

# T-FLEX DOCs

Installation manual



# *T-FLEX DOCs*

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## GENERAL INFORMATION

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Supply scope of T-FLEX DOCs software solutions includes back-end and front-end. Back-end ("T-FLEX DOCs Server" folder) is used for storage of all system data structure and is installed as a single copy on the server. Front-end ("T-FLEX DOCs Client" folder) provides user with interface for working with system and is installed for each workplace.

System's back-end has two main components: database server responsible for storage of objects parameters and other system information and file server containing object files. Database server controls general system database (data storage) implemented on Microsoft SQL Server (Oracle Server, PostgreSQL), file server controls file storage divided into partitions. File server which stores large amount of data handles usage of several partitions within one computer and system handles several file servers working simultaneously (on different computers).

T-FLEX DOCs client application uses password access and provides system function in strict compliance with user access permissions for execution of certain actions with certain objects.

According to three-tier architecture principle, link between client application and database is provided via application server responsible for data processing. Depending on company and number of client accounts, system's back-end may be located both on one and several computers and applications server can be combined with database server on one computer. However, in terms of security, reliability and configuration scaling it is recommended to locate database server and file server on separate computers by connecting one or several applications servers via network, whereas client computers work with such servers via local or wide-area network.

## T-FLEX DOCs INSTALLATION SEQUENCE

T-FLEX DOCs installation process consists of following steps:

1. Installation of Microsoft SQL Server database server.
2. Installation of T-FLEX DOCs back-end which includes installation of back-end, installation and setup of database, setup of servers, as well as launch of corresponding services.
3. Installation and setup of T-FLEX DOCs client accounts.

Compliance with this sequence allows to perform all required settings for system to work correctly.

For protection from unauthorized use all T-FLEX software solutions are protected by HASP hardware key. Hardware key, as well as installation of its drive are required to make T-FLEX software solutions work. As a rule, hardware key is installed on the computer which is supposed to be as T-FLEX DOCs database server. Manager for key licenses is also installed on this computer.

## SYSTEM REQUIREMENTS

### Back end.

Operating system: Microsoft Windows Server 2016.

Database management system (DBMS): Microsoft SQL Server 2017, PostgreSQL 9.6, Oracle 12c.

Processor: 6 physical cores.

RAM capacity 16 Gb.

Hard drive: SSD 150Gb + HDD 500Gb.

Network interface: 1000 Mbps.

These are minimum recommended requirements to the backend. RAM, number of processor cores, as well as drive space and network interface capacity depend on following parameters: amount of processed data, number of connected users, file archive size, as well as T-FLEX DOCs server and DBMS accommodation type (located at one server or separately).

### Front end.

Operating system: Microsoft Windows 7 x64 (minimum); Microsoft Windows 7 x64, 8 x64, 10 x64 (recommended).

Processor: Intel or AMD, SSE2-enabled (minimum); Core i5 or higher (recommended).

RAM: 4 Gb (minimum); 6 Gb and more (recommended).

# INSTALLATION OF SQL SERVER 2017 DATABASE SERVER

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Microsoft SQL Server provides control over databases. Access, settings, administration and development of all SQL Server components is performed via SQL Server Management Studio software environment. SQL Server is installed prior to installation of system's back-end. Installation can be performed in different ways; one of them is via installation wizard. SQL Server installation wizard has single tree for installation of all components for database server which allows to install all components simultaneously.

## REQUIREMENTS TO HARDWARE AND SOFTWARE FOR INSTALLATION OF SQL SERVER 2017

### General recommendations on installation and startup of SQL Server 2017

- ✓ It is recommended to start SQL Server 2017 on computers with NTFS.
- ✓ Installation is impossible for drives with compression, network drives and read-only drives.
- ✓ For remote installation, installation media must be located on shared network resource or in the local folder of physical or virtual machine. SQL Server can be located on the shared network resource, associated drive, local drive and can be represented as ISO image on virtual machine.
- ✓ To install SQL Server Management Studio a .NET 4.6.1. platform is required which is installed automatically, if SQL Server Management Studio component was selected.

### Requirements to hardware and software

Operating system: Microsoft Windows 8, Microsoft Windows Server 12 and later versions.

Hard drive: minimum 6 GB of free space on the drive.

RAM: at least 4 GB with following extension as database will grow.

Processor: x64 with recommended clock frequency of at least 2 GHz.

## SQL SERVER 2017 INSTALLATION SEQUENCE

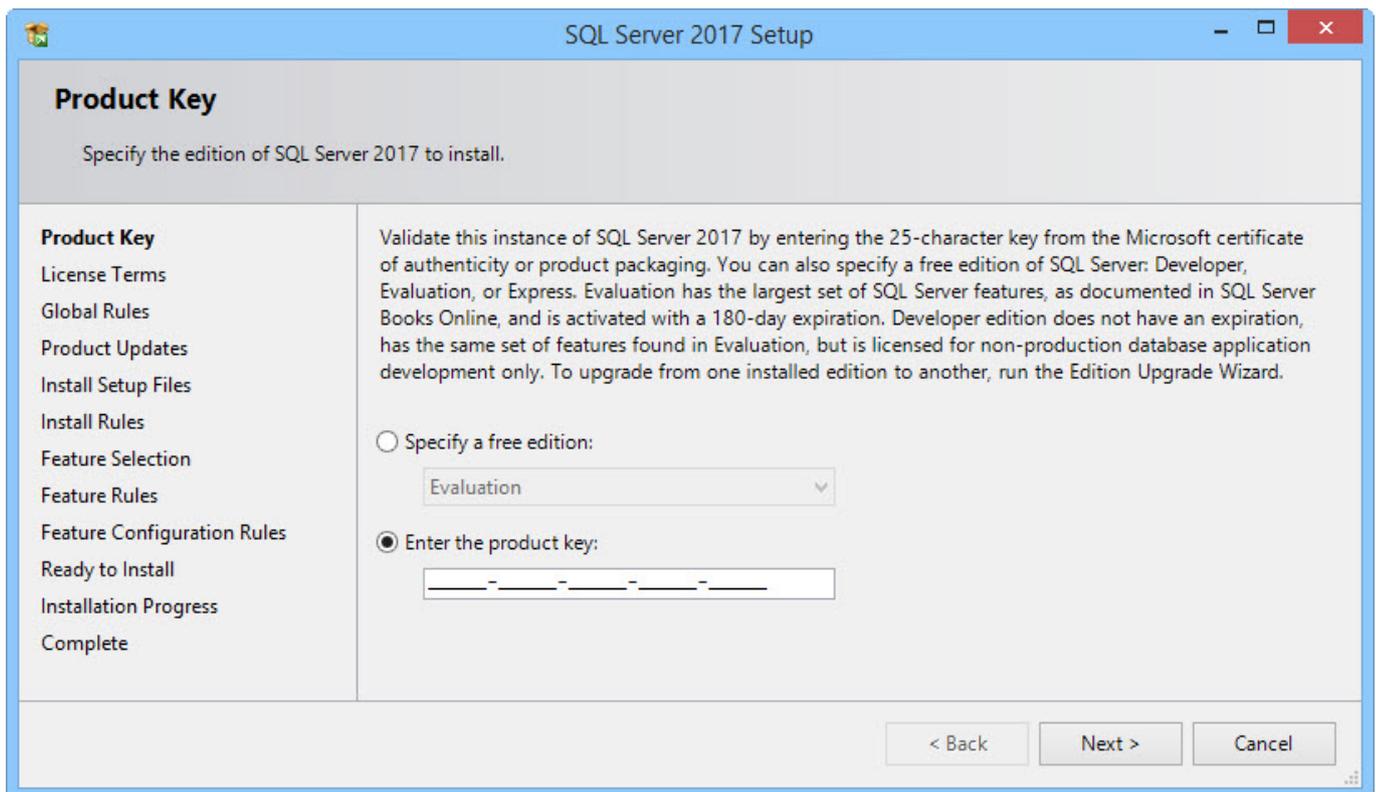
1. Run **setup.exe** file from the root folder.
2. In the opened "SQL Server installation center" dialog box select **Installation** option in the navigation area on the left and then in the right part of the dialog box select **New SQL Server stand-alone installation or add features to an existing installation** option.



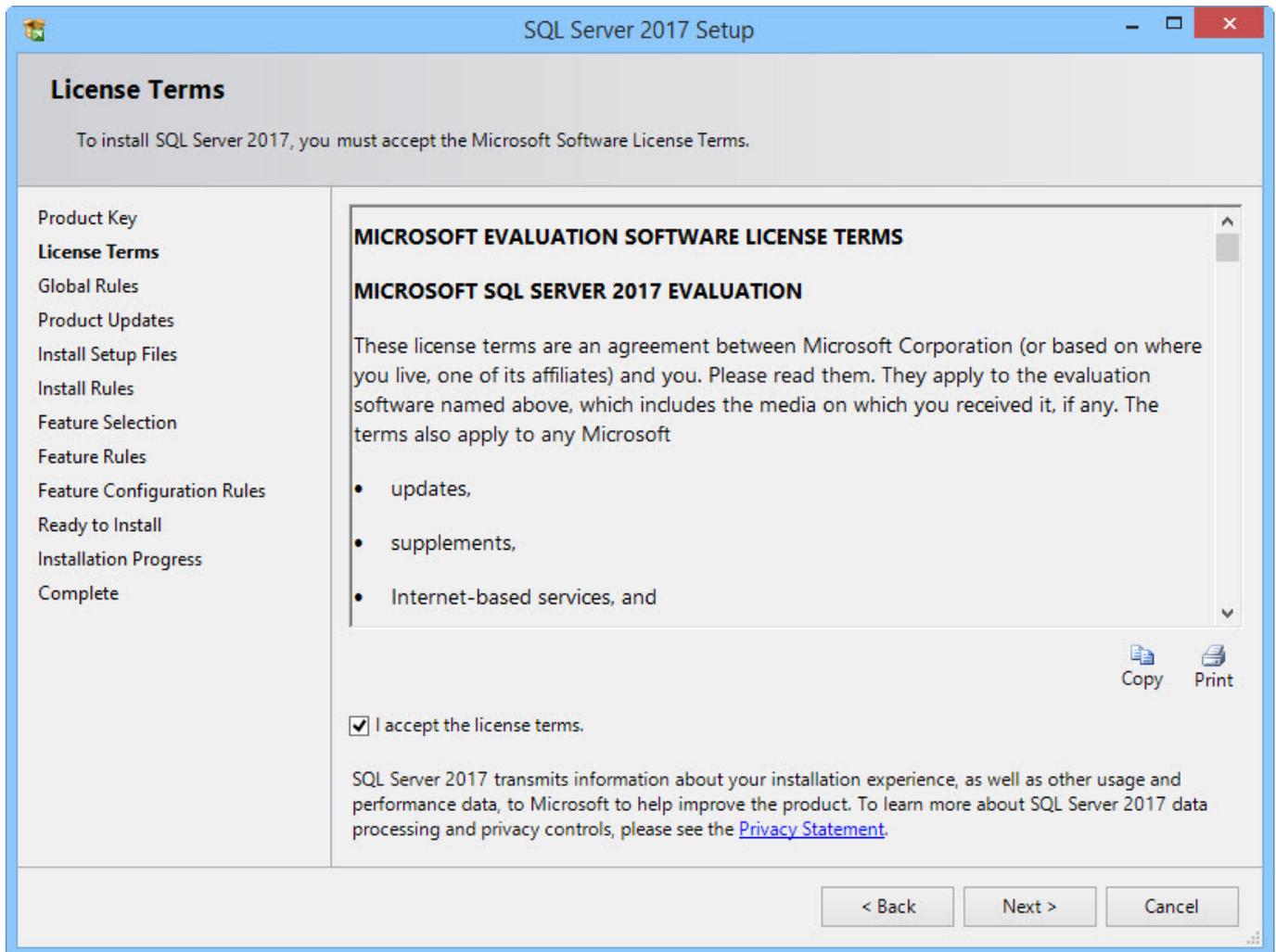
3. On the **Product key** page select installation of free SQL Server versions (“Evaluation”, “Developer” or “Express”) or working version with product registration number.
  - ✓ “Evaluation” version is full-featured set of SQL Server Enterprise Edition software for introductory usage for 180 days.
  - ✓ “Developer” version allows to develop applications for databases not used in work. It contains a set of functions similar to the “Evaluation” version and has no time limitations for usage.
  - ✓ “Express” version is an initial level solution for training and deployment of small databases in work media. It allows to create classic and small server applications which are controlled by data taking up to 10 GB on the drive.

Enter product key upon selection of SQL Server 2017 working version.

If user installs licensed version of SQL Server supplied with T-FLEX DOCs, product key is entered in the corresponding field automatically.



4. Read through license agreement and select option **I accept the license terms**, if you accept them.

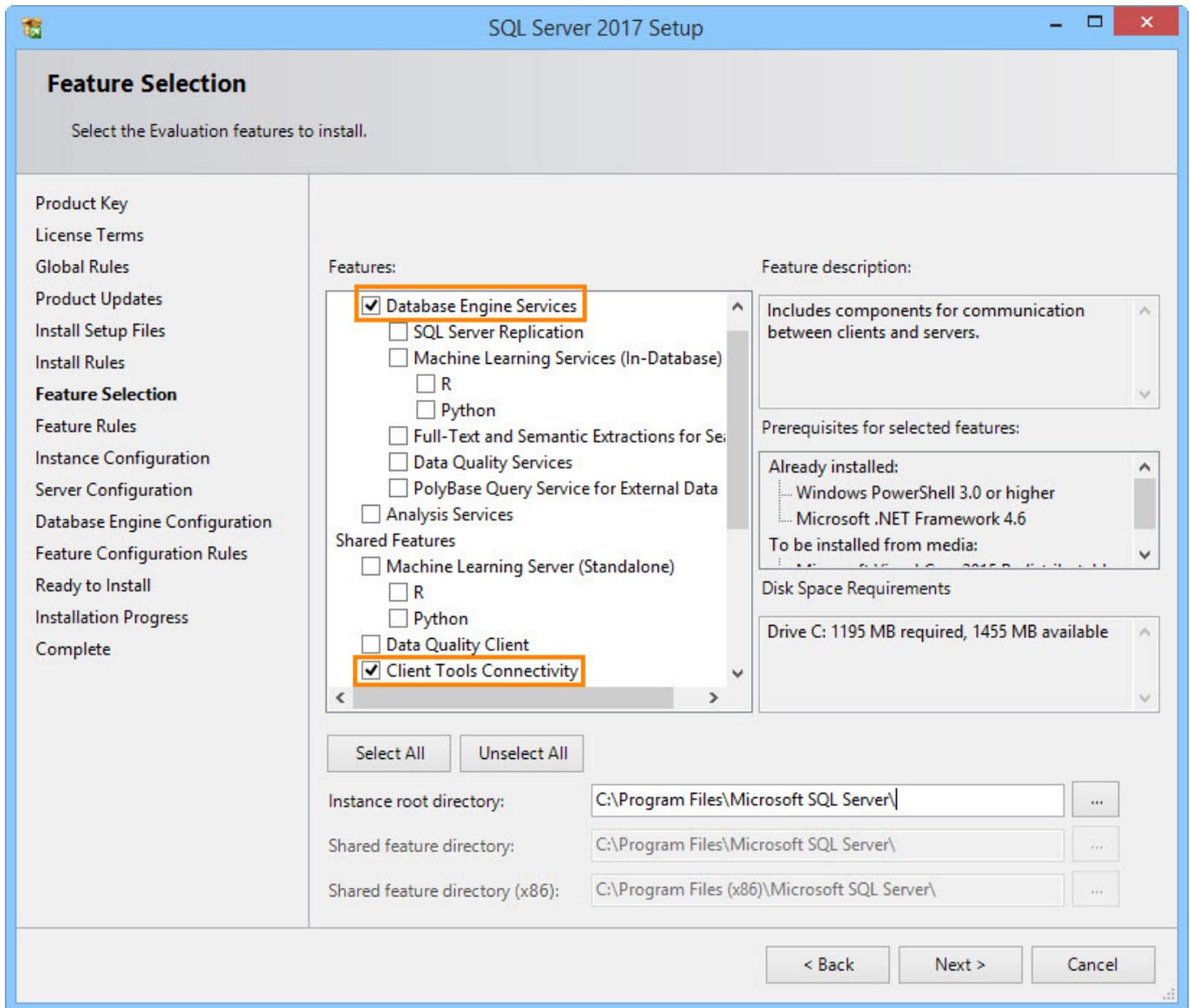


5. On the **Feature selection** page select features that must be included on the SQL Server 2017 installation.

As there can be several instances of the database server on one computer, SQL Server components are divided into two sections: **Instance features** and **Shared features**. Instance features relate only to certain instance of SQL Server and are installed only for this instance. Shared features are created for all SQL Server instances on the computer.

Windows to the right from the list of components contain description and installation terms for the selected component. User can install any combination of components.

User should make sure that in the **Instance features** the “Database engine services” component is selected, and in the **Shared features** the “Client Tools Connectivity” component is selected. These components are obligatory for installation as they are essential for SQL Server operation.



6. On the **Instance configuration** page user should select SQL Server instance creation method: default instance or named instance.  
The system handles several instances of SQL Server but only one can be the default instance. All other instances must be named. On one computer user can run simultaneously several independent instances of SQL Server. If SQL Server instance is not installed and creation of named instance is not set, default instance will be created.  
When taking decision on the type of installed SQL Server instance user should consider following:
  - ✓ If user plans to install one SQL Server instance for the database server, it must be the default instance.

- ✓ Named instance should be selected only in case when user plans to run several instances for one computer. Server can have only one default instance.
- ✓ Any application installing SQL Server Express must install it as named instance. This allows to minimize collisions in the course of installation of several applications for one computer.

When selecting SQL Server instance name user should consider following:

- ✓ Case is not accounted in the name of an instance.
- ✓ Instance name cannot start with underscore character (\_).
- ✓ Instance name cannot contain word "Default" and other reserved key words. If there are reserved key words in the name of an instance, the system displays installation error.
- ✓ If "MSSQLServer" is used as the name of an instance, the system creates the default instance.
- ✓ Microsoft SQL Server 2017 PowerPivot for SharePoint is always installed as "Power Pivot" named instance. User cannot set another instance name for this component role.
- ✓ Instance name can have no more than 16 characters.
- ✓ Instance name must start with a letter. It can contain letters set by Unicode 2.0 standard.
- ✓ After the first character there can be letters set by Unicode 2.0, decimal number from the *Basic Latin* set of characters and other national script, dollar sign (\$) and underscore character (\_).
- ✓ Gap characters and other special characters cannot be used for the name of an instance. Forbidden characters include reverse slash (\), comma (,), colon (:), semi-colon (;), single quotation mark ('), ampersand (&), hyphen (-) and "at" character (@).
- ✓ SQL Server instance names can have only those characters which are allowed in the current Windows codepage. In case of character not handled by Unicode an installation error appears.

By default, instance name is used as an instance identifier. Instance identifier is used for identification of installation catalogues and register partitions for this SQL Server instance. It applies both for default instances and named instances. For default instance "MSSQLSERVER" is the name and identifier of the instance. To set instance identifier different from default one, enter another value in the "Instance identifier" text field.

SQL Server instance name can be further entered in the dialog box for setup of T-FLEX DOCs database server parameters.

Description of setup for T-FLEX DOCs database server parameters is provided in the Chapter "T-FLEX DOCs server components setup".

All SQL Server updates (including service pack) are applied to each of the components of the SQL Server instance.

All SQL Server instances installed on the computer with launched installation program are listed in the "Installed instances" table.

SQL Server 2017 Setup

## Instance Configuration

Specify the name and instance ID for the instance of SQL Server. Instance ID becomes part of the installation path.

Product Key  
License Terms  
Global Rules  
Product Updates  
Install Setup Files  
Install Rules  
Feature Selection  
Feature Rules  
**Instance Configuration**  
Server Configuration  
Database Engine Configuration  
Feature Configuration Rules  
Ready to Install  
Installation Progress  
Complete

Default instance  
 Named instance:

Instance ID:

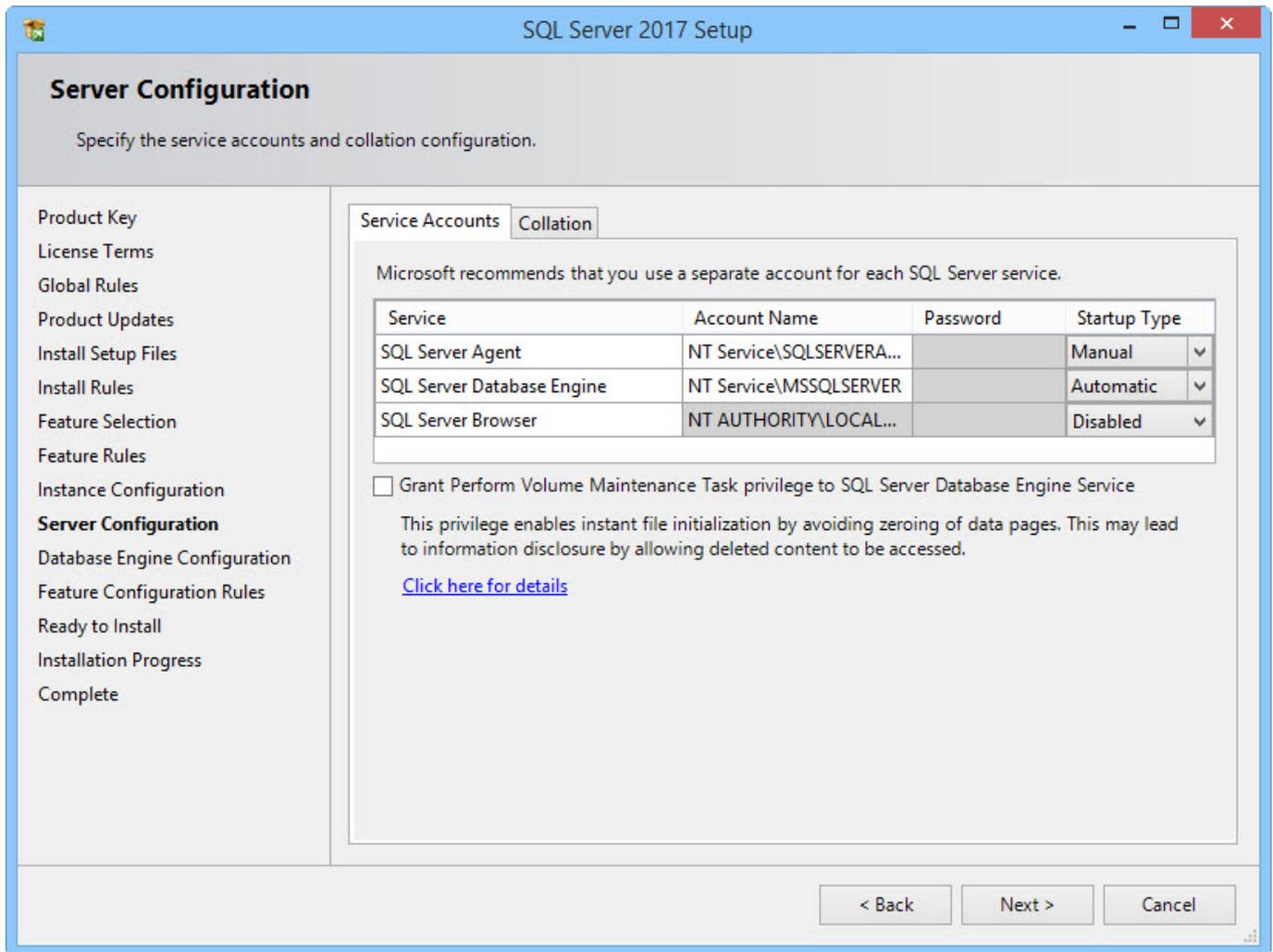
SQL Server directory: C:\Program Files\Microsoft SQL Server\MSSQL14.MSSQLSERVER

Installed instances:

Instance Name	Instance ID	Features	Edition	Version
SQL	MSSQL12.SQL	SQLEngine	Standard	12.0.2000.8
<Shared Compone...		SSMS, IS		12.0.2269.0
<Shared Compone...		Adv_SSMS, Conn, ...		12.0.2000.8

