoshop) do not specify "dpi" (dots per inch) settings in image files and potentially save files at a resolution of 96 dpi. By default, Apache FOP assumes a

resolution of 72 dpi if the image file does not contain explicit resolution information (see also: http://xmlgraphics.apache.org/fop/0.95/embedding.html). This discrepancy can cause undesired rescaling of images which do not contain resolution information such that these images appear blurry.

As of FirstSpirit version 5.2R4, the structure variable ("Site Structure store / Menu level / Variables")

```
fs_fop_source_resolution
```

specifies the default image resolution for Apache FOP:

▪ If the variable is not explicitly set, an image resolution of 72 dpi will be used.

▪ In order to explicitly set a different default resolution (e.g. 96 dpi), the desired menu level must contain a variable, named as shown above, with the desired value, e.g.
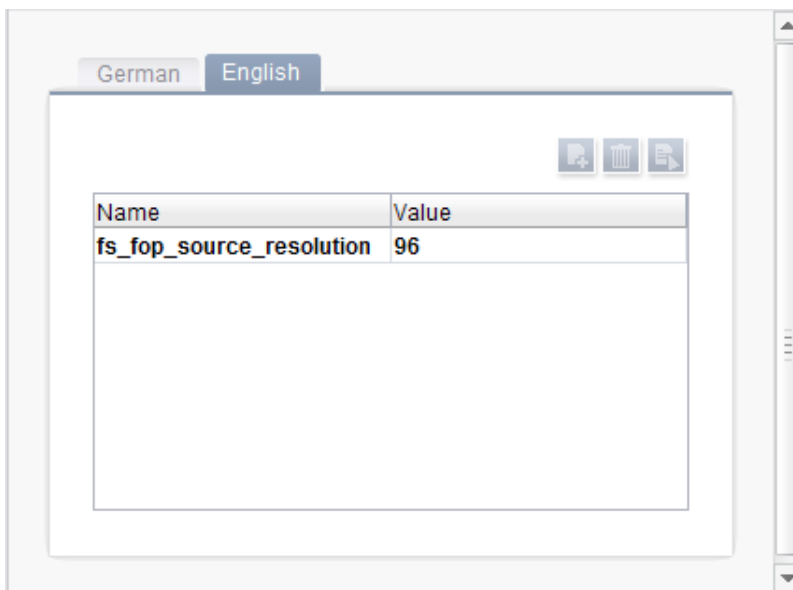
For further information about the definition and evaluation of structure variables, see *FirstSpirit Online Documentation*, "Template development / Variables / Definition and output / in menu levels".

23   Search

23.1   Weighting of Contents in Input Components 5.2R3

Weighting of content in search results may be specified per input component using the attribute `searchRelevancy` within the GOM XML tag of an input component (SiteArchitect: global search, search in data sources | ContentCreator: search in report area). For example, using this parameter, template developers may specify that elements which contain a search term in a headline input component should be displayed more prominently in search results than elements which only contain the search term in a body text input component. Additionally, individual input components may be configured so that their contents be ignored during indexing, which may increase indexing performance.

Input components may be configured with the following attributes in order to specify how their contents are handled during indexing:

- `searchRelevancy="none"`: The content of an input component that is configured with this search relevancy value **will not be indexed**. Pages, sections, and datasets which contain input components configured with this search relevancy value will not appear in search results if the search term only appears in the contents of these non-indexed input components. Searching for contents of such input components using drag-and-drop will yield no results (message "The field is not eligible for search, as it is marked non-relevant for searching."). In data sources, such fields are also marked accordingly in the Simple Search user interface ("Not eligible for searching."):

and
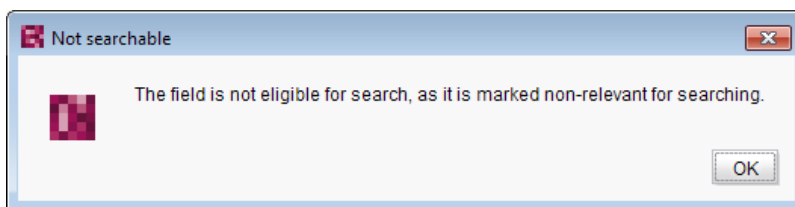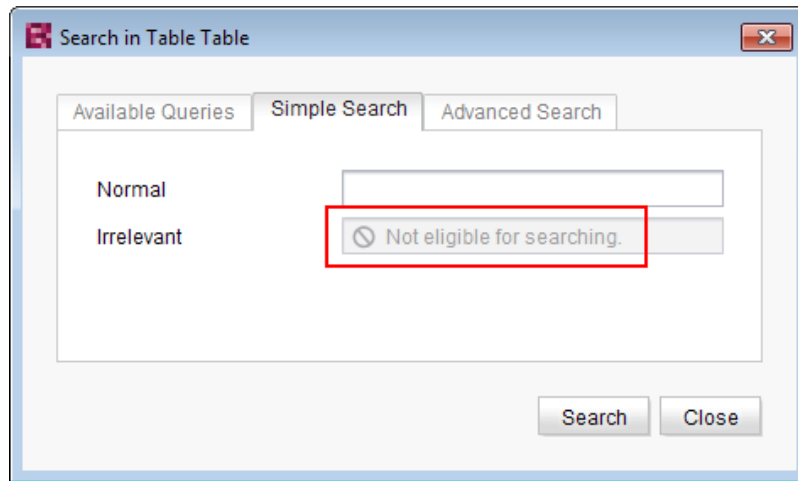
- **`searchRelevancy="default"`**: The input component's content **will be indexed with default weight**. This is the standard setting for input components.

- **`searchRelevancy="high"`**: The content of an input component which is configured with this search relevancy value **will be indexed with a higher weight** and thus displayed more prominently in search results (exception: search for datasets). This means that if a search term appears in both an element with an input component configured for high search relevancy and an element with an input component configured for default search relevancy, the element which contains the search term in a high-relevancy input component will be shown in a higher position in search results.

If the attribute is not specified for an input component, the component's content will be indexed with a default weight (**`searchRelevancy="default"`**).

For nested input components (FS_CATALOG, FS_INDEX, FS_LIST, CMS_INPUT_IMAGEMAP, CMS_INPUT_LINK--also CMS_INPUT_DOM and CMS_INPUT_DOMTABLE with one restriction, see below), input components of inner entries (which are based on other templates) will be indexed as follows:

computed searchRelevancy of input component of inner entry	searchRelevancy input component in template of inner entry		
	High	Default	None
searchRelevancy outer input component — High	High	High	None
Default	High	Default	None
None	None	None	None

- **Outer input component is configured with `searchRelevancy="none"`:**

- **Inner entries will not be indexed** regardless of the `searchRelevancy` settings of input compo-
nents in the templates used for inner entries.

- **Outer input component is configured with `searchRelevancy="default"`:**
  - In inner entries, contents of input components with `searchRelevancy="none"` **will not be indexed**.

  - In inner entries, contents of input components with `searchRelevancy="default"` **will be indexed with normal weight**.

  - In inner entries, contents of input components with `searchRelevancy="high"` **will be indexed with higher weight**.

- **Outer input component is configured with `searchRelevancy="high"`:**
  - In inner entries, contents of input components with `searchRelevancy="none"` **will not be indexed**.

  - In inner entries, contents of input components with `searchRelevancy="default"` and `searchRelevancy="high"` **will be indexed with higher weight**.

In general, **links in values of input components CMS_INPUT_DOM and CMS_INPUT_DOMTABLE** are indexed according to the `searchRelevancy` settings associated with single input components in link forms. However, the link text of a link (the input component which is selected in the link template's "Link text" option) will be indexed with the weighting of the CMS_INPUT_DOM or CMS_INPUT_DOMTABLE component.

Note: "Header fields" of snippets (tab "Snippet" in templates) are also indexed. If an input component is configured with a weighting "none" (`searchRelevancy="none"`) but its value is included in the template's snippet header field, searching for the input component's value will cause the associated element to appear in search results.

Changing the weighting setting of an input component in a template does not immediately affect the indexed data of existing elements based upon that template, and search results will continue to reflect the old weighting until elements based upon that template are modified and saved (at which time they will be reindexed in the background). Alternatively, the entire project or parts thereof may be reindexed via a schedule task or the FirstSpirit APIs, which does not require elements to be changed. However,

reindexing large numbers of elements is memory and CPU-intensive and should only be performed during a planned maintenance period!

For further information, see

- *Documentation for FirstSpirit SiteArchitect*, chapter "The global search" etc.

- *FirstSpirit Manual for Editors (ContentCreator)*, chapter "Search function in the report area" etc.

- *FirstSpirit Manual for Administrators*, chapter "Rebuild search index"

- *FirstSpirit Developer API*, interface `GomSearchRelevancy`
  (package `de.espirit.firstspirit.access.store.templatestore.gom`)

- *FirstSpirit Access API*, interface `SearchService`
  (package `de.espirit.firstspirit.access.search`)

- *FirstSpirit Developer API*, interface `QueryAgent`
  (package `de.espirit.firstspirit.agency`)

24   Security

24.1   Java Vulnerability (Serialization/Deserialization) `5.2R3`

Java applications which use or include the Java libraries

- "Common Collections" (Apache)

- "Groovy"

- "Spring Framework"

may pose a potential security risk: a vulnerability in these libraries enables an attacker to execute code on a server without prior authentication. Further libraries affected by this vulnerability are currently not known.

The FirstSpirit core software itself is not affected by this security threat as it does not use any of the aforementioned libraries.

However, several FirstSpirit Modules used or use at least one of the affected libraries and thus may have been or may be used as vectors for malicious attacks against FirstSpirit.
Furthermore, third-party FirstSpirit Modules may be affected.

FirstSpirit version 5.2R3 includes a bugfix which provides extensive protection against known and unknown attacks which exploit this vulnerability. This fix also protects potentially vulnerable modules (server-side only!). An update to this FirstSpirit version increases the general security of FirstSpirit, e.g. when FirstSpirit is deployed in an unprotected environment.

Several of the aforementioned modules have already received specific bugfixes to protect against this vulnerability.
For further information, see the related posting in the FirstSpirit-Community.
Please direct questions about this subject to e-Spirit Technical Support.

For further information about the vulnerability, see www.foxglovesecurity.com.

25   SiteArchitect / ContentCreator

25.1   Access to FS_INDEX value set   `5.2R2`

FS_INDEX input components save references to data objects (such as those from external web services) using identifiers in string format. These identifiers are provided by the data-access plug-in, which is assigned to the index component in the form definition of a template. To access the actual data in an index entry, the session object for the data-access plug-in must be queried in order to obtain and further process a suitable data object using a string identifier.

For access to the value set of an FS_INDEX input component within presentation channel definitions, an **IndexAccessor** object type is returned, which not only offers access to the saved string identifiers, but also provides a list of the data objects which are relevant to the identifiers and have been resolved by the data-access plug-in.

In FirstSpirit version 5.2R2 and higher, an **IndexAccessor** type object is also returned in snippet definitions in the case of access to the value set for an FS_INDEX input component.

For more information on:

- Working with FS_INDEX, see *FirstSpirit Online Documentation*, "Template development / Forms / Input components / INDEX"

- The IndexAccessor data type, see *FirstSpirit Online Documentation*, "Template development / Template syntax / Data types / IndexAccessor"

- The definition of snippets, see *FirstSpirit Online Documentation*, "Template development / Snippets".

25.2 Dynamic forms: New property "CONTAINERTYPE" 5.2R6

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*).

25.3 Reports: Handling has been improved 5.2.515, 5.2R6

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):
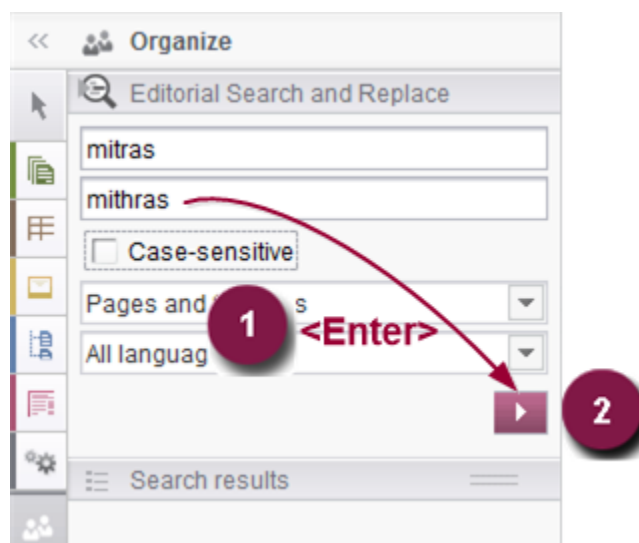
Furthermore, an arrow is used now for the button instead of the display name of the respective report (2).

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).

26   SiteArchitect / ServerManager

26.1   Client Logging   5.2R7

Logging enables FirstSpirit developers and administrators to identify and correct issues. It happens at various places of FirstSpirit, e.g. log messages for actions on the server will be stored in the file **fs-server.log**, log messages for schedules in the file **fs-schedule.*.log** et cetera.

As of the current FirstSpirit version, log messages of SiteArchitect and ServerManager will be stored separately for each started client in a file in the user home directory of the respective user's client workstation in addition to the file **fs-clients.log** (in the directory **log** in the base directory of the FirstSpirit server, only used for exceptions).

▪ SiteArchitect: **.firstspirit*/logs/SiteArchitect*.log**

▪ ServerManager: **.firstspirit*/logs/ServerManager*.log**

The filename contains the client name (e.g. SiteArchitect or ServerManager) and a timestamp of the point of time when the client has been started, e.g.
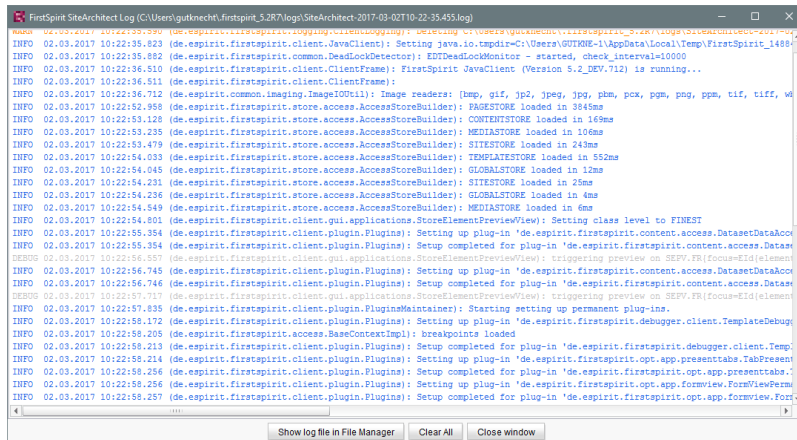
```
SiteArchitect-2017-02-28T13-55-40.067.log
```

Log messages generated by SiteArchitect and ServerManager are therefore now better suited to be sent or uploaded. In order to indicate which log file belongs to which client, the menu "Help" can be used to identify it. The menu entry "Show log file in File Manager"
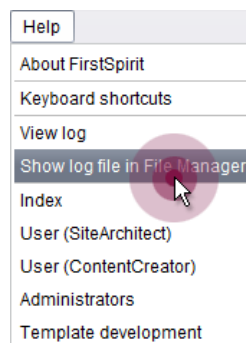
opens the local storage directory. The file with the current logging will be selected. The timestamp as part of the file name helps to identify the log messages of previously closed clients in the storage directory. Log files will be stored up to a total number of 100 files or until all files have reached a combined size of 100 MB. If one of those limits is reached, the oldest log files will be deleted one by one.

With the menu entry "View log" in the menu "Help" it is possible to display the current logging in a separate window:

Log messages are displayed in different colors for each log level in order to improve clarity. By using the button "Clear All" it is possible to clear the log window. This does not affect the contents of the log file.

26.2   Reconnecting after Communication Errors   5.2R5

If a communication error occurred between SiteArchitect or ServerManager and the FirstSpirit server, clients previously needed to be exited manually and restarted after communication with the server was reestablished.

As of FirstSpirit version 5.2R5, active client sessions will no longer be automatically ended in this case. If a communication error occurs, the following dialog will be displayed:
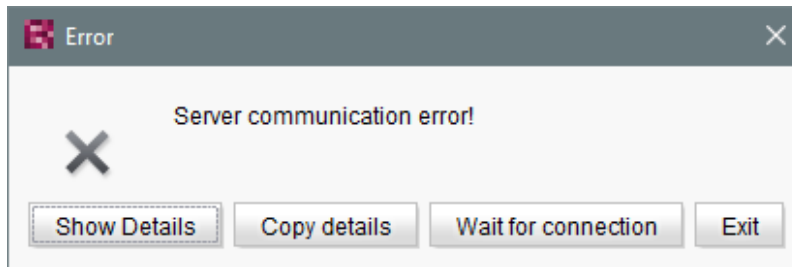
- Clicking "Exit" will close the client.

- Clicking "Wait for connection" will allow a user to continue to work with SiteArchitect or Server-Manager if the connection can be reestablished within 1 minute. The dialog will then close automatically.

- If the user does not click on either button, the message "Server connection re-established" will be displayed if the connection can be reestablished within 1 minute. Clicking on "OK" will close the dialog, and the user can continue to use the client.

If the connection cannot be reestablished within one minute, the message "Server connection closed" will be displayed, and the client must be closed by clicking "Exit".

26.3 Speeding up file selection from directory structure of the client workstation 5.2.515, 5.2R6

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).
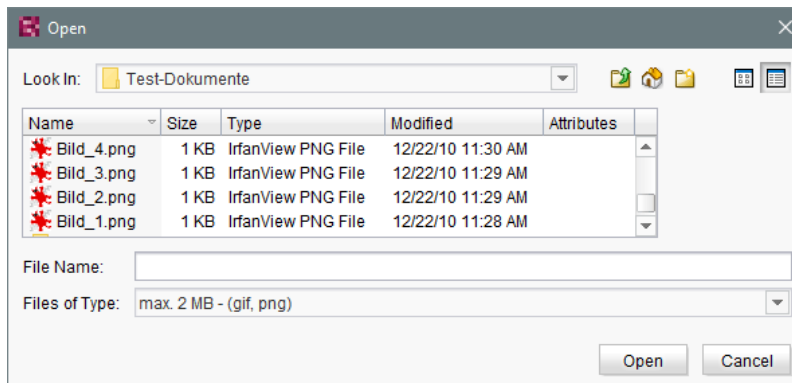
From the current FirstSpirit version onwards, the parameter

```
-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*)

27   SiteArchitect

27.1   'Group exclusion' function for transitions in workflows 5.2R3

A workflow is a sequence of tasks that is completed according to a fixed, predefined structure. In FirstSpirit, this consists of statuses, activities, and transitions, whereby transitions form the link between activities and statuses. Due date deadlines and groups of authorized individuals can be defined in FirstSpirit for the respective tasks. Authorizations are defined for transitions.
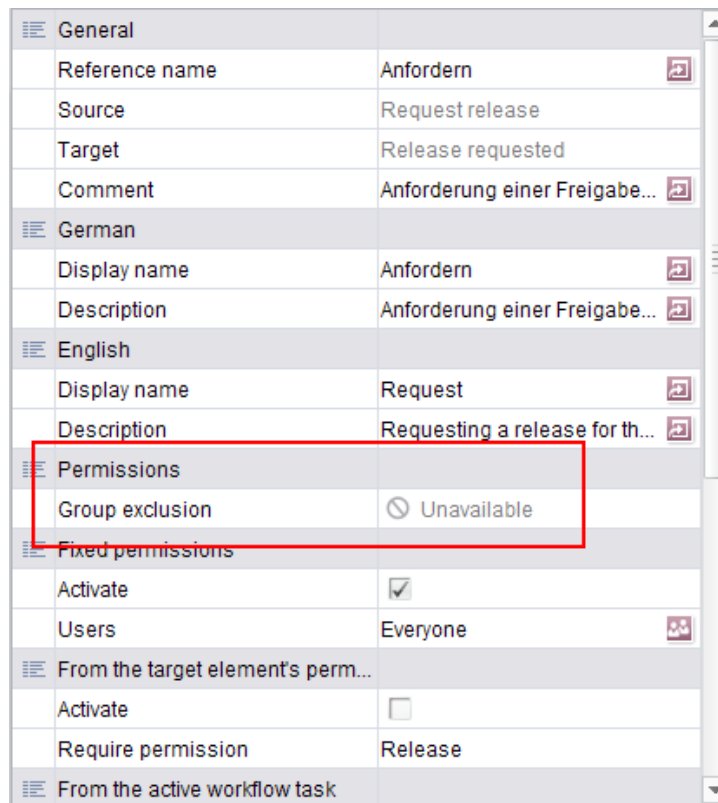
The "Group exclusion" field for a transition ("Permissions" tab) is used to select groups which are not to be preselected as "Next editor" in the workflow dialog:
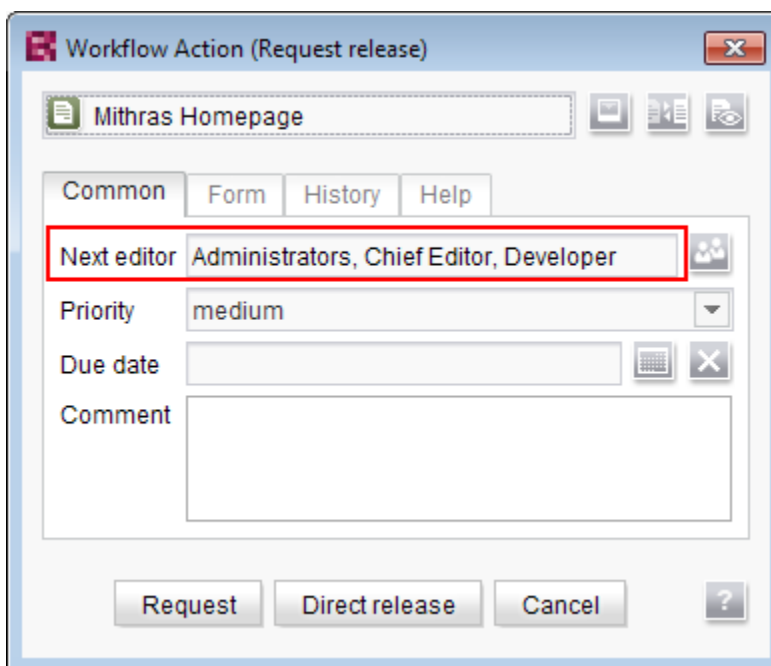
If the user does not explicitly select these groups in the workflow dialog, they will not receive an e-mail message either.

It is only possible to define such a group exclusion for transitions which indicate an activity. From FirstSpirit version 5.2R3 onward, this definition is now also prevented in the GUI for transitions which indicate a status:

In the properties table

and

In the dialog

The group(s) that is/are not to appear automatically as "Next editor" in the workflow dialog must be specified for the transition which indicates the previous activity in the workflow:
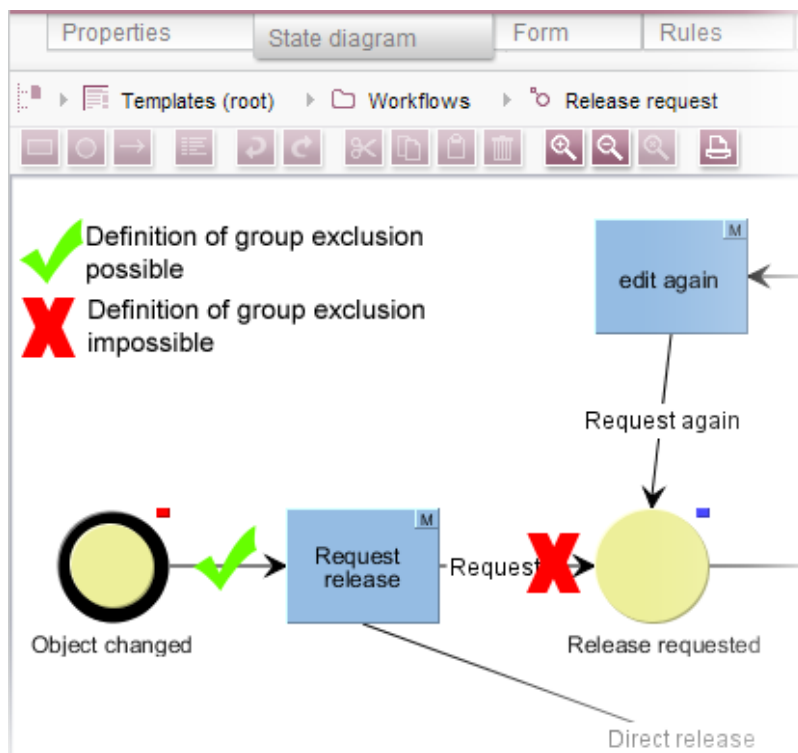
For more information, see also *FirstSpirit Online Documentation*, "Templates (basics) / Composition of templates / Workflows / State diagram tab / Properties of a transition".

27.2   Code completion optimizations 5.2R7

Code completion is available on the "Form" and "Rules" tabs, as well as on the template set tabs.
The Ctrl + Space key combination opens a window of the available tags, parameters, and, if applicable, values.

▪ On the "Form" tab, code completion can be used to insert input components together with their minimum configuration and all available parameters and associated values.

▪ On the "Rules" tab, all available tags and parameters can be shown and inserted, according to their hierarchy.

▪ On the template set tabs, all available instructions in their corresponding syntax, identifiers of input components defined on the "Form" tab, and methods can be inserted.

Some optimizations have been made to the "Form" and "Rules" tabs for the purpose of code completion in the latest FirstSpirit version:

Whereas in the past, the suggestions shown for tag and parameter names were **case-sensitive**, now case is irrelevant for code completion. For example, if the text **<fs** has already been entered on the "Form" tab, pressing Ctrl + Space will show the following suggestions:
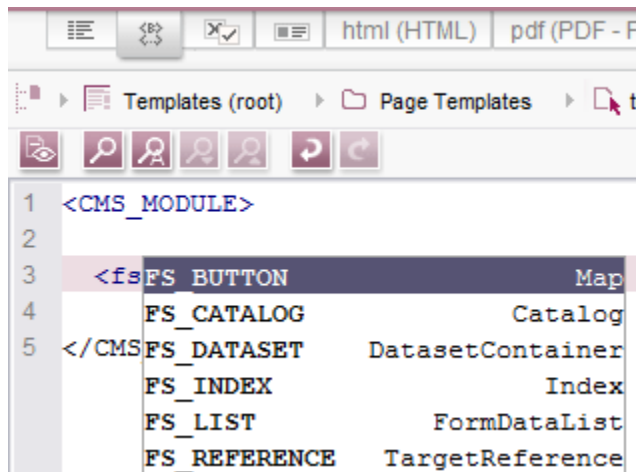
<FS must have been entered previously.

Instead of tags which code completion would close with **/>**, now open tags are generated, which make it easy to generate and work with internal tags.

Example **before 5.2R7**:

```
<FS_INDEX ...>
...
    <SOURCE name="" />
</FS_INDEX>
```

Example **with 5.2R7 or higher**:

```
<FS_INDEX ...>

...

