WEBCON

WEBCON BPS
Standalone installation

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WEBCON

1. Prerequisites

WEBCON BPS provides different installation methods that address different platforms and user needs. This document contains a description of **Standalone** installation variant based on IIS website using the Active Directory as a user authentication provider.

1.1. Required software

- Windows Server 2016 or newer with active WEB Server (IIS) role and Windows Authentication. It is recommended to enable the Dynamic Content Compression function on the server.
- .NET Framework 4.7.2.
- ASP.NET Core Runtime 9.0 Windows Hosting Bundle.
- MS SQL Server 2019 or newer (with installed full-text search component).
- Configured Windows Active Directory or Microsoft Entra ID environment.
- Microsoft Edge WebView2 (on computers on which the WEBCON BPS Designer Studio application will be installed).
- Java 11 or higher (recommended distribution is OpenJDK).
- Portal Certificate where the domain name matches the desired Portal URL. The certificate will be necessary for the HTTPS binding during IIS website creation.

1.2. Required hardware

The document discusses two basic hardware configurations which depend on expected environment workload.

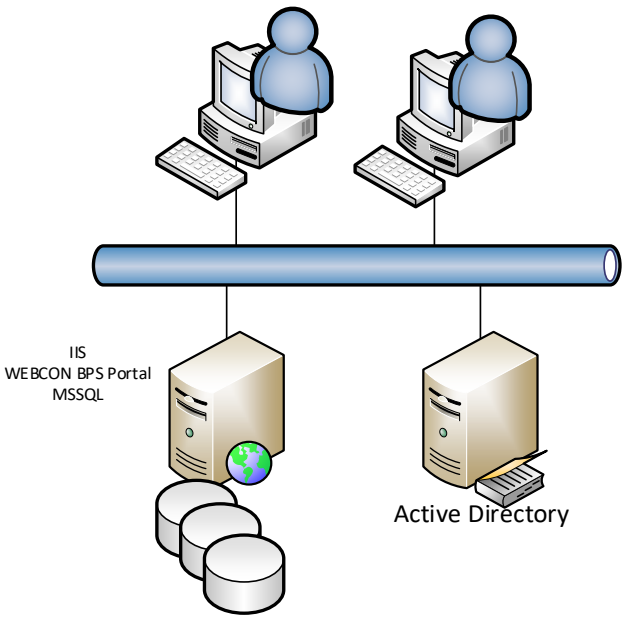
Minimum installation – for tests, demonstrations, or potentially small production environments (up to 20 users),

Recommended installation – for production environments.

1.2.1. Minimum installation ("all-in-one installation")

For the purpose of the minimum installation, the WEBCON BPS platform can be run on a single machine that meets the following requirements:

- Windows Server 2016 or newer with activated WEB Server (IIS) role and Windows Authentication,
- .NET Framework 4.7.2.
- ASP.NET Core Runtime 9.0 Windows Hosting Bundle.
- MS SQL Server 2019 Express or newer (with installed full-text search component).
- Configured Windows Active Directory or Microsoft Entra ID environment.
- Microsoft Edge WebView2 (on computers on which the WEBCON BPS Designer Studio application will be installed).
- Java 11 or higher (recommended distribution is OpenJDK)



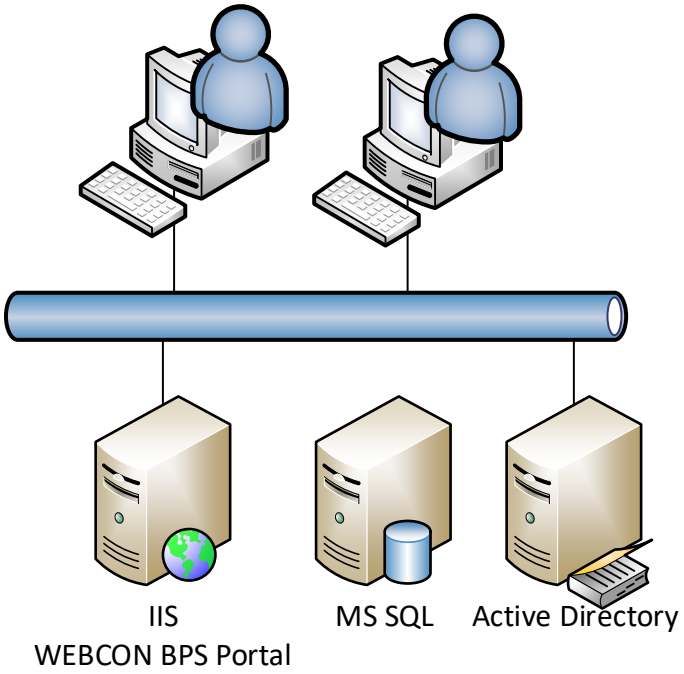
The recommended installation should meet at least the parameters specified in the table below.

Installation scenario	RAM	Processor	Disk space
Single server with a built-in database or a single, SQL-Server-based server	20 GB	64-bit, 4 cores	160 GB for system drive, database, and search indexing

Note:
Using MS SQL Express as a database engine limits the database size to 10 GB. It is not recommended to use the abovementioned installation for production environments with more than 20 users.

1.2.2. Recommended installation (recommended hardware configuration)

In the recommended installation scenario, the WEBCON BPS platform should operate on two independent servers: one for the MS SQL Server database engine, and the other one for the WEB IIS server and WEBCON BPS Portal.



The tables below specify the recommended parameters for both servers.

Database server

System	Database	Processor	RAM	Disk space
Windows 2016	SQL 2019 Server Standard	64-bit, 4 cores	32 GB (minimal); 1/3 of the database size (optimal)	- The space for system files (RAID1): 140 GB - Fast HDD for the tempdb database: 100 GB - Fast HDD disk (RAID10) for files (the size depends on the number of workflow instances): 200 GB

WEB Server (IIS)

System	Processor	RAM	Disk space
Windows 2016	64-bit, 4 cores	8 GB (minimal); 16 GB (recommended)	The space for system files (RAID1): 140 GB

Note:

All WEBCON BPS platform components – except the database – are installed on the WEB (IIS) server.

1.3. Installation account

During installation, a local service is created on the server hosting the WEBCON BPS platform. The platform databases are created on the SQL Server.

The account used for the WEBCON BPS system installation must:

- hold administrator privileges on the server on which WEBCON BPS is installed,
- have **sysadmin** privileges on the SQL server on which the WEBCON BPS databases are installed (for the Windows Authentication and the SQL Server Authentication account).
  (It may be sufficient to have the **securityadmin** and **dbcreator** privileges. The SQL Server and database logins will be created and then assigned to databases.)

1.4. Required Windows accounts

Prior to running installation create two accounts:

- a dedicated account for the WEBCON BPS service, e.g. DOMAIN\svc.bps.
  The account must have the "Logon as a Service" permission,
- a dedicated account for the IIS server application pool – WEBCON BPS Portal, e.g. DOMAIN\pool.bps.
  The account must have the "Logon as a batch job" permission.

1.5. Required SQL Server accounts

If you use the **Windows Integrated Mode** for connecting WEBCON BPS Portal with the database and for connecting WEBCON BPS Workflow Service with the database:

- create a new SQL Server login for the WEBCON BPS service account using Windows Authentication (e.g. DOMAIN\svc.bps),
- create a new SQL Server login for the IIS server application pool using Windows Authentication (e.g. DOMAIN\pool.bps).

If you use the **SQL logins** for connecting WEBCON BPS Portal with the database and for connecting WEBCON BPS Workflow Service with the database:

- SQL Server **must** use the **Mixed Mode**,
- create an SQL Server login which is to be used for the WEBCON BPS Workflow Service **and** the IIS server application pool.

The logins can be created during the installation of the WEBCON BPS platform If at that moment the user holds required privileges to the SQL server.

The WEBCON BPS installer grants public and **db_owner** privileges to the abovementioned accounts to the WEBCON BPS platform databases created during the WEBCON BPS installation.

2. WEBCON BPS installation

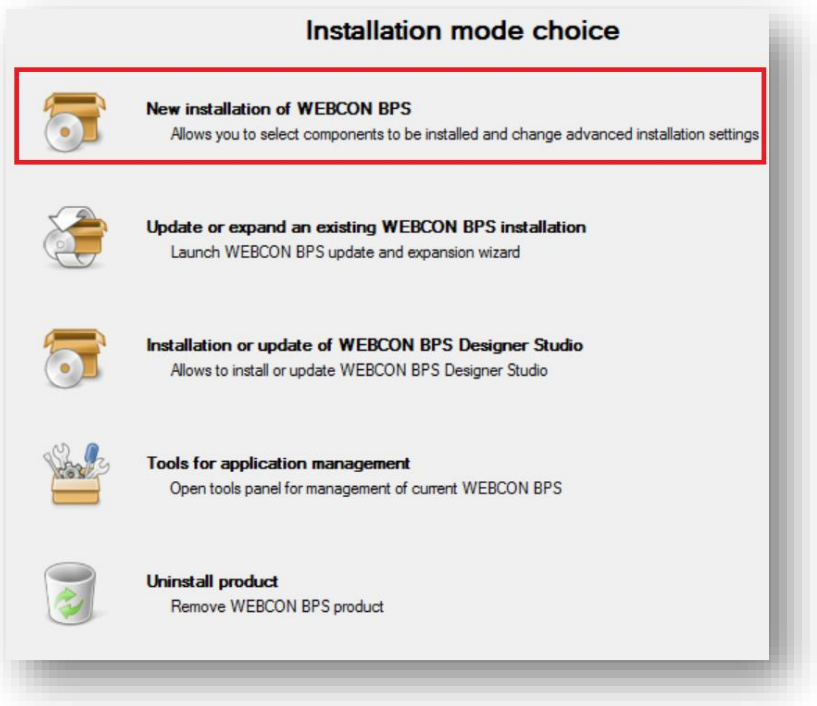
If the planned installation uses user synchronization and authentication based on Active Directory (On-premises), the server on which the WEBCON BPS platform will be installed must belong to the Active Directory domain.

After downloading and unpacking the WEBCON BPS platform installer, run the **setup.exe** file. To start the installation, accept the software license agreement.

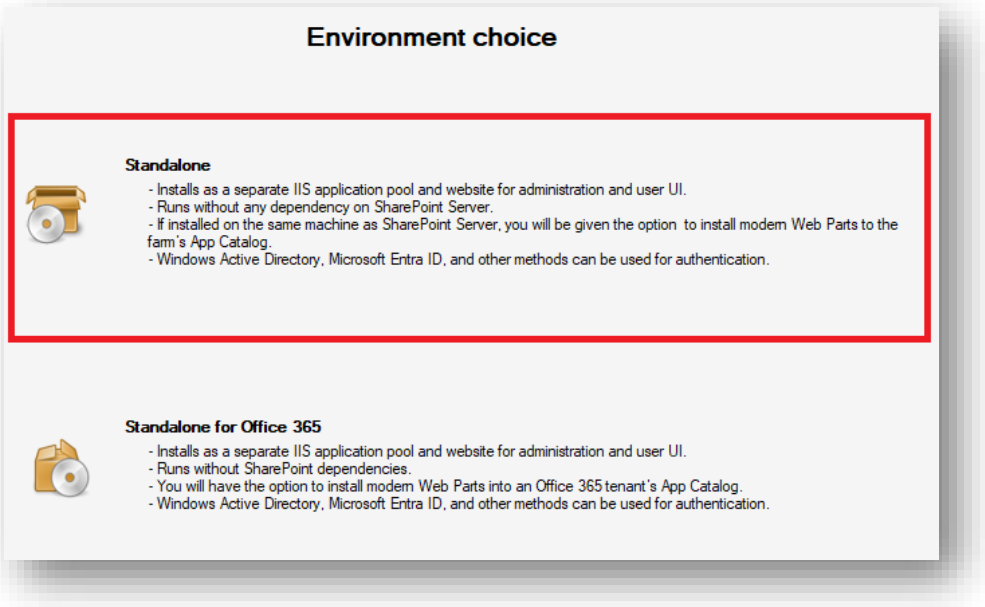
All installer steps are confirmed by clicking the **Next** button located in the bottom, right corner of the application window.

2.1. Selecting the installation mode

This document contains a description of the **Standalone** installation variant based on the WEB Server IIS. To run this type of installation, select the **New installation of WEBCON BPS**.

