Produmex Scan - Complete Installation Guide

Licensing System

Requesting a Produmex License

Fill out all necessary fields on the license request page (the ones marked with *) and add the products for which you need the license (there is an employee and a terminal version of all mobile products, you need to select the one that suits your needs best). You can request a Produmex license at our license request web page: http://www.produmex.com/request-produmex-license-keys/

You have to fill in Partner name, e-mail address and customer name accordingly, then please gather all data about your SAP system: Installation Number, System Number, Hardware Key. These can be found in SAP Business One in the Help → About SAP Business One menu.
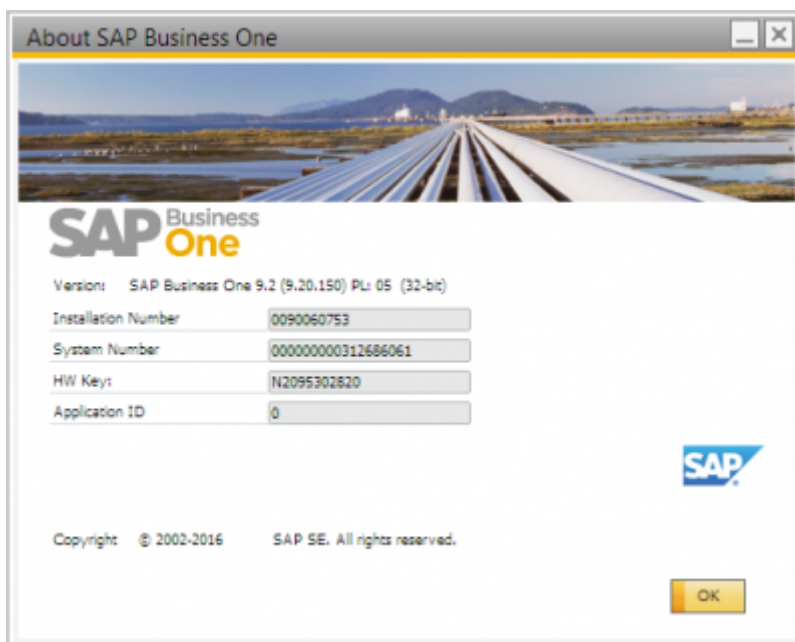
You can copy the numbers if you right click on the fields, and then you can paste them into the appropriate fields on the web page. Please note: all of them are needed for the license. Then you must set the add-on name, the license type and the requested quantity for the license. Note: you can request a license for 10 different add-ons at once. If you need more than that number, you must fill in two request forms. You must choose the following licenses for the following add-ons:

Produmex Add-on name
Produmex Manufacturing Professional* *(formerly BX Core)*
Produmex Manufacturing Limited* *(formerly BX MTO)*
Produmex PTM *(formerly BX PTM)*
Produmex PDC *(formerly BX PDC)*
Produmex Scan *(formerly BX Mobile WH)*
Produmex Operator *(formerly BX Mobile Worker)*

For more information regarding the differences between the Produmex Manufacturing Professional and the Produmex Manufacturing Limited license, please see the License Comparison Chart.

The Requested Add-on type should always be Production if you request the license for a customer in a working environment. If you are a partner and need a license for presentation versions then you have to request a Demo for Presentation type license, which will be valid for one year. If you want to request a license for a customer so that he can try our add-ons, you have to request a Demo for Customer license, which will be valid for one month.
Please note: Production licenses have no expiration date, but they are always billed to the customer/partner.

If you have filled out your license request form, you have to click on Submit to send it. If the license was successfully sent. You will receive the Produmex license in an e-mail within 24 hours with a summary page showing the details of the licenses you requested.
 Please note: production licenses take some days to arrive. Demo licenses are sent right away to the requester.

**Requesting License for Produmex Service Broker**

Produmex Service Broker has similar licensing model to SAP Business One, but instead of SAP users, licenses can be assigned to either:

- Employees
- Terminals (client computers)

Employee licenses can be assigned to specific employees who can use then the software from any computers. Terminal licenses can be assigned to computers which can be used then by any user.

Importing and Assigning Produmex Licenses

After you have received your Produmex license in an email as a .zip attachment, save it in a directory and extract it. Then start SAP Business One and the add-on. If the add-on requires a license, during the start up, you will receive a message that no licenses are assigned:
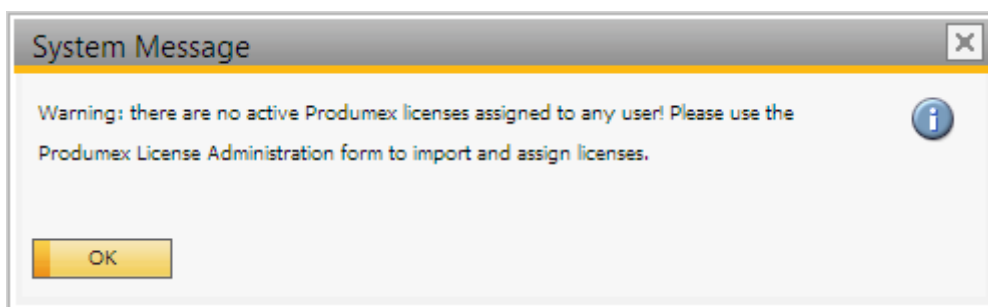

To import and assign licenses you have to open the Produmex License Administration form:

- Tools> Produmex %add-on% > Produmex License Administration
- Administration module > Add-Ons > Produmex %add-on% > Produmex License Administration

where %add-on% is the name of your add-on. This form looks and works similarly to the SAP License Administration form.

In case of no add-ons bought, this option is replaced by the Produmex Control Panel standalone add-on, which looks and works the exact same way as License Administration. Install the Control Panel, run it from the Add-on Manager, then open the form via Tools > Produmex Control Panel > Licensing.
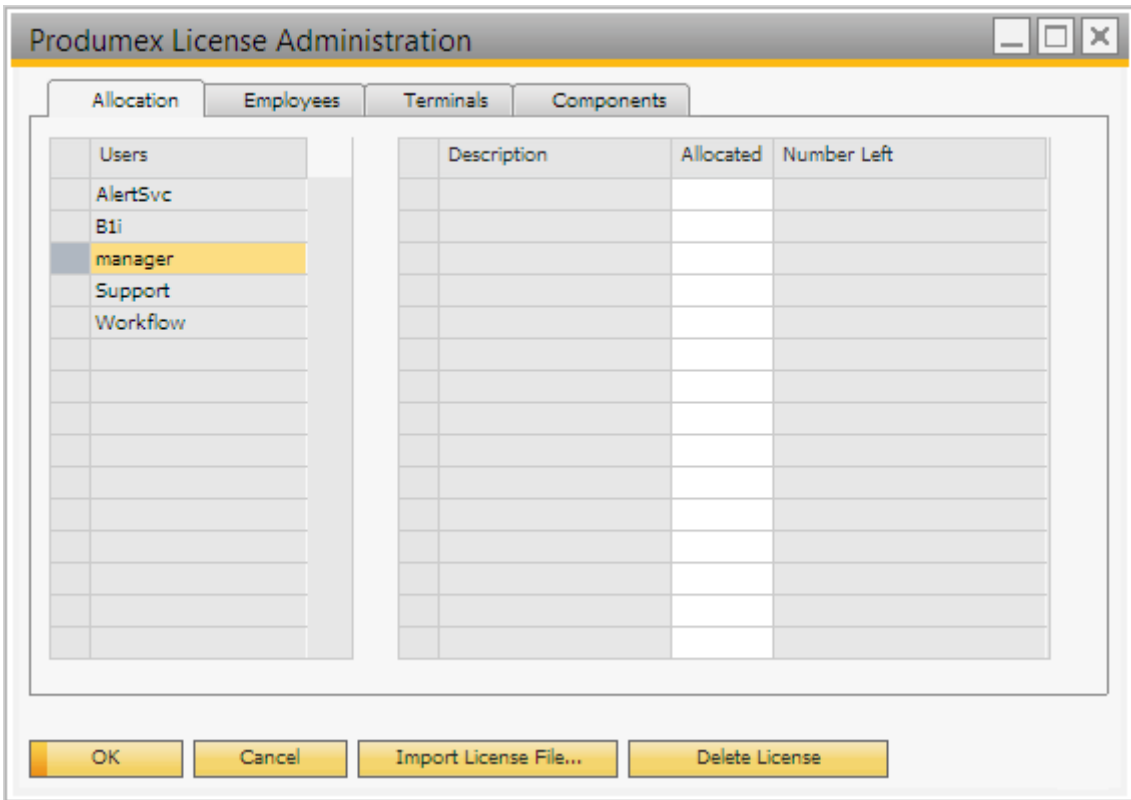
Click on the 'Import License File...' button and browse the license file(s). The imported license files will be added to the right grid. To see the license details, go to the 'Components' tab. On this tab every imported license is listed. Select a license to see its details.

Please note: After the license file is imported, the system will save it. In order to remove a license file, select it on the left grid on the 'Components' tab then click on the 'Delete License' button.
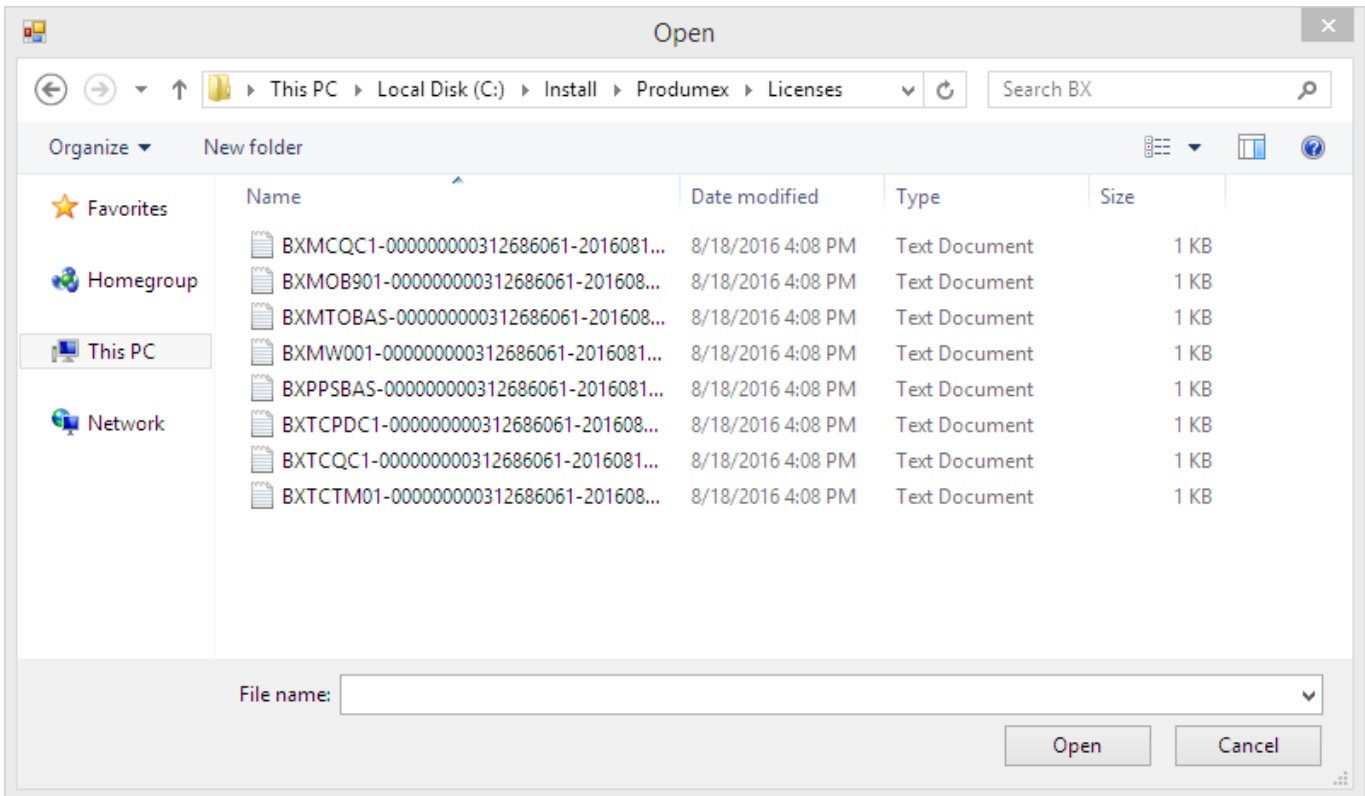
License types in Produmex

There are three kinds of licenses in Produmex:

- Add-on license: The add-on license can be allocated for a user on the 'Allocations' tab. *Please note: In the case of a control panel add-on no add-on license is needed.*
- Employee license: In the case of mobile applications the license can be assigned to an employee or a terminal. Allocate the license on the 'Employees' tab.
- Terminal license: To allocate the license for a terminal, go to the 'Terminal' tab.

1. Add-on license

To allocate the license for a user, select the user on the left grid on the 'Allocations' tab and assign the license to them by ticking the 'Allocated' checkbox on the right grid.
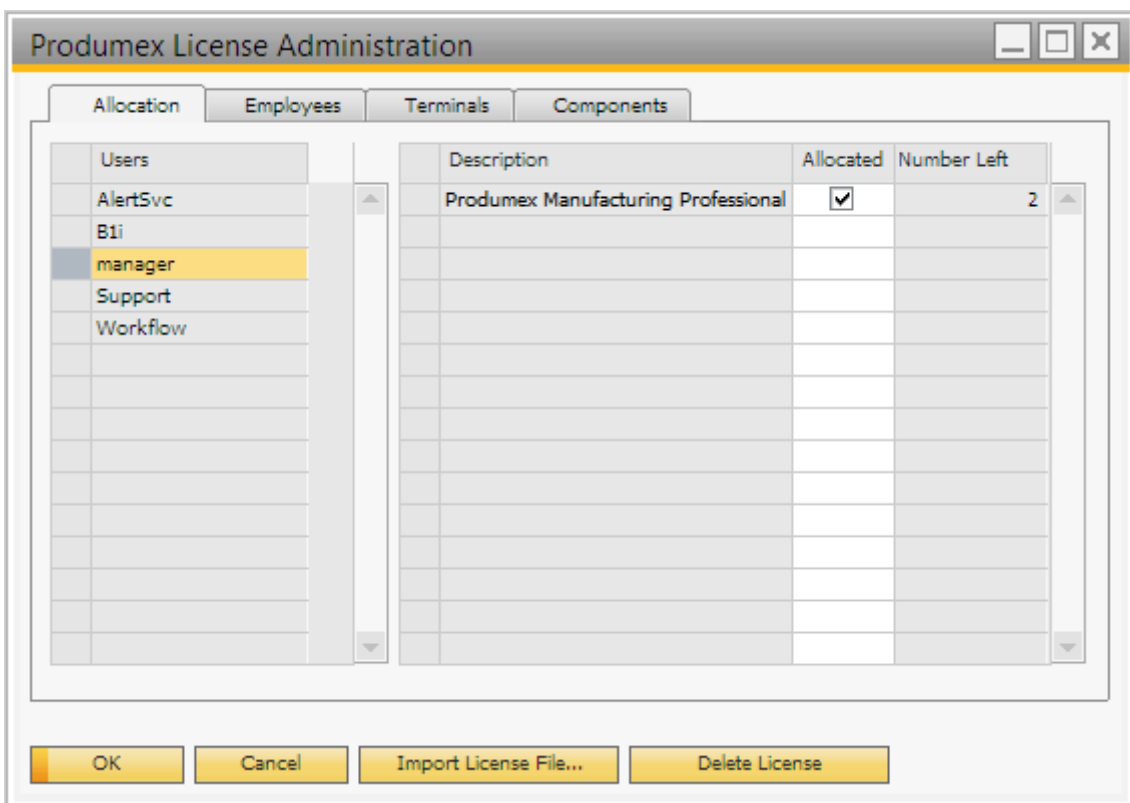
Click on the 'Update' button and restart the add-on.