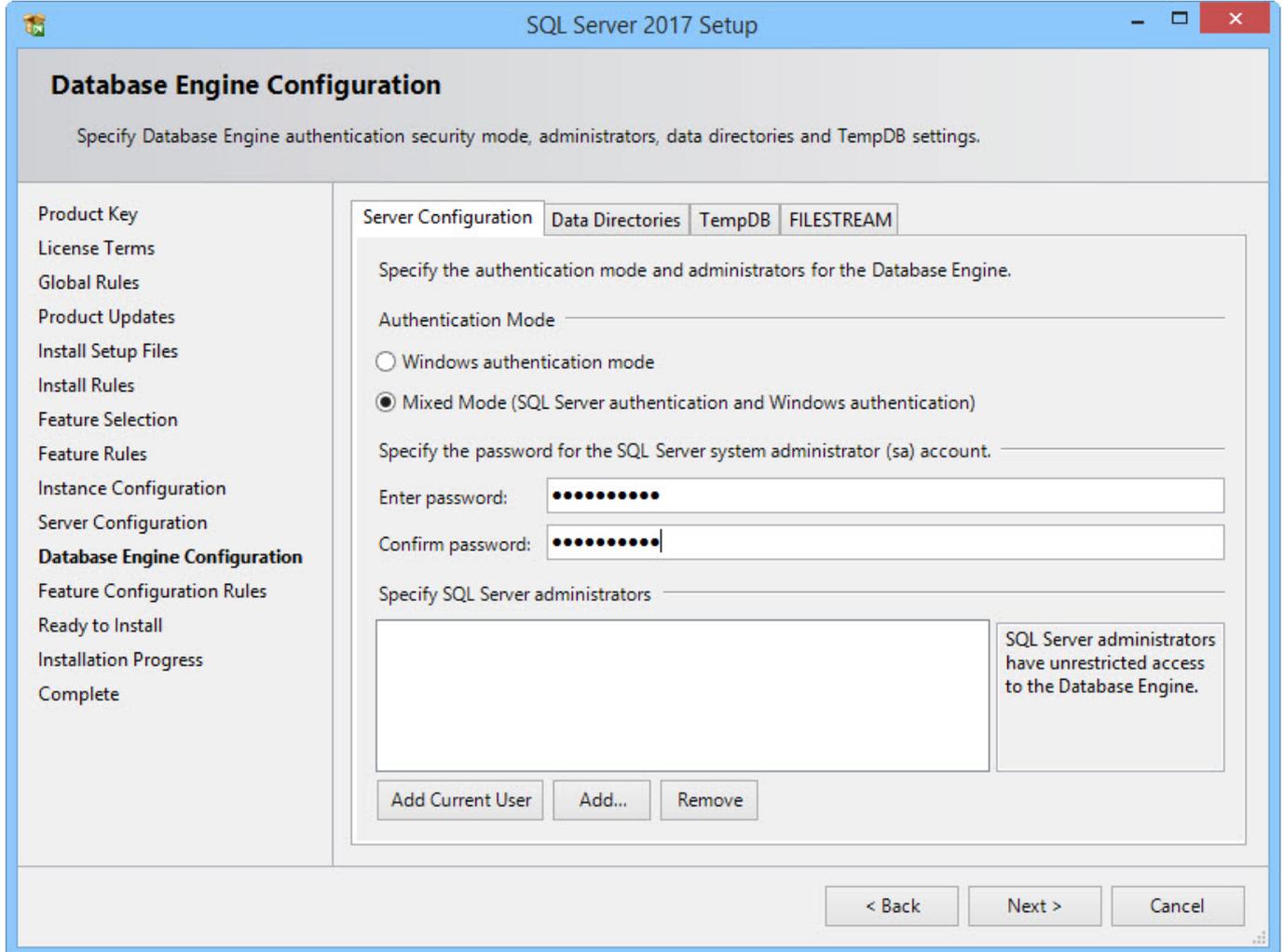
< Back    Next >    Cancel

- On the **Server configuration** page in the “Service accounts” tab user sets sign-in accounts for SQL Server services. For most of the installations it is recommended to use default accounts. In case of services setup with domain accounts, it is recommended to set up services accounts individually by providing minimum access permissions to each of the SQL Server services required to perform its tasks.

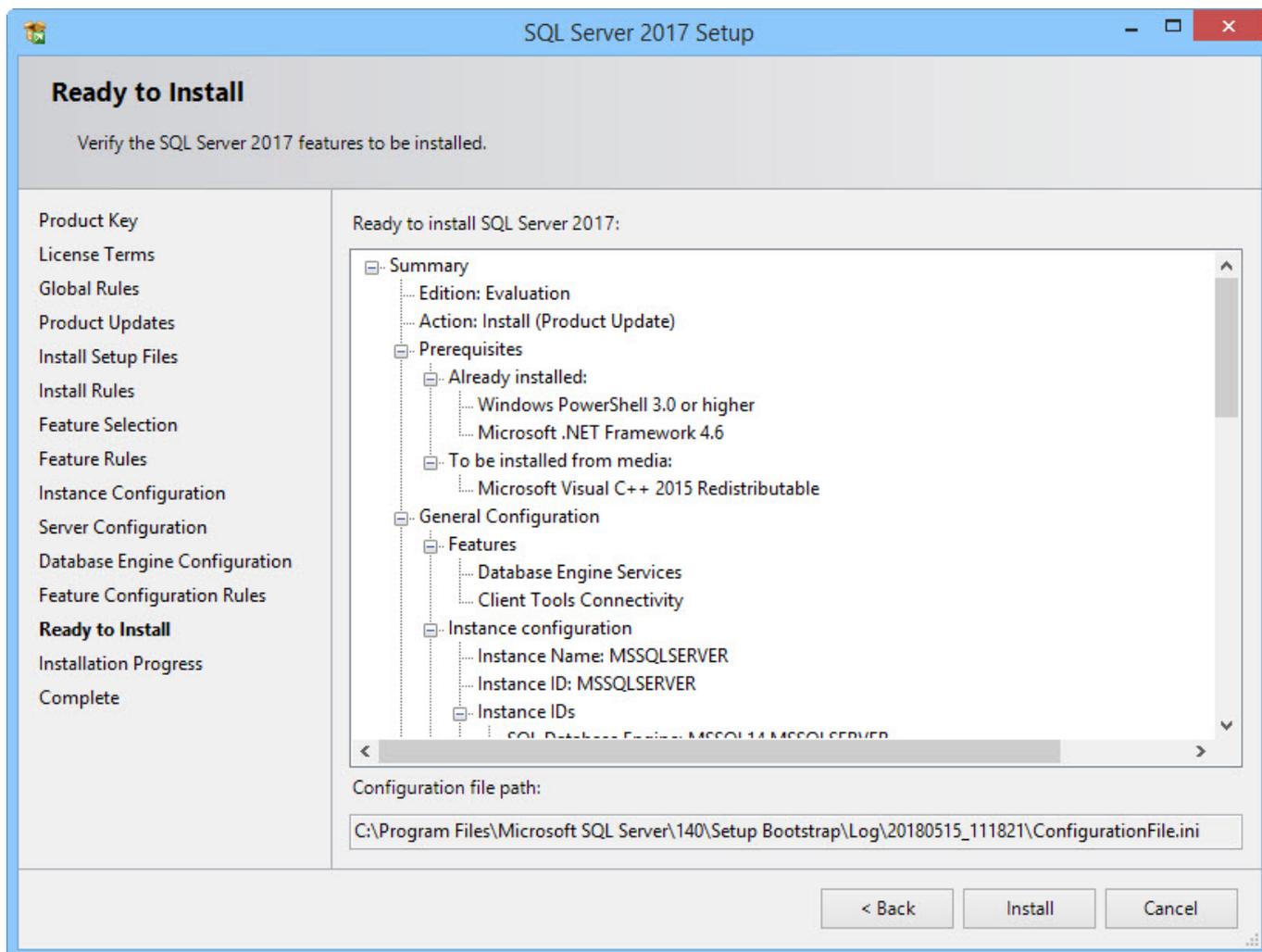


8. Set up database engine parameters by enabling SQL Server security mode setup and adding Windows users or groups as SQL Server administrators.  
When user installs authentication mode, he/she can select “Windows authentication mode” or “Mixed mode”. Windows authentication mode is more reliable than the mixed mode and is used by default. Mixed mode provides possibility to connect users via Windows authentication mode or SQL Server authentication. Users connecting via Windows account can use trusted connections checked by Windows. In case of mixed authentication mode and usage of SQL logins to approve inherited applications, user must set secure passwords for all SQL Server accounts.  
During setup of server configuration user should explicitly set SQL Server administrators for new instances. Installation program will not proceed with installation until it is done. To add account which is used to run SQL Server installation program, click **[Add current user]** button. To add or remove accounts from the list of system administrators, use **[Add]** or **[Remove]** buttons which edit list of users, groups or computers with administrator access to this instance of SQL Server.

SQL Server administrator list must have users who will install and update T-FLEX DOCs databases.



The installation page displays set parameters as a tree.



9. After installation is over, click **[Close]** button and restart computer.

## INSTALLATION OF T-FLEX DOCs BACK-END

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Installation of T-FLEX DOCs back-end consists of its installation, creation of a database and setup of following components:

- ✓ T-FLEX DOCs applications server;
- ✓ T-FLEX DOCs file server;
- ✓ T-FLEX DOCs caching file server (if necessary);
- ✓ T-FLEX DOCs notifications server (server to notify users about events in the system).
- ✓ HASP protection key utility (key driver and license manager for network key service).

### T-FLEX DOCs SERVER INSTALLATION SEQUENCE

To run installation of T-FLEX DOCs back-end, run **setup.exe** file in the "T-FLEX DOCs Server" folder.

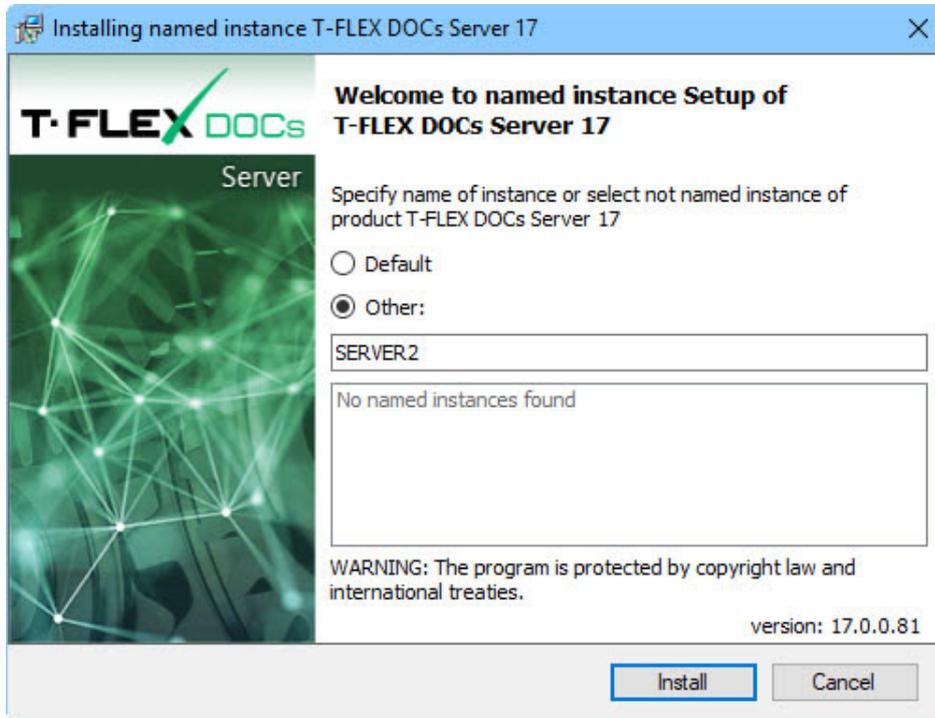
#### Step 1. Setting the name for T-FLEX DOCs Server instance

As user can install and simultaneously work with several T-FLEX DOCs instances, at the beginning of installation user must enter the name of installed server instance.

More information about installation of several T-FLEX DOCs instances is provided in the Chapter "Installation of several T-FLEX DOCs instances".

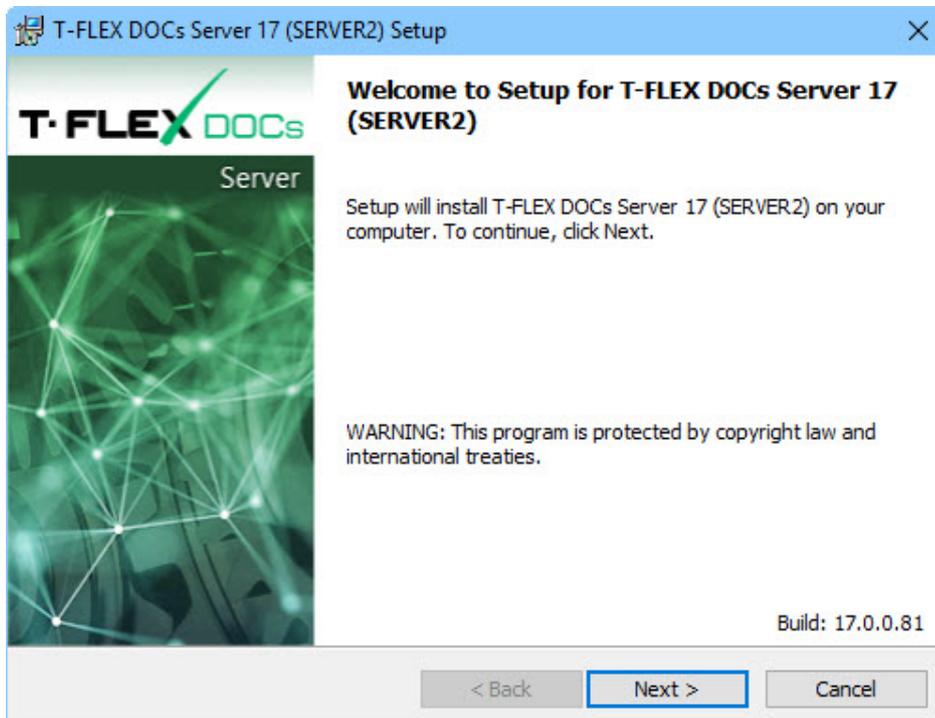
In case of "Default" option, T-FLEX DOCs server will be assigned with the default name. "Other" option allows to set T-FLEX DOCs server name manually. Instance name can be entered manually or, in case of installed T-FLEX DOCs instances, selected from the list.

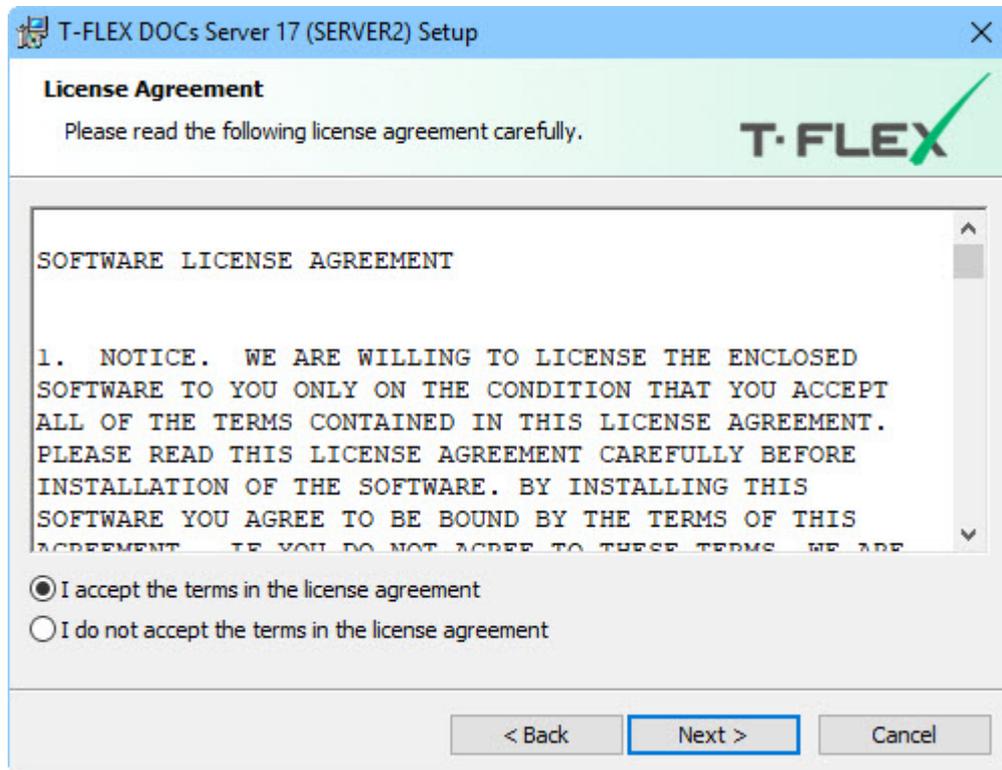
Instance name must be unique and contain only Latin characters, numbers and underscore character.



## Step 2. Welcome screen and license agreement

After server name is selected and [Install] button is clicked, welcome page and license agreement dialog box appear:





The system proceeds with installation after user selects "I accept the terms in the license agreement" option and clicks **[Next]** button.

### Step 3. Information about user

In the "Customer Information" window user must enter username and organization name with license for the product.

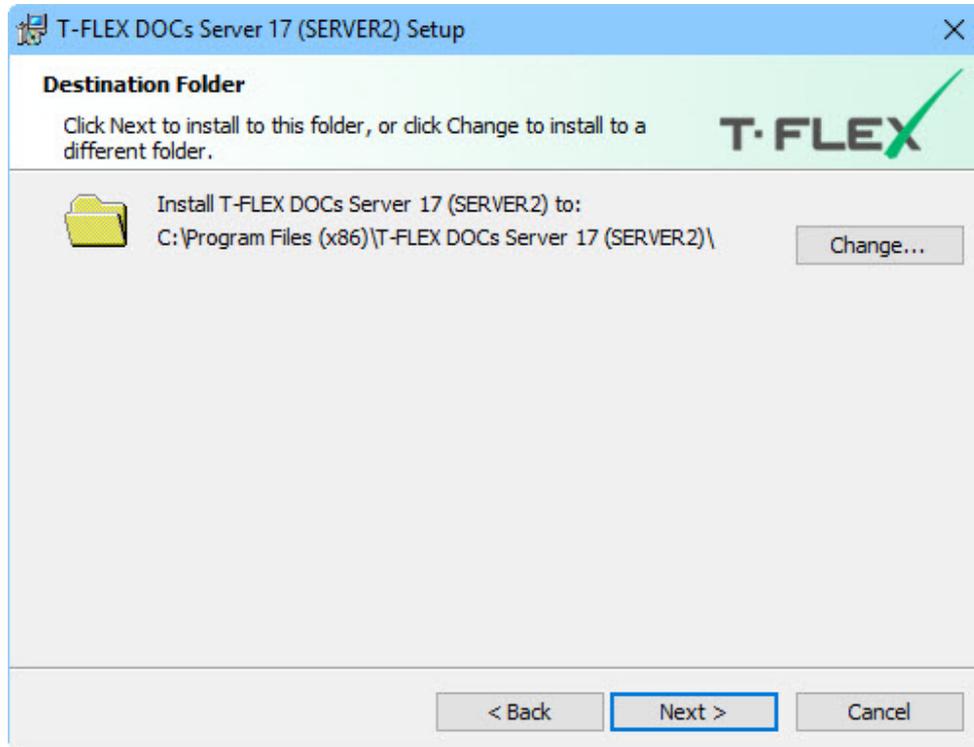
The screenshot shows a Windows-style dialog box titled "T-FLEX DOCs Server 17 (SERVER2) Setup". The window has a light blue header bar with a close button (X) in the top right corner. Below the header, the text "Customer Information" is displayed in bold, followed by the instruction "Please enter your information." and the T-FLEX logo. The main area of the dialog contains two text input fields: "User Name:" with the text "Jan Bauer" entered, and "Organization:" which is currently empty. At the bottom of the dialog, there are three buttons: "< Back", "Next >" (which is highlighted with a blue border), and "Cancel".

#### Step 4. Selection of destination folder for program files and finishing with installation settings

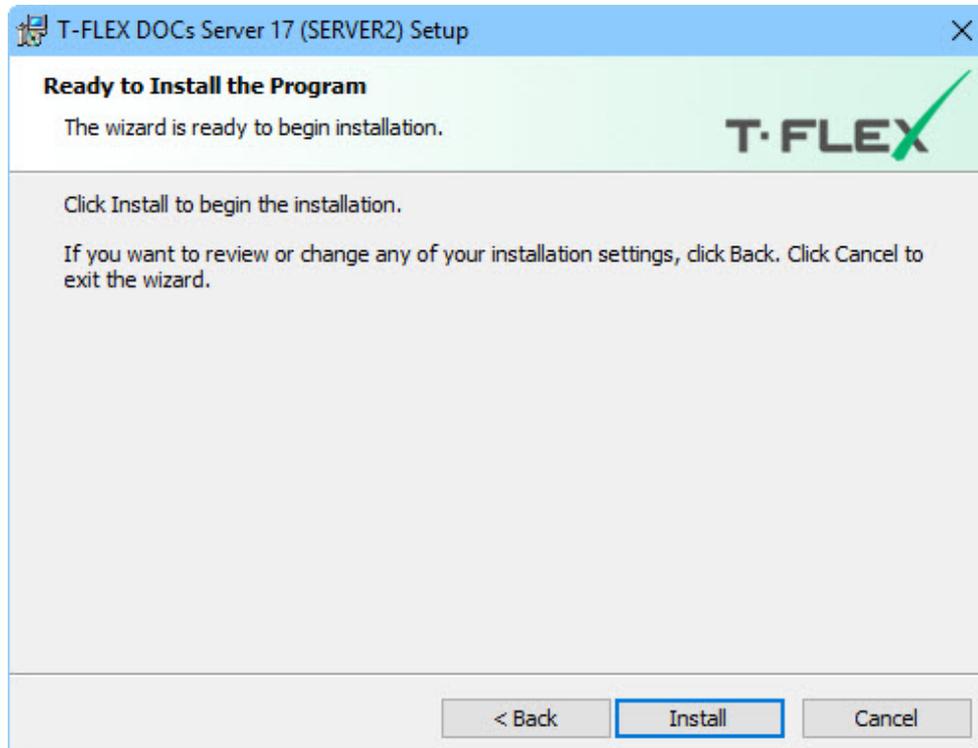
By default, T-FLEX DOCs back-end is installed in the following folder:

*C:\Program Files (x86)\T-FLEX DOCs Server (server instance name)\.*

To change file destination folder, click **[Change]** button.



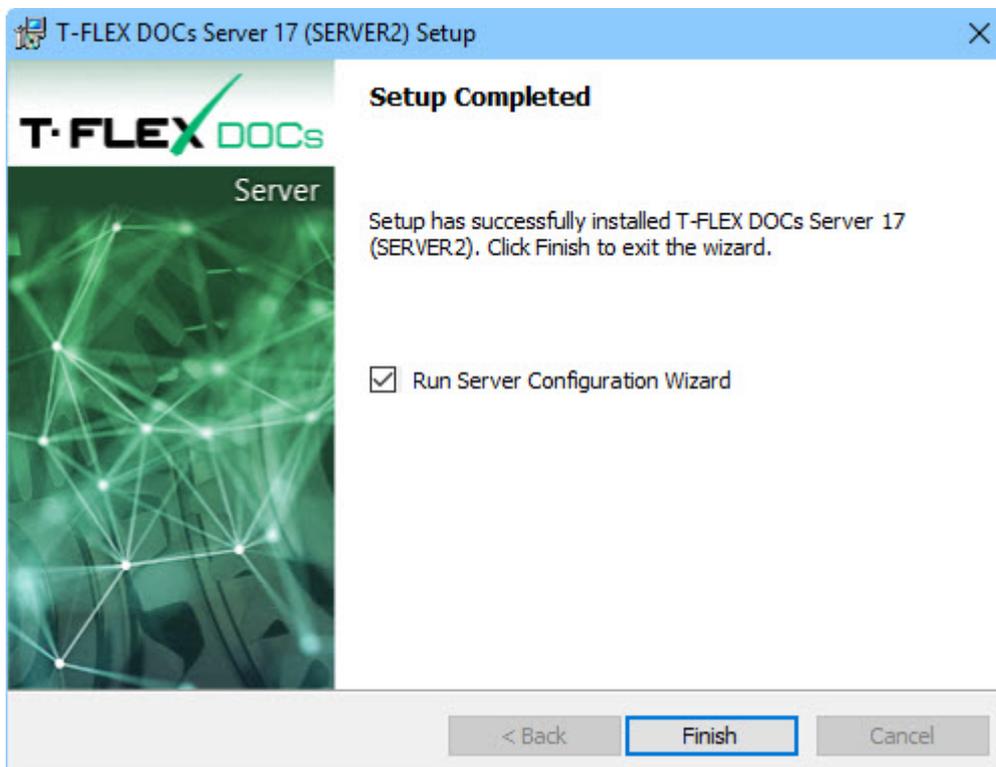
After [Next] button is clicked, the system opens window displaying it is ready to start installation process.