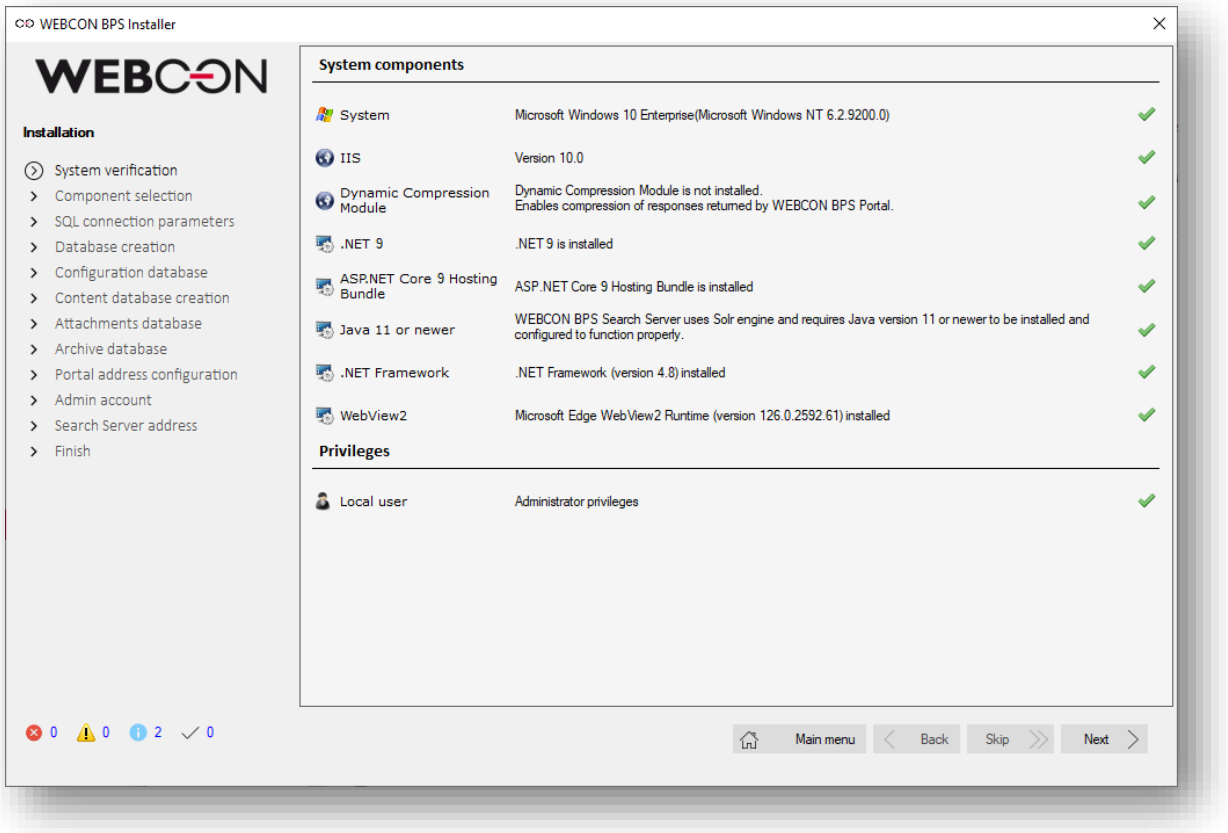


Select the **Standalone** option in the subsequent window.



2.2. System verification

Once you proceed to the next window, the installer checks automatically all the components required for the installation and verifies installer account privileges.

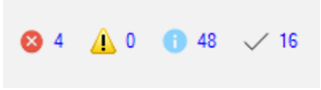


On the right side of each verified component, the installer displays graphically the test status.

– correct

– verification problem

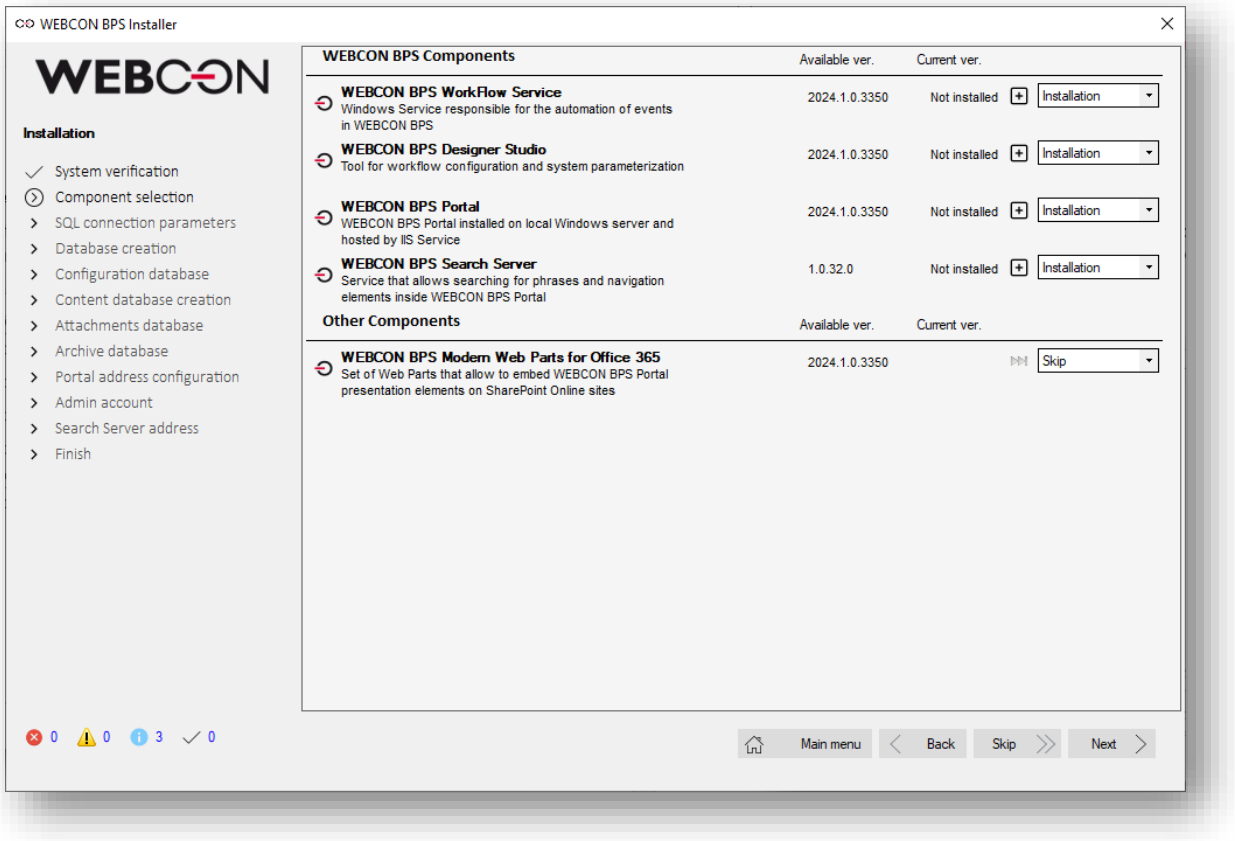
Additionally, you can access installer messages all the time in the bottom, left corner.



If there are no problems, click **Next**.

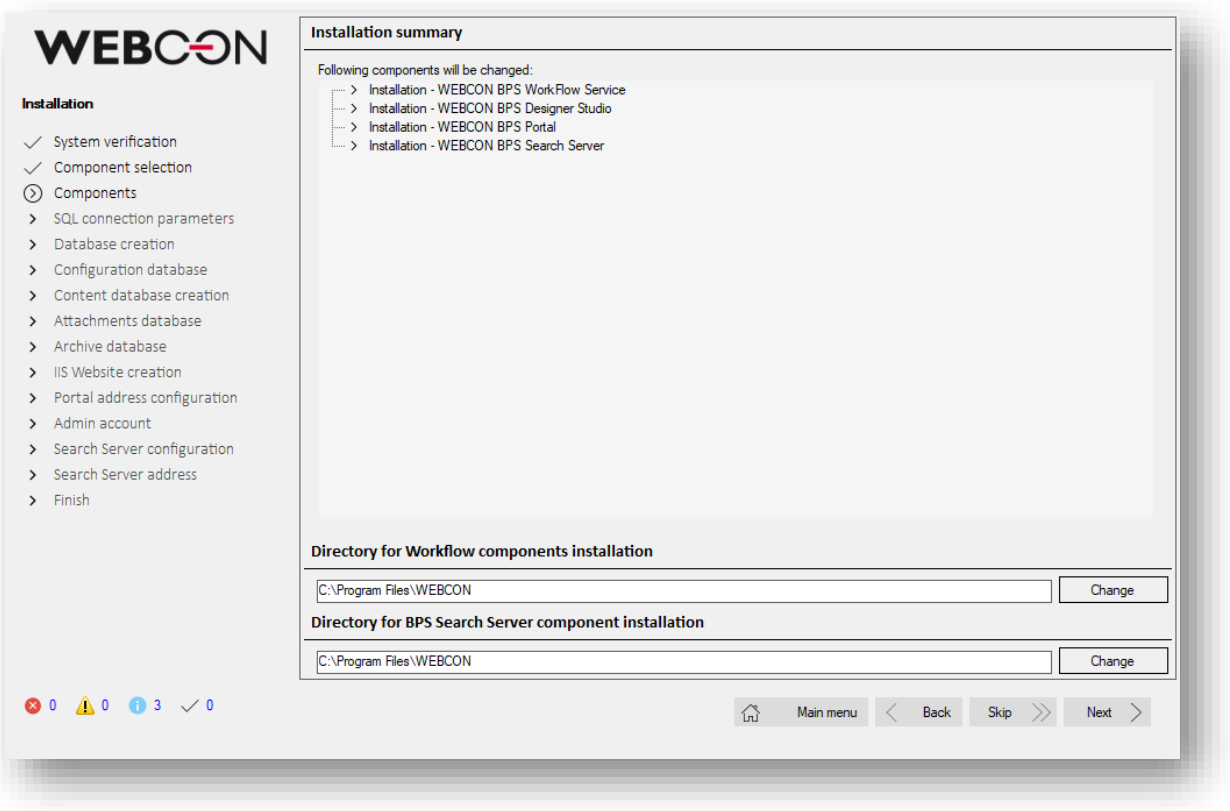
2.3. Selecting components

The installer presents a list of all components required for the installation. It is possible to change some components by selecting the **Skip** option from the menu on the right.



2.4. Installing components

The next window shows a summary of components to be installed. It is possible to specify the installation folders for the elements of the WEBCON BPS platform and components of the BPS Search Server.



Note:
A folder where the WEBCON BPS Search Server for the WEBCON BPS platform is installed also contains search index files. Therefore, it should be located on a disk providing sufficient free space for storing index files (approx. 20% of the WEBCON BPS platform volume).

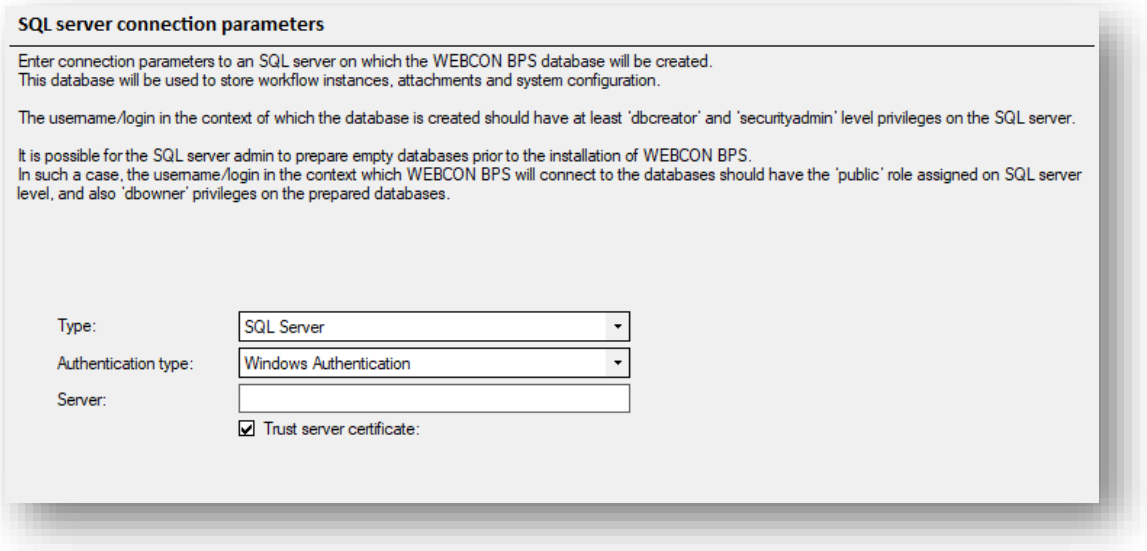
2.5. Creating and configuring SQL databases

The SQL databases for the WEBCON BPS platform are created in several installer steps. Prior to creating databases, define connection parameters for the SQL server and database creation parameters.

2.5.1. SQL server connection parameters

Enter the SQL server address in the **Server** field. It is recommended to use **Windows Authentication** and select the **Trust the server certificate** option.

The user must be able to create SQL databases.



