



FirstSpirit™

Unlock Your Content

Installation Instructions

FirstSpirit Version 5.1

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1 Introduction

Due to the application of Java, FirstSpirit™ is a widely platform-independent client/server system. Basically, the installation only affects the FirstSpirit™ Server, since the applications are either managed via Java Web Start (FirstSpirit SiteArchitect, FirstSpirit ServerManager) or operated as a web application via a web browser (ContentCreator, ServerMonitoring). An installed FirstSpirit™ Server has a uniform design on all operating systems due to its platform independency. Discrepancies only occur during the installation process. Here, all the files of the FirstSpirit™ Server, excluding a few files required for the system start, are installed in the destination directory.



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1.1 System requirements

For detailed information about the system requirements of FirstSpirit Version 5.1 see FirstSpirit Technical Datasheet Version 5.1.

1.2 System architecture overview

FirstSpirit basically consists of the following components:

Server: FirstSpirit Server
 Web application server (Jetty)
 optional for specific project data: external relational database
 Java Wrapper (Tanukisoftware)
 Start script



Clients: SiteArchitect
 ContentCreator
 ServerManager

On the server side, the web server and a relational database system for test purposes (Derby) are integrated into the FirstSpirit Server. The FirstSpirit Server itself is a Java application. The required Java interpreter is started via the Java Wrapper. The Java Wrapper is the only platform-dependent component. It is a small native binary, compatible to the respective operating system and CPU architecture which monitors and controls the Java process. The Java Wrapper is started and stopped via a shell script. From the operating system's point of view there are only **2 processes**, Java and Java Wrapper, available during the runtime of the FirstSpirit Server whereas the Java process can comprise **hundreds of threads**.

On the client side, the installation occurs automatically via the web browser and Java Web Start.

1.3 Client/server communication

Communication between client and server takes place via HTTP and optionally via a FirstSpirit protocol (SOCKET). See the *FirstSpirit Manual for Administrators* for detailed information on the client/server configuration.

The standard value for the HTTP port is 8000/tcp and the port for the FirstSpirit protocol (SOCKET) is 1088/tcp. If one of the ports has already been reserved by the operating system, another free port is automatically selected during the installation and written into the configuration file `firstspirit5/conf/fs-server.conf` (for Unix systems) or `firstspirit5\conf\fs-server.conf` (for Windows systems). Ports can also be changed manually via that configuration file after the FirstSpirit installation.

1.4 Installation sources and components required

The following package formats are available for the installation of FirstSpirit 5.1:

- **RPM Package Manager (.rpm):** Red Hat Linux and SUSE Linux.
- **Debian (.deb):** Debian GNU/Linux and Ubuntu.
- **tar archiv (.tgz):** All Unix systems if no package system is to be used.
- **Windows installation software (.exe):** for Microsoft Windows Server.



These packages can be found on DVD or they can be downloaded. (If you need login data please contact the FirstSpirit Helpdesk).

The decision whether the installation is to occur via the operating system's own package system or without a package system via the tar archive depends on the following criteria:

▪ **Can the installation occur as root?**

Yes: Package or tar archive

No: tar archive. Allows installation under any existing normal user account into any directory.

▪ **Shall multiple FirstSpirit Servers be installed on one host?**

Yes: tar archive. Allows installation of individual FirstSpirit Servers under different user accounts.

No: Package. Package systems generally offer always only the possibility to install just 1 instance of each package.

▪ **Shall the installation be updated without knowledge of FirstSpirit?**

Yes: Package. The default update process of the used package system can be used.

No: tar archive

▪ **Would you like to select the installation directory yourself?**

Yes: tar archive

No: Package

Installation will always carried out into the directory `opt/firstspirit5` if you choose installation via Package.

The version of the FirstSpirit Server to be installed is given in the installation package, e.g. `firstspirit-5.1.38.tgz`. By using this tar archive, a FirstSpirit Server is installed with FirstSpirit Version 5.1.38.

In the following the package file of the placeholder `firstspirit-5.x.y` is used for the FirstSpirit version used in the respective case. This file must be replaced with the version of the installation package used for the respective installation. 5 is the major version, x the minor version and y is the build number of the installation package used.

Apart from the package file in the respective package format, installation and productive operation of FirstSpirit also requires



- a Java SE Developer Kit (JDK or SDK) (see Chapter 2.2 page 13)
- the license file `fs-license.conf` (see Chapter 4.4 page 49)

1.5 Recommendation for changeover to FirstSpirit 5.1

If an **update** is to be made from the last release version of FirstSpirit 5.0 to Version 5.1, a new FirstSpirit Server Version 5.0 should be installed first. Existing projects must then be moved individually from the "old" Server to the "new" Server using export/import (e.g. export the project from one FirstSpirit Server with the last release version of Version 5.0 and import into the new installed FirstSpirit Server Version 5.1) and the projects on the "new" server then adjusted to new or modified functions according to the *FirstSpirit Release Notes for Version 5.1*.



If FirstSpirit CorporateContent (formerly "FirstSpirit Package Management") is used, exporting and subsequently importing the projects results in the loss of all package information (see Documentation for FirstSpirit CorporateContent, "Export/Import" chapter). In this case, an "inplace upgrade" can be made. However, this should NOT be performed without the support of e-Spirit.

It is possible that the first server start takes some time because of FirstSpirit data structures have been changed. These new structures must be initialized first.

Updates from version 4.2 to 5.1 are not officially supported.

Downgrades to older FirstSpirit versions are not possible because of optimizations made to the internal storage format in version 5.1.



1.6 Chapter overview

This document describes the installation of FirstSpirit and the first steps for starting the FirstSpirit-Client on the basis of the supplied project example.

Chapter 2: Installation, update and uninstallation of the FirstSpirit Server under Linux, Solaris and AIX (page 9 ff.).

Chapter 3: Installation, update and uninstallation of the FirstSpirit Server under Windows (page 25 ff.).

Chapter 4: Starting FirstSpirit applications, installation of the license file and troubleshooting while installation (page 42 ff.).

1.7 Supplementary documents

1. Technical Datasheet:
For detailed information about the system requirements of FirstSpirit Version 5.1 see FirstSpirit Technical Datasheet Version 5.1.
2. FirstSpirit Community:
Additional installation and administration instructions see FirstSpirit Community:
<https://community.e-spirit.com/community/developer?view=tags&tags=admindoc>
3. Manual for Administrators



2 Installation under GNU/Linux, Solaris or AIX

Installation of the FirstSpirit Server on Unix systems is described here. For a list with the supported versions of operating systems see *FirstSpirit Technical Datasheet*.

See chapter 4 for starting FirstSpirit SiteArchitect and ContentCreator.

Installation includes the following steps.

1. Configuration of the operating system (see section 2.1)
2. Installation of the Java environment (see section 2.2)
3. Installation of the FirstSpirit Server as a package (see section 2.3) or tar archive (see section 2.4)
4. Installation of the license file (see section 4.4)
5. Start of the FirstSpirit clients (see chapter 4)
6. Configuration of the FirstSpirit Server (see chapter "FirstSpirit Server configuration" in the *FirstSpirit Manual for Administrators*). Here, the subsection "Configuration of Java-VM" is of particular importance since **an adjustment of the Java configuration is required for failure-free operation.**



For information about updating the FirstSpirit Server see Chapter 2.6 page 20.



2.1 Operating system configuration

2.1.1 Resource limits (ulimit)

The default settings in the operating systems supported for FirstSpirit Version 5.1 are sufficient for the resource limits parameters.

One exception exists with regard to the "nofile(s)", "open files" or "ulimit -n" parameters under Debian GNU/Linux, Ubuntu, Red Hat Enterprise Linux and SUSE Linux Enterprise Server. There these parameters have to be changed as described in the following, before or after the installation.

If a warning regarding this parameter is displayed in the terminal during installation under Solaris or AIX, the parameter must also be changed there.

The "nofile(s)" or "open files" parameter defines the maximum possible number of simultaneously opened file handles under the user account of the FirstSpirit Server. As file handles also include TCP sockets, which are necessary for Client-Server communication, the chosen parameter size for the expected number of simultaneous Client accesses must be sufficiently large. Each FirstSpirit project has up to 200 open files and approx. 4 TCP sockets per logged in editor. If many FirstSpirit projects are used the limit should be set correspondingly high.

Red Hat Enterprise Linux and SUSE Linux Enterprise Server:

The parameter is defined in the file `/etc/security/limits.conf`:

```
fs5 soft nofile 10000
fs5 hard nofile 10000
```

Ubuntu and Debian GNU/Linux:

The parameter is defined in the file `/etc/security/limits.conf`:

```
fs5 soft nofile 10000
fs5 hard nofile 10000
```

In addition, it should be checked if the following line is enabled within the file `/etc/pam.d/su` to use ulimit for system services such as FirstSpirit, which can be started via "su":

```
session required pam_limits.so
```



AIX:

The parameter is defined in the file `/etc/security/limits:`

```
fs5:
nofiles=10000
nofiles_hard=10000
```

Solaris:

The parameter is assigned to the user "fs5" by means of a Solaris project:

```
projadd -U fs5 -K "process.max-file-descriptor=(priv,10000,deny)" user.fs5
```

If the system-wide limit is set too low, set the "rlim_fd_max" parameter in the `/etc/system` file to at least 10000.

It should be noted that a change to this file does not become valid until after renewed login. The change can be checked after installing FirstSpirit, if the user account "fs5" has been created, by the following call:

```
su - fs5 -c "ulimit -a"
```

Only the "open files" or "nofile(s)" value is interesting here, which must be 10000.

2.1.2 Virtual memory (Swap Space)

The Java process of the FirstSpirit Server starts external processes for some functions via the function `fork()` of the operating system. When calling the function `fork()` the actual process is duplicated and in this way allocates additionally the same amount of virtual memory as the Java process of the FirstSpirit Server. Since the Java process is configured normally with the parameter `-Xmx` for allocating almost the complete system memory, the complete virtual memory must have been configured to the double size of the system memory. The called up external process will not use the complete reserved memory; but there is no other possibility for calling, except for using `fork()`, in the Oracle Java-VM in Version 1.6.0.

On operating systems which provide memory overcommit this option should be activated as follows, for avoiding that the call of an external process fails with the error message "Out of Memory":

Linux:

Calling

```
sysctl vm.overcommit_memory
```



should show:

```
vm.overcommit_memory = 0
```

(default setting)

AIX:

Check if "Deferred Page Space Allocation" is activated (default setting).

Solaris:

Does not provide memory commit.