Please note: You can import any license to any Produmex add-on in the Produmex License Administration form (for example you can import and assign your Produmex Scan license in the license administration form of Produmex Manufacturing), but the license is only valid in one company database, so if you have a productive and a demo system, you have to import the Produmex licenses in both of them.

2. Employee license

To assign a license to an employee, click on the 'Employees' tab. Select the employee on the left grid then check the 'Allocated' checkbox on the right grid. In the 'Number Left' column the number of the available licenses is displayed.

3. Terminal license

3.1. Add terminal license

In order to add license to a terminal it has to be registered in the add-on. A terminal can be registered with the following:

- automatically assigned device GUID
- IP Address (Please note: Using the IP address for registering the terminal is only recommended in the case of a static IP address)
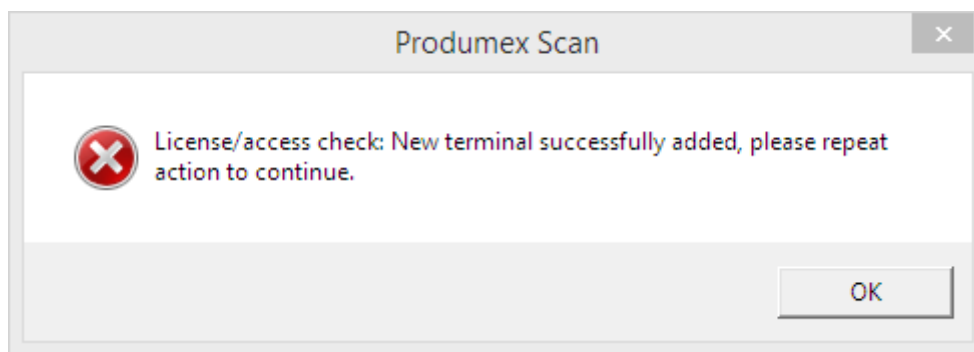
3.1.1. Register the terminal with the device GUID automatically

To automatically register the terminal and assign a license for it, try to log in the application on the given terminal.
If the following verifies:

- The user/terminal currently has no Produmex license assigned
- There is a valid Produmex license installed
- There is at least one free Produmex terminal license that can be allocated for the new terminal

then the system will automatically record the terminal to the @BXPLICTER table and allocate a Produmex license to it when the user tries to log in. If any of the conditions is not verified, then no new row will be added to the @BXPLICTER table, and no license will be automatically assigned.
A system message will open. Press 'Ok' then repeat the login.

When registering the terminal with the method described above, the hardware GUID will be added to the BXPLICTER table.
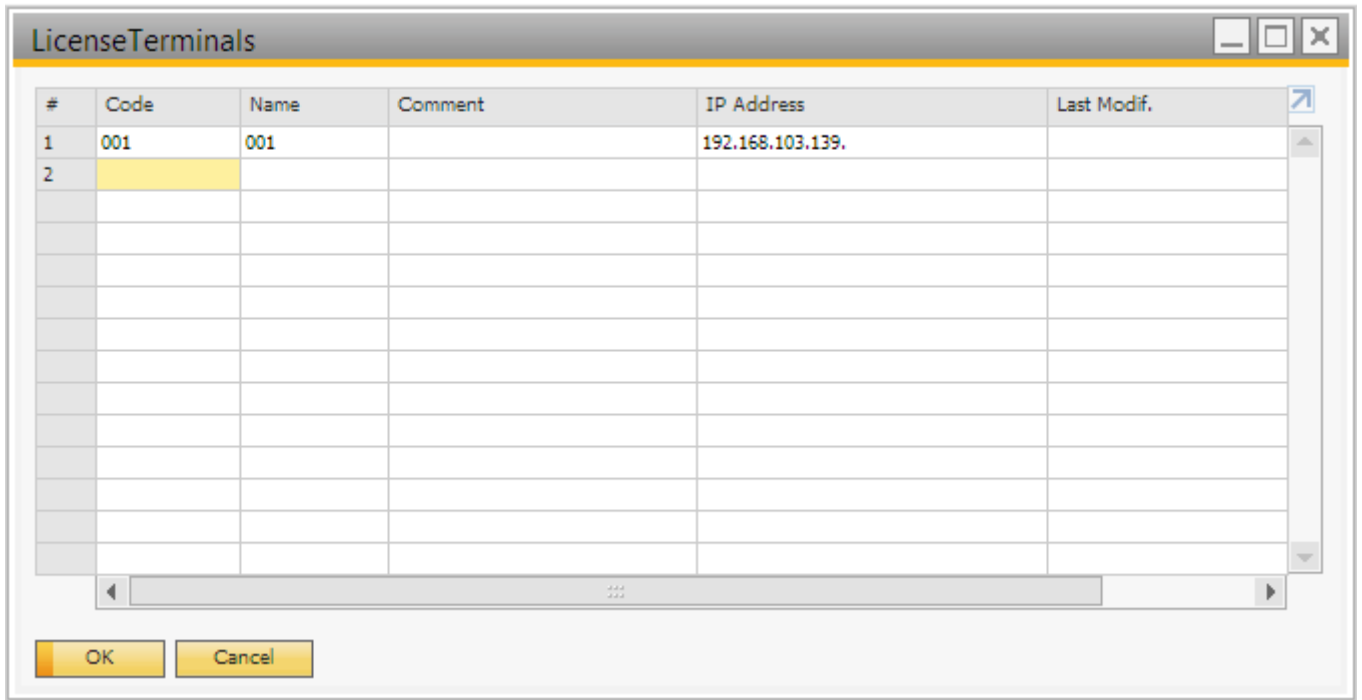
3.1.2. Register the terminal with the IP address

First register the terminal on the License Terminals user table. Open the table via: Tools > User –
Defined Windows > BXPLICTER – LicenseTerminals

Fill the Code, Name and the IP Address. IP Address needs to be the address of the device Produmex
Service Broker establishes the connection to.

To allocate a license for a terminal, open the Produmex License Administration form: Administration > Add-on > Produmex %add-on% > Produmex License Administration where %add-on% is the name of you add-on.

On the right grid of the Terminals tab every terminal license is listed. On the 'Number Left' column the number of the available licenses are displayed.

On the left grid select the terminal code. Every terminal defined on the License Terminals table is listed. To allocate a license for the terminal, tick the 'Allocated' box on the line of the corresponding license.

Click on the 'Update' button to save the changes. To apply the changes, restart the Produmex Service Broker.
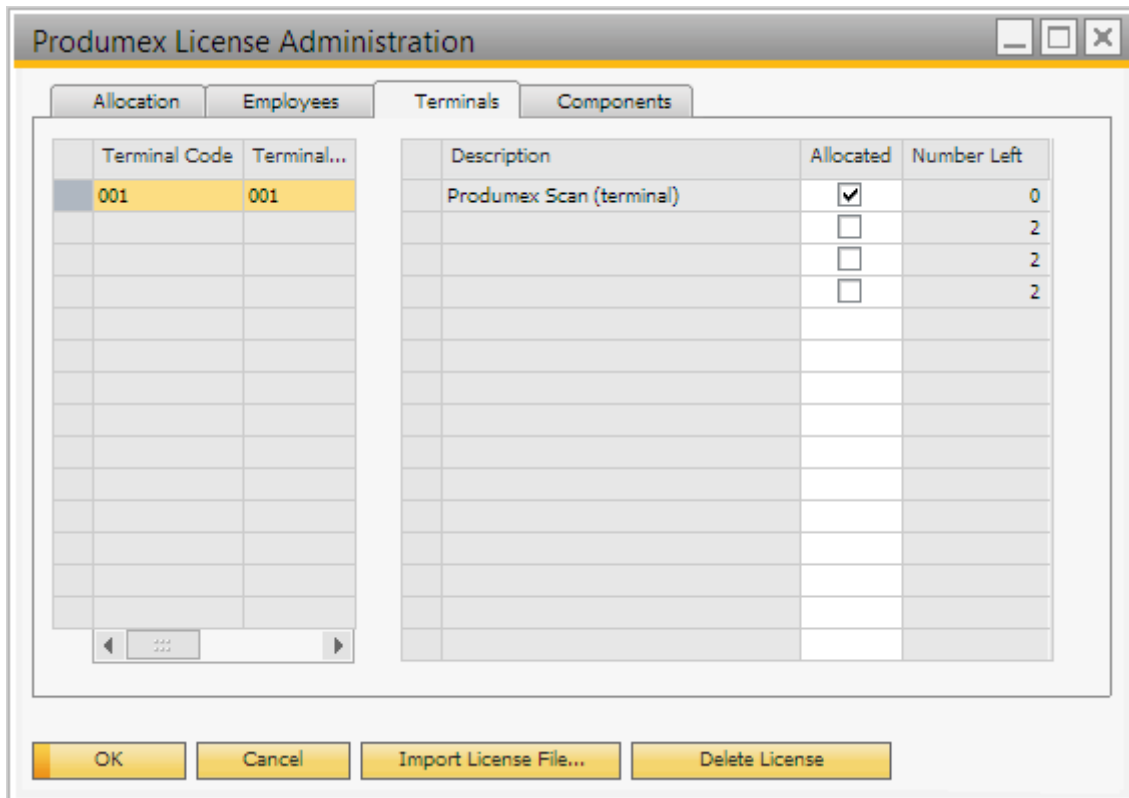
3.2. Modify terminal license

3.2.1. Update the list of available terminals

First check the available terminals on the License Terminals table. On this table terminals can be added, modified or removed. See: *3.1.2. Register the terminal with the IP address for more information about registering terminals manually.* To register a new terminal automatically, make sure that there is at least one available terminal license. Terminal licenses can be seen on the Terminal tab of Produmex License Administration form. Then follow as described in 1.1. Register the terminal with the device GUID automatically. Make sure that you log in with a user who does not have an employee license.

3.2.2. Modify terminal licenses

On the Produmex License Administration form terminal licenses can be modified.
On the right grid of the Terminals tab every terminal license is listed. On the 'Number Left' column the number of the available licenses are displayed. It is not possible to allocate more license than the available licenses.
On the left grid select the terminal code. Every terminal defined on the License Terminals table is listed. To allocate a license for the terminal, tick the 'Allocated' box on the line of the corresponding license. To retract a license, untick the box.
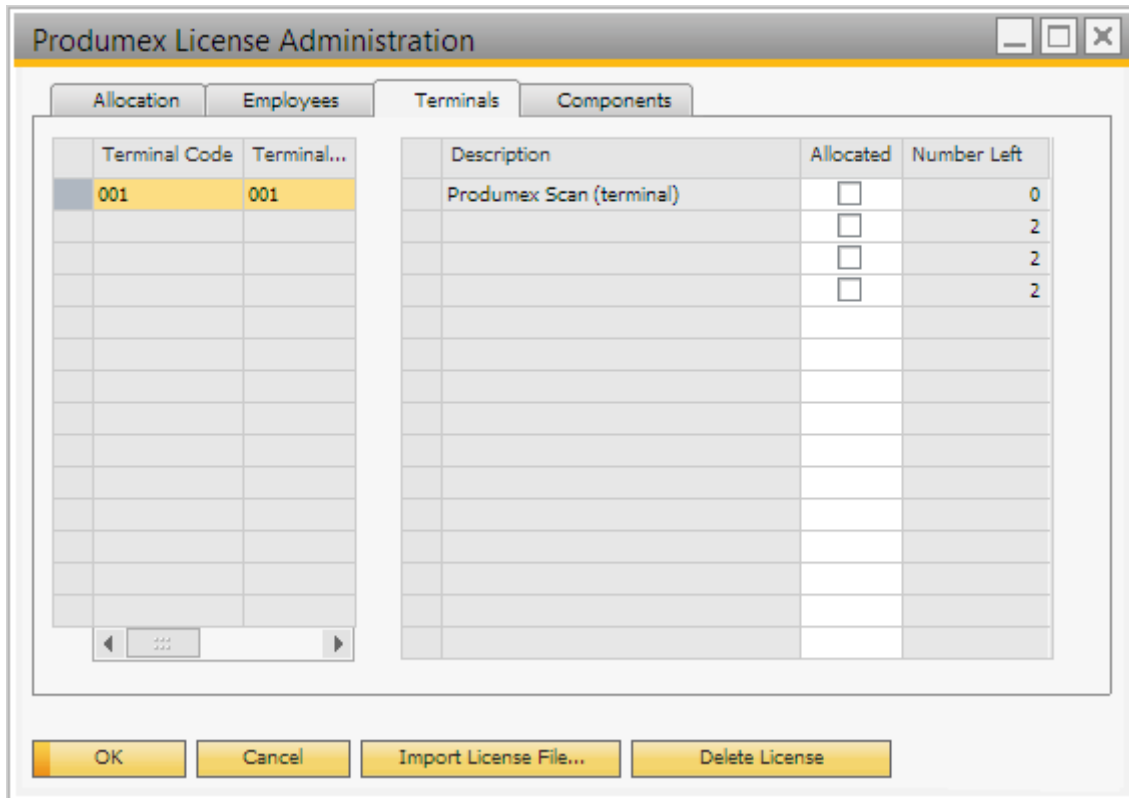
Click on the 'Update' button and restart the Produmex Service Broker in order to apply manual license modifications.

Installation Guide

This document describes the functionality and handling of Produmex Scan. Produmex Scan is a stock management solution for Windows Mobile devices and SAP Business One.
It is based on the standard bin location management of SAP and extends it with support for Windows Mobile devices with barcode scanners with which the users can handle stock movements (goods receipt, delivery and inventory) easily.