2.5.2. Database creation parameters

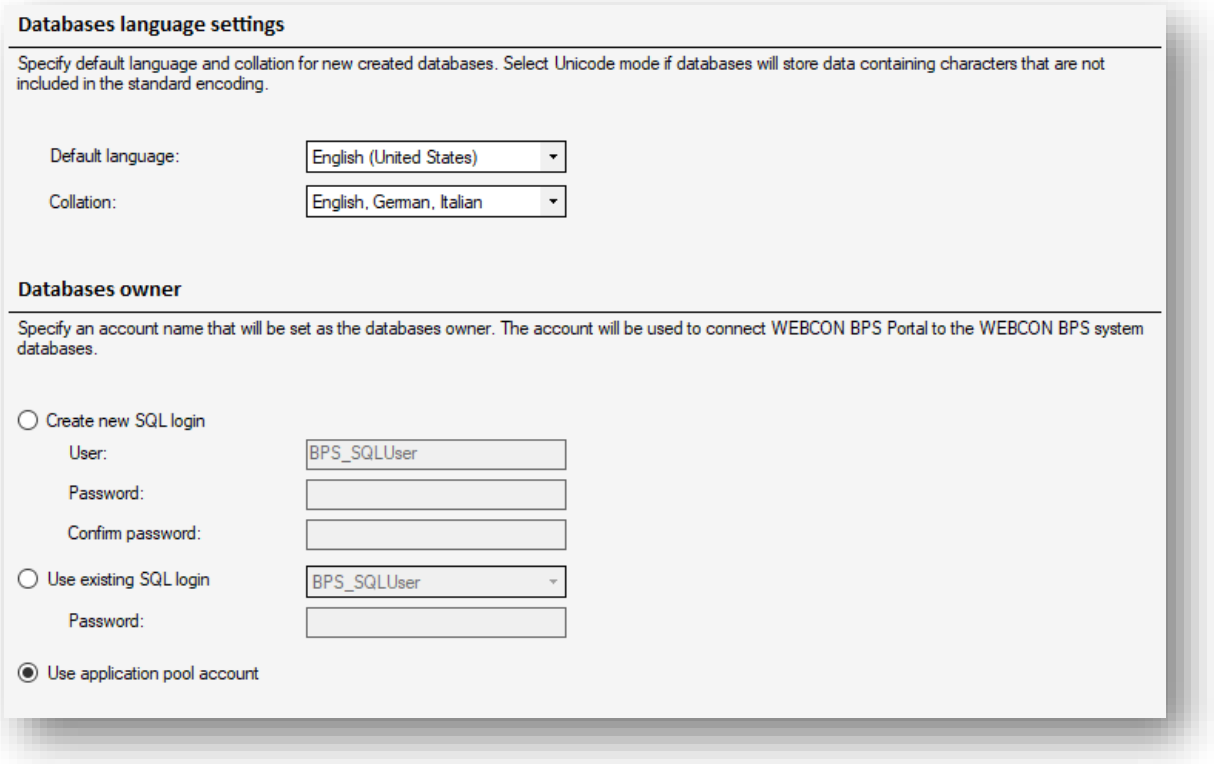
Databases language settings

This section allows you to select databases language and character encoding.

Databases owner

Select the account of a user with **db_owner** privileges in the created platform databases. The account will be used for connections between WEBCON BPS Portal and the system databases.

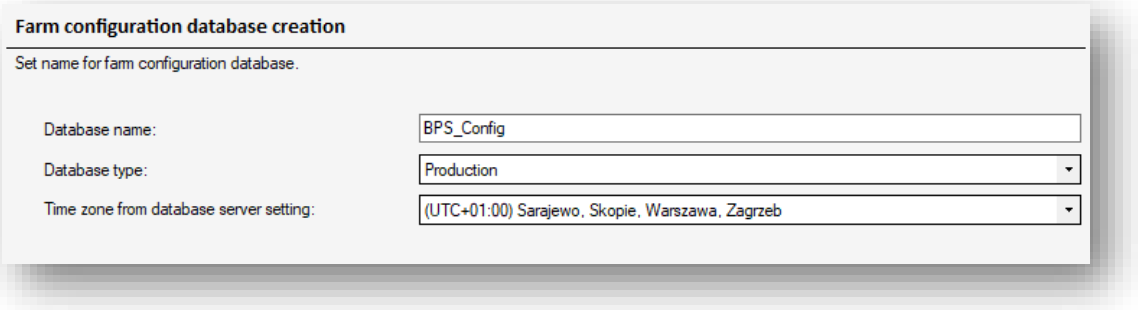
The installer allows you to create a new user, provide an existing SQL login, or use application pool user who will be defined in the subsequent installation steps.



2.5.3. Creating configuration database

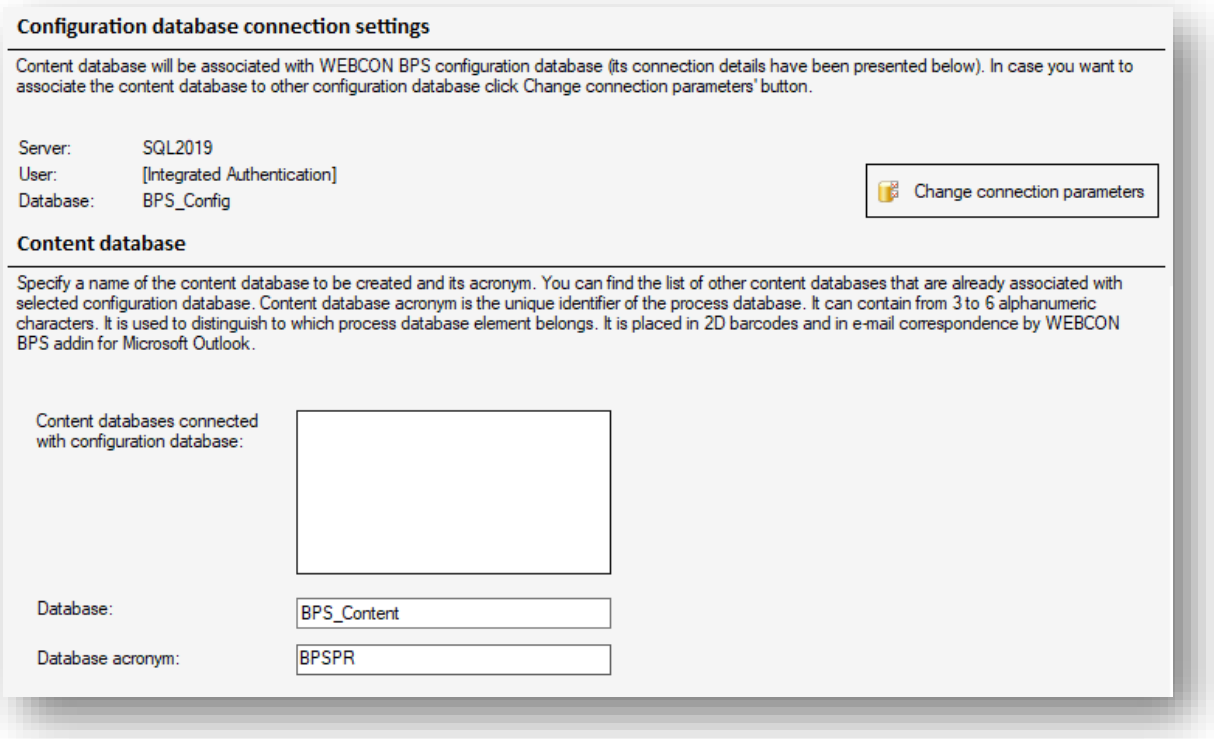
Enter the database name in the **Database name** field or use the default value BPS_Config. Next, specify its type in the **Database type** (production, testing, development).

The installer displays the time zone set on the database server.



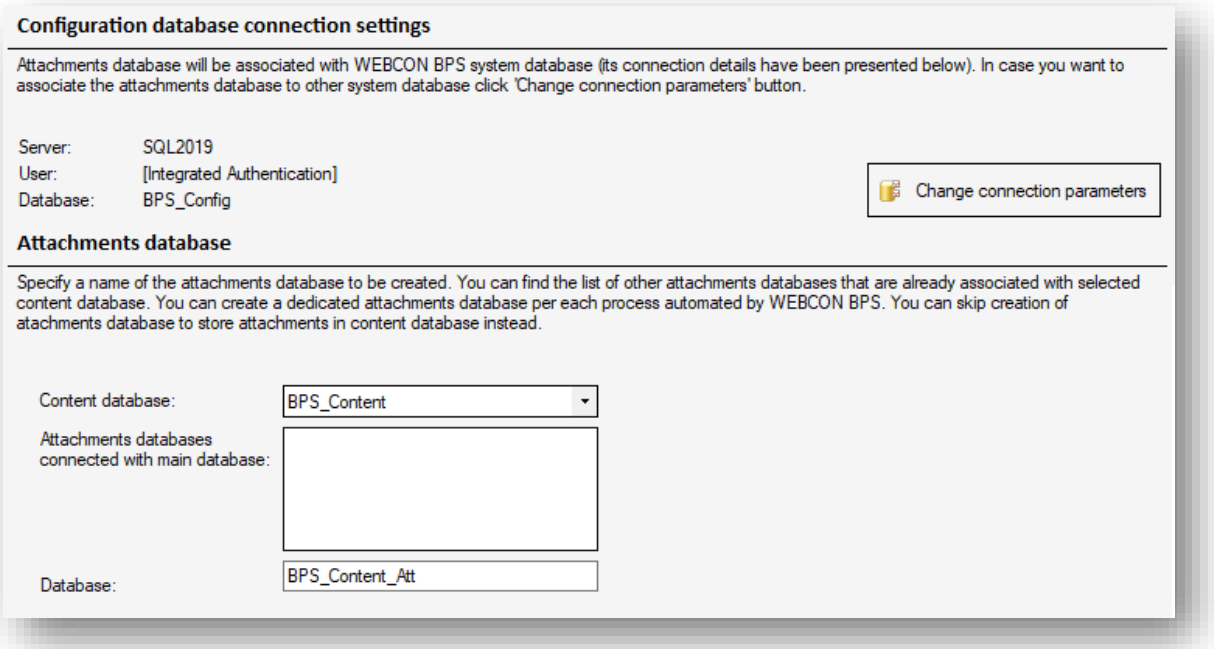
2.5.4. Creating process database

The process database contains all process metadata saved in the platform.
Specify the name and acronym for the database in the **Database name** and **Database acronym** fields respectively. The database acronym can contain only alphanumerical characters. The installer allows for creating one or multiple process databases.



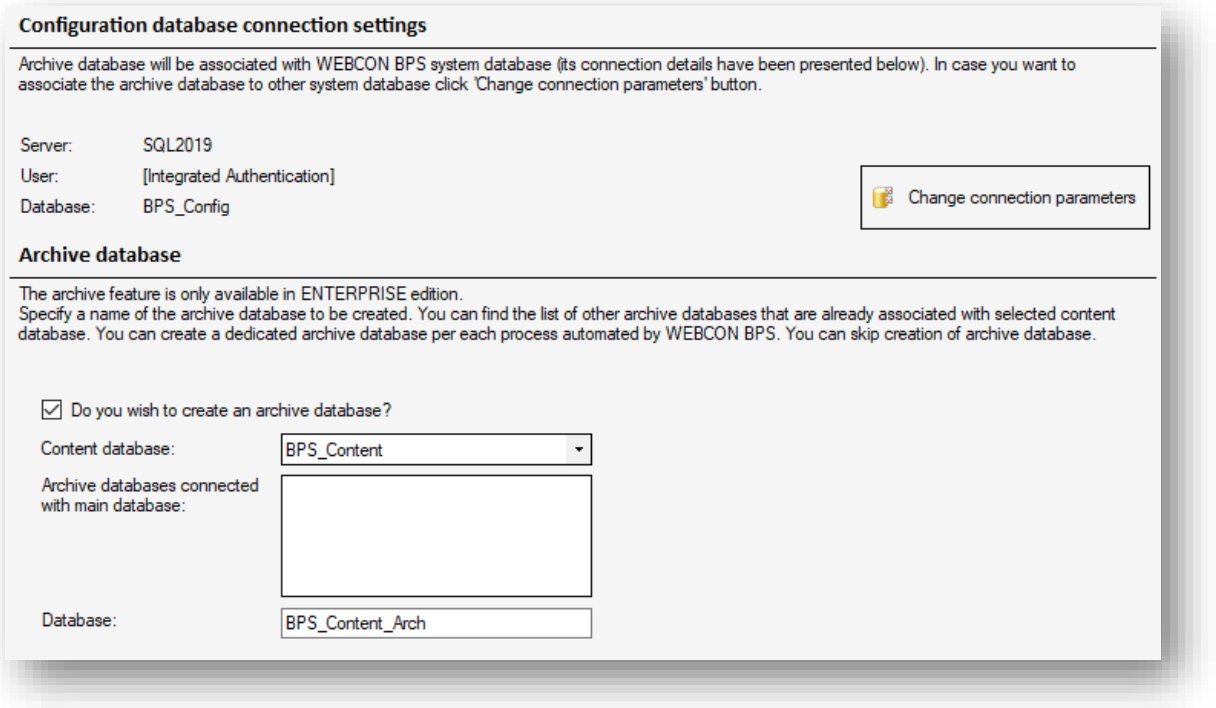
2.5.5. Creating attachment database

Like in the process database, specify the name of a new attachment database. The installer allows for creating one or multiple attachment databases.