2.1.3 File system

The FirstSpirit Server uses the Unix system function flock() to protect some control files for an exclusive access. The combination of operating system and file system must offer flock() for this reason. In case of local file systems, this function is provided by all operating systems which are supported by FirstSpirit. In case of distributed file systems (e.g. GFS2, OCFS, VXFS or NFS), the documentation of the particular supplier must be checked with regard to flock() on the used file system. Under Solaris and AIX, flock() is for example always available on NFS, under Linux not until Kernel 2.6.12 on NFS.

2.1.4 Locale

FirstSpirit documentation expects a locale which conforms to UTF-8. Otherwise, problems may arise during documentation roll-out (directory creation) or while working with documentation (e.g. due to umlauts in SEO URLs).

2.1.5 umask (Configuration of file access rights)

Using the `wrapper.umask` parameter in the configuration file for the server start and the FirstSpirit server Java system `fs-wrapper.conf`, access rights can be configured under UNIX (see http://en.wikipedia.org/wiki/Filesystem_permissions#Traditional_Unix_permissions) for newly created files and directories.

The mask that controls which file permissions are set for files and directories for the Unix system ("umask") is overwritten by the mask that controls the permissions which are set for FirstSpirit by using the parameter `wrapper.umask`. This means, that permissions which are defined for the operating system do potentially not apply to files and directories which are created by FirstSpirit. For this reason, the value of the parameter `wrapper.umask` should be checked and adapted to



the permission mask of the system, if necessary. See also FirstSpirit Manual for Administrators, Chapter "Configuration of the Java VM and the Java Wrapper (fs-wrapper.conf)".

2.2 Java

Under Linux and Solaris the FirstSpirit Server requires the Java SE Developer Kit (JDK) from Oracle. Under AIX the JDK from IBM is used.



For information about supported and recommended JDK versions see FirstSpirit Technical Datasheet.

JDK for Linux and Solaris: Latest releases of the Oracle JDK are available as an RPM package or self extracting shell archive with installation notes under the following address:

<http://oracle.com/technetwork/java/javase/downloads>

You can find older releases here: <http://www.oracle.com/technetwork/java/archive-139210.html>.

Installation as an RPM or Solaris package is preferred, because the dependencies in the FirstSpirit package are checked automatically.

Only **64-bit JDKs** are still supported for productive FirstSpirit Servers. 32-bit JDKs can also be used for test systems; however, these are not supported by e-Spirit. Under Solaris the 32-bit JDK must be installed first to use the 64-bit JDKs.



The GNU Java, sometimes supplied with Linux distributions, cannot be used for FirstSpirit! JDKs which have not been officially released by Sun should not be used either, since they are expected to lead to stability problems during longer runtimes.

JDK for AIX: Latest releases of the IBM JDK as AIX package with installation notes and the required AIX level are available under:

<http://www.ibm.com/developerworks/java/jdk/aix/service.html>



2.3 Installation via a package system

Installation via a package system has the following advantages compared to installation as a tar archive:

- Simple method for updating.
- Automatic dependency check of the required system components.
- Automatic integration into the system start environment.

The following sections describe installation under the package systems supported by FirstSpirit.

Installation under Solaris and AIX must be carried out via tar archive. See Chapter 2.4 page 16.

2.3.1 Red Hat Enterprise Linux and SUSE Linux Enterprise Server

If Java was installed as RPM package, open as the `root`:

```
rpm -ivh firstspirit-5.x.y.x86_64.rpm
```

If Java was not installed via RPM or if it is in another path, call as `root`

```
JAVA_HOME=/opt/jdk1.7.0_04 rpm -ivh --nodeps \  
firstspirit-5.x.y.x86_64.rpm
```

The path to the installed JDK must be given for `JAVA_HOME`, in this example call `jdk1.7.0_04`. For information about supported and recommended JDK versions see *FirstSpirit Technical Datasheet*.

The Java path is copied while the installation into the configuration file `/opt/firstspirit5/conf/fs-wrapper.conf`, as parameter `wrapper.java.command`, for all subsequent starts. If necessary, the path can be changed later on via this parameter.

Note: `firstspirit-5.x.y` is a placeholder for the respective FirstSpirit version to be installed. See also Chapter 1.4 page 5, section about "Placeholders".



The Java SE Developer Kit (JDK) from Oracle (<http://oracle.com/technetwork/java/javase/downloads>) must have been installed as the original RPM, so that the call is possible without `JAVA_HOME=`. If this is not wanted, the call must be made with `JAVA_HOME=`.



If installation of the example project is not wanted, it can be disabled by adding `FSDEMO=false` before the call and the example project can be installed manually later on via the ServerManager.

```
FSDEMO=false JAVA_HOME=/opt/jdk1.7.0_04 rpm -i --nodeps \  
firstspirit-5.x.y.x86_64.rpm
```

Constant parameters of the package:

- Target directory: `/opt/firstspirit5`
- User account: `fs5`
- Start script: `/etc/init.d/fs5`

During the installation the FirstSpirit Server is automatically integrated into the system start environment (`/etc/init.d`) and started.

Following completion of the installation a valid license must be installed (see Chapter 4.4 page 49). If a valid license is not installed, a message is sent to all logged in FirstSpirit users before the period expires.

If the installation cancels with an error message, FirstSpirit must be completely uninstalled first before the installation can be repeated (see Chapter 2.7.1 page 23).

2.3.2 Debian GNU/Linux and Ubuntu

As the `root`, open:

```
JAVA_HOME=/opt/jdk1.7.0_04 dpkg -i firstspirit_5.x.y_amd64.deb
```

The path to the installed Oracle JDK must be given for `JAVA_HOME`, in this example call `jdk1.7.0_04`. For information about supported and recommended JDK versions see *FirstSpirit Technical Datasheet*.

The Java path is copied while the installation into the configuration file `/opt/firstspirit5/conf/fs-wrapper.conf`, as parameter `wrapper.java.command`, for all subsequent starts. If necessary, the path can be changed later on via this parameter.

Note: `firstspirit-5.x.y` is a placeholder for the respective FirstSpirit version to be installed. See also Chapter 1.4 page 5, section about "Placeholders".

If installation of the example project is not wanted, it can be disabled by adding `FSDEMO=false` before the call and the example project can be installed manually later on via the



ServerManager.

```
FSDEMO=false JAVA_HOME=/opt/jdk1.7.0_04 dpkg -i firstspirit_5.x.y_amd64.deb
```

Constant parameters of the package:

- Target directory: `/opt/firstspirit5`
- User account: `fs5`
- Start script: `/etc/init.d/fs5`

During the installation the FirstSpirit Server is automatically integrated into the system start environment (`/etc/init.d`) and started.

Following completion of the installation a valid license must be installed (see Chapter 4.4 page 49). If a valid license is not installed, a message is sent to all logged in FirstSpirit users before the period expires.

If the installation cancels with an error message, FirstSpirit must be completely uninstalled first before the installation can be repeated (see Chapter 2.7.1 page 23).

2.4 Installation via tar archive

The tar archive can be installed as a `root` or under a normal user account.

2.4.1 Installation as root

In the installation via the tar archive a user account "fs5" is created automatically with a group of the same name.

The installation can take place in any directory, in the following example in the base path `/opt` so that FirstSpirit is available as `/opt/firstspirit5`.

As the `root`, open:

```
cd /opt
gunzip -c /var/tmp/firstspirit-5.x.y.tgz | tar xvf -
JAVA_HOME=/opt/jdk1.7.0_04 /opt/firstspirit5/bin/fs5 start
```



Note: `firstspirit-5.x.y` is a placeholder for the respective FirstSpirit version to be installed. See also Chapter 1.4 page 5, section about "Placeholders".

The first time "fs5 start" is opened the path to the Oracle Java as `JAVA_HOME` must be given as shown in the example above, in this case `jdk1.7.0_04`. (For information about supported and recommended JDK versions see *FirstSpirit Technical Datasheet*.)

The Java path is copied while the installation into the configuration file `/opt/firstspirit5/conf/fs-wrapper.conf`, as parameter `wrapper.java.command`, for all subsequent starts. If necessary, the path can be changed later on via this parameter.

If the installation of the example project is not wanted, this can be disabled by adding `FSDEMO=false` in the last line and the example project can be installed manually later on via the `ServerManager`:

```
FSDEMO=false JAVA_HOME=/opt/jdk1.7.0_04 /opt/firstspirit5/bin/fs5 start
```

During the installation the FirstSpirit Server is automatically integrated in the system start environment of the operating system, see Chapter 2.3.1. Following installation the Server can also be stopped and started manually via the system start environment.

Following completion of the installation a valid license must be installed (see Chapter 4.4 page 49). If a valid license is not installed, a message is sent to all logged in FirstSpirit users before the period expires.

If the installation cancels with an error message, FirstSpirit must be completely uninstalled first before the installation can be repeated (see Chapter 2.7.2 page 23).

2.4.2 Installation under normal user account

A user account must be created, e.g. "fs5".

The installation can take place in any directory, in the following example below `$HOME`:

```
cd $HOME

gunzip -c /var/tmp/firstspirit-5.x.y.tgz | tar xvf -

JAVA_HOME=/opt/jdk1.7.0_04 /opt/firstspirit5/bin/fs5 start
```

Note: `firstspirit-5.x.y` is a placeholder for the respective FirstSpirit version to be installed. See also Chapter 1.4 page 5, section "Placeholders".



The first time "fs5 start" is opened the path to the Java installation for `JAVA_HOME` must be given, in this case `jdk1.7.0_04`. (For information about supported and recommended JDK versions see *FirstSpirit Technical Datasheet*.)

The Java path is copied while the installation into the configuration file `/opt/firstspirit5/conf/fs-wrapper.conf`, as parameter `wrapper.java.command`, for all subsequent starts. If necessary, the path can be changed later on via this parameter.

Install and start:

```
JAVA_HOME=/opt/jdk1.7.0_04 firstspirit5/bin/fs5 start
```

If the installation of the example project is not wanted, this can be disabled by adding `FSDEMO=false` in the last line. Example:

```
FSDEMO=false JAVA_HOME=/opt/jdk1.7.0_04 firstspirit5/bin/fs5 start
```

Following completion of the installation a valid license must be installed (see Chapter 4.4 page 49). If a valid license is not installed, a message is sent to all logged in FirstSpirit users before the period expires.

If the installation cancels with an error message, FirstSpirit must be completely uninstalled first before the installation can be repeated (see Chapter 2.7.2 page 23).

2.5 Start and stop the FirstSpirit Server

2.5.1 GNU/Linux

Start as `root`:

```
/etc/init.d/fs5 start
```

Stop as `root`:

```
/etc/init.d/fs5 stop
```



2.5.2 Solaris

FirstSpirit uses the Service Management Facility on Solaris.