    <SOURCE name="">

    </SOURCE>

</FS_INDEX>
```

Once saved, **<SOURCE name="..."> ... </SOURCE>** is truncated to **<SOURCE name="..." /**
> again.

Furthermore, code completion can now be used to finish the **closing tags** of an element too, if completion is required for such a tag (i.e., one that starts with **</**). The next superordinate opening tag is always closed during this process.

For more information, see *Advanced topics / Input assistance* (→*FirstSpirit Online Documentation*).

27.3   Configuring e-mail messaging in workflows   5.2R2

In FirstSpirit, lists of users and / or groups can be defined for activities and transitions in a workflow. Messages are then sent to these users and / or groups via e-mail when the corresponding workflow step is completed. The "List" field is used for this purpose:
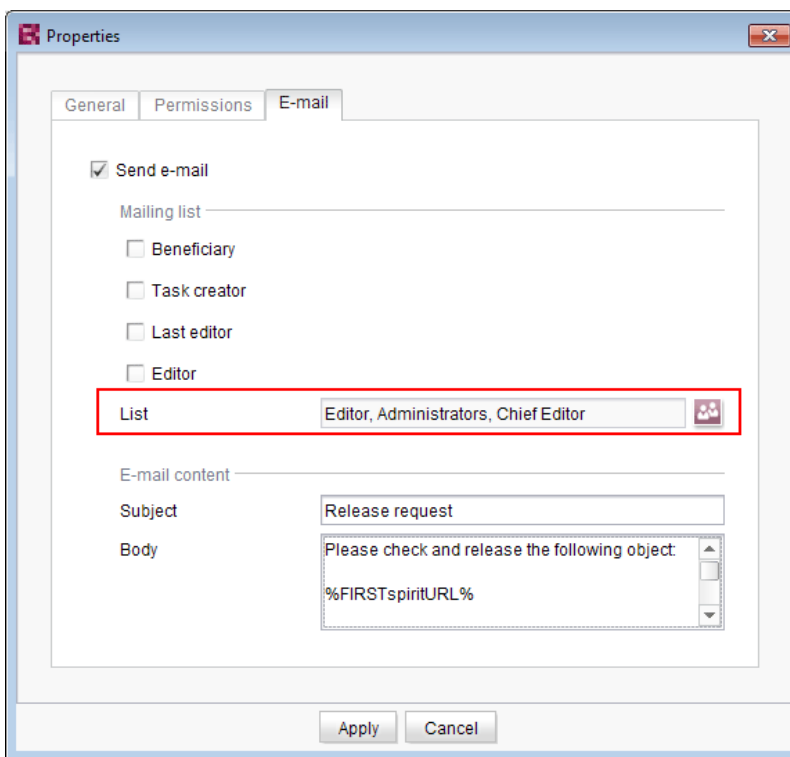
Changes to the design of FirstSpirit SiteArchitect resulted in these lists not being included in some versions of FirstSpirit version series 5.2 and 5.1. This error has been fixed in version 5.2R2-9: If at least one user or group is selected in this field, an e-mail is sent to the selected recipient(s).

> **!** Migration information: If this function was used to define a list in an earlier version of FirstSpirit version series 5.2 or 5.1 (5.2R1, 5.1R1, 5.1R2, 5.1R3, 5.1R4), this list must be redefined following an update to the latest version (5.2R2-9) so that this error fix is applied and e-mails are sent to the users or groups in the defined list.

For more information about configuring workflows, see *FirstSpirit Online Documentation*, "Templates (Basics) / Composition of templates / Workflows".

27.4 Context menu functionality and horizontal toolbar 5.2R5

In FirstSpirit SiteArchitect, the context menus for store tree items have been modified such that context menu entries are now always shown in a consistent order. Furthermore, the drop-down menus associated with the "Preview" and "New" buttons in the horizontal toolbar have been expanded:

The icon for showing the buttons of the horizontal toolbar which are faded out because of lack of column width can be found now at the right-hand edge of each column:

For further information, see *Documentation for FirstSpirit SiteArchitect*,

- "FirstSpirit SiteArchitect / The horizontal toolbar"

- "FirstSpirit SiteArchitect / The horizontal toolbar / Preview"

- "FirstSpirit SiteArchitect / The horizontal toolbar / New"

27.5 Creating a section reference via context menu or keyboard shortcut

5.2R8

A section reference can now also be created via the context menu entry "Paste as section reference" or via the keyboard shortcut Ctrl + Alt + V .

27.6 Display of Default Values in Data Sources 5.2.426, 5.2R5

FirstSpirit's Data Sources store is used to store and manage well-structured content, e.g. press releases, product catalogs, and address lists. The data is displayed in a tabular view:
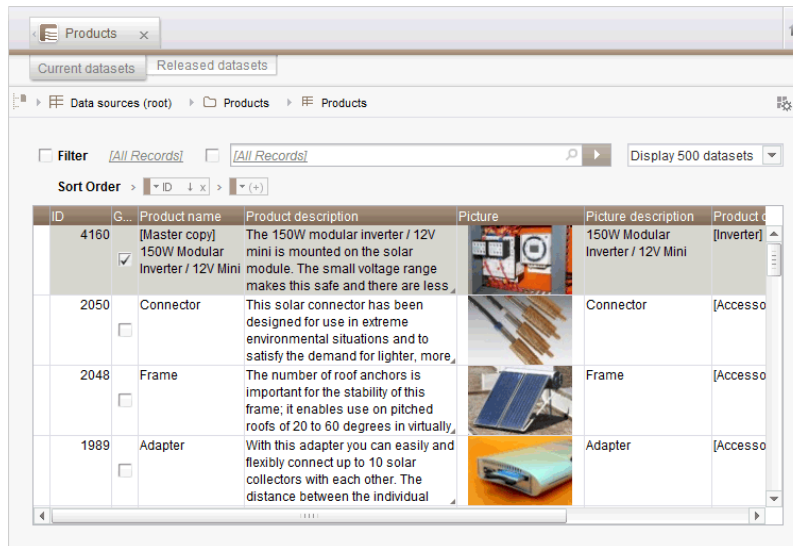
If a template for a dataset defines an input component with a default value and a dataset based on this template does not override this value (i.e. an editor has not entered a value into this input component for that dataset), the detailed dataset view will show a pink frame around this input component:
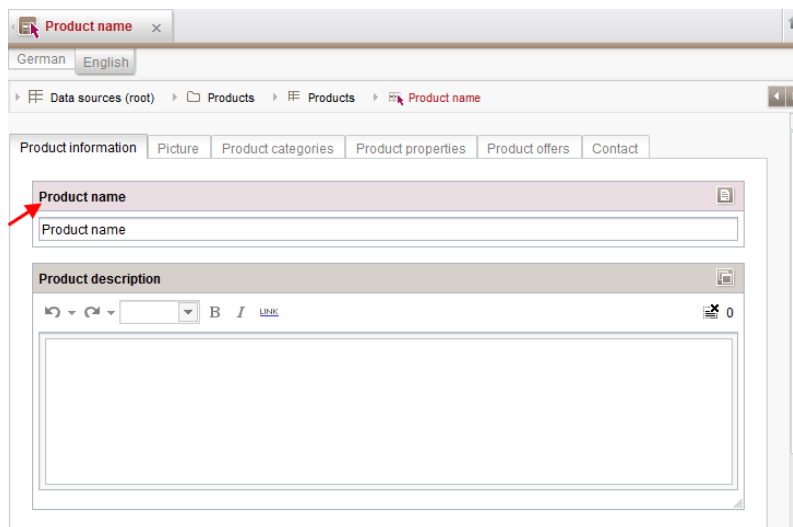
In the tabular view, such default values used by a dataset will now be shown in a semi-transparent fashion:
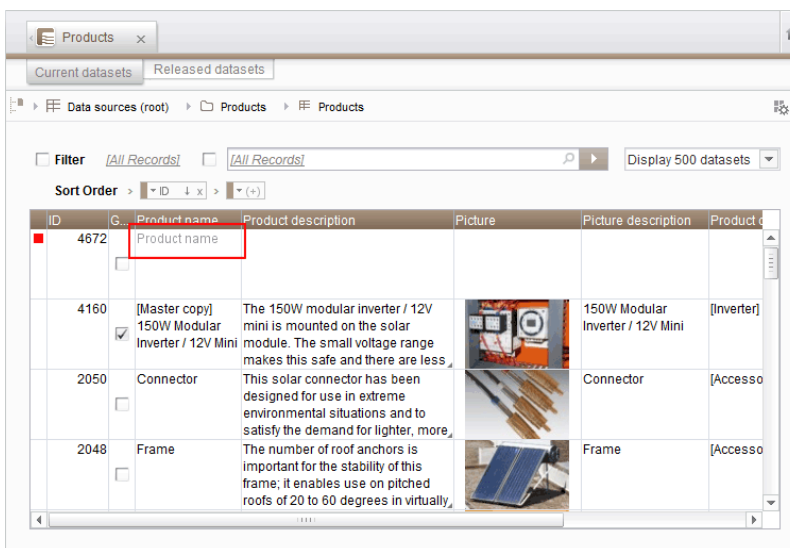
Previously, default values were not shown.

For further information, see

- *Documentation for FirstSpirit SiteArchitect*, chapters
  - "Data Store / Editing area of a data source (overview)"

  - "General operation / Default values"

- *FirstSpirit Online Documentation*, chapter
  - "Template development / Forms / Default values"

27.7   Drag-and-drop support for CMS_INPUT_DOMTABLE 5.2.424, 5.2R5

A central interaction pattern in ContentCreator and SiteArchitect is the affordance for simple data exchange via drag-and-drop, e.g. from a report or a (Windows) desktop into a FirstSpirit input component.

As of FirstSpirit version 5.2R5, the input component CMS_INPUT_DOMTABLE in SiteArchitect now also supports drop functionality. Now, objects of type *Text*, e.g. text from a word processing program such as Microsoft Word, may be inserted into CMS_INPUT_DOMTABLE using drag-and-drop.

When using the module "FirstSpirit OfficeConnect", content from Microsoft Office documents may be inserted into an accordingly configured DOM input component using the keyboard shortcut `Ctrl` + `V`. Previously, this was only possible via the Import button.

For further information, see

▪ *FirstSpirit Online Documentation*, "Template development / Forms / Drag-and-drop"

▪ Module documentation for *FirstSpirit OfficeConnect*

27.8 Extended Filter and Sorting Functionality for Datasets 5.2R3

The Data Sources store is used to create and maintain strongly structured content, i.e. datasets. In the tabular overview of a data source, the existing datasets are displayed in two tabs that contain current and released datasets. This tabular overview supports filtering and sorting to customize the view.

In FirstSpirit version 5.2R3, **current datasets** can also be sorted by the time of modification such that the most recently edited datasets can be shown at the top of the list. This sorting can be enabled by using the new sort criterion "Modification Date":
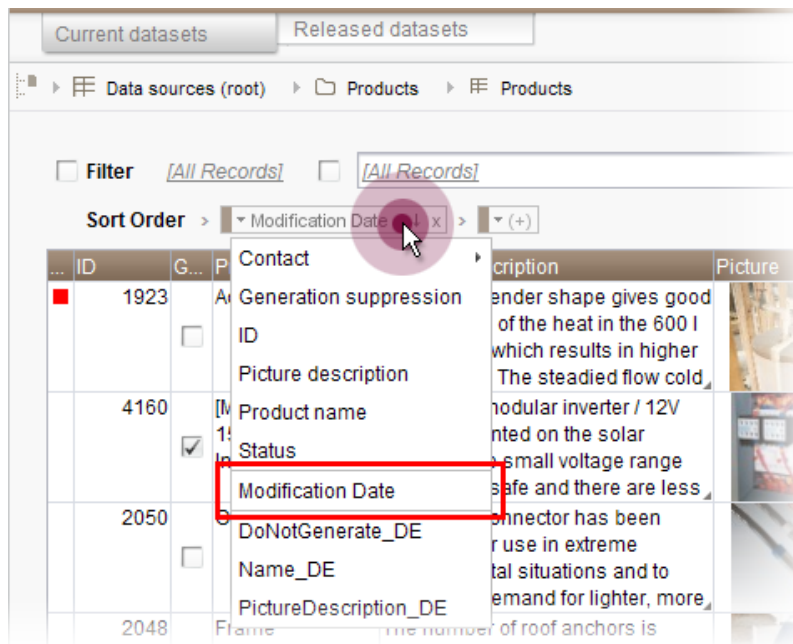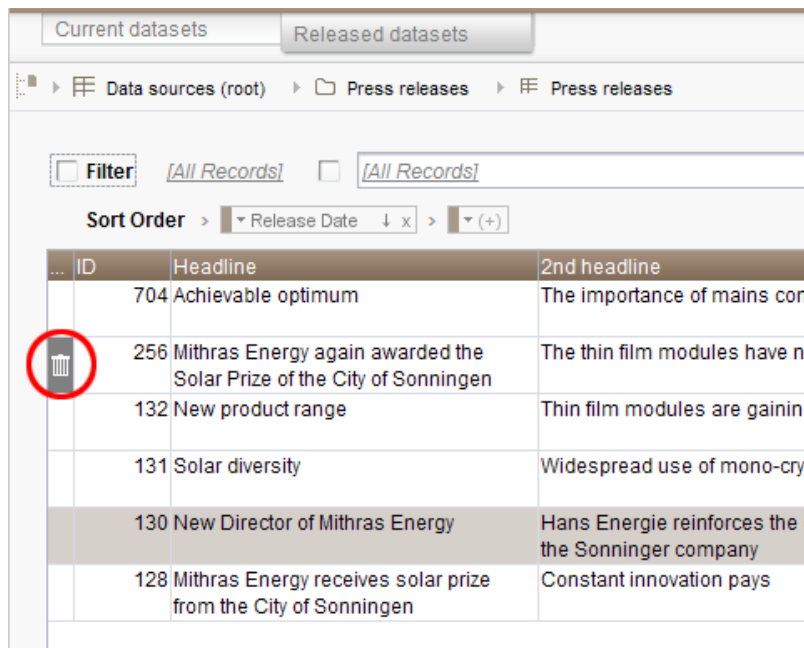
As before, the leftmost column in the tabular view may be used to sort datasets by workflow state. The tabular view may be configured to display only datasets which are not released by using the new filter "State: not released":
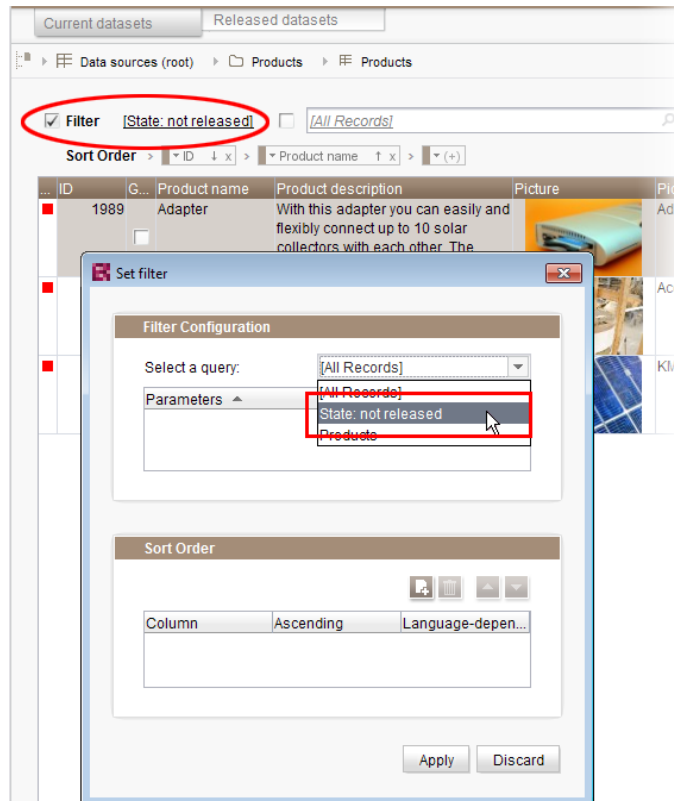
If a dataset should be **deleted** completely from a data source, it must be deleted in both the current and the released state. Datasets which have been deleted in the current state but are still present in the tab "Released datasets" (and potentially should be deleted there as well) are now marked with a paper bin icon:

This icon may be used to delete the associated dataset in its released state.

In order to more quickly identify datasets which have been deleted in current state but are still present in a released state, the "Released datasets" table may be configured to display only such datasets by using the new filter "State: deleted":
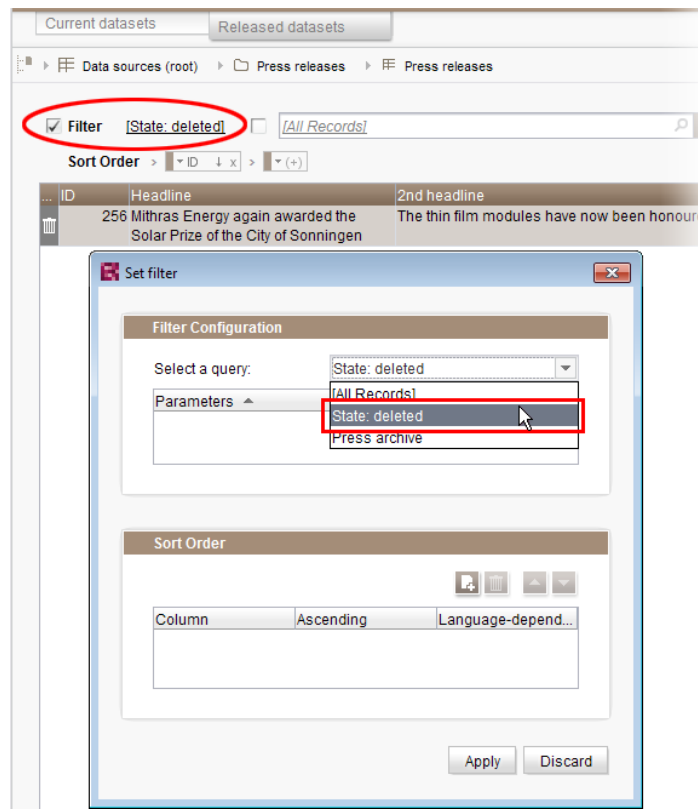
In order to sort released datasets by date of most recent release, use the newly-introduced sort criterion "Release Date":
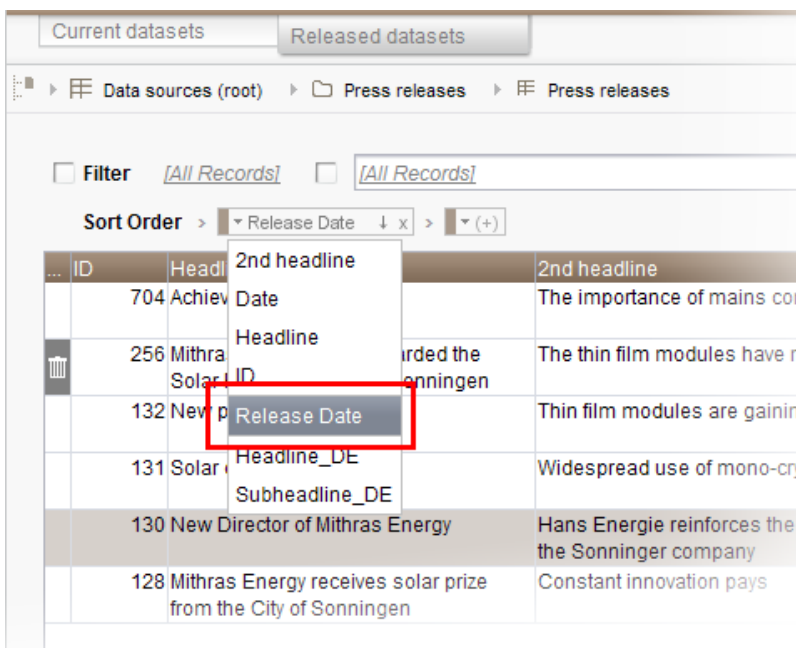
Sorting via the leftmost column in the "Released datasets" table is no longer possible.

Furthermore, datasets which are being deleted in the tab "Current datasets" may now be deleted from the "Released datasets" tab at the same time. This may be accomplished by checking the checkbox "Delete release version as well" in the confirmation dialog which is shown as a dataset is deleted:
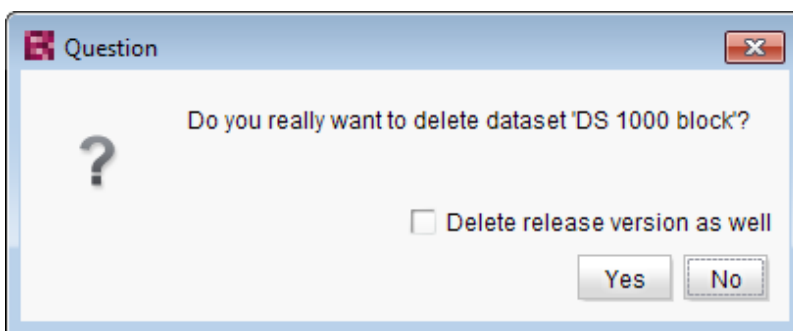
For further information, see

▪ *Documentation for FirstSpirit SiteArchitect*, chapter "Data Store"

▪ *FirstSpirit Online Documentation*, "Templates (basics) / Composition of templates / Database schemata"

27.9   FS_INDEX: Reuse of tabs in the details view `5.2R5`

In FirstSpirit version 5.2R5, the user interface of the details view of the input component FS_INDEX has been optimized: the tabs in the details view will now be reused and visualize an active edit mode.

The details view is always started when a new entry is added to the index or an index entry is edited. Instead of the usual tree view in the left pane of the SiteArchitect window, an overview of the index' entries is displayed. In the editorial area, a new tab will be opened that shows the selected index entry. If another entry is selected in the index overview of the details view, this tab will be reused.

Edit mode is only automatically activated when adding a new index entry. If an existing entry should be modified, edit mode must be activated manually.
If edit mode is active, the same rules in tab handling apply as do to serial editing of datasets: when switching from one entry to another, changes to the first entry will be saved after a confirmation dialog is answered accordingly, the next entry will then be displayed in the same tab and will be in edit mode as well.
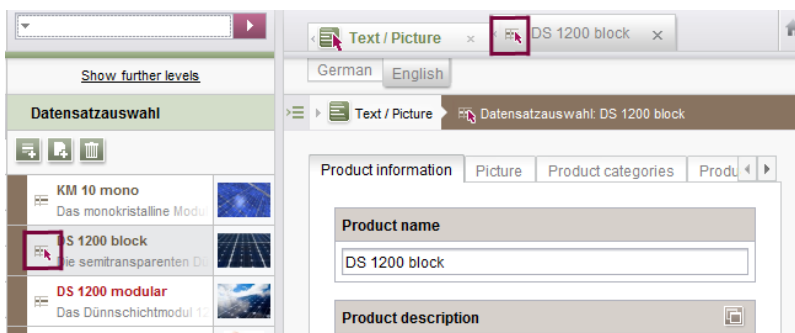
Active edit mode will be visualized using a red arrow icon on the tab of the entry that is being edited.

27.10 Integrated preview: Updated third-party software `5.2R7`

The integrated preview in FirstSpirit SiteArchitect (menu entries "View / Integrated preview" and "View / Browser engine") is based upon third-party software:

The browser engine "JxBrowser", used to integrate "Google Chrome", has been updated from version 4.9.5 to version 6.12.

In order to integrate "Internet Explorer", another browser engine has been implemented ("JExplorer", version 3.4) which is intended to ensure better stability when using Internet Explorer for integrated preview. However, use of this browser engine is not yet officially released and is currently in a BETA phase.

In SiteArchitect, this browser engine may be selected via the menu entry "View / Browser engine / Internet Explorer (BETA)":
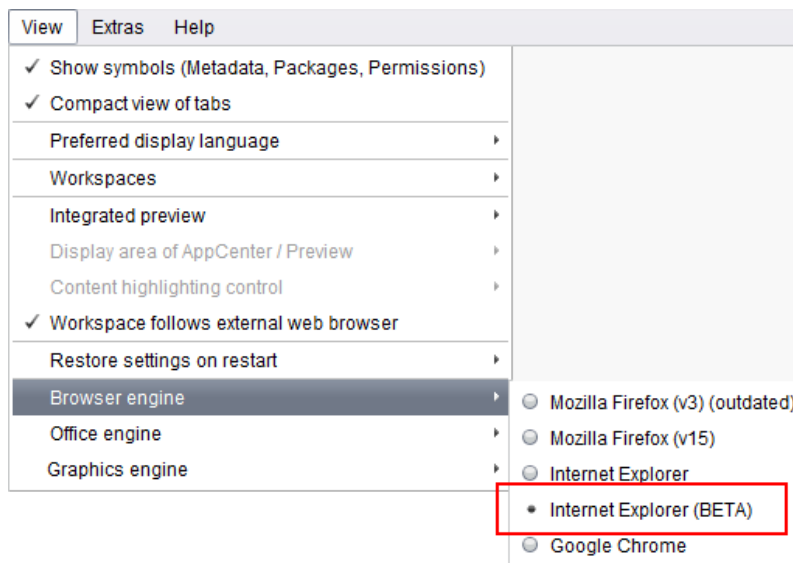
In project properties ("FirstSpirit ServerManager / Project properties / Client applications", tab "Browser engine"), project developers may define if this browser engine should be preselected or fixed for users of this project, e.g.
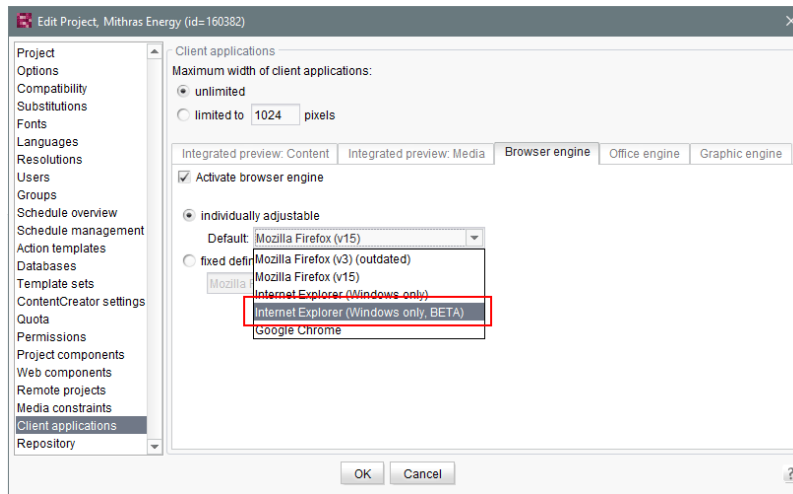
For further information, see

- *FirstSpirit SiteArchitect / The menu bar / View / Browser engine* (→*Documentation FirstSpirit SiteArchitect*)

- *FirstSpirit Manual for Administrators*, chapter "Browser engine"

27.11 Jumping to References in Template Code 5.2R9

In addition to functions for software-supported completion of template code, the current version of FirstSpirit also provides means for switching to elements referenced in the code (other templates, FirstSpirit objects) and form definitions ("GOM") conveniently with a single click.

When the mouse cursor is hovered over the respective code expression, Ctrl displays information (name, object type, preview, path) regarding the referenced element in a tooltip.
Using Ctrl + KLICK allows for jumping to the referenced element directly.

This new functionality is available for the following template tabs:

- **Tab "Form"**
  Reference to referenced templates and other FirstSpirit objects
  Example: **CMS_INPUT_DOM** – Limit to link templates using the tag *LINKEDITORS*