2.5.6. Creating archive database

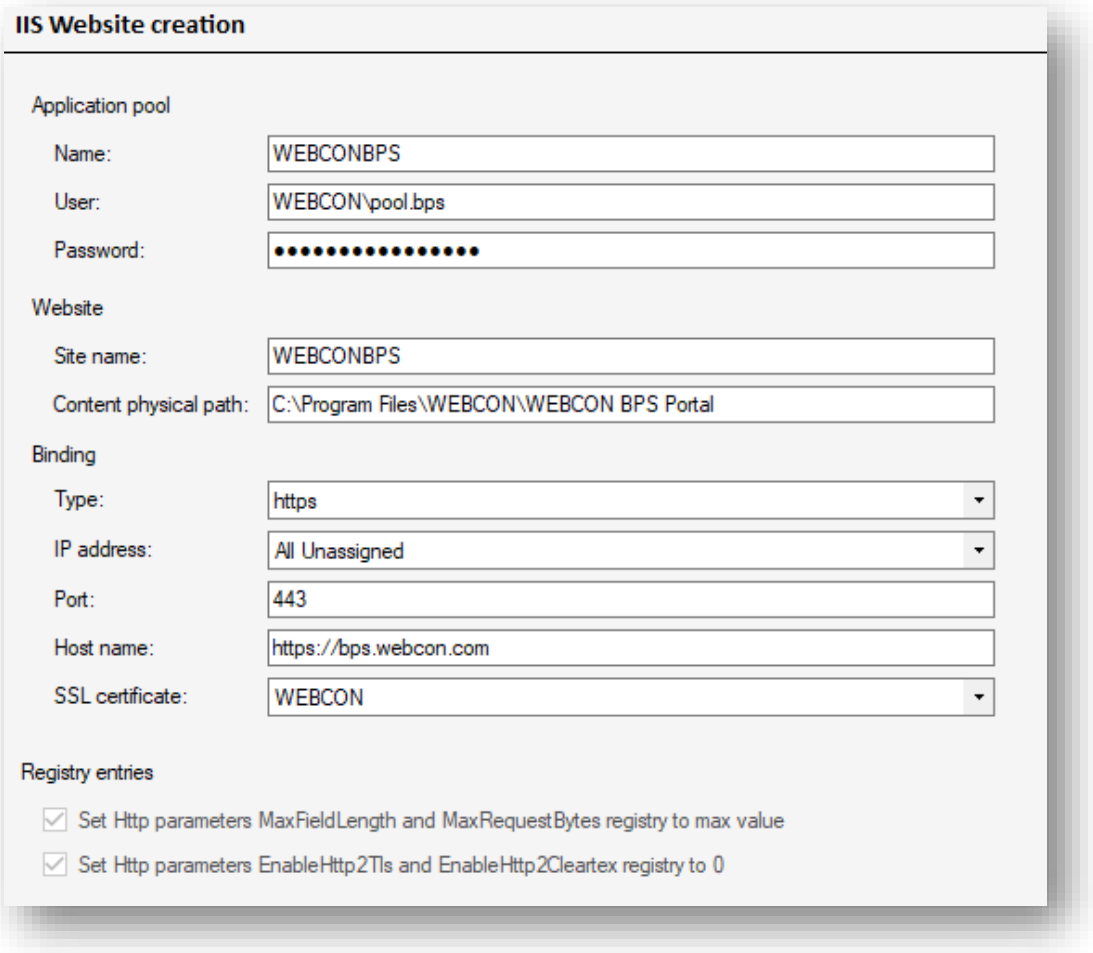
The WEBCON BPS system allows users to archive entered data by moving them to a dedicated database. The installer can be used to create any required number of databases.



2.6. WEBCON BPS Portal installation

2.6.1. Creating website on the IIS server

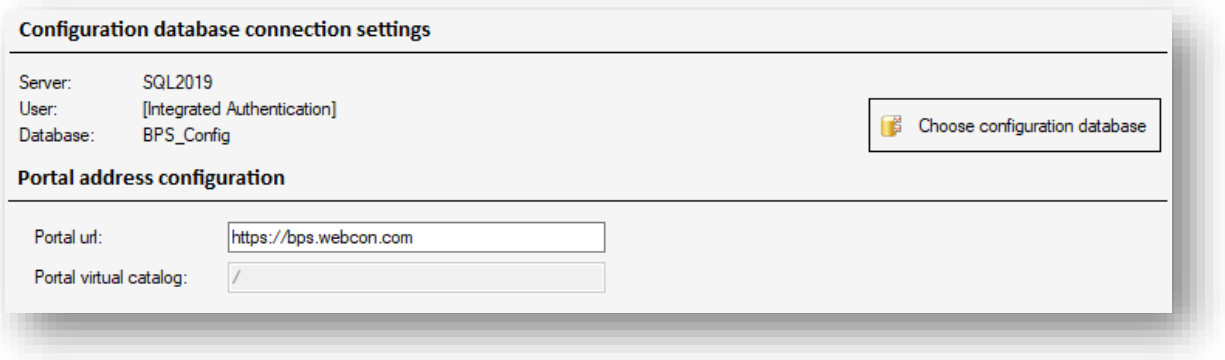
For the Portal purposes it is necessary to create an additional application on the IIS server.
Enter the name for an application which will be created for the WEBCON BPS Portal and the application pool user.



2.6.2. Configuring the Portal address

The step is used for defining the URL address under which the WEBCON BPS Portal will be available. It is recommended to use the full, FQDN domain name.

Select the method for connecting the Portal website with databases. An integrated login is used in the example.

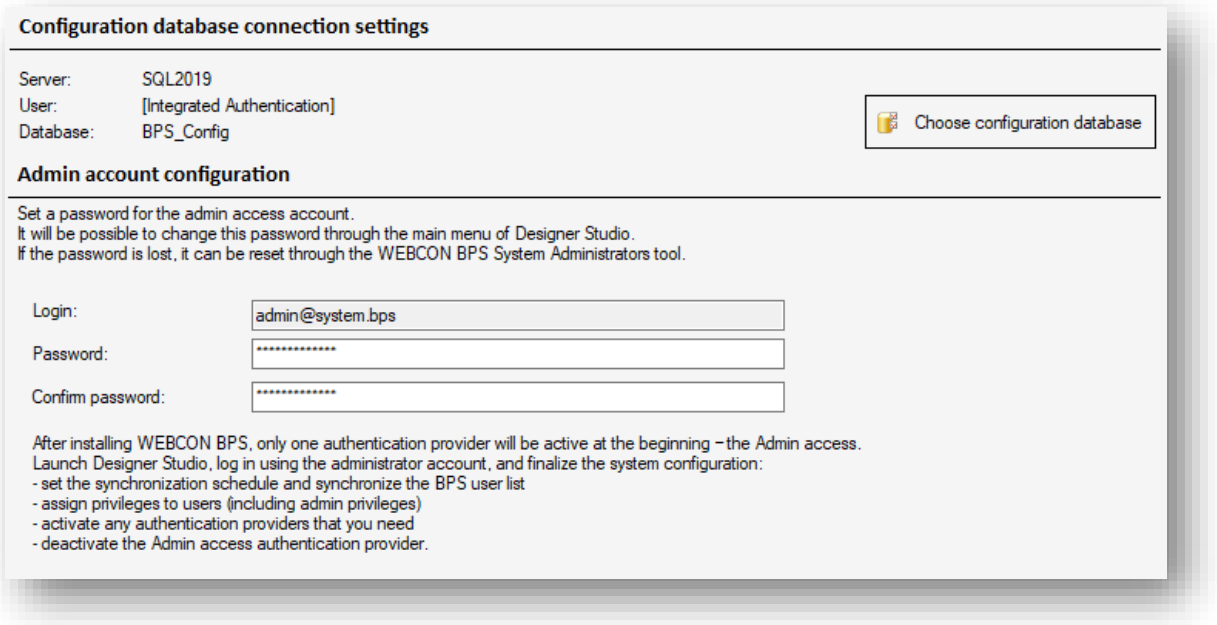


2.7. Configuring administrator account

The built-in administrator account allows for logging into the system to configure it where no users have been defined in the system yet (the user list synchronization has not been configured and executed).

Apart from the ability to change configuration, the administrator account has no permissions to define applications and processes.

The built-in administrator account has a fixed login **admin@system.bps** – define the password for this user in this installation step.



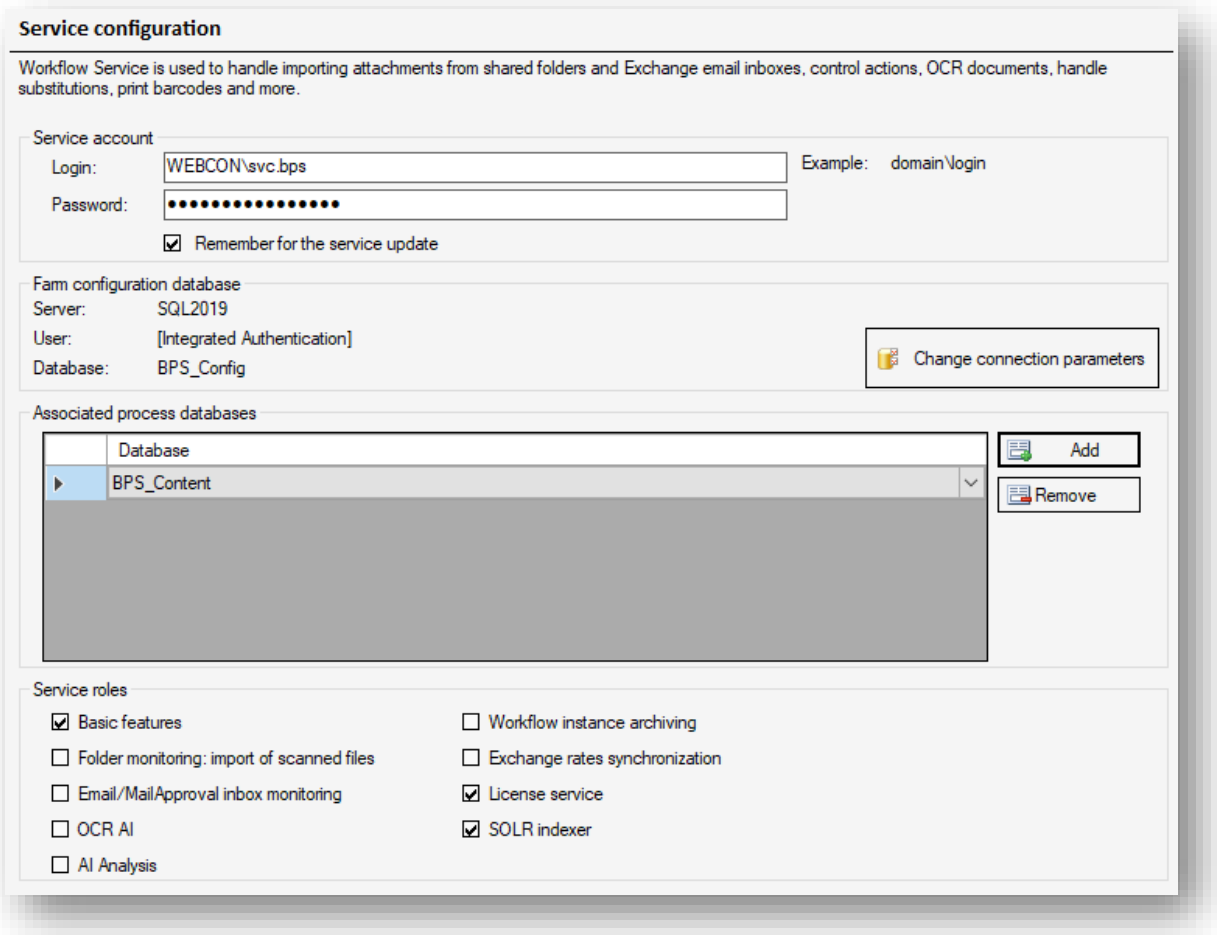
Once you complete the installation using the administrator account, log into the WEBCON BPS Designer Studio to configure the user list synchronization (the procedure is described in 4.1).

2.8. Configuring WEBCON BPS service

When configuring the service, it is required to enter the login and password of a domain user.