In case of first installation of T-FLEX DOCs back-end, the system launches process for application files installation to computer; in case of version update – files will be updated; in case of version editing or program deleting – files will be either updated or deleted.

## Step 5. Installation completion

Subsequent to installation process for back-end is over, the system displays window with results of the installation process.



“Run server configuration wizard” box allows to switch to setup of server parameters right after the installation process in complete, i.e. after the window is closed via **[Finish]** button. Otherwise, user can run setup of server components from the “All applications” section in Microsoft Windows:

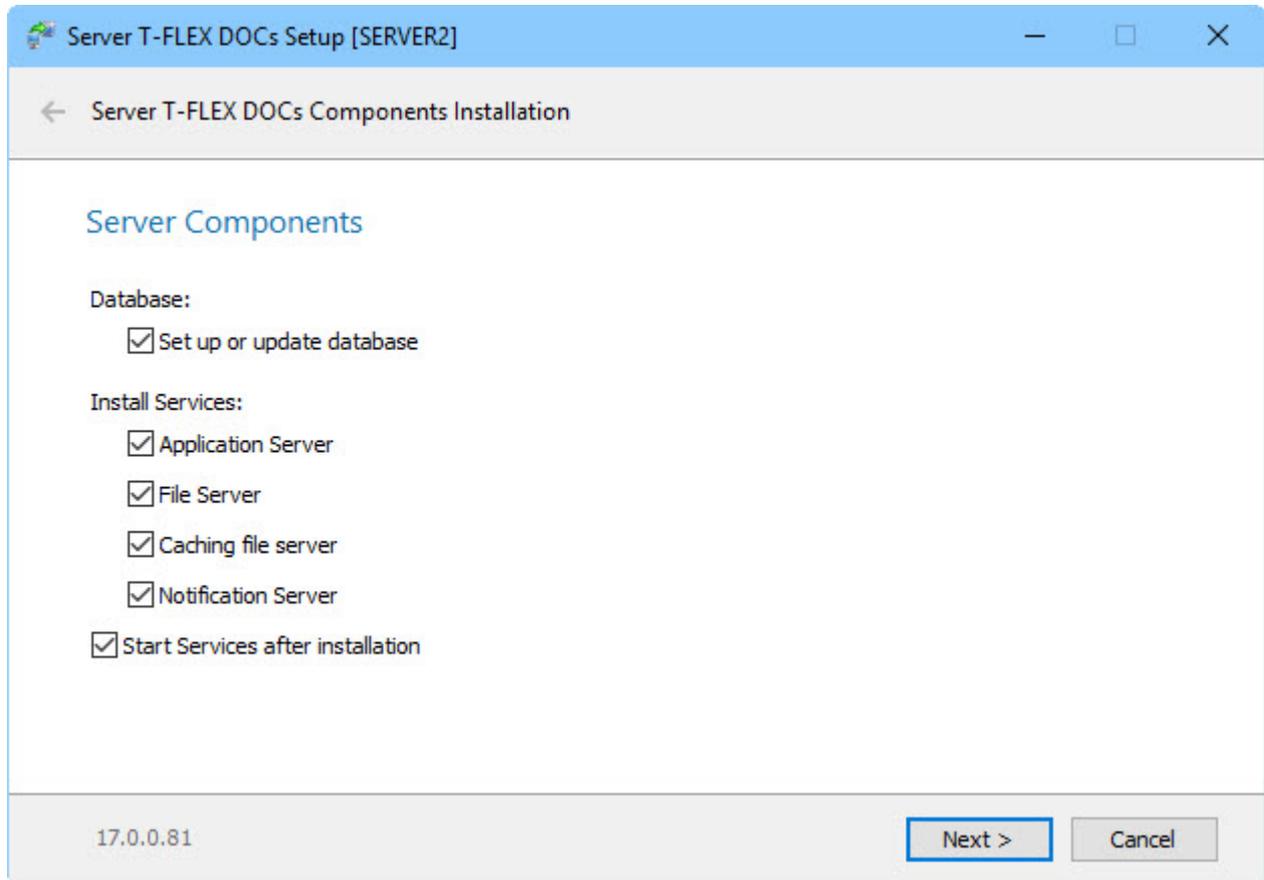
*T-FLEX DOCs Server (server instance name)\T-FLEX DOCs Server Setup\.*

User must set up server components prior to first run of T-FLEX DOCs client application at any workplace.

## T-FLEX DOCs SERVER COMPONENTS SETUP

### Step 1. Selection of components for setup

After installation of T-FLEX DOCs back-end user must install T-FLEX DOCs database, set up servers and launch servers' services. Selection of these operation is performed in the dialog box which appeared after the program for server components setup is started.



If "Start services after installation" is unchecked, user must run T-FLEX DOCs services manually or restart computer so that they start automatically. Afterwards, when the system starts, services launch automatically.

### Step 2. T-FLEX DOCs database server parameters setup

In the dialog box for database server setup user sets following parameters:

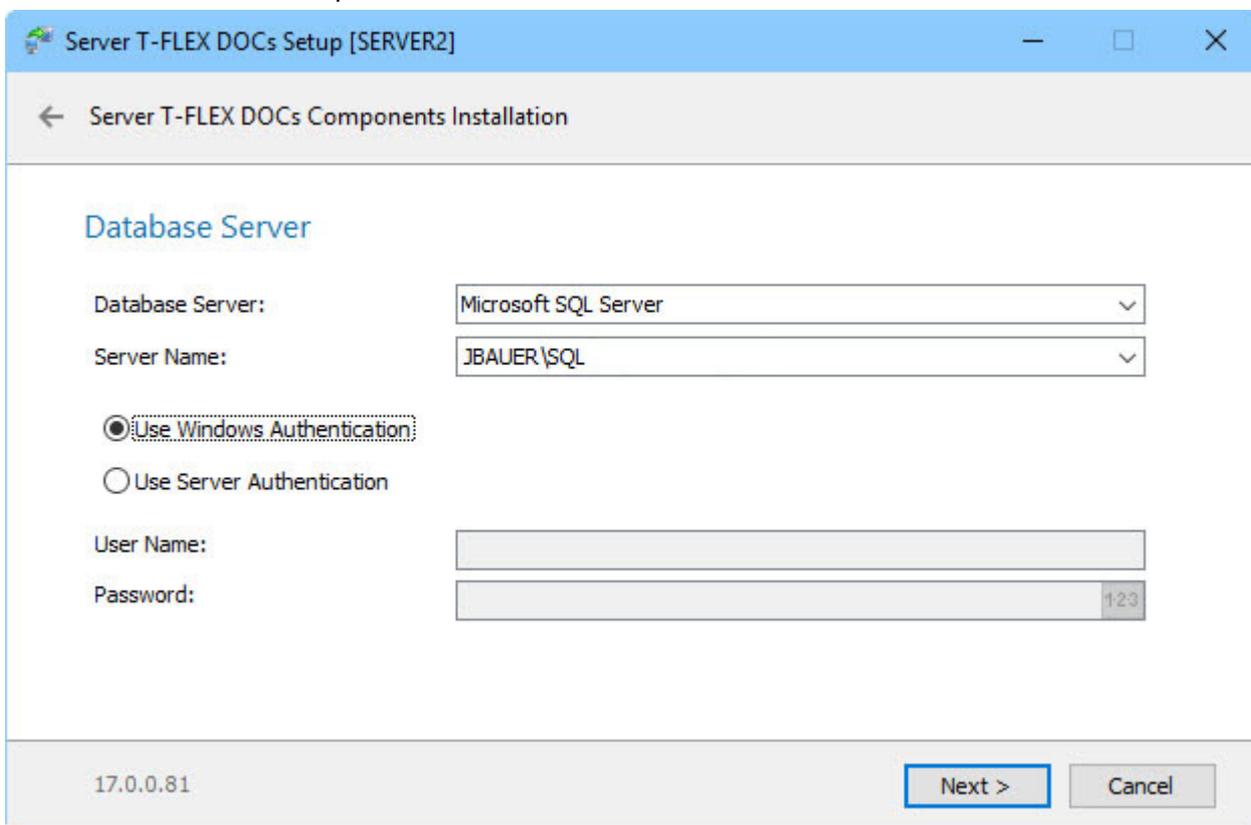
**Database server** – applied database server (e.g. Microsoft SQL Server).

**Server name** – name of database server instance.

“Use Windows authentication” and “Use server authentication” boxes identify user to provide access to database server.

**Use Windows authentication** – if this box is checked, Windows account will be used to provide access to T-FLEX DOCs database.

**Use server authentication** – if this box is checked, it is required to enter name of the user who has access to database server, as well as password.



After user enters parameters for connection to database server and clicks [Next] button, the system switches to setup of parameters for the database.

### Step 3. T-FLEX DOCs database parameters setup

Setup of database parameters consists of three main components:

- ✓ setup of main parameters;
- ✓ setup of frequency for actions connected with database;
- ✓ selection of system datasets.

#### Setup of main parameters

**Database** – name of the T-FLEX DOCs database. When user creates new database, its name is based on the name of T-FLEX DOCs back-end instance by default.

**Replace existing database** – the box is checked, if database must be replaced with new one in the course of server components settings update.

Attention! When the “Replace existing database” box is checked, all data from the initial database will be erased!

**Restore default settings for all users** – the box is checked when current database is updated or replaced and allows to return to initial system settings for all users.

**Update access rights** – if the box is checked, the system calculated access permissions for all active users, roles and groups.

User is considered to be active, if he/she logged in to the system at least once during the year.

**Folder for storing database and backup files** – location for storage of T-FLEX DOCs database files and database backup copies.

## Setup of frequency for actions connected with database

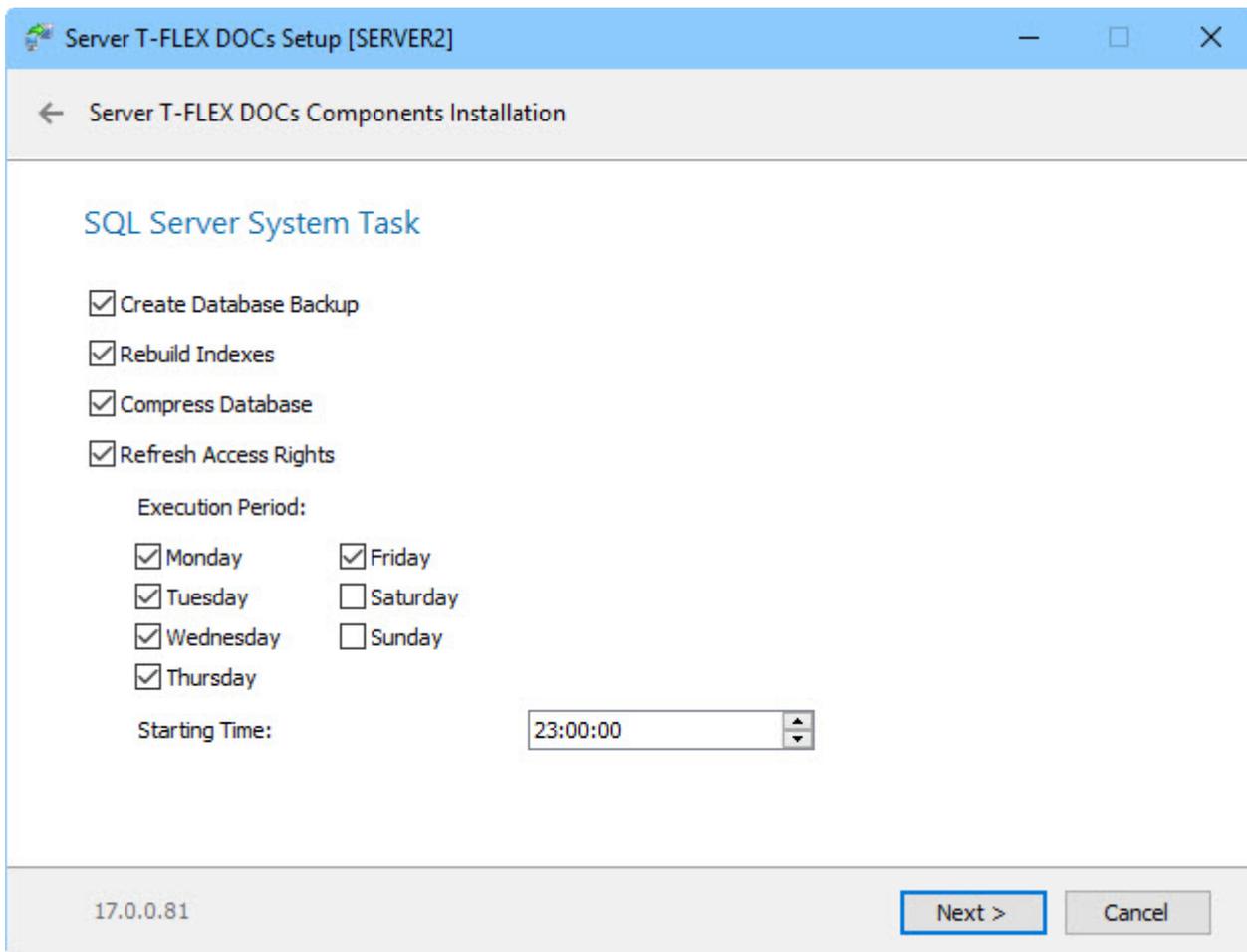
**Create database backup** – allows to make copies of the database in case of its loss.

**Rebuild indexes** – allows to optimize database and increase performance.

**Compress database** – allows to decrease database size and spare drive space.

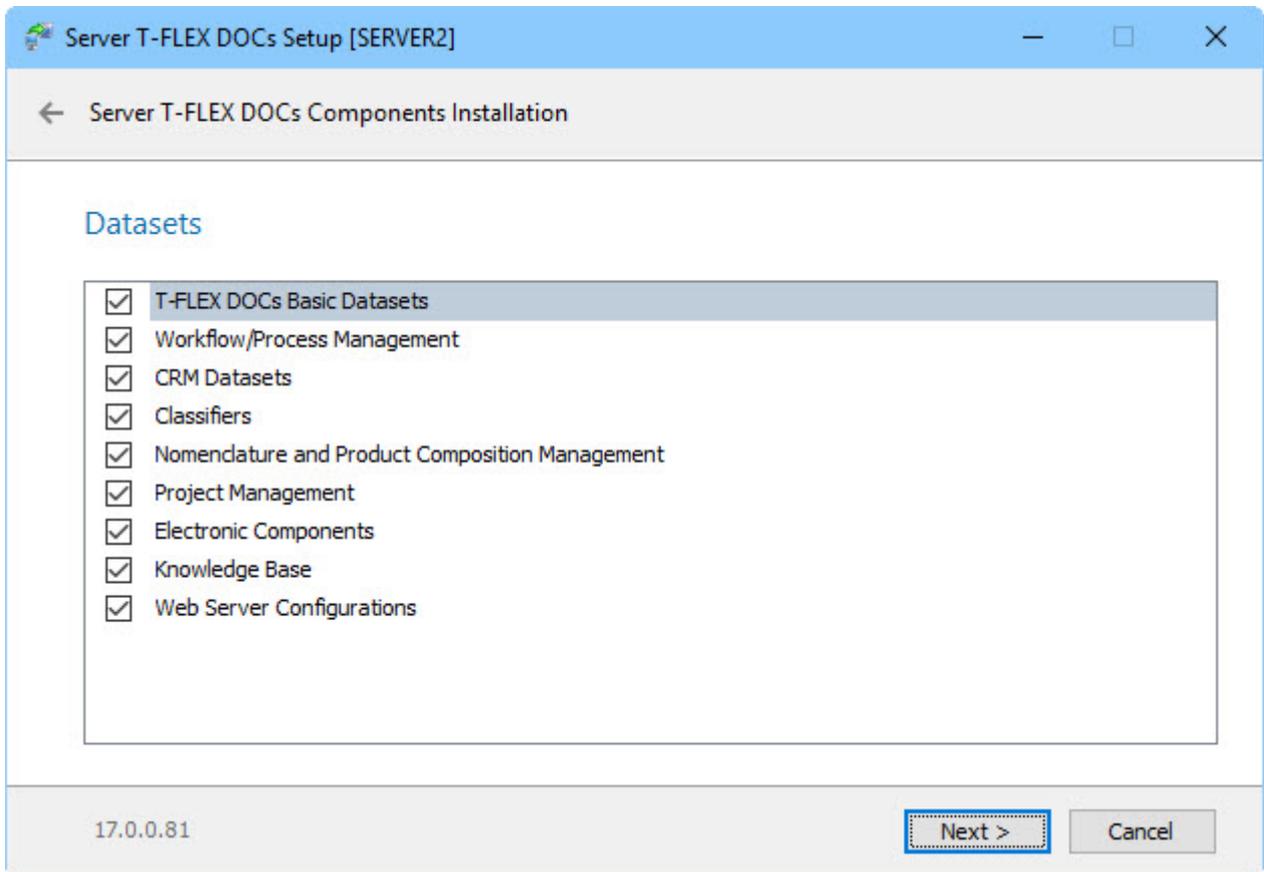
**Refresh access rights** – allows to calculate access permissions for all active users, roles and groups in compliance with the schedule.

**Execution period** – groups of parameters which set days and time for execution of abovementioned actions.



### Selection of T-FLEX DOCs datasets

In the dialog box for selection of datasets user sets datasets which will be installed to the system. In case of database update, previously installed datasets will be updated and extended in compliance with new settings.



After users sets up all required parameters and clicks [**Next**] button, the system switches to setup of applications server.

#### Step 4. T-FLEX DOCs Application server setup

In the dialog for setup of Application server user sets following parameters:

**Instance name** – name of Application server instance (by default, it is the same as the back-end instance name).

**Port** – number of the port via which connection with applications server will be performed.

**Default** – when the box is checked, the number of the port is set by default.

Attention! Ports of Application server and file server must be open for free data transfer between system's back-end and front-end. To do this, add permission rule to Windows Firewall. Procedure for adding permission rule is described below in the Chapter "Adding rule to Windows Firewall to provide operation of T-FLEX DOCs Server".

**Start** – parameter which sets type of start for applications server service. There are following options:

- ✓ "Auto" – automatic start of the service at the start of Windows.

- ✓ “Manual” – administrator runs the service.
- ✓ “Disabled” – start is disabled.

**Network discovery** – when the box is checked, applications server will be displayed at the start of the client application in the “T-FLEX DOCs servers search” dialog box. User can open this dialog box by selecting **Browse** option in the “Server name” field.

**Log on as** – group of parameters identifying user on behalf of which applications server service will be started.

**System account** – standard account of local system, network service or local service will be used.

**User account** – administrator manually sets account with the access permissions of which applications service will be working.

**Database query timeout (seconds)** – maximum time period during which a query could be sent to the database and after which server will display an error. This parameter is used as protection of the client application from hang-up.

**HTTP support (for connect via proxy-server)** – if this box is checked, user has possibility to connect application server to T-FLEX DOCs client application via proxy-server by using HTTP protocol. In this case the dialog box for startup of client application will display corresponding connection settings.

**Link “Administrator” login to Windows login** – with this box checked it becomes possible to identify a user who logged in via Windows account as T-FLEX DOCs administrator. The box is checked by default.

**Set password for “Administrator” login** – with this box checked it becomes possible to set password for the administrator to log in to the system during server authorization procedure. If the box is unchecked, password is not set for T-FLEX DOCs administrator account created by default.

**Save mail attachments to folder** – with this box checked it becomes possible to set folder for automatic saving of mail enclosures – files attached to T-FLEX DOCs external mail. Folder for mail enclosures can be located at any computer with installed applications server. Folder is used for all users working with set instance of the applications server. If the box is unchecked, all enclosures will be saved to the T-FLEX DOCs database.

Server T-FLEX DOCs Setup [SERVER2]

← Server T-FLEX DOCs Components Installation

### Application Server

Instance Name:  Port:   Default

Start:   Network Discovery

Log on as:

System account:

User account:

User:

Password:

Database query timeout (seconds):

HTTP support (for connect via proxy-server) Port:

Link 'Administrator' Login to Windows Login IMPDOMAIN\JBauer

Set Password for 'Administrator' Login:

Confirm Password:

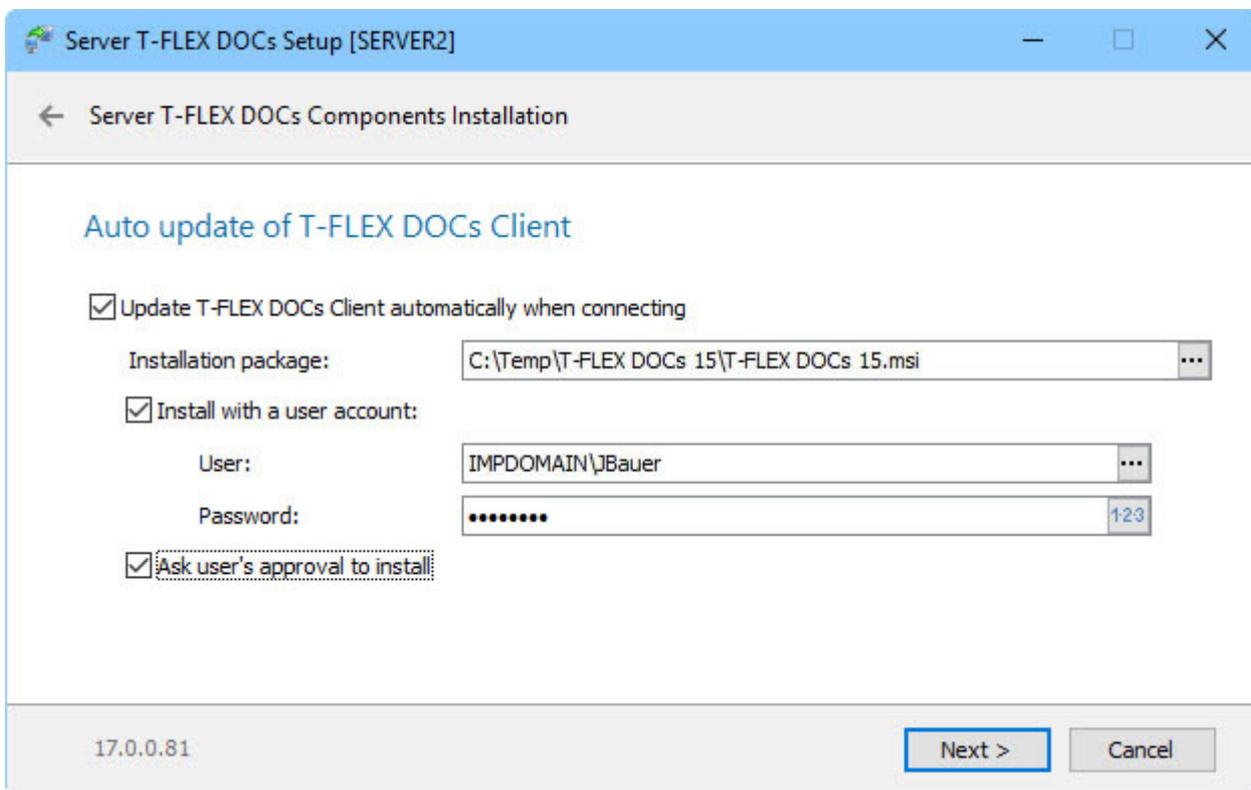
Save mail attachments to folder:

17.0.0.81

After user sets all required parameters and clicks [Next] button, the system switches to setup of applications server.

### Step 5. Setup of automatic update for T-FLEX DOCs client

During setup of server components user can set up automatic update of T-FLEX DOCs client application. This possibility is activated by the "Update T-FLEX DOCs Client automatically when connecting".



Following parameters are used for setup of automatic update for T-FLEX DOCs front-end:

**Installation package** – path and name of the installation file for client application.

**Install with a user account** – with this box checked it becomes possible to enter parameters of Microsoft Windows user account (with password) on behalf of which installation process will be launched.