Start as `root`:

```
svcadm enable fs5
```

Stop as `root`:

```
svcadm disable -s -t fs5
```

List processes as `root`:

```
svcs -p fs5
```

2.5.3 AIX

On AIX an entry with key "fs5" is written during installation into the file `/etc/inittab` to start FirstSpirit during system boot.

For manual control of the FirstSpirit Server the following commands are available.

Start as `root`:

```
/opt/firstspirit5/bin/fs5.init start
```

Stop as `root`:

```
/opt/firstspirit5/bin/fs5.init stop
```

2.5.4 From standard user account

The FirstSpirit Server can also be controlled from a standard user account. The installation creates the user account `fs5`, but deactivates the login for this user account. To activate the possibility to login as `fs5` via SSH or Telnet, it is sufficient to enter the password for the user account `fs5`. Enter as `root`:

```
passwd fs5
```

After logging in with the user account `fs5`, it is possible to use the following calls to control the FirstSpirit Server:



Start as user `fs5`:

```
firstspirit5/bin/fs5 start
```

Stop as user `fs5`:

```
firstspirit5/bin/fs5 stop
```

2.6 Update

Only the FirstSpirit Server needs to be updated manually. On the client side, the update occurs automatically via Java Web Start. During the update process the FirstSpirit Server has to be stopped. All clients should, therefore, be logged off prior to the update. For this purpose, you can use the maintenance mode (see FirstSpirit Documentation for Administrators, Chapter "Maintenance mode").

An update does not change any project or user data in FirstSpirit. Only executable binaries and libraries are updated.

Except for the version number, the same file in the package format is used for the update as for installation.

2.6.1 Via a package system

The update via a package system takes place as `root`.

The FirstSpirit Server is stopped and started automatically via the package system.

The technical package names contain the FirstSpirit major version. Package name FirstSpirit 5.x: `firstspirit5`. Package name FirstSpirit 4.x: `firstspirit4`. If the version of the installed FirstSpirit Server and the version, which is used for the update, differ in regard to the major version, no update will be carried out but a new installation into another directory `/opt/firstspirit5` or `/opt/firstspirit4` (see Chapter 2.3.1 page 14). For information about an inplace upgrade from FirstSpirit Version 4.2R4 to 5.0 please see *FirstSpirit Release-Notes 5.0*.

RPM:

```
rpm -U firstspirit-5.x.y.x86_64.rpm
```



Debian:

```
dpkg -i firstspirit_5.x.y_amd64.deb
```

Note: `firstspirit-5.x.y` is a placeholder for the respective FirstSpirit version to be installed. See also "Placeholders".

2.6.2 Via a tar archive

First, shut down the FirstSpirit Server. See Chapter 2.3.1 page 14.

Then update the files in the `/opt/firstspirit5` directory. If the FirstSpirit Server has been installed in a different base directory to `/opt`, adjust the parameter with the following call:

```
cd /opt
gunzip -c /var/tmp/firstspirit-5.x.y.tgz | tar xvf -
```

Note: `firstspirit-5.x.y` is a placeholder for the respective FirstSpirit version to be installed. See also "Placeholders".

To finish, start the FirstSpirit Server. See Chapter 2.3.1 page 14.

2.6.3 Via the file `fs-server.jar`

You can update the FirstSpirit server within a minor version (e.g. 5.1) also by replacing the file `fs-server.jar` by a newer one. You find the most current version of this file, including the most current installation files of the version 5.1 as download in the respective subfolder.

(If you need login data please contact the FirstSpirit Helpdesk.)

During the update process the FirstSpirit server has to be stopped. All clients should, therefore, be logged off before starting the update.

Download the file `fs-server.jar` from the directory mentioned above.

Replace the file `fs-server.jar` in the subfolder `firstspirit5/server/lib` of the installation directory of the FirstSpirit server with the downloaded file.

Restart the server.





Updating the server by means of replacing the file `fs-server.jar` is appropriate for updates from one build version to another within a minor version, but not for updates from one minor version to another (e.g. from version 5.0 to version 5.1), because, here, the Java Wrapper will not be updated.

2.6.4 Modules

When updating a FirstSpirit server, it is recommended to create newly all modules which you have created yourself against the current FirstSpirit version. Furthermore, all installed modules delivered by e-Spirit and all web applications should always be updated as well!

For updating modules, the related `fsm` files must be uploaded one by one by using the ServerManager. After having updated modules with depending modules, you must also restart manually the services of these depending modules. For more information about updating modules and starting services see *FirstSpirit Manual for Administrators*, Chapters "Modules" and "Services").

In this context we would like to point out, too, that when installing or updating modules which are the basis for data (either themselves or because of directly or indirectly dependent services), these data are not (or no more) available in processes which are accessing these data (generations, clients...) until these processes are restarted.



2.7 Uninstallation

2.7.1 Via package system

The package system will automatically shut down the FirstSpirit Server before uninstallation.

You should use the following calls for removing FirstSpirit completely, including configuration files and user data:

RPM:

```
rpm -e firstspirit5  
rm -rf /opt/firstspirit5
```

Debian:

```
dpkg -r firstspirit5  
dpkg -P firstspirit5  
rm -rf /opt/firstspirit5
```

or

```
apt-get purge firstspirit5  
rm -rf /opt/firstspirit5
```

2.7.2 Via tar archive

If installation took place as root or entries exist in the system start environment, call as root:

```
/etc/init.d/fs5 stop  
rm -rf /opt/firstspirit5  
rm /etc/init.d/fs5
```

Subsequently, delete all symlinks on `/etc/init.d/fs5` from the system start environment:

Debian:

```
update-rc.d -f fs5 remove
```

Red Hat Enterprise Linux or SUSE Linux Enterprise Server:

```
chkconfig --del fs5
```



If installation took place as normal user:

```
firstspirit/bin/fs5 stop  
rm -rf /opt/firstspirit5
```



3 Installation under Windows



For information about updating the FirstSpirit Servers please see Chapter 2.6 page 20.

3.1 Startup from CD

After inserting the CD, the installation program starts automatically. If not, call up the file *setup.exe* from the Windows directory of the CD. A welcome screen appears.



Figure 3-1: Installation – start screen



3.2 Java environment selection

The FirstSpirit Server requires the Java SE Developer Kit (JDK) from Oracle, version 1.7 or 1.6.



For information about supported and recommended JDK versions see FirstSpirit Technical Datasheet.

3.2.1 No JDK available

If no JDK has yet been installed, it has to be downloaded from the Oracle Java website and installed.

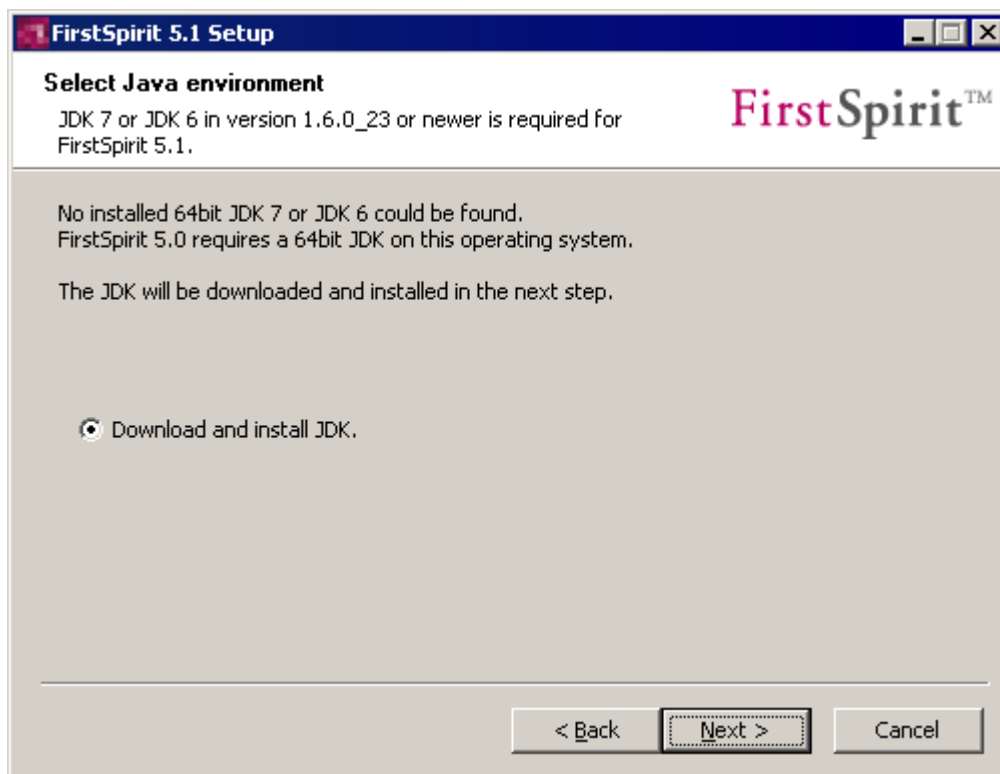


Figure 3-2: Java environment – no JDK available

Click on the **Next** button to go to the download page of Oracle.

(<http://oracle.com/technetwork/java/javase/downloads>)



Older JDK versions can be found here:

<http://www.oracle.com/technetwork/java/archive-139210.html> zu finden.

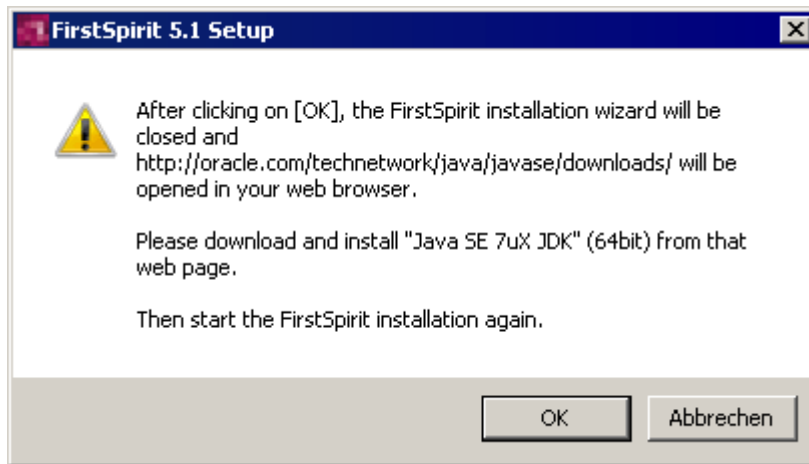


Figure 3-3: Link to the Java website



3.2.2 JDK already available

If a JDK has already been installed on the computer, this JDK can be used for the subsequent FirstSpirit 5.1 installation (recommended) or a (possibly newer) update can be downloaded from the Java website and installed. In the latter case select the option "Download and install JDK.", download and install the latest version and then start the installation of FirstSpirit again.