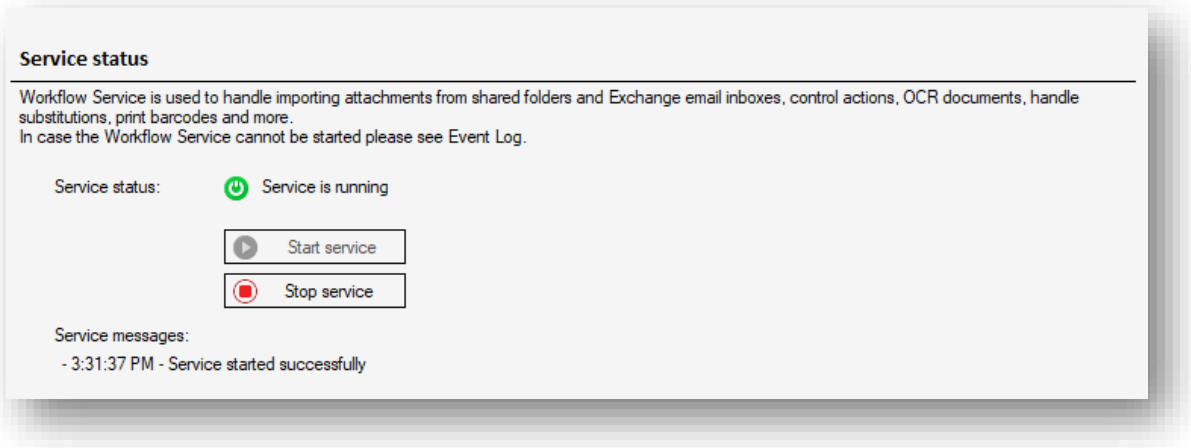
Select the **Remember for the service update** checkbox to save time in future – the data will be automatically entered during system update.

The installation allows for selecting roles supported by the installed service. By default, only the **Basic features**, **License service** and **SOLR indexer** (searching) roles are activated.



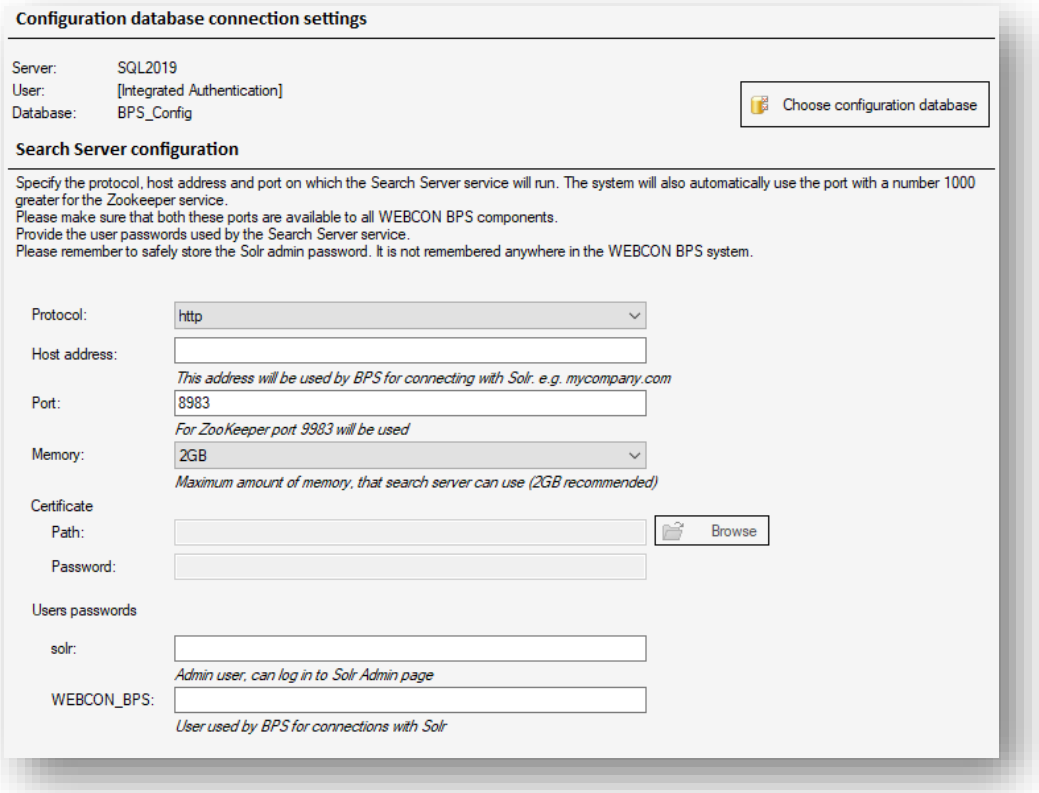
2.9. The service status

After its installation, the service is not automatically launched. This step allows you to start the service.



2.10. Installing and configuring the Search Server component

The administrator can specify a dedicated port for the Search Server, the volume of RAM available for the service, and set up passwords for the search engine administrator user (login: solr) and the user within whose context the search engine will index the WEBCON BPS databases (login: WEBCON_BPS).



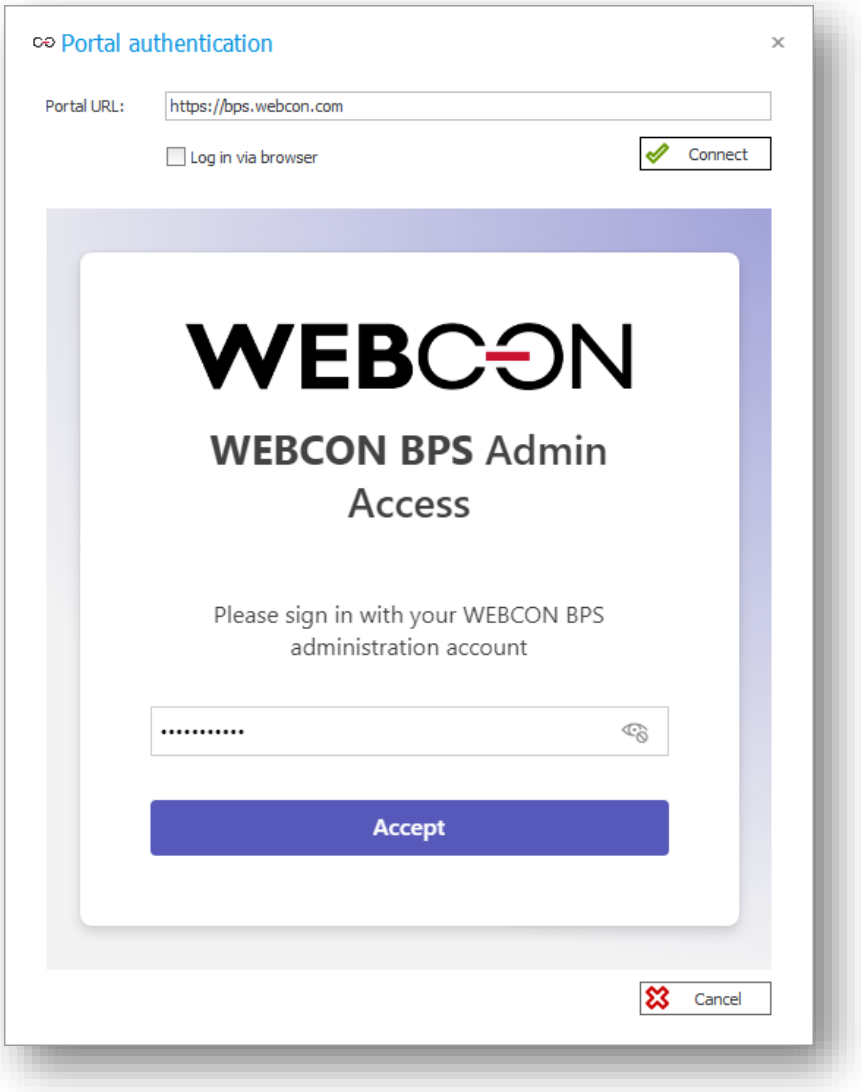
3. Configuring firewall

WEBCON BPS Portal requires **443** and/or **80** ports to be open to receive the https/https traffic (unless alternative ports have been provided).

You must ensure the communication between the WEBCON BPS Portal server and the MS SQL database sever. By default, the **SQL TCP (port 1433)** port is used for the aforementioned communication.

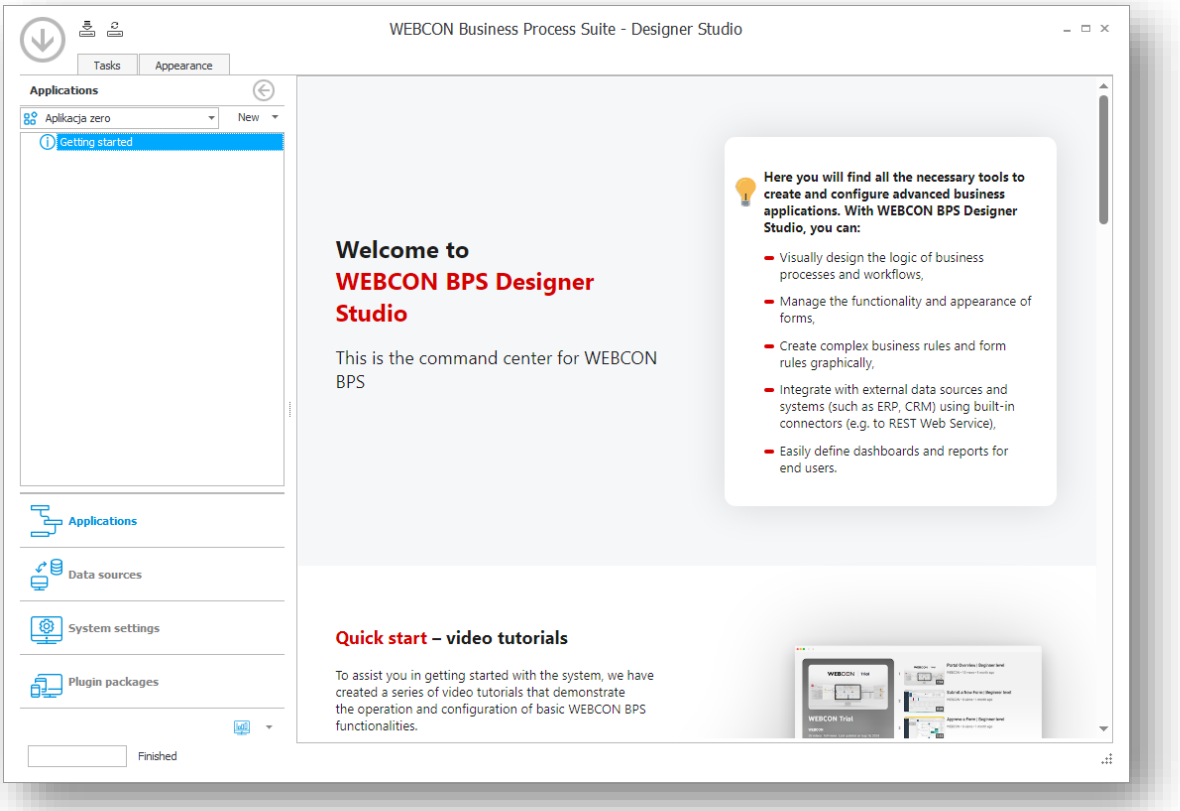
4. Starting WEBCON BPS Designer Studio for the first time

After completing the installation, run WEBCON BPS Designer Studio – a tool for managing the platform. When running the tool for the first time, the application shows an authentication window where you need to enter the address and password for the built-in administrator account (admin@system.bps) specified during installation.



By clicking the **Log in via browser** checkbox, you can authorize a user in a browser displayed within the authentication window.