For the account it is recommended to select administrator user who can install Microsoft Windows software. It is especially important for compliance of policy for software installation only by domain or computer administrators.

In case of domain architecture, user on behalf of whom update installer will be started can be selected from the domain. In this case domain name is entered in addition to username. If the box is unchecked or if server is used for T-FLEX DOCs authorization, update runs on behalf of current Microsoft Windows user.

**Ask user's approval to install** – if this box is checked, the system will request permission to start T-FLEX DOCs client application prior to updating it. If this box is unchecked, updates will be installed automatically (if there are any).

After user finishes with setup of automatic update for client application and clicks **[Next]** button, the system switches to setup of T-FLEX DOCs file server.

## Step 6. T-FLEX DOCs File server setup

In the dialog box for File server setup user can set following parameters:

**Instance name** – name of File server instance (by default, it is the same as the back-end instance name).

**Port** – number of the port via which the connection with file server will be performed.

Attention! Number of file server port must be different from the number of applications server port.

**By default** – in case this box is checked, number of port is set by default.

Server T-FLEX DOCs Setup [SERVER2]

← Server T-FLEX DOCs Components Installation

### File Server

Instance Name:

Port:   Default

Start:

Log on as:

System account:

User account:

User:

Password:

HTTP support (for connect via proxy-server)

17.0.0.81

**Start** – parameter which sets type of start for file server. There are following options:

- ✓ "Auto" – automatic start of the service at the start of Windows.
- ✓ "Manual" – administrator runs the service.
- ✓ "Disabled" – start is disabled.

**Login on as** – group of parameters identifying user on behalf of which file server service will be started.

**System account** – standard account of local system, network service or local service will be used.

**User account** – administrator manually sets account with the access permissions of which file server will be working.

After user sets all required settings and clicks **[Next]** button, the system switches to setup of T-FLEX DOCs caching file server.

## Step 7. T-FLEX DOCs Caching file server setup

In the dialog box for Caching file server setup user can set following parameters:

**Instance name** – name of Caching file server instance (by default, it is the same as the back-end instance name).

**Port** – number of the port via which the connection with caching file server will be performed.

Attention! Number of caching file server port must be different from the number of file server port and the number of applications server port.

**By default** – in case this box is checked, number of port is set by default.

Server T-FLEX DOCs Setup [SERVER2]

← Server T-FLEX DOCs Components Installation

### Caching file server

Instance name:

Port:   By default

Start:

Log on as:

System account:

User account:

User:

Password:

HTTP support (for connect via proxy-server)

17.0.0.81

Next > Cancel

**Start** – parameter which sets type of start for caching file server. There are following options:

- ✓ “Auto” – automatic start of the service at the start of Windows.
- ✓ “Manual” – administrator runs the service.
- ✓ “Disabled” – start is disabled.

**Login on as** – group of parameters identifying user on behalf of which caching file server service will be started.

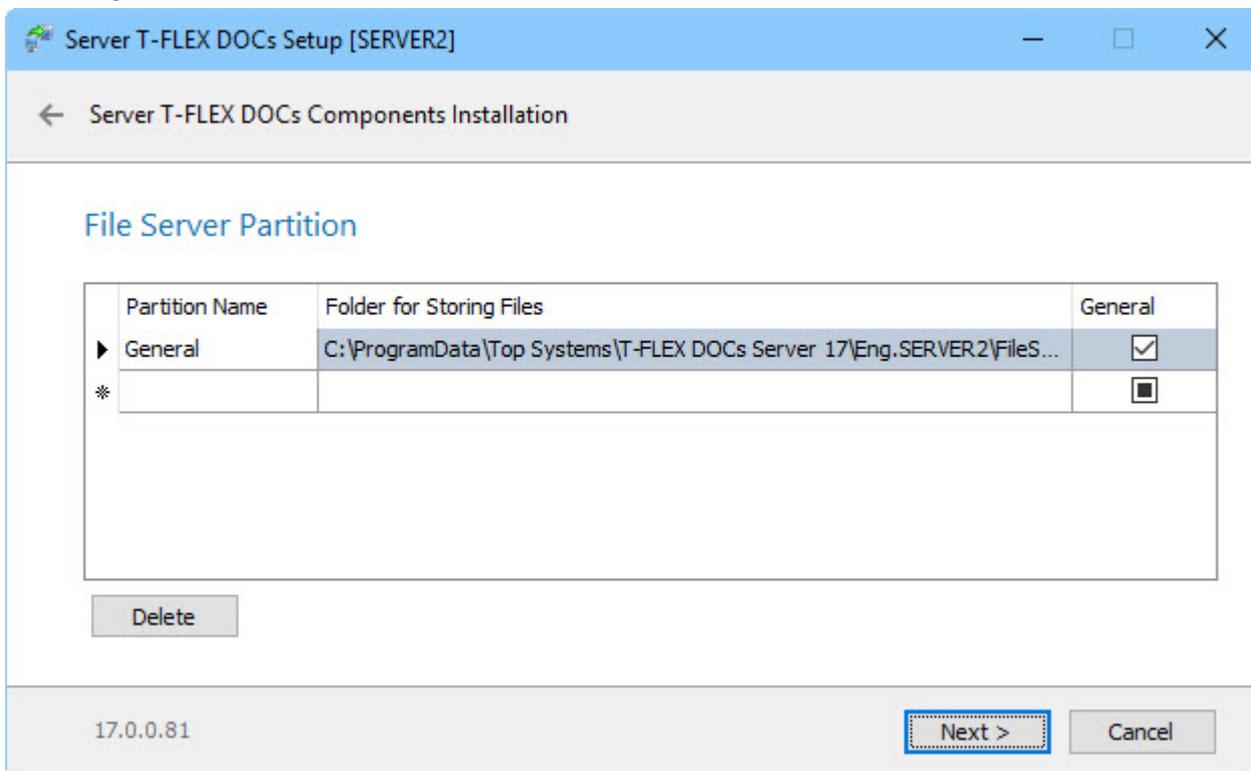
**System account** – standard account of local system, network service or local service will be used.

**User account** – administrator manually sets account with the access permissions of which caching file server will be working.

After user sets all required settings and clicks **[Next]** button, the system switches to setup of file server partitions.

## Step 8. Setup of T-FLEX DOCs File server partitions

During setup of T-FLEX DOCs File server partitions user enters name of its logical partitions and folders for file storage.

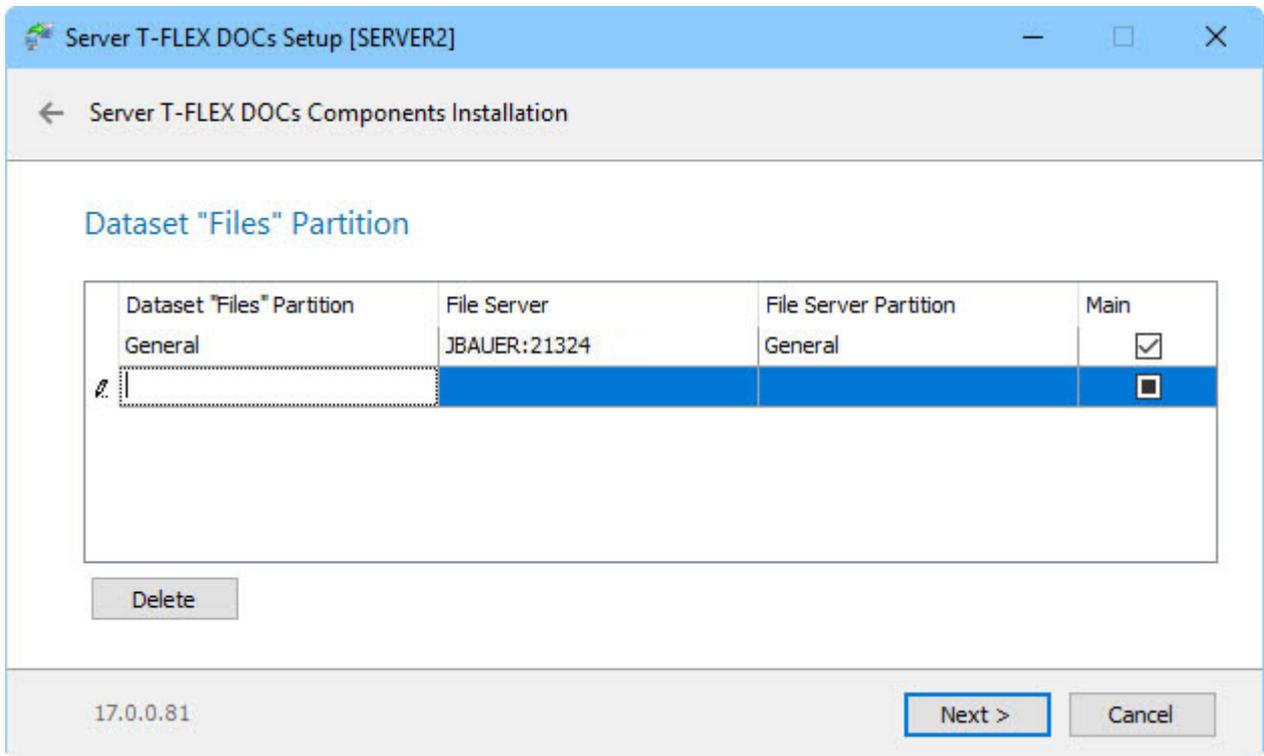


After user sets all required settings for file server partitions and clicks **[Next]** button, the system switches to setup of "Files" dataset partitions.

## Step 9. Setup of dataset "Files" partitions

During setup of dataset "Files" partitions initial list of parameters is generated in the following way:

- ✓ If there is a database (server is updated or database was transferred via backup copy), data from the database will be transferred to the table of parameters. To delete a partition created on basis of current database, click **[Delete]** button.
- ✓ If new database is created or the "Set up or update database" box is checked, parameters of the "File server partitions" dialog box will be copied to the table of parameters.
- ✓ If new database is created and File server is not set, "General" empty partition will be added to the table of parameters and user will be offered to enter address of a File server.



If file server address in the "File server" column coincides with previously set server (server name + port), the "File server partition" column will display partitions set in the previous dialog box: "File server partition". If another File server is set, user enters file server partition manually.

After user sets required settings for dataset "Files" partitions and clicks **[Next]** button, the system switches to setup of T-FLEX DOCs Notifications server.

## Step 10. T-FLEX DOCs Notification server setup

In the dialog box for setup of Notification server user sets following parameters:

**Instance name** – name of the Notification server instance (by default, it is the same as the name of back-end instance).

**Start** – parameter which sets type of start for notifications server service. There are following options:

- ✓ "Auto" – automatic start of the service at the start of Windows.
- ✓ "Manual" – administrator runs the service.
- ✓ "Disabled" – start is disabled.

**Log on as** – group of parameters identifying user on behalf of which notifications server service will be started.

**System account** – standard account of local system, network service or local service will be used.

**User account** – administrator manually sets account with the access permissions of which notifications server will be working.

**The period (minutes)** – parameter which sets frequency for the notifications server to check “Project management” dataset for works with enabled automatic start.

**Number of simultaneous tasks** – user sets number of tasks and workflows simultaneously performed by the server. By default, value equals total number of processor cores divided by two. The higher is the number, the higher is the performance in case of large hardware resources.

**Use transactions in Application server** – box which enables or disables usage of transactions for notifications server. Big amount of transactions can lead to deadlock emerging in case there are too many workflows and high load on the database server. If the box is unchecked, possibility of a deadlock is decreased. However, protection from data corruption in case of errors also decreases.

Server T-FLEX DOCs Setup [SERVER2]

← Server T-FLEX DOCs Components Installation

### Notification Server

Instance Name:   Default

Start:

Log on as:

System account:

User account:

User:

Password:

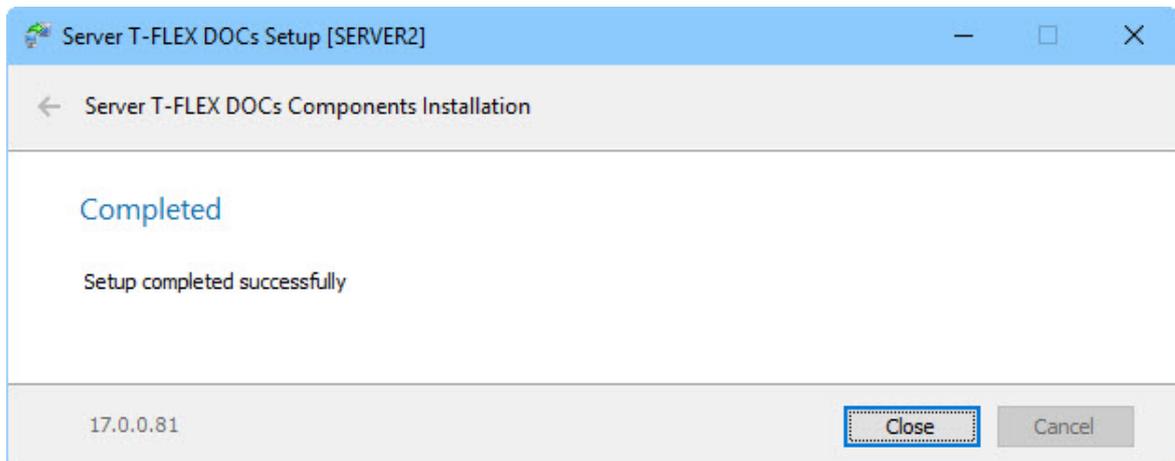
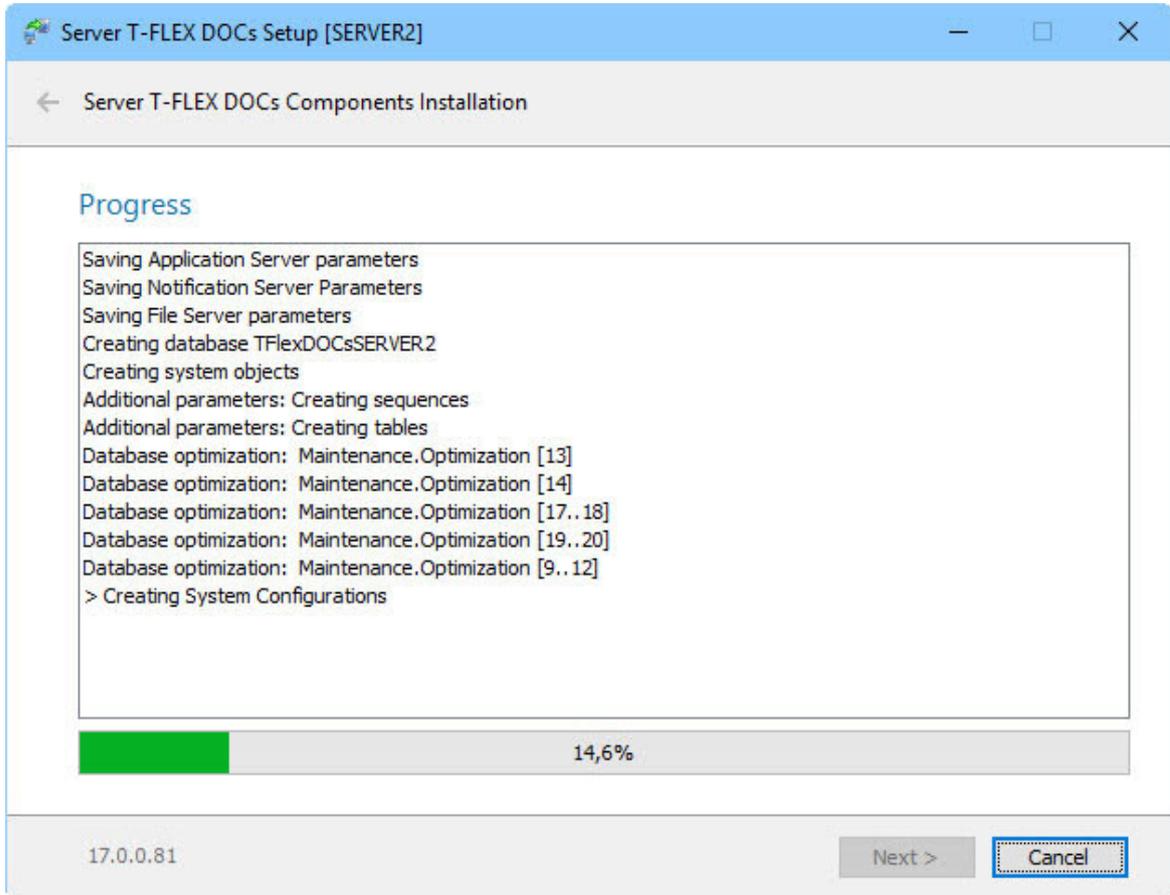
Time Period (minutes):

Number of simultaneous tasks:

Use transactions in Application Server

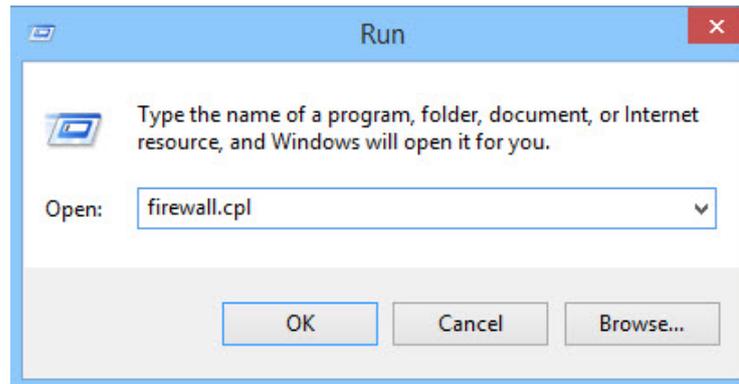
17.0.0.81

After user sets all required settings and clicks **[Next]** button, the system starts installation process for T-FLEX DOCs back-end. At the end the system displays a window informing about the end of the installation process.

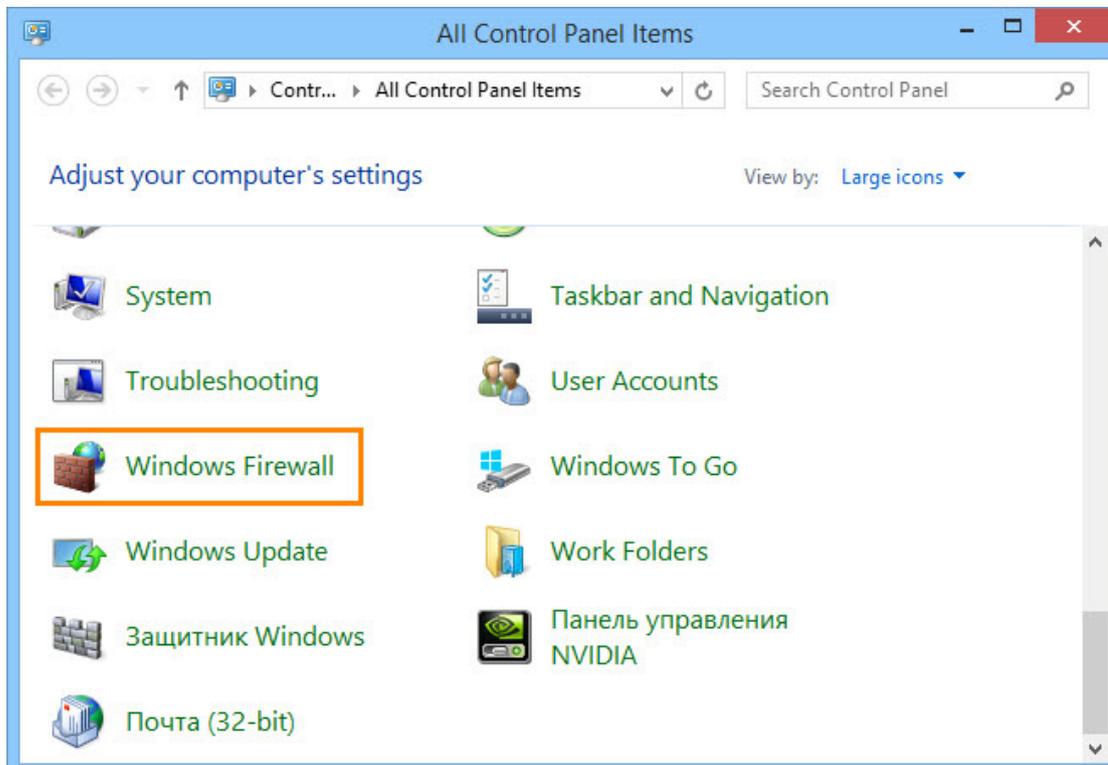


## ADDING RULE TO WINDOWS FIREWALL TO PROVIDE OPERATION OF T-FLEX DOCs SERVER

After T-FLEX DOCs server components are set up, it is required to add permission rule to Windows Firewall for ports set during setup of applications server and file server. To run Windows Firewall, open right-click menu for the **Start** button and select **Run** option. In the opened window enter **firewall.cpl** and click **[OK]**.

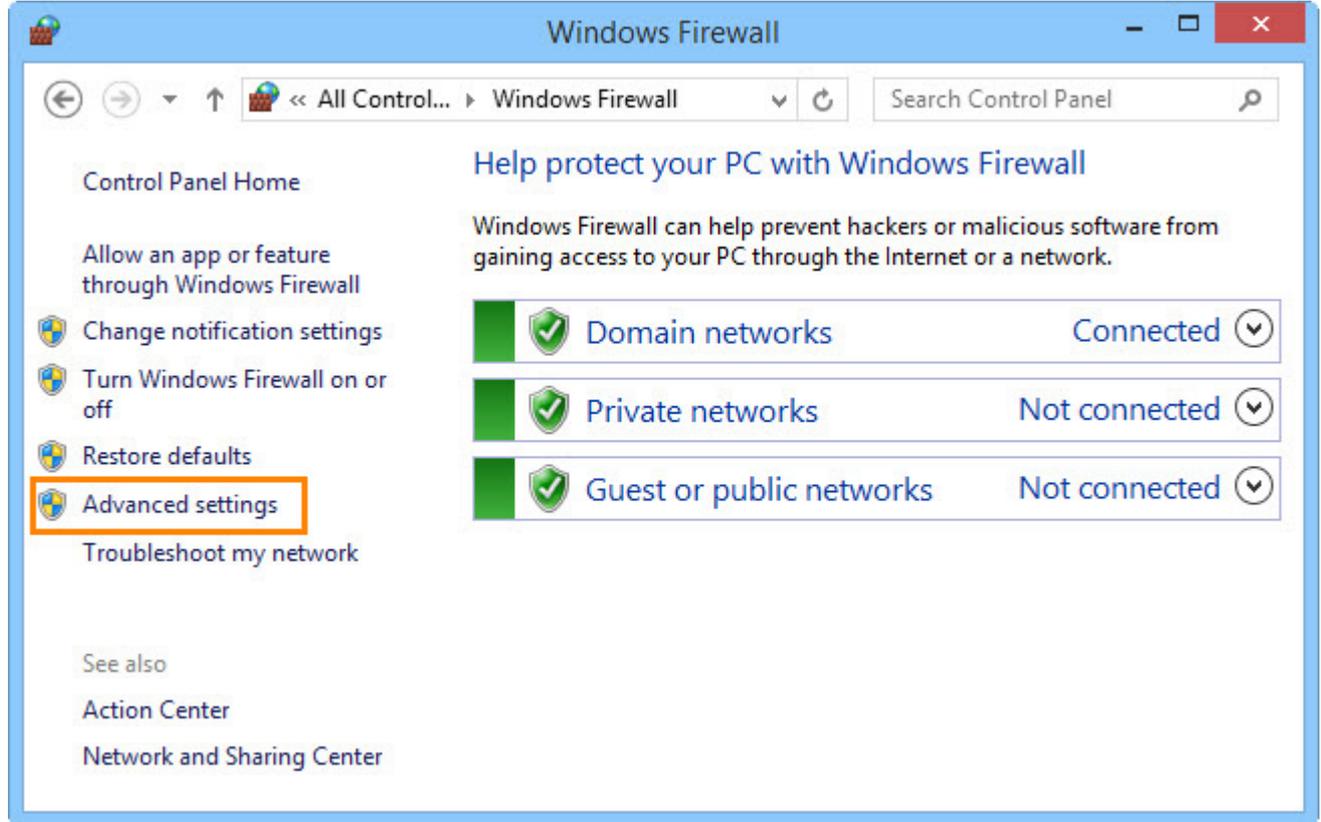


User can also run **Windows Firewall** by selecting corresponding shortcut among **Control Panel** components.