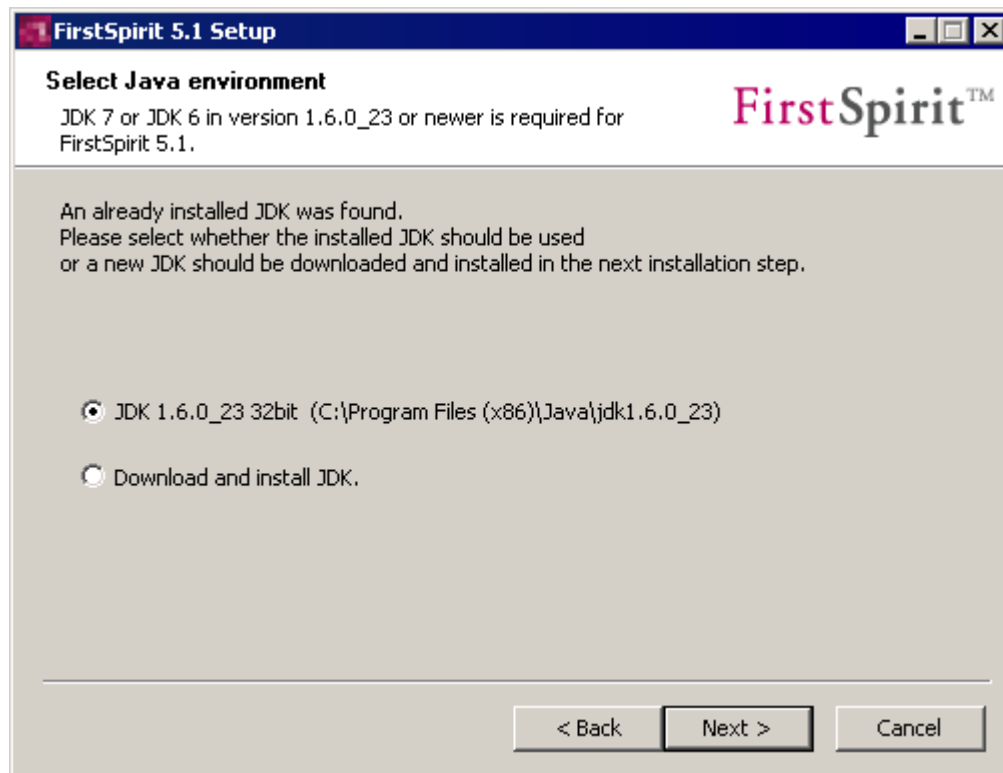


Figure 3-4: Java environment – JDK already available

If you would like to use an already installed version select this version in this dialogue window. Click on the **Next** button to continue installation of FirstSpirit 5.1.



3.3 Memory usage settings

In case of installation of a new FirstSpirit server you can select – depending on the specific use case – how much physical memory you want to use for the Java VM, after having selected the Java environment (see section 3.2 page 26):

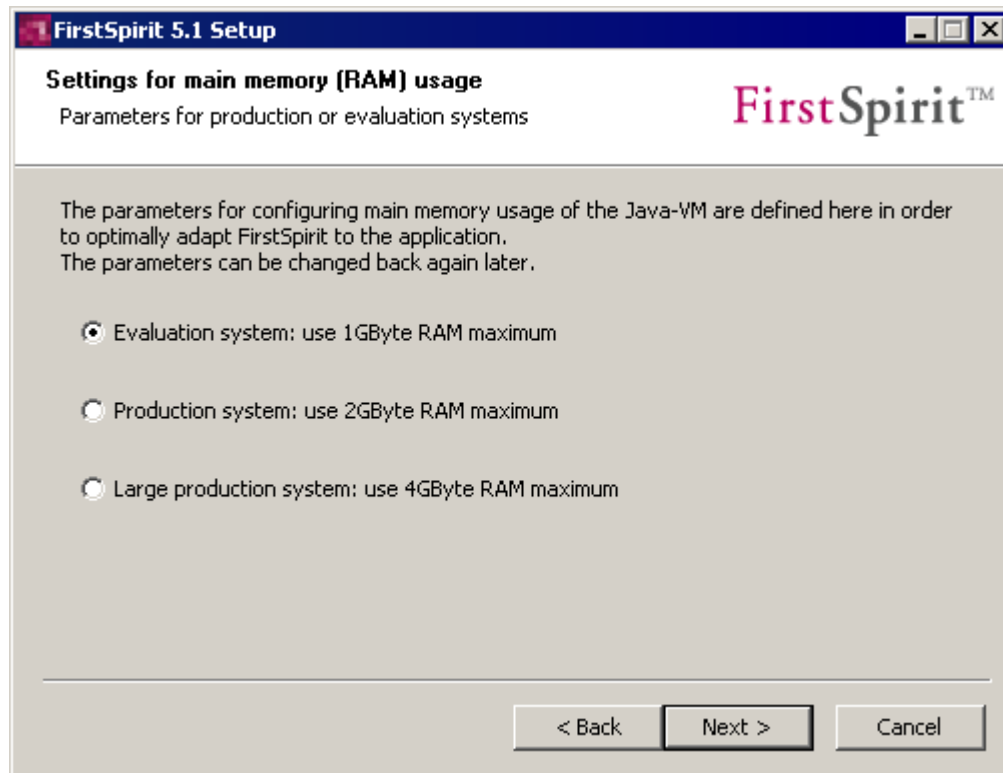


Figure 3-5: Use of memory: production or evaluation system

Evaluation system: This option is selected if the new FirstSpirit Server is used for **testing purposes** and thus needs less main memory than an installation for productive operation. In this case maximum 1 GByte RAM are reserved for the Java-VM.

Production system: This option is selected if the new FirstSpirit Server is used for **productive** operation. In this case maximum 2 GByte RAM are used for the Java-VM.

Large production system: This option is selected if the new FirstSpirit Server is used for **productive** operation and more than 4 GByte RAM are available. This option is only shown for 64Bit systems.





The size of the reserved RAM can be modified after the installation: in the file "fs-wrapper.conf" using the parameters `wrapper.java.maxmemory` or `wrapper.java.maxmemory.percent` and `wrapper.java.initmemory` or `wrapper.java.initmemory.percent`.

For further information see *FirstSpirit Manual for Administrators*, section "Configuration of the Java VM and the Java Wrapper (fs-wrapper.conf)".

3.4 Selection of license file

A license is required to run FirstSpirit. When installing a FirstSpirit server under Windows using the Installation Wizard, during the installation process the license file can be selected directly from the local file system or the content of the file can be copied using Copy & Paste:

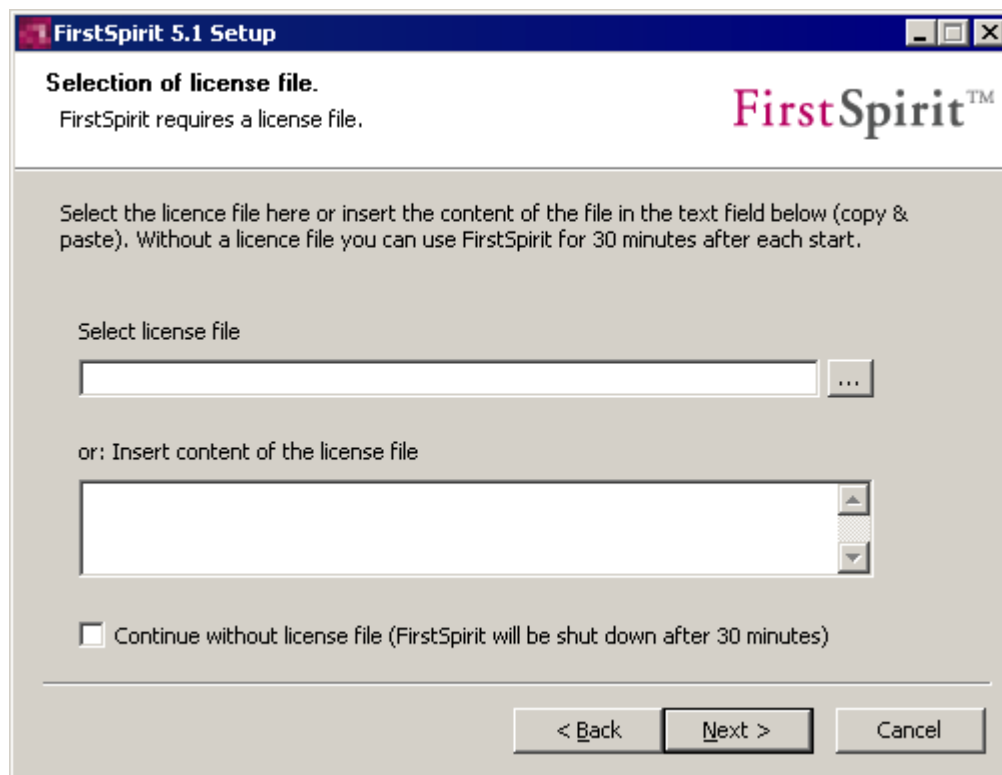


Figure 3-6: Selection of license file

If you select the option "Continue without license file" you can continue with the installing procedure without any valid license. In this case, you must install a valid license file during the next 30 minutes after server start to be able to work with FirstSpirit. For information about installing the license file at a later moment see Chapter 4.4 page 49.



3.5 Component selection

During the next step choose which FirstSpirit components are to be installed. Move the mouse pointer over the individual components to display a brief description.