```
<CMS_INPUT_DOM name="pt_intro" hFill="yes"
  <FORMATS>
    <TEMPLATE name="p"/>
  </FORMATS>
  <LANGINFOS>
    <LANGINFO lang="*" label="Introduction"
    <LA        Text link (external)      ung"
    </LAN      Link Templates
    <LINKEDITORS>
      <LINKEDITOR name="textlinkexternal"/>
      <LINKEDITOR name="textlinkinternal"/>
    </LINKEDITORS>
</CMS_INPUT_DOM>
```

Example: **FS_DATASET** – Limit to a data source using the tag *SOURCES*

```
<FS_DATASET name="st_contact" allowDelete="
  <LANGINFOS>
    <LANGINFO lang="*" label="Contact" desc
                              ntakt" des
          Contacts
          Contacts
    <SOURCES>
      <CONTENT name="contacts"/>
    </SOURCES>
</FS_DATASET>
```

- ▪ **Tab "Rules"**

  Reference to form definitions in the tab "Form" of the template, attribute "source":

```
<RULES>
  <RULE>
    <WITH>
      <NOT>
        <LESS_THAN>
          <PROPERTY name="VALUE" source="st_rows"/>
          <NUMBER>1</NUMBER>
        </LESS_THAN>
      </NOT>
    </WITH>
    <DO>                    Press releases teaser
                           st_rows (CMS_INPUT_NUMBER)
      <VALIDATION scope="SAVE">
        <PROPERTY name="VALID" source="st_rows"/>
        <MESSAGE lang="*" text="The value  ay not be les
        <MESSAGE lang="DE" text="Der Wert darf nicht unt
      </VALIDATION>
    </DO>
  </RULE>
```

- ▪ **Output Channels Tab**

Reference to form definitions in the tab "Form" of the template:

```
--$</h3>
<div class="clearfix te:          Tag-Cloud
    --$$CMS_IF(!isWebEdit)$$--    st_linklist (FS_LIST)
        --$$CMS_VALUE(editorId(editorName:"st_linklist"))$$--
    --$$CMS_END_IF$$--
--$>
```

and referenced FirstSpirit objects

Example: referenced medium

```
$-- Footer --$
<div class="footer">
    <ul>
        <li>$--
            --$<a href="#top"$CMS_VALUE(editorId(element:#glc
                --$<img src="$CMS_REF(media:"icon_top")$" alt
                --$$CMS_VALUE(#global.gca("totop"))$$--
            --$</a>$--
        --$</li>
        <li>$--                    icon_print
                                   Layout/Icons
            --$<a href="#top" onclick="sell.print();return fa
                --$<img src="$CMS_REF(media:"icon_print")$" a
                --$$CMS_VALUE(#global.gca("print"))$$--
```

Example: referenced GCA object

```
$-- logo --$
$CMS_IF(!ps_homepage_header_text_content.isEmpty)$$--

    --$<a href="$CMS_IF(!ps_homelink.isEmpty)$$--
        --$$CMS_REF(ps_homelink)$$--
    --$$CMS_ELSE$$--
        --$#$--
    --$$CMS_END_IF$" title="$CMS_VALUE(#global.gca("homepage"))$">$--
        --$<span class="logoContent">$--         Link to homepage
            --$<img src="$CMS_REF(ps_homepage_header_text_content)$" al   Global Content Area/Language dependent lab
        --$<span class="ubar">$--
```

Example: referenced template

