

SPARESYNC

Installation Guide

Version 2.0



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1 Annotations

This manual was written for the personnel responsible for maintenance of the server infrastructure of your organization. All works related to setting up and operating this product should be performed **by qualified system administrators only**.

We strongly recommend you read this manual carefully before starting to operate SpareSync, as this will avoid unnecessary complexity in the work.

2 Terms

SpareSync — software product name.

Primary server — the server on which the Managed system is installed and which serves client (user) requests.

Secondary server — the server on which a copy of the Managed system is installed from the primary server and which is on standby for the primary server. In case of unavailability of the primary server, the secondary server takes over the role as the primary one to service client requests.

Managed system — an application that requires continuity of service overseen by SpareSync.

Reinitialization — full database replication from one server to another. Performed automatically or by user's action.

3 Software Requirements

SpareSync is designed to operate with Windows Server 2003 and above. To work correctly, it is necessary to install Microsoft .NET Framework 4.0 (or higher, if version is compatible with 4.0). Both servers should have identical updates affecting the behavior of the system related to the work of .NET Framework. Otherwise, the correct operation of SpareSync is not guaranteed.

Primary and secondary servers must be in the same time zone. In the ideal case, the servers should not have discrepancies in time (discrepancies are allowed for 30 seconds). SpareSync will automatically turn off if there are great differences in time (> 30 seconds). This is necessary to prevent synchronization errors.

Microsoft SQL Server 2005 or above should be used for the database synchronization (the database compatibility level should be 2005 or higher version).

If the managed system is configured to store sessions in SQL Server, it is recommended to use SQL Agent.

Before installing SpareSync, it is recommended to ensure it is possible to establish a connection between the Primary and the Secondary Servers (the default port is TCP 7788; the connection is initiated by the Primary Server). Both servers must have Internet access (ports TCP 80 and 7785), which is necessary in order to check the availability of external resources. SpareSync connects to port 7785 for the license check.

4 Installation

SpareSync is installed using its built-in installer which helps set up and configure SpareSync and the installed system for basic operation.

The installation file must be executed by a user with administrative rights.

The installer has a window and a web-interface. If you want the installation to open in a browser, or if you want to access the installer's interface from another computer, you may launch the installer using the command line "-s" parameter and set the URL at which it will be available.

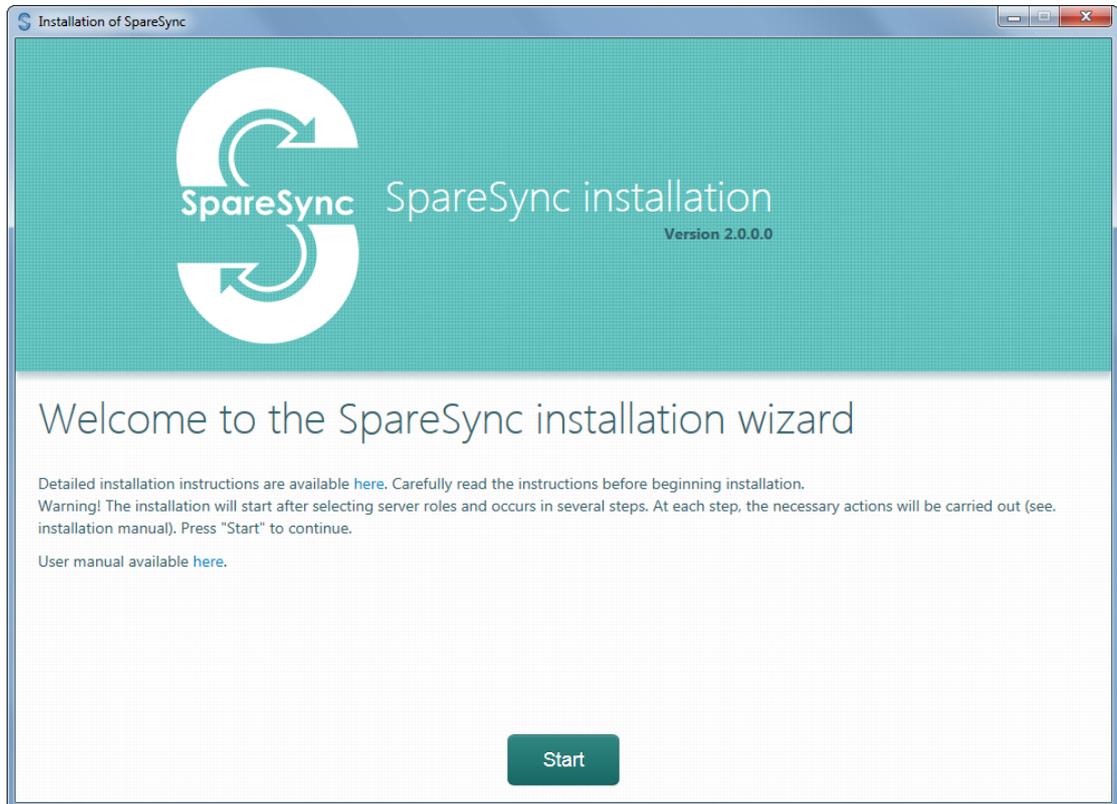
Example: FogSoft.SpareSync.exe -s http://192.168.10.123:9999/installer/