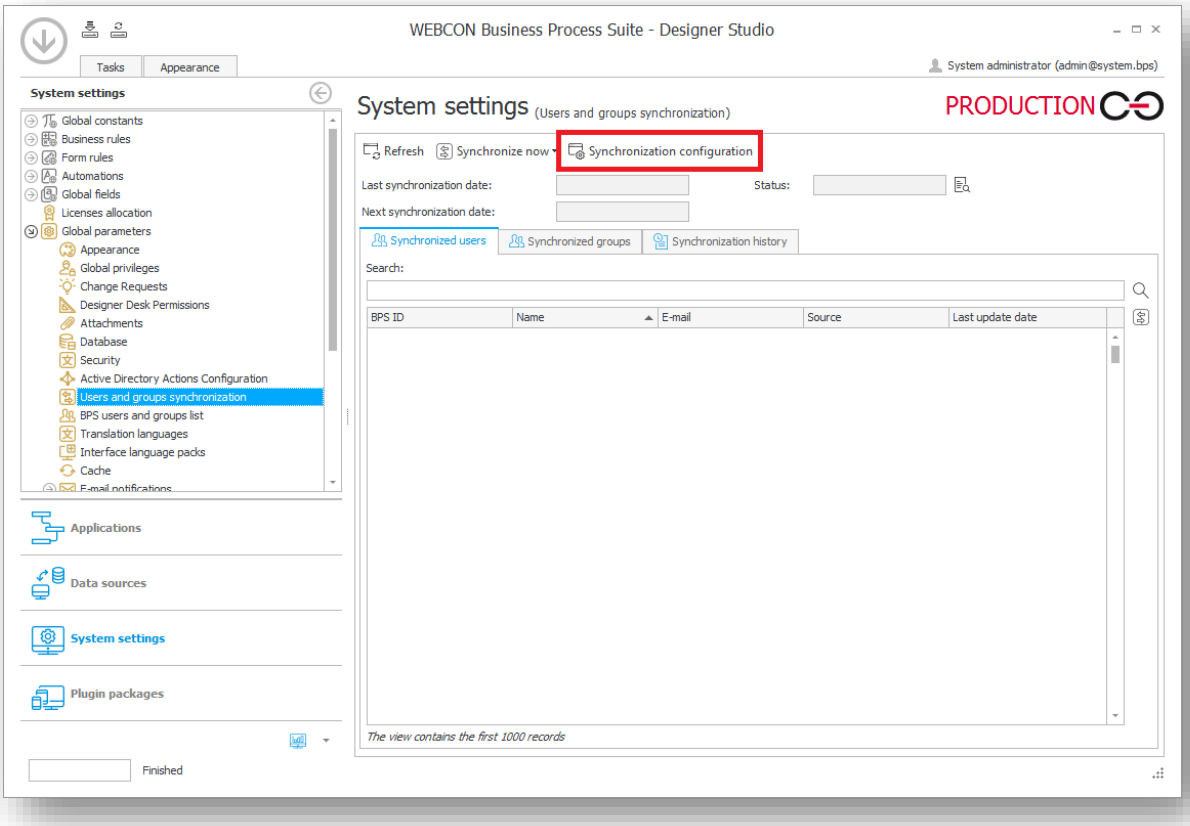
Once you are logged-in, you can start working with WEBCON BPS Designer Studio.



4.1. Configuring user list synchronization

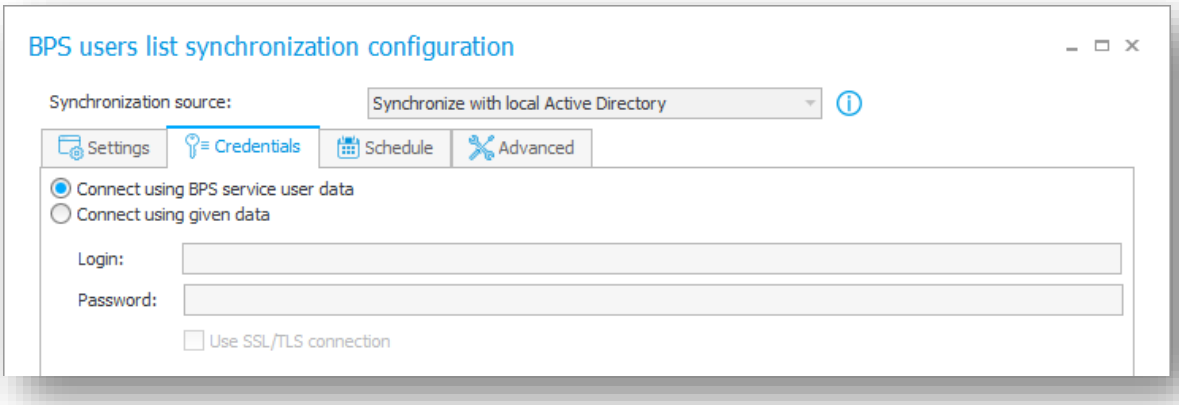
To allow other users to work in the WEBCON BPS platform, configure and run user synchronization with the selected authentication platform, and activate authentication provider for users to be able to log into the platform. In the discussed example the local **Active Directory** is used for this purpose.

In the left navigation panel, click the **System settings** and expand the **Local parameters** node to select the **Users and groups synchronization** and click the **Synchronization configuration** button.

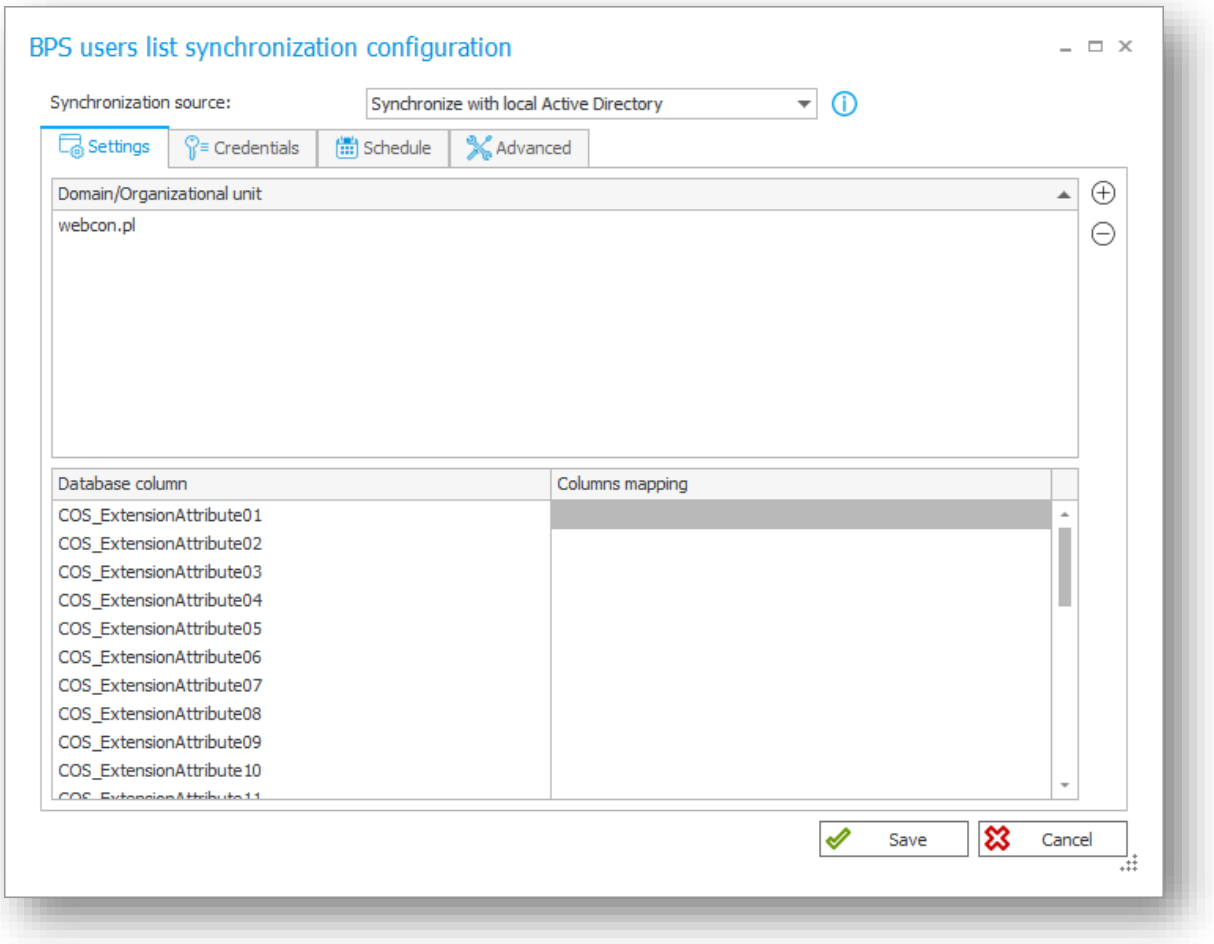


Select the **Synchronize with local Active Directory** option as a synchronization source.

The account used for both the configuration and user list synchronization must hold privileges to read the **Active Directory** structure. This can be an account the WEBCON BPS Workflow Service operates on or a dedicated account. The configuration of an account for synchronization can be modified in the **Credentials** tab.



In the **Settings** tab, specify one or several domains from which the user data will be synchronized by using the **Add** button (a **+** icon next to the selected domains list). it is possible to use the whole domain (root) or only specific organizational units (OU).



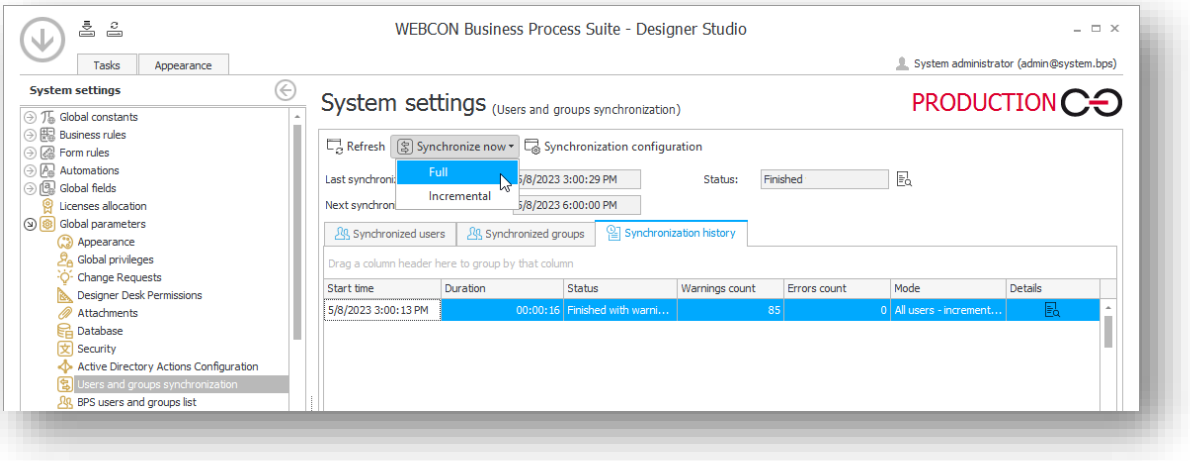
In the **Schedule** tab, you can define the time and method of synchronization.

By default, the synchronization will be executed every day in three-hour intervals. The **Incremental** synchronization will be launched (data of modified users will be retrieved).

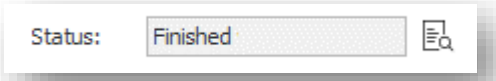
To confirm the changes in the user list synchronization click the **Save** button.

Note:
When launching the WEBCON BPS Designer Studio for the first time, run at least one Full user list synchronization (retrieving information on all user of domain or OU specified in the configuration).

To manually start the **Full** user list synchronization, click the **Synchronize now** button in the **Users and groups synchronization** window (in the **System settings** section) and select the **Full** option.



The information on the status of the synchronization is available in the same bar.



4.2. Activating the authentication provider

By default, the only active authentication provider that allows for logging into the platform is **Admin access**. It allows users to log in only with the built-in administrator account.

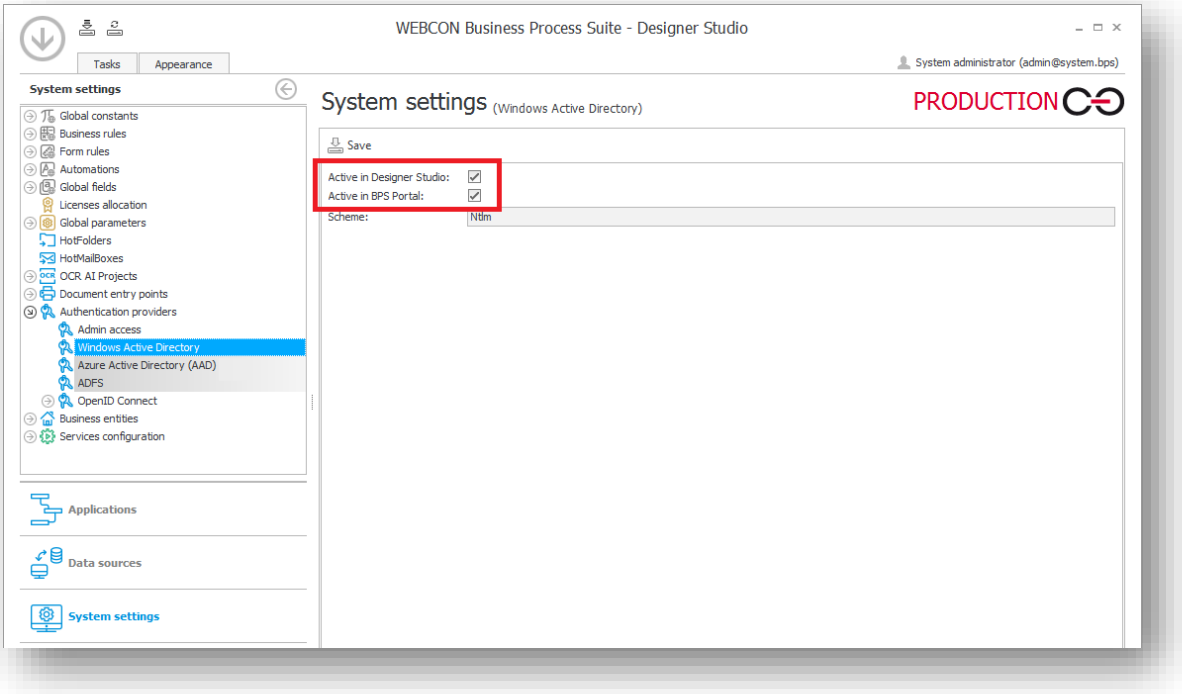
Activation of authentication provider of **Windows Active Directory** type allows users whose data are synchronized in accordance with the procedure described in the 4.1 point to log into the platform.