```
        <img class="h1 ieFilter" src="$CMS_REF(mec
        <span class="headlines">$CMS_VALUE(pt_head
$CMS_I                Tooltip
    $(                Format Templates/Technical format templates
$CMS_END_IF$
$CMS_RENDER(template:"tooltip",
            infoLayer:pt_infoLayer,
            infoLink:pt_infoLink,
            infoPicture:pt_infoPicture,
            infoHeadline:pt_infoHeadline)$
```

27.12 Optimization of selection dialog 5.2R5

In SiteArchitect, the selection dialog offers navigation and search functionality which enable quick location of objects which should be referenced, e.g. images or files from the Media store or page references from the Site Structure store (e.g. input components FS_REFERENCE, FS_LIST, FS_DATASET). The dialog only displays objects which may be selected, based on the constraints set by the input component.
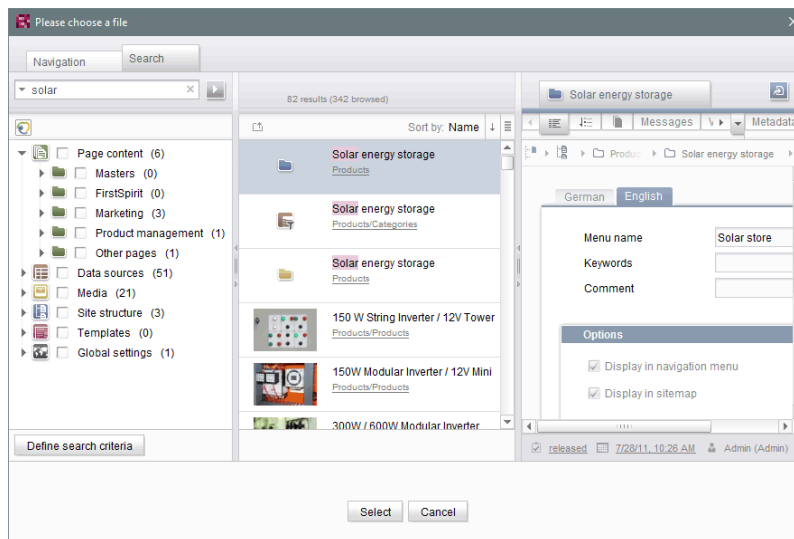
Selection dialog of FS_REFERENCE (SiteArchitect)

In FirstSpirit version 5.2R5, the search interaction pattern in this dialog has been optimized:

- By default, the selection dialog will now search **all stores / folders of all projects** which are allowed, based on the constraints set by the input component (e.g. FS_REFERENCE: tag `SOURCES` / `FOLDER`, FS_DATASET: tag `SOURCES` / `CONTENT`). Previously, search only considered projects / stores / partial trees which were selected by the user in the tree of the tab "Navigation". In order to limit search to certain projects / stores / partial trees, users may now toggle checkboxes in the tab "Search" accordingly.

- If search is started from the tab "Navigation", any existing search limitations set in the tab "Search" will be **reset**. In the tab "Search", checkboxes will thus no longer be set automatically.

- The display of the **suggestion list** below the search field has been improved.

For further information

- about the selection dialog, see *Documentation for FirstSpirit SiteArchitect*, chapter "Selection dialogs",

- about specific input components, see *FirstSpirit Online Documentation*.

27.13 Optimized keyboard control for consideration of pages and sections in generation 5.2R4

In the Page Content store, pages and sections can be configured with the following options:

- (Pages) "Page is completely translated to this language": Depending on project settings, the page's specific project language version for which this option is set will be generated or not.

- (Sections) "include this section in the output": During generation, the section's specific project language version for which this option is set will be rendered on the page or not.

These settings can be changed for a specific project language by toggling the checkbox on that language's tab in the workspace area of an element that is in edit mode.

The confirmation dialog which appears after toggling such a checkbox (e.g. "This section will no longer be available for generation in the output. Do you wish to continue?") used to use "No" as its default answer. In order to support a more efficient editorial process, starting with FirstSpirit version 5.2R4, this dialog's default answer will be "Yes".
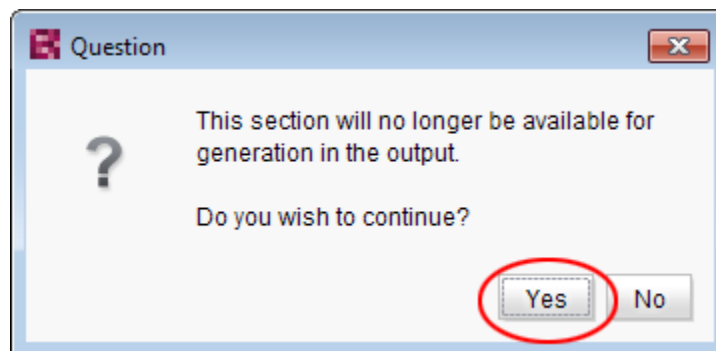
With this change, the confirmation dialog can generally be confirmed by pressing either Enter or Space on the keyboard.

For further information about these functionalities, see *Documentation for FirstSpirit SiteArchitect*,

- chapter "Settings at page level"

- chapter "Settings at section level"

27.14 Optimized keyboard control of CMS_INPUT_LIST 5.2R4

Using the multiple selection component CMS_INPUT_LIST, a user can select from a set of values specified by project developers.

Until now, selected entries could only be removed from the list via the context menu:
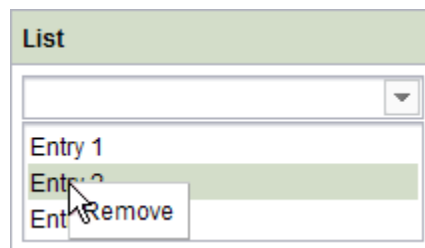
As of FirstSpirit 5.2R4, entries can now be removed using the keyboard shortcut Del .

For further information about CMS_INPUT_LIST, see

- *Documentation for FirstSpirit SiteArchitect*, chapter "Multiple selection list (CMS_INPUT_LIST)"

- *FirstSpirit Online Documentation*, "Template development / Forms / Input components / LIST"

27.15 Optimizing code completion in templates 5.2R2

Code completion allows FirstSpirit templates to be programmed more quickly, while the lists of suggestions offer a simple source of reference. This can be found in FirstSpirit templates on the

- Form

- Rules and

- Output

tabs.

The code completion function has been expanded in FirstSpirit version 5.2R2. Now, for example, the output tabs even show identifiers for the input components defined on the form tab, as well as methods which can be applied to the values returned by the input components. These can be inserted at the insert mark. The lists of suggestions can also be filtered by simply entering the necessary search text.

For more information, see the *FirstSpirit Online Documentation*, "Interesting tips / Input assistance".

27.16 Repeating a search after erroneous input 5.2R8

If the search string used for a full-text search contains a special character that cannot be used in search, an error message will be displayed in the search results pane.
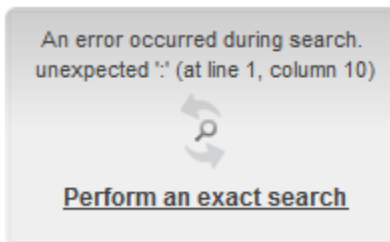
This error message now provides an opportunity to repeat the search by clicking **Perform an exact search**. In this repeat search, quotation marks will be placed around the search string, and an exact search will be performed.

27.17 Revised selection dialog and opening new workspaces 5.2R4

The selection dialogs in SiteArchitect (for example input components FS_REFERENCE, FS_DATASET) offer navigation and search options for quickly locating the objects that are to be referenced, e.g., images and files from the media store or page references from the site store.
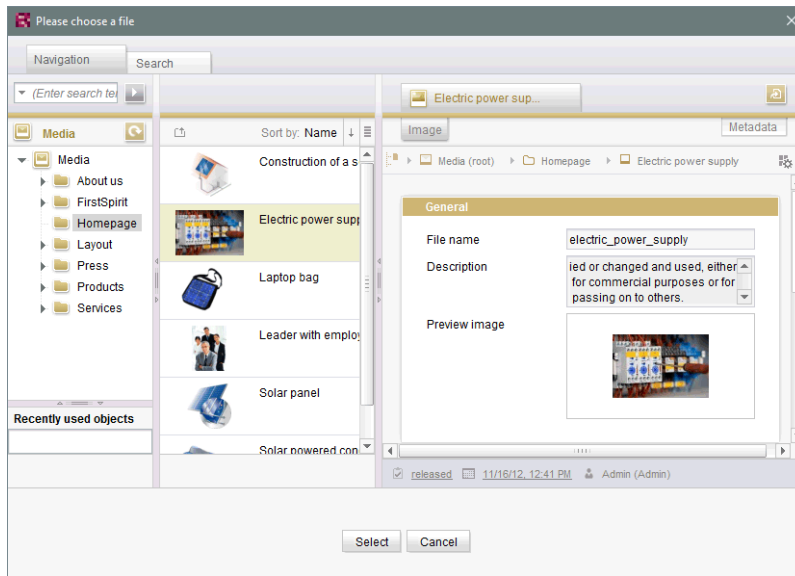
With FirstSpirit version 5.2R4, the selected object can now be opened in a new workspace via the

icon. The notification "The element 'xyz' has been opened in a new workspace." is displayed. Moreover, new workspaces are now opened on the right of the current workspace for better orientation, especially when working with a large number of workspaces (for example icons

and functions "Display in new workspace", "Extras / View Template", "View current / View release"). Previously, new workspaces were always opened on the far right (in last position).

For more information please refer to *Documentation for FirstSpirit SiteArchitect*, Chapter "Selection dialogs".

27.18 Revised version comparison 5.2R2

All project data in a FirstSpirit project has a version history, which documents how the data has been changed over time. Changes can generally be displayed by visualizing the differences between the

revisions. To do this, two revisions can be selected for comparison with each other within the version history (Ctrl + H or "Version history" context menu function).

The corresponding dialog has been updated in FirstSpirit version 5.2R2 (with the exception of: Version comparison to (global) pages, (global) sections, datasets):
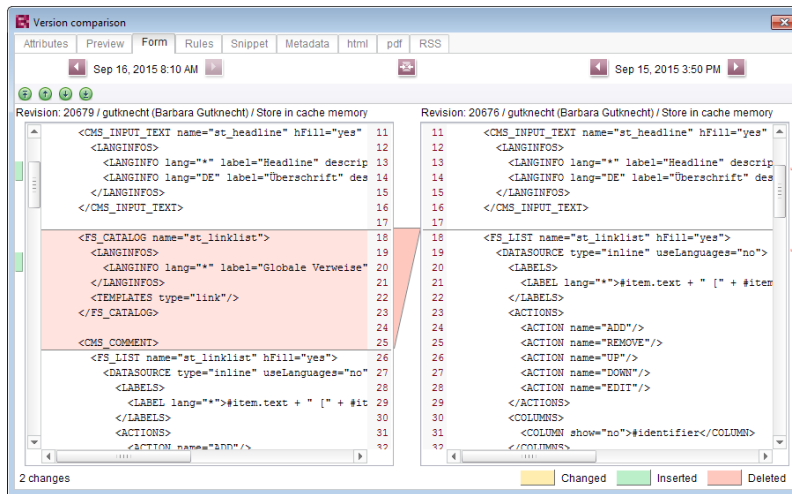
Version comparison of templates

The dialog now also allows you to "merge" the selected versions, e.g.,
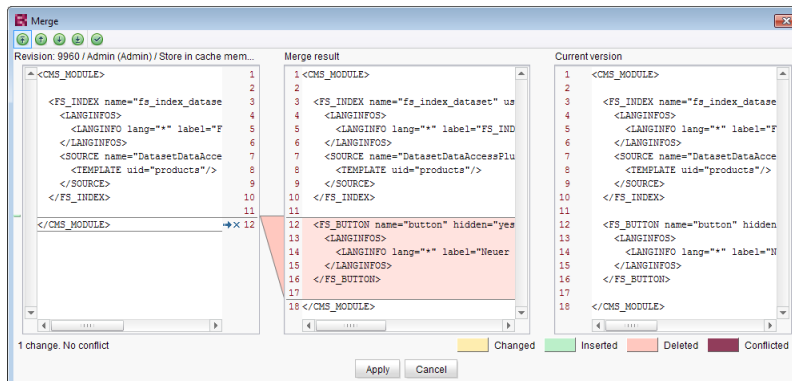
Merging changes from several revisions

For more information, see *FirstSpirit Online Documentation*,

▪ "Templates (Basics) / Basics / Functions via context menus / Version history / Compare"

▪ "Templates (Basics) / Basics / Functions via context menus / Version history / Merge"

27.19 Selection of revisions for merge `5.2R4`

All project data in a FirstSpirit project possess a revision history that may be used to trace changes of data over time. Based upon this historical data, changes made to two revisions of the same object may be compared using a difference visualization. To do so, two of an object's revisions that should be compared are selected in the "Version history" dialog (`Ctrl` + `H` or context menu entry "Version history"), and a click on the "Compare" button will display a difference visualization of the two revisions, named "Version comparison". In this "Version comparison" dialog, data of the two compared revisions may be merged:
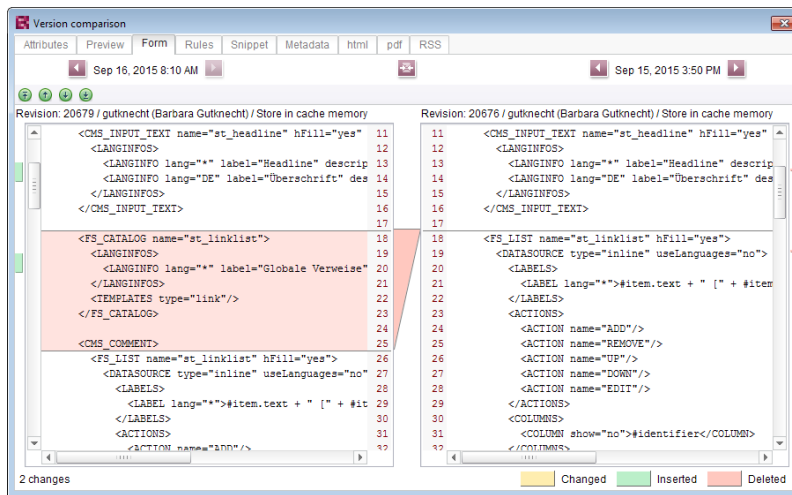
Functionality "Merge" in version comparison

Until now, the "Merge" functionality (in "Version comparison" dialogs, e.g. the button

for template elements) was available on almost all tabs (depending on the specific element type: "Attributes", "Child list", "Metadata", "Variables", "Form", "Rules", "Snippets", template sets). A merge could potentially be used to modify system information (tabs "Attributes", "Child list"). In order to prevent modification of such system information, FirstSpirit version 5.2R4 and later versions restrict availability of merge functionality as follows:

▪ **Tab "Child list":** merge functionality is **not available**

▪ **Tab "Attributes":** merge functionality is **only available to server and super administrators**

Thus, a user possessing the appropriate privileges will continue to be able to modify attributes of an element.

For further information, see *FirstSpirit Online Documentation*, page "Templates (basics) / Basics / Functions via context menus / Version history / Compare".

27.20 Simplified Creation of Entries in FS_CATALOG 5.2R4

The input component FS_CATALOG allows creation of lists with sections or links such that editors may maintain several sections or links, respectively, within a single input component.

In SiteArchitect, if more than one section or link template were available, selection of a template for a new entry was done via a dialog. In FirstSpirit version 5.2R3, selection of a template for a new entry is now done via a pop-up menu (analogous to FS_LIST, `<PARAM name="select-ui">list</PARAM>`) from which the desired template may be selected:
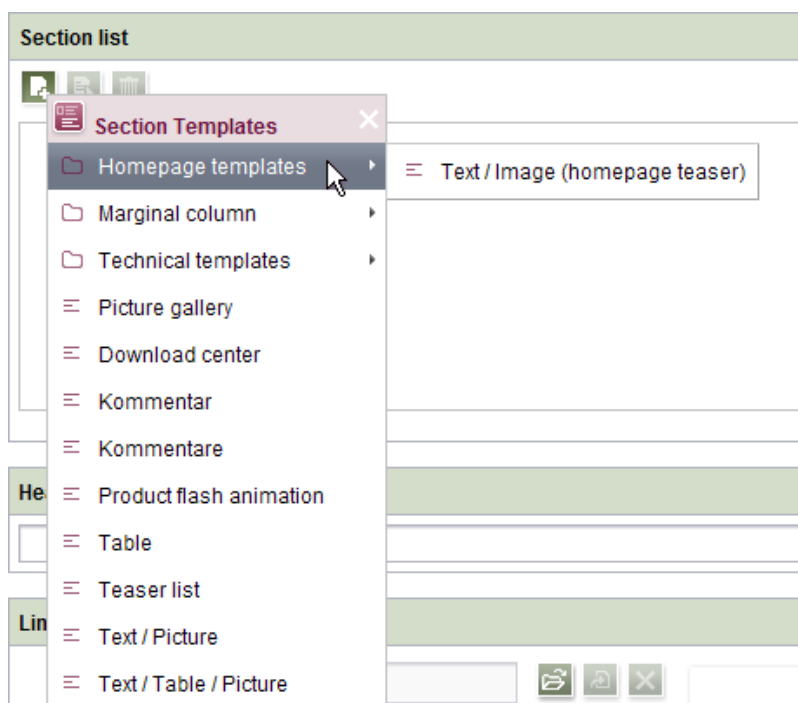
If the FS_CATALOG input component is not configured to limit the set of allowed templates (i.e. no `TEMPLATE` tags are defined within the `TEMPLATES` tag in the component's configuration) or if more than

21 allowed templates are defined, the template selection pop-up will also display a partial folder hierarchy of the Templates store, such that all folders between the Templates store root and individual, allowed templates are shown. The pop-up menu may be closed by either clicking on its title bar or the "Close" icon or by pressing ESC .

If the FS_CATALOG input component is configured to allow only one template (i.e. only one **TEMPLATE** tag is defined within the **TEMPLATES** tag in the component's configuration), the template selection pop-up will not appear, and the new entry will automatically be created using this template.

For further information about FS_CATALOG, see

▪ *FirstSpirit Online Documentation*, "Template development / Forms / Input components / CATALOG"

▪ *Documentation for FirstSpirit SiteArchitect*, chapter "Catalog (FS_CATALOG)"

28   System

28.1   Integrated Software   5.2R4

With FirstSpirit 5.2R4, the following, internally used software has been updated:

▪ **Java Runtime Environment** ("JRE", included in FirstSpirit Launcher)
  Update from version 1.8.0_31 to 1.8.0_92

▪ **ASM** (Library for analyzing and modifying Java bytecode)
  Update from version 3.1 to 5.1
  (improved interoperability between modules, which are developed for Java 8, and FirstSpirit)

▪ **Apache Derby** (integrated database for testing purposes)
  Update from version 10.11.1.1 to 10.12.1.1

> **!**   As before, use for production purposes is not recommended!

> **!** Note: Use of Derby databases prohibits in-place **downgrades** to FirstSpirit version 5.2R3 or older. Error message after downgrade:
>
> **ERROR XSLAN: Database at [path] has an incompatible format with the current version of the software. The database was created by or upgraded by version 10.12.**
>
> Workaround: Export with FirstSpirit version 5.2R4 and import into a FirstSpirit server running version 5.2R3.

- **Eclipse Jetty** (integrated web server)

  Update from version 9.2.9 to 9.2.15

  Furthermore, security improvements have been undertaken concerning the default configuration.

> **!** As before, use for production purposes is not recommended!

28.2   Integrated Software   5.2R3

The integrated Chrome browser engine "JxBrowser" has been updated to version 4.9.5.

28.3   Signing with SHA-256   5.2.615, 5.2R7

Previously, FirstSpirit JAR files were signed using SHA-1. Oracle is planning to cease support of SHA-1 in the JDK version lines 6, 7, and 8 in April 2017 (see https://www.java.com/en/jre-jdk-cryptoroadmap.html).

Due to this reason, as of the current FirstSpirit version, signing is now carried out using SHA-256.

Starting in April 2017, if an existing FirstSpirit installation should be used with a newer Java version which no longer supports SHA-1, an update to the current FirstSpirit version is required as well in order to continue using FirstSpirit with Oracle JDKs.

For further information, see FirstSpirit Community.

If you have further questions about this topic, please contact e-Spirit's Technical Support team via https://help.e-spirit.com.

29   Template Wizard

29.1   Activate/deactivate crawling   `5.2R2`

The FirstSpirit Template Wizard allows you to load HTML content into a project. An external URL can be specified as a source for this.

The new "Follow links" checkbox can now be used to configure "Crawling" ("Select URL" function).
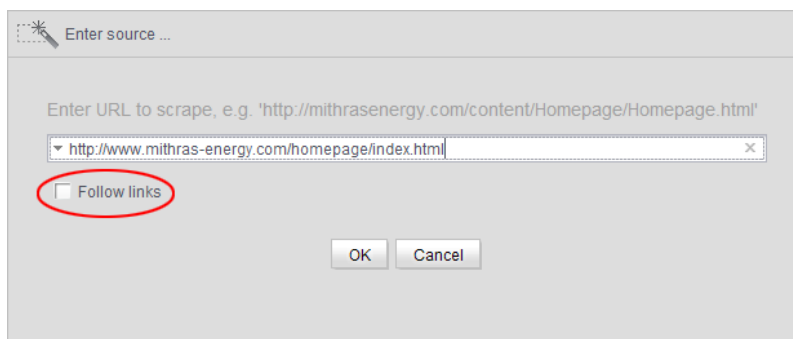
- If the checkbox is **not checked**, then crawling is restricted to the HTML structure transferred here. In this case, only the transferred HTML structure is analyzed and added to the import project. Other URLs referenced within the HTML structure are not analyzed. This is the default setting.

- If the checkbox is **checked**, all URLs referenced in the transferred HTML structure are analyzed and added to the import project. If these URLs then in turn reference other URLs, they too are analyzed, etc. In this case, you must ensure that the nesting depth is not too deep, as the import process can potentially take a long time if there are a large number of URLs.

For more information on working with the FirstSpirit Template Wizard, see *FirstSpirit Online Documentation*, "Template development / Template Wizard".

29.2   Configure overview   `5.2R2`

The "Overview" tab shows all the content that has been imported into the Template Wizard to date. They are displayed in table format with the name, source path, file name, etc. This view can be configured by clicking the icon at the right-hand edge of the table header:
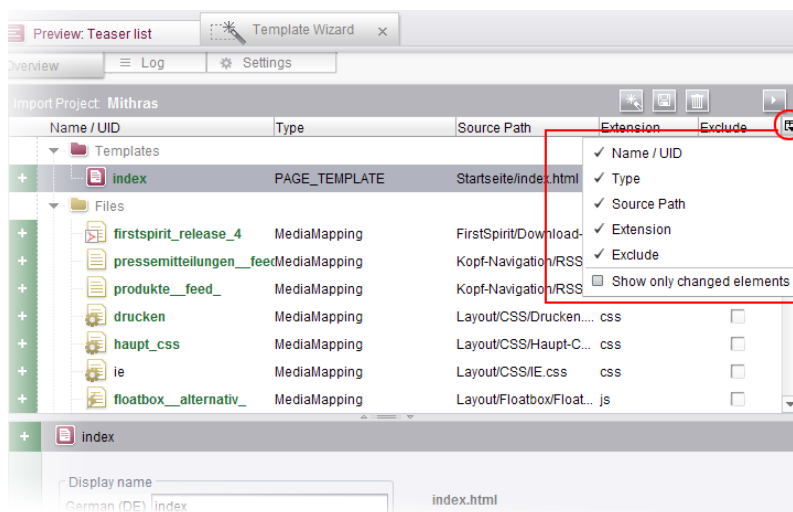
This can be used to determine which columns are shown or hidden.

If the "Show only changed elements" checkbox is activated, then only elements that have changed compared to the last status imported are displayed in the overview (inserted as new, changed in the design deliverable, deleted in the design deliverable, etc.).

For more information, see *FirstSpirit Online Documentation*, "Template development / Template Wizard / Overview".

29.3 Detecting and merging changes 5.2R2

The FirstSpirit Template Wizard offers tools for detecting changes to the source object and then merging this changed content with content which has already been edited and imported.

This involves differentiating between three sources:

- Local root directory

- Import project

- FirstSpirit project

Changes can be made:

- between the local root directory and the import project

▪ between the import project and FirstSpirit project

For more information, see *FirstSpirit Online Documentation*, "Template development / Template Wizard / Detecting changes".

29.4 Protection against simultaneous project editing 5.2R2

The FirstSpirit Template Wizard infrastructure partially automates the process of transferring HTML mockups to FirstSpirit. It provides functions which can analyze the HTML templates supplied, identify referenced images and files in HTML content, and import all required content into FirstSpirit.

In FirstSpirit version 5.2R2 and higher, FirstSpirit ensures that import projects can only be edited by one user at a time. If the selected import project is already open in the Template Wizard and being used by another FirstSpirit template developer, the message "Agency Project is already locked by [...]".
In this case, the project cannot be loaded until the other user closes it in the Template Wizard.

For more information on working with the FirstSpirit Template Wizard, see *FirstSpirit Online Documentation*, "Template development / Template Wizard".

30 Overview

ID	Description	Categories	Version
50259	FirstSpirit version 5.2R3 enables sending e-mails via SMTP using authenticated connections. Authentication is configured in the configuration file **fs-server.conf**. Further information can be found in chapter "Administration: SMTP Authentication".	FirstSpirit Administrator, Security, ServerManager	5.2R3
69882	In a data source, an already released dataset was erroneously displayed as not released after starting a workflow.	Content Store, SiteArchitect, Workflow	5.2R2
77840	Optimized display of the bookmark drop-down list which is accessible via the bookmark button in the horizontal toolbar of SiteArchitect.	Bookmarks, SiteArchitect	5.2R3

ID	Description	Categories	Version
100258	Optimized display of recently used objects from remote projects for input components that use selection dialogs for selection of references (FS_REFERENCE, CMS_INPUT_IMAGEMAP, links...).	SiteArchitect	5.2R8
113373	In ServerMonitoring and ServerManager, the default text for messages (functionality "Send message") is now identical.	Server Administrator, ServerManager, ServerMonitoring	5.2R2
120150	Optimized the dialog "Select" for features which were stored on the server via the button "Save feature". It is now possible to delete a stored feature. Further information can be found in chapter "Modules: Corporate Content: ContentTransport: Deleting feature collections".	Content Transport	5.2.611, 5.2R7
125269	Frequently used objects in a FirstSpirit project are now also visualized in editing dialogs in ContentCreator. Further information can be found in chapter "ContentCreator: Visualization of frequently used objects".	ContentCreator, Editor	5.2R2
128058	Optimized updating the value of an FS_DATASET input component when multiple users perform edits in parallel.	Input Components, SiteArchitect	5.2R2
133908	In SiteArchitect and ContentCreator, an update of the preview may be triggered via the newly-implemented interface **PreviewOperation** (package **de.espirit.firstspirit.ui.operations**, FirstSpirit Developer API). Further information can be found in chapter "Module Development, Scripts, API: Triggering a preview update via API (SiteArchitect and ContentCreator)".	ContentCreator, FirstSpirit API, SiteArchitect	5.2.615, 5.2R7

ID	Description	Categories	Version
138212	The filter and sorting functionality for datasets has been extended in SiteArchitect. Not released datasets in the tab "Current datasets" and deleted datasets in the tab "Released datasets" can now be identified more quickly. Further information can be found in chapter "SiteArchitect: Extended Filter and Sorting Functionality for Datasets".	Content Store, Editor, SiteArchitect, Table templates	5.2R3
140134	Restoring a deleted dataset with the input component FS_LIST (DATABASE type) may have failed with an error message.	Input Components, SiteArchitect	5.2R4
144895	Improved editing of multiple packages. Further information can be found in chapter "Modules: Corporate Content: Editing multiple packages".	Corporate Content, Developer, Modules, SiteArchitect	5.2R4
150087	For improved consistency, the title text that may be set for a dialog via the method `setTitle(String title)` of the interface `ShowFormDialogOperation` (package `de.espirit.firstspirit.ui.operations`, FirstSpirit Developer API) is now also used for the dialog's main title. Further information can be found in chapter "Module Development, Scripts, API: ContentCreator: Use of "setTitle" for a dialog's main title".	ContentCreator, FirstSpirit API	5.2.611, 5.2R7
151301	In the functionality "FirstSpirit CorporateContent", optimized update behavior of content in entries of the input component FS_LIST (type INLINE).	Corporate Content	5.2R4
151536	Editing a restored section may have resulted in a malfunction.	ContentCreator	5.2R3
152068	Exporting a database schema including its current data could lead to erroneous behavior.	Content Store, SiteArchitect, Template Store	5.2R3
157668	Within the FS_LIST (PAGE type) input component, an empty check (EMPTY property) has been optimized for rules.	Dynamic Forms, SiteArchitect	5.2R2

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ID	Description	Categories	Version
157715	If certain prerequisites were met, erroneous behavior could occur when creating a table template after integrating an external database.	Database, Table templates	5.2R4
158311	The page status display, reached via the ContentCreator toolbar, erroneously displayed the most recent editor and the most recent release date of the page reference, not of the page element.	ContentCreator	5.2R5
158656	So called "Pluggability" features (Java Servlet Specification 3.0) can be disabled starting with the current FirstSpirit version. Further information can be found in chapter "Administration: Apache Tomcat / Java Servlet Specification 3.0: Disabling Pluggability features".	FirstSpirit Administrator, ServerManager	5.2.611, 5.2R7
160553	Optimized stop/restart process of web applications when using Apache Tomcat 8 as web server.	FirstSpirit Administrator	5.2R6
160781	In very rare cases, when using server-side release after move operations, already released objects could not be found.	Release	5.2R4
160945	Drag-and-drop of a medium from the Media Store into the local filesystem could lead to erroneous behavior. The launcher has to be updated in order to apply this fix.	Launcher, SiteArchitect	5.2R9
161145	Deleting a dataset which contains a reference to itself could lead to erroneous behavior.	Content Store, SiteArchitect	5.2R3
161179	In the input component FS_LIST (type INLINE), optimized copy and paste operations of entries between lists via the context menu.	Input Components, SiteArchitect	5.2R2

ID	Description	Categories	Version
161391	Via the API, Dataset objects can now only be saved (method `save()`) if they are locked (e.g. method `lock(true)`) or the option "Server locks in content store" (ServerManager / Project / Properties / Options) is deactivated. Further information can be found in chapter "Module Development, Scripts, API: Method save() observes the option "Server locks in content store"".	Developer, FirstSpirit API, Template Development	5.2R2
161625	FirstSpirit now supports upload, saving, and deployment of media which contain more than one dot in their file names, e.g. files of type ".tar.gz" or files which carry version information in their names such as "Linux_4.6.4-1.debian.tar.xz". Further information can be found in chapter "Media: Support for files with more than one dot character in their names".	ContentCreator, Editor, Input Components, Media Store, Search, SiteArchitect	5.2R5
161657	The selection dialog (for example at FS_REFERENCE and FS_DATASET) has got a new icon. This can be used for opening the selected object in a new workspace. Additionally, the position of opening working spaces has been optimized. Further information can be found in chapter "SiteArchitect: Revised selection dialog and opening new workspaces".	Editor, SiteArchitect	5.2R4
162192	Using the new method `stopMaintenance` (FirstSpirit Access API, Package `de.espirit.firstspirit.access`, Interface `AdminService`), maintenance mode may be cancelled via the API. Further information can be found in chapter "Module Development, Scripts, API: New Method for Cancelling Maintenance Mode".	FirstSpirit API, FirstSpirit Administrator	5.2R3

ID	Description	Categories	Version
162580	In SiteArchitect, the selection dialog offers navigation and search functionality which enable quick location of objects which are to be referenced, e.g. images or files from the Media store or page references from the Site Structure store (e.g. input components FS_REFERENCE, FS_LIST, FS_DATASET). In FirstSpirit version 5.2R5, the search interaction pattern in this dialog has been optimized. Further information can be found in chapter "SiteArchitect: Optimization of selection dialog".	Editor, Search, SiteArchitect	5.2R5
162786	In very rare cases, erroneous behavior could occur during project export.	Project export / import	5.2R4
163535	The way encrypted/protected PDF files are handled has been improved.	Indexing, Search, Security	5.2R3
164017	Due to different handling of Berkeley DB V5 ("FirstSpirit ServerManager / Project Properties / Repository / Backend") in FirstSpirit versions 5.1 and 5.2, the repository of each project must first be configured to use Berkeley DB V3 before a downgrade from FirstSpirit version 5.2 to version 5.1 can be conducted. Further information can be found in chapter "Compatibility: Downgrade to FirstSpirit 5.1 when using Berkeley DB V5".	FirstSpirit Administrator, ServerManager	5.2R3
164464	When using an IBM DB2 database, modifying foreign key relationships could lead to erroneous behavior.	Content Store, Database	5.2R3
165246	In the input component FS_LIST (type INLINE), optimized editing an entry in a separate window.	Input Components, SiteArchitect	5.2.515, 5.2R6
165595	From the current version of FirstSpirit onwards, the use of language-dependent input components within a language-dependent FS_CATALOG input component will be disallowed by default. Further information can be found in chapter "Input components: FS_CATALOG: Nesting of language-dependent input components".	ContentCreator, Developer, Editor, FirstSpirit API, FirstSpirit Administrator, Input Components, ServerManager, SiteArchitect	5.2R5

ID	Description	Categories	Version
165793	In ContentCreator, optimized performance when selecting media or page references in the input component FS_REFERENCE.	ContentCreator, Input Components, Performance	5.2R4
166031	The validation behavior for the input component FS_LIST (type DATABASE) operating in "Mediamode" has been optimized.	ContentCreator, Dynamic Forms	5.2.515, 5.2R6
167345	Optimized search.	ContentCreator, Search	5.2R4
167503	Making a change in the database schema for an existing table (i.e., creating a new column) may have resulted in a malfunction when maintaining data in the data source.	Content Store, Developer, Template Development	5.2R2
167578	From FirstSpirit version 5.2R3 onward, individual web app components can now also be added to global web apps (BETA!). Further information can be found in chapter "Module Development, Scripts, API: Individualizing the global FirstSpirit web applications (BETA!)".	Developer, Module development, Server-Manager	5.2R3
167686	When adding folders to the Media store using drag-and-drop, the folders' display names will now automatically be set.	Media Store, SiteArchitect	5.2R4
167750	Project exports can now be reduced by excluding pre-calculated image resolutions. Further information can be found in chapter "Administration: Reduce project exports by excluding pre-calculated image resolutions".	FirstSpirit Administrator, Project export / import, ServerManager	5.2R2
167794	The process of preselecting the referenced dataset in the selection dialog of the FS_DATASET input component has been improved.	Content Store, Input Components, SiteArchitect	5.2R2
168157	Under certain conditions (a node has been moved and modified at the same time in the source project), nodes were not updated correctly in the target project.	Content Transport, SiteArchitect	5.2R3

ID	Description	Categories	Version
168345	The storage behavior for archiving system files ("Archive old project states" schedule) has been optimized.	Archiving	5.2R3
168389	New list entries in FS_LIST (DATABASE and INLINE types), FS_CATALOG, and FS_INDEX can now be created directly from the preview in ContentCreator via FS_BUTTON. Further information can be found in chapter "ContentCreator: Create new list items using the FS_BUTTON".	ContentCreator, Developer, Editor, Template Development	5.2R2
168598	In FirstSpirit version 5.2R2 and higher, proxy authentication based on Kerberos/SPNEGO or NTLM is supported through HTTP. Further information can be found in chapter "Administration: Proxy authentication via Kerberos/SPNEGO or NTLM".	FirstSpirit Administrator, Security	5.2R2
169017	In an integrated preview using Internet Explorer as browser, opening external links in a separate window could lead to erroneous behavior.	Preview, SiteArchitect	5.2R2
169756	Optimized copying of content into the FirstSpirit clipboard via the keyboard shortcut Ctrl + C .	Clipboard, SiteArchitect	5.2.518, 5.2R6
169828	When indexing individual datasets via script from within a schedule task using the method **rebuildSearchIndex(IDProvider element)** of the interface ProjectStorage (Access API, package **de.espirit.firstspirit.access.admin**), occasionally, individual datasets were not correctly indexed.	FirstSpirit API, Server Administrator, Tasks	5.2R4
169853	As of the current FirstSpirit version, the software used internally for integrated preview has been updated. Further information can be found in chapter "SiteArchitect: Integrated preview: Updated third-party software".	Integrated software, Preview, SiteArchitect	5.2R7

ID	Description	Categories	Version
170093	You can use the method **getModifiedProjectProperties()** of the interface **ImportOperation.Result** (FirstSpirit Developer API, package **de.espirit.firstspirit.store.access.nexport.op** which has been introduced with FirstSpirit version 5.2R4, to identify if and which type of project settings were imported (for example template sets). Further information can be found in chapter "External Synchronization: New method "getModifiedProjectProperties" returns imported project properties".	External synchronization	5.2R4
170102	In ContentCreator, the height of the input component "Link-Sensitive Graphic" (CMS_INPUT_IMAGEMAP) can now be adjusted. Further information can be found in chapter "ContentCreator: Stepless Resizing of the Input Component "Link-Sensitive Graphic" (CMS_INPUT_IMAGEMAP)".	ContentCreator, Editor, Input Components	5.2R3
170286	Optimized clean-up of technical sessions which were established via remote projects.	Server Administrator	5.2R3