First, install SpareSync on the Primary Server, then get a special string with saved parameters and paste it in the related text box when you install SpareSync on the Secondary Server.

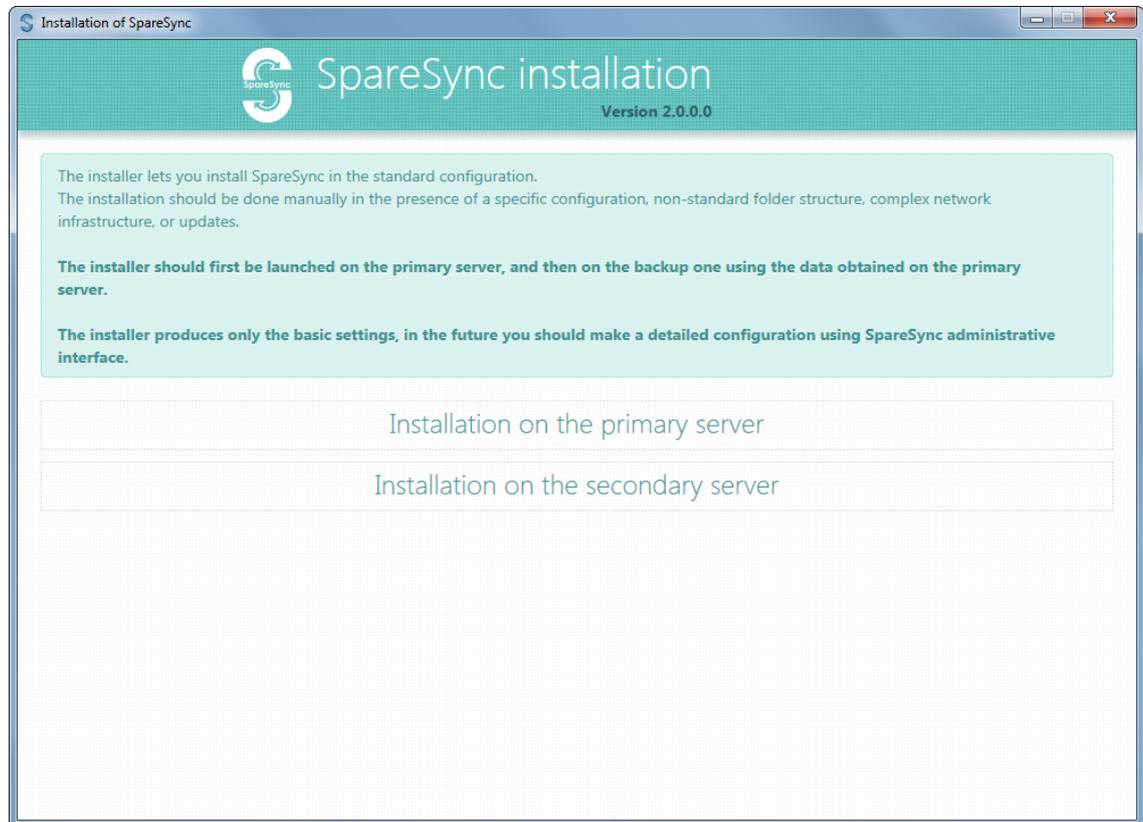
If your managed system is ASP.NET-based and you use the IIS web server, there are additional features:

1. Installer allows you to install scripts to store the state of user sessions in database. This allows saving all users session data in the case of switching to the secondary server. If the scripts installation is not required (see. Section 4.1.5), you can opt out of it using checkbox.

2. During switching, on another server app_offline.htm will be created in managed system directory. User will see contents of this file with information about application switched to another server, if he will perform request to inactive server. If you are using IIS server this will work automatically. Otherwise, you need to configure redirection manually (to disable managed system on inactive server, you should add a rule in the virtual host configuration file (e.g. .htaccess for Apache).



4.1 Installation on the Primary Server



4.1.1 Step 1. Destination Folder Selection

Installation path: select the folder where you want to install SpareSync. When you proceed to the next step, all required files will be copied to this folder.