1. Technical Background

Produmex Scan comprises of 3 parts:

- The Produmex Scan Add-on
- The Service Broker and the Produmex Scan module
- The Produmex Scan client application
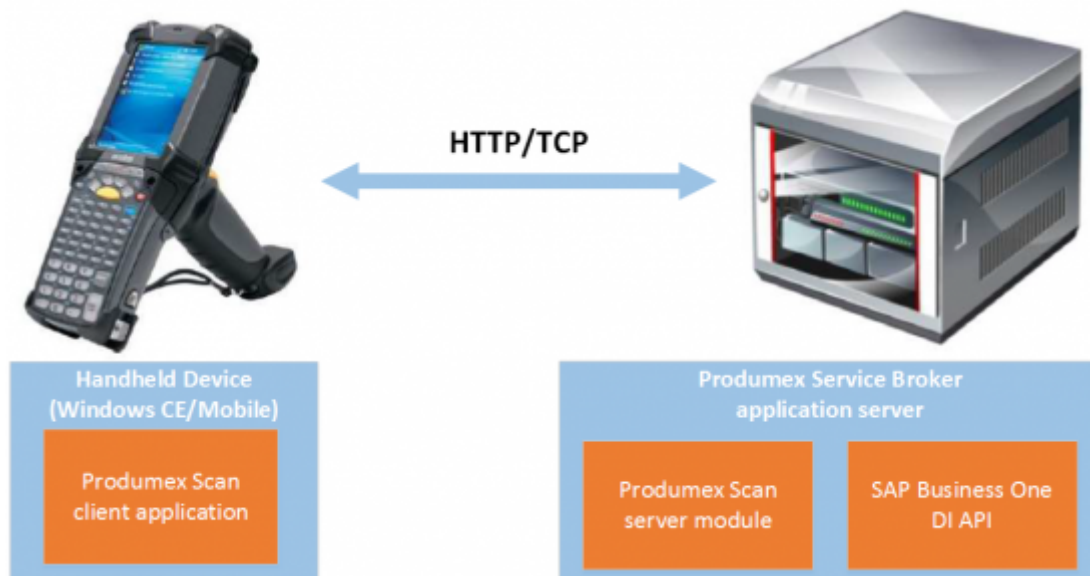
The add-on must be installed in SAP Business One. It is used mainly for set-up and administrative purposes; it does not need to be running for the mobile devices to work.

The Service Broker handles the requests that come from the mobile application and processes them using the SAP DI API (for example based on the requests from the mobile device it creates a goods receipt PO or a delivery).

The client application is used to enter the data for the stock movements which is then sent to the Service Broker. The client application can run natively on the mobile device, or on the server and be accessed through remote desktop, depending on the network latency constraints or use case as described below.

Native client

The traditional and recommended way is to install Produmex Scan on the device directly where it can run as a native client. The Produmex Scan client application connects to the Service Broker by using HTTP/TCP protocols.

This connection method is recommended for on premise use or on cloud environments where the connection between the client and the server is fast and optimized.

Layouts of possible scenarios:
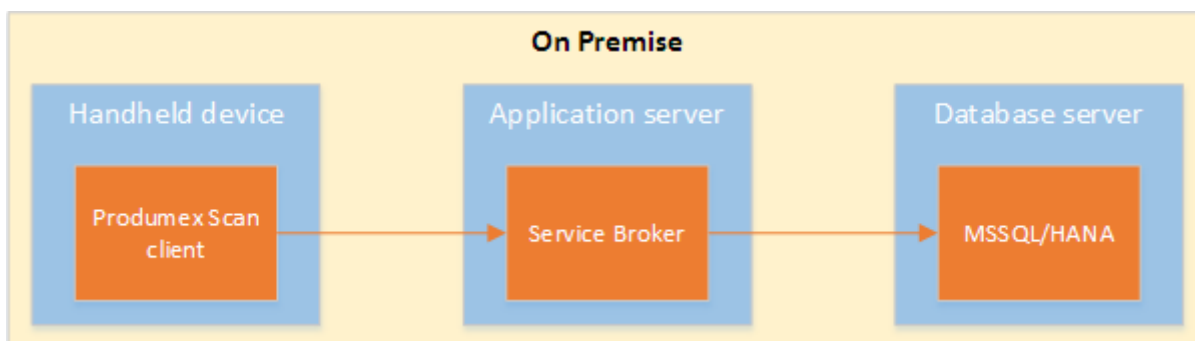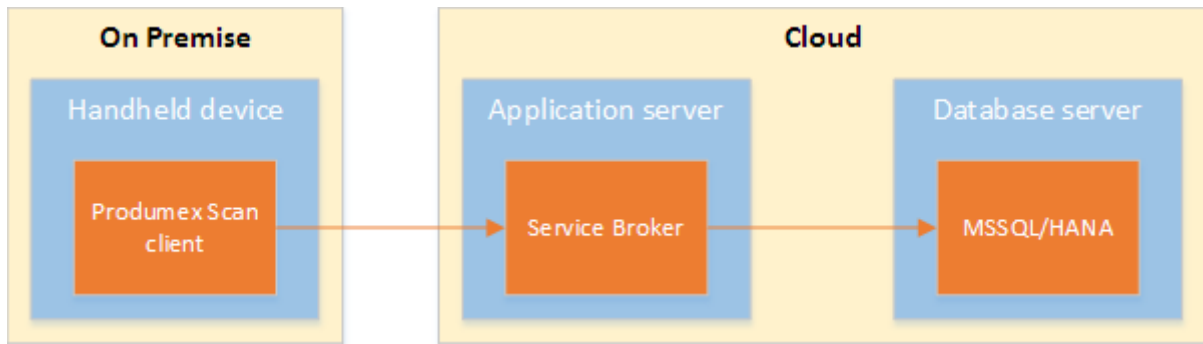
Remote desktop

On cloud environments where the network connection is slower, the traditional connection method might cause latency due the number of messages sent by the Produmex Scan client. In order to improve the communication speed, it is recommended to run the application on a remote desktop. This way the client and the service broker communicates within the same network therefore the long distance traffic decreases.

In this case the client application and the Service Broker run on the same server. The application can be reached through a remote desktop application from the handheld device.

The remote desktop connection method is only recommended in cloud environments where latency issues occur due the slow connection between the client and the server.
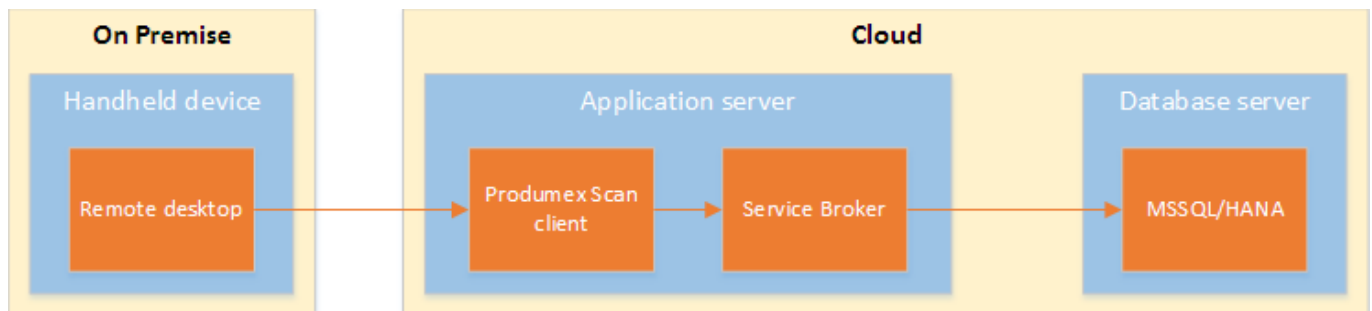
For more information about how to set up Remote Desktop Connection please see: Setup Remote Desktop Connection. When setting up the remote desktop connection, enable the 'Full screen' and the 'Fit remote desktop to screen' display options.

When using the remote desktop connection method we recommend the following display settings:
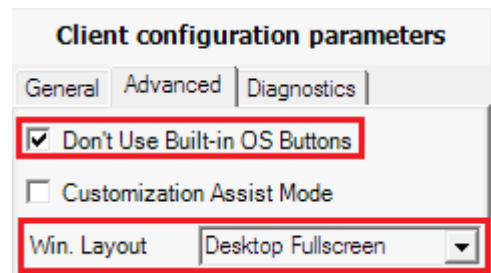
- Set the Windows layout to *'Desktop fullscreen'*
- Disable the built-in OS buttons by ticking the *'Do not use built-in OS buttons'* option

2. Installing Produmex Scan

To make the system work you have to do the following:

- Install the Produmex Scan add-on in your SAP company database and run the DBSetup.
- Install the Service Broker + Produmex Scan server component on your SAP server and configure it.
- Install the Produmex Scan application on the mobile devices.

2.1. Produmex Scan Add-on

Installing the Produmex Scan Add-on happens the same way as you would install any other add-ons in SAP. You have to open Administration>Add-Ons>Add-On Administration and click on button Register Add-On.
Click on the button beside the Registration Data File and browse the file BxMobile WarehouseSetup.ard. SAP will fill out the path to the exe file automatically. Turn on Install as Part of Registration and click on OK.
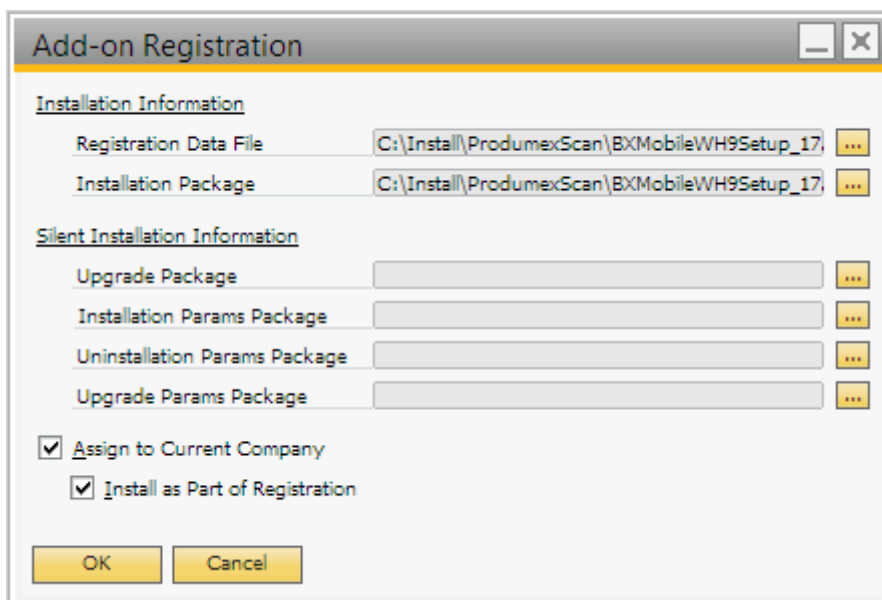