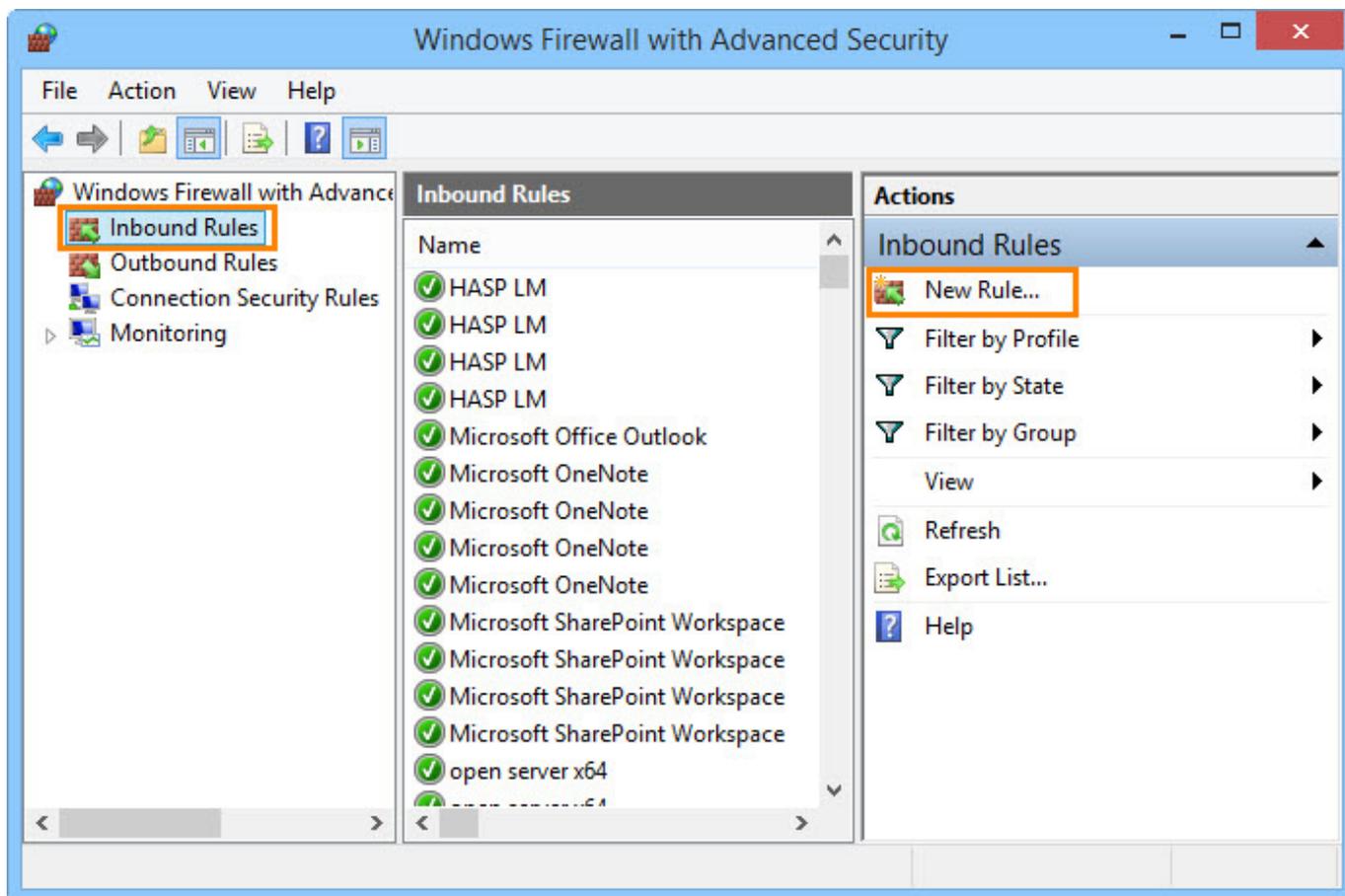


After Windows Firewall is opened:

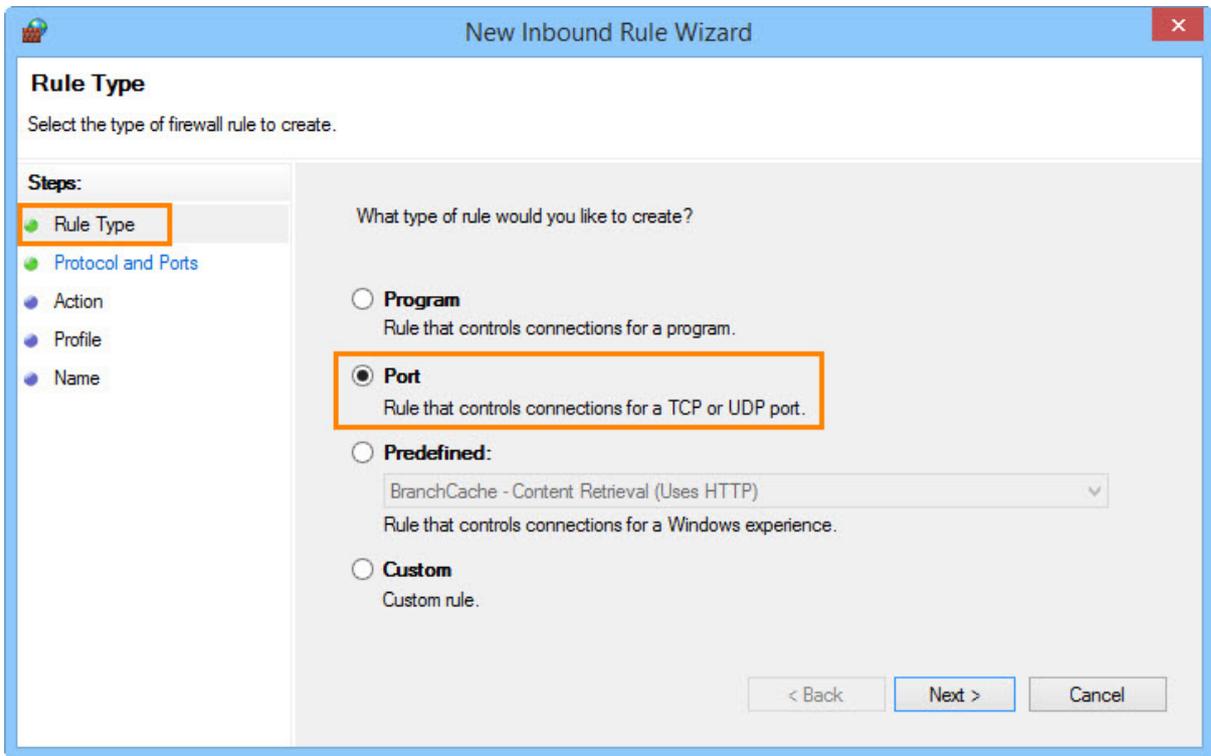
1. In the menu on the left select **Advanced settings** option.



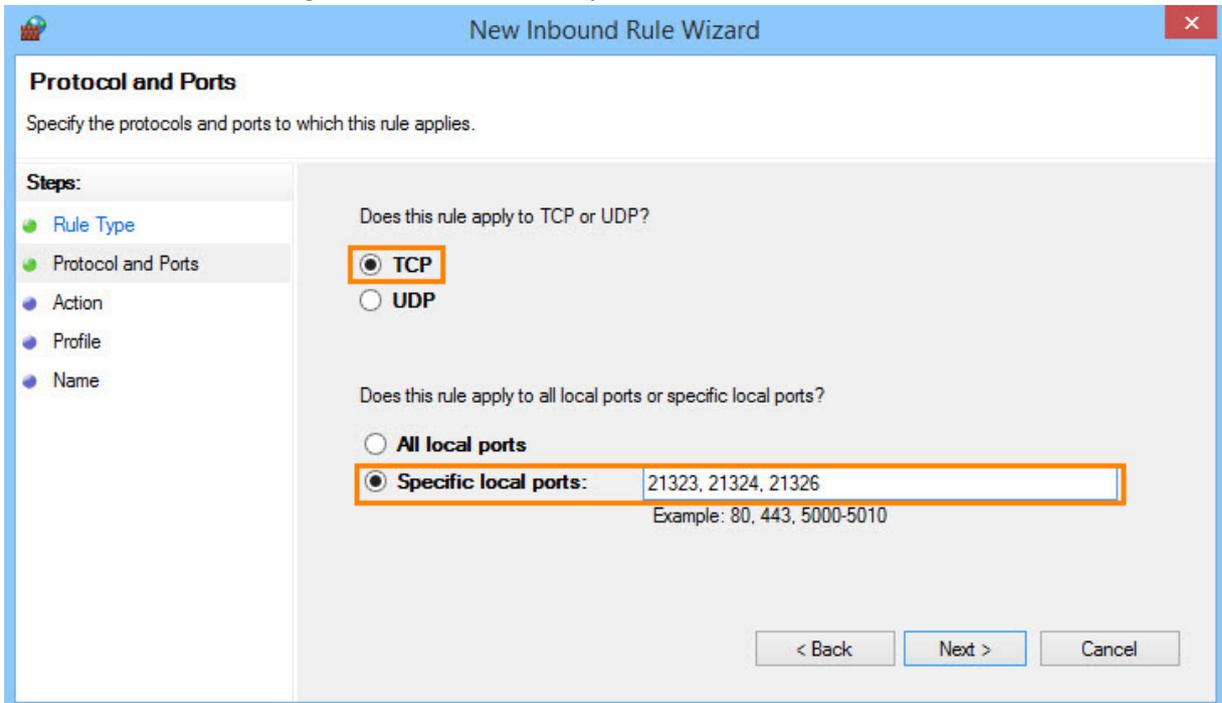
2. In the left part of the opened window select **Inbound rules** tab and then in the right part, **Actions**, select **New rule...** option. The system opens **New Inbound Rule Wizard**.



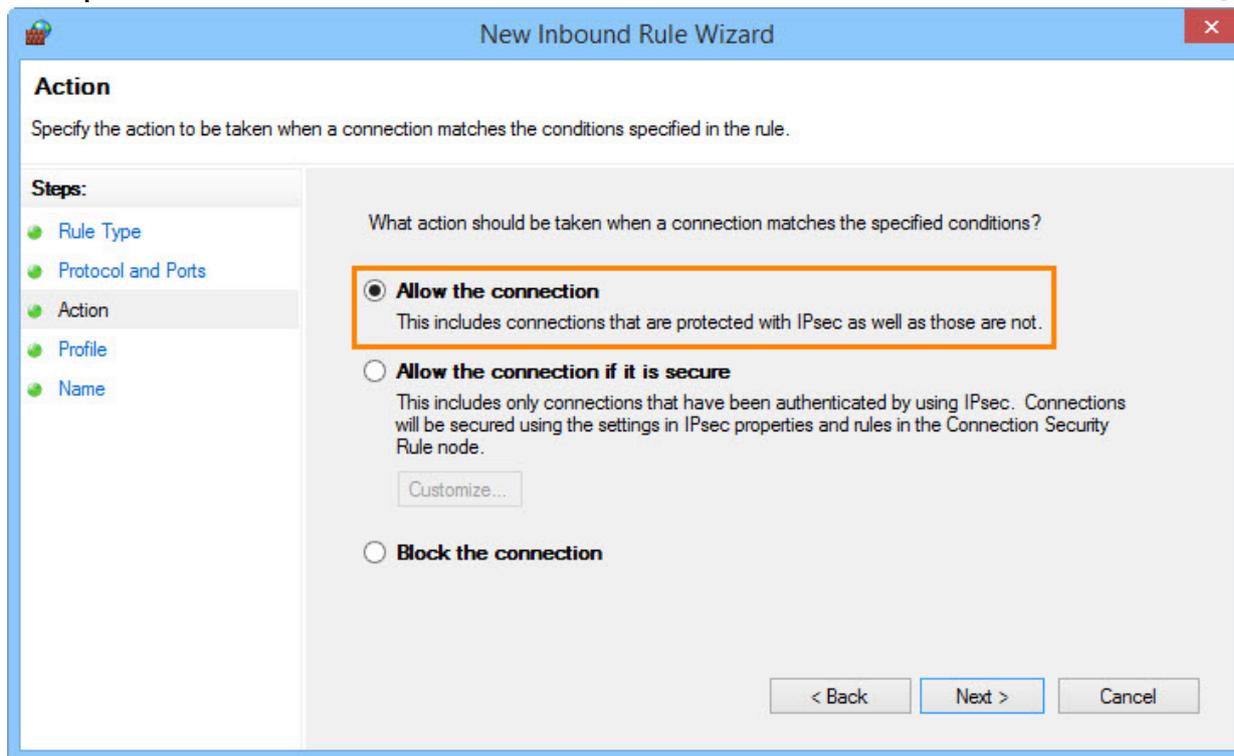
3. Create rule for new inbound connection with following sequence of actions:  
**Step 1.** On the first page of the **New Inbound Rule Wizard** select **Rule type**, activate **Port** value and click **[Next]**.



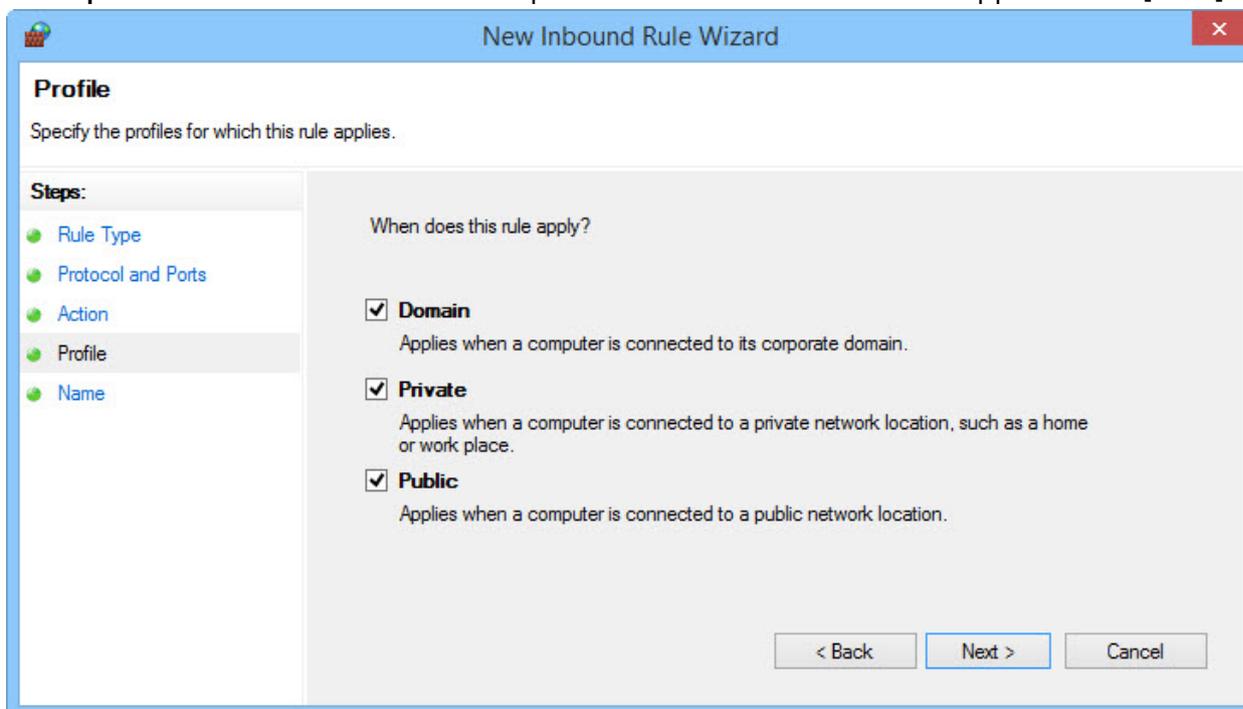
**Step 2.** Enter protocol (TCP) and numbers of ports (**Specific local ports**) for applications server, file server and caching file server (divided by a comma). Click [**Next**].



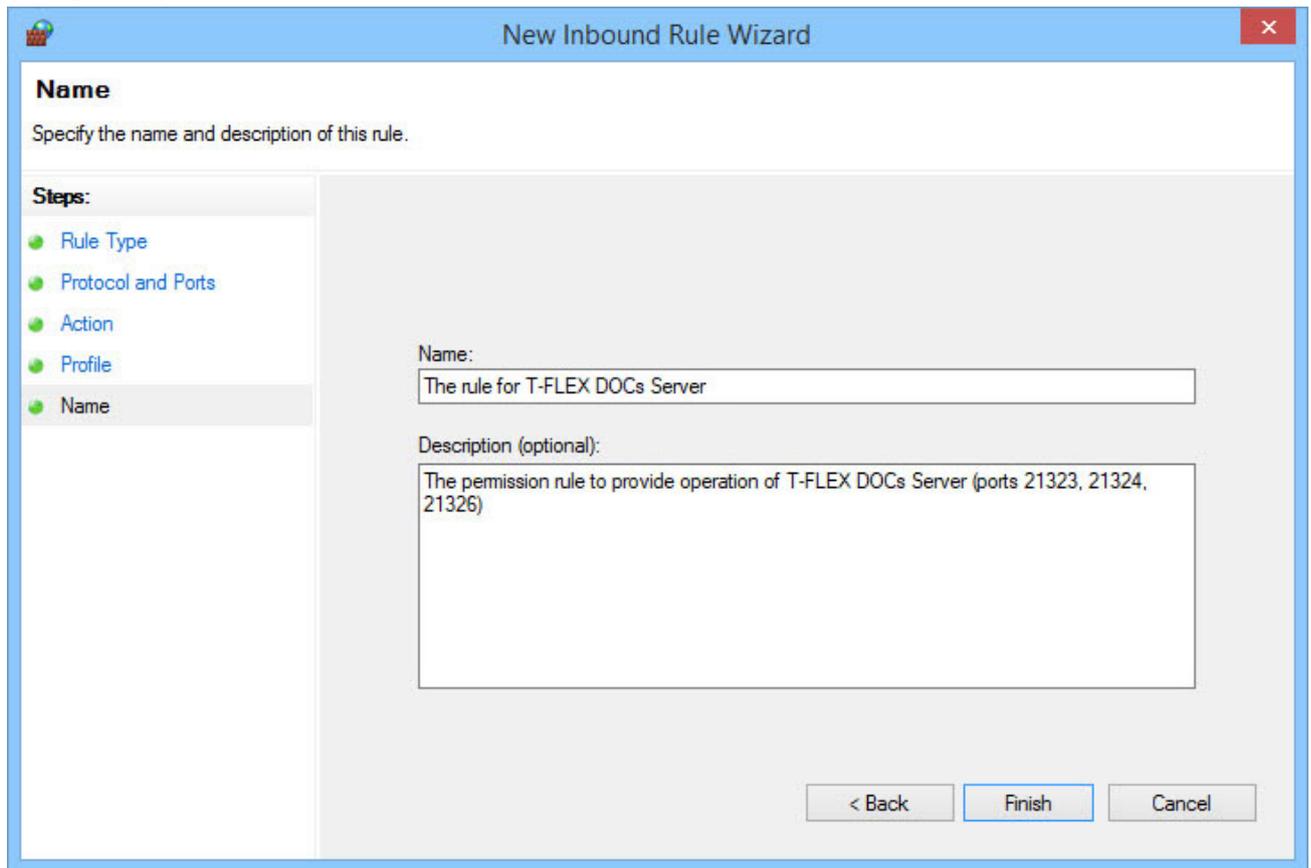
Step 3. Set action connected with the added rule. Select **Allow the connection** value. Click [Next].



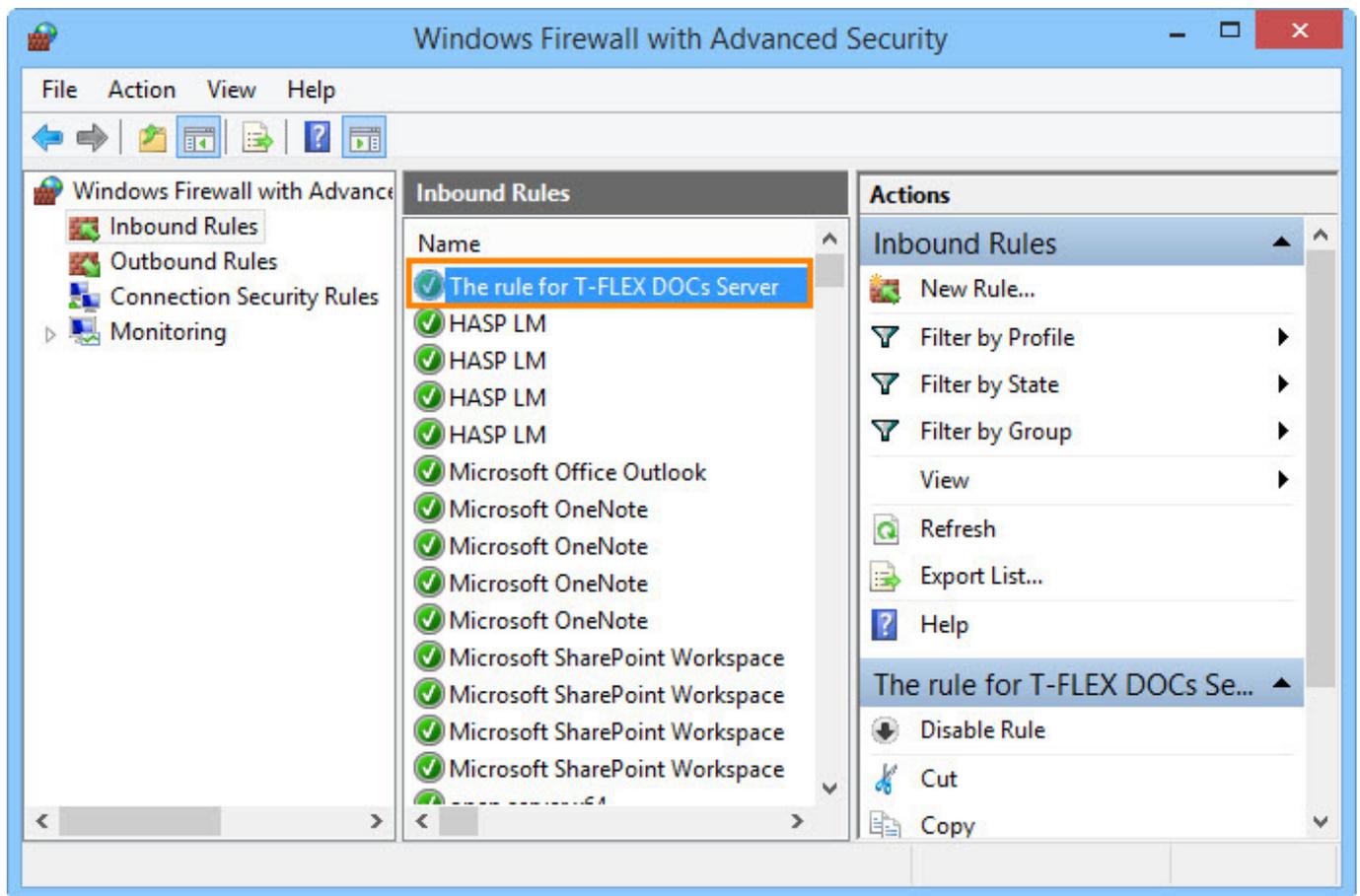
Step 4. Check the boxes with firewall profiles for which the rule will be applied. Click [Next].



**Step 5.** Enter name and description for the new rule. To finish working with the wizard, click [Finish].



Created rule will be displayed in the **Inbound Rules** area of the Windows Firewall with Advanced Security window.



## INSTALLATION OF T-FLEX DOCs FRONT-END

T-FLEX DOCs client application is installed to users' computers and provides execution of operations with system objects in strict compliance with user access permissions. Access to T-FLEX DOCs client application is protected with a password.

Start procedure for client application is described in the Section "Quick Start" of the T-FLEX DOCs User Manual.