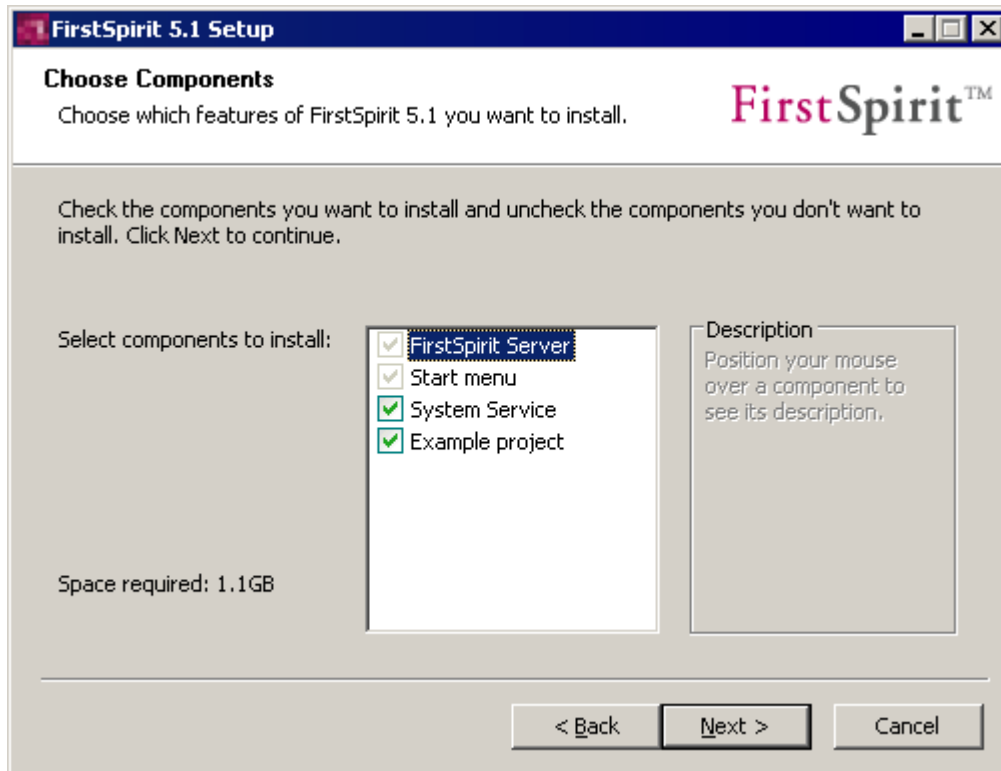


Figure 3-7: Choose components

The following components can be selected:

- FirstSpirit Server: The FirstSpirit Server with integrated web server is installed. The installation of this component is mandatory.
- Start menu: Entries for the FirstSpirit Server are created under menu item "All programs / FirstSpirit" in the start menu. The installation of this component is mandatory.
- System Service: (Local) administrators can configure the FirstSpirit Server as a system service. Without system service the server always has to be started manually first.
- Example project: The FirstSpirit demo project "Mithras Energy" is installed.

After selecting the desired components, click on the **Next** button to continue installation of FirstSpirit 5.1.



3.6 Destination directory selection

During the next step choose the installation directory of the FirstSpirit Server:

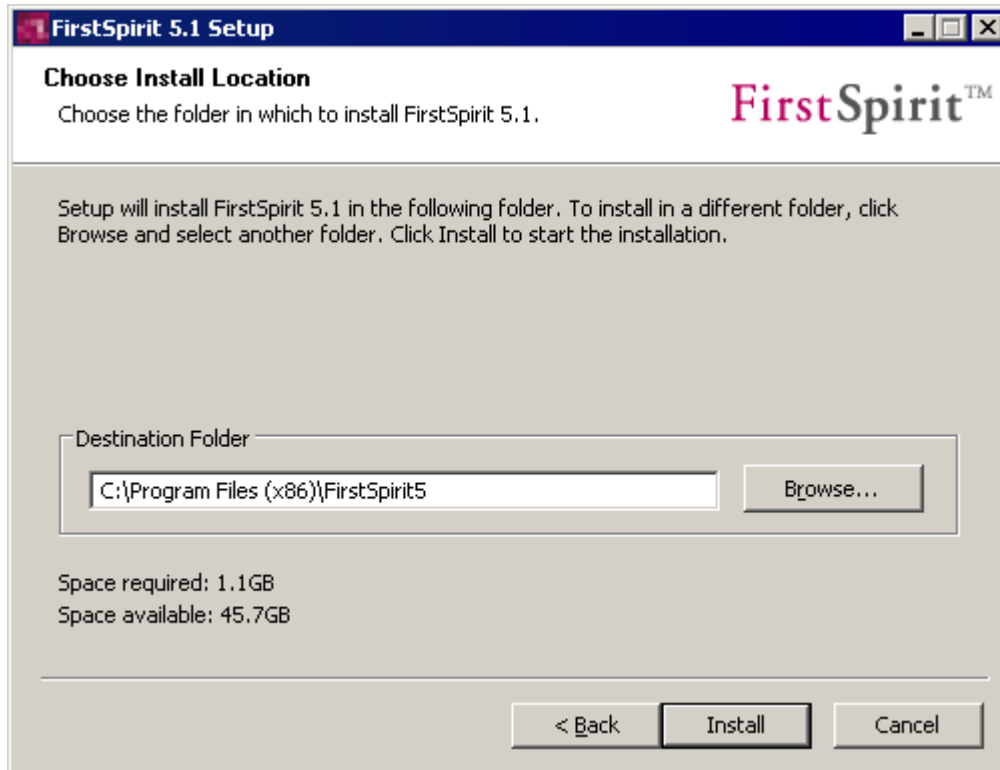


Figure 3-8: Choose destination directory

In case of an update the correct path to the selected server which is to be upgraded (see section 3.8.1 page 35, option "Upgrade") is displayed here and should not be changed.

Depending if it is a new installation or an upgrade the button **Install** or **Upgrade** is displayed. Click on the respective button to start the installation of FirstSpirit 5.1 or the upgrade of the selected server.



3.7 Carry out installation

Installation of FirstSpirit 5.1 can take several minutes. A progress bar displays the installation process.

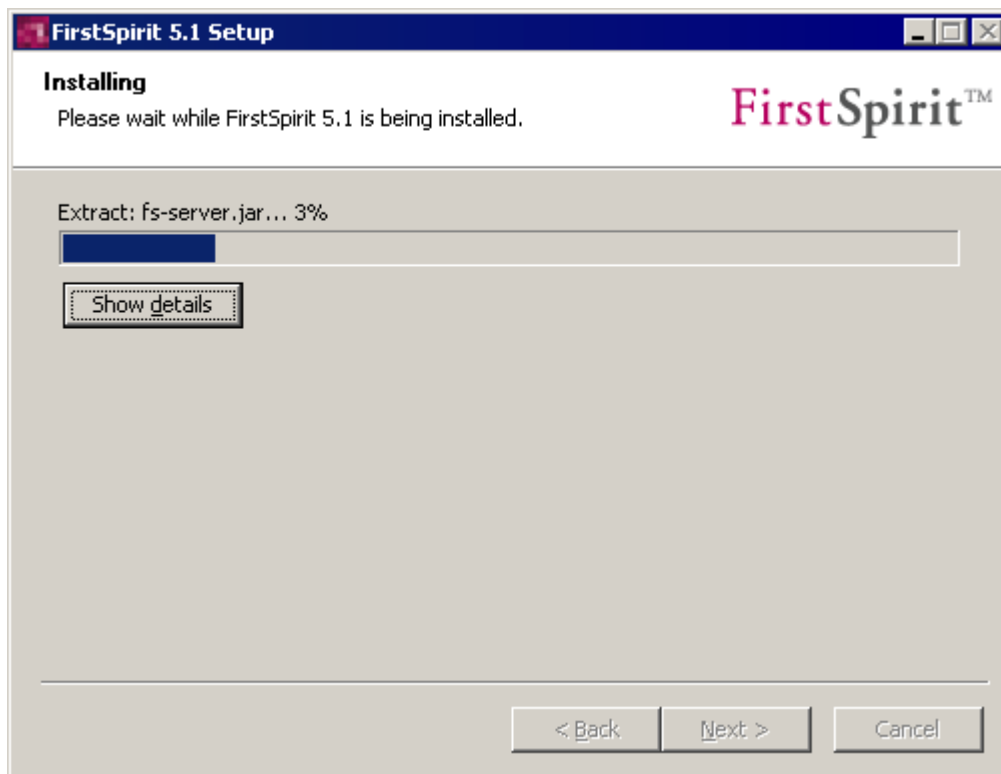


Figure 3-9: Install FirstSpirit 5.1

Click on the **Show details** button to monitor the installation progress more precisely.





Figure 3-10: Installation completed

After installation, click on the **Finish** button to open the FirstSpirit start page in the web browser.



Following completion of the installation a valid license must be installed (see Chapter 4.4 page 49), if this has not already been added during the installation. If a valid license is not installed, a message is sent to all logged in FirstSpirit users before the expiry of a timespan of 30 minutes (see Chapter 3.4. page 30).

If the installation cancels with an error message, FirstSpirit must be completely uninstalled first before the installation can be repeated (see Chapter 3.8.1 page 35).

Subsequently, the FirstSpirit Server should be configured as described in the chapter "FirstSpirit Server configuration" in the *FirstSpirit Manual for Administrators*. Here, the subsection "Configuration of Java-VM" is of particular importance since an **adjustment of the Java configuration is required for failure-free operation**.



3.8 Updating or parallel installation of several FirstSpirit Server

FirstSpirit Servers can be updated to a more recent version via the installation program or by replacing the `fs-server.jar` file in the file system. If little FirstSpirit knowledge is available, preference is to be given to updating via the installation program (see Chapter 3.8.1 page 35).

3.8.1 Updating via the installation program

It is possible to install one or several FirstSpirit Servers in parallel under Windows operating systems. If a FirstSpirit installation already exists, it is possible to choose between updating the existing installation and a new installation before choosing the JDK (see Chapter 3.2 page 26):

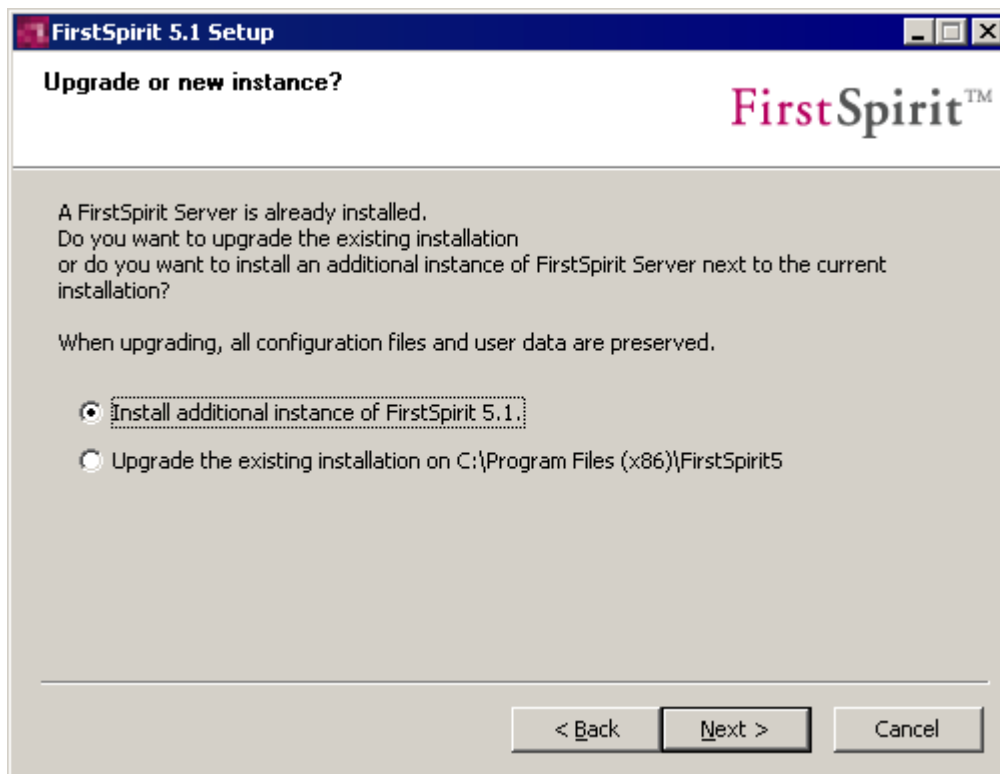


Figure 3-11: Parallel installation of servers

Update: In the case of an update the existing installation is updated, namely to the version, which is given in the file name of the chosen *setup.exe* file. All configuration and user data is retained. If several FirstSpirit Servers exist, they are displayed here with the respective path and can be chosen for the update.