170628	Optimized selection dialog of the input component FS_LIST (type DATABASE).	Input Components, SiteArchitect	5.2R4
170828	The "Overview" tab view in the Template Wizard can now be configured. Further information can be found in chapter "Template Wizard: Configure overview".	Developer, Template Development, Template Wizard	5.2R2
171040	Improved visualization of changes in version comparison.	SiteArchitect, Version history	5.2.611, 5.2R7
171052	In external synchronization, optimized content of the file **Info.txt** for media. This file no longer contains resolution information, which is part of global project properties.	External synchronization	5.2R4

ID	Description	Categories	Version
171309	Optimized performance when adding elements to Corporate-Content packages.	Corporate Content, FirstSpirit Administrator, ServerManager	5.2R3
171361	The new "Follow links" checkbox can be used to configure "Crawling" for the "Template Wizard" function. Further information can be found in chapter "Template Wizard: Activate/deactivate crawling".	Developer, Template Development, Template Wizard	5.2R2
171374	Improved handling of folders with identical names in the External Synchronization user interface.	External synchronization, SiteArchitect	5.2R3
171470	Restoring revisions resulted in a malfunction on pages if the child list had been changed by means of a previous restoration process.	Page Store, SiteArchitect	5.2R3
171504	The default value for the `sendAccepted` parameter when using the Kerberos login module has been changed. Further information can be found in chapter "Administration / Modules: Log in via Kerberos ticket "KerberosLoginModule")".	FirstSpirit Administrator, Modules	5.2R2
171607	Within the FS_LIST (INLINE type) component, the deletion of an entry from the list was not identified as a change even though it should have been.	Editor, Input Components, SiteArchitect	5.2R2
171819	When using Oracle databases, archiving datasets could cause erroneous behavior.	Archiving	5.2.615, 5.2R7
172022	If a web server has been configured incorrectly, the installation of a web application on the server is now prevented.	FirstSpirit Administrator, ServerManager	5.2R3
172071	Revised the set of privileges required to modify menu order.	Permissions, Site Store, SiteArchitect	5.2R2
172243	Resource limit settings (*ulimit*) now remain unchanged when the FirstSpirit server is started.	FirstSpirit Administrator	5.2R4

ID	Description	Categories	Version
172275	Template Wizard: New functionality for detecting and merging differences between content which has already been edited and imported. Further information can be found in chapter "Template Wizard: Detecting and merging changes".	Developer, Template Development, Template Wizard	5.2R2
172371	Optimized rule evaluation (functionality "Dynamic Forms") for languages of a form that haven't been displayed yet.	Dynamic Forms, SiteArchitect	5.2R2
172511	In templates, optimized display of editable tables in the "Properties" tab (e.g., page templates / tab "Properties" / tab "General" / table "File extension").	SiteArchitect, Template Development, Template Store	5.2R3
172660	The version comparison dialog has been updated. It now also provides the option to "merge" differences between revisions. Further information can be found in chapter "SiteArchitect: Revised version comparison".	Developer, SiteArchitect, Template Development	5.2R2
172713	The "Add column" pop-up dialog in the data source overview has been optimized.	Content Store, SiteArchitect	5.2R2
172802	The FS_INDEX input component has been expanded to allow access to the value set. Further information can be found in chapter "SiteArchitect / ContentCreator: Access to FS_INDEX value set".	ContentCreator, Developer, SiteArchitect, Template Development	5.2R2
172813	The process of scaling the thumbnails in the detail and symbol display modes (`viewMode="DETAILS"` and `viewMode="SYMBOLS"`) in the FS_INDEX input component has been improved.	ContentCreator, Input Components, SiteArchitect	5.2R2
172842	When selecting a file in the media selection dialog, it no longer matters whether the file extension is written in uppercase or lowercase letters.	Media Store, SiteArchitect	5.2R2
172878	In the "Extras" menu item, evaluation of the "Show preview errors" setting has been improved.	Preview, SiteArchitect	5.2R5

ID	Description	Categories	Version
172892	The options for code completion in templates have been expanded. Further information can be found in chapter "SiteArchitect: Optimizing code completion in templates".	Developer, SiteArchitect, Template Development	5.2R2
172915	When creating language-dependent media via drag-and-drop from another language, the file was erroneously not transferred from the source language.	Media Store, SiteArchitect	5.2R2
173046	The newly-added interface `SelectOptionOperation` (FirstSpirit Developer API) allows developers to use a light-weight dropdown menu for selection of a value within the ContentCreator preview. Further information can be found in chapter "Module Development, Scripts, API: ContentCreator: Using dropdown menus via API".	ContentCreator, Developer, FirstSpirit API	5.2R5
173051	The content of input components can be checked in rules with a regular expression (matches). The regular expression can be used to check whether the editor has included at least one character which is not the equivalent of a whitespace character (blank space, tab space, etc.). A problem could occur during a check of this type if the editor had never made changes to an input component.	Dynamic Forms, SiteArchitect	5.2R2
173112	Dynamic forms now allow canceling of rules evaluation related to complex, long-running rulesets.	Dynamic Forms, SiteArchitect	5.2R2
173120	When the internal Jetty engine was used as servlet engine, an error message could be written to the log files during server shutdown.	Server Administrator	5.2.422, 5.2R5
173167	Within the FS_LIST (DATABASE type) input component, the selection view has been optimized in the selection dialog.	Input Components, SiteArchitect	5.2R2

ID	Description	Categories	Version
173191	In terms of the "Enterprise Backup" functionality, license evaluation has been optimized for the purpose of creating a schedule.	Backup, FirstSpirit Administrator, Server-Manager	5.2R2
173200	In the case of using the `ref()` function on a nonexistent folder, the generation process now involves recording missing references as information ("INFO" log level) rather than errors ("ERROR" log level).	FirstSpirit Adminis-trator, Generation	5.2R2
173287	Projects are now protected against simultaneous editing by several developers using the "FirstSpirit Template Wizard" function. Further information can be found in chapter "Template Wizard: Protection against simultaneous project editing".	Developer, SiteArchitect, Template Development, Template Wizard	5.2R2
173326	The pop-up dialog for searching in database tables incorrectly remained in the foreground when you switched to another application outside the FirstSpirit environment.	Content Store, Search, SiteArchitect	5.2R2
173352	The table view when editing datasets has been optimized.	Content Store, SiteArchitect	5.2R2
173417	Security improvements when starting SiteArchitect and ContentCreator.	ContentCreator, Security, SiteArchitect	5.2R2
173480	Sections can now also be moved into other content areas in ContentCreator. Further information can be found in chapter "ContentCreator: Move sections into other content areas".	ContentCreator, Developer, Editor	5.2R2
173546	A meaningful error message is now displayed when trying to delete the source section of a section reference.	ContentCreator, Editor	5.2R2

ID	Description	Categories	Version
173605	In "FirstSpirit ContentTransport", import and export of project properties require at least project administrator privileges, import of server properties requires server administrator privileges. Attempting to create a feature as a standard user without the privilege levels indicated above could lead to erroneous behavior.	Content Transport, Security	5.2R3
173612	After removing an entry from an index (input component FS_INDEX), switching to another project language of the form and then saving the form could lead to erroneous behavior.	ContentCreator, Input Components	5.2R2
173711	Improved performance of importing media with many resolutions.	Content Transport	5.2R4
173725	In FirstSpirit version 5.2R3, a number of new interfaces and methods for implementing personal schedule actions have been included in the FirstSpirit Developer API. Further information can be found in chapter "Module Development, Scripts, API: New interfaces and methods for implementing personal schedule actions".	Developer, FirstSpirit API, Generation, Tasks	5.2R3
173745	Implemented measures to improve security in FirstSpirit ServerMonitoring as well as in FirstSpirit web applications. Further information can be found in chapter "Administration: Security improvements in FirstSpirit ServerMonitoring and web applications".	FirstSpirit Administrator, ServerMonitoring	5.2R2
173790	Downloading the log files may have resulted in a malfunction in ServerMonitoring.	FirstSpirit Administrator, ServerMonitoring	5.2R2
173802	The description was not always included for the resolution under the project properties.	FirstSpirit Administrator, ServerManager	5.2R2

ID	Description	Categories	Version
173805	Simplified creation of new entries in FS_CATALOG in SiteArchitect. Further information can be found in chapter "SiteArchitect: Simplified Creation of Entries in FS_CATALOG".	Editor, Input Components	5.2R4
173823	The language switching behavior for the input component FS_CATALOG has been optimized.	Input Components, SiteArchitect	5.2R3
173851	After importing a project with historic schedule task data, the history was not taken into account during server shutdown, causing the task history to be unavailable once the server was started again.	FirstSpirit Administrator, Project export / import, ServerManager, Tasks	5.2R2
173860	The browser integration for modules has been improved.	Modules, Preview, SiteArchitect	5.2R2
173875	A meaningful error message is now displayed if a section is supposed to be created on a single page in ContentCreator via drag-and-drop, but another user has just edited it.	ContentCreator	5.2R2
173952	Navigating to an HTML anchor element after refreshing the preview could lead to erroneous behavior.	ContentCreator, Preview	5.2R2
173955	If the "Filterable" aspect of a Data Access Plug-In defines more than one parameter with the same name, only the first provided parameter with that name will now be used. Further information can be found in chapter "Module Development, Scripts, API: Changed Behavior for Data Stream Builder Implementations With Aspect "Filterable"".	Developer, FirstSpirit API, Template Development	5.2R2
174000	Optimized behavior when cropping media elements of type Picture multiple times in a row.	Media Store, Services, SiteArchitect	5.2R2

ID	Description	Categories	Version
174004	Some methods in the `Content2` (FirstSpirit Access API, `de.espirit.firstspirit.access.store.contentstc` package) have been discontinued ("Deprecation") and can be omitted in the next FirstSpirit major version (6.0). Further information can be found in chapter "Module Development, Scripts, API: Discontinuation ("Deprecation") of methods for the "Content2" interface".	Developer, FirstSpirit API, Module development, Template Development	5.2R2
174020	In the input component FS_INDEX, clicking on an invalid reference in the snippet view may have resulted in a malfunction.	Input Components, SiteArchitect	5.2R3
174052	The template set for preview viewports has been taken into more careful consideration in the "Multi Perspective Preview" function.	Multi Perspective Preview, SiteArchitect	5.2R2
174055	Media type and size restrictions have been taken into more careful consideration in the selection dialog when uploading media.	Media Store, SiteArchitect	5.2R2
174176	When copying a dataset in a data source where a workflow was in progress, the workflow status was erroneously transferred.	Content Store, SiteArchitect, Workflow	5.2R2
174208	In the schema editor, the XML file of the database schema will now be correctly updated when deleting relations.	Developer, Template Development	5.2R2
174255	The way version comments for datasets are handled has been optimized.	Content Store, SiteArchitect, Version history	5.2R3

ID	Description	Categories	Version
174265	Deprecated the methods **addStartNode(IDProvider)** and **removeStartNode(IDProvider)** in the interface **Package** (FirstSpirit Access API, package **de.espirit.firstspirit.access.packagepool**). These methods may be removed from the Access API with the next major FirstSpirit version (6.0). Nodes may be added to and removed from a "Package" object (supplied as a parameter) by using the methods **addToPackage(Package)** and **removeFromPackage(Package)**, respectively, of the interface **PackagePoolItem** (FirstSpirit Access API, package **de.espirit.firstspirit.access.store**). All objects which may be added to a Corporate Content package implement this interface.	Corporate Content, Developer, FirstSpirit API	5.2R3
174281	After installation, the option to use the launcher was not activated in the connection settings.	Launcher	5.2R2
174297	Navigation in the server/project properties using the arrow keys (or "cursor keys") has been optimized.	FirstSpirit Administrator, ServerManager, Tasks	5.2R2
174304	The full-text search has been improved with regard to longer search texts.	Search, SiteArchitect	5.2R3
174319	The process of reading out the FS_INDEX input component into table templates has been optimized.	ContentCreator, Developer, SiteArchitect, Template Development	5.2R2
174427	As of the current FirstSpirit version, signing of FirstSpirit JAR files is carried out using SHA-256. Further information can be found in chapter "System: Signing with SHA-256".	FirstSpirit Administrator	5.2.615, 5.2R7
174484	Optimized the selection view in the selection dialog (tab "Selection") for the input component FS_LIST.	Input Components, SiteArchitect	5.2R4

ID	Description	Categories	Version
174628 154885 172636	For the "FirstSpirit Template Wizard", "FirstSpirit Template Debugger", and "FirstSpirit Template Inspection", permissions can now be granted so that these tools can now only be accessed by certain user groups. Further information can be found in chapter "Administration: Permissions for FirstSpirit modules (Template Wizard, Template Debugger, Template Inspection)".	Developer, FirstSpirit Administrator, Permissions, ServerManager, SiteArchitect, Template Debugger, Template Wizard	5.2R2
174667	E-mails are now no longer sent automatically if the license has expired. Further information can be found in chapter "Administration: Expired license warning".	FirstSpirit Administrator, License	5.2R2
174793	Optimized "Select project" page of the Template Wizard's project creation/loading dialog.	SiteArchitect, Template Development, Template Wizard	5.2R2
174865	Optimized visualization of elements which are included in a CorporateContent package.	Corporate Content, SiteArchitect	5.2R4
174896	In a workflow, performing a release after a state change triggered via a script in an automatic activity could lead to erroneous behavior.	SiteArchitect, Workflow	5.2R2
174962	Optimized error handling when starting a workflow which contains an error state.	SiteArchitect, Workflow	5.2R2
175012	When double clicking the resolution of an image in the Media store of SiteArchitect, the corresponding image preview will now be displayed again.	Media Store, SiteArchitect	5.2R2
175016	Uploading a media file which failed media restriction checks could lead to erroneous behavior.	Media Store, SiteArchitect	5.2R2
175020	New FirstSpirit login facility via the HTTP request header ("RequestHeaderLoginModule") Further information can be found in chapter "Administration: Log in via the HTTP request header ("RequestHeaderLoginModule")".	FirstSpirit Administrator	5.2R2

ID	Description	Categories	Version
175039	The function "Show usages" on an element could lead to errors when the referenced objects came from a remote project and the user had no rights in that project.	Permissions, SiteArchitect	5.2R4
175107	Optimized generation of details flyouts for report entries.	ContentCreator	5.2R2
175177	Optimized version comparison for subforms.	SiteArchitect	5.2R2
175181	The group/user combo box is now sorted alphabetically in the dialog for configuring the workflow permissions.	Developer, Permissions, Workflow	5.2R2
175186	Optimized clearing of inline formatting in the rich text editor (input component CMS_INPUT_DOM).	ContentCreator, Input Components	5.2R2
175189	The process of displaying rule violations in subforms (e.g., a link form in the CMS_INPUT_LINK input component) has been optimized.	Dynamic Forms, Input Components, SiteArchitect	5.2R2
175223	After closing a ServerManager dialog when using a Mac OS X operating system, the main window was not always in focus.	Server Administrator, ServerManager	5.2R2
175247	Methods for determining the absolute path to the schedule entry directory Further information can be found in chapter "Module Development, Scripts, API: Methods for determining the absolute path to the schedule entry directory".	Developer, FirstSpirit API, Generation	5.2R2
175252	In order to comfortably perform updates of modules which include project or web application components, ServerManager provides the button "Update uses" under "Server / Properties / Modules". Erroneously, not all changes were regarded after updating a module and updating uses of module components.	Modules, ServerManager	5.2R3
175380	Performance improvements in the area SiteArchitect.	SiteArchitect	5.2R3
175399	Creating a new dataset by copying data from an existing dataset could lead to erroneous behavior if the form contained the input component CMS_INPUT_DOM.	Content Store, ContentCreator, Input Components	5.2R2

ID	Description	Categories	Version
175454 176337	Improved support of input components FS_CATALOG and FS_INDEX in subforms.	Input Components, SiteArchitect	5.2R2
175462	Modules with required missing references to other modules are now visualized appropriately in FirstSpirit ServerManager and can be uninstalled from the FirstSpirit Server without leaving any traces. Further information can be found in chapter "Module Development, Scripts, API: Handling dependent modules".	FirstSpirit Administrator, Module development, ServerManager	5.2R2
175504	Improved performance in aspects of external synchronization.	External synchronization, SiteArchitect	5.2R2
175523	In "External Synchronization", improved handling of invalid form elements and erroneous rule definitions.	External synchronization	5.2R4
175576	The performance of the "external synchronization" function has been optimized when adding elements via the user interface. Further information can be found in chapter "External Synchronization: Optimized performance".	Developer, External synchronization, SiteArchitect, Template Development	5.2R2
175578	Longer periods of inactivity could lead to erroneous behavior when requesting the FirstSpirit start page.	Webstart	5.2.424, 5.2R5
175593	Logging of the ContentCreator may have resulted in a malfunction when using the "FirstSpirit DynamicPersonalization" module.	ContentCreator, Modules	5.2R2
175594 174750	The FirstSpirit Launcher functions have been improved.	Launcher, SiteArchitect	5.2R2
175636	Importing a project export, which has been created with FirstSpirit version 5.0R4 or lower, may have resulted in a malfunction in URLs for individual datasets.	FirstSpirit Administrator, Project export / import	5.2R2
175662	Optimized interaction pattern when executing workflows with automatic actions on multiple objects.	SiteArchitect, Workflow	5.2.615, 5.2R7

ID	Description	Categories	Version
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). Further information can be found in chapter "Module Development, Scripts, API: Establishing connections via API in schedule task scripts".	Developer, FirstSpirit API, Tasks	5.2.515, 5.2R6
175841	FirstSpirit version 5.2R3 introduces the new interfaces **OpenComparisonDialogOperation** and **OpenMergeDialogOperation** (both in the package **de.espirit.firstspirit.ui.operations**, FirstSpirit Developer-API). Further information can be found in chapter "Module Development, Scripts, API: New Interfaces to Open Version Comparison and Merge Dialogs".	Developer, FirstSpirit API, SiteArchitect	5.2R3
175850	The display for the design elements (CMS_LABEL or CMS_GROUP), which is controlled by rules, has been improved.	ContentCreator, Dynamic Forms, Input Components	5.2R2
175868	Optimized interaction pattern when cancelling a workflow.	ContentCreator	5.2.518, 5.2R6
176035	Optimized output of nested levels in FS_INDEX input components.	Developer, SiteArchitect, Template Development	5.2R2
176065	In the CMS_INPUT_IMAGEMAP input component, the display of remote media has been optimized.	ContentCreator, Input Components	5.2R2
176138	The sending of an e-mail to a list of users or user groups has been improved in a workflow. Further information can be found in chapter "SiteArchitect: Configuring e-mail messaging in workflows".	Developer, SiteArchitect, Workflow	5.2R2

ID	Description	Categories	Version
176147	Optimized editing of metadata on the root node of the Site Structure store.	ContentCreator, Site Store	5.2R3
176213	Deleting an entry with a rule violation in the FS_CATALOG input component, may have resulted in a malfunction.	Dynamic Forms, Input Components, SiteArchitect	5.2R2
176253	Log messages generated by SiteArchitect and Server-Manager will now be stored in separate files on the client workstation of the respective user. Additionally, the current logging may be observed in a separate log window. Further information can be found in chapter "SiteArchitect / ServerManager: Client Logging".	Developer, SiteArchitect, Webstart	5.2R7
176262	When populating an FS_INDEX input component via drag and drop from a report, restrictions imposed by the rule property "ADD" were not taken into account.	Dynamic Forms, Input Components, SiteArchitect	5.2R2
176290	The process of updating the detail page of a content projection in the integrated preview when editing a dataset has been optimized.	Content Store, Preview, SiteArchitect	5.2R2
176373	Due to a change in the FirstSpirit Developer API, any special modules that you have created yourself and that use the *PreviewParameter* (package *de.espirit.firstspirit.client.mpp*) interface must be recreated after upgrading to FirstSpirit version 5.2R2. Further information can be found in chapter "Module Development, Scripts, API: General information".	Developer, FirstSpirit API, Module development	5.2R2
176533	The process of generating content from an FS_INDEX input component in a nested structure has been improved.	Developer, Generation, Input Components	5.2R2
176643	Improved display of mappings in table templates for projects with many languages.	Developer, SiteArchitect, Table templates, Template Development	5.2R2

ID	Description	Categories	Version
176937	Capitalization is no longer taken into consideration when performing global searches in the "Search in templates" system filter.	Search, SiteArchitect	5.2R2
176953	In "Content Transport" functionality, installing a feature could lead to erroneous behavior if the feature contained the project property "Schedule entries", wherein one of the schedule entries referenced an action template.	Content Transport	5.2R3
176956	In "Content Transport" functionality, optimized interaction pattern for assembly of features that should only contain project properties.	Content Transport	5.2R3
177110	The *getHeight()* method from the "MappingMedium" interface (Access API, *de.espirit.firstspirit.access.editor.value* package) has been optimized.	Developer, SiteArchitect, Template Development	5.2R2
177127	Optimized output of inherited variable values of a menu level in the Site Structure store.	Site Store, SiteArchitect	5.2R2
177182	Recalculation of references is now supported for individual elements using the new API object `ProjectReference-sAgent`. Further information can be found in chapter "Module Development, Scripts, API: Recalculation of references for individual elements via ProjectReferencesAgent".	Developer, FirstSpirit API	5.2R3
177304	Disabling the "Delete" icon for the input component FS_LIST (no `<ACTION name="REMOVE"/>` defined) was erroneously not observed in ContentCreator.	ContentCreator, Input Components	5.2R5
177311	In ContentCreator, adding new media to a folder could lead to erroneous behavior if the project's master language was not configured to be used as an editorial language.	ContentCreator, Media Store	5.2R5
177323	In rare cases, specific configurations of FS_REFERENCE could lead to erroneous behavior in ContentCreator: in such cases, not all elements eligible for selection were displayed. Further information can be found in chapter "ContentCreator: Filter in FS_REFERENCE via <SOURCES>".	ContentCreator, Developer, Input Components	5.2R3

ID	Description	Categories	Version
177465	Links without link text in the CMS_INPUT_DOM input component may have resulted in a malfunction within the indexing process.	FirstSpirit Administrator, Indexing, Input Components	5.2R2
177500	The FS_LIST (DATABASE type) input component was liable to malfunctions when using language-independent input components in the internal form in conjunction with rules.	Dynamic Forms, Input Components, SiteArchitect	5.2R2
177621	In very rare instances, the defined rules ("Dynamic forms" functionality) were erroneously not taken into account in a data source.	Content Store, Dynamic Forms, SiteArchitect	5.2R3
177836	An external group may be used on a FirstSpirit server in order to assign server administrator privileges to this group (user settings, attribute "Server Administrator"). Furthermore, it is possible to prohibit the server administrator (user "Admin") to perform editorial activities in a project (i.e. to open a project). Erroneously, this prohibition was also applied to users with server administrator privileges.	Corporate Content, Editor, Permissions, Server Administrator, SiteArchitect	5.2R3
177904	Starting a workflow on a dataset could cause the dataset to lose focus.	Content Store, Workflow	5.2R3
177926	In the input component CMS_INPUT_DOMTABLE (enableImport="yes" option), inserting content from Microsoft Excel may have resulted in a malfunction.	Clipboard, Input Components, SiteArchitect	5.2R3
178089	As of FirstSpirit version 5.2R5, source code packages are available that contain example modules for integration of external data sources in FirstSpirit using generic DataAccessPlugins. Further information can be found in chapter "Module Development, Scripts, API: Examples for integration of external data sources using generic DataAccessPlugins".	Developer, FirstSpirit API, Module development	5.2R5

ID	Description	Categories	Version
178142	Pressing Ctrl and hovering the mouse cursor over template code now visualizes referenced FirstSpirit elements while Ctrl + KLICK jumps to the referenced element. Further information can be found in chapter "SiteArchitect: Jumping to References in Template Code".	Developer, Template Development, Template Store	5.2R9
178271	The ability for several users to edit a dataset in parallel has been optimized.	Content Store, SiteArchitect	5.2R2
178279	Editing referenced datasets in nested FS_LIST (type DATABASE) input components could lead to erroneous behavior.	Input Components, SiteArchitect	5.2R4
178420	It is only possible to define a group exclusion in workflows for transitions which point to an activity. From FirstSpirit version 5.2R3 onward, this definition is now also prevented in the GUI for transitions which point to a status. Further information can be found in chapter "SiteArchitect: 'Group exclusion' function for transitions in workflows".	Developer, Permissions, SiteArchitect, Workflow	5.2R3
178503	Optimized scrolling and loading of entries in reports (data access plug-ins).	Reports, SiteArchitect	5.2R3
178506	Reloading the entries in the selection dialog in the FS_INDEX input component has been optimized.	Input Components, SiteArchitect	5.2R3
178566	Optimized output of nested input component FS_INDEX in snippets.	Corporate Content, Input Components, SiteArchitect, Template Development	5.2R3
178744 150701 192871	Handling of reports has been improved. Further information can be found in chapter "SiteArchitect / ContentCreator: Reports: Handling has been improved".	ContentCreator, Editor, Reports, SiteArchitect	5.2.515, 5.2R6

ID	Description	Categories	Version
178799	When executing the method `delete(IDProvider, boolean)` (FirstSpirit Access API, package `de.espirit.firstspirit.access`, class `AccessUtil`) on a dataset, the data source was deleted erroneously. Now, an error message is generated which states that a dataset cannot be deleted using the method above.	Content Store, Developer	5.2R3
178812	When importing media using "Template Wizard" functionality, the option "Parse file" will now only be activated for files of types "css" and "js".	Media Store, Template Wizard	5.2R3
178858	When using the functionality "External Synchronization", the preview page of a template was erroneously not considered after import.	External synchronization	5.2R4
178861	Optimizations related to TLS encryption.	Security	5.2R3
178867	The "Edit image section" dialog in ContentCreator can now be opened via API. Further information can be found in chapter "Module Development, Scripts, API: ContentCreator: Opening the "Edit image section" dialog via API".	ContentCreator, Developer, FirstSpirit API	5.2R5
178879	Weighting of content in search results may be specified per input component using the parameter `searchRelevancy`. Further information can be found in chapter "Search: Weighting of Contents in Input Components".	ContentCreator, Developer, Indexing, Input Components, Search, SiteArchitect, Table templates, Template Development, Template Store	5.2R3
178954	In the case of older Mac OS X versions (e.g., 10.7), the internal check of the operating system version in SiteArchitect may have resulted in a malfunction.	SiteArchitect	5.2R3
179073	Optimized validation hints in forms of inner entries of the input component FS_CATALOG.	Dynamic Forms, Input Components, SiteArchitect	5.2R2

ID	Description	Categories	Version