First SAP will register the add-on and then it will start the installation wizard. You have to go through all pages of the wizard and click on the next button. On the first page you have to accept the agreement, too.
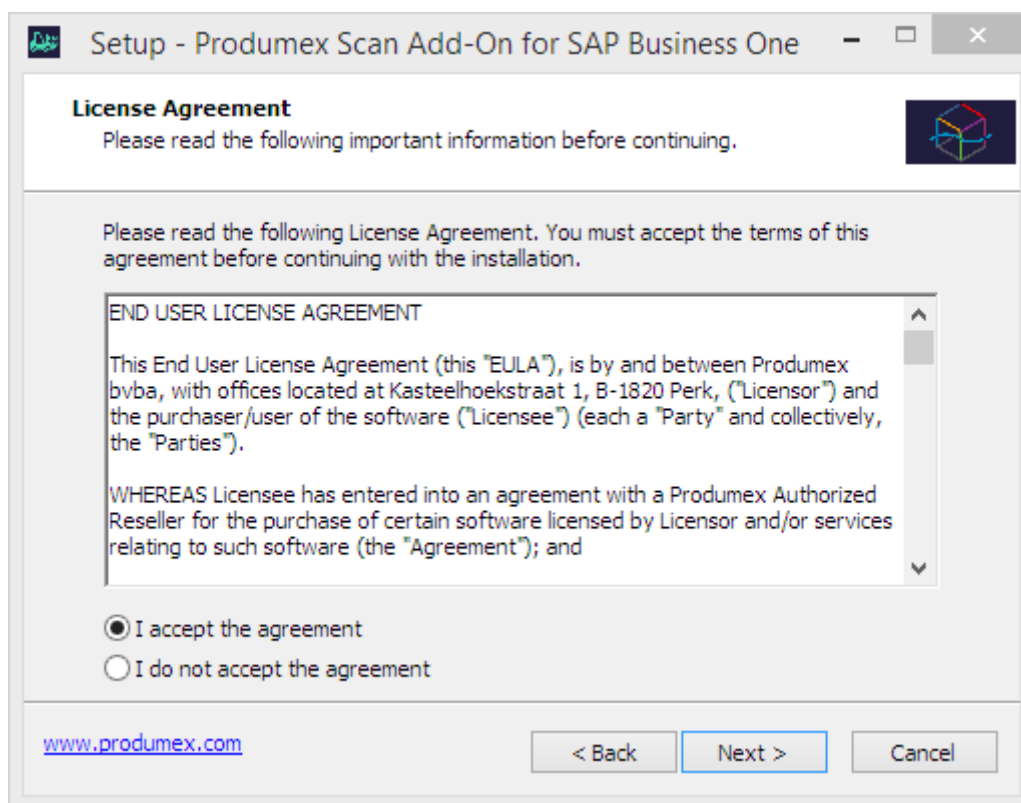
After the installation of the add-on SAP will set the add-on to Disabled in the Add-on Administration form. You have to choose when the add-on should start. For the first run it is recommended to set it to manual. Make sure the Active checkbox is turned on otherwise the add-on won't show up in the Add-on Manager.
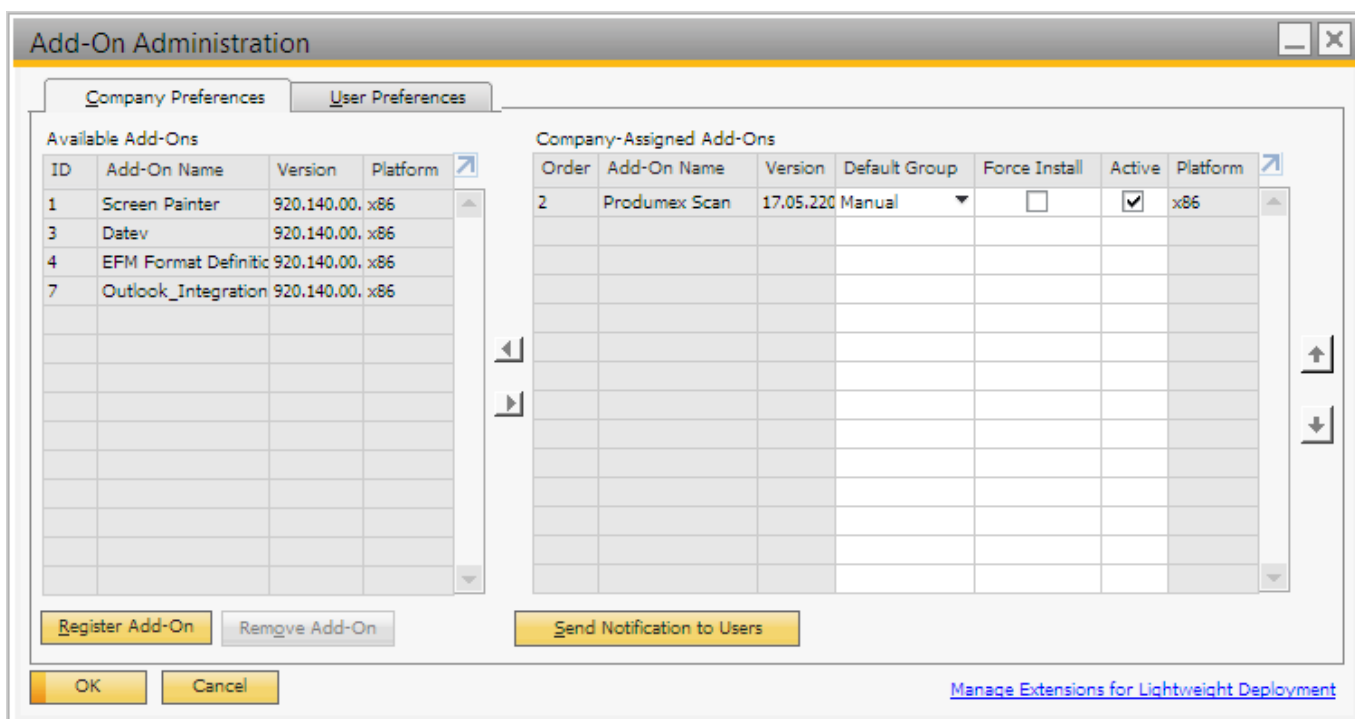
After that you have to start Administration>Add-Ons>Add-On Manager to be able to start the addon. When you first start the add-on it will create its own database tables and user defined fields. This process is called DBSetup. The add-on will display a message about it when you start it:
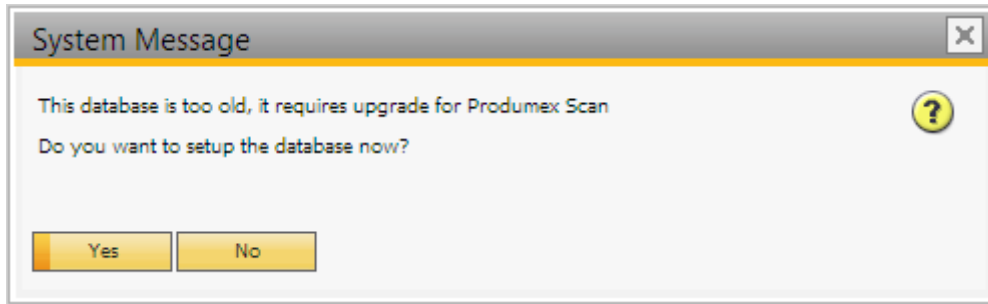
If you click on Yes, the DBSetup will start, if you click on No, the add-on will stop and you will get the same message next time you start it. To be able to run the DBSetup, first you have to create a backup of the company database. The add-on will check if a backup was created in the last one hour. If not, you will get a message like this:
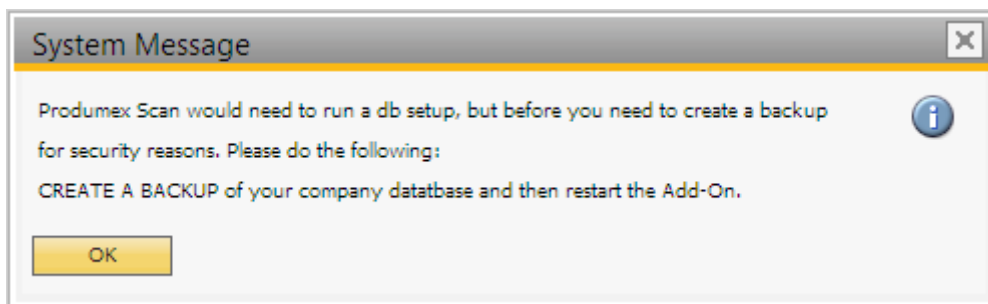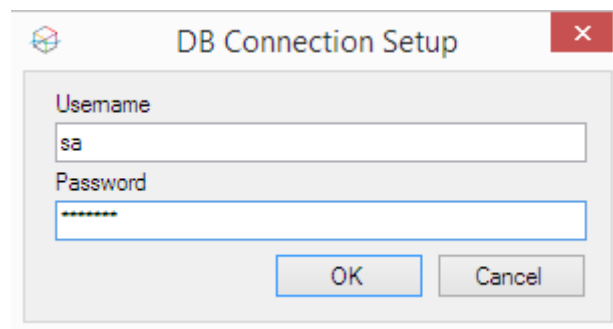
The add-on will exit. Note that a differential backup will be done. If you have the backup and click on Yes on the system message screen about the DBSetup, you will have to enter the user and password data for the SQL connection:

After clicking OK a progress bar will appear and it will go through the DBSetup process. When it has finished you will see an SAP message if you want to add the user defined fields. Here click on yes:
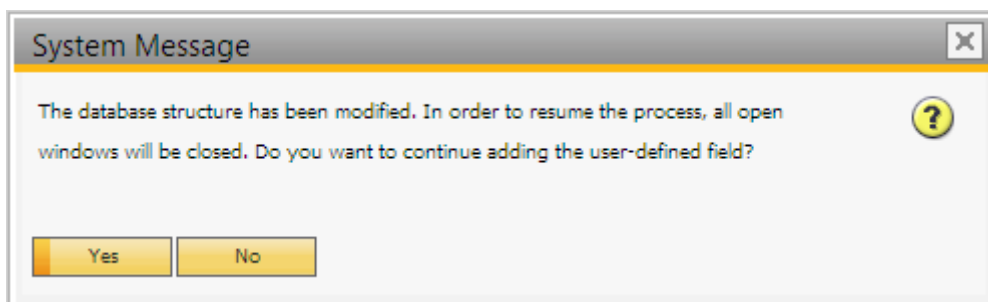
You will see a message like this:
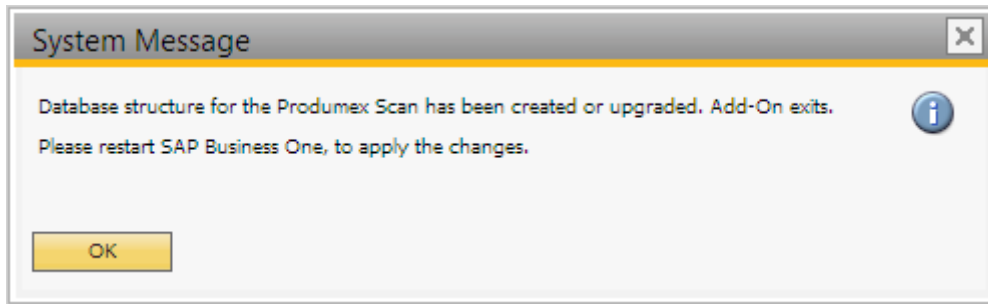
When the add-on has stopped, SAP will show the following message:

Here you have to choose Continue working without this Add-on and restart SAP. Now you can start using the add-on in SAP.
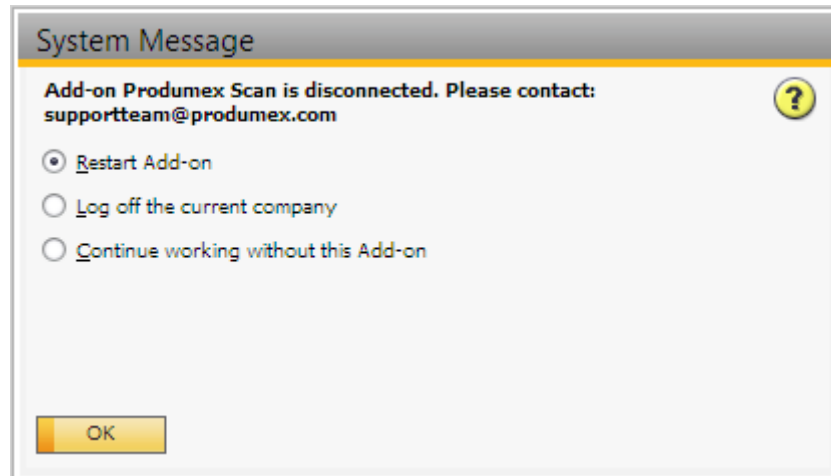
> To be able to run the DBSetup the SAP user must be superuser.

2.2. Service Broker, Service Manager and the Produmex Scan server module

Install Produmex Service Broker

The Service Broker establishes the connection between the SAP company database and the application on the mobile device. It queries the data from the SAP database and sends it to the mobile application. It creates the SAP documents based on the requests from the mobile devices. The SAP documents are created with SAP DI API 32bit version, so it must be installed on the server where the Service Broker runs.
The Service Broker can run from a command window or as a service. It creates threads for the different requests which are independent from each other so if one thread has a problem it can be closed and the others are not influenced by it.

The service broker creates its log files at C:\ProgramData\BX\BX Service Broker\Logs and needs .NET

4.0 to run (it is in the installer). The ProgramData folder is hidden. You have to either enable show hidden folders and files in windows settings or you have to enter it directly to the address bar in windows explorer:
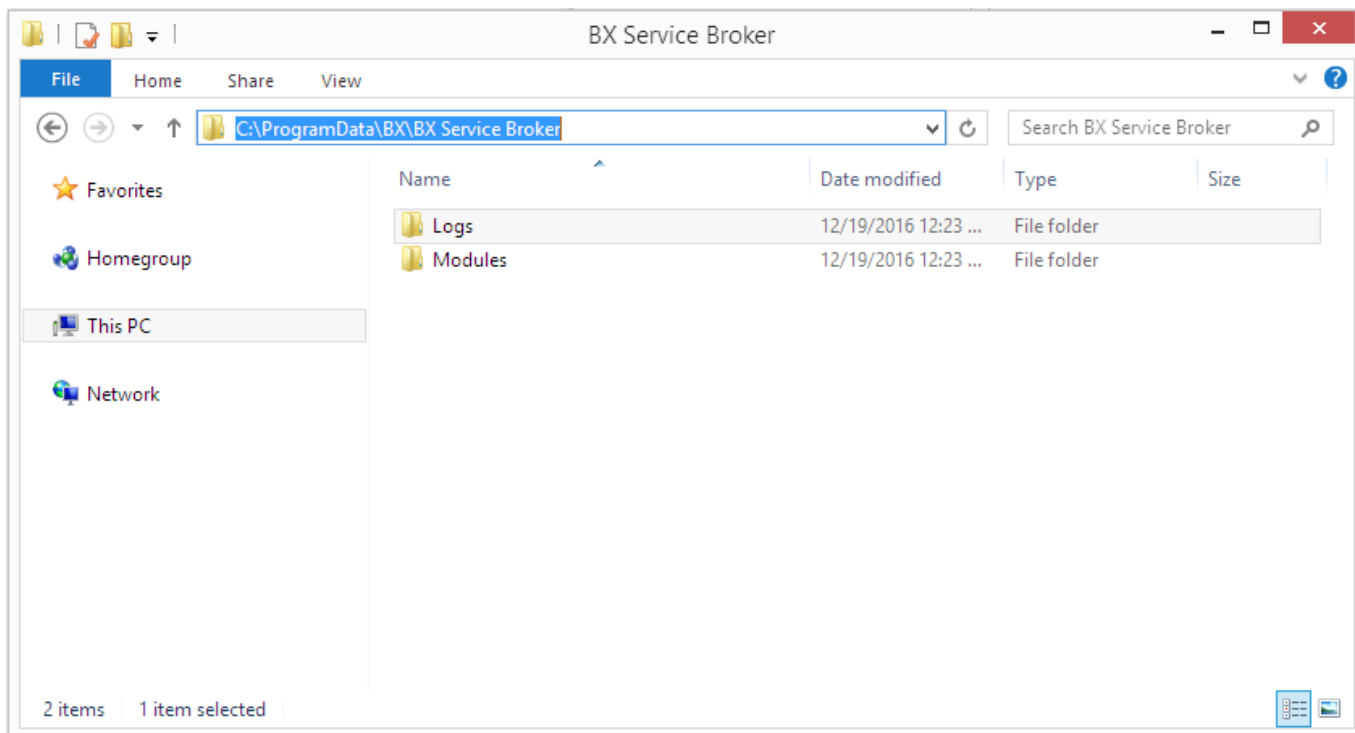
> If the Service Broker doesn't run, the communication between the clients and the SAP company database is not possible.

Install the service broker on the server which has access to the company database. The installation file is an exe file with a name like this one: ProdumexServiceBroker.Setup.exe.
After launching the .exe file, the End User Licence Agreement will open up. Produmex Service Broker can only be installed if the License Agreement is accepted.
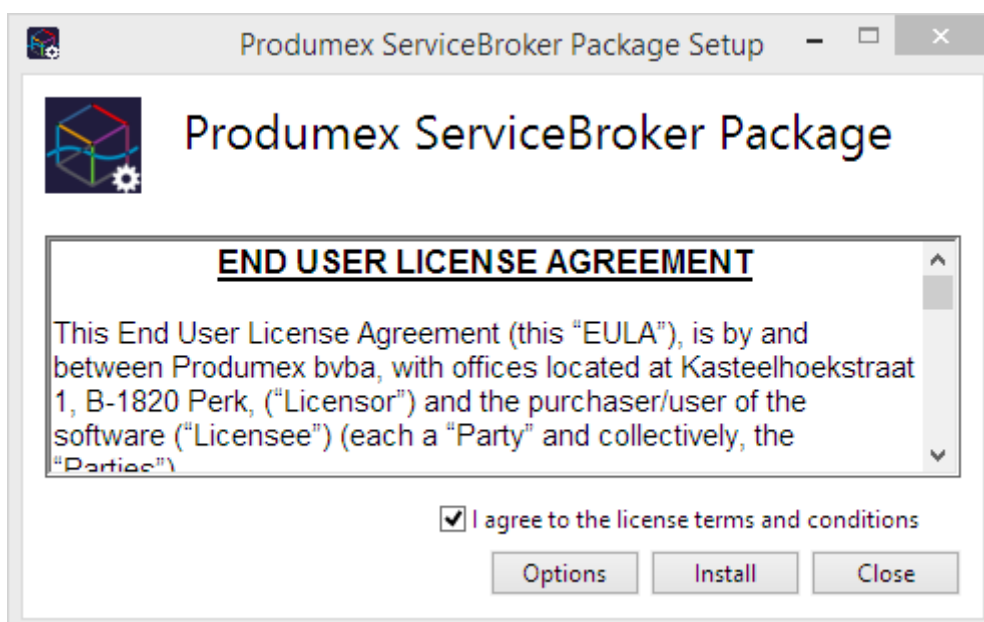
When you start the installation, the Produmex Service Broker installer will request information based on the system and will set up the service based on the information you enter.