Note:
To actively use the platform, users must be assigned with relevant privileges to the application and/or processes and – in subscription-based model – named licenses.

To activate the authentication provider, click the **System settings** button, expand the **Authentication providers** node in the selection tree, and select the **Windows Active Directory** option.

Select the following two options: **Active in Designer Studio** and **Active in BPS Portal**.

Once you modify settings and save changes, restart WEBCON BPS Portal.



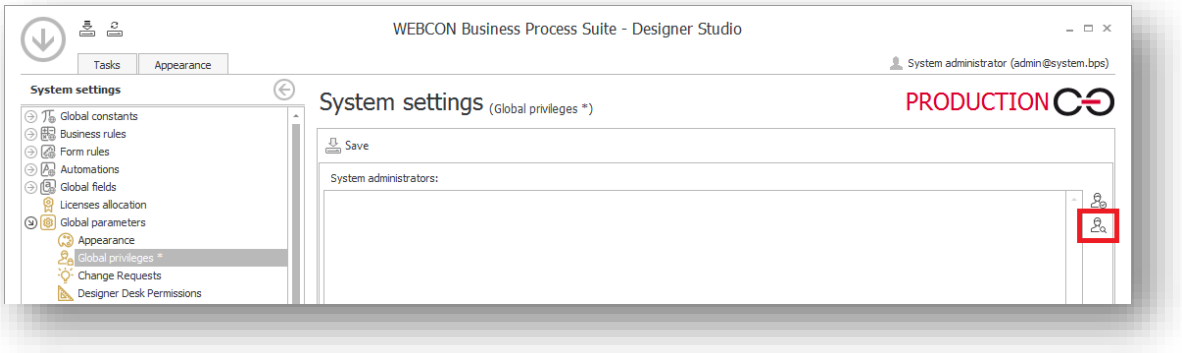
4.3. Adding privileges for selected users

The built-in administrator account should be used only for the purpose of initial platform configuration and in exceptional situations.

For the actual use of the platform, it is necessary to assign access rights to relevant users.

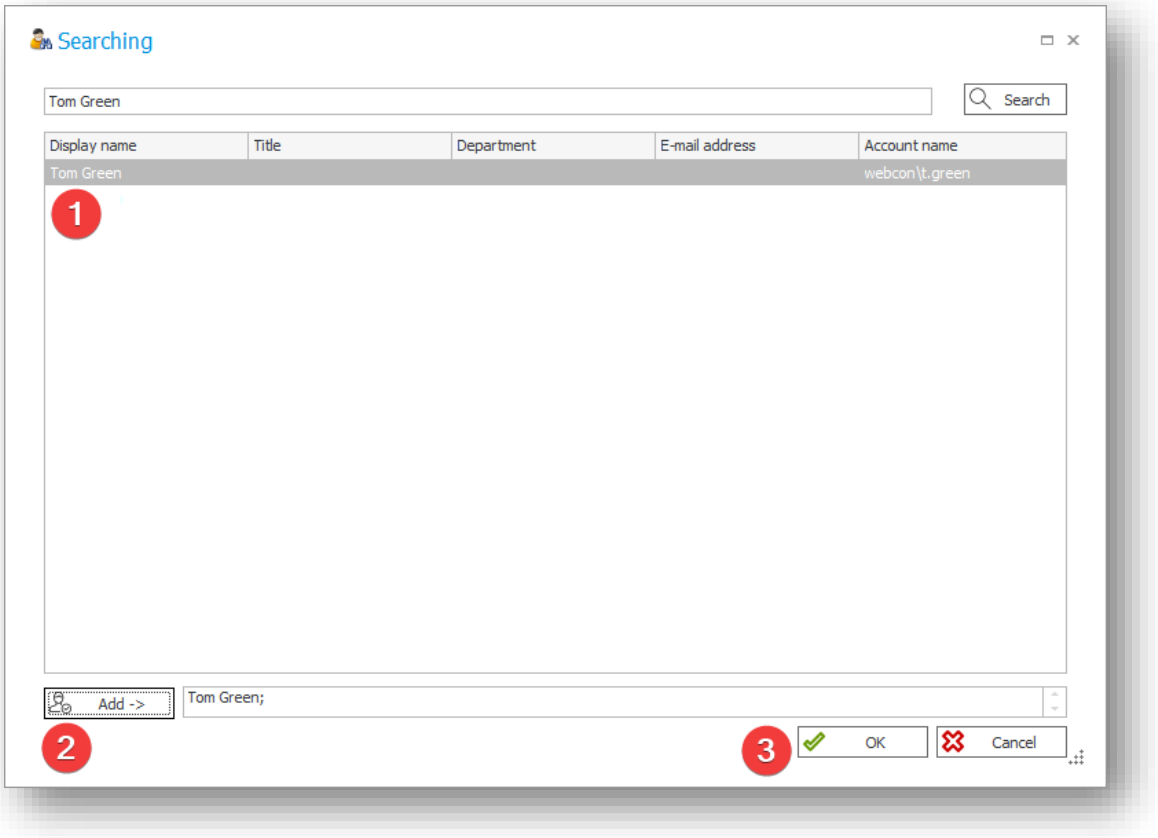
In order to add system administrator privileges (full access to system and application configuration), click the **System settings** button, expand the **Global parameters** node, and select the **Global privileges** option.

Click the **Browse** button located next the **System administrators** list.

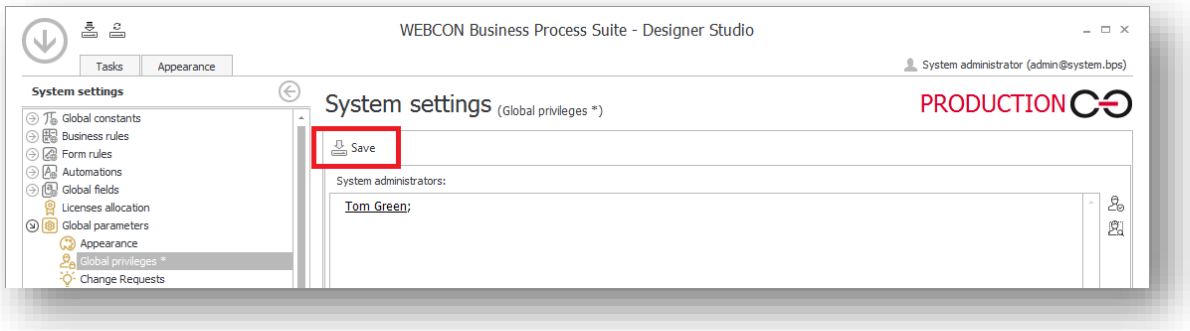


Next, in the searching window, enter user login or their login and click **Search**.

If user data had been correctly retrieved during the user list synchronization, a relevant entry will show up on the list. Select the respective user on the searching list (by left-clicking the relevant entry), press the **Add** button, and confirm the whole operation with the **OK** button.



Additionally, click the **Save** button to apply the changes.



From now on, the configured user will be able to log into WEBCON BPS Studio to execute all administrative procedures, including assigning privileges to the created applications and processes.

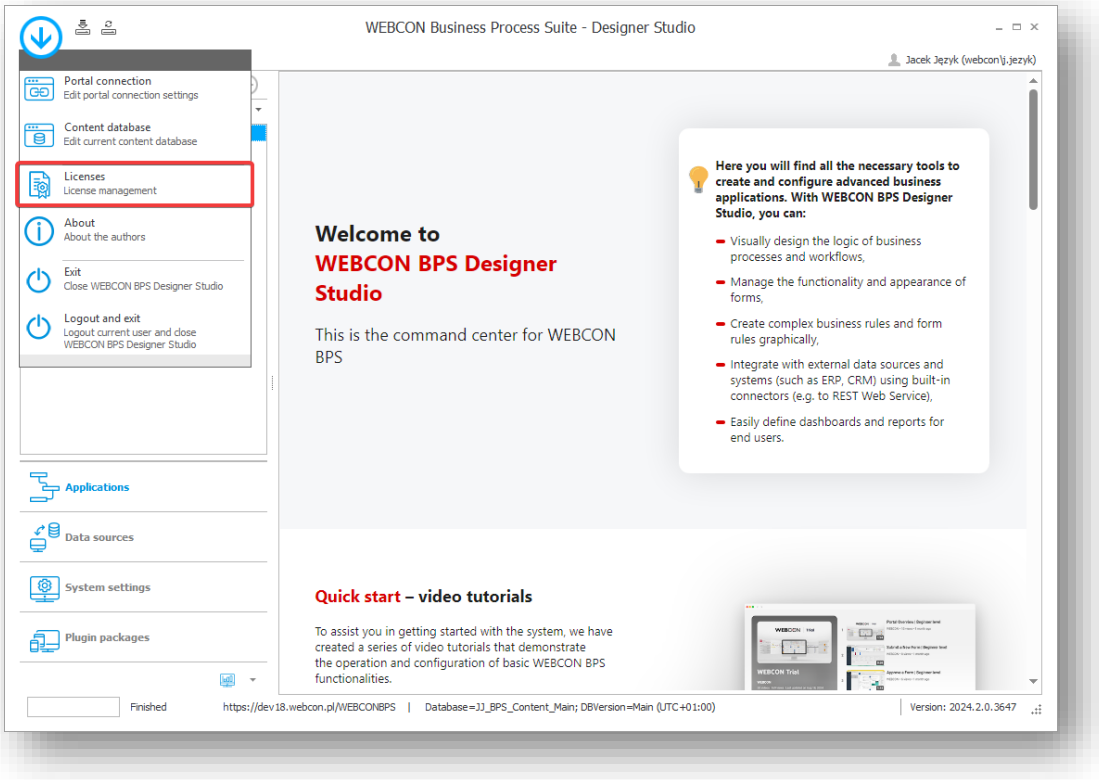
5. Activating license

After installation, the WEBCON BPS platform works in DEMO mode (full functionality for 90 days). To change the DEMO version to production one, activate the license obtained when purchasing the product.

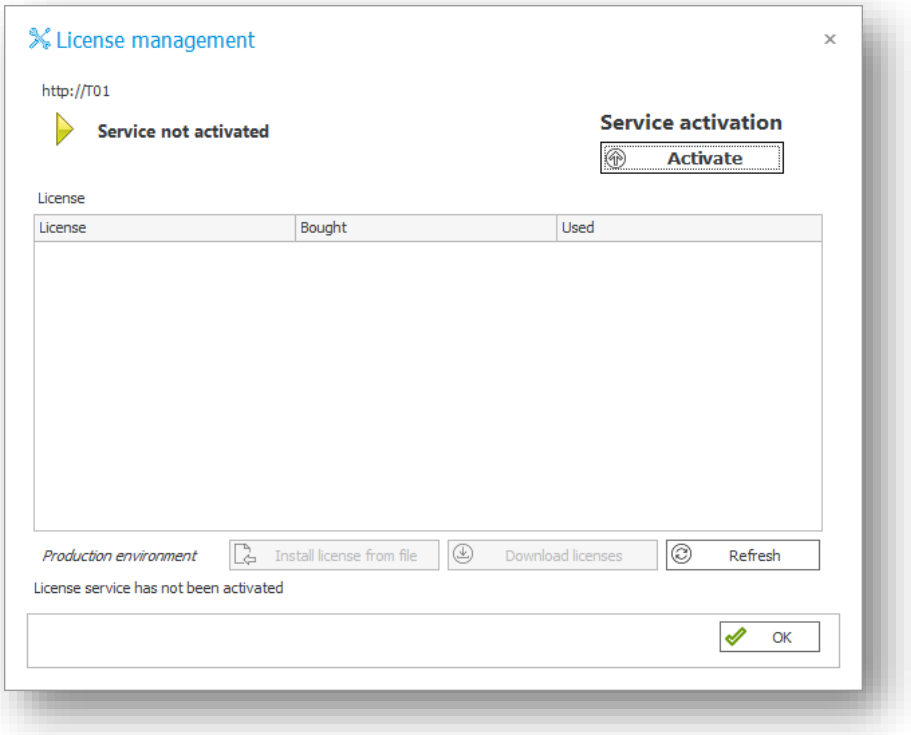
The activation is possible in the WEBCON BPS Designer Studio or in the installer.