179095	Improved indexing of files with file name extensions "html", "json", and "php".	Indexing, Search	5.2R4
179099	For the input component FS_CATALOG, the behavior when creating a new entry and then canceling editing without saving changes has been optimized.	Input Components, SiteArchitect	5.2R3
179110	Creation of duplicate log directories will now be prevented.	FirstSpirit Administrator	5.2R3
179124	In rare cases, selecting a remote object may have resulted in a malfunction.	ContentCreator, Input Components	5.2R3
179132	Optimized search in data sources.	Content Store, Search, SiteArchitect	5.2R3
179200	The search performance in customer-specific reports ("ReportPlugin") has been optimized.	ContentCreator, Reports	5.2R3
179202	Optimized default contents of a rule definition after creation of a new template. The editor now initially contains opening and closing `<RULES>` tags.	Dynamic Forms, Template Development	5.2.611, 5.2R7
179252	In the "Edit image section" dialog in ContentCreator, rotating or flipping an image section were erroneously not recognized as changes.	ContentCreator, Media Store	5.2R5
179283	In rare cases, searching for datasets in projects which use project archiving may have resulted in an error.	Archiving, FirstSpirit Administrator, Search	5.2R3
179426	In the input component FS_LIST (DATABASE type), the referenced dataset was erroneously marked as changed when an entry was added.	Input Components, SiteArchitect	5.2R3
179428	The global search functionality supports drag and drop of input components onto the search field. For an FS_DATASET input component referencing a certain dataset, search results now include elements which also reference that dataset.	Input Components, Search, SiteArchitect	5.2R3

ID	Description	Categories	Version
179444	The response time when editing images in projects with many image resolutions has been improved.	Media Store, SiteArchitect	5.2R3
179500	Saving the configuration of an FS_CATALOG input component without a `<TEMPLATES>` tag caused display of a Java exception. Now, a concise error message that indicates the missing tag will be displayed.	Input Components, SiteArchitect, Template Development	5.2R3
179577	The process of updating the preview has been improved.	ContentCreator, Preview	5.2R3
179589	Optimized behavior when releasing a node which has been restored.	SiteArchitect, Workflow	5.2R3
179618 185510	In the input component CMS_INPUT_COMBOBOX, input of custom values (parameter `editable="yes"`) could lead to erroneous behavior.	Input Components	5.2R4
179721	Erroneous behavior could occur during execution of workflow scripts.	ContentCreator, Workflow	5.2R3
179811	When creating a new page, the option "Hide in selection list" for the page template used was erroneously not taken into account.	ContentCreator, Template Store	5.2R3
179812	Optimized thumbnail display during search in the selection dialog of the input component FS_INDEX.	Input Components, SiteArchitect	5.2R4
179884 173188 187062	In FirstSpirit version 5.2R4, updated internally used software. Further information can be found in chapter "System: Integrated Software".	Database, Integrated software, Launcher, Security, Server Administrator	5.2R4
179938	The interface `MediaManagementContext` in the package `de.espirit.firstspirit.webedit.plugin.media` (FirstSpirit Developer API) has been extended with new methods. Further information can be found in chapter "Module Development, Scripts, API: Content-Creator: Modify view of the dialog "Manage media" (de.espirit.firstspirit.webedit.plugin.media)".	ContentCreator, Developer, FirstSpirit API, Media Store	5.2R7

ID	Description	Categories	Version
179963	Improved stability of project repository conversion.	Database, FirstSpirit Administrator, Server-Manager	5.2R4
180031	Canceling a workflow in ContentCreator immediately after starting it could lead to erroneous behavior.	ContentCreator, Workflow	5.2R3
180073	Improved the process of populating an FS_REFERENCE input component via drag and drop using a medium from the FirstSpirit clipboard.	Clipboard, Input Components, SiteArchitect	5.2R4
180125 180125	In the language-independent input components FS_CATALOG and FS_LIST (INLINE type), the input components of sections are now highlighted again when checking for TRANSLATED within a rule ("dynamic forms" functionality).	ContentCreator, Dynamic Forms, Input Components	5.2R3
180214	In rare cases, the parameter `wrapper.pidfile`, set in the configuration file "fs-wrapper.conf", was not considered in Linux environments.	Server Administrator	5.2R4
180217	In the input component FS_REFERENCE with a filter for data sources (`<FILTER>` tag with the element type `CONTENT2`), opening the selection dialog could lead to erroneous behavior.	Input Components, SiteArchitect	5.2R3
180270	Added an icon for refreshing package display.\n\nFurther information can be found in chapter "Modules: Corporate Content: Refresh package display".	Corporate Content	5.2R4
180469	Concurrent editing of a dataset by multiple users / in multiple clients could lead to erroneous behavior.	Content Store, SiteArchitect	5.2R3
180481	Performance improvements in the area SiteArchitect / Server-Manager.	ServerManager, SiteArchitect	5.2R2
180560	For page references, optimized display of changes in the version history.	SiteArchitect, Version history	5.2R5

ID	Description	Categories	Version
180638	Optimized the user interface of the details view of the input component FS_INDEX: the tabs in the details view will now be reused and visualize an active edit mode. Further information can be found in chapter "SiteArchitect: FS_INDEX: Reuse of tabs in the details view".	SiteArchitect	5.2R5
180640	In rare cases, modifications were not handled properly in nested FS_LIST input components (type DATABASE).	Input Components, SiteArchitect	5.2R3
180661	Updated the integrated Chrome browser engine "JxBrowser" to version 4.9.5. Further information can be found in chapter "System: Integrated Software".	Preview, SiteArchitect	5.2R3
180679	When transporting project properties via external synchronization (using the API), updates were occasionally not recognized.	Developer, External synchronization, FirstSpirit API	5.2R3
180690 181215	Performing edits in image galleries (input component FS_LIST, type DATABASE with the tag `<MEDIAMODE>`) could lead to erroneous behavior.	ContentCreator, Input Components	5.2R3
180712	In the case of the input component FS_CATALOG, the revalidation process when modifying the options "Include this section in the output" (property INCLUDED) or "Page is completely translated to this language" (property TRANSLATED) in subforms has been optimized.	Dynamic Forms, Input Components, SiteArchitect	5.2R3
180715	In the case of the input components FS_CATALOG, FS_LIST (INLINE type), and CMS_INPUT_IMAGEMAP, the revalidation process when modifying the options "Display or hide section" (property INCLUDED) or "Page is completely translated to this language" (property TRANSLATED) in subforms has been optimized.	ContentCreator, Dynamic Forms, Input Components	5.2R3

ID	Description	Categories	Version
180755	The "Merge" functionality in some tabs of the "Version comparison" dialog is now no longer available or only available with appropriate user privileges. Further information can be found in chapter "SiteArchitect: Selection of revisions for merge".	Developer, SiteArchitect, Template Development, Version history	5.2R4
180825	The newly-introduced parameter `preview.externalDeliveryForwardHttpHeaders` (`fs-server.conf`) defines if, and which, HTTP header fields will be forwarded to the external web server, which is speficied by the parameter `preview.externalDeliveryURL`. Further information can be found in chapter "Administration: Forwarding of HTTP Header Information to an External Preview URL".	FirstSpirit Administrator, ServerManager	5.2R3
180905	In certain cases, the output of CMS_INPUT_PERMISSION values in templates may have resulted in a malfunction.	Input Components, SiteArchitect	5.2R3
180918	Package `de.espirit.firstspirit.ui.gadgets.swing` (FirstSpirit Developer-API) extended by the class `SwingFormViewMode`. Further information can be found in chapter "Module Development, Scripts, API: SwingGadget Development: New Class "SwingFormViewMode"".	Developer, FirstSpirit API, Input Components, Module development, SiteArchitect	5.2R9
180923	Deleting a new dataset which had never been saved may have resulted in a malfunction.	Content Store, SiteArchitect	5.2R3
180966	Media restrictions: Improved identification of file format of media uploaded via drag-and-drop. Further information can be found in chapter "Media: Optimized identification of file format of media uploaded via drag-and-drop".	ContentCreator, Developer, Editor, Media Store, ServerManager, SiteArchitect	5.2R4

ID	Description	Categories	Version
181029	FirstSpirit-Version 5.2R3 includes a bugfix which provides extensive protection against a Java vulnerability in connection with serialization/deserialization. Further information can be found in chapter "Security: Java Vulnerability (Serialization/Deserialization)".	FirstSpirit Administrator, Module development, Modules, Security	5.2R3
181031	Improved search in log files in ServerMonitoring.	Search, ServerMonitoring	5.2R5
181081	In translation help, improved adoption of content within entries of FS_CATALOG input components.	Input Components, SiteArchitect	5.2R4
181290	Starting a FirstSpirit server could lead to erroneous behavior if the user's home directory could not be written to.	FirstSpirit Administrator	5.2R3
181336	When using the module "FirstSpirit Security", the FirstSpirit Access Control Database was not created correctly in the web application directory when deploying the WAR file on an external web server (e.g., Tomcat 7).	Developer, FirstSpirit Administrator, Modules	5.2R3
181337	During creation of a new package version, erroneous behavior could occur.	Corporate Content	5.2.515, 5.2R6
181367	Improvements in the area Template Wizard.	Template Wizard	5.2R4
181376	Improved output of input component FS_INDEX in metadata.	Corporate Content, Input Components, SiteArchitect, Template Development	5.2R3
181491 181528 181585	FirstSpirit version 5.2R3 features several optimizations related to use of the FirstSpirit Launcher. This includes security improvements (use via HTTPS, use of cookies, consideration of permissions). Further information can be found in chapter "Administration: Optimizations related to use of the FirstSpirit Launcher".	FirstSpirit Administrator, Launcher, Security, Server Administrator, Webstart	5.2R3
181597	Improved performance when saving project settings ("SiteArchitect / Global settings") with large amounts of data.	Global settings	5.2R4

ID	Description	Categories	Version
181664	Changing a dataset using a workflow and a workflow script could lead to erroneous behavior.	Content Store, SiteArchitect, Workflow	5.2R3
181736	The current FirstSpirit version provides MBeans in the JMX console entry "ConnectionPool" which allow visualization and control of database connections. Further information can be found in chapter "Administration: MBeans for visualization and control of database connections ("ConnectionPool")".	Database, FirstSpirit Administrator	5.2.426, 5.2R5
181806	Improved search in data sources.	ContentCreator, Search, SiteArchitect	5.2R4
181808	Improved consideration of access privileges on page templates.	ContentCreator, Permissions	5.2R4
181816	In the input component FS_LIST (type DATABASE), selection of datasets could lead to erroneous behavior if an associated query (tag `QUERY`) used the wildcard `%lang%` for language-dependent content for a column.	Content Store, SiteArchitect	5.2R4
181825	After installation of a feature in a target project, in rare cases, the order of sections within an updated page could be changed.	Content Transport, Page Store	5.2R3
181826	Optimized evaluation of a parameter from a page reference that is passed to a database query.	Database	5.2.515, 5.2R6
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". Related to this change, several modifications were made to the FirstSpirit Access API. 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	5.2R6

ID	Description	Categories	Version
182083	In ContentCreator forms, depending on the browser, display of an input component which references a data source that contains many datasets may be slow. As of FirstSpirit 5.2R4, the display is thus limited to 100 entries. Further information can be found in chapter "ContentCreator: Improved performance when displaying datasets in input components".	Content Store, ContentCreator, Developer, Editor, Input Components, Template Development	5.2R4
182120 185986	Improved import behavior in External Synchronization used via API.	External synchronization	5.2R4
182179	Some optimizations have been made to the "Form" and "Rules" tabs for the purpose of code completion in the latest FirstSpirit version. Further information can be found in chapter "SiteArchitect: Code completion optimizations".	Developer, Dynamic Forms, SiteArchitect, Template Development, Template Store	5.2R7
182228	Improved thumbnail display for media in Media store folders.	Media Store, SiteArchitect	5.2.424, 5.2R5
182234 193136	Improved refreshing the preview after making changes in subforms.	ContentCreator	5.2.518, 5.2R6
182334	Improved user interface when creating multiple thread dumps (menu entry "FirstSpirit / Monitoring / Threads") in FirstSpirit ServerMonitoring.	ServerMonitoring	5.2R3
182409	In external synchronization, media were erroneously not updated during import.	External synchronization	5.2R4
182441	Corrected standard release workflow.	Workflow	5.2R4
182613	Erroneous behavior could occur during start-up of web applications if Websphere was used as an application server.	FirstSpirit Administrator	5.2R6

ID	Description	Categories	Version
182765	In the input component CMS_INPUT_RADIOBUTTON, the set of available options may be limited by using a rule. Erroneous behavior could occur if the current value of such an input component was not available in the current set of available options.	Dynamic Forms, Input Components, SiteArchitect	5.2R5
182781	The import logging contextual information are enhanced and should be more meaningful if the project export does contain erroneous metadata.	FirstSpirit Administrator, Project export / import	5.2R4
182789	Project exports were erroneously not considered during clean-up of the backup directory.	Backup	5.2.611, 5.2R7
182852	Optimized generation of preview URL using the method `getPreviewUrl(Language, TemplateSet, boolean, int, Map<?,?>)` of the interface `Previewable` (FirstSpirit Access API, package `de.espirit.firstspirit.access.store`).	ContentCreator, FirstSpirit API	5.2R3
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). Further information can be found in chapter "SiteArchitect / ContentCreator: Dynamic forms: New property "CONTAINERTYPE"".	Developer, Dynamic Forms	5.2R6
182865	Evaluating the release state of a dataset has been optimized for the detailed view display.	Content Store, SiteArchitect	5.2.515, 5.2R6

ID	Description	Categories	Version
182868	Toggling the options "Page is completely translated for this language" and "Generate this section in the output" on and off for pages and sections, respectively, now uses simplified keyboard controls. Further information can be found in chapter "SiteArchitect: Optimized keyboard control for consideration of pages and sections in generation".	Editor, Generation, Page Store, SiteArchitect	5.2R4
182884	Improved keyboard-based selection of entries in the input component CMS_INPUT_LIST.	Input Components	5.2R5
182976	Optimized positioning of the pop-up selection dialog for input components FS_LIST (type DATABASE) that use a query (tag `QUERY`).	Input Components, SiteArchitect	5.2R4
183114	As of FirstSpirit version 5.2, Oracle JDK 1.6 has been removed from maintenance. The file *FIRSTspirit.jnlp* has been adjusted accordingly.	Server Administrator, Webstart	5.2R3
183128	In external synchronization (used via API), occasionally, not all objects in a folder structure were properly included in an export into the external file system.	External synchronization	5.2R4
183272	In ContentCreator, programmatic redirects could erroneously no longer be implemented.	ContentCreator	5.2R4
183350	During use of ContentCreator, a problem related to the user session could arise.	ContentCreator	5.2R4
183416 184278	You can now perform web-based updates of your FirstSpirit server/s by simply selecting the desired FirstSpirit version in ServerMonitoring. Further information can be found in chapter "Administration: Server updates using "pull" method".	FirstSpirit Administrator, License, Server Administrator, ServerMonitoring	5.2R5
183430 183873	During use of FirstSpirit ContentCreator, increased file handle usage could occur.	ContentCreator, FirstSpirit Administrator	5.2R4

ID	Description	Categories	Version
183465	Creating a query may have failed after creating a database schema from an external Oracle database with a BLOB column.	Database	5.2R7
183474	In rare cases, display issues with the Difference icon in modified areas could occur in the Difference view (page status, "Display all changes").	ContentCreator, Version history	5.2R4
183483	In the external synchronization user interface, improved status display for objects that will be imported.	External synchronization	5.2R4
183559 184287	In order to support the new FirstSpirit Health Center functionality, the protocol for FirstSpirit web applications was modified and is now incompatible to that of previous versions. As in any upgrade and downgrade procedure, it is necessary to ensure that the FirstSpirit web applications are compatible with the FirstSpirit server software's version. Further information can be found in chapter "Administration: Modified protocol for FirstSpirit web applications".	FirstSpirit Administrator, Module development, Server-Manager	5.2R4
183591	Optimized selection of the "Next editor" of a workflow in ContentCreator (using the magnifying glass or "Show more entries..."). Further information can be found in chapter "ContentCreator: Selection dialog for next editor(s) of a workflow".	ContentCreator, Editor, Workflow	5.2R4
183612	Dynamic forms in combination with preset and fallback values: The (partial) prepopulation of form fields with preset and fallback values via the dialog "Edit form defaults" in the Templates store is now possible again. Rule violations which would normally prevent saving a form (e.g. because a mandatory field in the form is empty) will be shown in the dialog "Edit form defaults" but will no longer prevent saving the form in this dialog.	Developer, Dynamic Forms, Input Components, SiteArchitect, Template Development, Template Store	5.2R4
183642	Erroneous behavior could occur during feature installation if the database schema in the target project contained more attributes than that in the source project.	Content Transport	5.2R4

ID	Description	Categories	Version
183670	Saving the inner form of an FS_DATASET input component could lead to erroneous behavior.	Content Store, Input Components, SiteArchitect	5.2R4
183699	Optimized interaction pattern when installing or creating a feature.	Content Transport	5.2R6
183767	When starting workflows via the status bar or the context menu, the available workflows will now be sorted using the same ordering.	SiteArchitect, Workflow	5.2.424, 5.2R5
183799	In the project properties of FirstSpirit ServerManager, a setting is now available that defines if selection from remote projects should be limited to objects which have been released at least once. Further information can be found in chapter "Modules: Corporate Media: Limiting selections from remote projects to objects with a release state".	ContentCreator, Corporate Content, FirstSpirit Adminis-trator, Page Store, ServerManager, SiteArchitect	5.2R4
183852	Optimized message board for display of long messages.	SiteArchitect	5.2R4
183861	When starting SiteArchitect using a URL without a domain, the cookies listed in the parameter "clientCookieNames" were erroneously not considered by the integrated Chrome browser.	Preview, SiteArchitect	5.2R4
183892	After deinstallation of the FOP module, the presentation channel was erroneously deleted on the server.	Modules, Server-Manager	5.2R4
183978	Improved performance when using FirstSpirit in HTTP connection mode.	ServerManager, SiteArchitect	5.2R4

ID	Description	Categories	Version
184024 189428 189552 189655 189899	Extended interaction pattern of FS_INDEX with drag-and-drop functionality: FS_INDEX can now be selected as a drop editor in section, link, and table templates. Furthermore, users may now add and replace entries of compatible data types (e.g. from a report) to/in index components in forms using drag-and-drop. Further information can be found in chapter "Input components: FS_INDEX: Editorial functionality using drag-and-drop".	ContentCreator, Developer, Editor, Input Components, SiteArchitect, Template Development	5.2.424, 5.2R5
184074	An active server backup mode didn't respect the project registries.	Backup, FirstSpirit Administrator	5.2R4
184092	Optimized positioning of pop-up dialogs displayed via scripts.	SiteArchitect	5.2R4
184104	Workflows on media and media folder elements can now be advanced in the report area under "Tasks". Further information can be found in chapter "ContentCreator: Workflows on media and media folder elements".	ContentCreator, Media Store, Workflow	5.2.611, 5.2R7
184121	When adopting changes via translation help, erroneous behavior could occur.	SiteArchitect	5.2R4
184178	Optimized detection of modifications in the input component CMS_INPUT_PERMISSION.	Input Components	5.2R4
184179	Optimized calculation of privileges when editing metadata in ContentCreator.	ContentCreator, Permissions	5.2R4
184202	Improved display behavior of the dialog "Manage media" in ContentCreator (menu entry "Media / Manage media") after deleting an empty folder.	ContentCreator, Media Store	5.2R4
184205	In the Media store, the action "Delete" was erroneously available on a media element which was already in a workflow.	ContentCreator, Media Store, Workflow	5.2R4
184237	In rare cases, erroneous behavior could occur in the preview.	ContentCreator, Preview, SiteArchitect	5.2.424, 5.2R5

ID	Description	Categories	Version
184254	Due to optimizations of distribution mechanisms, the global web applications included in FirstSpirit (fs5root, fs5preview, fs5webedit, …) are now provided as FirstSpirit modules (FSM files). Further information can be found in chapter "Modules (general): Distribution of FirstSpirit web applications as modules (.fsm)".	FirstSpirit Administrator, Modules, Server Administrator, ServerManager	5.2R4
184259	Performance improvements in the Media store related to managing folders which contain many Media elements.	Media Store, SiteArchitect	5.2R4
184278 183395 183412 184940 188224	There is a new start page in FirstSpirit ServerMonitoring. This page visualizes clearly the hardware and software status of your local FirstSpirit Server as well as of all FirstSpirit Servers which can be reached on the network. Further information can be found in chapter "Administration: The new FirstSpirit Health Center".	FirstSpirit Administrator, License, ServerMonitoring, Sessions, Webstart	5.2R4
184313 189163	In FirstSpirit SiteArchitect, the context menus for store tree items as well as some buttons in the horizontal toolbar have been modified. Further information can be found in chapter "SiteArchitect: Context menu functionality and horizontal toolbar".	Developer, Editor, SiteArchitect	5.2R5
184314	Improved propagation of rule infractions in the input component FS_LIST (type **PAGE**).	Dynamic Forms, Input Components	5.2.424, 5.2R5
184340	During publication using FTP via a proxy server, erroneous behavior could occur.	FirstSpirit Administrator	5.2R4
184352	Optimized validation behavior related to language-independent input components.	Dynamic Forms, Input Components, SiteArchitect	5.2R4
184378	Relating to the input component FS_DATASET, if a filtered data source is used with **selectorMode="list"**, the filter will now be observed in the dataset view in the selection list.	Content Store, Editor, Input Components	5.2.426, 5.2R5

ID	Description	Categories	Version
184390	The "Open in separate window" action of the input component FS_LIST has been optimized.	Input Components, SiteArchitect	5.2.518, 5.2R6
184398	Erroneous behavior could occur in data source overviews when displaying media for which the user did not possess read permissions.	Content Store, SiteArchitect	5.2.518, 5.2R6
184407	Improved evaluation of parameters passed in connection settings when starting the FirstSpirit Launcher.	Launcher	5.2.615, 5.2R7
184442	When exporting elements via External Synchronization using the FirstSpirit Developer API, the new method `setExportRelease(boolean)` in the interface `ExportOperation` (package `de.espirit.firstspirit.store.access.nexport.op` can be used to specify whether the release or the current state of selected elements should be exported. Further information can be found in chapter "External Synchronization: New method "setExportRelease" to specify whether the release or the current state of elements should be exported".	External synchronization	5.2R4
184446	In ContentCreator, use of the methods `getBrokerByProjectName(String)` and `getBrokerByProjectId(long)` in the interface `Broker-Agent` (Developer API, package `de.espirit.firstspirit.agency`) could lead to erroneous behavior.	ContentCreator, Developer, FirstSpirit API	5.2R4
184511	In the detailed view of version history, language tabs will now be shown in the same order as on pages in the Page Content store.	SiteArchitect, Version history	5.2R4
184520	From FirstSpirit version 5.2R4 onward, individual web app components can now also be added to global web apps. Further information can be found in chapter "Module Development, Scripts, API: Individualizing the global FirstSpirit web applications".	Developer, Module development, Server-Manager	5.2R4

ID	Description	Categories	Version
184598	After externally editing a medium, display in the integrated preview could lead to erroneous behavior.	Media Store, Preview, SiteArchitect	5.2R4
184607	Where rule definitions are concerned, error handling of incorrect entries inside the `<SCHEDULE>` tag has been optimized.	Dynamic Forms	5.2R8
184620 185321	Improved communication with the preview servlet.	Preview	5.2R4
184621	When using Oracle databases, using very long column names for N:M foreign key relationships could cause an error.	Database	5.2R5
184663	Corrected version information of the system modules "FirstSpirit ContentCreator" and "FirstSpirit Webapplications".	Modules	5.2R4
184685	Improved display of ContentCreator splash screen.	ContentCreator	5.2R4
184844	Improved handling of URL parameters in internal preview.	Preview, SiteArchitect	5.2R4
184871	Improved performance when selecting a next editor in a workflow dialog.	ContentCreator	5.2R6
185046	Improved display of input components within the design element CMS_GROUP.	Input Components, SiteArchitect	5.2R5
185149	Improved performance of dataset selection via the input component FS_DATASET.	Input Components, SiteArchitect	5.2R4
185165 185246	During transport with "External Synchronization" (via API), metadata information (created, updated) will now also be considered.	External synchronization	5.2R4
185184	Editing media elements in the Media store could lead to erroneous behavior.	Editor, Media Store	5.2.424, 5.2R5
185218	During exports via external synchronization, elements below the root node will now also be considered so that deleted elements will now also be removed in the external file system.	External synchronization	5.2R4
185234	Information about elements that need to be deleted will now be considered during transport via "External Synchronization" (using the API).	External synchronization	5.2R4

ID	Description	Categories	Version
185251	Optimized consideration of included project properties during transport using "External Synchronization" (via API).	External synchronization	5.2R4
185254	Optimized calculation of modified status in external synchronization.	External synchronization	5.2R4
185261	When using external synchronization via API, root folders ("Root"; e.g. in the Media or Page Content store) were not deleted if they were no longer included in the next export's set of elements.	External synchronization	5.2R4
185267	In FirstSpirit ServerManager, a web server of type "Generic" could erroneously not be installed in the "Web applications" settings of server or project properties.	ServerManager	5.2R4
185283	Optimized display of entries of FS_CATALOG input components in the "Translation help" dialog.	ContentCreator	5.2R4
185298	Installation of a module with a too large `module.xml` file could lead to erroneous behavior. As of FirstSpirit 5.2R4, an error message such as `Unable to read module descriptor 'XYZ'. Please verify that the file is readable and does not exceed the maximum size of 1048576 bytes.` will be output.	Modules	5.2R4
185333	Optimized drag-and-drop behavior of data from a report onto an FS_INDEX input component.	ContentCreator, Input Components	5.2R4
185348	Improved interaction pattern of creating a new dataset.	Content Store, SiteArchitect	5.2R4
185385	In ContentCreator, erroneous behavior could occur after deleting a folder in the "Manage media" dialog.	ContentCreator, Media Store	5.2R4
185388	Improved display refresh behavior in the "Manage media" dialog after creating a new folder.	ContentCreator, Media Store	5.2R4
185523	In external synchronization, improved status calculation after external modification of media content.	External synchronization	5.2R4

ID	Description	Categories	Version
185584	When using the module "OfficeConnect", copy-and-paste operations from a browser or an Excel sheet would also transfer meta information into the input component CMS_INPUT_DOM.	Editor, Input Components, SiteArchitect	5.2R7
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	5.2R6
185600 185683	Security improvement related to the FirstSpirit start page.	Security	5.2R4
185626	By using the newly implemented parameter `log4j.logger.org.apache.http.impl.execchain.Re` in the file `fs-logging.conf` it is possible to suppress unwanted "NoRouteToHostExceptions". Further information can be found in chapter "Administration: Logging in "fs-server.log" (NoRouteToHostException)".	FirstSpirit Administrator	5.2R7