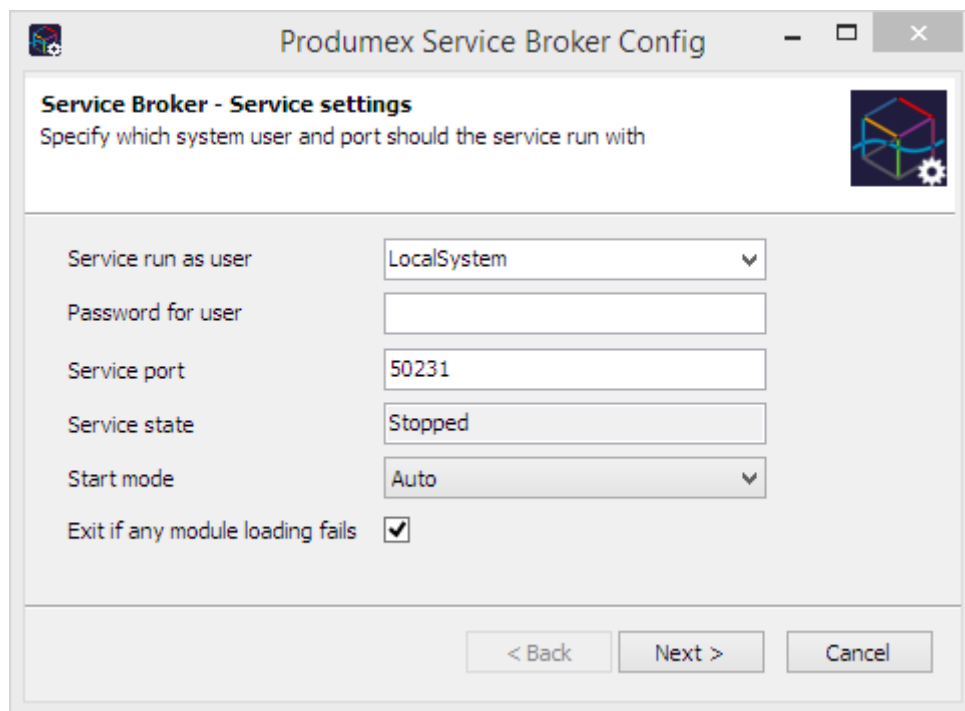The default port for the communication between the service broker and the clients is 50231. The installer will open the firewall for this port automatically, but if you change the port, you will have to change the firewall settings manually.

The installer will first ask the user who will be assigned to the service broker service in windows. This must be a user who has rights to write the event log and the program data directory where the logs are created. The service broker service will also make a connection to the SAP company database, the user must have rights for that as well.

Specify a password for the Service Broker Administration web page.
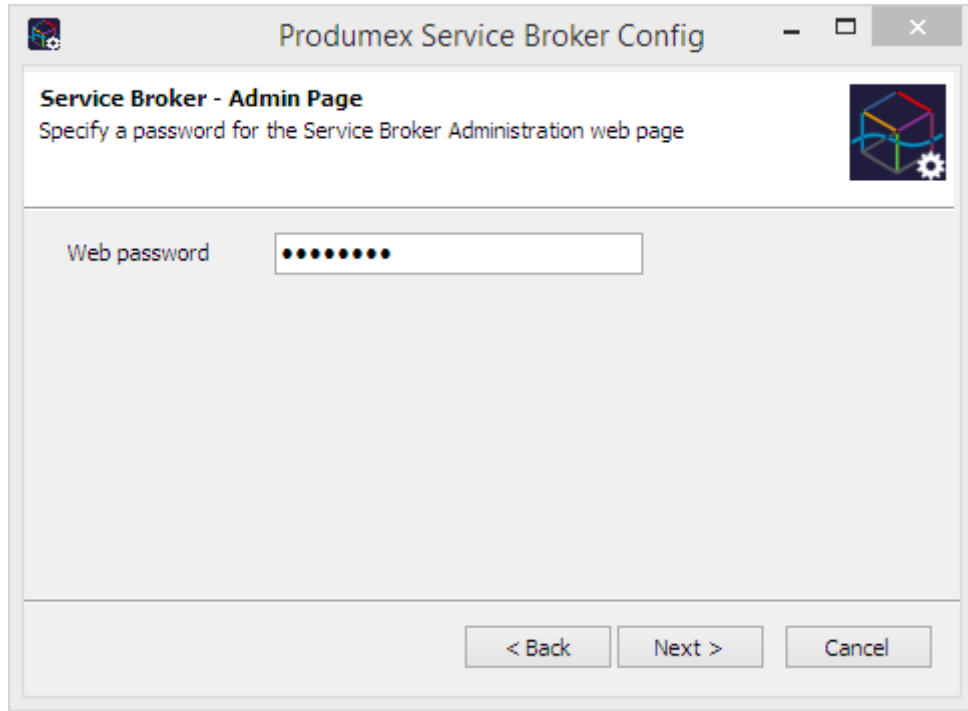
You can also enter the port on which the communication goes; the default is 50231. You can also set up the start mode of the service. The recommended is Auto or Auto (delayed start). You have to set up the SQL server connection in the next window.
If you have a named instance, you have to enter the name of the server and the named instance as well (for example SERVER\NAMEDINSTANCE).
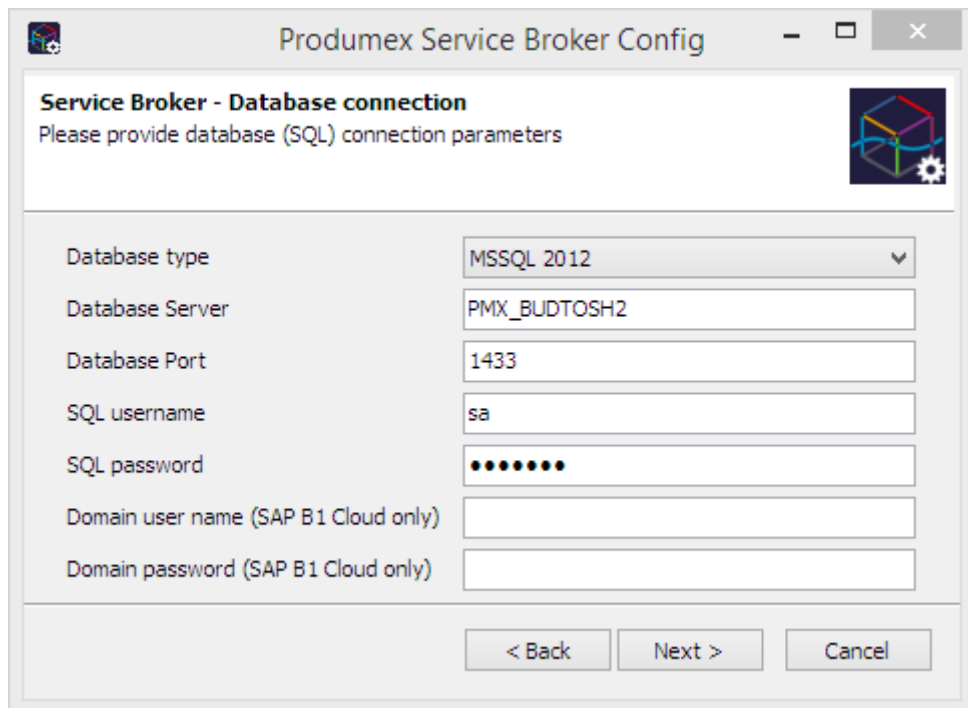
After that you have to set up the company database. You can only set up one company here, if you have more databases, you can add the others in the Produmex Service Manager after installation (see at Produmex Service Manager).
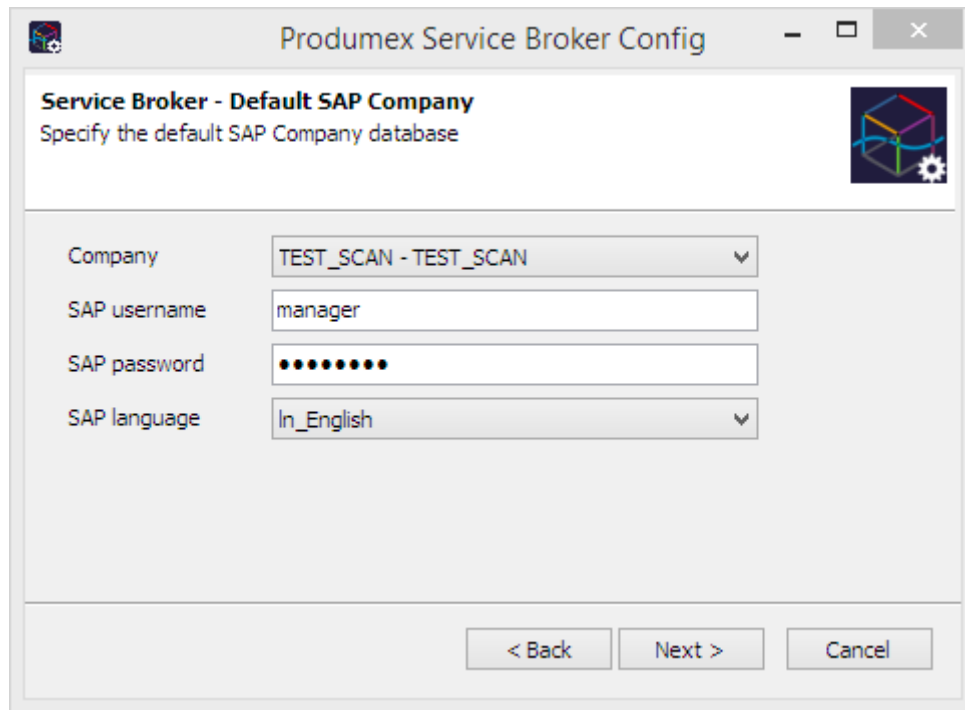
You should enter an SAP user here which has licenses to create inventory bookings for materials. At the end of the installation you will see a summary screen about you settings:
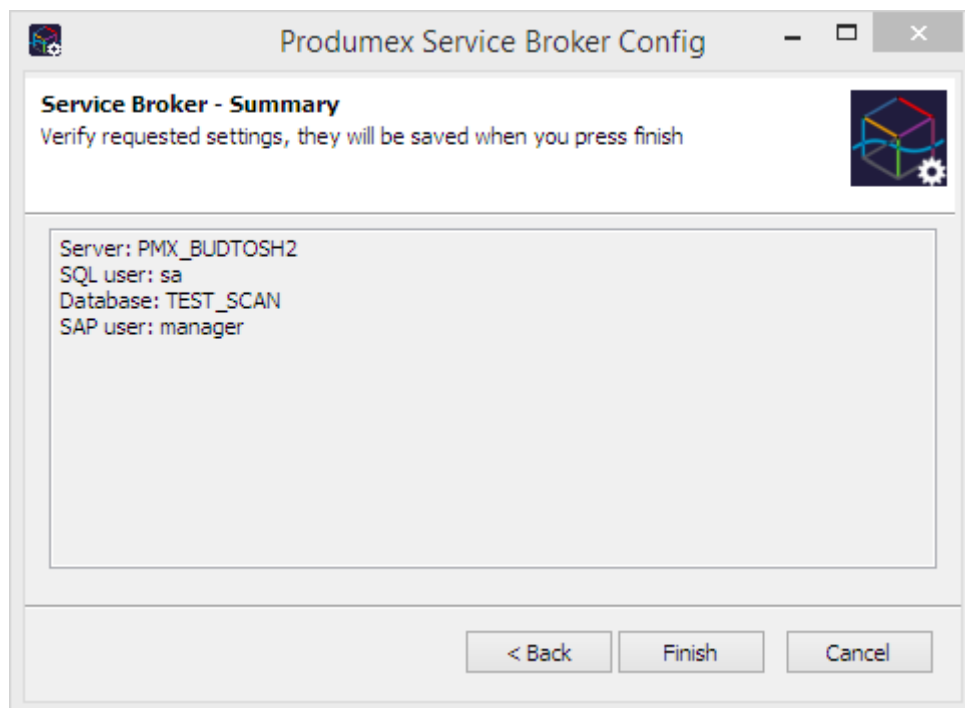
Click 'Finish' to end the installation.

Install Server module

The Produmex Service Broker can work together with different Produmex add-ons. To do it, it uses the dlls of that add-on. You need to install these dlls with the server installer which has a name like this: Produmex*ADD-ON NAME*_ServerSetup_*version nbr_ SBO Version_Database server type*.*32/64 bit*

installers.zip.

The add-on and the server dlls must be for the same version. If you use different versions, error messages may appear. You simply have to start the installer and it will automatically copy the dlls and then restart the service broker service. You can check the installed modules in the Produmex Service Manager if you select the Service Broker and click on the 'Configure' button. Go to the 'Produmex Service Broker' tab.

Produmex Service Manager

The Produmex Service Manager is a standalone program that can handle the Produmex Service Broker and other Produmex services. Service parameters, connection data to the database, and the connection data to the SAP Company can also be modified on the Service Manager.

It is automatically installed by the Produmex Service Broker installer. The Service Broker will automatically appear in the Produmex Service Manager, together with all other installed Produmex services that are supported by the Service Manager.