Additional instance: In the case of a new installation of FirstSpirit Version 5.1 a new FirstSpirit Server (with separate service, Start menu, etc.) is installed. In order to be able to subsequently



differentiate between the installed FirstSpirit Servers, the instance is identified with an add-on when the target directory is chosen (Chapter 3.6 page 32), e.g. "FirstSpirit Instance 2". This designation can be adjusted individually.

If you click the **Next** button the installation or updating of the chosen FirstSpirit Server is continued. In the next step the Java environment can be chosen (see Chapter 3.2 page 26).

3.8.2 Update using the file `fs-server.jar`

You can update the FirstSpirit server within a minor version (e.g. 5.1) also by replacing the file `fs-server.jar` by a newer one. You find the most current version of this file, including the most current installation files of the version 5.1 as download in the respective subfolder.

(If you need login data please contact the FirstSpirit Helpdesk.)

During the update process the FirstSpirit server has to be stopped. All clients should, therefore, be logged off before starting the update.

Download the file `fs-server.jar` from the directory mentioned above.

Replace the file `fs-server.jar` in the subfolder `firstspirit5/server/lib` of the installation directory of the FirstSpirit server with the downloaded file.

Restart the server.



Updating the server by means of replacing the file `fs-server.jar` is appropriate for updates from one build version to another within a minor version, but not for updates from one minor version to another (e.g. from version 5.0 to version 5.1), because, here, the Java Wrapper will not be updated.

3.8.3 Modules

When updating a FirstSpirit server, it is recommended to create newly all modules which you have created yourself against the current FirstSpirit version. Furthermore, all installed modules delivered by e-Spirit and all web applications should always be updated as well!

For updating modules, the related `fsm` files must be uploaded one by one by using the ServerManager. After having updated modules with depending modules, you must also restart manually the services of these depending modules. For more information about updating



modules and starting services see *FirstSpirit Manual for Administrators*, Chapters "Modules" and "Services").

In this context we would like to point out, too, that when installing or updating modules which are the basis for data (either themselves or because of directly or indirectly dependent services), these data are not (or no more) available in processes which are accessing these data (generations, clients...) until these processes are restarted.

3.8.4 Problems under Windows Server 2003 R2 (SP2)

Installing a further instance of a FirstSpirit Server can cause problems when using a Windows Server 2003 R2 (SP2). The new installation will be terminated once the FirstSpirit installer asks if an existing installation is to be upgraded or a new server is to be installed in parallel to the existing one (see Figure 3-11).

Reason: The messagebox.dll of the installer can not be registered.

Nevertheless, for being able to install another instance of the FirstSpirit Server you should deactivate the option "*Turn on DEP for essential Windows programs and services only*" temporarily under:

Control Panel – System – Advanced – Button "Settings" in "Performance" area – Tab "Data Execution Prevention"

Subsequently, the Windows operating system must be restarted.

Now the FirstSpirit Server can be installed. The "Data Execution Prevention" option should be reactivated after installation is completed.



3.9 Uninstallation

3.9.1 Uninstallation via start menu

If entries for the FirstSpirit Server have been created in the start menu during installation, the server can be uninstalled via these entries in the start menu. Simply call the option **Uninstall FirstSpirit** under menu item **Start – All Programs – FirstSpirit – Installation** (or under menu items, which have been created for other instances (see chapter 3.8 page 35)).



Figure 3-12: Uninstallation of FirstSpirit

During the next step choose which FirstSpirit components are to be uninstalled. Move the mouse pointer over the individual components to display a brief description.



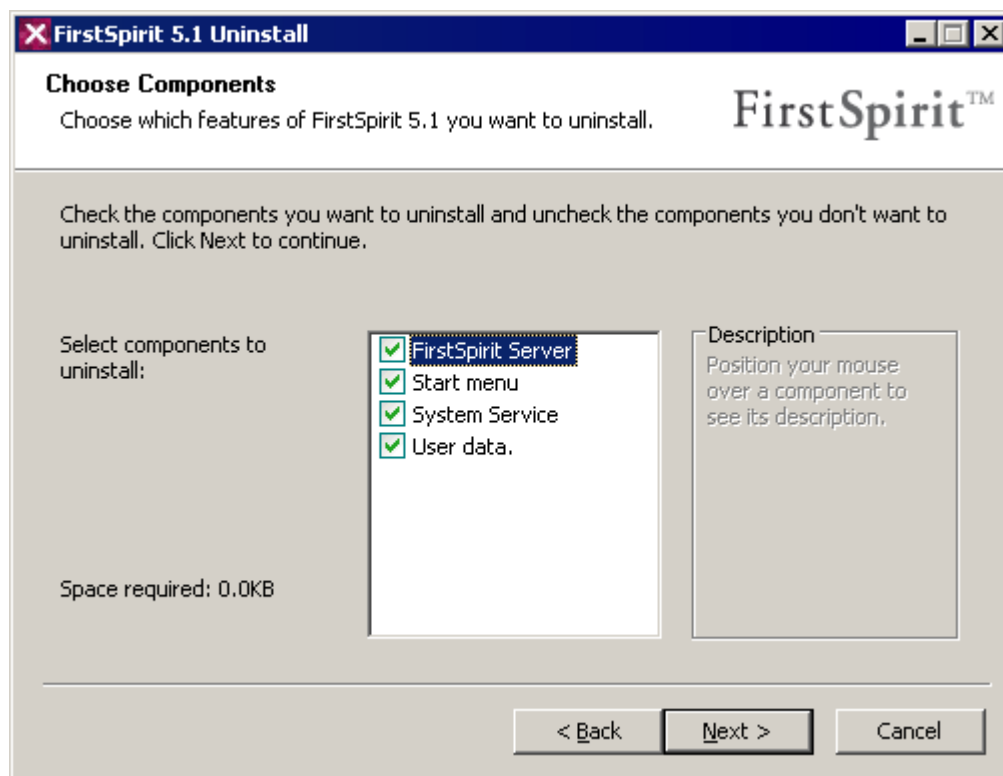


Figure 3-13: Uninstallation – component selection

The following components can be selected:

- FirstSpirit Server: The FirstSpirit Server is exclusively installed without removing configuration and user data.
- Start menu: The entries for the FirstSpirit Server in the start menu are removed.
- System Service: (Local) administrators can also remove the FirstSpirit Server from the system service list.
- User data: All configuration and user data of the FirstSpirit Server is removed.



In the following dialogue window you must confirm the deinstallation once again by clicking the button **Uninstall**:

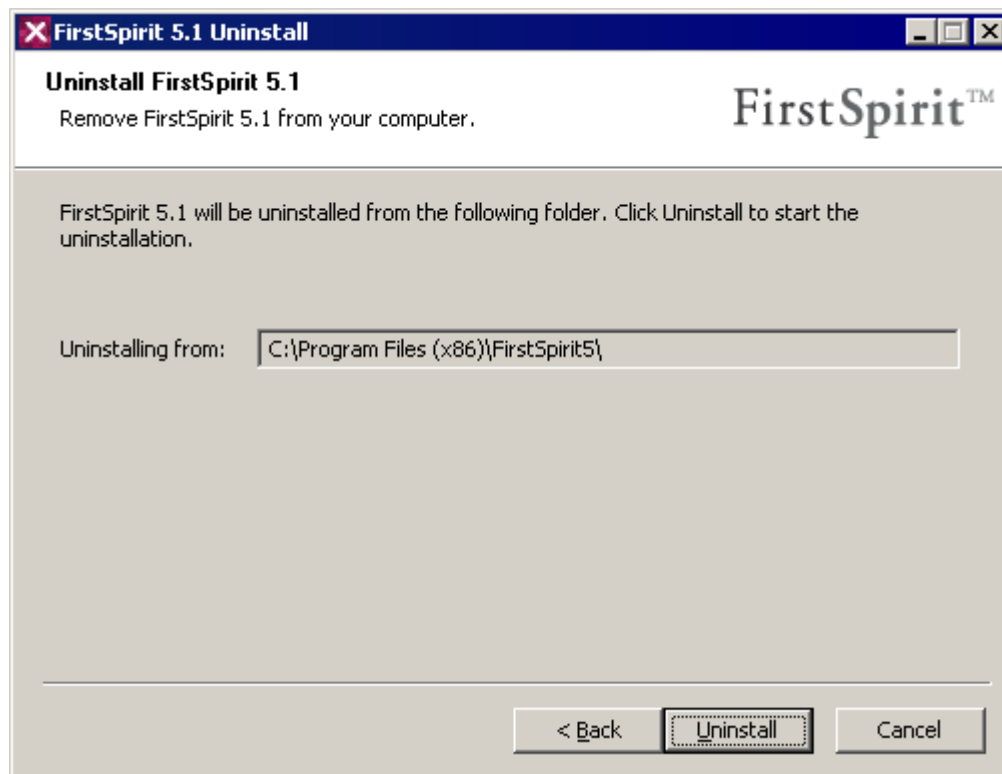


Figure 3-14: Deinstallation – Starting

Uninstallation of FirstSpirit 5.1 can take several minutes. A progress bar displays the uninstallation process. You can check the progress by clicking the button **Show details**.