185640	In "External Synchronization", the file `Import.txt` in the root export directory did not clearly identify the associated project.	External synchronization	5.2R4
185643	Exporting a project could lead to erroneous behavior.	Project export / import	5.2R4
185652	Improved change status calculation for objects when external synchronization is run after normal project export/import.	External synchronization	5.2R4
185695 189317	In the input component CMS_INPUT_DOM, the parameter `enableImport` activates use of the functionality provided by the module "FirstSpirit OfficeConnect". Optimized import into FirstSpirit of images that were resized within an Office document.	Modules, SiteArchitect	5.2R5
185711	During project import, a backup of the file "fs-database.conf" is now created when a new database layer is selected.	FirstSpirit Administrator	5.2R5
185753	Erroneous behavior related to nested input components FS_LIST (type INLINE) could occur if the outer input component was used within a dataset form.	Input Components	5.2R5

ID	Description	Categories	Version
185766	In the version history, it was possible in rare cases that the display of the contents of the columns "Editor" and "Comment" was swapped.	SiteArchitect, Version history	5.2R8
185776	Optimized evaluation of privileges for thumbnail images in the selection dialog when creating pages or sections.	SiteArchitect	5.2.426, 5.2R5
185829	Optimized memory usage of servlet engine.	ContentCreator	5.2R4
185873	Improved evaluation of permissions when editing inherited metadata.	Permissions, SiteArchitect	5.2.518, 5.2R6
185875	Improved display of changes in the "Project History" report.	ContentCreator, Reports, Version history	5.2R5
185911	Improved removal of entries in CMS_INPUT_LIST input components using the Del key. Further information can be found in chapter "SiteArchitect: Optimized keyboard control of CMS_INPUT_LIST".	Input Components, SiteArchitect	5.2R4
185985	The external synchronisation did not take changes to page references into account.	External synchro-nization	5.2R4
186014	In a deeply nested FS_LIST (DATABASE type) adding an entry might have displayed an empty view for the new sub form.	Input Components, SiteArchitect	5.2R4
186041 186028	The method **setIgnoreEntities(boolean ignore)** of the interface **ImportOperation** (FirstSpirit Develover API, package **de.espirit.firstspirit.store.access.nexport.op** replaces the method **setCreateEntities**, which has been deprecated as of FirstSpirit version 5.2R4. The new method controls whether existing entities should be imported into the FirstSpirit project. Further information can be found in chapter "External Synchronization: New method "setIgnoreEntities" replaces "setCreateEntities"".	External synchro-nization	5.2R4

ID	Description	Categories	Version
186072	Automatic population of a data source using a script could lead to erroneous behavior.	Content Store, Modules	5.2R4
186099	Optimized memory usage when switching between many languages while editing a page.	SiteArchitect	5.2R4
186100	In the FirstSpirit schema editor, creating a 1:N relationship to the same table has been optimized.	Database, Developer	5.2.515, 5.2R6
186110 187353	Improved performance when loading forms in projects with many project languages.	SiteArchitect	5.2R4
186420	The standard image resolution for the FOP presentation channel can now be specified using the structure variable `fs_fop_source_resolution`. Further information can be found in chapter "Modules: FOP: Specify Standard Image Resolution".	Developer, FirstSpirit Administrator, Media Store, Modules	5.2R4
186561	A request-release workflow that releases via the end state only, not defining an error state, will now be closed when releasing an object failed.	Workflow	5.2R4
186590	Improved the sorting possibilities in combination with full text search in the data source overview view.	Content Store, SiteArchitect	5.2R4
186602	Optimized evaluation of privileges when setting a temporary filter on a data source.	Content Store, Permissions	5.2.424, 5.2R5
186691	Improved display of correction hints when form validation (rules) fails.	Dynamic Forms, SiteArchitect	5.2R4
186692	Beginning with Oracle JDK 1.8, the interface `ProcessAgent` (FirstSpirit Developer API, package `de.espirit.firstspirit.agency`) will use standard JDK functionality to start external processes server-side.	Developer	5.2.424, 5.2R5
186705	Improvements in external synchronization for nested input components.	External synchronization	5.2.422, 5.2R5
186846	Modifications of mutable form values during the generation process now only have local effects and therefore do not affect the results of other channels.	Generation	5.2.422, 5.2R5

ID	Description	Categories	Version
186863	If the schedules "Repair References" and "Rebuild Index" had been configured for interactive execution, by mistake authorized persons were not able to execute them.	SiteArchitect, Tasks	5.2R4
186882	When searching within a data source, sometimes, datasets were not found by a user due to specific access right settings.	Content Store, Permissions, Search	5.2R4
186896	Displaying the node properties via the keyboard shortcut Alt + P could lead to erroneous behavior.	SiteArchitect	5.2.424, 5.2R5
186900	Optimized release of child elements.	Release, SiteArchitect	5.2.424, 5.2R5
186917	In rare cases, erroneous behavior could occur when opening the selection dialog in the input component FS_REFERENCE.	Input Components, SiteArchitect	5.2.611, 5.2R7
187004	Automatic population of a data source using a script could lead to erroneous behavior.	Content Store, Developer	5.2R5
187107	Improved validation behavior related to nested FS_LIST input components in projects with many languages.	Input Components, SiteArchitect	5.2R5
187137	The new parameter `preview.enableTemporalPreviewCache` (in the configuration file `fs-server.conf`) may be used to affect caching for preview pages. Further information can be found in chapter "Administration: Caching of preview files".	FirstSpirit Administrator, Preview	5.2.615, 5.2R7
187154	In the external synchronization process content for languages not included in the source project were skipped during the import into the target project.	External synchronization	5.2R4
187172 162113 187318	A number of additions have been made to the "Snippet" area with FirstSpirit version 5.2R4. Further information can be found in chapter "Input components: Extended snippet access for FS_INDEX and FS_CATALOG".	ContentCreator, Developer, Input Components, SiteArchitect, Snippets, Template Development	5.2R4
187215	Switching between projects (Menu "Project / Switch Projects") sometimes failed.	SiteArchitect	5.2R4

ID	Description	Categories	Version
187251	While saving a page for which the user has no right to edit the metadata, it could lead to errors.	Permissions, SiteArchitect	5.2R4
187274	In rare cases, using the browser engine "Google Chrome" for internal preview could lead to erroneous behavior.	Preview, SiteArchitect	5.2R5
187285	Improved certificate evaluation in the integrated preview when it uses Mozilla Firefox as browser engine.	Preview, Security	5.2.422, 5.2R5
187322	In rare cases the function "Display all changes" displayed no result.	ContentCreator	5.2R4
187374	The workflow for deleting elements did not respect the display logic script.	Workflow	5.2R4
187437	Optimized caching for remote projects in the action context.	Developer, FirstSpirit Administrator	5.2.515, 5.2R6
187444	For the language-independent input component FS_LIST (DATABASE type), when switching between languages, newly added entries were not handled properly.	Input Components, SiteArchitect	5.2R4
187469	Optimized list formatting in the input component CMS_INPUT_DOM.	ContentCreator	5.2.611, 5.2R7
187494	Optimizations for the number of open file handles.	Performance	5.2R5
187507	Web applications will now be updated automatically during every FirstSpirit server update. Further information can be found in chapter "Module Development, Scripts, API: Update of Web Applications".	Developer, Module development, Modules, ServerManager	5.2R4
187600	Improved client resilience to brief interruptions in communication with the server. Further information can be found in chapter "SiteArchitect / ServerManager: Reconnecting after Communication Errors".	ServerManager, SiteArchitect	5.2R5
187660	When populating the input component FS_INDEX via drag-and-drop from a report in ContentCreator, restrictions of the rule property "ADD" were not considered.	ContentCreator, Dynamic Forms, Input Components	5.2.424, 5.2R5

ID	Description	Categories	Version
187707	During generation, erroneous behavior could occur when outputting remote media with identical display names.	Generation	5.2.518, 5.2R6
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	5.2R6
187753	Duplicate conversion when using `.convert` and `.convert2` in FS_LIST will now be suppressed. Further information can be found in chapter "Input components: Methods ".convert" and ".convert2" in FS_LIST".	Developer, Input Components, Template Development, Template Store	5.2R4
187823	The content of FirstSpirit JAR files is signed with a certificate. In the current FirstSpirit version, the content is signed with a new certificate that is valid until 2018-06-13 (13 June 2018). Further information can be found in chapter "General: Code signing certificate updated".	Webstart	5.2R5
187851	When using the functionality "External Synchronization", the method `setDatabaseLayerMapper(ImportOperation.Databas` of the interface `ImportOperation` (FirstSpirit API, package `de.espirit.firstspirit.store.access.nexport.op` will now use the correct database layer.	External synchronization	5.2.424, 5.2R5
187852	After changing a dataset a delta generation may have shown a failure.	Delta generation	5.2R4
187874	In the task list, tasks were erroneously visible to a user who did not have rights to process these tasks.	Permissions, SiteArchitect	5.2R6
187934	In rare cases, the display of the "Edit image section" icon on media in the section area was erroneous.	ContentCreator	5.2R8

ID	Description	Categories	Version
188050	The GUI of the "External Synchronization" will be omitted with FirstSpirit 5.2R4. Further information can be found in chapter "External Synchronization: GUI will be omitted".	Developer, External synchronization, FirstSpirit API, FirstSpirit Administrator, SiteArchitect	5.2R4
188105	In the Media store and in media selection dialogs, erroneous behavior could occur while loading miniature previews of image resolutions.	Media Store, SiteArchitect	5.2R5
188108	Optimized translation help in ContentCreator. **Note:** In ContentCreator, translation help is an optional feature that is only available if the project is configured to use it, i.e., a project-specific solution that opens translation help was implemented.	ContentCreator	5.2R5
188182	Improved display of the status bar in the editorial workspace.	SiteArchitect	5.2.422, 5.2R5
188354	Improved editing of the input component FS_CATALOG in subforms.	Editor, Input Components, SiteArchitect	5.2.424, 5.2R5
188373	Optimized form updates when using rules to display or hide input components.	Dynamic Forms, SiteArchitect	5.2.611, 5.2R7
188416	Optimized the process of uploading media files via the "Media Import Wizard".	Media Store, SiteArchitect	5.2R5
188440	If a duplicated conversion of entities using `.convert` or `.convert2` has been prevented, a warn message will now be added to the generation log.	Developer, Template Development	5.2R7
188445	As of the current FirstSpirit version, it is possible to detect the user interface language of ContentCreator that was selected by the current user. Further information can be found in chapter "Module Development, Scripts, API: ContentCreator: Detection of the user interface language ("Locale") selected by the current user".	ContentCreator, Developer, FirstSpirit API	5.2.611, 5.2R7

ID	Description	Categories	Version
188461	When uploading a media file into the Media store using the dialog "Create medium", the file selection dialog defaults to the directory "Documents" within the local user directory. During further file upload actions, the file selection dialog will start in the most recently selected directory.	Media Store	5.2.426, 5.2R5
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	5.2.518, 5.2R6
188467	Improved visualization of rule infractions in nested FS_CATALOG input components.	Dynamic Forms, SiteArchitect	5.2R5
188503	Improved media import via Media Import Wizard.	Media Store	5.2.424, 5.2R5
188550	Improved configuration and evaluation of parameters when several web applications are used.	Server Administrator	5.2R5
188564	Improved file selection dialog of the input component FS_REFERENCE.	Editor, Input Components, SiteArchitect	5.2.426, 5.2R5
188569	Stability improvement related to SiteArchitect.	SiteArchitect	5.2.424, 5.2R5
188580	In the method `disconnect()` of the interface `Connection` (FirstSpirit Access API, package `de.espirit.firstspirit.access`), improved the disconnection procedure.	Developer	5.2R5
188624	Starting a FirstSpirit server could lead to erroneous behavior if the user's home directory could not be written to.	FirstSpirit Administrator	5.2.422, 5.2R5
188634	Under special circumstances, displaying the Health Center in FirstSpirit ServerMonitoring could lead to erroneous behavior.	Health Center	5.2.422, 5.2R5

ID	Description	Categories	Version
188700	Changed standard configuration: The preset values of the optional parameters `servletSessionCookieName` and `servletSessionCookieName.ROOT` in the file `fs-server.conf` were changed. For all new installations of FirstSpirit, a FirstSpirit-specific session cookie name will be used for all web applications and the root application. Further information can be found in chapter "Administration: Changed standard configuration of session cookies for new installations".	FirstSpirit Administrator, Server Administrator, Sessions	5.2R5
188703	In rare cases, an additional instance of the ContentCreator user interface could be shown nested within another instance of the user interface.	ContentCreator	5.2R5
188709	Optimized FirstSpirit access control database.	Database	5.2.515, 5.2R6
188731	Entering text into the input component CMS_INPUT_DOMTABLE is now also possible via drag-and-drop and, when using the module "FirstSpirit OfficeConnect", via Ctrl + V . Further information can be found in chapter "SiteArchitect: Drag-and-drop support for CMS_INPUT_DOMTABLE".	Editor, Input Components, Modules, SiteArchitect	5.2.424, 5.2R5
188781	The FirstSpirit license contains information about the maximum allowable number of open sessions. The evaluation of this parameter and the interaction pattern related to exceeding the licensed maximum number of open sessions has been optimized.	License, Sessions	5.2R5
188813	Improved use of keyboard shortcuts.	SiteArchitect	5.2R5
188915	If the search string contains an unsupported special character, the search may be repeated as an exact search by clicking **Perform an exact search**. Further information can be found in chapter "SiteArchitect: Repeating a search after erroneous input".	Search, SiteArchitect	5.2R8

ID	Description	Categories	Version
188994	In metadata, referencing an element which has never been released could lead to unexpected results during generation.	SiteArchitect	5.2R5
189052	The export process of external synchronization to an existing folder may have led to a failure.	External synchro-nization	5.2.422, 5.2R5
189128	Optimized interaction pattern in Media Management when the user does not have CAN_SEE privileges.	ContentCreator	5.2R8
189166	When creating a new page in ContentCreator, dot characters ('.') in the display name were erroneously preserved in the reference name.	ContentCreator	5.2.426, 5.2R5
189182	In the input component FS_INDEX, creating a new dataset could lead to erroneous behavior.	ContentCreator, Input Components	5.2.422, 5.2R5
189212	Improved search for dataset ID.	Content Store, Search	5.2.424, 5.2R5
189214	Calling methods of module classes in FS templates may have led to a failure.	Developer, Template Development	5.2.422, 5.2R5
189258	The behavior of id#187753 (see release notes to FirstSpirit version 5.2.421) showed unwanted effects in script executions and therefore it must be activated explicitly from this build on. Please ask our technical support for guidance. If the behavior is activated scripts may be adapted to the potential change of the data type of the input component CMS_INPUT_TEXT from type **string** to **CharSequence**.	Developer, Input Components, Template Development	5.2.422, 5.2R5
189284	Security improvements in the module "FirstSpirit BasicSearch".	Modules, Security	5.2.424, 5.2R5
189318	Use of certain data types in an Oracle database could lead to erroneous behavior related to sorting in data sources.	Content Store, Database, Editor, SiteArchitect	5.2R7
189359	Optimized initial display of the suggestion list in the search field of global search and search in the selection dialog of the input component FS_REFERENCE.	Search, SiteArchitect	5.2R5

ID	Description	Categories	Version
189394	When generating in some cases the project properties "substitution medium" and "substitution page" have not been respected.	Generation	5.2R5
189438	When using the input component CMS_INPUT_DATE in metadata, performing a search within metadata could erroneously cause the input component to be displayed in single-lined mode (parameter `singleLine`) in the metadata form.	Input Components, Search	5.2R5
189461	When using the functionality "External Synchronization", importing objects with forms which reference elements that are not yet available in the project could lead to erroneous behavior.	External synchro-nization	5.2R5
189465	Optimized display of thumbnails in the brief overview of data sources.	Content Store, Snippets	5.2.424, 5.2R5
189508	In ContentCreator, searching in Help could lead to erroneous behavior.	ContentCreator, Search	5.2.424, 5.2R5
189535	In the input component FS_DATASET with `mode="dialog"`, saving after switching between languages could lead to erroneous behavior.	Input Components, SiteArchitect	5.2.615, 5.2R7
189628	Improved SiteArchitect performance.	Performance, SiteArchitect	5.2R5
189635	Modified log output for the report "Project History" when starting ContentCreator.	ContentCreator	5.2.615, 5.2R7
189637	Improved display of forms when switching between language tabs.	SiteArchitect	5.2.424, 5.2R5
189660	Improved display of media folders, taking into consideration configured permissions.	Media Store, Permis-sions, SiteArchitect	5.2.424, 5.2R5
189662	Sporadically, erroneous behavior could occur in the preview while working with ContentCreator.	ContentCreator, Preview	5.2.424, 5.2R5

ID	Description	Categories	Version
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	5.2R6
189752	Improved evaluation of privileges on a data source when creating a new dataset via the input component FS_DATASET.	Input Components, Permissions	5.2.424, 5.2R5
189766	Importing a page via "External Synchronization" could lead to erroneous abortion of the import process if the page template used was not present before. Now, the page will not be imported, and the error will be added to `ImportOperation.Result`.	External synchro-nization	5.2R5
189790	Improved evaluation of rules in child forms of the input components FS_LIST and FS_CATALOG.	Dynamic Forms, SiteArchitect	5.2R5
189979	Optimized revalidation in forms when using the form properties *SIZE*, *LENGTH*, *ENTRY*, and the comparison expression *CONTAINS*.	Dynamic Forms	5.2.424, 5.2R5
189983	In the input component CMS_INPUT_DOM with inline tables, erroneous behavior could occur if no table format templates were defined in the project.	ContentCreator, Input Components	5.2.424, 5.2R5
190052	`ProjectReferencesAgent.rebuildReferences(IDPro` now repairs more broken references. Further information can be found in chapter "Module Development, Scripts, API: Repairing broken references (rebuildReferences)".	FirstSpirit API	5.2R7
190065	In the data source overview, default values will now be displayed in semi-transparent fashion. Further information can be found in chapter "SiteArchitect: Display of Default Values in Data Sources".	Content Store, SiteArchitect	5.2.426, 5.2R5

ID	Description	Categories	Version
190178	Optimized evaluation of rules when using the property SECTION for the input component FS_REFERENCE. This property may be used to check if a section is selected.	Dynamic Forms, Input Components, SiteArchitect	5.2.426, 5.2R5
190195	Publishing a package with nodes that were deleted or archived in the source project could cause an error message to be logged. The message will now be logged with the log level "TRACE" such that it no longer appears as an error (log level "ERROR").	Corporate Content	5.2.426, 5.2R5
190207	The configuration file "fs-server.conf" now allows optional configuration of specific values for session cookies. The new attributes can define values for domain, path, and the secure flag of the session cookie. Further information can be found in chapter "Administration: Configuration of session cookies (fs-server.conf)".	FirstSpirit Administrator, Launcher, Server Administrator, ServerManager, Sessions, Webstart	5.2.426, 5.2R5
190263	Corrected access to form fields during generation (FirstSpirit Access API, package `de.espirit.firstspirit.forms`, interface `FormData`, method `get(Language, String)`).	Generation	5.2.426, 5.2R5
190314	During import of a database schema using the functionalities "FirstSpirit Content Transport" or "External Synchronization", the new interface `LayerMapper` (FirstSpirit Developer API, package `de.espirit.firstspirit.transport`) allows selection of a database layer onto which the schema should be mapped. Further information can be found in chapter "Module Development, Scripts, API: External Synchronization / Content Transport: Selecting a database layer for import".	Content Transport, Database, Developer, External synchronization, FirstSpirit API	5.2R5
190331	If multiple users requested the preview of a page and the calculation took long, this could have led to erroneous behavior.	Preview, SiteArchitect	5.2R9
190333	Drag-and-drop of media between projects could lead to erroneous behavior.	Media Store, SiteArchitect	5.2R5

ID	Description	Categories	Version
190396	In the input component FS_LIST (type PAGE), optimized rules evaluation relating to deleted sections.	Dynamic Forms, Input Components, SiteArchitect	5.2R6
190417	SiteArchitect performance improvements.	Editor, SiteArchitect	5.2.426, 5.2R5
190420	Previously, during an import via "FirstSpirit Corporate-Content", nodes in the tree structure were in some cases set to display the metadata icon even though "FirstSpirit Corporate-Content" does not transport metadata. This was corrected in the current FirstSpirit version: now, the metadata icon will no longer be set at all after importing via "FirstSpirit Corporate-Content".	Corporate Content	5.2R8
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.	FirstSpirit Administrator, Permissions	5.2.515, 5.2R6
190569	The configuration of a new feature package can again be tested in the schedule action "Content Transport" (ServerManager / Project / Properties / Schedule management / Add / Default schedule / Actions / Add / Content Transport / Test configuration).	Content Transport, ServerManager	5.2.426, 5.2R5
190604	A section reference can now also be created via the context menu entry "Paste as section reference" or via the keyboard shortcut Ctrl + Alt + V . Further information can be found in chapter "SiteArchitect: Creating a section reference via context menu or keyboard shortcut".	Editor, SiteArchitect	5.2R8
190647	It is possible to restrict the choice of data sources for the input component FS_DATASET by using the tag `<CONTENT>`. The configured data sources are now better respected in the selection dialog.	SiteArchitect	5.2R9

ID	Description	Categories	Version
190695	In association with a Tomcat web server, authentication via the FirstSpirit start page could lead to erroneous behavior if a password contained special characters.	FirstSpirit home page, Server Administrator	5.2R5
190715	Optimized rule evaluation during emptiness check (property EMPTY).	Dynamic Forms	5.2.426, 5.2R5
190752	Optimized display of the start page in Google Chrome when using automatic login.	FirstSpirit home page	5.2R5
190759	Improved logging of web applications running on Tomcat web server.	FirstSpirit Adminis-trator	5.2R5
190822	In the module "FirstSpirit Security", the parameter `profilname.dir` in the file "crcTransfer.ini" may be used to configure the web application. If the parameter was given a value which included a trailing slash (.../) in the path string, erroneous behavior could occur. Now, it is possible to use a path that includes a trailing slash character.	Modules	5.2R5
190852	For the input component FS_CATALOG, improved the input dialog and drag-and-dropp of media from the AppCenter.	Editor, Input Compo-nents, SiteArchitect	5.2.426, 5.2R5
190870	When using Apache Tomcat version 8.0.36, instead of displaying the specifically requested dataset on a content projection page, the first dataset of this content projection may have been displayed.	ContentCreator, Editor, Preview	5.2.426, 5.2R5
190879	In SiteArchitect running on Mac OS X, erroneous use of the system clipboard could occur.	Clipboard, SiteArchitect	5.2R5
190950	Optimized display of the "Task list" menu icon.	SiteArchitect	5.2R5
191045	Optimized automatic roll-out of web applications during server start-up.	Server Administrator	5.2R5
191115	Optimized determination of release state of restored folders.	Release	5.2R5

ID	Description	Categories	Version
191158	Improved behavior of a release workflow, specific to situations in which the element to be released contains invalid references (e.g. in an FS_REFERENCE input component).	Release, SiteArchitect, Workflow	5.2R5
191161	In very rare cases, using the input component FS_CATALOG could lead to erroneous behavior.	Input Components, SiteArchitect	5.2R5
191174	Importing content packages into projects which define languages that were not defined in the source project could lead to erroneous behavior in input components that are grouped with the design element CMS_GROUP.	Corporate Content, Input Components	5.2.426, 5.2R5
191211	During configuration of a database schema, renaming columns with N:M foreign key relationships could lead to erroneous behavior.	Database	5.2R5
191247	Optimized determination of the target element of dataset selection in a data source for the following actions: ▪ "Version history" (Ctrl + H) ▪ "Extras / Show usages" (Ctrl + U) ▪ "Extras / Display dependencies" (Ctrl + R)	Content Store, SiteArchitect	5.2.515, 5.2R6
191303	Optimized setting values via rules in ContentCreator.	ContentCreator, Dynamic Forms	5.2R6
191353	Optimized display of data source contents in the selection dialog of the input component FS_LIST (type DATABASE).	ContentCreator	5.2R5
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".	Developer, Module development, Modules	5.2R6

ID	Description	Categories	Version
191363	In the input component CMS_INPUT_DOM with active spell check, erroneous behavior could occur.	ContentCreator	5.2.615, 5.2R7
191377	Optimized spell check for the input components CMS_INPUT_DOM and CMS_INPUT_DOMTABLE.	ContentCreator, SiteArchitect	5.2R5
191399	Optimized handling of rule infractions in ContentCreator.	ContentCreator, Dynamic Forms	5.2R5
191472 167578 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**. Further information can be found in chapter "Modules (general): Distribution of the FirstSpirit web applications as modules (.fsm)".	FirstSpirit Administrator, Modules, ServerManager	5.2R6
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**. Further information can be found in chapter "Administration: Server Update: File name change for backup copies of files".	Server Administrator	5.2R6
191724	Using the input component FS_LIST (type DATABASE) within metadata could lead to erroneous behavior.	Input Components, SiteArchitect	5.2R5
191797	In rare cases, use of the FirstSpirit Launcher could lead to erroneous behavior.	Launcher	5.2R5
191806 191794	Security improvements in ServerManager.	Security, Server-Manager	5.2R5
191874	In the input component CMS_INPUT_DATE, input via keyboard could cause erroneous behavior.	ContentCreator	5.2.615, 5.2R7
191939	In a workflow, users that have server administrator privileges could erroneously not be selected as next editors.	SiteArchitect, Workflow	5.2R5

ID	Description	Categories	Version
191967	The new plugin type `WebeditStatusNotePlugin` may be used to prominently display page-related status information in ContentCreator. Further information can be found in chapter "Module Development, Scripts, API: ContentCreator: Displaying page-related status information prominently".	ContentCreator, Developer, Editor, FirstSpirit API	5.2.518, 5.2R6
191968	In the input component FS_INDEX, erroneous behavior could occur when cancelling edit mode on a newly created entry.	Input Components, SiteArchitect	5.2.518, 5.2R6
191973	Using "Translation Help" functionality could lead to erroneous behavior.	SiteArchitect	5.2R5
192058	In rare cases, erroneous behavior could occur during media import.	Media Store, SiteArchitect	5.2R6
192075	Using several web components can potentially cause conflicts between identical resources. Optimized conflict identification and conflict resolution.	FirstSpirit Administrator, Modules	5.2.518, 5.2R6
192110	For the input component FS_DATASET, optimized rule evaluation when creating a new dataset.	Dynamic Forms, Input Components, SiteArchitect	5.2R5
192144	Optimized use of JSP Includes for inclusion of HTML or JSP content in a FirstSpirit page.	ContentCreator, Preview	5.2R5
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	5.2.515, 5.2R6

ID	Description	Categories	Version

192162	On a *FormData* object, the method `get(Language, String)` allows access to the *FormField*.
	
	The output of the following (simplified) syntax, which allows access to the content of a *FormField* in the language currently being rendered, has been corrected:
	
	`$CMS_VALUE(IDENTIFIER.formData["IDENTIFIER2"])`
	
	Alternatively, either of the following syntaxes will yield the same result:
	
	`$CMS_VALUE(IDENTIFIER.formData.IDENTIFIER2)$`
	
	`$CMS_VALUE(IDENTIFIER.formData.get("IDENTIFIER`
		Developer	5.2R5