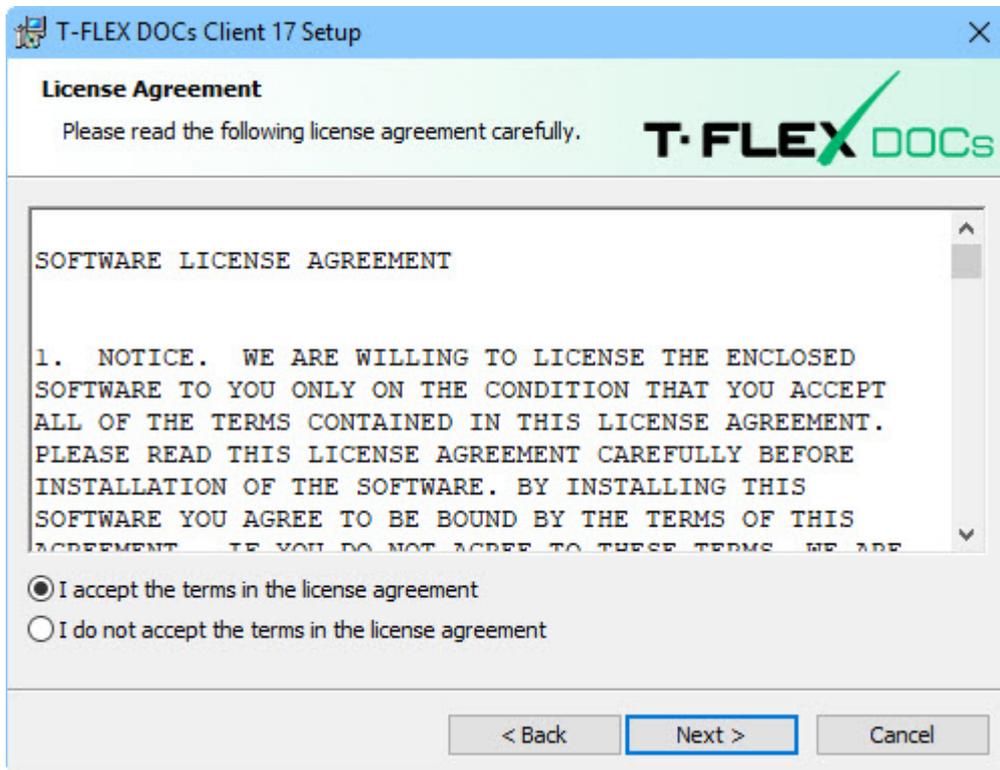
### T-FLEX DOCs FIRST INSTALLATION PROCEDURE

Installation process consists of several steps provided below.

#### Step 1. Welcome page and license agreement

To run installation of T-FLEX DOCs front-end, run T-FLEX DOCs Client.msi file from the "T-FLEX DOCs Client" folder. Welcome page and page with license agreement will appear.

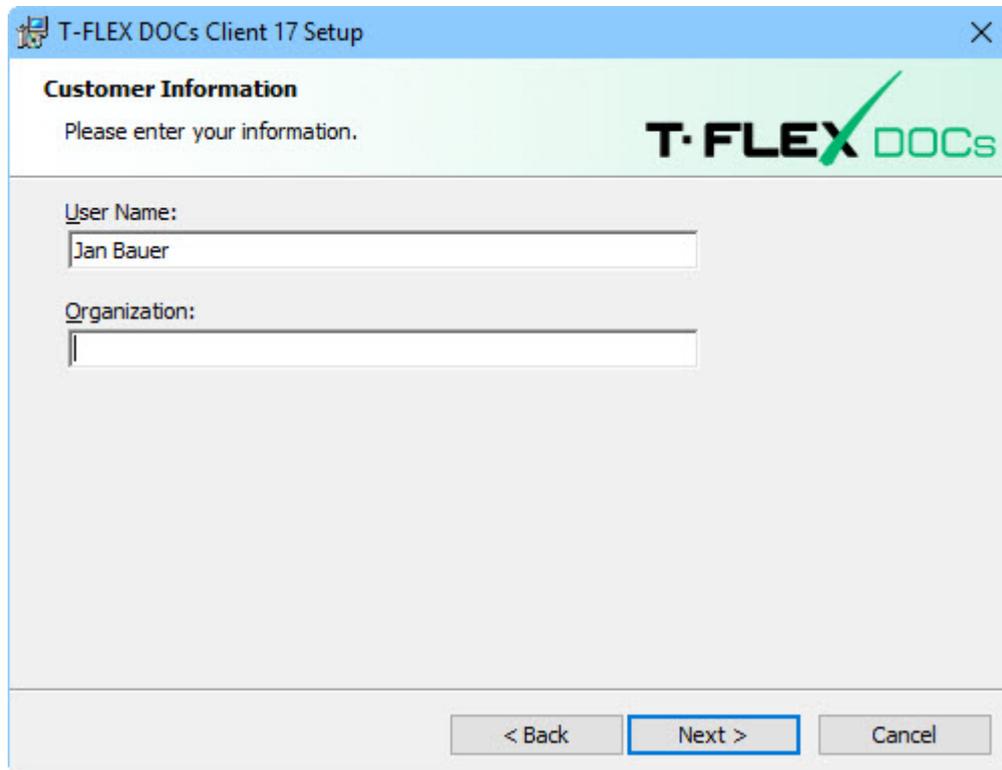




After user selects "I accept terms of the license agreement" option and clicks [Next] button, the program proceeds with installation.

## Step 2. Customer information

In the "Customer information" window user must enter username and organization name with license for the product.



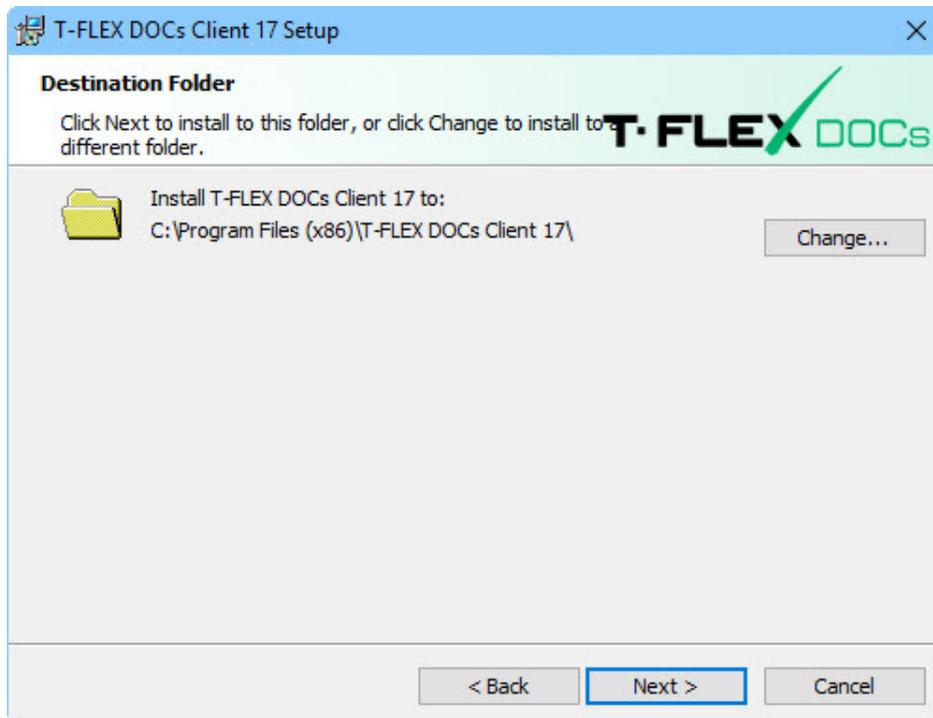
The screenshot shows a Windows-style dialog box titled "T-FLEX DOCs Client 17 Setup". The window has a light blue header bar with a close button (X) in the top right corner. Below the header, the text "Customer Information" is displayed in bold, followed by the instruction "Please enter your information." To the right of this text is the T-FLEX DOCs logo, which consists of the text "T-FLEX" in black, a green checkmark, and "DOCs" in green. Below the instruction, there are two text input fields. The first is labeled "User Name:" and contains the text "Jan Bauer". The second is labeled "Organization:" and is currently empty. At the bottom of the dialog box, there are three buttons: "< Back", "Next >", and "Cancel". The "Next >" button is highlighted with a blue border.

### Step 3. Selection of destination folder for program files and finishing with installation settings

By default, T-FLEX DOCs back-end is installed in the following folder:

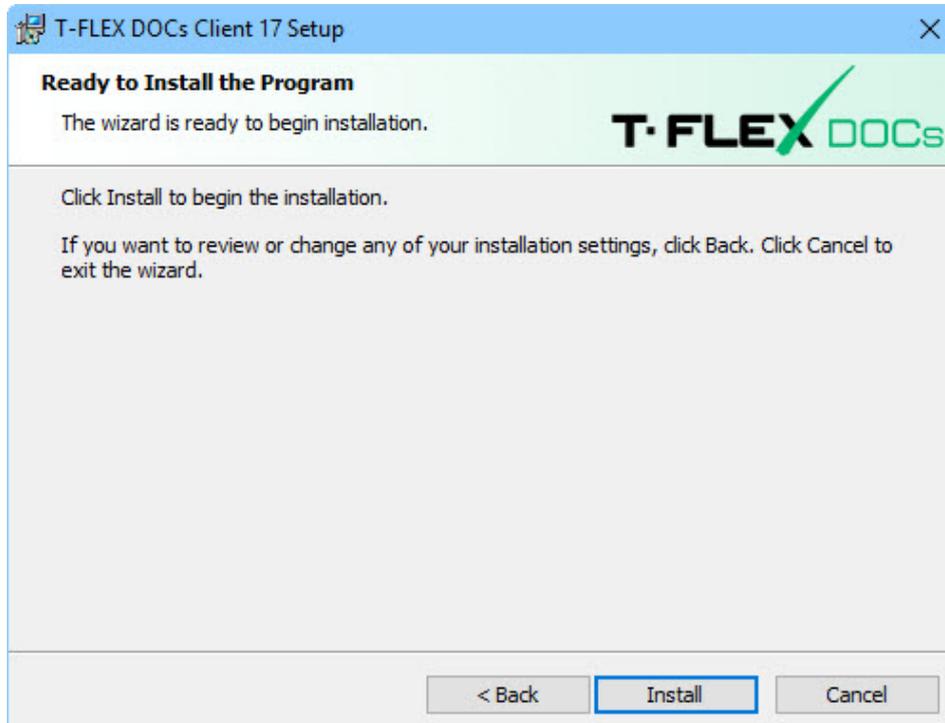
*C:\Program Files (x86)\T-FLEX DOCs Client\.*

To change file destination folder, click [**Change**] button.

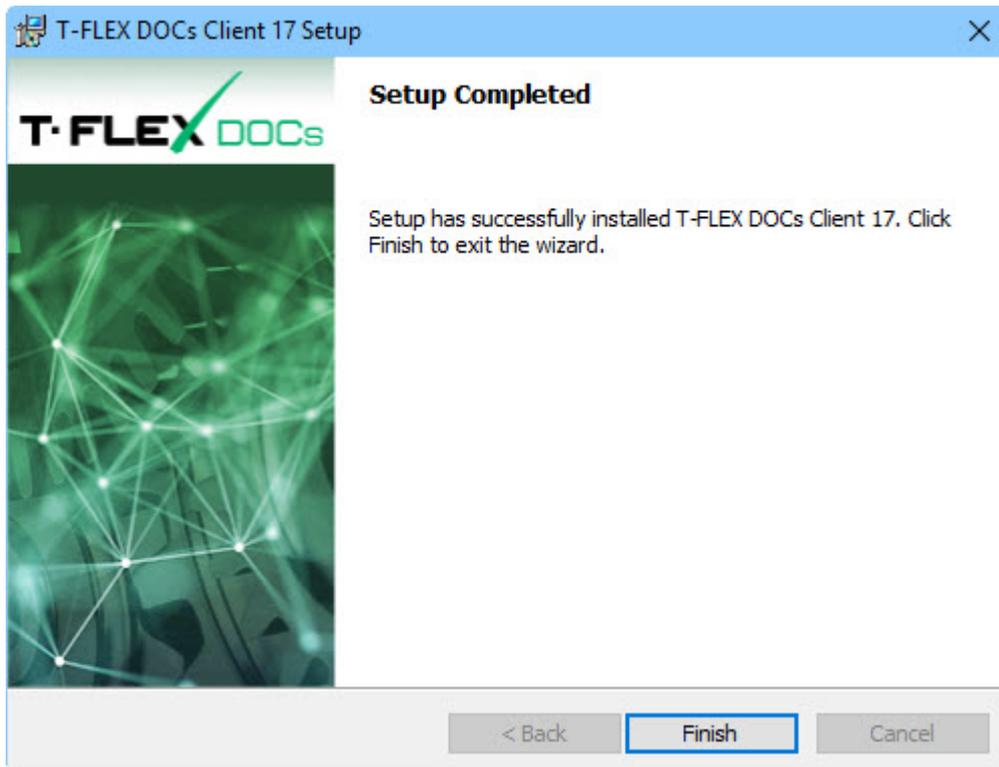


## Step 4. Installation completion

After user selects folder for files and clicks **[Next]** button, the program opens window showing that system is ready to be installed.



Installation process for T-FLEX DOCs front-end starts after user clicks [Install] button. Upon completion the system opens window with the results of the installation process.



## UPDATING INSTALLED T-FLEX DOCs FRONT-END

If T-FLEX DOCs client application was already installed on the computer, it can be updated by changing, if necessary, folder for program files and set of additional configurations. Update of T-FLEX DOCs front-end is executed by rerunning T-FLEX DOCs Client.msi installation file. Update will be performed automatically, if this possibility was set during setup of database server parameters.

Setup of automatic update for T-FLEX DOCs client is described in the paragraph "T-FLEX DOCs server components setup (Step 5)" of the chapter "Installation of T-FLEX DOCs back-end"

Update process is similar to initial installation process with the same steps. Prior to update confirm or edit current settings: information about user, location of work directories, selection of additional configurations.

## INSTALLATION OF SEVERAL T-FLEX DOCs INSTANCES AND VERSIONS

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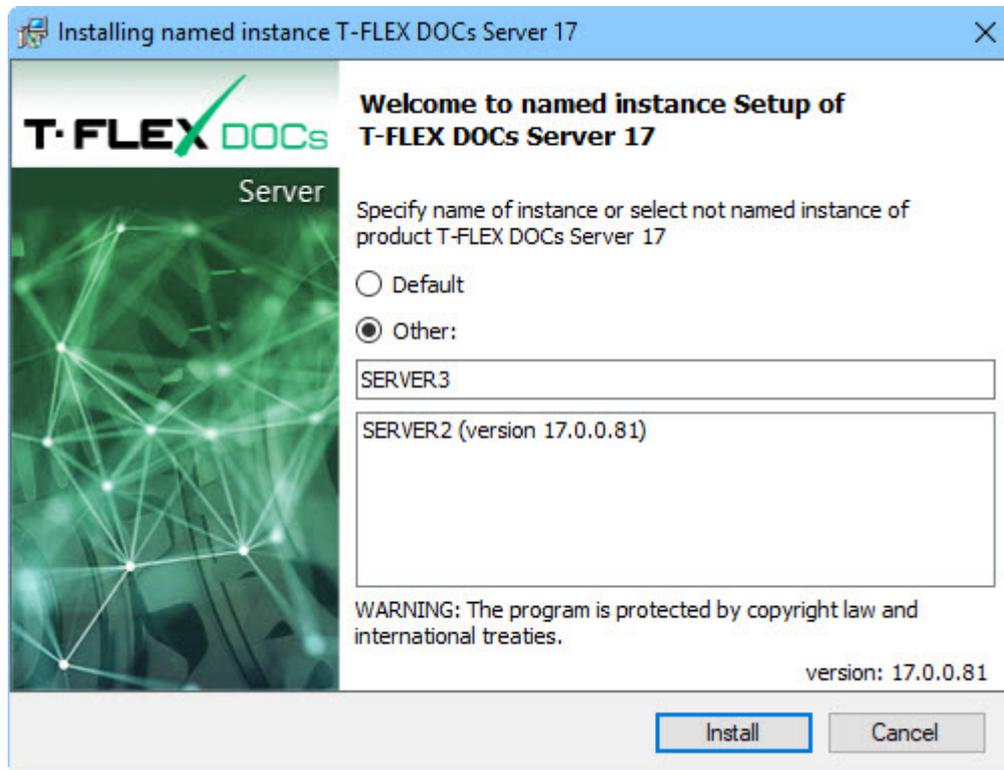
If necessary, user can install and simultaneously work with several versions of T-FLEX DOCs, as well as several instances for one version. In this case, for several instances of T-FLEX DOCs back-end either one or several instances of Microsoft SQL Server database instances can be used. Similarly, one computer can have several T-FLEX DOCs versions installed and each version can use its instance of database, applications server, file server and notifications server.

Usage of several Microsoft SQL Server instances requires certain memory space, therefore it is recommended to use one Microsoft SQL Server instance for several instances of T-FLEX DOCs back-end.

To install new T-FLEX DOCs instance run **setup.exe** file from the "T-FLEX DOCs Server" folder on the installation disc.

T-FLEX DOCs back-end instances installed to the computer operate independently. Their uniqueness is provided via various numbers of ports, database servers' names, folders and partitions of file servers. It is allowed to install several T-FLEX DOCs versions and instances simultaneously. If several versions are required to be installed on one computer (e.g. T-FLEX DOCs 15 and T-FLEX DOCs 17), it is recommended to install each version with its separate instances with different ports and names of servers.

In the opened installation dialog box user enters name of the T-FLEX DOCs back-end instance which is necessary to identify system versions installed on one computer.



If user selects “Default” option, T-FLEX DOCs server will be assigned with the default name. “Other” option allows to set T-FLEX DOCs server name manually. In case there are installed instances of T-FLEX DOCs, list with them will be displayed under the “Other” field. These instances can be selected from the list and updated.

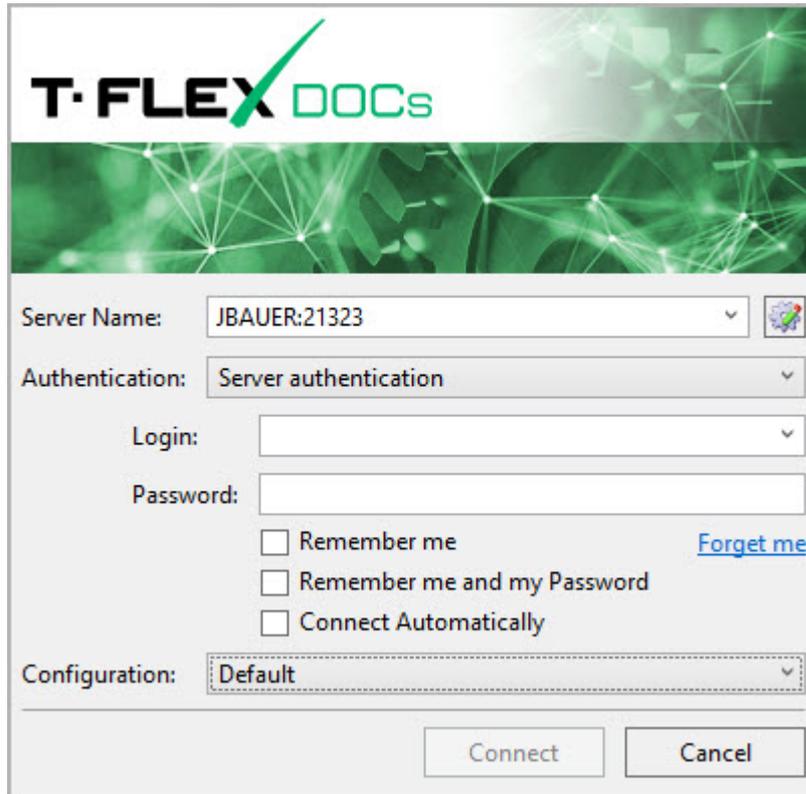
Name of an instance for each installed T-FLEX DOCs back-end must be unique even in case different versions are installed. In case two different versions of system are installed (e.g. T-FLEX DOCs 15 and T-FLEX DOCs 17) only one can be unnamed. Instance name can contain only Latin characters, numbers and underscore character.

Further sequence of actions is similar to installation and setup process for the system’s back end, the only difference being that user adds to all names, including installation folders, the name of set T-FLEX DOCs instance. Similarly, during setup of T-FLEX DOCs components the name of server instance will be by default added to the name of the database, as well as to the path for database files and back-up copies storage.

When user sets up T-FLEX DOCs server components, numbers of ports for file server and notifications sever for various system instances must be different.

When user runs front-end of T-FLEX DOCs instances, he/she enters name of the database and number of port to connect to applications server and divides them with a colon:

*<server name>:<port number>*.



The screenshot shows a connection dialog box for T-FLEX DOCs. The title bar features the T-FLEX DOCs logo and a green network background. The dialog contains the following fields and options:

- Server Name:** A dropdown menu with the value "JBAUER:21323" and a small globe icon to its right.
- Authentication:** A dropdown menu with the value "Server authentication".
- Login:** A text input field.
- Password:** A text input field.
- Remember me
- Remember me and my Password
- Connect Automatically
- [Forget me](#) (a blue hyperlink)
- Configuration:** A dropdown menu with the value "Default".

At the bottom of the dialog are two buttons: "Connect" and "Cancel".

If port is not set, it will be set by default. Name of the T-FLEX DOCs instance is not entered to run front-end.

## TRANSFER OF T-FLEX DOCs BACK-END FROM ONE SERVER TO ANOTHER

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To transfer T-FLEX DOCs back-end components (Microsoft SQL Server base and contents of file server) user should do the following:

1. Suspend T-FLEX DOCs back-end services at the initial server.
2. Disconnect T-FLEX DOCs database from the initial server.
3. Connect T-FLEX DOCs database to the target server.
4. Set up T-FLEX DOCs back-end components at the target server.

To transfer T-FLEX DOCs back-end, user must have:

- ✓ at the initial physical server – installed Microsoft SQL Server database server;
- ✓ at the initial and target physical servers – SQL Server Management Studio utility to manage database.

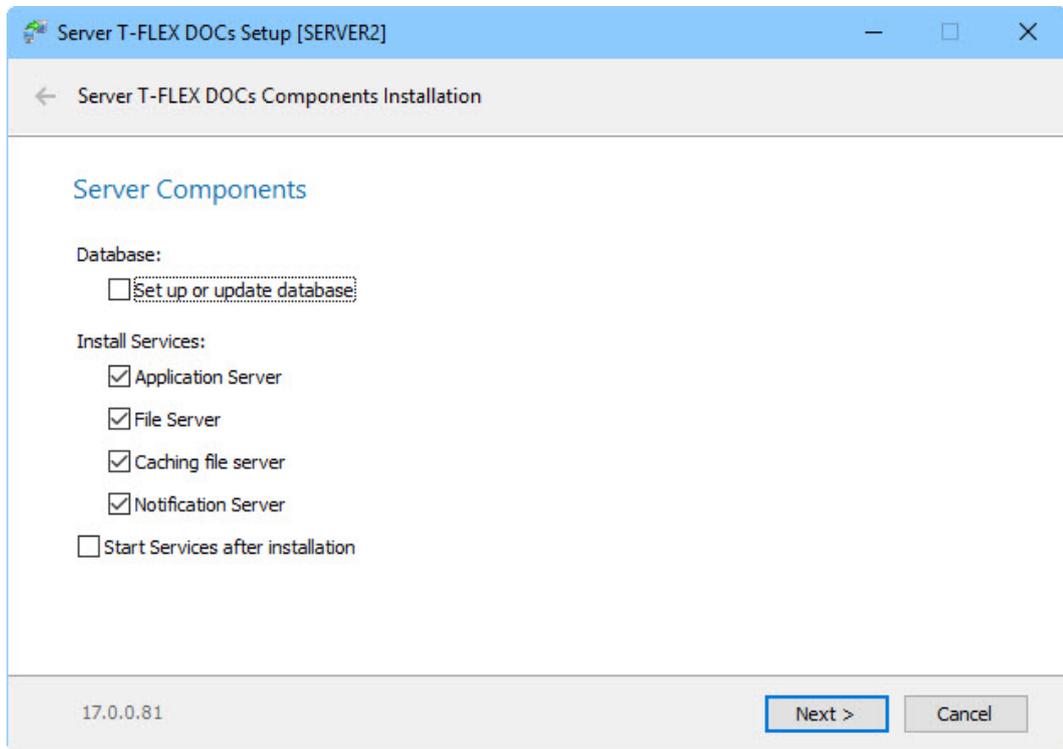
Prior to transfer of T-FLEX DOCs back-end user must close system's client applications and save all changes prior to closing.