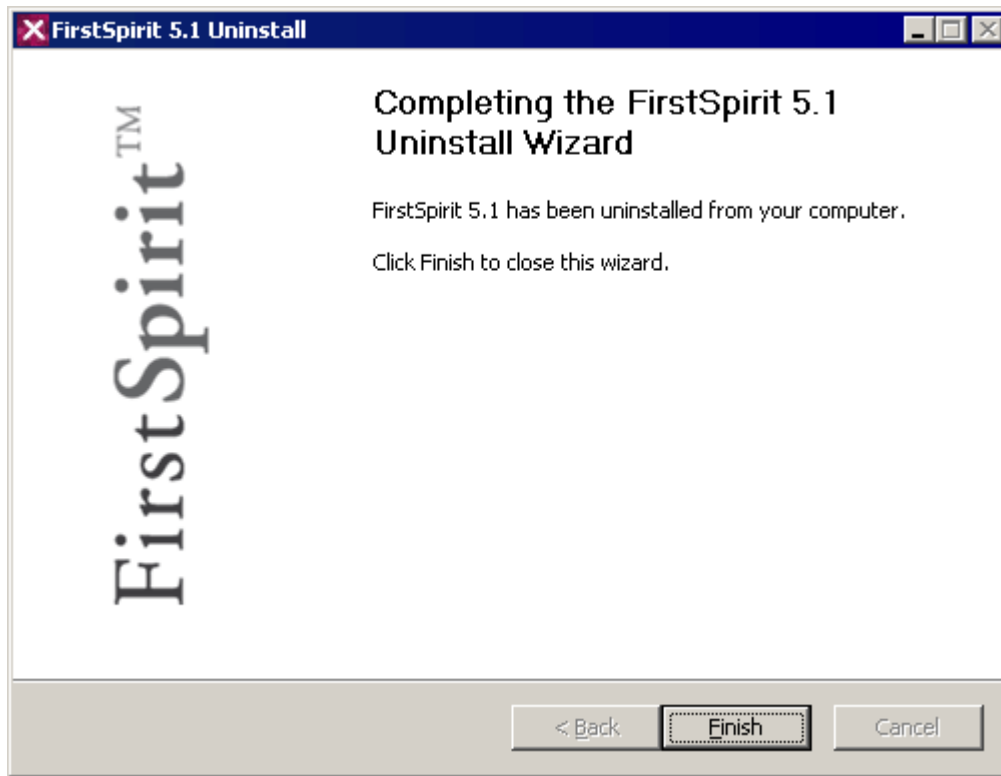


Figure 3-15: Uninstallation completed

After completing uninstallation the uninstaller assistant can be closed by clicking the button **Finish**.

3.9.2 Uninstallation via control panel

If there are no entries for FirstSpirit 5.1 in the start menu, the server can also be uninstalled via the control panel.

Call the function **Control panel** in the start menu.

Double-click on the **Software** or **Programs and Features** (Windows 7) icon in the following window.

A window opens in which programs and Windows components can be installed and removed.

Choose **FirstSpirit 5.1** (or another instance, see chapter 3.8 page 35) and click on the **Change/Remove** or **Uninstall/Change** (Windows 7) button.

A dialog for uninstalling FirstSpirit opens (see above for a description of the dialog).



4 Start the FirstSpirit applications

If the check mark "Open FirstSpirit start page" was not removed (see Figure 3-10), the default browser of your computer opens automatically, either with a login window (see Chapter 4.1) or directly with the FirstSpirit start page (fs5root) (see Chapter 4.2) once installation has been completed **under Windows**.

For installation **under Unix operating systems** please enter the following URL (example call – host name and domain has to be changed to your settings):

```
http://fs5server.domain.net:8000
```

If port 8000 has been already preallocated by another application before the installation of the FirstSpirit Server, FirstSpirit selected automatically another free TCP-port during installation. The port number to be used for the URL is listed as parameter `HTTP_PORT` in the configuration file `/opt/firstspirit5/conf/fs-server.conf`.

The standard connection to the FirstSpirit Server is established according to the settings for installation. If connection was successful, a login dialog window is displayed (see section 4.1, page 43).

If errors occur while the login window or the FirstSpirit start page is displayed, check whether the HTTP port on the server side is already occupied. The same applies when starting in socket mode. It is important to check the port configuration on the server side here too.

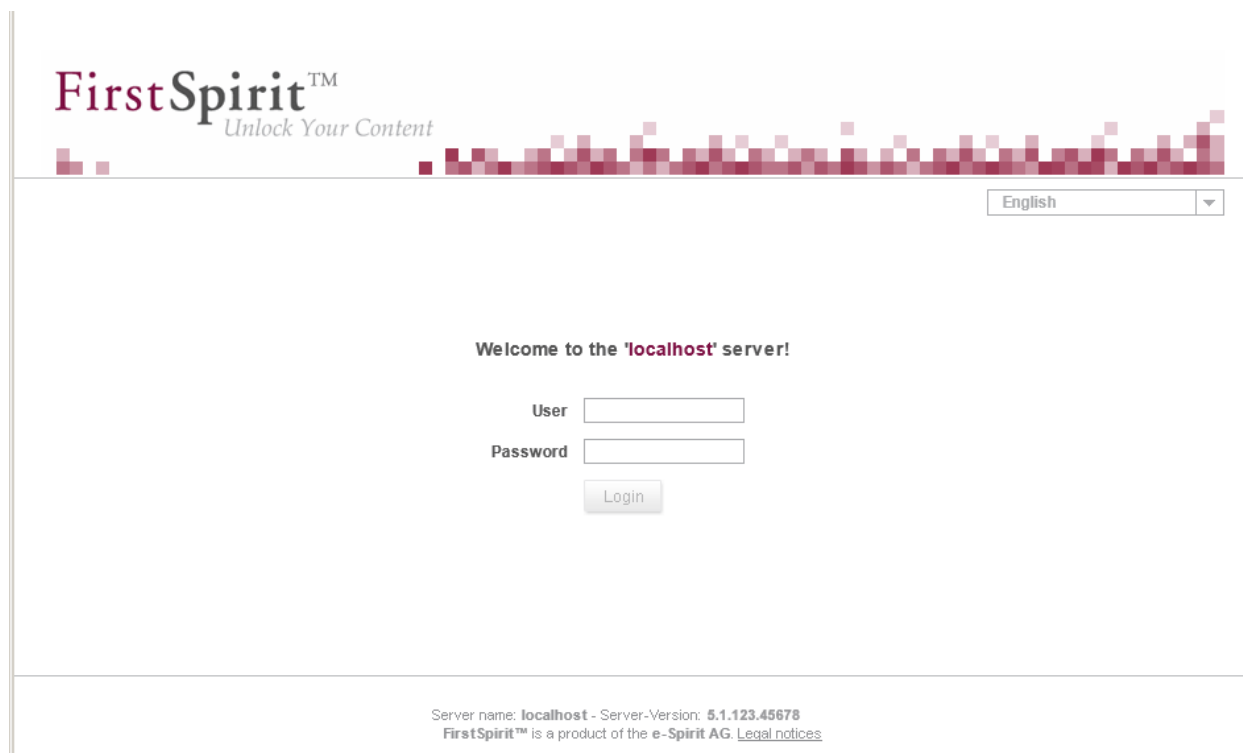


The configuration of FirstSpirit (e.g. port configuration) takes place via configuration files located in the installation directory of the FirstSpirit Server. File structure and configuration possibilities are described in the FirstSpirit Manual for Administrators.)



4.1 FirstSpirit login window

The user can log in at the FirstSpirit Server via the login window. This login is valid for all applications on the server and also lasts for inactive users for a certain period of time.



FirstSpirit™
Unlock Your Content

English

Welcome to the 'localhost' server!

User

Password

Login

Server name: localhost - Server-Version: 5.1.123.45678
FirstSpirit™ is a product of the e-Spirit AG. [Legal notices](#)

Figure 4-1: Login

During the first login process as server administrator, the user has to log in at the FirstSpirit Server via the standard login.

Please enter "Admin" for both user name and password for the login as server administrator. Please observe that both words start with a capital letter. The **Login** button is only active if at least one character has been entered in both fields. Click on this button to open the start page (see Figure 4-2). The logged-in user "Admin" is displayed at the top of the start page.

During the next step, it is recommended to change the standard password for the server administrator. This is possible under the menu item **Change password** in the section **User**.



4.2 FirstSpirit start page

After login (automatically or manually), the FirstSpirit start page opens. The start page is divided into the following sections:

- Start applications (see section 4.2.1)
- Quickstart (see section 4.2.2)
- Users (see section 4.2.3)

The Java Runtime Environment (JRE) version 6 or higher, which contains Java Web Start, is required to start the ServerManager and of the SiteArchitect. *For information about supported and recommended JDK versions see FirstSpirit Technical Datasheet.*