5.1. Activating license in WEBCON BPS Designer Studio

Once you launch WEBCON BPS Designer Studio, click the arrow in the top, left corner and select the **Licenses** option.

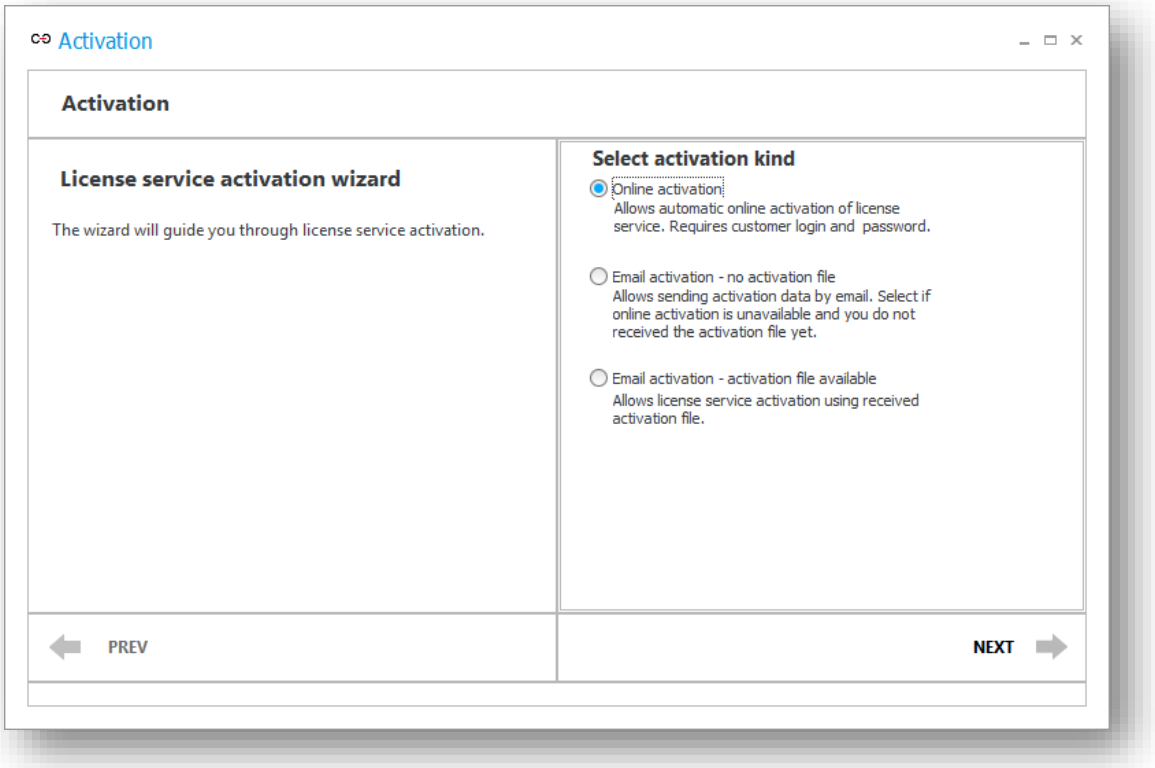


A panel for managing licenses is displayed.

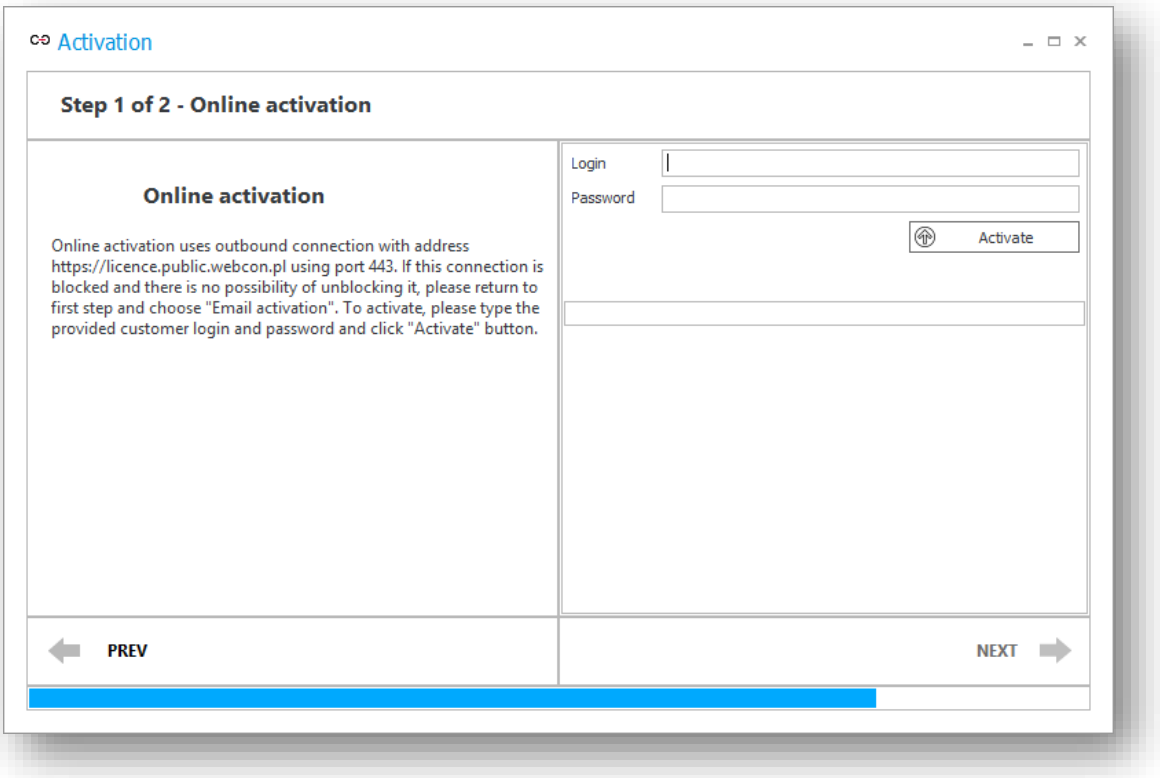


Next, click the **Activate** button to open service and license activation wizard which will guide you through the activation process.

If a server hosting the WEBCON BPS components has a direct access to the Internet, you can activate your product in the online mode.



The activation involves entering obtained activation login and password.

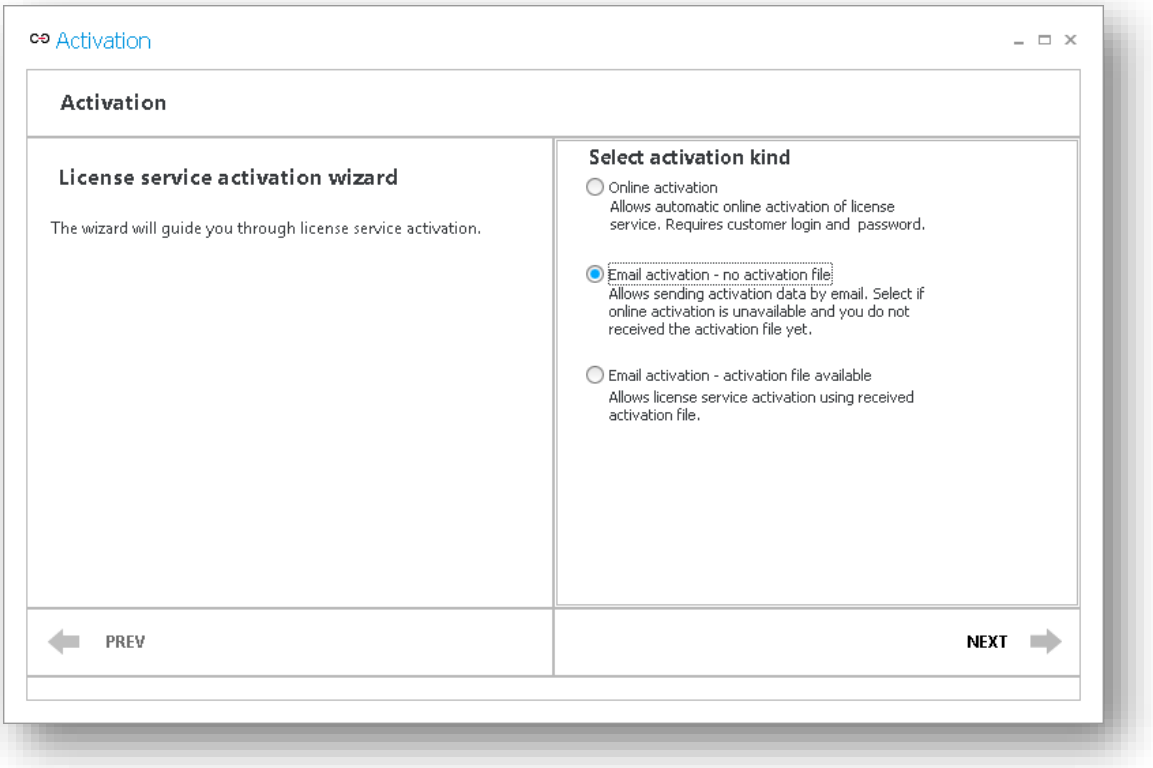


Where no Internet connection is available, you can active your product in the offline mode following the steps in the activation wizard.

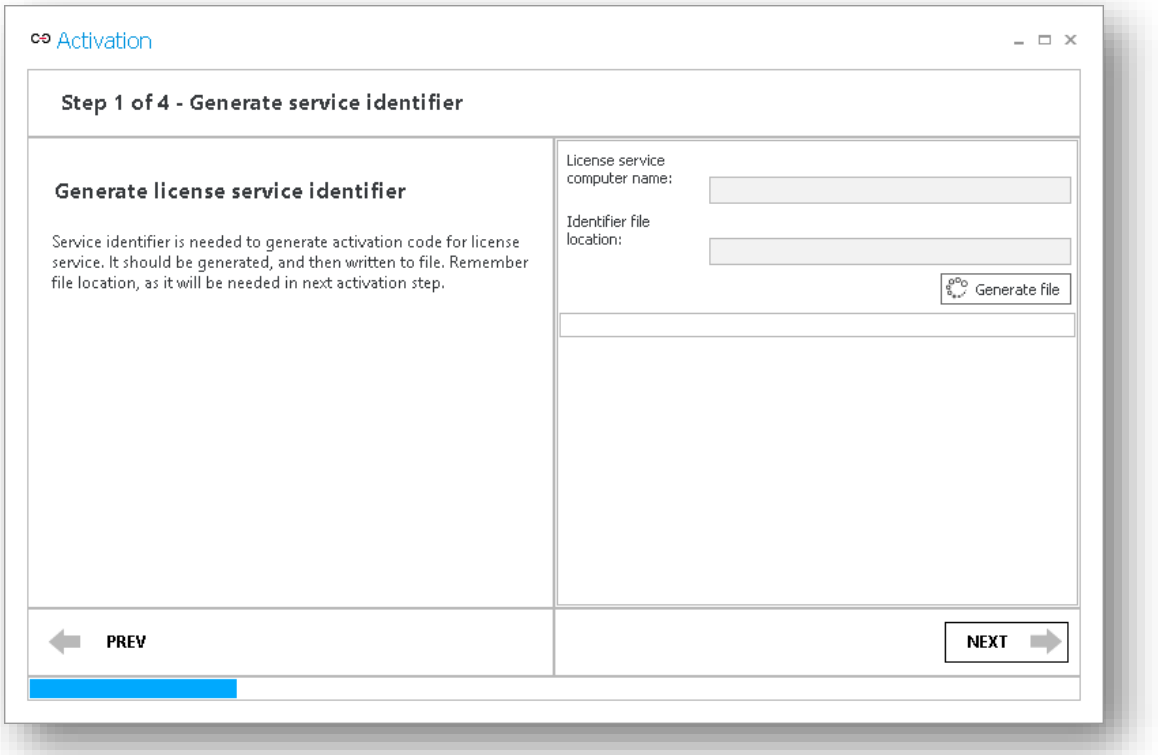
5.2. Activating license offline

The offline activation consists of two steps. First, generate the **Service license identifier** file and send it to WEBCON. You will receive two files in response: **Activation file** and **License package** which you need to use to activate the license.

To start the offline activation procedure, open the **License management** panel and click **Activate**. Next, select the **Email activation – no activation file**.



In the next wizard window, click the **Generate file** button, save the file on a local disk, and send it to WEBCON.



In response, WEBCON sends two files: **Activation file** and **License package**.

To complete the offline activation process, open the **License management** panel, click the **Activate** button and select the **Email activation – activation file available**.

Follow the wizard hints and specify the path to the activation file.

Next, in the **License management** panel, select the **Install license from file**, and specify the path to the other file received from WEBCON (License package). Click OK.

The offline activation process is completed.