### SUSPENDING T-FLEX DOCs SERVER SERVICES

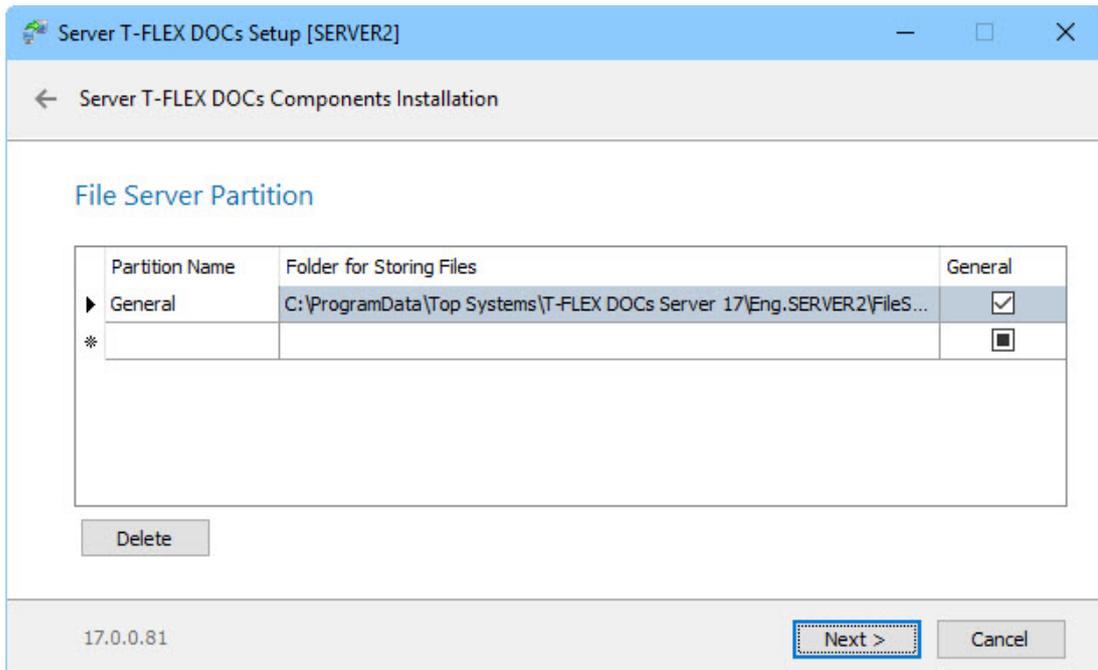
To suspend T-FLEX DOCs back-end services, at the initial server user must run setup of server components from the "All applications" section of Microsoft Windows:

*T-FLEX DOCs Server (name of server instance)\T-FLEX DOCs Server Setup.*

In the opened windows check boxes only next to server's services ("Applications server", "File server", "Caching file server", "Notifications server") and click **[Next]** button.



Then the procedure is similar to steps described in the paragraph “T-FLEX DOCs server components setup” of the chapter “Installation of T-FLEX DOCs back-end”. Pathways to folders of file server partitions should be remembered or written down.

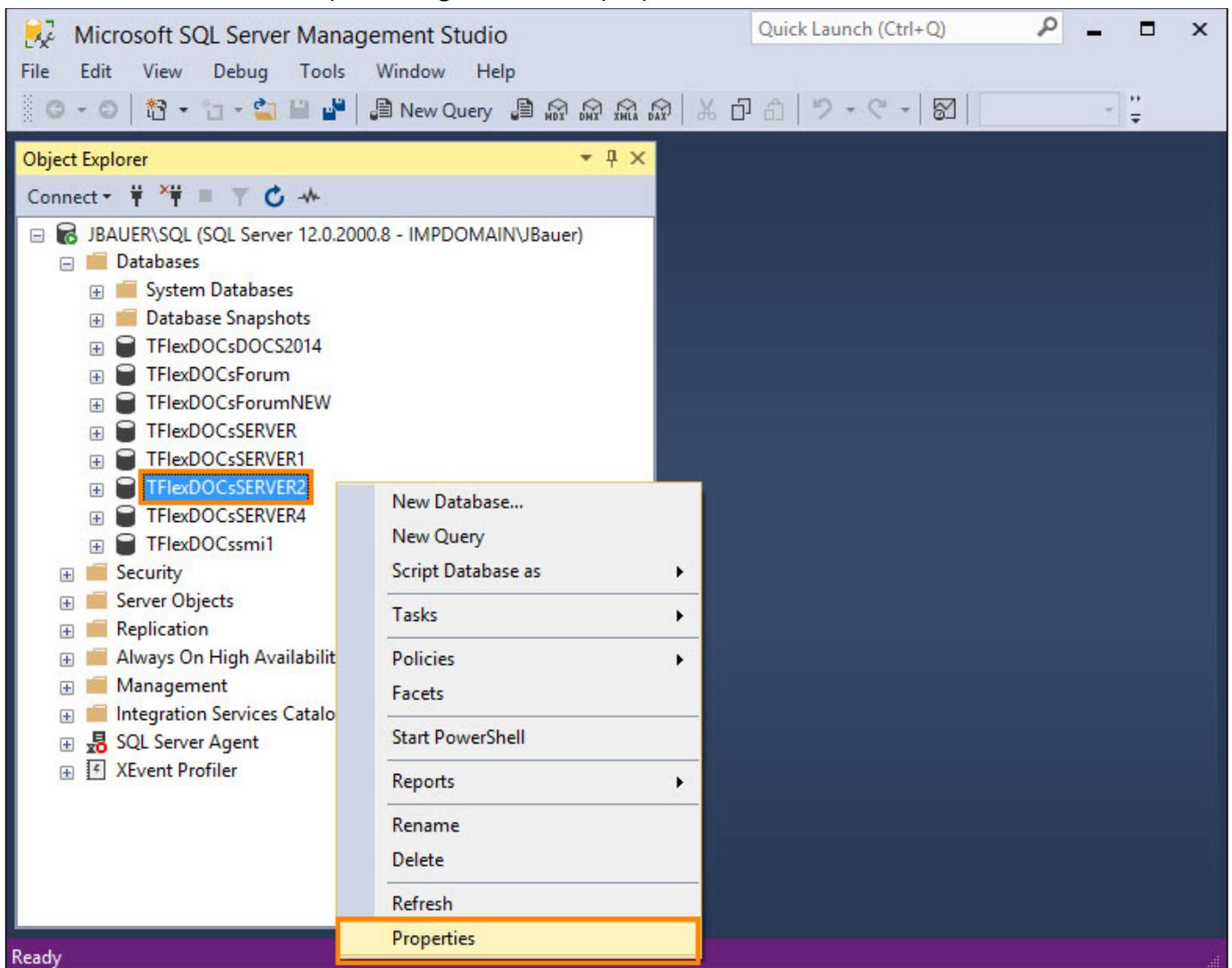


After the settings are implemented, the system starts to suspend back-end services. Upon the completion the system will display corresponding message in the final window.

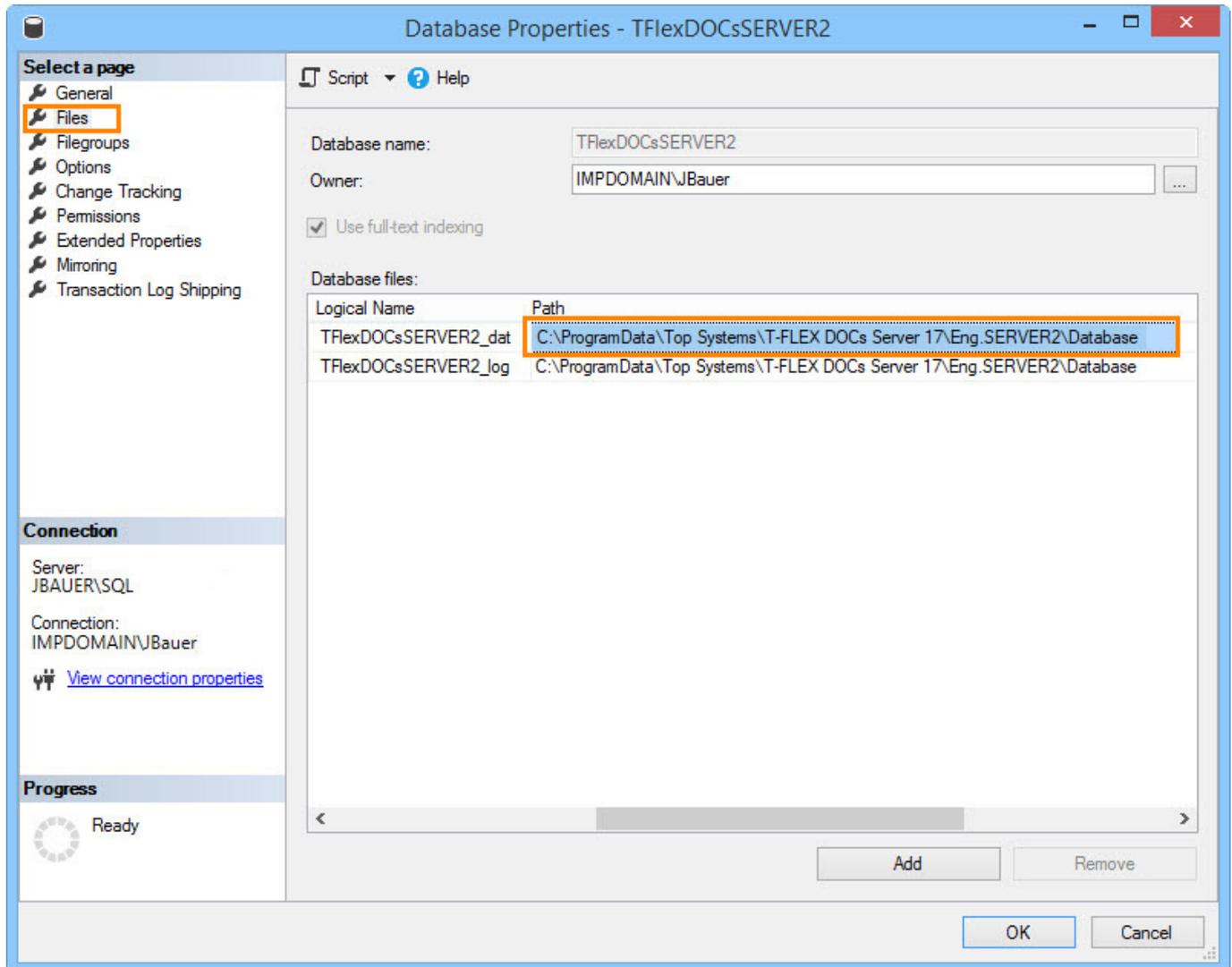
## DETACHING T-FLEX DOCs DATABASE FROM THE INITIAL SERVER

To detach database from the initial server, use SQL Server Management Studio utility tools. To disconnect database:

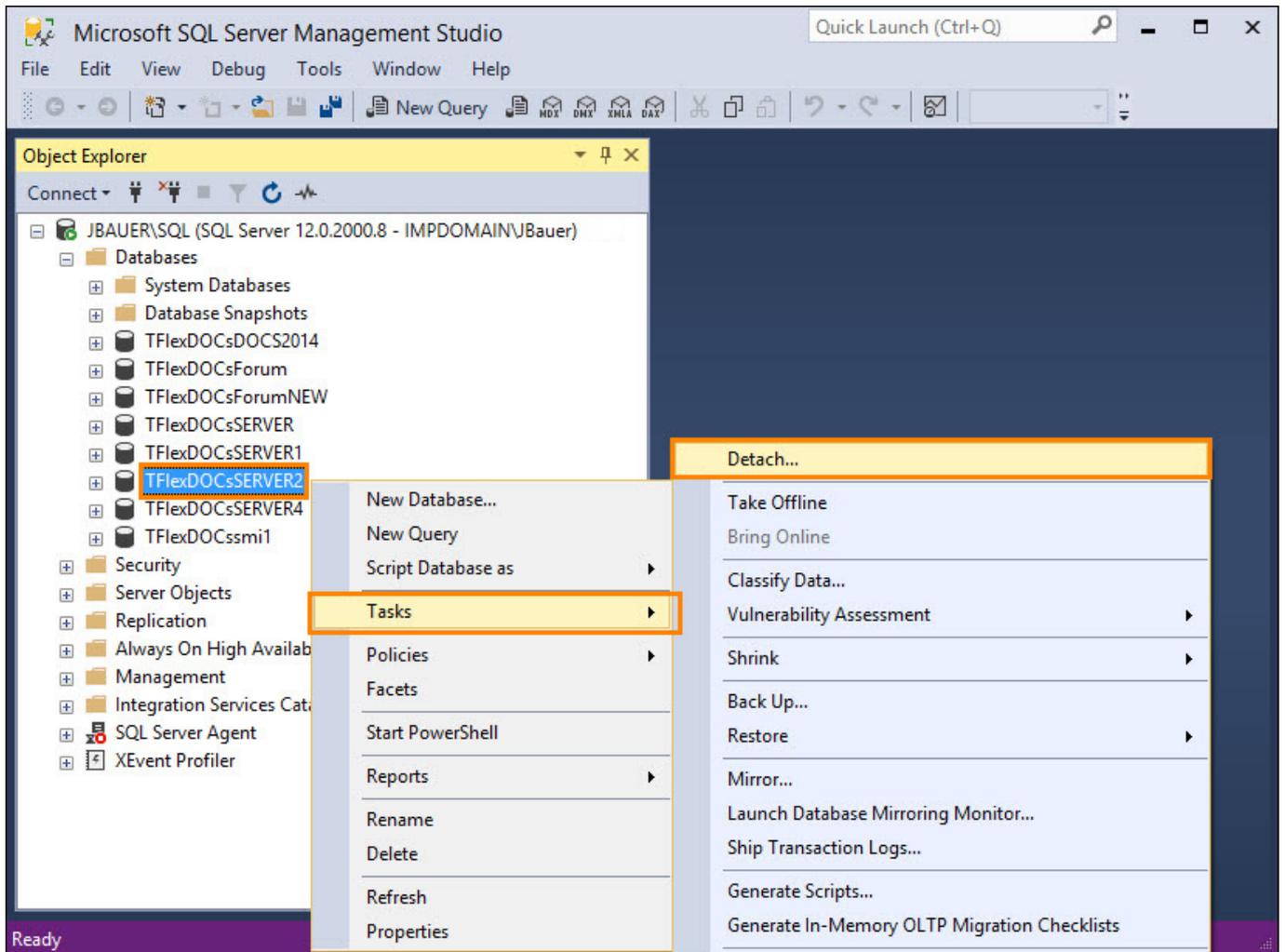
1. Run Microsoft SQL Server Management Studio as administrator.
2. In the "Databases" folder of the "Object Explorer" window select initial T-FLEX DOCs database to be transferred and open dialog box with its properties to find location of the database files:



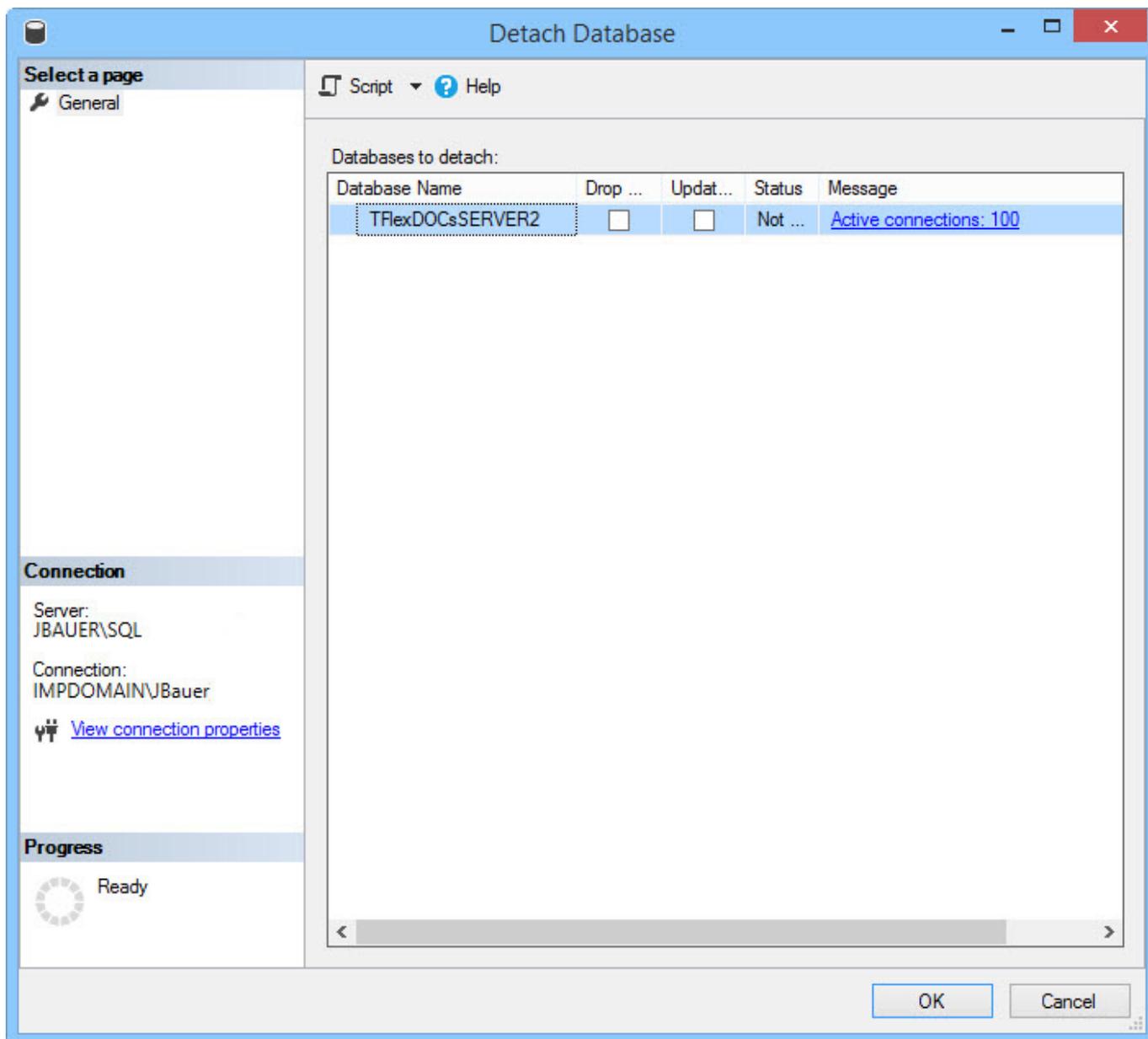
3. In the left menu of the window select "Files" option. In this case information about database files will be displayed in the right part of the window. Pathway to the database file should be remembered or written down.



4. In the right-click menu of the initial database select option **Tasks > Detach**.



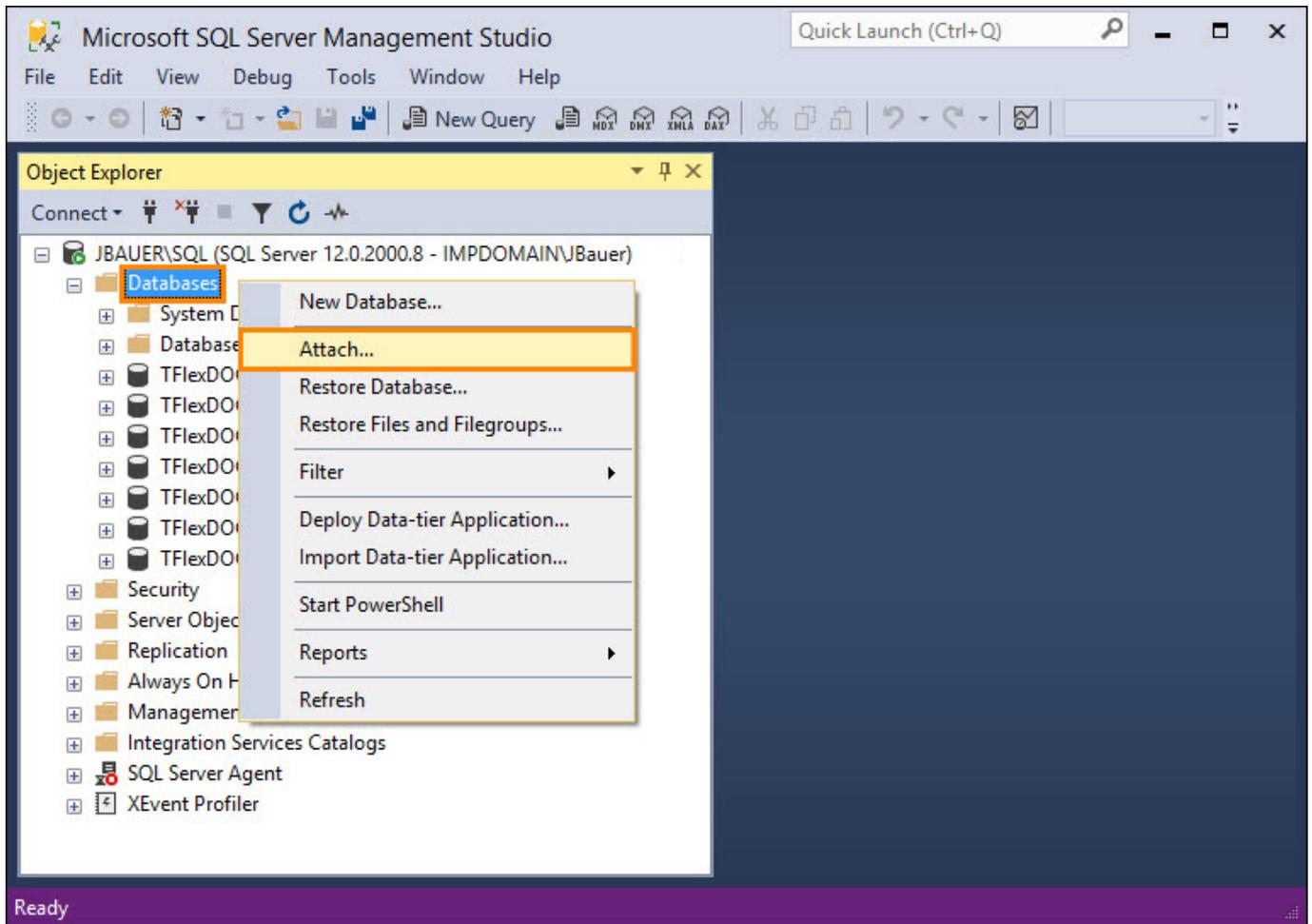
In the opened dialog box, the system will display the name of the selected database. To detach it from Microsoft SQL Server, click [OK] button.