Setup/Modify Connection data to the SAP company

Click on the 'Setup Companies' button.
On the opening window you have to enter the connection data to your SAP company database. At 'Server' enter the name or IP address of the server (if you have connection problems when using the name of the server, try to use the IP address instead).
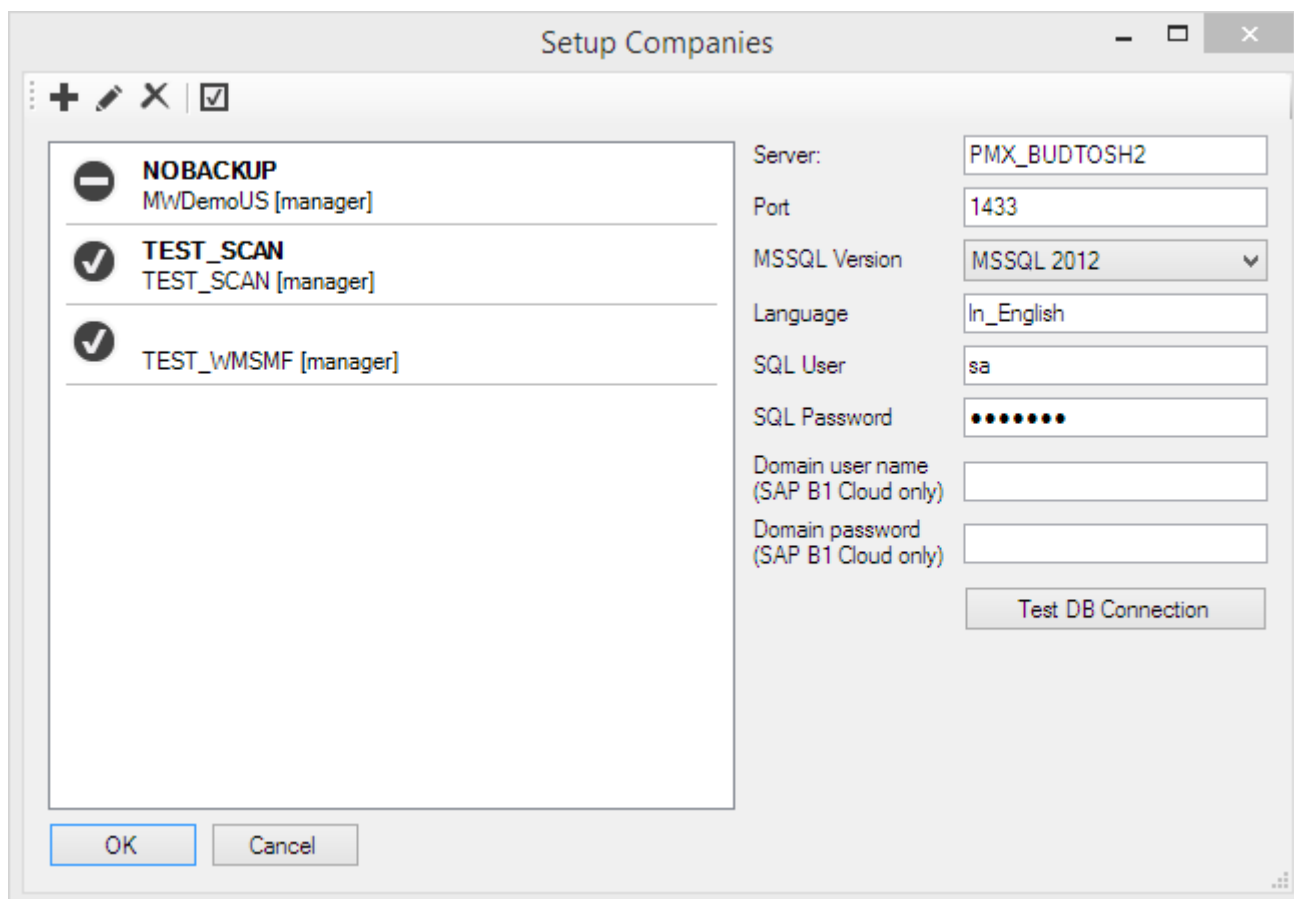
At 'Port' you have to enter the port on which the application can connect to the SQL Server. It is usually 1433, however, if you have a named instance in the SQL server, then you have to check the actual port in the SQL Server Configuration Manager. You have to select your SQL Server instance then right click TCP/IP on the right side and click on Properties. In the small window go to the bottom and check the port number:
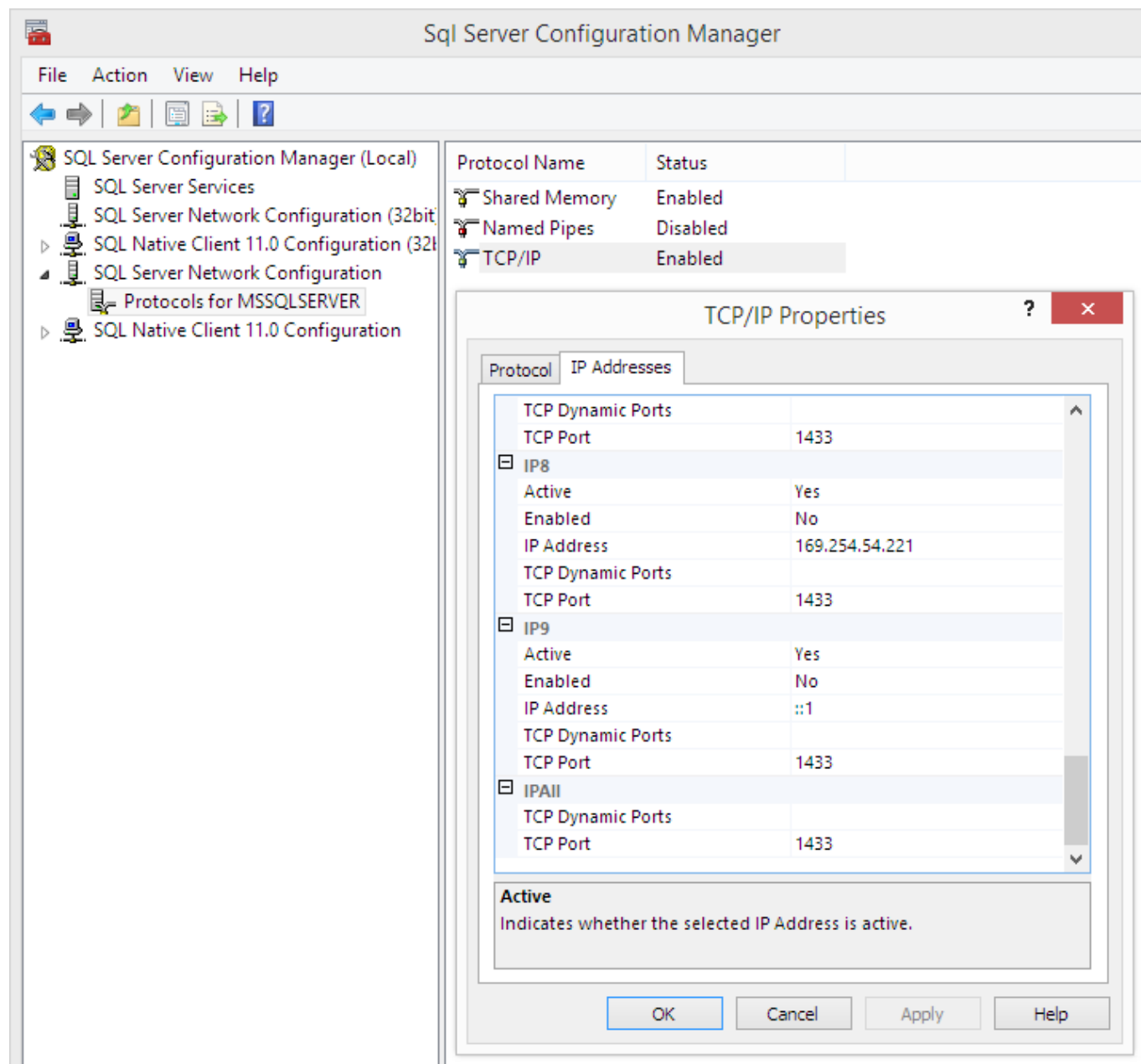
Please note: in this example there are no instances, so the port is the default 1433.

If you have the port number, you have to choose MS SQL version number and enter the SQL Server user name and password. If you click on Test DB Connection, Service Manager will try to connect to the SQL server with the given data. If everything is ok, you will get a message: Database connection test – success!
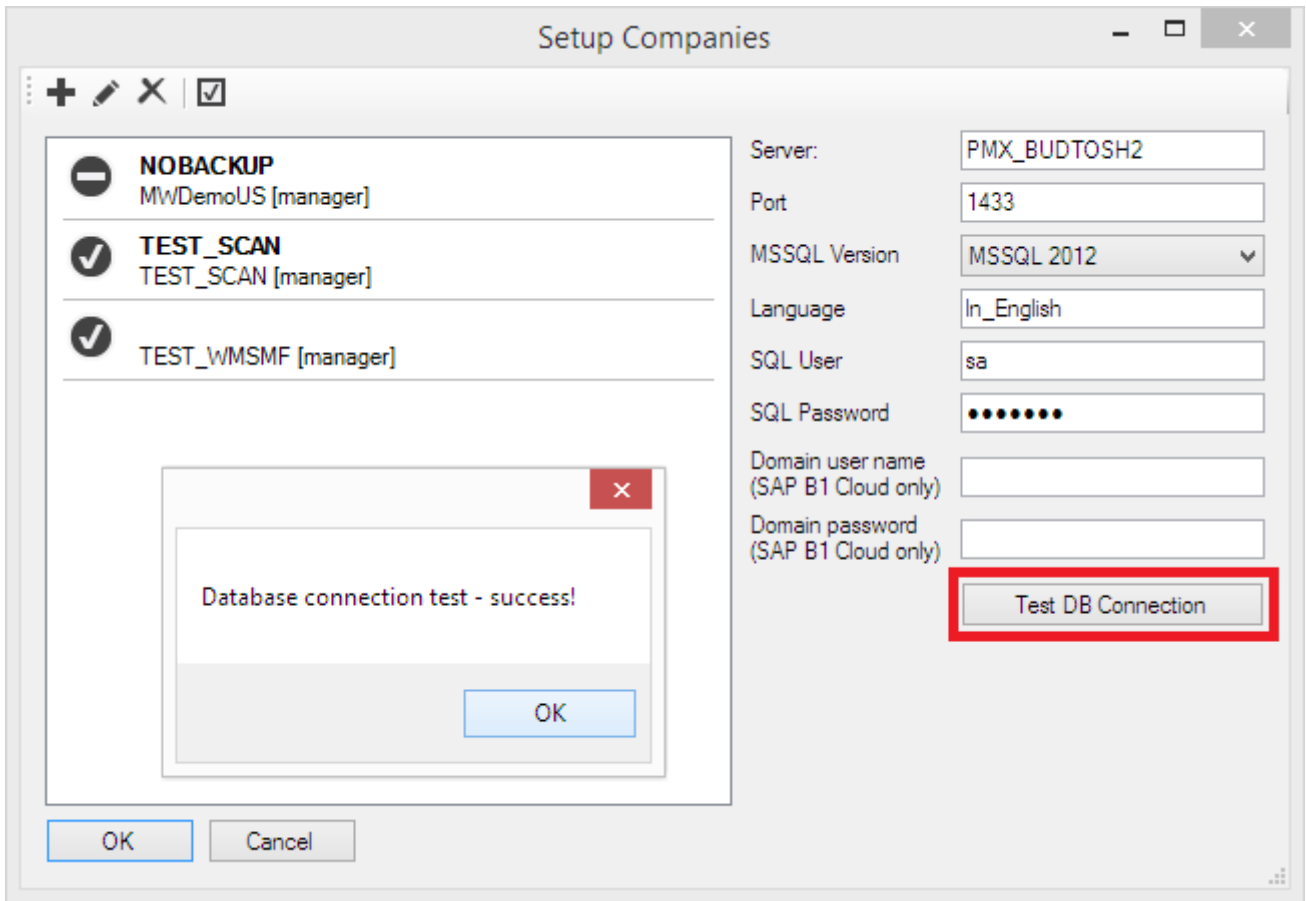
Add new database

Click on the 'Setup Companies' button. On the opening Setup Companies' screen click on the + button to add a new database.

On the 'Database Setup' window select the Database then enter an SBO User and its password to create the connection to the database. SAP employees are used for log in the mobile device. Transactions initiated by the employees will be posted by the SAP user defined for the Service Broker.

The SBO user must have the authorizations to create stock related bookings in SAP Business One (Delivery, Goods Receipt PO, Stock Transfer, etc.) The SAP user also need at least an SAP Indirect Access license type.
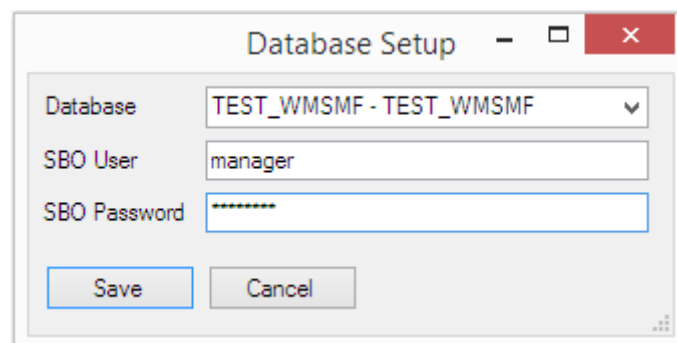
Click on Save then close the window. You can close now Setup Companies and go back to the Service Manager main screen.

You can add several databases but you can make a connection only to one database at the same time.

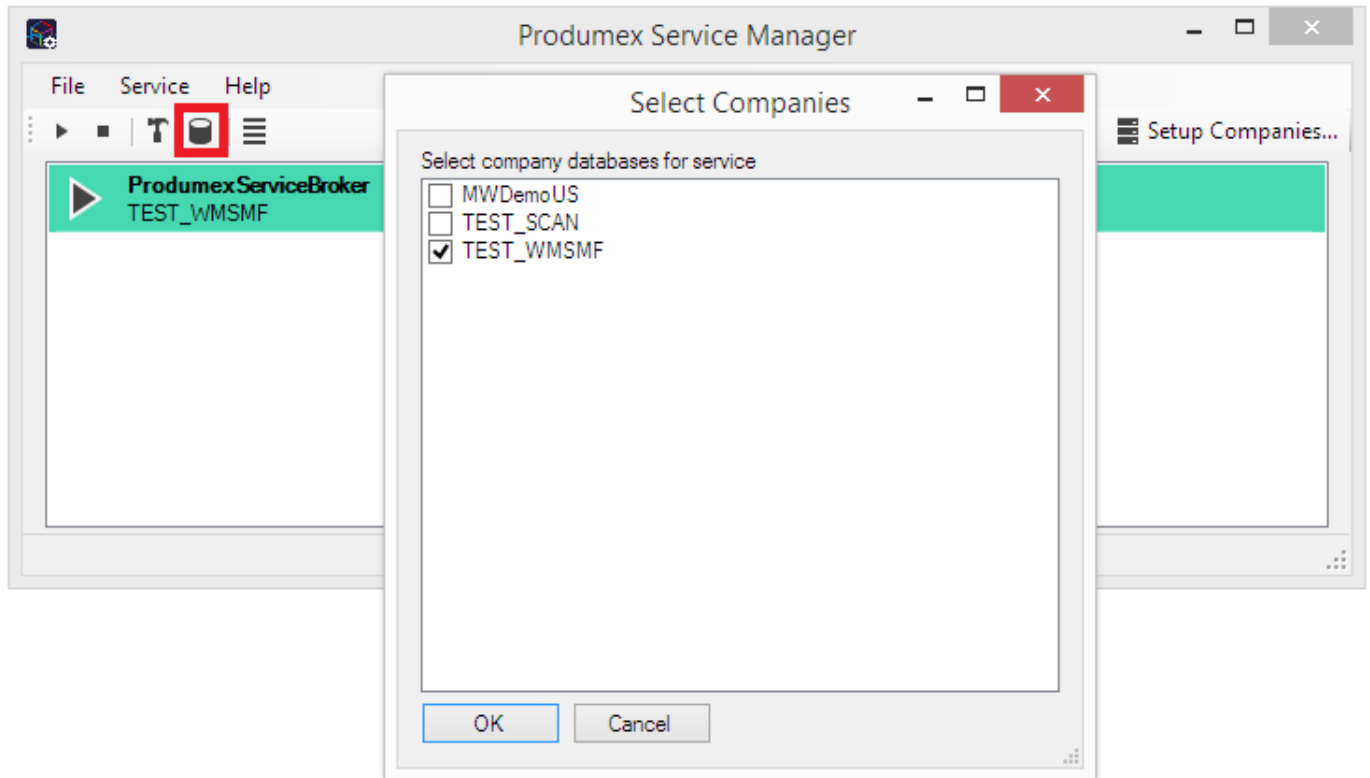Now you have to assign your companies to the Produmex Service Broker and other Produmex services. To do that click on the Companies button in the line of the service.