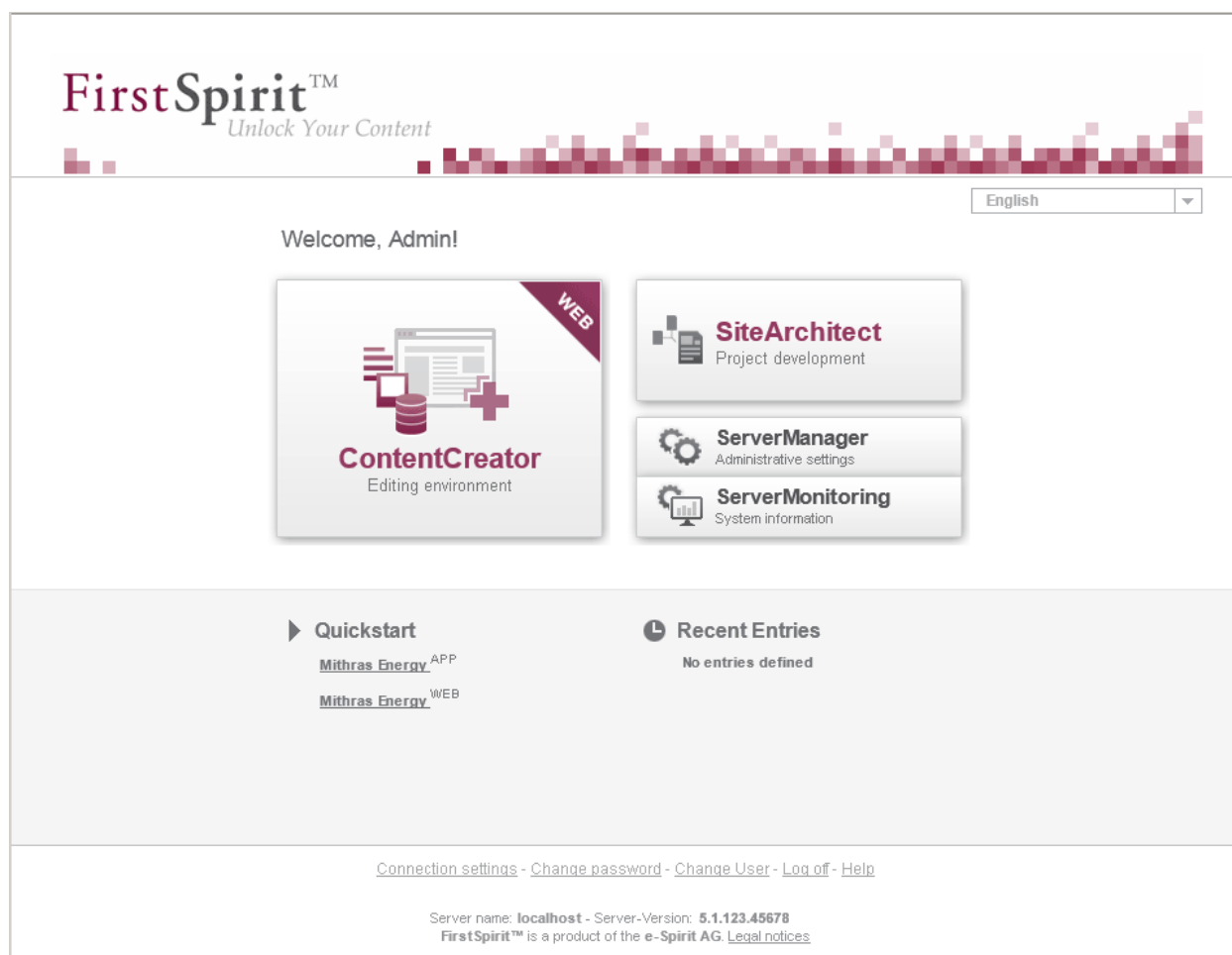


Figure 4-2: FirstSpirit start page



Information about the name and version of the FirstSpirit Server is located at the bottom of the page. The current logged-in user at the server is displayed above the buttons.

This select box at the top right of the page allows you to set a language for further work with FirstSpirit.

In addition, the license type is displayed on this start page, if it is not a "Productive" license, e.g.



Figure 4-3: Logo of license type "Training"

4.2.1 Starting applications area

In the top part of the page there are the entries for starting the FirstSpirit clients.

- **ContentCreator (Editing environment):** Click on this entry to start the FirstSpirit editing environment ContentCreator via a browser. The functional scope of ContentCreator is designed for editorial work in FirstSpirit projects (see section 4.3).
- **SiteArchitect (Project development):** Click on this entry to start the FirstSpirit SiteArchitect. The user can select the desired project. A connection to the server is automatically established (see section 4.3).
- **ServerManager:** Click on this entry to open the FirstSpirit ServerManager which supports the configuration of FirstSpirit Server and projects. Both common administrative tasks of a server administrator and project-related administrative settings of a project administrator are supported by the ServerManager. See the *FirstSpirit Manual for Administrators* for a detailed description (see section 4.3).
- **ServerMonitoring:** Click on this entry to open ServerMonitoring. It serves for monitoring the FirstSpirit Server. For example, if there is any access to the FirstSpirit directory under Windows, the license file can be installed here easily (see chapter 4.4 page 49.) See the *FirstSpirit Manual for Administrators* for a detailed description.





ServerManager and ServerMonitoring can only be started by server and project administrators. Depending on the project configuration, ContentCreator may be deactivated.

4.2.2 Quickstart area

There are quickstart entries which are directly linked to a project below the buttons for starting the FirstSpirit applications. The linked application is shown behind each project name (WEB = ContentCreator, APP = SiteArchitect). The client (SiteArchitect or ContentCreator) which has been configured for the entry is automatically started and the selected project opened via these entries. Only projects which the logged-in user is permitted to open are displayed in this list (see the *FirstSpirit Manual for Administrators* for more information on the configuration of quickstart entries).

If the FirstSpirit demo project "Mithras Energy" is installed, the quickstart entries are displayed in this section.

Projects recently edited by logged-in the user are displayed under **Recent Entries**

4.2.3 User area

In the bottom part there is the area for the user settings of the currently logged-in user. Some functions which are required for the initial login process as server administrator after FirstSpirit installation are briefly described below (see subsections).

- **Connection Settings:** Here it is possible to change the connection settings of the currently logged-in user.
- **Change Password:** Here it is possible to change the password of the currently logged-in user.
- **Change User:** In some cases it might be desired to authenticate yourself at the FirstSpirit Server under a different user name, e.g. to log in as server administrator.
- **Logout:** Click on this entry to terminate the current FirstSpirit session of the logged-in user.
- **Help:** Click on this entry to open the FirstSpirit online documentation.



4.3 Application start

4.3.1 ContentCreator (Editing environment)

The ContentCreator can be called directly via the web browser. Just click on the respective entry on the FirstSpirit start page to start the client (see chapter 4.2, page 44).



The link is only displayed if the used browser is supported (see the "FirstSpirit Technical Datasheet" for more information).

During start-up of the ContentCreator a project select dialog with a list of available projects for the logged-in user opens after connection establishment. Initially, only the example project is available. For more information about working with the FirstSpirit ContentCreator see also *FirstSpirit Manual for Editors (ContentCreator)*.

4.3.2 SiteArchitect (Project development)

A web browser with "Java Web Start"¹ is required for starting the SiteArchitect. Via Java Web Start, software updates of the FirstSpirit products are automatically transferred to the client systems during startup. For this, the required permissions (e.g. file creation permissions) have to be configured on the system or the user layer.

Just click on the respective entry on the FirstSpirit start page to start the client (see chapter 4.2 page 44).

After the connection has been established, a project select dialog with a list of available projects for logged-in user opens. Initially, only the example project is available after installation.

¹ Further information: <http://docs.oracle.com/javase/7/docs/technotes/guides/javaws/index.html>



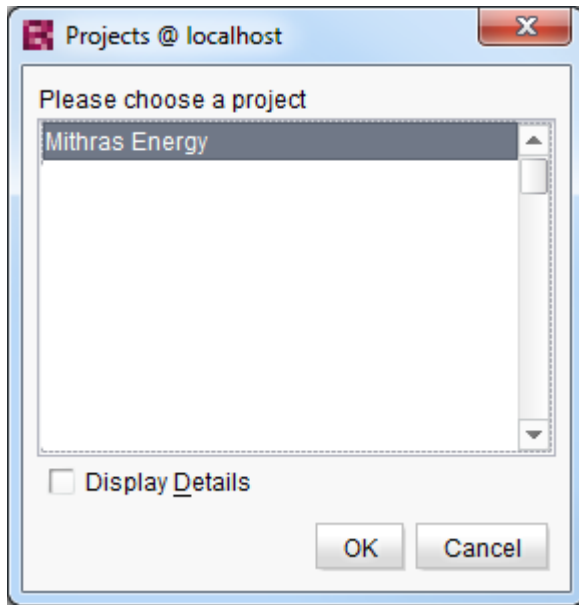


Figure 4-4: Choose project

Double click on the entry or click on the **OK** button to load the selected project.

It is now possible to start familiarizing yourself with the FirstSpirit client. For more information about working with the FirstSpirit SiteArchitect see documentation about the *FirstSpirit SiteArchitect*.

4.3.3 ServerManager (Administrative settings)

A web browser with "Java Web Start"² is required for starting the ServerManager. Via Java Web Start, software updates of the FirstSpirit products are automatically transferred to the client systems during startup. For this, the required permission configurations (e.g. file creation permissions) have to be, amongst other things, carried out on the system or the user layer.

Just click on the respective entry in the administrator part on the FirstSpirit start page to start the application (see chapter 4.2 page 44).

For more information about working with the ServerManager see *FirstSpirit Manual for Administrators*.

² Further information: <http://docs.oracle.com/javase/7/docs/technotes/guides/javaws/index.html>



4.3.4 ServerMonitoring (System information)

The ServerMonitoring can be called directly via the web browser. Just click on the respective entry on the FirstSpirit start page to start this application (see chapter 4.2 page 44). Here, the license file can easily be installed for example (see chapter 4.4 page 49.)



The link is only displayed if the used browser is supported (see the "FirstSpirit Technical Datasheet" for more information).

For more information about working with the ServerMonitoring see *FirstSpirit Manual for Administrators*.

4.4 Installation of the license file

The license file `fs-license.conf` is supplied separately. If necessary, it can be requested via the respective account manager or <https://helpdesk.e-spirit.de>. Without a license file it is possible to use FirstSpirit for 30 minutes after each start.

If no valid license is installed, a message is sent to all logged in FirstSpirit users before the time interval expires.

When entering a new configuration file `fs_license.conf`, it is not necessary to restart the server. The file is automatically read by the FirstSpirit Server.




Manipulations to `fs_license.conf` result in an invalid licence. If changes are necessary (e.g. IP address change), please contact the manufacturer.



4.4.1 Installation via the FirstSpirit ServerMonitoring

The license file can easily be installed via the FirstSpirit ServerMonitoring. For this purpose select the menu item "Licence" in the ServerMonitoring in the menu "FirstSpirit / Configuration".

To import the license file onto the server, the content has to be inserted into the text field on this page in full and unchanged. Click on  to save the license file.

4.4.2 Installation via the file system

As an alternative to the installation via ServerMonitoring the license file can also be stored in the directory `conf` of the FirstSpirit Server (e.g. if the FirstSpirit server is not running).

In the standard installation the complete path to the license file is

- under **GNU/Linux, Solaris or AIX:**
`/opt/firstspirit5/conf/fs-license.conf.`
- under **Windows:**
`C:\Programs\FirstSpirit5/conf/fs-license.conf.`

See the *FirstSpirit Manual for Administrators* for further information on the license file.

4.5 Problem analysis during installation

If after installation no FirstSpirit start page is accessible with your web browser the server side log files `fs-server.log` and `fs-wrapper.log` in `/opt/firstspirit5/log` show detailed information about the origin of the problem. On Windows these log files can be viewed via the start menu "FirstSpirit / View log files".

If no log file is written to `/opt/firstspirit5/log`, there is a problem with launching the Java Virtual Machine. In this case the file `/opt/firstspirit5/bin/wrapper.log` shows further information about the error cause.

If the installation cancels with an error message, FirstSpirit must be completely uninstalled first before the installation can be repeated (see Chapter 2.7.1 page 23 for Unix systems and Chapter 3.9 page 38 for Windows systems).