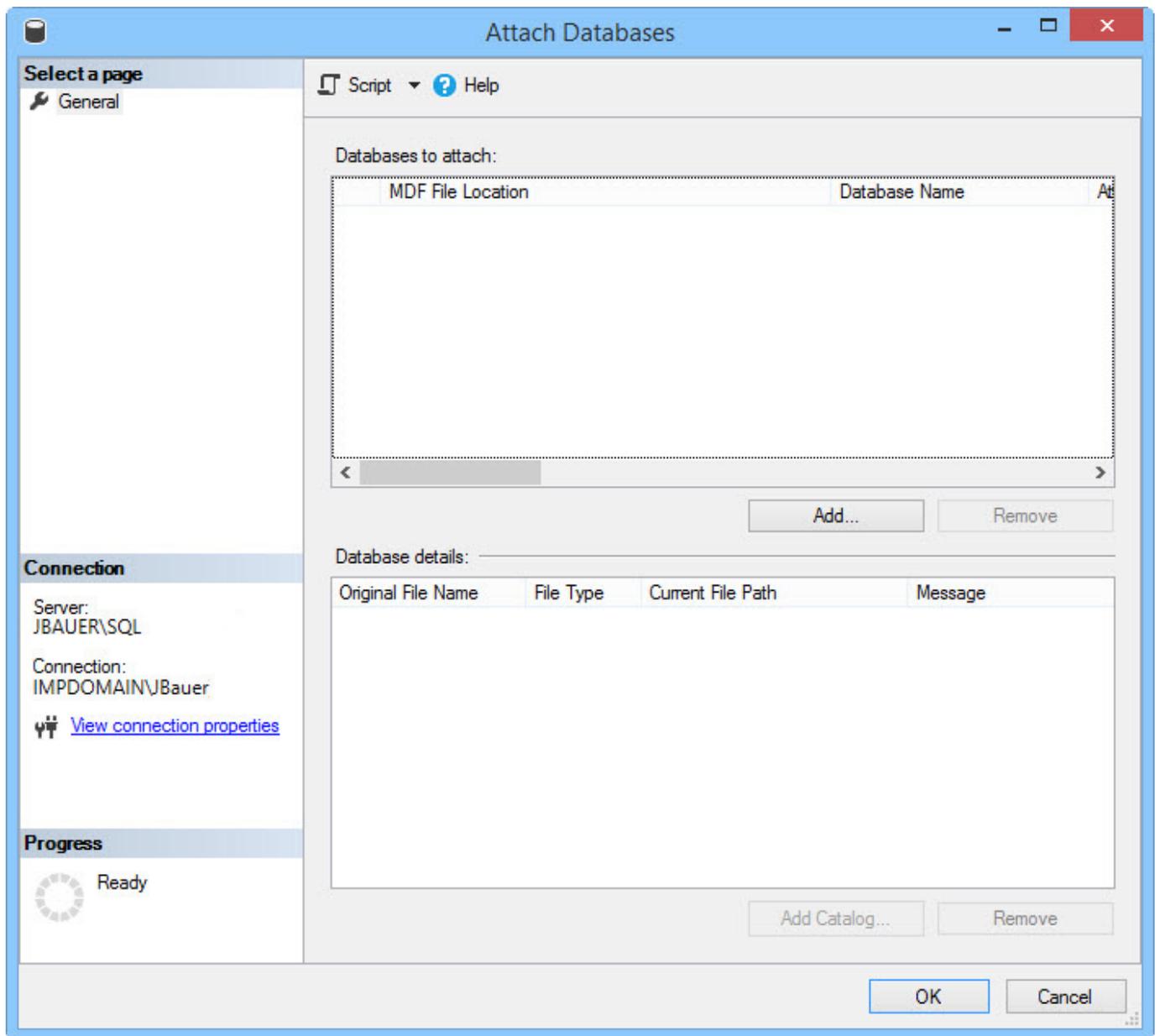
## ATTACHING T-FLEX DOCs DATABASE TO THE TARGET SERVER

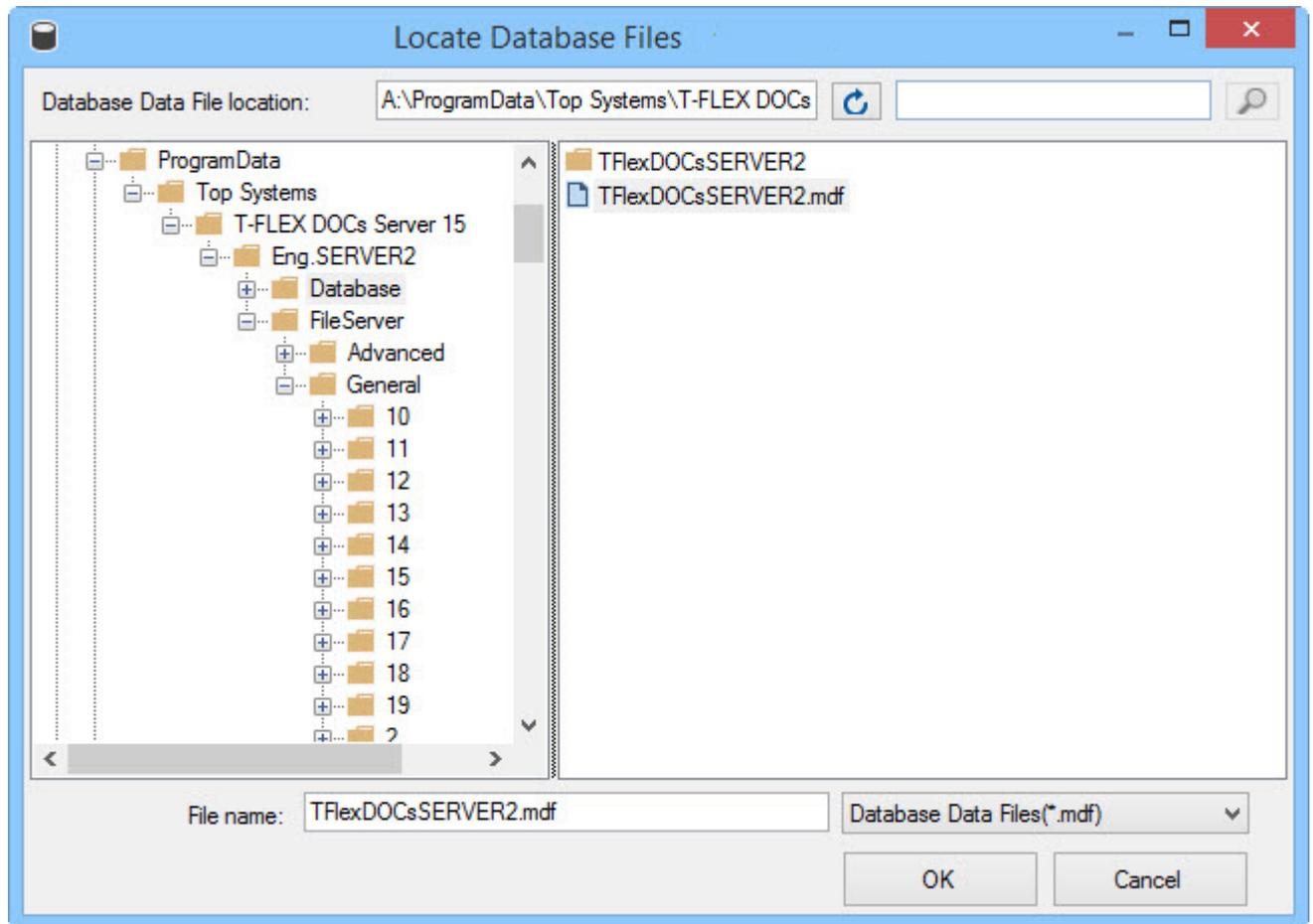
To attach database to the target server, also use SQL Server Management Studio utility tools. To connect a database:

1. Copy files of the database and folders with file server partitions' contents to the target server.
2. Run Microsoft SQL Server Management Studio at the target physical server as administrator.
3. In the right-click menu of the "Database" folder ("Object browser" window) select **Attach** option.

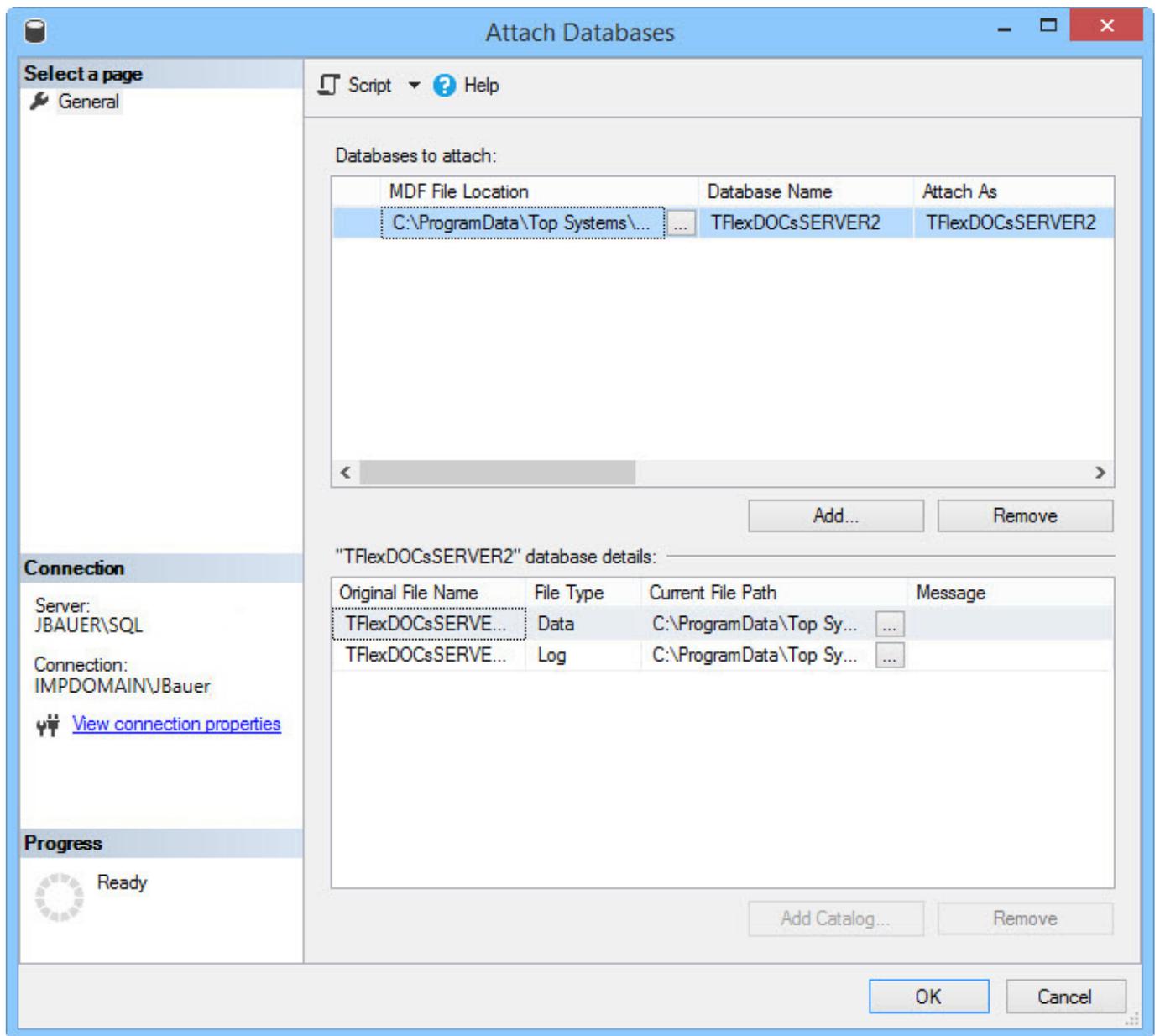


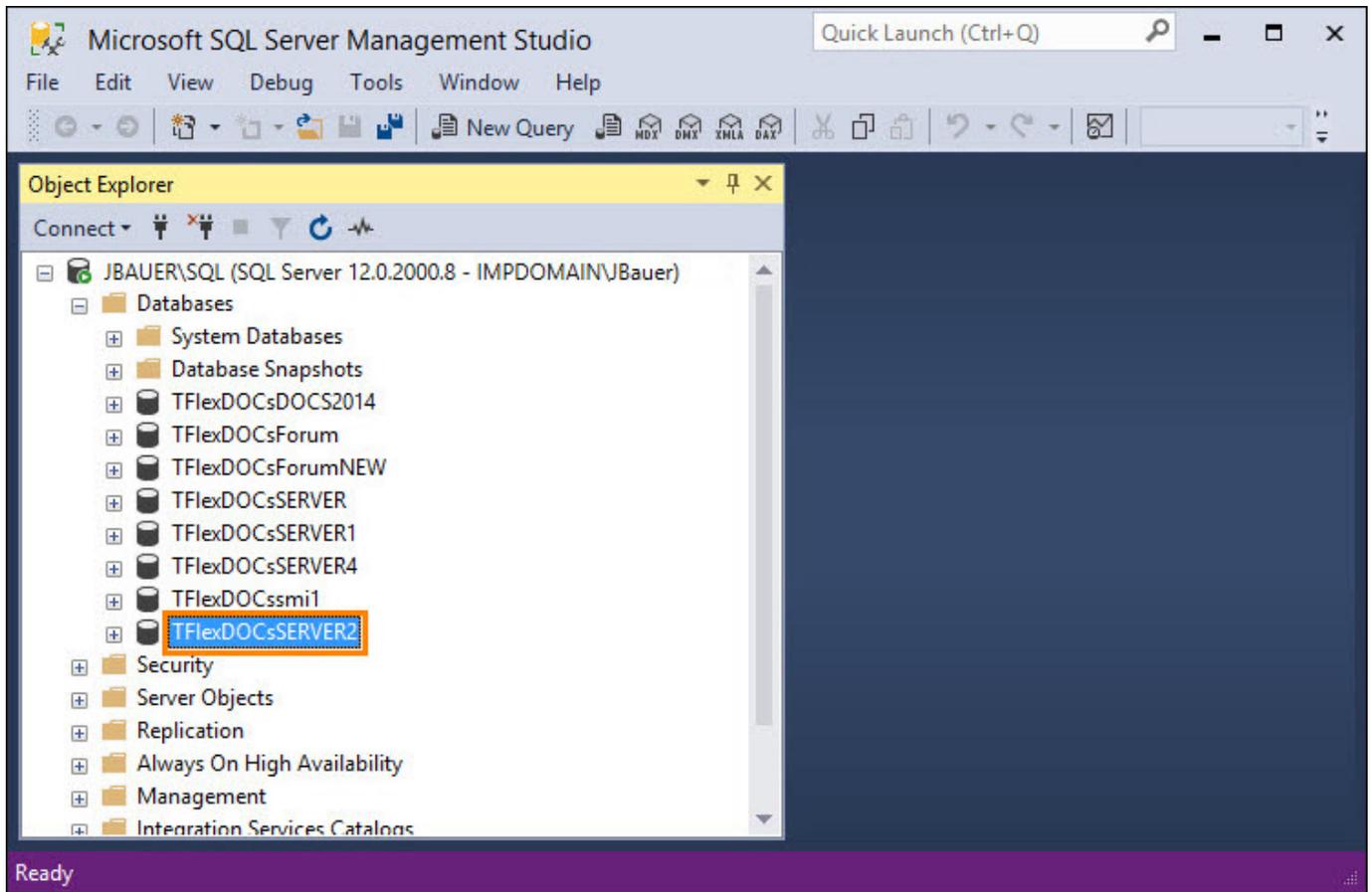
4. In the opened window click **[Add]** button for “Databases to attach” and select pathway for the copied database file.





After file pathway is entered, database will appear in the list of the "Database details" list. After its connection is confirmed by clicking [OK] button, it will appear in the "Databases" folder of the "Object Explorer" window.



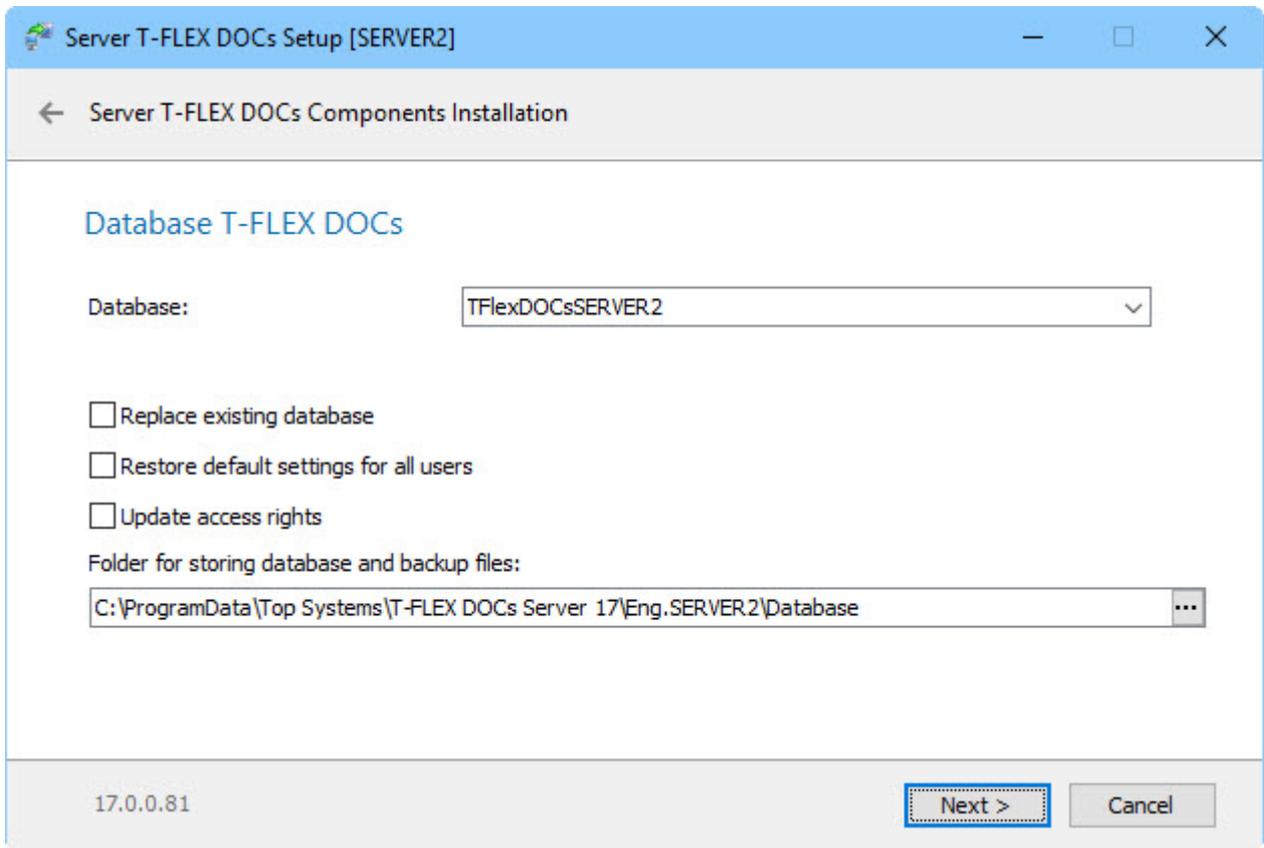


## SETUP OF T-FLEX DOCs BACK-END COMPONENTS AT THE TARGET SERVER

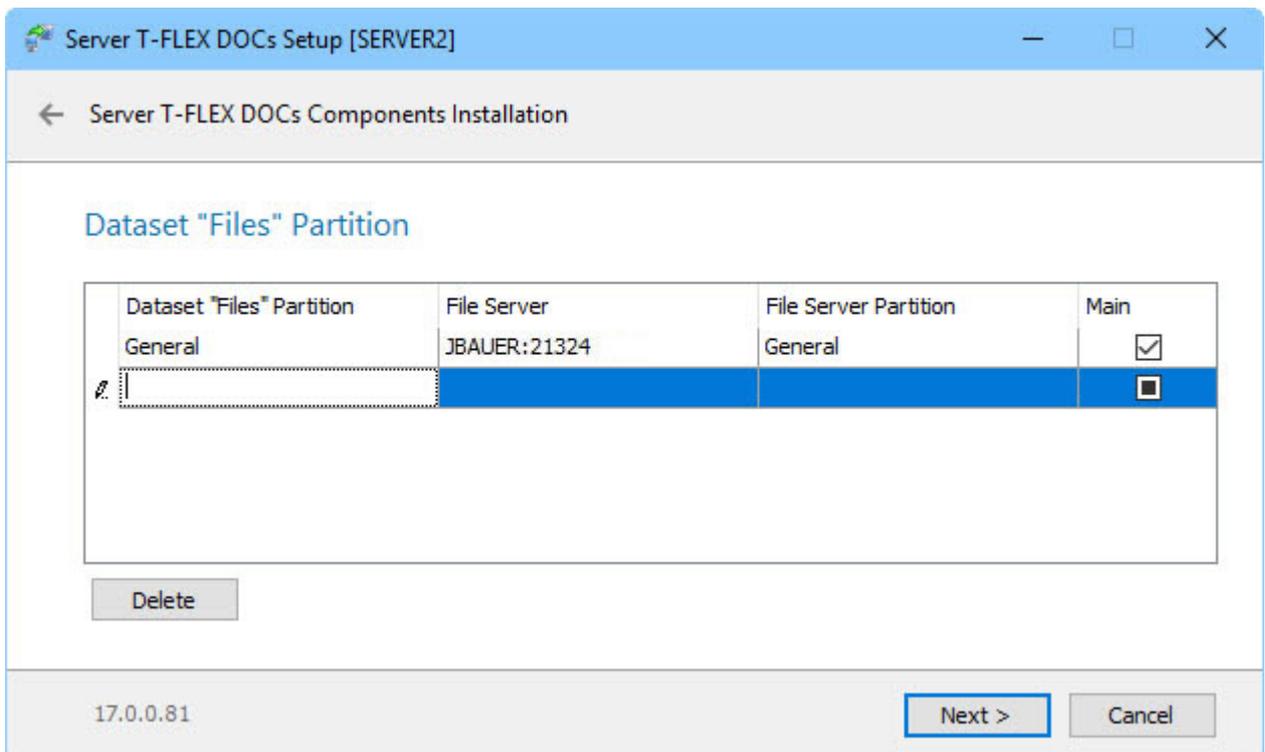
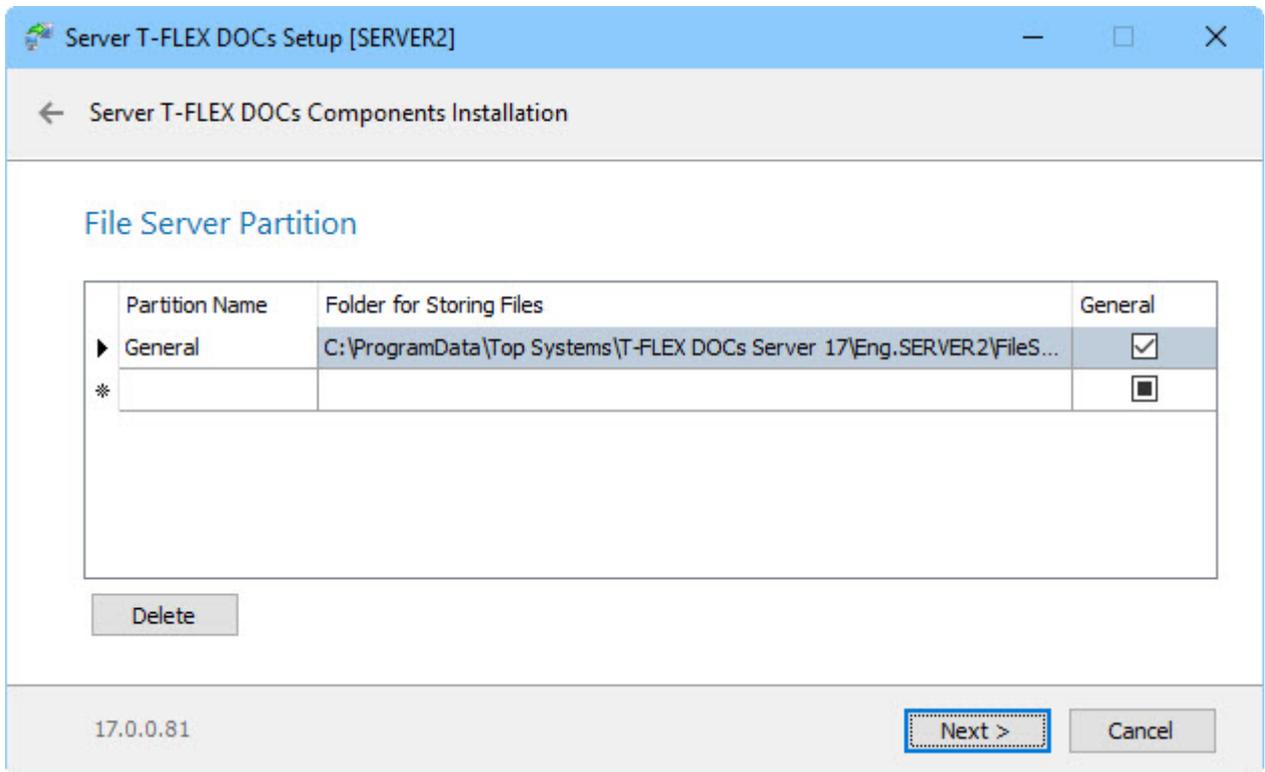
After T-FLEX DOCs database is connected to the target physical server, it is necessary to install the system's back-end to it and set up its components.

Installation and setup of T-FLEX DOCs back-end process is executed in compliance with guidelines provided in the chapter "Installation of T-FLEX DOCs back-end".

In the settings of database parameters, in the "Database" field select connected database from the drop-down list.



During setup of file server user should set pathways to the copied folders with file server partitions contents, as well as set up dataset "Files" partitions.



Parameters of the "Dataset "Files" partition" dialog box are described in the paragraph "T-FLEX DOCs server components setup (Step 8)" of the chapter "Installation of T-FLEX DOCs back-end".

After setup of T-FLEX DOCs back-end components is complete for the target physical server, transferred database becomes available. To connect to it, enter the name of the target sever in the T-FLEX DOCs client applications.