Service name: the name of the Windows service which will be used for SpareSync. This service will be installed when you proceed to the next step, its startup type will be set to Automatic.

4.1.2 Step 2. License Information

Enter the license provided to you in the text box. The license file will be generated and stored in the SpareSync folder when you proceed to the next step.

4.1.3 Step 3. Configuration

Contains the following information for the Primary and Secondary Server: connection type, IP address and port used for interconnection between the servers.

The following actions will be performed when you proceed to the next step:

1. The certificate will be generated and imported in the personal certificate store of the local computer.

2. The certificate will be attached to the configured port.
3. The rule will be configured in the standard Windows firewall. If an alternative firewall is used, make sure that this port is also open there.

4.1.4 Step 4. Managed System Configuration

The following actions will be performed when you proceed to the next step:

The search of the configuration file web.config will be performed using the path configured for the Managed System.

4.1.5 Step 5. Database Connection Configuration

During installation, SpareSync may install the scripts required for the use of ASP.NET sessions in the database. This will help save all users' session data if the connection is switched to the Secondary Server. If it is impossible to install these scripts automatically (due to the insufficient rights), you may install them manually (install the script InstallCustomPersistSqlState.sql into the Managed System's database; see item "Unpacking Installer Files"). If you want to install the scripts for sessions from installer, you must configure the database connection string. To install the scripts correctly, the user performing the installation must have the system administrator (sysadmin) role. This role may be removed after installation. You may select the connection line from the strings found in the configuration file, or create a new one. The scripts will be installed and the configuration file will change as required when you proceed to the next step (if the web.config is available).

4.1.6 Unpacking Installer Files

If you want to unpack the installer files, you need to launch the installer with the "unpack" parameter and set the directory where you want to unpack the files. For example:

```
SpareSyncSetup.exe --unpack "C:\SpareSyncInstaller"
```

The InstallCustomPersistSqlState.sql script can be found in the "Tools" folder.

4.2 Installation on the Secondary Server

At the beginning of the installation on the Secondary Server, you need to paste the data string received on completion of installation on the Primary Server. Then you may perform manual or automatic installation. If the parameters which you entered for the Primary Server are the same for the Secondary one, select the automated installation and SpareSync will be configured similarly to the Primary Server. If any of the parameters below is different, select manual installation and enter other values:

1. Installation path.

2. Managed System path.
3. Managed System service name.
4. Database connection string.

4.2.1 Details of Installation on the Secondary Server

If the name of the Managed System's service is provided, this service will be stopped and the "Disabled" launch type will be set for it. Also, the app_offline.htm file will be created in the Managed System's directory.

After the system is installed on the Primary Server, SpareSync allows to install a special DNS server on the Secondary Server. This DNS server has fewer functions related to BIND DNS server, but is much easier to configure. Additionally, if this DNS server is installed, SpareSync will be configured to work with it automatically.

If the SpareSync system is started up successfully on the Secondary Server, you may configure the most important settings which recommended changing as soon as possible. These are the settings of mail server used for system operation notifications, username and password for access to the administrator's interface (by default — admin/admin), external IP addresses for servers, and folders that you want to sync on both servers. You can change the settings later. If SpareSync is successfully started up on the Primary Server and it can to establish a connection, the changes will be also saved on the Primary Server. If any of the settings are different, configure them individually for each server using the Configuration page of the administrator's interface.

All actions and errors that occur in SpareSync work are recorded in the log files. If the system was not started, find the cause of the failure in the file SpareSync.log, fix it and re-start SpareSync. By default, these files are located in the directory C:\WebLog.

After installation, you must:

1. Check (and configure, if necessary) the database connection string.
2. Install the initialization scripts for the database by pressing the related button in the administrator's interface.
3. Turn On SpareSync. The reinitialization process will be activated after start; this process transfer a full copy of data from the Primary Server to the Secondary one. The sync status is available in the DB Sync section of the Monitoring and System Management tab. The synced version is set after the sync. Check that everything works properly (the files and the database are synced, there are no errors). Fix errors, if required.
4. Perform a test switch to the Secondary Server. This helps to ensure that there are no problems with configuration and SpareSync may automatically switch in the future.
5. Perform a test switch to the Primary Server. This will return the system to Primary server and helps to ensure that the reverse switch works properly.

6. Check "Switch automatically" setting to activate automatic switch mode. By default, this mode is deactivated to prevent the unexpected switch to the Secondary Server at the stage of initial configuration.

Test switches must be performed during scheduled maintenance period.

Please be advised that SpareSync does not check if the Managed System is correctly installed on the Secondary Server. You should understand that the systems are configured identically and have the same functions. We advise you to check it and to make sure that the same version of the Managed System with the same settings is installed on the Primary and the Secondary Servers.