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Configuring Produmex Service Broker

The Produmex Service Broker can work together with different Produmex add-ons, therefore in the Service Manager you have to configure which add-on you want to use. To do that, click on the Configure button or select it from the line of the Service Broker.
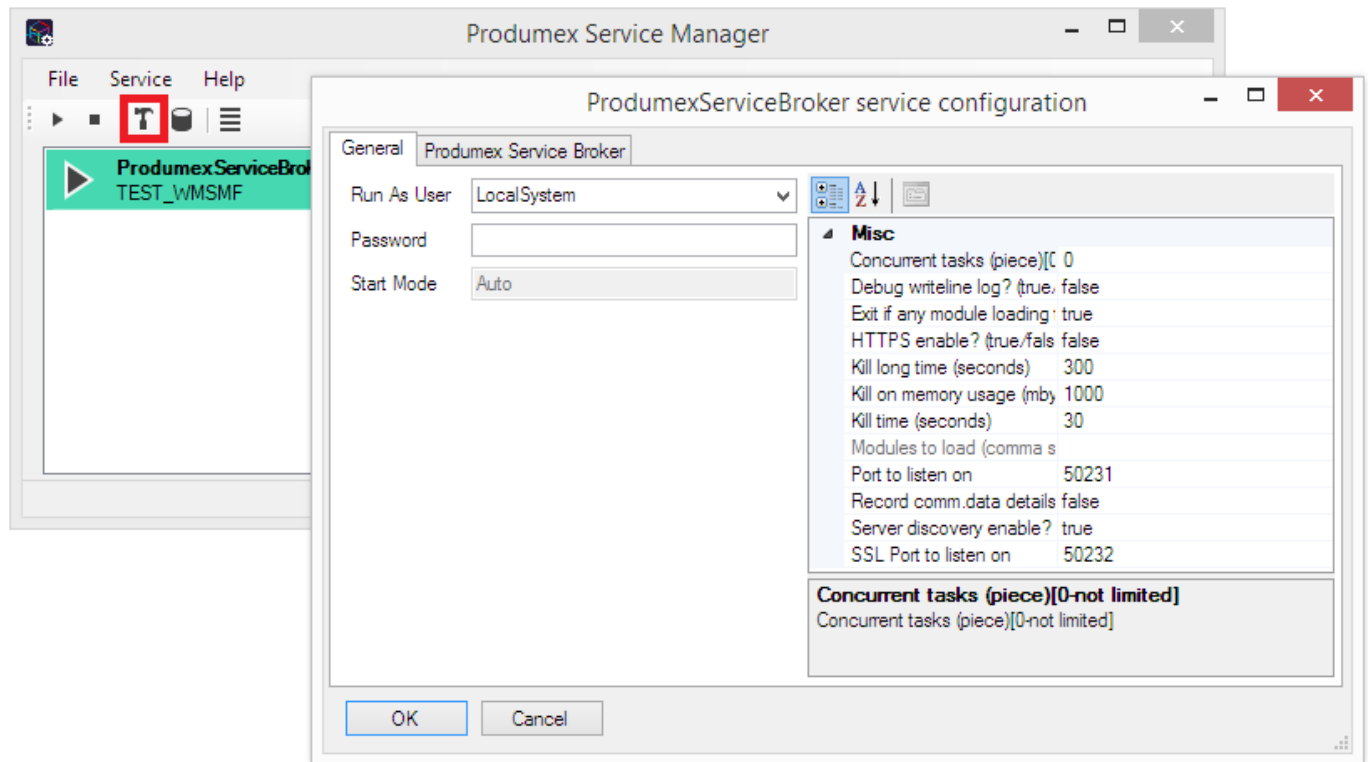
If you set the '*Debug writeline log*' parameter to true, it will write a log about each command the Service Broker processes. Only set it to true, if Produmex support asks you to do that.

'*Kill on memory usage*' will close service broker if the amount of memory (in Mbytes) usage is reached (the setting doesn't work yet). Note: if you use this function, you have to enable windows to restart the service if there is a failure (you can set it at Properties of a service in services.msc on tab Recovery).

'*Kill time*' means that if a thread doesn't respond to a request within this time limit, it will be killed. The setting depends on your server. If you have a quick server, set it to a small number, if you have a slow server, set it higher. Default is 10 seconds.

'*Modules to load*' is the module of the add-on to which the service broker connects.

- If you are using Produmex Manufacturing, you should set it to BXPPSMobilePDCWebAPI.dll
- If you are using Produmex Scan, you should set it to BXMobile Warehouse WebAPI.dll
- If you are using Produmex Operator, you should set it to BXMWWebAPI.dll

Please note: It is automatically done by the module installer for you, so you only have to set this manually in specific cases.

At the '*Port to listen on*' you can set which port is used by the service broker to communicate with the clients. The default is 50231. Make sure that the port you set here is not blocked by any firewalls or antivirus software.

The '*Server Discovery Enable*' turns on the feature that the client can look up the running service broker server automatically. It makes setting up the clients easier.

You have to assign an administrator user to the service in the windows service manager, otherwise the server broker cannot connect to SAP and cannot write to its log files. If the service broker stops right after starting it, and in the log file you have access denied errors, then the cause is that you haven't assigned the administrator user to the service.

On the Produmex Service Broker tab you can see the loaded modules, and you can remove/install new modules if needed:
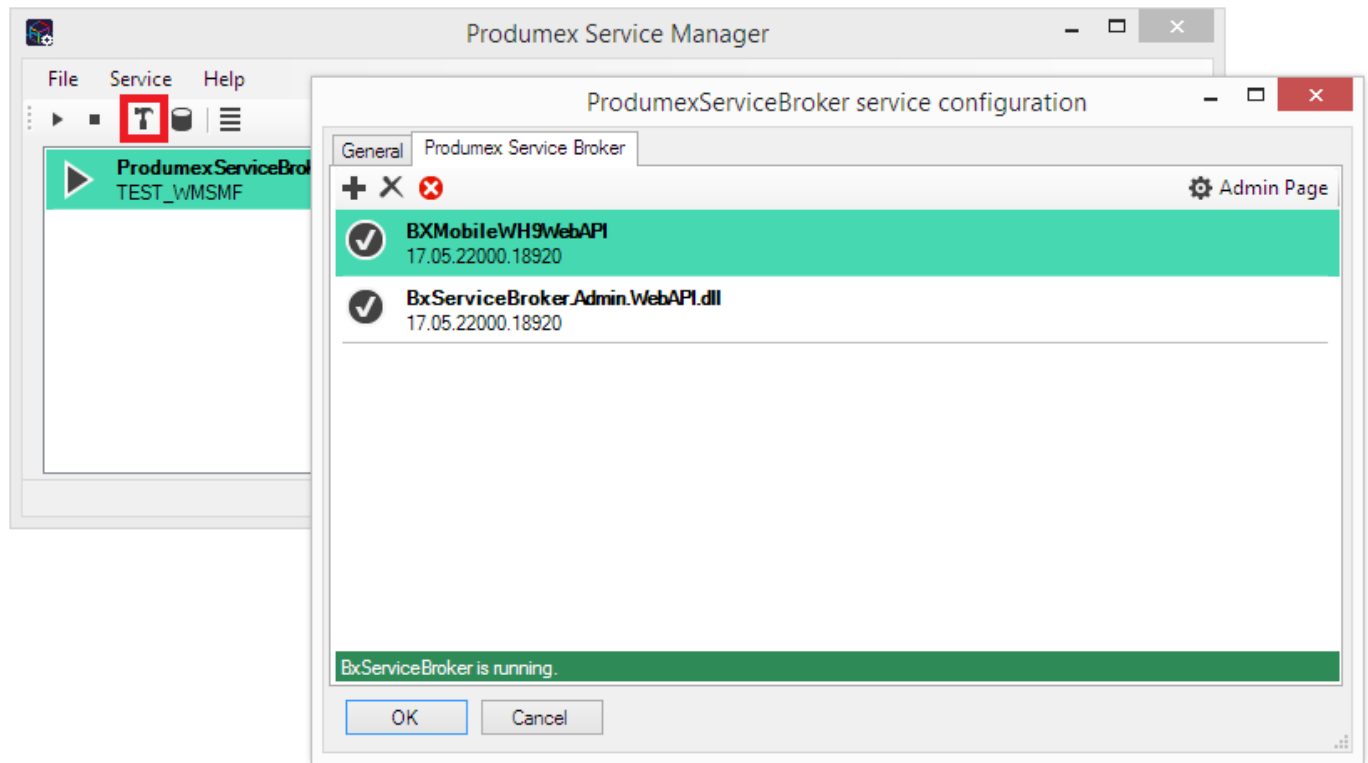

If you see OK beside the module name, it means it could be loaded successfully. If a problem arises, you will see error beside the module name.
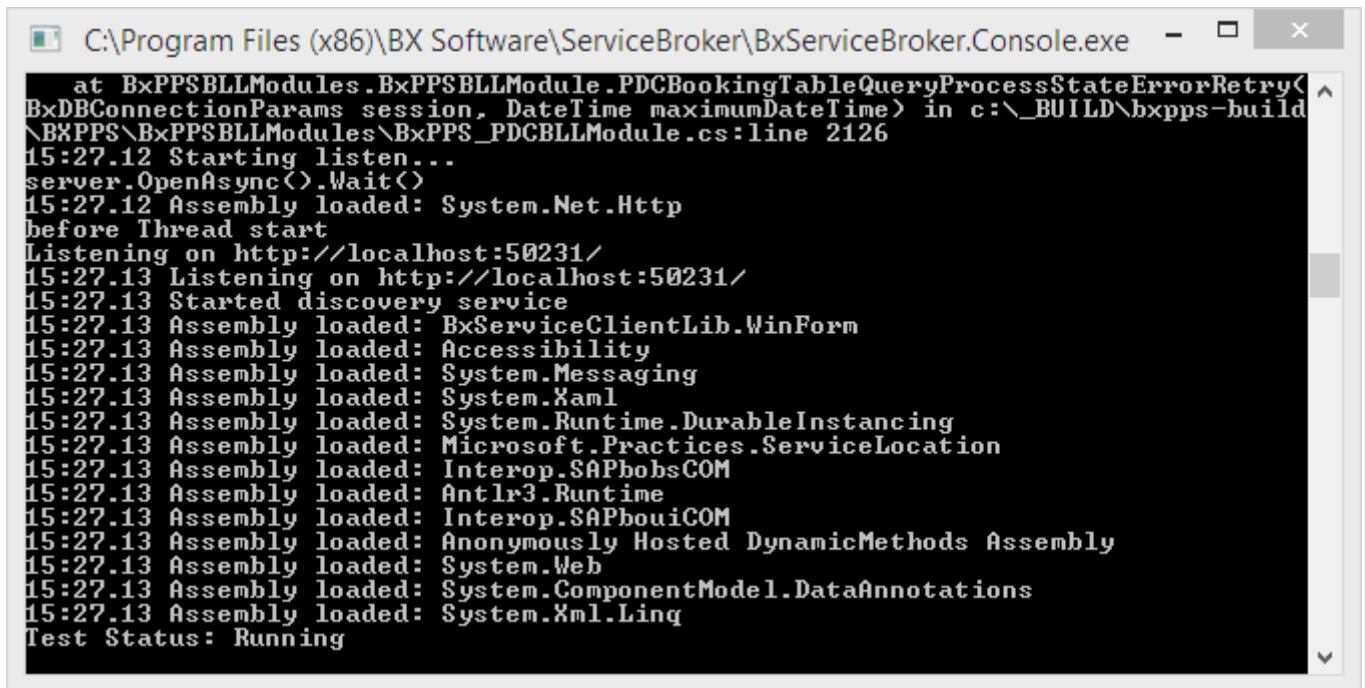
Start Produmex Service Broker

After you have set all settings and installed the server module, you can start the Service Broker service in the Service Manager by selecting first the service then clicking on the Start button. If you want to stop a service, just click on the Stop button.