192222	Stability when accessing FirstSpirit web applications on external web servers has been improved. Further information can be found in chapter "Administration: Starting process: Improved stability when accessing FirstSpirit web applications on external web servers".	FirstSpirit Administrator, ServerManager	5.2.515, 5.2R6
192274	Saving several times during editing in "Translation Help" could lead to erroneous behavior.	Editor, SiteArchitect	5.2R5
192328	In rare cases, releasing a page reference could lead to erroneous behavior.	Release, SiteArchitect	5.2R6
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".	Editor, FirstSpirit Administrator, FirstSpirit home page, Media Store, Performance, Server-Manager, SiteArchitect	5.2.515, 5.2R6
192456	When copying sections, the original order was erroneously not observed.	Page Store, SiteArchitect	5.2.615, 5.2R7

ID	Description	Categories	Version
192462	Erroneous behavior could occur when using the functionality "LiveEdit".	ContentCreator	5.2.615, 5.2R7
192539	Using WebSphere as an application server may have resulted in malfunctions when logging in on the FirstSpirit start page.	FirstSpirit home page	5.2.515, 5.2R6
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".	Module development, Modules	5.2.515, 5.2R6
192582	Improved loading performance of SiteArchitect after project selection.	SiteArchitect	5.2.515, 5.2R6
192701	The display has been improved when comparing versions of metadata.	SiteArchitect	5.2R7
192718	In SiteArchitect, improved consideration of the template set that is configured for a preview viewport (functionality "Multi Perspective Preview").	Multi Perspective Preview, SiteArchitect	5.2.515, 5.2R6
192721	Uninstalling a defective module may have failed.	ServerManager	5.2R7
192728	Erroneous behavior could occur when creating images using the method `getImageFromIcon(Icon)` (interface `ImageAgent`, package `de.espirit.firstspirit.agency`).	FirstSpirit API	5.2.515, 5.2R6
192742	The method `checkAndThrow()`, part of the interface `ServerActionHandle` (FirstSpirit Access-API, Package `de.espirit.firstspirit.access`), has been optimized.	Developer, FirstSpirit API	5.2.515, 5.2R6
192763	Optimized logging for project components during server start-up.	Isolated mode (BETA)	5.2.611, 5.2R7

ID	Description	Categories	Version
192766	As of the current FirstSpirit version, the start-up process is considered to be finished before web application updates are performed. Further information can be found in chapter "Administration: Start-up process: FirstSpirit server starts up independently of web application updates".	FirstSpirit Adminis-trator	5.2R6
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	5.2.515, 5.2R6
192826	The performance has been optimized for the Mac OS X operating system when adding elements to the tree with drag-and-drop.	SiteArchitect	5.2.518, 5.2R6
192866	The recognition of file types when uploading media using drag-and-drop has been improved. Further information can be found in chapter "Media: Recogi-nition of file types when uploading media using drag-and-drop improved".	Editor, Media Store	5.2.515, 5.2R6
192868	For a user with server administrator privileges, "Administrator mode" was erroneously initially active in SiteArchitect (menu: "Project / Administrator mode").	Server Administrator, SiteArchitect	5.2.515, 5.2R6
192903	Generating output of data sets from a content source using the function `contentSelect` did not work correctly in some cases.	Generation	5.2.515, 5.2R6
192915	FirstSpirit Server performance improvements in the "Send message" area (ServerManager: menu "Extras / Send message").	Performance, Server Administrator	5.2.515, 5.2R6
192943	Corrected information about libraries in system web app components.	Isolated mode (BETA)	5.2.611, 5.2R7

ID	Description	Categories	Version
192956	To improve traceability, improvements have been made to logging the server update schedule in the current FirstSpirit version. Further information can be found in chapter "Administration: Server update: Improved schedule logging".	FirstSpirit Administrator, Tasks	5.2.515, 5.2R6
192965	Optimized modification detection of a page when adding a section via copy-and-paste.	SiteArchitect	5.2.518, 5.2R6
193023	Improvements in the area "Content Transport".	Content Transport	5.2.515, 5.2R6
193027	Optimized the action "Undo" (Ctrl + Z) in form, rule, and output channel editors.	Developer, SiteArchitect, Template Store	5.2.518, 5.2R6
193089	Improved detection of identical or compatible module resources using unique identifiers (following the Maven schema) and the properties "version", "minVersion", and "maxVersion". Further information can be found in chapter "Module Development, Scripts, API: Improved detection of identical or compatible module resources".	Developer, Module development, Modules	5.2R6
193131	When editing content, clicking in the integrated preview could lead to erroneous behavior of keyboard control.	SiteArchitect	5.2R8
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. Further information can be found in chapter "Administration: Web server Apache Tomcat: Automatic update of web applications".	Developer, FirstSpirit Administrator	5.2R6
193181	The behavior when changing the language or focus in the FS_CATALOG input component has been optimized.	Input Components	5.2.515, 5.2R6

ID	Description	Categories	Version
193207	For newly-created sections, toggling the option "Include this section in the output" was erroneously not observed during rule evaluation if the page was already in edit mode.	Dynamic Forms	5.2.615, 5.2R7
193249	Cleanup of the repository files during archiving has been improved.	Archiving, FirstSpirit Administrator	5.2.515, 5.2R6
193254	File pointer management for socket connections has been improved.	Server Administrator	5.2.515, 5.2R6
193260	Generation may have resulted in a malfunction.	Generation	5.2.515, 5.2R6
193338	Evaluation of the project property "Languages can be hidden" ("FirstSpirit ServerManager / Project / Properties / Options") in SiteArchitect has been improved.	ServerManager, SiteArchitect	5.2.515, 5.2R6
193389	In rare cases, accessing the repository may have resulted in malfunctions.	FirstSpirit Administrator, ServerManager	5.2.515, 5.2R6
193395	Updating icons and label of MenuItemsPlugin (Interface `JavaClientEditorialToolbarItemsPlugin`, Package `de.espirit.firstspirit.client.plugin`) has been improved.	SiteArchitect	5.2.515, 5.2R6
193418	Erroneous behavior could occur during start-up of FirstSpirit SiteArchitect if Websphere was used as an application server.	FirstSpirit Administrator	5.2R6
193440	Recognition of file patterns in the context of archiving has been improved.	Archiving	5.2R6
193471	The `getService(Class<T>)` method of the `ServicesBroker` interface (FirstSPirit Access API, Package `de.espirit.firstspirit.access`) has been optimized.	FirstSpirit API, Performance	5.2.515, 5.2R6
193493	Rolling out a package in the target project may have resulted in a malfunction.	Corporate Content	5.2.515, 5.2R6
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	5.2.518, 5.2R6

ID	Description	Categories	Version
193563	While using or updating the FOP module, erroneous behavior could occur.	FirstSpirit Administrator, Modules, ServerManager	5.2.518, 5.2R6
193594	Optimized rule evaluation for option-based input components (e.g. CMS_INPUT_COMBOBOX) whose values are sourced from a database.	ContentCreator, Dynamic Forms	5.2.611, 5.2R7
193645	Optimized memory usage in ContentCreator.	ContentCreator	5.2.518, 5.2R6
193684	When using a nested FS_CATALOG input component, erroneous display could occur in the edit/"snippet" view.	Input Components, SiteArchitect	5.2.611, 5.2R7
193689	After updating a module via server properties in ServerManager, the version of a web application associated with that module will now be displayed correctly in project properties.	Isolated mode (BETA)	5.2.611, 5.2R7
193720	The report sidebar is now resizable. Further information can be found in chapter "ContentCreator: Dynamically resizable report sidebar".	ContentCreator, Reports	5.2R8
193724	Optimized observation of activated editorial languages in forms.	ContentCreator	5.2.518, 5.2R6
193872	Erroneous behavior could occur when populating input components located in sub-forms via drag-and-drop.	Input Components, SiteArchitect	5.2R6
193885	When using multiple monitors, the position of SiteArchitect was erroneously not considered when displaying confirmation dialogs.	SiteArchitect	5.2.615, 5.2R7
193889	Erroneous behavior could occur when restarting the server via ServerMonitoring.	FirstSpirit Administrator	5.2.518, 5.2R6
193911	Improved observation of restrictions in the input component FS_REFERENCE when multiple remote connections to the own project are used.	Input Components, SiteArchitect	5.2.615, 5.2R7
193916	Improved preview of the selected datasets when using "Multi Perspective Preview" (MPP).	Multi Perspective Preview, SiteArchitect	5.2.518, 5.2R6

ID	Description	Categories	Version
193930	In very rare cases, using code completion in the form could cause erroneous behavior.	Template Development	5.2.615, 5.2R7
193936	Undesired notifications may have been shown to a user on pages for which he/she only had the permission "Visible".	Permissions, SiteArchitect	5.2.518, 5.2R6
193976	In the selection dialog, optimized loading behavior of the preview image.	SiteArchitect	5.2R7
193989	Optimized layout of tree node labels in the input component CMS_INPUT_PERMISSION.	ContentCreator	5.2.518, 5.2R6
194012	Improved rule-based control for editing entries of the input components FS_CATALOG and FS_INDEX.	Input Components, SiteArchitect	5.2.518, 5.2R6
194035	Improved focus behavior when scrolling or making selections in the input component CMS_INPUT_DOM.	Input Components, SiteArchitect	5.2.518, 5.2R6
194162	Erroneous behavior could occur when displaying the input component FS_LIST (type DATABASE) in a dataset form.	Input Components, SiteArchitect	5.2.518, 5.2R6
194184	Optimized detection of incompatible module resources.	Isolated mode (BETA)	5.2.611, 5.2R7
194190	Deregistering a cluster slave server from the cluster master server via ServerManager could temporarily lead to the deregistered slave server no longer restarting automatically.	Server Administrator, ServerManager	5.2.611, 5.2R7
194243	Synchronization issues could arise in language-independent input components while editing the form in multiple languages.	Input Components, SiteArchitect	5.2R6
194262	Improved performance when editing data sources.	Content Store, Performance, SiteArchitect	5.2.518, 5.2R6
194325	Synchronizing between workspace and the preview area after saving changes in forms has bee optimized.	Preview, SiteArchitect, Template Store	5.2.518, 5.2R6
194335	Highlighting of entries of a report when moving the mouse pointer over an element has been improved.	Reports, SiteArchitect	5.2.518, 5.2R6
194349	Improved display logic for workflows in the status bar.	SiteArchitect, Workflow	5.2.611, 5.2R7
194353	Inserting and filling new lines in CMS_INPUT_DOMTABLE input component has been improved.	ContentCreator, Input Components	5.2R6

ID	Description	Categories	Version
194354	Erroneous behavior could occur when creating a database schema from an external database.	Database, SiteArchitect	5.2R6
194362	During archiving, inbound references are now also considered.	Archiving	5.2.611, 5.2R7
194367	Optimized loading of action groups of MenuItemsPlugin (interface `JavaClientEditorialToolbarItemsPlugin`, package `de.espirit.firstspirit.client.plugin`).	SiteArchitect	5.2.611, 5.2R7
194369	Modified logging during FirstSpirit server start-up for the case that web applications are running on an external Tomcat.	FirstSpirit Administrator	5.2.615, 5.2R7
194421	When creating a database schema from an external database, problems in accessing foreign key columns could occur.	Database	5.2.611, 5.2R7
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	5.2R6
194524	Erroneous behavior could occur when using the methods `hasGui()` and `getGui(Frame)` of the interface `Configuration` (FirstSpirit Developer API, package `de.espirit.firstspirit.module`).	Developer, Modules	5.2.615, 5.2R7
194589	Optimized performance of loading data sources with datasets which contain an input component of type FS_INDEX.	Performance, SiteArchitect	5.2.611, 5.2R7
194616	Improved rules evaluation in the input component CMS_INPUT_LINK.	Dynamic Forms, SiteArchitect	5.2.615, 5.2R7
194618	Improved focus behavior when scrolling or making selections in the input component CMS_INPUT_DOMTABLE.	Input Components, SiteArchitect	5.2R6
194689	A confirmation dialog now warns a user if an element is about to be deleted which is still bookmarked as a master copy. Further information can be found in chapter "ContentCreator: Deletion of bookmarks and master copies".	Bookmarks, ContentCreator, Editor	5.2.611, 5.2R7
194719	Optimized performance of loading the data source overview with datasets whose forms contain an FS_INDEX input component with many referenced datasets.	Content Store, Input Components, SiteArchitect	5.2.611, 5.2R7

ID	Description	Categories	Version
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	5.2R6
194744	Improved stability of connections between SiteArchitect and server.	SiteArchitect	5.2R6
194780	If an FS_INDEX input component does not contain any entries, the new method `.isEmpty()` returns **true**. Further information can be found in chapter "Input components: FS_INDEX: Emptiness check with ".isEmpty"".	Input Components, Template Development	5.2.611, 5.2R7
194838	Improved the display of web components in project properties.	ServerManager	5.2.611, 5.2R7
194847 194849	Optimized performance when selecting objects in the tree.	Performance, SiteArchitect	5.2R6
194853	In the input component CMS_INPUT_DOM, corrected copying of links between different languages.	ContentCreator	5.2.615, 5.2R7
194860	Improved evaluation of settings for browser, office, and graphics engine.	SiteArchitect	5.2R6
194862	Optimized notification about rule infractions related to subforms of the input component FS_LIST.	Dynamic Forms, SiteArchitect	5.2.611, 5.2R7
194868	When adding a table template to a feature, the schema node was erroneously not considered a required reference. This could lead to erroneous behavior when installing the feature.	Content Transport	5.2R8
195010	The `VersionInfo` object returned by the interface `ServerInformationAgent` (FirstSpirit Access API, package `de.espirit.firstspirit.agency`) now provides information about the currently active server mode ("Legacy" or "Isolated"). Further information can be found in chapter "Module Development, Scripts, API: Identification of server mode (isolated vs. legacy)".	Developer, FirstSpirit API, Isolated mode (BETA), Module development	5.2.611, 5.2R7

ID	Description	Categories	Version
195014	Optimized the order of (image) resolutions which are transported from a source project into a target project using FirstSpirit ContentTransport or External Synchronization. Further information can be found in chapter "Modules: Corporate Content: Multisite Management: Export of image resolutions".	Content Transport, External synchronization	5.2.611, 5.2R7
195024	In external synchronization, unnecessary updates are now avoided during import.	External synchronization	5.2.611, 5.2R7
195054	Enhanced logging in the module "FirstSpirit DynamicPersonalization".	Modules	5.2.611, 5.2R7
195163	Identical resources have been consolidated when using more than one project-specific web component.	Modules, Server Administrator	5.2.611, 5.2R7
195195	Improved consideration of authorized users during mail dispatch in workflows.	Workflow	5.2.611, 5.2R7
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	5.2R6
195216	From the current FirstSpirit version onwards, an internal web server URL may be configured for web server. Further information can be found in chapter "Administration: Updating web applications on external web servers".	FirstSpirit Administrator, ServerManager	5.2.615, 5.2R7
195277	Improved stability in integrated preview when using the browser engine "Internet Explorer".	Preview, SiteArchitect	5.2.611, 5.2R7
195299	Optimized indexing performance.	SiteArchitect	5.2R8
195314	Optimized status detection for the menu entry "View" / "Display area of AppCenter / Preview".	SiteArchitect	5.2.611, 5.2R7

ID	Description	Categories	Version
195407	New interface `ProjectCleanupTask` in the package `de.espirit.firstspirit.access.schedule` (FirstSpirit Developer API) allows for creating and configuring archival schedule actions. Further information can be found in chapter "Module Development, Scripts, API: Schedules: Creating and configuring an archival schedule action via API (de.espirit.firstspirit.access.schedule.ProjectCleanupTask)".	Advanced URL, Archiving, Developer, FirstSpirit API, Tasks	5.2R9
195471	Optimized performance of saving datasets whose forms contain an FS_LIST input component (type DATABASE) with many referenced datasets.	SiteArchitect	5.2.611, 5.2R7
195482	Corrected the return value of the statement `$CMS_REF(...)$` when using the optional parameter `abs:2`.	Developer, Template Development	5.2.611, 5.2R7
195523	The update process of global web applications when updating the FirstSpirit server has been improved.	Server Administrator	5.2R7
195526	During import, certain specific circumstances could lead to elements in the external file system being mistakenly deleted if, previously, local changes were made in the target project that differed from the exported state.	External synchronization	5.2.611, 5.2R7
195538	Performance improvements related to the Page Content store when saving a page with many sections.	SiteArchitect	5.2.615, 5.2R7
195542	A defective display of the menu bar in ContentCreator could occur after deleting a table template in SiteArchitect	ContentCreator	5.2R7
195581	In very rare cases, using the input component FS_INDEX within a language-dependent FS_CATALOG input component could cause erroneous behavior.	ContentCreator	5.2.615, 5.2R7
195588	Improved identification of invalid references in the input component FS_LIST (type DATABASE).	Input Components, SiteArchitect	5.2.611, 5.2R7
195603	Improved display of the results of a query in the query template.	SiteArchitect, Template Store	5.2.611, 5.2R7

ID	Description	Categories	Version
195642	In certain circumstances, switching between languages in the workspace area could lead to erroneous behavior.	SiteArchitect	5.2.611, 5.2R7
195692	In rare cases, setting focus on an object could lead to an erroneous state of action buttons.	SiteArchitect	5.2.611, 5.2R7
195707	Optimized performance of calculating the page preview with many database-based input components of type CMS_INPUT_COMBOBOX.	Performance, Preview	5.2.611, 5.2R7
195823	In image galleries (input component FS_LIST, type DATABASE with **<MEDIAMODE>** tag), a manually created sort order of entries was erroneously not observed.	Input Components, SiteArchitect	5.2.615, 5.2R7
195943	Optimized search for datasets in the selection dialog of the input component FS_LIST.	Input Components	5.2R8
195947	As of the current FirstSpirit version, user interface elements in ContentCreator (e.g. menus "Contents", "Media", and "Actions"; menu entries; input components; and report parameters) are identified in HTML. Further information can be found in chapter "ContentCreator: Identification of user interface elements".	ContentCreator, Developer, FirstSpirit API	5.2R7
195999	Optimized transport of table templates into a target project with a different language set. Further information can be found in chapter "Modules: Corporate Content: Multisite Management: Transport of table templates into projects with different language counts".	Content Transport, SiteArchitect, Table templates	5.2.615, 5.2R7
196034	In SiteArchitect running on macOS, use of the input component FS_LIST could lead to limited operability of SiteArchitect.	Input Components, SiteArchitect	5.2.611, 5.2R7
196043	If a table template lacked definition of a preview page, refreshing the page could lead to an erroneous display in the preview.	ContentCreator	5.2R8
196122	The detection of CSS mapping files (***.css.map**) during an upload with drag and drop has been improved.	Media Store, SiteArchitect	5.2R7

ID	Description	Categories	Version
196245	Deleted features may now be removed from the FirstSpirit repository via an archival schedule action. Further information can be found in chapter "Modules: Corporate Content: ContentTransport: Archival of deleted feature collections".	Content Transport	5.2R7
196290	In rare cases, the tag "style" could be stored multiple times when saving format templates.	Developer	5.2.615, 5.2R7
196326	Corrected version information about standard components of the system module.	Server Administrator	5.2.611, 5.2R7
196370	Improved Java compatibility during FirstSpirit installation on Linux.	FirstSpirit Administrator	5.2.615, 5.2R7
196387	In "Online Documentation for FirstSpirit" (ODFS), improved display of the version information "Available since" for API methods of data types.	Developer	5.2R7
196420	Optimized highlighting and editing of values in the input component FS_INDEX.	ContentCreator	5.2R7
196430	Improved error message when uploading images with unmet criteria.	FirstSpirit API	5.2.615, 5.2R7
196442	When using external logic in dynamic forms, setting a value in the input component CMS_INPUT_TEXT could cause erroneous behavior.	Dynamic Forms, Template Development	5.2.615, 5.2R7
196444	Improvements related to the Template Wizard.	Template Wizard	5.2.615, 5.2R7
196465	Optimized detection of invalid references in the input component FS_REFERENCE.	SiteArchitect	5.2R8
196496	Optimized the method `reload(Element)` (JavaScript API, JavaScript object: `top.WE_API.Preview`), which is used to update part of a document.	ContentCreator	5.2.615, 5.2R7
196545	Erroneous behavior could occur when the "pluggability" feature (Java Servlet Specification 3.0) was deactivated.	FirstSpirit Administrator	5.2.615, 5.2R7

ID	Description	Categories	Version
196612	In the input component CMS_INPUT_DOMTABLE, saving links could lead to erroneous behavior.	ContentCreator	5.2.615, 5.2R7
196619	Optimized detection of duplicate module resources.	Isolated mode (BETA)	5.2R8
196695	Optimized detection of invalid references in the input component FS_REFERENCE.	ContentCreator	5.2R8
196743	Improved detection of rule infractions for links within the input components CMS_INPUT_LINK, CMS_INPUT_IMAGEMAP, and CMS_INPUT_DOM.	Dynamic Forms, SiteArchitect	5.2R8
196747	During a metadata search, malfunctions could occur when entering search terms.	Search, SiteArchitect	5.2R8
196753	Improved initialization of the class loader in SiteArchitect.	Isolated mode (BETA)	5.2.615, 5.2R7
196763	Improved display of keyboard shortcuts in tool tips.	SiteArchitect	5.2.615, 5.2R7
196775	The version history for datasets has been optimized.	Content Store, SiteArchitect, Version history	5.2R8
196874	In non-Webstart environments (Launcher), the menu entry "Switch Projects" was erroneously active.	SiteArchitect	5.2.615, 5.2R7
196892	During generation an erroneous display could happen rarely when using the Tomcat web server.	ContentCreator	5.2R7
197189	Improved identification of `*.msg` files (e-mails in Microsoft Outlook) when uploading files via drag-and-drop.	Media Store, SiteArchitect	5.2R8
197199	Restoring revisions resulted in a malfunction on pages if the child list had been changed by means of a previous restoration process.	SiteArchitect	5.2R9
197274	In rare cases, after changing the repository type from "Berkley DB Java Edition V5" to "Berkley DB Java Edition V3", the conversion process may use more disk space than normal.	FirstSpirit Administrator, Repository	5.2R8
197406	Improved performance of client logging.	ServerManager, SiteArchitect	5.2R8

ID	Description	Categories	Version
197585	Invocation of the context menu item "Corporate Content / Rebind original" on a format template could cause erroneous behavior.	Corporate Content, FirstSpirit Administrator, SiteArchitect, Template Store	5.2R7
197715	When editing media elements with the file name extension "config", saving the element erroneously led to the extension being changed.	Media Store, SiteArchitect	5.2R7
197729	For new installations of FirstSpirit, the Jetty option "ForwardedRequestCustomizer" for evaluating information regarding reverse proxies will now be set by default.	Server Administrator	5.2R7
197873	In rare cases, erroneous behavior could occur when iterating through the objects of the interface **Index** (FirstSpirit Developer API, package **de.espirit.firstspirit.client.access.editor.li**	Developer, FirstSpirit API	5.2R7
198068	Erroneous behavior could occur when editing a language-dependent input component FS_CATALOG within a language-dependent input component FS_LIST (type DATABASE).	ContentCreator	5.2R7
198078	In the input component FS_INDEX, dynamically populating a parameter in a query using rules could lead to erroneous behavior.	Dynamic Forms, SiteArchitect	5.2R8
198214	During generation of Advanced URLs, erroneous behavior could occur if a structure folder had a display name that contained a special character.	Generation	5.2R8
198269	In the input component CMS_INPUT_DOM, improved pasting of Word content from the clipboard.	ContentCreator	5.2R8
198303	Optimized persistence of fixed workspaces.	SiteArchitect	5.2R8

ID	Description	Categories	Version
198337	Changed the default value of the method `setDeleteObsoleteFiles(boolean enable)` of the interface `ExportOperation` (FirstSpirit Developer API, package `de.espirit.firstspirit.store.access.nexport.op` from `false` to `true` and implemented additional log output. Further information can be found in chapter "External Synchronization: Deletion of obsolete files and additional logging".	Developer, External synchronization, FirstSpirit API	5.2R7
198365	When using the browser engine "Google Chrome" in the integrated preview, downloading a video in mp4 format could lead to erroneous behavior.	SiteArchitect	5.2R8
198375	The method `getProblems` of the `ImportOperation.Result` interface (FirstSpirit Developer API, `de.espirit.firstspirit.store.access.nexport.op` can be used to output problems that occurred during an import. If, during the process of distributed development, two developers create new elements with the same "UID", the GID ("Global ID") of the element will be updated So far, this update has had the log level "Warning" and was part of the log output of `getProblems`. The log level was changed to "Info" with the current FirstSpirit version. For this reason, this log message will no more appear in `getProblems` of the result (`ImportOperation.Result`).	Developer, External synchronization	5.2R7
198432	Erroneous behavior could occur when editing links in an input component CMS_INPUT_DOM which is contained within the form of an FS_LIST entry.	SiteArchitect	5.2R7
198512	In rare cases, erroneous behavior could occur when loading the project.	SiteArchitect	5.2R8
198533	Improved display of available resolutions in the input component CMS_INPUT_IMAGEMAP.	ContentCreator	5.2R8
198560	Generation on a cluster node could lead to erroneous behavior.	FirstSpirit Administrator, Generation	5.2R9

ID	Description	Categories	Version
198594	The libraries of the "FirstSpirit BasicSearch" module have been updated.	FirstSpirit Administrator, Modules	5.2R9
198609	In the functionality "External Synchronization", exporting unmodified entities erroneously led to the associated metadata files being written anew.	External synchronization	5.2R7
198639	The cropping function for alternative pictures of a specific resolution was improved.	Media Store, SiteArchitect	5.2R9
198763	In external synchronization, optimized the import of form default values.	External synchronization	5.2R8
198781	The display of rule violations has been improved.	ContentCreator, Dynamic Forms	5.2R9
198800	Closing a dialog that was defined via the interface `ShowFormDialogOperation` (package `de.espirit.firstspirit.ui.operations`, FirstSpirit Developer API) erroneously led to the entire page being refreshed.	ContentCreator	5.2R8
198865	Respecting formated contents in the input components CMS_INPUT_DOM and CMS_INPUT_DOMTABLE was optimized.	Input Components, SiteArchitect	5.2R9
198946	Using the "Google Chrome" browser within the integrated preview could lead to erroneous behavior after having changed the font size within the operating system.	Preview, SiteArchitect	5.2R9
198973	Improvements related to signing of FirstSpirit JAR files.	FirstSpirit Administrator	5.2R8
198975	The selection of data sets has been optimized for the input component FS_DATASET.	ContentCreator	5.2R9
198990	Default values were erroneously not taken into account when importing with external synchronization.	External synchronization	5.2R8
199057	The current logging may be displayed in a separate window using the menu entry "View Log" in the menu "Help". Searching in the log messages has been improved.	ServerManager, SiteArchitect	5.2R9

ID	Description	Categories	Version
199097	If only parts of the Page Content or Site Structure stores were exported from a source project, this erroneously led to these parts always being imported anew in the target project.	External synchronization	5.2R8
199124	Optimized evaluation of the option "Extended logging" (menu "Extras").	SiteArchitect	5.2R8
199149	The parameters `jdbc.POOLMIN` and `jdbc.POOLMAX` can be used to specify values in the JDBC configuration of databases which define the number of available database connections reserved for each pool. The establishment and release of these connections was optimized.	FirstSpirit Administrator	5.2R9
199159	In repeat imports, elements that are both in a released state and unchanged in the target project were erroneously imported anew.	External synchronization	5.2R8
199403	Editing a form using EasyEdit could lead to erroneous behavior.	ContentCreator	5.2R9
199628	The content of FirstSpirit JAR files is signed with a certificate. In the current FirstSpirit version, the content is signed with a new certificate that is valid until 2019-07-24 (24 July 2019). Further information can be found in chapter "General: Code signing certificate updated".	Webstart	5.2R9
199983	Starting with the current FirstSpirit version, the documentation of the FirstSpirit API is published additionally in separate Jar files. Further information can be found in chapter "General: Publication of FirstSpirit Javadoc via separate Jar files".	Developer, FirstSpirit API	5.2R9