You can also stop or start the services from windows service manager, but you cannot change the Produmex settings there. It is recommended that you set the service to Automatic start and that you set the recovery options to restart at Recovery in service properties for the service:
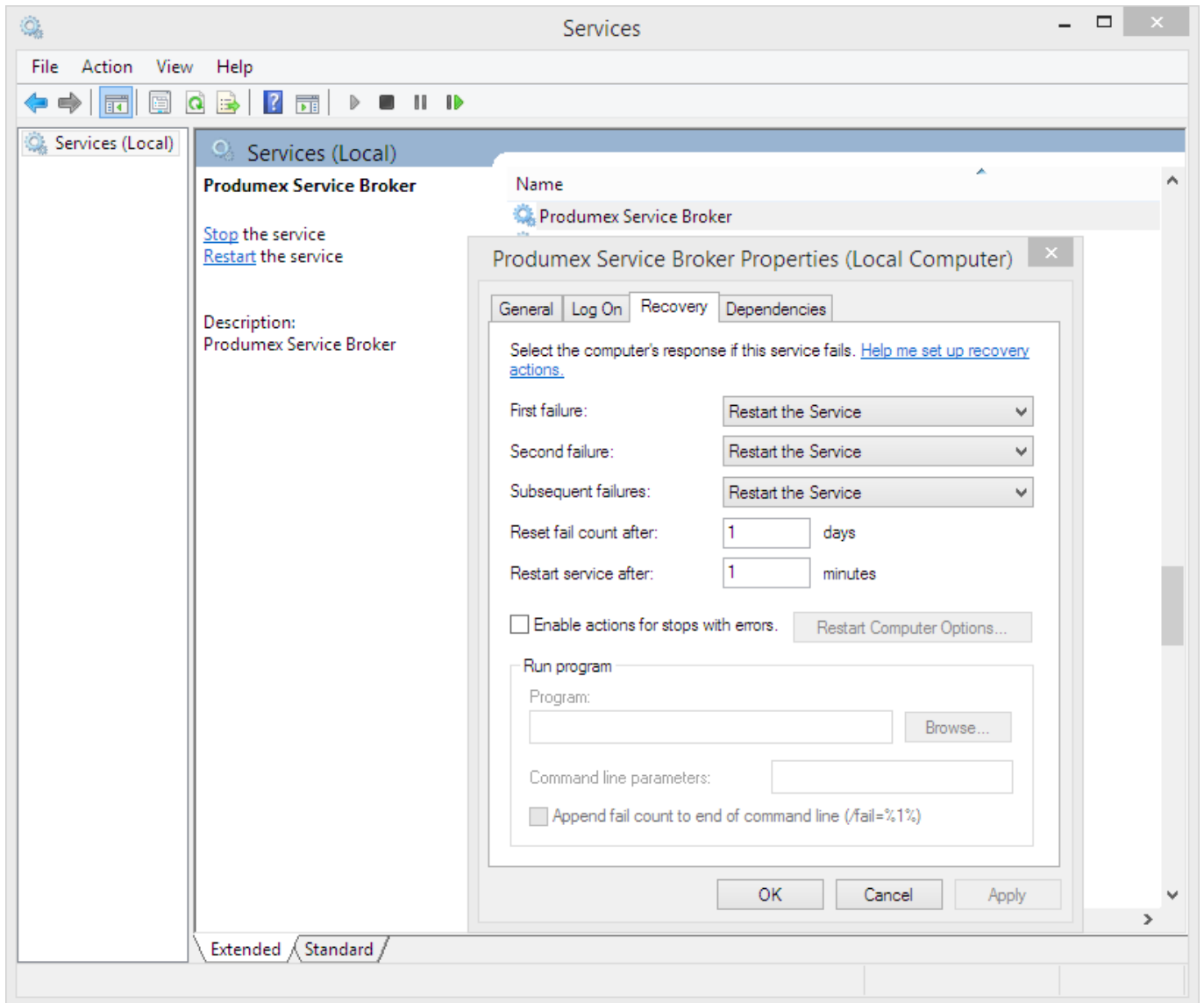
If you want to start the service broker from the command window, you can start it with "C:\Program Files (x86)\BX Software\ServiceBroker\ServiceBroker.Console.exe" (or Service Broker (Console) program in the windows start menu) and you will see a window like this:
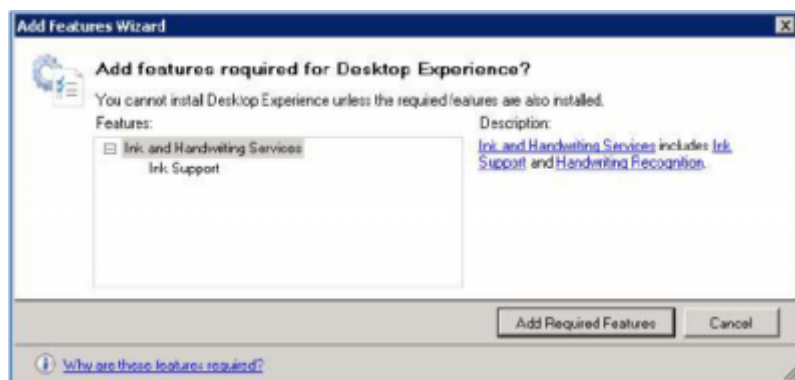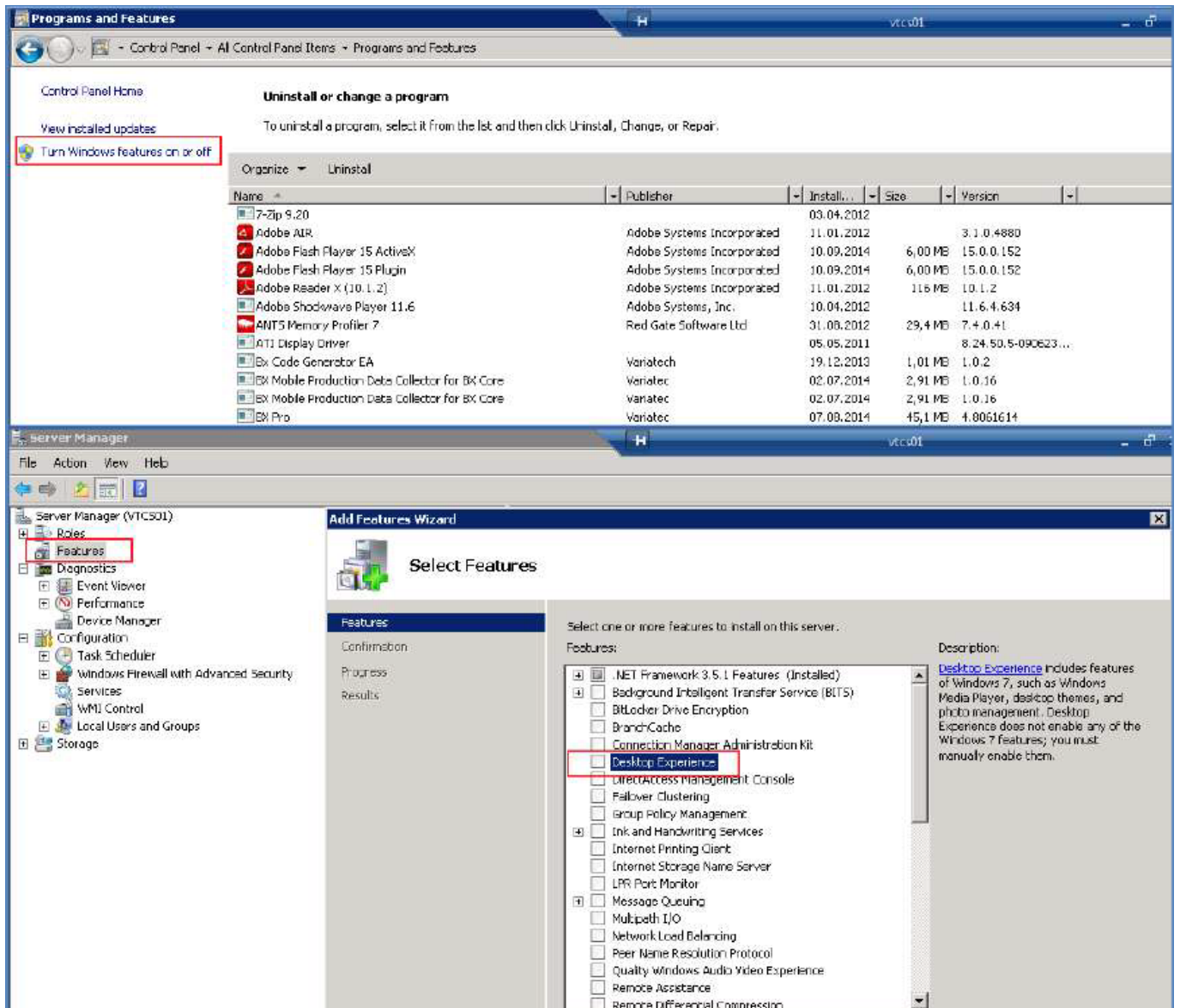
```
■□  C:\Program Files (x86)\BX Software\ServiceBroker\BxServiceBroker.Console.exe    –  □   ×

         at BxPPSBLLModules.BxPPSBLLModule.PDCBookingTableQueryProcessStateErrorRetry(
BxDBConnectionParams session, DateTime maximumDateTime) in c:\_BUILD\bxpps-build
\BXPPS\BxPPSBLLModules\BxPPS_PDCBLLModule.cs:line 2126
15:27.12 Starting listen...
server.OpenAsync().Wait()
15:27.12 Assembly loaded: System.Net.Http
before Thread start
Listening on http://localhost:50231/
15:27.13 Listening on http://localhost:50231/
15:27.13 Started discovery service
15:27.13 Assembly loaded: BxServiceClientLib.WinForm
15:27.13 Assembly loaded: Accessibility
15:27.13 Assembly loaded: System.Messaging
15:27.13 Assembly loaded: System.Xaml
15:27.13 Assembly loaded: System.Runtime.DurableInstancing
15:27.13 Assembly loaded: Microsoft.Practices.ServiceLocation
15:27.13 Assembly loaded: Interop.SAPbobsCOM
15:27.13 Assembly loaded: Antlr3.Runtime
15:27.13 Assembly loaded: Interop.SAPbouiCOM
15:27.13 Assembly loaded: Anonymously Hosted DynamicMethods Assembly
15:27.13 Assembly loaded: System.Web
15:27.13 Assembly loaded: System.ComponentModel.DataAnnotations
15:27.13 Assembly loaded: System.Xml.Linq
Test Status: Running
```

The use of the command window is recommended for debugging purposes. In production environment the use of the service is more efficient.

2.3. Produmex Scan Client Application

In order to run the Produmex Scan client application on the mobile device you need the Microsoft .NET Compact 3.5 framework on all the mobile devices where the application will be used.
If you have a server operating system (for example Microsoft Windows Server 2003), you have to install the windows desktop experience component of windows from Control Panel>Programs and Features>Turn Windows Features On or Off:

Then you have to install the Windows Mobile Device Center 6.1 driver:

- 32 bit:
  http://download.microsoft.com/download/7/3/5/735ec6ea-7607-4e56-a5f0-f7672443727e/drvupdate-x86.exe
- 64 bit: http://www.microsoft.com/en-US/download/details.aspx?id=3182

If it is not installed, you will get a message during installation that active sync is needed. You can download the 64 bit package from here:

http://download.microsoft.com/download/0/4/3/0432540e-2d1a-415d-9c9da9963e43503e/drvupdate-amd64.exe

For 32 bit systems with windows 8 or 8.1 it is enough to run windows update, download all updates and reboot the computer.
For windows 8 and 8.1 operating systems it can also be needed to install the Microsoft active sync component.
This step is not needed for the non-server operating systems.

Cradle the mobile device on your computer. Then run the Produmex Scan Application setup file contained in the ProdumexSCAN_ClientWM6Setup_*version nbr._SBO version_Database server type.32/64 bit version*.zip file on the host computer with administrator rights.
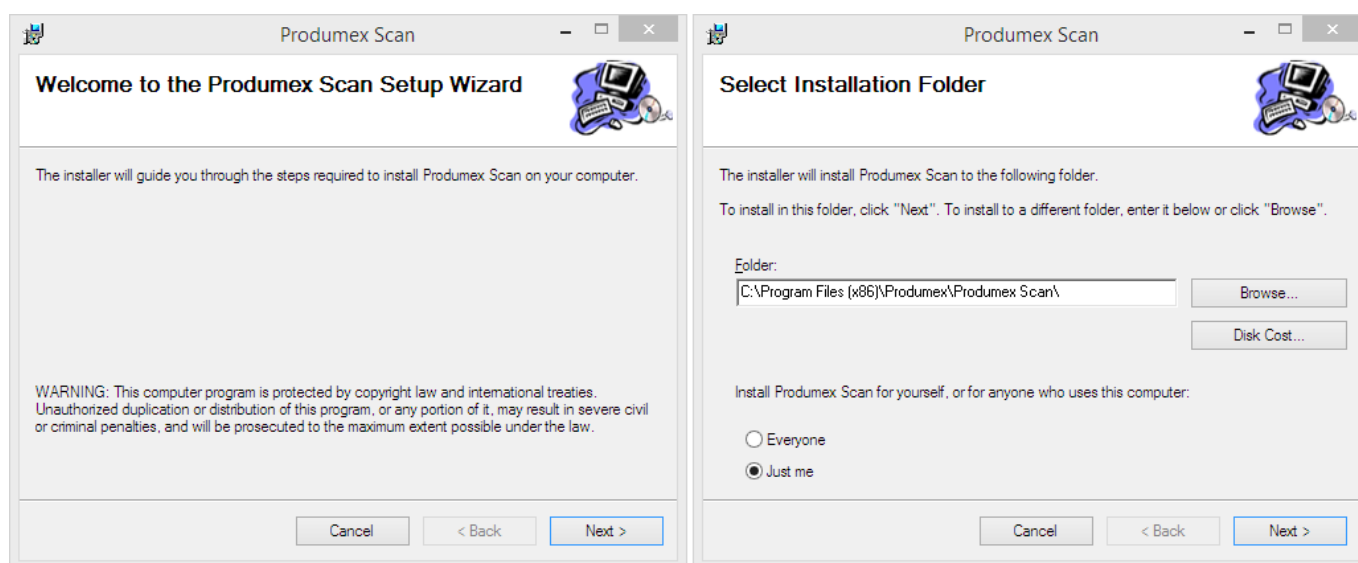
Follow the instructions of the installer. Choose the destination folder.

The installer will set up on the cradled, connected mobile device as well.
If for some reason the installation on the mobile device is interrupted, it can be installed directly on the mobile device, too. Copy ProdumexSCAN_ClientWM6Setup_*version nbr._SBO version*.cab from c:\Windows\WindowsMobile\BXMobileWarehouse\ to your mobile with Windows Mobile Device Center, and then run it in the mobile device.
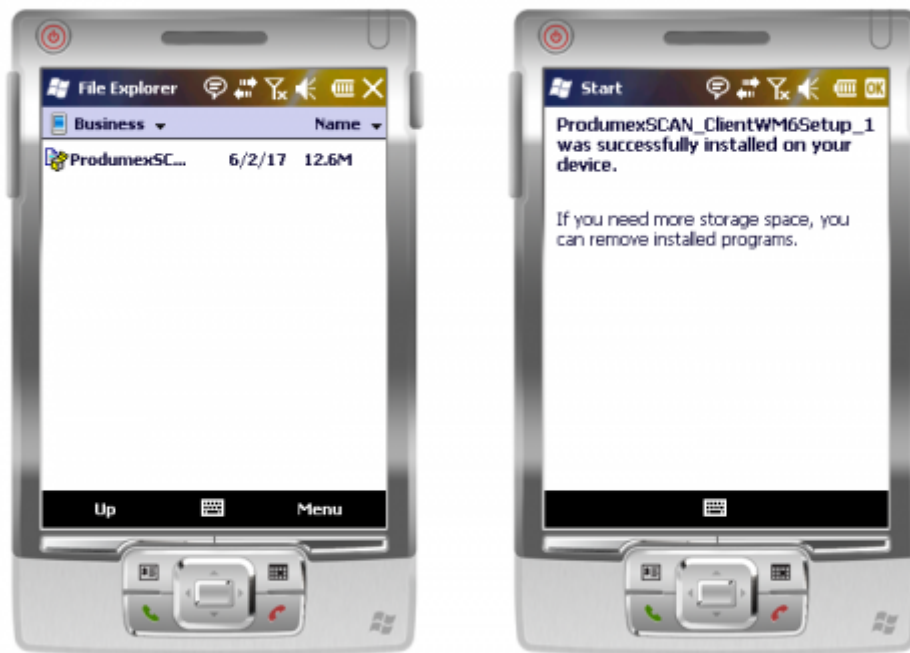
You can find the configuration form and the application among the installed programs (under the start menu).

When started for the first time, it will open the configuration window. When you already configured it, it will open the login screen instead. If you want to start the configuration again, you have to start "Configure Produmex Scan" on the mobile device. For more information about client configurations please see: Configure Produmex Scan

With the installer new shortcuts will also be added to the start menu under the Produmex folder, to run Produmex Scan and Configure Produmex Scan in desktop mode. This helps you simulate the mobile device client in an easy way, without needing to set up an emulated mobile environment.

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